

TWENTY-EIGHT ANNUAL REPORT

OF THE

BOARD OF HEALTH

OF THE

STATE OF NEW JERSEY

AND

Report of the Bureau of Vital Statistics

1904.

BOARD OF HEALTH OF THE STATE OF NEW JERSEY.

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The Secretary of State, } *Members*  
The Attorney-General, } *ex-officio*  
The State Geologist, }

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HENRY B. RUE, M. D.....Hoboken.  
HENRY MITCHELL, M. D.....Asbury Park.  
WILLIAM H. MURRAY, M. D.....Plainfield.  
GEORGE P. OLCOTT, C. E.....East Orange.  
LABAN DENNIS, M. D.....Newark.  
CYRUS F. BRACKETT, M. D.....Princeton.  
**HENRY W. ELMER, M. D.....Bridgeton.**

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*President*.....CYRUS F. BRACKETT.  
*Secretary*.....HENRY MITCHELL.

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THE OFFICE OF THE BOARD IS IN THE STATE HOUSE, TRENTON.

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State of New Jersey.

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TRENTON, N. J., October 31st, 1904.

*To His Excellency, Franklin Murphy, Governor:*

SIR—I have the honor to herewith transmit the twenty-eighth annual report of the Board of Health of the State of New Jersey, and the report of the Bureau of Vital Statistics for the year ending December 31st, 1903.

Very respectfully,

HENRY MITCHELL,  
*Secretary.*

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# General Report.

*To His Excellency, Franklin Murphy, Governor:*

SIR—In conformity with the provisions of chapter 68 of the laws of 1887, the Board of Health of the State of New Jersey herewith submits its annual report.

## LEGISLATION RELATING TO THE PUBLIC HEALTH.

Reference to the annual volumes of the public laws shows that since the establishment of State and local departments of public health (1880) there has been an increase, from year to year, in the number of Legislative Bills having reference to the promotion of health and the prevention of the spread of disease. Numerous statutes have been enacted for the improvement of preexisting laws, and many entirely new and advanced measures have been added for the improvement of the administrative functions of both the State and local boards of health. The act to improve the local sanitary inspection service, approved April 8, 1903, and which becomes operative January 1, 1905, promises to place, in the course of a few years, the supervision of sanitary precautions in the hands of men who have been trained for the duties of their calling. When this desirable change in the efficiency of local inspectors shall have been fully consummated, New Jersey will take a leading position in sanitary administration, and the innovation will doubtless prove to be warmly welcomed in every municipality and township.

## VITAL STATISTICS.

The classification of the causes of death under the international system, which was adopted with the beginning of the year 1901, has greatly increased the value of the mortality records,

and the complete tabulation by districts having 5,000 or more inhabitants, has made the figures far more useful than they were under the system previously employed in the preparation of records of deaths. The change in the termination of the statistical year from June 30 to December 31, was made for the purpose of rendering the records of New Jersey comparable with those of other States and countries. This change is also advantageous because it affords more time in which to receive and tabulate delayed returns, but it necessarily delays the publication of the statistical tables. Under the new arrangement the report of the Bureau of Vital Statistics for each calendar year is filed October 31 of the year following.

#### DECREASE IN MORTALITY.

Every disease in any way preventable by hygienic measures has shown decrease in frequency and fatality in New Jersey, but there are still many unnecessary deaths, especially from tuberculosis, diphtheria and diarrhoeal diseases of children, notwithstanding that it is in these groups that the greatest improvement in mortality has already been secured. Education has been the potential factor in reaching the results already attained, and further progress in lowering the death-rate depend upon the extent to which the principals of hygiene can be disseminated. Much reliance is placed by this board upon the superior service which we believe will be rendered by the higher class of local sanitary officers created by the provisions of chapter 215 of the laws of 1903, for under the intelligent guidance of well informed officials whole communities can be led to see the dangers which lurk in polluted wells, contaminated milk, open privies, dust, mosquitoes and flies, and action for the abatement of nuisances of this character follows, soon or later, if the parties interested are fully convinced of the injurious nature of these evils. We may, therefore, look forward with confidence to a further reduction in the mortality due to diseases already recognized as preventable, and doubtless others will from time to time be added to the list.

#### PUBLIC WATER SUPPLIES.

The enforcement of the law to prevent the pollution of public water supplies has been unremittingly continued, and this service we believe is among the most useful departments of the work performed by this board. The details of the inspections made, notices sent and sources of pollution removed will be found in the body of this report.

#### FOOD AND DRUGS.

The enforcement of the act to prevent the sale of adulterated food and drugs has been continued and a decided improvement has been observed in the proportion of the samples found to be below the standard fixed by law. The number of samples purchased by the inspectors, and forwarded to the laboratory for examination, has been larger than during any previous year, and the analytical work performed in the State laboratory of hygiene has been prompt and satisfactory.

#### BACTERIOLOGICAL DIAGNOSIS.

Laboratory examinations for the detection of diphtheria, typhoid fever, tuberculosis, glanders, anthrax, malaria and certain other affections, have been continued daily without interruption. This service has become essential to the early and positive recognition of those diseases which are produced by bacterial causes, and physicians throughout the State rely upon it for the prevention of errors in diagnosis when dealing with the dangerous communicable diseases. In this connection attention is called to the advisability of producing attenuated anthrax virus for the immunization of cattle in the districts bordering the Delaware river in Salem and Cumberland Counties. Outbreaks of anthrax have in recent years appeared with increasing frequency in those portions of the State referred to, and the only safe preventive is to regularly immunize the cattle of the locality each spring, before they are turned out to graze upon the lands along the river and its tributaries. The experience which the board has had in the use of the virus shows

that the efficiency of the commercial article cannot be relied upon, and therefore it should be prepared and distributed directly under the supervision of the director of the State laboratory. As the manufacture of this virus is attended with considerable risk to animals and human beings in the vicinity of the plant where the work is conducted, we recommend that a suitable building in a proper location be provided for this purpose.

#### GLANDERS.

We urgently recommend that a sufficient appropriation be made by the legislature to enable the board to prevent the introduction of glandered horses into the State, and to break up the business of importing sick horses from New York into New Jersey for the purpose of selling them.

#### MEETINGS.

The meetings of the board, both stated and special, are uniformly well attended, and the records of the past ten years show that a quorum has been present at every meeting which has been called. During the year ending October 31, 1904, six meetings were held. Stated meetings are held quarterly, and special meetings are called when business demanding immediate attention is presented.

Respectfully submitted,

HENRY B. RUE,  
WILLIAM H. MURRAY,  
GEORGE P. OLCOTT,

CYRUS F. BRACKETT,  
LABAN DENNIS,  
HENRY W. ELMER,  
HENRY MITCHELL.

## Secretary's Report.

*To the Board of Health of the State of New Jersey:*

GENTLEMEN:—The close of the year 1903 marks the termination of the fifth quinquennial since the establishment of the bureau of vital statistics in New Jersey, and the statements of marriages, births and deaths herewith presented are grouped into twenty-five-year tables for convenience in studying the vital statistics of the State. The tabulations for 1879-1900 were made for the statistical year ending June 30, but commencing January 1, 1901, the statistical year ends December 31st.

**Births.**—The number of births recorded in New Jersey during the year ending December 31, 1903, was 37,242. The following table shows the number of certificates of births received and recorded during the past twenty-five years:

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TABLE I.—SHOWING POPULATION, NUMBER OF BIRTHS REPORTED, NUMBER OF MARRIAGES AND NUMBER OF DEATHS IN NEW JERSEY, WITH BIRTH-RATES, MARRIAGE RATES AND DEATH RATES FOR THE TWENTY-FIVE YEARS ENDING DECEMBER 31, 1903.

YEAR.	BIRTHS.		MARRIAGES.		DEATHS.	
	Population* Number of births reported.	Birth-rate per 1,000 population.	Number of marriages, 1,000 population.	Persons of married per 1,000 population.	Number of deaths.	Death-rate per 1,000 population.
1879.....	1,020,584	23.116	7,006	13.01	20,440	20.03
1880.....	1,130,892	23.680	7,963	14.08	18,067	16.77
1881.....	1,100,275	23.484	8,059	13.88	20,812	17.94
1882.....	1,189,638	23.168	8,837	14.86	25,959	21.82
1883.....	1,229,048	24.440	9,160	15.16	23,310	19.23
1884.....	1,248,224	25.203	8,968	14.37	21,716	17.40
1885.....	1,278,033	24.077	8,989	14.07	23,807	18.63
1886.....	1,310,431	25.497	12,351	18.85	27,351	20.87
1887.....	1,342,829	27.340	15,416	22.96	24,331	18.12
1888.....	1,375,227	28.074	16,035	23.31	27,173	19.76
1889.....	1,407,625	29.009	15,726	22.34	26,543	18.86
1890.....	1,441,017	30.103	15,504	21.00	28,530	19.80
1891.....	1,478,784	28.882	15,395	20.70	28,840	19.50
1892.....	1,511,653	30.627	16,082	21.28	32,685	21.62
1893.....	1,538,799	32.285	17,178	22.33	30,596	19.88
1894.....	1,578,373	33.662	16,245	20.38	30,004	19.09
1895.....	1,672,942	31.742	15,873	18.98	30,634	18.31
1896.....	1,718,543	31.727	18,379	21.38	30,767	17.90
1897.....	1,764,144	31.595	18,171	20.60	29,822	16.90
1898.....	1,810,008	32.515	13,213	14.59	27,337	15.11
1899.....	1,855,872	29.419	13,336	14.37	30,999	16.70
1900.....	1,883,669	32.270	14,611	15.51	31,474	16.62
1901.....	1,925,781	34.812	16,530	17.18	31,730	16.48
1902.....	1,997,803	35.116	18,139	18.45	31,340	15.91
1903.....	2,016,797	37.242	19,512	19.35	31,820	15.87

\*Estimated except for census years.

NOTE.—The reports of births are not as complete as are those for marriages and deaths, hence the above table does not represent with accuracy the relation between birth-rates and death-rates.

NOTE.—The large number of marriages reported during the years 1886-1897 was due to the unrestricted authority contained in the laws for the performance of the marriage ceremony in the case of non-residents, and the marked decrease in the number of marriages which occurred in 1893 was directly consequent upon the enactment of the law requiring a license in cases where both parties are non-residents of the State.

The act requiring that certificates shall be prepared and filed showing certain facts relating to every birth, marriage and death has proved to be well adapted to the purpose in view, except in the case of births. The section of the law which requires reports of births is violated in every district of the State and the records of births are therefore incomplete and misleading. This failure to obey the laws is not altogether due to wilful disregard of its provisions, for many children are born without the presence of a professional attendant, and in many instances the parents are ignorant of the requirements of the law. These conditions are not peculiar to New Jersey, but are met with in all of the registration States and cities in the United States. Suggestions for the improvement of the present method for obtaining certificates of births have been numerous, and almost all of these proposals have involved additional legislation, some of them designed to increase the penalties for failure to report births, others increasing the fees to be paid for the preparation of the certificates by physicians, midwives, parents and householders. The difficulty of enforcing the law has been mainly due to the indifference, negligence or lack of information on the part of local registrars, for it has been observed that in localities where the local officer is keenly attentive to his duties few births escape his knowledge, and the records are very nearly accurate. The most serious obstacle therefore in the way of the collection of more complete reports of births appears to be the incompetency of the local officials who are entrusted with the duty of collecting the certificates. The excellent results attained in the city of Newark, and in several other sanitary districts, show that painstaking efforts to trace up every birth and obtain a properly prepared certificate will reduce the defects of the system to small proportions. In view of the improvement in the quality of the local health officials which will undoubtedly attend the progress already being made under the provisions of chapter two hundred and fifteen of the laws of 1903, there seems to be ground for expectation that a change for the better will gradually occur in the collection of records of births, for when men who are qualified to estimate at their true value the records of births, marriages and deaths, and who comprehend that it is upon these data that all intelligent efforts for the promotion of the public health are founded, are

placed in charge of the work of gathering these facts for study and guidance in conducting the operations of the health department, there will be great advances made in collecting the returns of births.

**Marriages.**—In previous annual reports it has been shown that the large number of marriages recorded during the twelve years 1886-1897 was due to the enactment of a marriage-license law in Pennsylvania. The passage of a similar act in this State in 1897 at once restored the marriage rate to its normal figures. Table 2 shows the number of marriages in New Jersey, and the number of persons married per 1,000 inhabitants, for twenty-five years.

TABLE 2.—SHOWING NUMBER OF MARRIAGES RECORDED IN NEW JERSEY FOR THE TWENTY-FIVE YEARS ENDING DECEMBER 31, 1903.

YEAR.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.
Marriages in New Jersey...	7,096	7,963	8,109	8,837	9,166	8,968	8,989	12,351	15,416
Persons married per 1,000 population.....	13.91	14.08	13.98	14.86	15.16	15.37	14.07	18.85	22.96
YEAR.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.
Marriages in New Jersey...	16,025	15,726	15,564	15,305	16,082	17,178	16,245	15,873	15,370
Persons married per 1,000 population.....	23.31	22.34	21.60	20.70	21.28	22.33	20.59	18.98	21.38
YEAR.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Marriages in New Jersey...	18,171	13,213	13,336	14,611	16,539	18,150	19,512		
Persons married per 1,000 population.....	20.60	14.50	15.40	15.51	17.23	18.45	19.35		

**Deaths.**—During the year ending December 31, 1903, 31,820 deaths occurred in New Jersey. The population is estimated to be 2,016,796, and the death-rate for the year is therefore 15.78. Reference to the following tables will show that this is the lowest annual mortality for the State thus far recorded with the exception of the year 1898, when the rate was 15.10. Compared with the deaths which occurred during the previous year, the diminished mortality for 1903 is found to have been due, in part, to a smaller number of deaths from certain of the preventable affections, as follows: Typhoid fever caused 60 more deaths in 1902 than in 1903; small-pox caused 416 more; measles, 163; whooping cough, 36; and diarrhoeal diseases of children, 275.

TABLE 3.—POPULATION OF NEW JERSEY, BY COUNTIES, FOR THE CENSUS YEARS 1880, 1885, 1890, 1895, 1900, AND ESTIMATED POPULATION FOR 1903.

	1880.	1885.	1890.	1895.	1900.	1903.
Atlantic.....	18,704	22,356	28,836	34,750	46,402	53,394
Bergen.....	36,786	39,880	47,226	65,251	78,441	86,257
Burlington.....	53,403	57,538	58,528	59,117	58,241	58,241
Camden.....	62,042	76,685	87,687	100,104	107,643	112,166
Cape May.....	9,765	10,744	11,268	12,855	13,201	13,409
Cumberland.....	37,687	41,682	45,438	49,815	51,103	52,020
Essex.....	189,029	213,764	256,098	312,000	359,053	387,285
Gloucester.....	25,886	27,603	28,640	31,101	31,995	32,333
Hudson.....	187,944	240,342	275,126	328,680	386,048	420,820
Hunterdon.....	38,579	37,420	35,355	35,334	34,507	34,507
Mercer.....	59,061	66,785	79,978	85,538	95,365	101,261
Middlesex.....	52,286	56,180	61,754	70,058	79,762	85,584
Monmouth.....	55,538	62,324	69,128	75,543	82,057	85,965
Morris.....	50,861	50,675	54,101	59,536	65,156	68,528
Ocean.....	14,455	15,586	15,974	18,739	19,747	20,352
Passaic.....	68,860	83,374	105,040	133,227	155,202	168,447
Salem.....	24,579	23,373	25,151	26,084	25,550	25,530
Somerset.....	27,162	27,425	28,311	30,447	32,948	34,449
Sussex.....	23,539	22,401	22,250	22,586	24,134	25,063
Union.....	55,571	61,830	72,467	85,404	99,353	107,722
Warren.....	36,589	37,737	36,553	37,283	37,781	38,080

TABLE 4.—POPULATION OF THE CITIES OF NEW JERSEY HAVING 5,000 INHABITANTS OR OVER FOR THE CENSUS YEARS 1880, 1885, 1890, 1895 AND 1900, WITH ESTIMATED POPULATION FOR 1903.

	1880.	1885.	1890.	1895.	1900.	1903.
Atlantic County—						
Atlantic City	5,477	7,942	13,055	18,329	27,838	33,272
Bergen County—						
Englewood					6,253	6,745
Hackensack			6,004	7,282	9,443	10,739
Burlington County—						
Bordentown	5,334	5,837	5,090	5,176	4,110	4,110
Burlington	7,237	7,690	7,264	7,844	7,392	7,392
Camden County						
Camden City	41,659	52,884	53,313	63,467	73,935	79,811
Gloucester City	5,347	5,966	6,564	6,225	6,840	7,209
Cumberland County—						
Bridgeton	8,722	10,065	11,224	13,292	13,913	14,660
Millville	7,660	8,824	10,002	10,466	10,588	10,737
Essex County						
Bloomfield			7,708	8,093	9,668	10,613
East Orange			13,282	17,927	21,506	23,972
Irvington				3,388	5,255	6,375
Montclair			8,656	11,753	13,962	15,555
Newark	136,508	152,988	181,830	215,896	246,070	265,394
Orange	13,207	15,231	18,844	22,792	24,141	25,791
West Orange			4,358	5,854	6,839	7,510
Hudson County—						
Bayonne	9,372	33,080	19,033	19,856	32,722	36,329
Harrison	6,898	6,806	8,338	9,672	10,596	11,274
Hoboken	30,999	37,721	43,648	54,083	59,364	64,080
Jersey City	120,722	133,513	163,003	182,713	206,433	219,462
Kearny						
Town of Union	5,849	8,398	10,619	10,487	10,896	12,045
West Hoboken			10,619	13,336	15,187	16,549
West New York			11,665	18,266	23,094	26,323
Mercer County—					5,267	5,423
Chambersburg	5,437	8,542				
Trenton	29,910	34,386	57,458	62,518	73,307	76,766
Middlesex County—						
New Brunswick	17,166	18,258	19,603	19,910	20,006	20,426
Perth Amboy			9,512	13,030	17,699	20,156
South Amboy			4,300	5,571	6,349	7,016
Monmouth County						
Long Branch		5,140	7,231	7,333	8,872	9,795
Red Bank			4,145	4,888	5,428	5,752
Morris County—						
Dover					5,938	6,488
Morristown	6,837	8,760	8,156	10,290	11,267	12,200
Passaic County—						
Passaic City	6,532		13,028	17,894	27,777	32,452
Paterson	51,031		78,347	97,344	105,171	113,217
Salem County—						
Salem City	5,056	5,316	5,516	6,337	5,811	5,811
Somerset County						
North Plainfield				4,245	5,009	5,468
Union County—						
Elizabeth	28,229	32,119	37,764	43,834	52,130	56,441
Plainfield	8,125	8,913	11,267	13,629	15,369	16,599
Rahway	6,455	6,861	7,105	7,945	7,935	7,935
Summit				4,450	5,302	5,813
Warren County—						
Phillipsburg	7,181	8,058	8,644	9,081	10,052	11,975

TABLE 5.—DEATHS AND DEATH RATES IN NEW JERSEY, 1878—1903.

YEARS.	Deaths from all causes.	DEATH RATES.			
		Death-rate per 1,000 living.	Five-year period.	Ten-year period.	Twenty-five-year period.
1879	20,440	20.03	19.09	18.71	
1880	18,967	16.77			
1881	20,312	17.94			
1882	25,959	21.82			
1883	23,310	19.28			
1884	21,716	17.40	18.25		
1885	23,807	18.63			
1886	22,734	17.35			
1887	24,331	18.12			
1888	27,173	19.76			
1889	26,543	18.86	19.93	18.23	
1890	28,530	19.80			
1891	28,840	19.50			
1892	32,685	21.62			
1893	30,590	19.38			
1894	30,004	19.09	18.70		
1895	30,634	18.31			
1896	30,769	17.90			
1897	29,822	16.90			
1898	27,337	15.11			
1899	30,999	16.70	16.32		
1900	31,474	16.62			
1901	31,739	16.48			
1902	31,319	15.91			
1903	31,820	15.87			

CHART SHOWING DEATH RATES IN NEW JERSEY PER 1000 INHABITANTS FOR TWENTY-FIVE YEARS, 1879—1903.

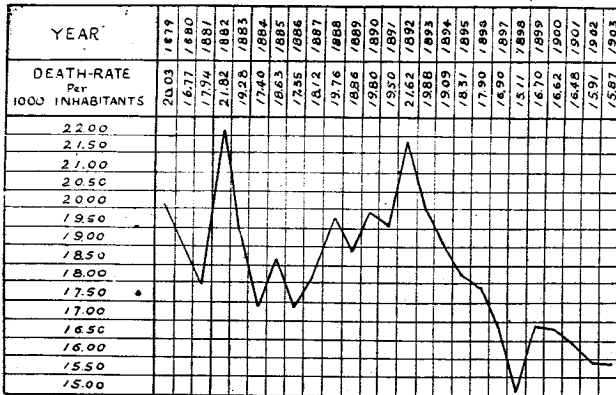


TABLE 6.—SHOWING NUMBER OF DEATHS FROM CERTAIN CLASSIFIED DISEASES FOR TWENTY-FIVE YEARS, 1879-1903.

DISEASES.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.
Acute lung diseases.....	2,160	1,988	2,208	2,752	2,756	2,174	2,566	2,300	2,537
Consumption, M.....	2,788	2,714	2,989	1,696	1,527	1,557	1,873	1,651	1,910
Consumption, F.....				1,779	1,394	1,658	1,647	1,554	1,743
Diarrhœal diseases of children.....	1,849	2,166	2,305	2,792	2,656	2,462	2,845	2,664	2,694
Adult brain and spinal diseases.....	1,314	1,347	1,502	1,521	1,562	1,664	1,895	1,932	1,966
Brain and nervous diseases of children.....	1,647	1,638	1,642	1,999	1,683	1,598	1,791	1,774	1,886
Diseases of heart and circulation.....	972	982	1,213	1,181	1,235	1,324	1,593	1,508	1,530
Diphtheria and group.....	1,100	873	1,128	1,472	1,146	1,027	1,496	1,303	1,327
Digestive and intestinal diseases.....	1,041	1,005	1,080	740	923	1,075	1,140	1,213	1,242
Renal and cystic diseases.....	558	516	608	765	739	892	939	926	873
Violent deaths.....	378	425	451	402	461	484	498	546	574
Cancer.....	324	373	374	884	564	640	642	545	522
Typhoid fever.....	627	573	499	1,306	853	547	646	222	255
Scarlet fever.....	194	244	303	244	198	221	298	257	263
Puerperal.....	277	130	110	253	189	116	181	274	181
Whooping cough.....	268	293	431	379	290	230	209	243	217
Malarial fever.....	77	87	70	206	131	189	135	88	296
Measles.....	137	109	124	94	90	80	74	79	96
Erysipelas.....	76	64	89	62	33	62	36	68	132
Acute rheumatism.....		15	254	367	54	7	2	4	5
Small-pox.....									
Total deaths per year.....	15,797	15,542	17,539	25,910	23,310	21,716	23,807	22,734	24,331

TABLE 6.—CONTINUED.

DISEASES.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.
Acute lung diseases.....	2,922	2,862	3,804	4,101	3,187	3,974	4,183	4,597	4,146
Consumption, M.....	1,723	1,772	1,903	1,849	1,851	1,790	1,831	1,860	1,786
Consumption, F.....	1,635	1,677	1,767	1,607	1,724	1,637	1,602	1,682	1,372
Diarrhœal diseases of children.....	3,508	3,377	3,527	3,191	4,043	3,981	3,893	3,746	3,807
Adult brain and spinal diseases.....	2,095	1,991	2,308	2,333	2,457	2,611	2,413	2,626	2,610
Brain and nervous diseases of children.....	1,971	1,923	2,032	2,029	2,242	2,072	2,083	1,925	2,018
Diseases of the heart and circulation.....	1,691	1,786	1,945	1,960	2,183	2,179	2,212	2,268	2,412
Diphtheria and group.....	2,036	1,574	1,575	1,737	1,776	1,677	1,294	1,464	1,587
Digestive and intestinal diseases.....	1,476	1,450	1,521	1,573	1,625	1,753	1,565	1,589	1,622
Renal and cystic diseases.....	1,020	1,056	1,149	1,200	1,444	1,441	1,447	1,323	1,584
Violent deaths.....	1,320	1,077	1,235	1,365	1,427	1,538	1,500	1,469	1,426
Cancer.....	612	579	640	642	688	723	731	770	811
Typhoid fever.....	820	724	782	695	628	506	485	568	377
Scarlet fever.....	374	333	209	288	1,008	445	272	264	183
Puerperal.....	271	254	250	296	282	282	293	294	283
Whooping cough.....	161	278	371	299	163	237	328	272	275
Malarial fever.....	264	203	195	180	198	148	162	144	119
Measles.....	74	118	174	250	137	73	237	85	390
Erysipelas.....	123	114	81	85	94	74	97	74	69
Acute rheumatism.....	142	117	106	76	100	102	91	82	59
Small-pox.....	5	3				38	43	11	23
Total deaths per year.....	27,173	26,543	28,530	28,840	32,685	30,596	30,004	30,634	30,767

TABLE 6.—CONTINUED.

DISEASES.	1897.	1898.	1899.	1900.	1901.	1902.	1903.
Acute lung diseases.....	4,039	3,414	4,222	4,795	.....	.....	.....
Consumption, M.....	1,765	1,772	1,856	1,787	3,257	3,015	3,380
Consumption, F.....	1,472	1,453	1,628	1,727	.....	.....	.....
Diarrhœal diseases of children.....	3,450	2,958	3,568	3,010	1,895	1,878	1,603
Adult brain and spinal diseases.....	2,582	2,700	2,842	2,946	.....	.....	.....
Brain and nervous diseases of children.....	1,809	1,642	1,950	1,767	.....	.....	.....
Diseases of the heart and circulation.....	2,475	2,286	2,731	2,852	2,772	3,068	3,166
Diphtheria and croup.....	1,382	950	777	927	683	683	748
Digestive and intestinal diseases.....	1,572	1,484	1,556	1,700	2,221	2,042	2,060
Renal and cystic diseases.....	1,752	1,694	1,925	2,072	2,043	2,021	2,160
Violent deaths.....	1,685	1,451	1,724	1,724	2,153	1,773	2,010
Cancer.....	857	852	946	921	1,042	1,031	1,132
Typhoid fever.....	478	450	486	356	352	428	388
Scarlet fever.....	203	291	187	220	179	217	299
Puerperal.....	278	284	267	288	207	225	279
Whooping cough.....	321	155	282	306	157	281	245
Malarial fever.....	132	82	96	84	50	36	40
Measles.....	156	195	96	231	77	204	41
Erysipelas.....	68	58	88	111	71	69	86
Acute rheumatism.....	69	55	73	73	116	94	71
Small-pox.....	.....	.....	.....	5	142	432	16
Total deaths per year.....	29,822	27,337	30,990	31,474	31,739	31,319	31,820

NOTE.—Total deaths as given include deaths under one month, which are not classified.

TABLE 7.—DEATHS IN NEW JERSEY, PER 10,000 POPULATION, FROM CERTAIN CLASSIFIED CAUSES FOR TWENTY-FIVE YEARS.

CAUSES OF DEATH.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.
Acute lung diseases.....	21.16	17.57	17.30	23.13	22.79	17.41	20.07	17.55	19.04
Consumption.....	27.31	23.99	25.76	29.21	28.51	25.75	25.97	24.45	27.29
Diarrhœal diseases of children.....	18.11	19.15	19.43	15.06	21.96	19.72	22.25	20.32	20.06
Adult brain and spinal diseases.....	12.87	11.91	12.94	12.78	12.91	13.38	14.82	14.74	13.64
Brain and nervous diseases of children.....	16.13	14.43	14.15	16.80	13.92	12.80	14.01	13.53	14.04
Diseases of heart and circulation.....	9.52	8.68	10.45	9.92	10.21	10.60	11.75	11.49	11.39
Diphtheria and croup.....	10.86	7.71	9.72	12.37	9.47	8.21	11.70	9.94	11.37
Digestive and intestinal diseases.....	10.20	8.88	9.30	6.22	7.63	8.62	8.91	9.25	9.24
Renal and cystic diseases.....	5.46	4.56	5.24	6.43	6.27	7.14	7.34	7.06	6.50
Violent deaths.....	.....	.....	.....	6.60	7.50	.....	6.59	7.60	7.82
Cancer.....	3.70	3.75	3.88	3.37	3.81	3.87	3.89	4.15	4.21
Typhoid fever.....	4.7	3.29	4.84	7.23	4.66	5.12	5.02	4.15	5.83
Scarlet fever.....	6.14	5.06	4.30	10.09	7.05	4.38	5.05	1.69	1.89
Puerperal.....	1.90	2.15	2.61	2.05	1.63	1.77	2.09	1.96	1.95
Whooping cough.....	2.71	1.14	1.02	2.12	1.56	.92	4.1	2.09	1.34
Malarial fever.....	2.62	2.59	3.74	3.10	2.89	1.84	1.62	1.85	1.61
Measles.....	.75	.76	.60	.78	1.08	1.51	1.05	.67	2.20
Erysipelas.....	1.34	.96	1.06	.79	.74	.64	.57	.60	.71
Acute rheumatism.....	.71	.57	.76	.43	.27	.49	.28	.51	.98
Small-pox.....	.....	.13	2.18	3.08	.44	.50	.01	.03	.03

TABLE 7.—CONTINUED.

CAUSES OF DEATH.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.
Acute lung diseases.....	21.74	20.83	26.39	27.73	34.31	25.82	26.50	27.49	24.12
Consumption.....	24.41	24.50	24.46	3.37	23.64	22.28	21.77	21.17	19.53
Diarrhœal diseases of children.....	25.50	23.99	24.47	21.57	26.74	25.87	24.66	22.39	22.15
Adult brain and spinal diseases.....	15.22	14.14	16.01	15.77	16.25	16.96	15.28	15.69	15.18
Brain and nervous diseases of children.....	14.33	13.66	14.10	13.72	14.83	13.46	12.11	11.50	11.74
Diseases of heart and circulation.....	12.29	12.68	18.49	13.25	14.41	14.16	12.74	13.55	14.03
Diphtheria and croup.....	14.80	11.18	10.92	11.74	11.74	10.89	8.19	9.75	10.22
Digestive and intestinal diseases.....	10.73	10.30	10.55	10.63	10.74	11.29	9.92	9.49	9.43
Renal and cystic diseases.....	7.41	7.50	7.97	8.11	9.55	9.36	9.16	9.10	9.21
Violent deaths.....	9.59	7.65	8.57	9.23	9.48	9.99	9.50	8.78	8.29
Cancer.....	4.45	4.11	4.41	4.34	4.55	4.69	4.63	4.60	4.71
Typhoid fever.....	4.50	5.14	5.42	4.69	4.15	3.28	3.07	3.39	3.35
Scarlet fever.....	4.17	3.78	1.45	1.94	6.66	2.89	1.72	1.57	1.06
Puerperal.....	1.97	1.80	1.73	2.00	1.86	1.83	1.85	1.75	1.64
Whooping cough.....	1.17	1.97	2.57	2.07	1.07	1.54	2.07	1.82	1.60
Malarial fever.....	1.91	1.44	1.35	1.21	1.30	.96	1.02	.85	1.69
Measles.....	.53	.83	1.20	1.69	1.30	.47	1.82	.56	2.26
Erysipelas.....	.93	.80	.56	.37	.62	.48	.61	.41	.40
Acute rheumatism.....	.10	.83	.73	.51	.66	.66	.57	.49	.34
Small-pox.....	.03	.02	.....	.....	.25	.27	.06	.13	.01

TABLE 7.—CONTINUED.

CAUSES OF DEATH.	1897.	1898.	1899.	1900.	1901.	1902.	1903.
Acute lung diseases.....	22.89	18.96	23.29	25.21			
Consumption.....	18.34	17.81	19.31	18.48	16.91	15.32	16.76
Diarrhoeal diseases of children.....	19.55	16.34	19.23	15.83	9.84	9.54	7.95
Adult brain and spinal diseases.....	14.63	14.91	15.31	15.49			
Brain and nervous diseases of children.....	10.25	9.06	10.53	9.29			
Diseases of heart and circulation.....	14.52	12.82	14.72	14.99	14.37	15.53	15.70
Diphtheria and croup.....	7.83	5.24	4.19	4.87	3.55	3.74	3.71
Digestive and intestinal diseases.....	8.01	8.19	8.38	9.47	11.42	10.38	10.21
Renal and cystic diseases.....	9.92	9.85	10.37	10.90	10.45	10.27	10.71
Violent deaths.....	9.55	8.01	9.29	9.00	11.20	9.02	9.97
Cancer.....	4.83	4.70	5.10	4.81	5.42	5.24	5.61
Typhoid fever.....	2.70	2.48	3.92	1.87	1.83	2.17	1.92
Scarlet fever.....	1.15	1.11	1.01	1.16	.93	1.10	1.48
Puerperal.....	1.57	1.45	1.44	1.51	1.70	1.14	1.38
Whooping cough.....	1.81	.85	1.51	1.61	.82	1.43	1.21
Malarial fever.....	1.74	.45	.52	.40	.26	.18	.20
Measles.....	.88	1.47	.52	1.21	.40	1.04	.20
Erysipelas.....	.38	.32	.47	.58	.37	.35	.43
Acute rheumatism.....	.39	.31	.39	.38	.60	.43	.35
Small-pox.....					.74	2.20	.07

\*Deaths under this classification were not separately recorded for these years.

TABLE 8.—SHOWING DEATHS FROM CERTAIN SPECIFIED DISEASES FOR THE YEARS ENDING DECEMBER 31ST, 1902, AND DECEMBER 31ST, 1903, ALSO SHOWING AVERAGE NUMBER OF DEATHS FROM SAID DISEASES DURING PAST TWENTY-FIVE YEARS.

DISEASES.	Average number of deaths for twenty-five years.	Deaths during year ending December 31st, 1902.	Deaths during year ending December 31st, 1903.
Consumption.....	3,318	3,015	3,380
Diarrhoeal diseases of children.....	2,953	1,878	1,603
Pneumonia*.....		2,421	2,628
Diseases of heart and circulation.....	1,973	3,066	3,166
Digestive and intestinal diseases.....	1,450	2,042	2,060
Diphtheria and croup.....	1,284	683	748
Renal and cystic diseases.....	1,293	2,021	2,160
Violent deaths.....	1,155	1,170	2,010
Cancer.....	688	1,031	1,132
Typhoid fever.....	544	428	388
Scarlet fever.....	432	217	299
Puerperal.....	260	225	279
Whooping cough.....	234	281	245
Malarial fever.....	188	36	40
Measles.....	156	294	41
Erysipelas.....	90	69	86
Acute rheumatism.....	81	84	71
Small-pox.....	58	432	16

\*Deaths from pneumonia were not separately recorded until the year 1901.

CHART SHOWING DEATHS IN NEW JERSEY FROM CERTAIN SPECIFIED DISEASES FOR THE PAST TWENTY-FIVE YEARS, ARRANGED IN ORDER OF GREATEST FREQUENCY.

DISEASES	NUMBER OF DEATHS								
		7,000	9,000	10,000	12,000	14,000	16,000	18,000	20,000
Consumption	53374								
Diarrhoeal Diseases of Children	74392								
Diseases of Heart and Circulation	49372								
Digestive and Intestinal Diseases	35729								
Diphtheria and Croup	32254								
Renal and Cystic Diseases	31557								
Violent Deaths	29056								
Cancer	17155								
Typhoid Fever	13414								
Scarlet Fever	10786								
Puerperal Fever	6567								
Whooping Cough	5867								
Malarial Fever	4733								
Measles	3890								
Erysipelas	2248								
Acute Rheumatism	1957								
Small Pox	1328								

TABLE 9.—SHOWING MORTALITY IN NEW JERSEY FROM CERTAIN SELECTED CAUSES OF DEATH, FOR THE YEAR ENDING DECEMBER 31ST, 1903, COMPARED WITH DEATHS FOR THE PREVIOUS YEAR.

SELECTED DISEASES.	Deaths for year ending December 31st, 1902.	Deaths for year ending December 31st, 1903.	Comparative Mortality.
Consumption	3,075	3,380	+ 365
Diseases of heart and circulation	3,066	31,66	+ 100
Renal and cystic diseases	2,021	2,160	+ 139
Digestive and intestinal diseases	2,042	2,060	+ 18
Diarrhoeal diseases of children	1,878	1,603	- 275
Cancer	1,031	1,132	+ 101
Diphtheria	683	748	+ 65
Typhoid fever	428	388	- 60
Scarlet fever	217	299	+ 82
Puerperal diseases	225	279	+ 54
Whooping cough	281	245	- 36
Erysipelas	69	86	+ 17
Acute Rheumatism	84	71	- 13
Measles	204	41	- 163
Malarial fever	36	40	+ 4
Small-pox	432	16	- 416

TABLE 10.—SHOWING NUMBER OF DEATHS IN NEW JERSEY FOR THE YEAR ENDING DECEMBER 31ST, 1903, FROM TEN SELECTED PREVENTABLE DISEASES, WITH PERCENTAGE OF TOTAL MORTALITY.

NAME OF DISEASE.	Deaths.	Percentage of total mortality
Consumption	3,380	10.62
Pneumonia	2,628	8.26
Diarrhoeal diseases of children	1,603	5.04
Diphtheria	748	2.35
Typhoid fever	388	1.22
Whooping cough	245	.77
Scarlet fever	299	.94
Measles	41	.13
Malarial fevers	40	.13
Small-pox	16	.05





TABLE 11.—CONTINUED.

NAMES OF CITIES.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	Aver. for 25 yrs.
*Atlantic City	20.45	16.89	19.03	17.85	10.85	16.28	15.33	.....
Englewood	.....	.....	.....	.....	.....	.....	.....	.....
Hackensack	14.49	11.43	14.94	13.66	17.52	18.34	16.39	.....
Bordentown	14.78	18.17	17.35	19.46	16.55	17.27	18.73	17.54
Burlington	13.20	14.23	16.87	24.76	19.75	21.28	22.46	20.13
Camden	20.71	17.82	19.35	14.11	17.56	16.90	16.05	20.42
Gloucester	25.61	18.31	19.50	19.88	11.27	21.03	17.89	20.27
Bridgeton	15.02	13.10	13.74	14.38	13.32	13.89	13.78	16.27
Milville	9.67	12.38	13.38	15.78	14.61	16.27	14.13	16.59
Bloomfield	.....	.....	.....	.....	.....	.....	.....	.....
East Orange	.....	.....	.....	10.97	9.71	10.94	9.72	.....
Irvington	.....	.....	.....	.....	.....	.....	.....	.....
Montclair	10.63	11.76	13.00	15.11	16.87	14.48	17.42	.....
Newark	19.60	16.63	19.40	19.60	19.14	18.71	18.47	22.82
Orange	18.50	19.08	18.19	20.63	17.45	20.26	20.40	20.42
West Orange	.....	.....	.....	.....	.....	.....	.....	.....
Bayonne	21.80	25.00	25.59	17.39	16.38	15.32	18.44	21.14
Harrison	18.61	23.77	19.13	22.37	21.24	19.33	18.63	.....
Hoboken	21.94	18.06	19.91	23.01	18.67	18.80	17.70	23.63
Jersey City	19.60	19.16	19.78	20.34	19.12	18.65	18.82	23.27
Kearny	.....	.....	.....	.....	.....	.....	.....	.....
Town of Union	14.70	13.58	11.63	14.16	11.25	16.39	16.07	.....
West Hoboken	.....	.....	.....	.....	.....	.....	.....	.....
West New York	.....	.....	.....	.....	.....	.....	.....	.....
Trenton	16.44	15.45	17.71	16.42	16.35	17.19	18.30	18.01
New Brunswick	19.33	14.73	16.04	21.29	18.18	20.00	19.43	19.33
Ferth Amboy	17.11	14.93	16.16	14.46	16.53	14.82	12.70	.....
South Amboy	17.31	13.14	12.65	13.86	16.14	19.52	15.68	.....
Lone Branch	14.11	18.13	17.51	18.15	24.07	21.50	20.21	.....
Red Bank	.....	.....	.....	.....	.....	.....	.....	.....
Dover	19.12	15.73	14.34	12.46	16.01	15.39	13.87	.....
Morristown	16.16	17.38	19.13	16.38	18.50	16.64	17.93	18.40
Passaic	24.29	19.84	23.64	20.99	18.22	17.74	20.03	.....
Paterson	18.71	15.89	19.65	18.70	17.53	16.37	15.28	21.42
Salem	16.65	18.30	18.30	20.13	14.11	16.00	17.21	.....
North Plainfield	.....	.....	.....	.....	.....	.....	.....	.....
Elizabeth	17.16	15.53	17.25	17.69	17.17	15.30	16.55	19.12
Plainfield	15.91	14.16	15.72	16.01	16.36	15.94	15.84	16.93
Rahway	16.06	14.30	16.67	15.50	14.87	17.52	15.50	18.37
Summit	.....	.....	.....	.....	.....	.....	.....	.....
Phillipsburg	16.75	18.40	13.68	12.13	14.34	15.04	13.44	16.13

**Consumption.**—The number of deaths certified as being caused by pulmonary tuberculosis was 3,380, or 16.76 per 10,000 inhabitants. The following tables show the number of deaths recorded in New Jersey from this cause during the past twenty-five years.

TABLE 12.—SHOWING NUMBER OF DEATHS AND DEATHS PER 10,000 POPULATION FROM CONSUMPTION IN NEW JERSEY FOR TWENTY-FIVE YEARS.

YEARS.	Population.*	Number of deaths from consumption.	Deaths from consumption per 10,000 population.
1870	1,020,584	2,788	27.32
1880	1,130,802	2,714	24.00
1881	1,160,275	2,989	25.76
1882	1,189,658	3,475	29.21
1883	1,209,048	3,121	25.81
1884	1,248,224	3,215	25.76
1885	1,278,033	3,320	25.19
1886	1,310,431	3,205	24.46
1887	1,342,829	3,653	27.20
1888	1,375,227	3,358	24.42
1889	1,407,625	3,449	24.50
1890	1,441,017	3,669	25.46
1891	1,478,784	3,456	23.37
1892	1,511,653	3,575	23.65
1893	1,538,799	3,429	22.28
1894	1,578,373	3,433	21.75
1895	1,672,942	3,542	21.17
1896	1,718,543	3,358	19.54
1897	1,764,144	3,237	18.35
1898	1,810,008	3,225	17.82
1899	1,855,872	3,584	19.31
1900	1,883,669	3,514	18.64
1901	1,925,781	3,257	16.91
1902	1,967,893	3,015	15.32
1903	2,016,797	3,380	16.76

\*Estimated except for census years.

TABLE 13.—SHOWING THE PROPORTION OF DEATHS FROM CONSUMPTION TO TOTAL DEATHS DURING TWENTY-FIVE YEARS.

YEARS.	Total deaths in New Jersey.	Deaths from consumption.	Proportion of deaths from consumption to total deaths.
1879.....	20,444	2,788	13.64
1880.....	18,067	2,714	14.30
1881.....	20,810	2,989	14.36
1882.....	25,910	3,475	13.41
1883.....	23,310	3,121	13.39
1884.....	21,716	3,215	14.80
1885.....	23,807	3,320	13.94
1886.....	22,734	3,205	14.10
1887.....	24,331	3,653	15.01
1888.....	27,173	3,358	12.44
1889.....	26,543	3,449	12.99
1890.....	28,530	3,669	12.96
1891.....	28,840	3,456	11.98
1892.....	32,685	3,575	10.94
1893.....	30,596	3,429	11.21
1894.....	30,004	3,433	11.44
1895.....	30,634	3,542	11.36
1896.....	30,767	3,358	10.92
1897.....	29,822	3,237	10.85
1898.....	27,337	3,225	11.79
1899.....	30,999	3,584	11.56
1900.....	31,474	3,514	11.17
1901.....	31,739	3,257	10.26
1902.....	33,653	3,015	8.96
1903.....	31,820	3,380	10.62

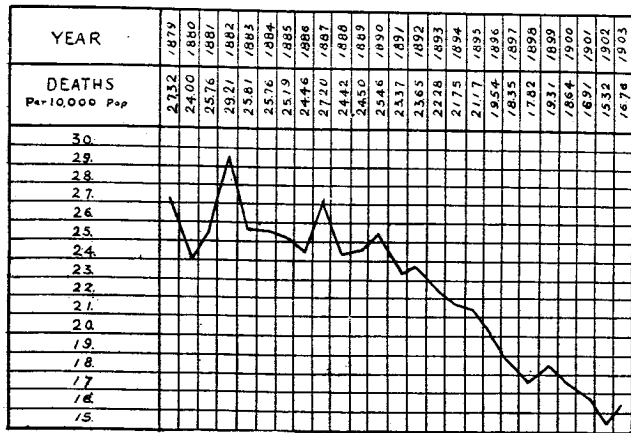
TABLE 14.—SHOWING DEATHS IN NEW JERSEY FROM CONSUMPTION, WITH AGES OF DECEDENTS, FOR YEAR ENDING DECEMBER 31, 1903.

NUMBER OF DEATHS FROM CONSUMPTION.	AGE PERIODS.																Total.																							
	Under 1 month.		Under 1 year.		1 to 5.		5 to 10.		10 to 15.		15 to 20.		20 to 25.		25 to 30.			30 to 35.		35 to 40.		40 to 45.		45 to 50.		50 to 55.		55 to 60.		60 to 70.		70 to 80.		80 to 90.		Over 90.		Not stated.		
	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to		to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to			
	6	44	55	26	54	231	429	512	511	366	351	183	167	143	191	195	14	2	1	3	380																			3,380

TABLE 15.—SHOWING DEATHS FROM CONSUMPTION IN NEW JERSEY, COMPARED WITH DEATHS FROM ALL CAUSES, BY COUNTIES.

COUNTIES.	AVERAGES PER YEAR.			
	FOR TWENTY-FIVE YEARS.		YEAR ENDING DECEMBER 31, 1903.	
	Deaths from consumption.	Deaths from all causes.	Deaths from consumption.	Deaths from all causes.
Atlantic County.....	60	542	75	815
Bergen County.....	87	409	96	1,181
Burlington County.....	109	880	83	936
Camden County.....	209	1,700	210	1,836
Cape May County.....	19	168	19	177
Cumberland County.....	95	263	80	706
Essex County.....	754	5,407	848	6,615
Gloucester County.....	54	432	30	383
Hudson County.....	786	6,465	878	7,532
Hunterdon County.....	55	489	24	482
Mercer County.....	186	1,377	176	1,662
Middlesex County.....	118	1,053	100	1,243
Monmouth County.....	123	1,063	107	1,174
Morris County.....	102	483	71	1,027
Ocean County.....	37	240	25	202
Passaic County.....	205	2,154	203	2,655
Salem County.....	50	374	50	364
Somerset County.....	51	432	56	427
Sussex County.....	36	285	25	230
Union County.....	157	1,306	144	1,638
Warren County.....	58	554	40	535
The State.....	3,318	27,248	3,380	31,820

CHART SHOWING DEATHS FROM CONSUMPTION IN NEW JERSEY PER 10,000 POPULATION FOR THE TWENTY-FIVE YEARS ENDING DECEMBER 31, 1903.



**Diarrhoeal Diseases of Children.**—The number of deaths under 5 years has diminished almost continuously during the past decade. This improvement has been altogether out of proportion to the decrease in the general death-rate and it is mainly due to the low mortality caused by the preventable diseases. The average annual deaths in this group, from diarrhoeal diseases, per 10,000 inhabitants, during the first ten years for which vital statistics were recorded in this State, numbered 20.20, while during the last ten years (1894-1903) the average has been 14.48, and the annual rate for the past three years has been as follows: 1901, 9.84; 1902, 9.54; 1903, 7.95. Compared with the period 1879-1888, the deaths from diarrhoeal diseases of children during the past three years have been reduced 44 per cent. The causes which have led to the great reduction in the death-rate of children under 5 years of age are still at work, and still greater improvement is in prospect. A revolution has been commenced in the conduct of dairy farms, and clean milk is, to a limited extent, already being

sent to market. Physicians have thus far been the agents through whom the saving of nearly 50 % of the child life of the State has been effected, and health officers are now actively proceeding to educate dairymen and milk dealers and to bring them to a realizing sense of the importance of aseptic methods in the handling of infants' food. One of the factors which has doubtless served an important part in lowering the mortality among children is the establishment and extension of public water supplies in New Jersey, and the consequent elimination of many domestic wells and other dangerous sources of water supply. The contamination of food by flies is also receiving attention, and a movement for the abolishment of open privies is making progress. The following ordinance to prevent the spread of disease through the agency of flies has been adopted in one of the seaside resorts.

Section 1. Be it ordained by the Board of Health of . . . . . that in addition to the nuisances already defined in the ordinance to which this ordinance is a supplement, the construction, maintenance, use or continuance of any privy vault, or other receptacle in or upon the ground for human excrement in such manner that the filthy contents thereof shall be accessible to flies, shall constitute, and is hereby declared to be a nuisance; and the construction, maintenance, use or continuance thereof is hereby prohibited.

Section 2. Any person or corporation violating the provisions of this ordinance, shall on conviction, forfeit and pay a penalty of twenty-five dollars.

Every pile of fresh horse dung is a prolific breeding place for flies, and active measures by local boards of health are justifiable for the enforcement of requirements which will compel owners of horses in built-up districts to dispose of the solid excrement of these animals in a manner which will prevent its becoming a nuisance. On one of the largest dairy premises in the State, it is the practice to dispose of the stable manure daily by spreading it upon the lands of the farm, and this is believed by the managers of the establishment to be a more economical use of the excreta than to pile it up and allow decomposition to occur before it is placed in the fields.

CHART SHOWING DEATHS IN NEW JERSEY AMONG CHILDREN UNDER FIVE YEARS OF AGE PER 10,000 POPULATION, FOR TWENTY-FIVE YEARS.

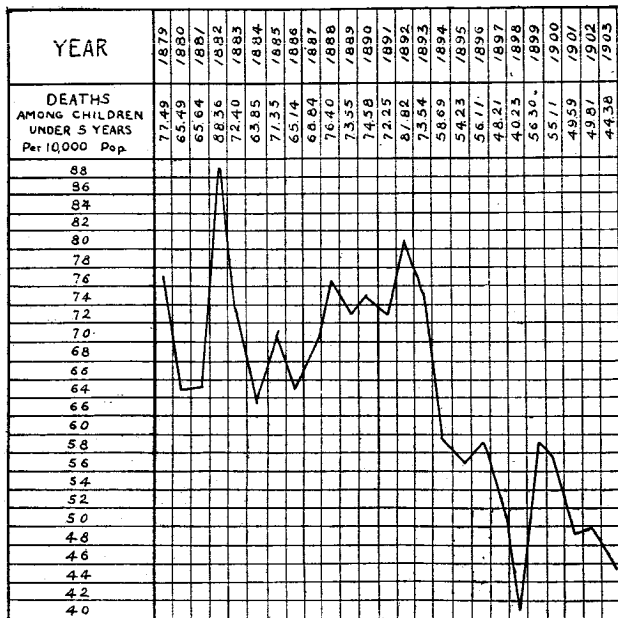


TABLE 16.—SHOWING DEATHS AMONG CHILDREN UNDER FIVE YEARS OF AGE IN NEW JERSEY PER 10,000 POPULATION, FOR TWENTY-FIVE YEARS.

YEARS.	Deaths under 1 year per 10,000 population.	Deaths from 1 to 5 years per 10,000 population.	YEARS.	Deaths under 1 year per 10,000 population.	Deaths from 1 to 5 years per 10,000 population.
1879	45.58	33.97	1891	46.90	25.36
1880	40.38	25.12	1892	52.74	29.08
1881	39.90	25.75	1893	40.22	24.26
1882	49.88	38.48	1894	49.75	22.97
1883	44.48	28.22	1895	45.67	21.79
1884	41.04	22.82	1896	43.09	24.43
1885	44.69	26.67	1897	40.16	20.00
1886	41.31	23.83	1898	33.91	15.83
1887	43.56	25.29	1899	38.22	17.04
1888	47.51	28.90	1900	37.05	18.44
1889	48.61	24.95	1901	36.11	13.48
1890	49.38	25.38	1902	36.18	13.63
			1903	37.08	15.38

TABLE 17.—SHOWING DEATHS IN NEW JERSEY FROM DIARRHOEAL DISEASES OF CHILDREN, WITH AGES AT DEATH, COMPARED WITH DEATHS FROM ALL CAUSES AMONG CHILDREN UNDER FIVE YEARS OF AGE, FOR YEAR ENDING DECEMBER 31, 1903.

AGE PERIODS.	Deaths from diarrhoeal diseases.	Deaths from all causes among children under five years of age.
Under one month	114	2,091
Over one month and under one year	1,141	4,105
One to five	348	2,754
Total	1,603	9,950

TABLE 18.—SHOWING NUMBER OF DEATHS IN NEW JERSEY AMONG CHILDREN UNDER FIVE YEARS OF AGE IN MANUFACTURING DISTRICTS, AND ALSO IN COUNTIES OUTSIDE OF THE LARGER TOWNS, WITH COMPARATIVE MORTALITY.

NAMES OF MANUFACTURING TOWNS.	Estimated Population, 1903.	Number of deaths occurring in children under five years of age.	Number of deaths of children under five years of age for each 1000 of population.	Estimated population of counties outside of larger cities.	Number of deaths occurring in children under five years of age in counties outside of larger cities.	Number of deaths of children under five years of age for each 1000 of population in counties outside of larger cities.
Bayonne (Hud. Co.)	36,829	276	8.49	12,489	122	9.77
Beverly (Bur. Co.)	1,964	16	3.05	46,750	166	3.55
Boonton (Mor. Co.)	4,151	18	4.34	50,186	122	2.46
Bordentown (Bur. Co.)	4,110	14	3.41	46,739	166	3.55
Bound Brook (Som. Co.)	2,858	13	4.55	34,408	58	1.69
Bridgeton (Cumb. Co.)	14,660	43	2.97	27,031	85	2.40
Burlington (Bur. Co.)	7,392	47	6.36	46,749	166	3.55
Camden (Cam. Co.)	79,811	438	5.49	24,868	106	5.97
Carlstadt (Ber. Co.)	2,818	18	6.39	68,718	195	2.84
Elizabeth (U. Co.)	56,441	312	5.53	20,459	53	2.59
Garfield (Ber. Co.)	3,544	62	17.49	68,718	195	2.84
Gloucester City (Cam. Co.)	7,209	42	5.83	24,868	106	4.26
Hoboken (Hud. Co.)	64,080	340	5.45	12,489	122	9.77
Jersey City (Hud. Co.)	219,462	1,246	5.68	12,489	122	9.77
Lambertville (Hunt. Co.)	4,943	15	3.23	34,507	47	1.36
Lodi (Ber. Co.)	2,123	21	9.89	68,718	195	2.84
Millburn (E. Co.)	2,867	14	4.88	21,562	86	3.99
Milltown (Mdx. Co.)	561	5	8.91	35,708	115	3.22
Millville (Cumb. Co.)	10,757	50	4.65	27,081	65	2.40
Newark (E. Co.)	253,294	1,334	5.11	21,562	86	3.99
New Brunswick (Mdx. Co.)	20,426	130	6.36	35,708	115	3.22
Orange (E. Co.)	25,731	152	5.91	21,562	86	3.99
Passaic City (Pas. Co.)	32,452	385	1.19	24,813	80	3.22
Paterson (Pas. Co.)	113,217	503	4.44	24,813	80	3.22
Perth Amboy (Mdx. Co.)	20,156	119	5.90	35,708	115	3.22
Phillipsburg (W. Co.)	11,975	45	3.76	27,729	75	2.70
Plainfield (U. Co.)	16,599	74	4.46	20,459	53	2.59
Rahway (U. Co.)	7,935	27	3.40	20,459	53	2.59
Raritan (Som. Co.)	3,464	15	4.33	34,408	58	1.69
Riverton Bor. (Bur. Co.)	2,849	0	.....	46,739	166	3.55
Salem City (Salem Co.)	5,811	21	3.62	19,719	67	3.40
Sah River (Mdx. Co.)	2,792	8	2.86	35,708	115	3.22
Town of Union (Hud. Co.)	16,549	73	4.41	12,489	122	9.77
Trenton (Mer. Co.)	76,766	369	4.69	22,058	59	2.67
Vineland (Cumb. Co.)	4,468	14	3.13	27,081	65	2.40
Wharton (Mor. Co.)	2,069	21	10.15	50,186	122	2.43

TABLE 19.—SHOWING DEATHS IN JERSEY CITY, ALSO DEATHS AMONG CHILDREN UNDER FIVE YEARS OF AGE; DEATHS UNDER FIVE YEARS FROM DIARRHŒA AND DEATHS UNDER FIVE YEARS PER 10,000 INHABITANTS.

YEARS.	1901	1902	1903
Total deaths in Jersey City	4,038	4,026	4,130
Deaths under five years	1,426	1,442	1,325
Deaths under five years from diarrhœa	213	270	242
Percentage of deaths under five years to total deaths	35.31	35.81	32.08
Deaths under five years per 10,000 population	67.53	66.78	60.37

TABLE 20.—SHOWING DEATHS IN PATERSON, ALSO DEATHS AMONG CHILDREN UNDER FIVE YEARS OF AGE; DEATHS UNDER FIVE YEARS FROM DIARRHŒA, AND DEATHS UNDER FIVE YEARS PER 10,000 INHABITANTS.

YEARS.	1901	1902	1903
Total deaths in Paterson	1,816	1,773	1,730
Deaths under five years	637	630	505
Deaths under five years from diarrhœa	246	112	91
Percentage of deaths under five years to total deaths	35.08	36.00	29.11
Deaths under five years per 10,000 population	69.36	59.00	44.60

TABLE 21.—SHOWING DEATHS IN NEWARK, ALSO DEATHS AMONG CHILDREN UNDER FIVE YEARS OF AGE; DEATHS UNDER FIVE YEARS FROM DIARRHŒA AND DEATHS UNDER FIVE YEARS PER 10,000 INHABITANTS.

YEARS.	1901	1902	1903
Total deaths in Newark	4,615	4,831	4,901
Deaths under five years	1,489	1,516	1,386
Deaths under five years from diarrhœa	431	216	199
Percentage of deaths under five years to total deaths	32.27	31.38	28.28
Deaths under five years per 10,000 population	59.06	58.72	52.22

TABLE 22.—SHOWING DEATHS IN HOBOKEN, ALSO DEATHS AMONG CHILDREN UNDER FIVE YEARS OF AGE; DEATHS UNDER FIVE YEARS FROM DIARRHŒA, AND DEATHS UNDER FIVE YEARS PER 10,000 INHABITANTS.

YEARS.	1901	1902	1903
Total deaths in Hoboken .....	1,164	1,156	1,140
Deaths under five years .....	375	403	349
Deaths under five years from diarrhœa .....	125	51	55
Percentage of deaths under five years to total deaths .....	32.22	34.86	30.61
Deaths under five years per 10,000 population .....	62.07	65.55	55.14

TABLE 23.—SHOWING DEATHS IN CAMDEN CITY, ALSO DEATHS AMONG CHILDREN UNDER FIVE YEARS OF AGE; DEATHS UNDER FIVE YEARS FROM DIARRHŒA, AND DEATHS UNDER FIVE YEARS PER 10,000 INHABITANTS.

YEARS.	1901	1902	1903
Total deaths in Camden City .....	13,69	13,68	12,81
Deaths under five years .....	522	436	448
Deaths under five years from diarrhœa .....	155	58	63
Percentage of deaths under five years to total deaths .....	38.13	31.87	34.97
Deaths under five years per 10,000 population .....	66.56	55.60	56.13

**Pneumonia.**—The deaths recorded as having been due to pneumonia numbered 2,628, this being 207 more than were reported from this disease during the preceding year. Reference to table 24 shows that pneumonia is second only to pulmonary tuberculosis as a cause of death in New Jersey, having caused 8.26 per cent., or about one-twelfth of the total mortality. Until 1901 pneumonia was included in the general classification "acute lung diseases," and therefore the comparative mortality from this disease can only be shown for the past three years.

TABLE 24.—SHOWING DEATHS IN NEW JERSEY FROM PNEUMONIA, WITH AGE AT DEATH, FOR THE YEAR ENDING DECEMBER 31, 1903

DEATHS FROM PNEUMONIA.	AGE PERIODS.																Total.		
	Under 1 Year.	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50	50 to 55	55 to 60	60 to 70	70 to 80	Over 80.		(Not Stated.)	
	419	380	734	245	50	83	109	127	140	136	125	128	157	305	261	99	10	2	2628

TABLE 25.—SHOWING DEATHS FROM PNEUMONIA IN CITIES OF OVER 5,000 INHABITANTS, IN NEW JERSEY, BY MONTHS, FOR THE YEAR ENDING DECEMBER 31, 1903.

Deaths from Pneumonia in cities of over 5,000 inhabitants.	Estimated Population.	MONTHS.											Total.	
		Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.		Dec.
	1,363,464	271	288	261	128	155	67	98	58	75	91	202	278	1,972

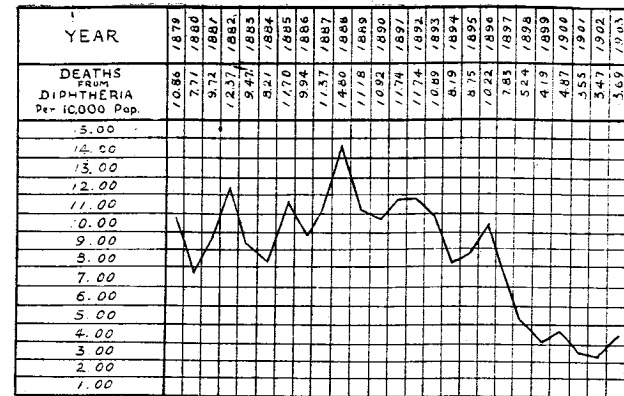
**Diphtheria.**—Seven hundred and forty-eight deaths were caused by diphtheria during the year, and of these 391, or 52%, occurred in children over 1 and under 5 years of age. The average annual mortality in New Jersey from diphtheria and croup for the first ten years of the period during which records of vital statistics have been kept, 1879-1888, was 1,310, while for the six years 1898-1903, when the use of antitoxin was generally resorted to, the average annual deaths, notwithstanding the great increase in population, numbered only 476. When stated per 10,000 inhabitants this diminution in the mortality from diphtheria is found to be more striking, for the average number of deaths from this disease during the nineteen years, 1879-1897, per 10,000 inhabitants, was 10.40, while the average for the six years 1898-1903 was only 4.22.

The spread of diphtheria from convalescents, and from those who are not ill, but who are carrying the diphtheria bacilli in their throats, is believed to be more frequent than from patients who are acutely affected with the disease, and it appears improbable that this mode of transmission will be controlled until the public is better informed concerning the dangers which attend contact of the lips with articles liable to convey the infection. Health officers will be justified in requiring that laboratory examinations shall be made of cultures from all patients and also from all persons, including nurses and attendants who have been exposed to the disease, and the isolation restrictions should be continued until at least two consecutive negative reports have been received. It has in some cases been found that virulent diphtheria bacilli subsequently appeared after three negative examinations, but in these individuals the bacilli were harbored by enlarged tonsils.

TABLE 26.—SHOWING DEATHS IN NEW JERSEY FROM DIPHTHERIA, WITH AGES OF DECEDENTS, FOR YEAR ENDING DECEMBER 31, 1903.

AGE PERIODS.	Deaths from diphtheria.	AGE PERIODS.	Deaths from diphtheria.	AGE PERIODS.	Deaths from diphtheria.
Under 1 month.	3	25 to 30...	1	60 to 70...	1
Under 1 year ..	39	30 to 35...	4	70 to 80...	2
1 to 5 .....	391	35 to 40...	3	80 to 90...	1
5 to 10 .....	238	40 to 45...	0	Over 90...	0
10 to 15 .....	42	45 to 50...	0	Not stated	2
15 to 20 .....	13	50 to 55...	1		
20 to 25 .....	6	55 to 60...	1		
				Total .....	748

CHART SHOWING DEATHS FROM DIPHTHERIA, PER 10,000 POPULATION IN NEW JERSEY, FOR THE TWENTY-FIVE YEARS ENDING DECEMBER 31, 1903.



**Cancer.**—The number of deaths in New Jersey from cancer has continued to increase throughout the entire period during which mortality records have been made in this State, and the variations in the increase of the annual fatalities from this affection have been slight. The etiology of this disease has thus far eluded all investigations, notwithstanding the fact that much scientific thought and skillful research has been devoted to its discovery. Not enough evidence has been collected, showing that cancer is communicable to warrant its being included among the notifiable diseases, and sanitarians are still powerless to stay its ravages. The opinion has prevailed that the increased number of deaths certified as having been due to cancer has been in part owing to more accurate diagnoses on the part of medical practitioners, but the records of the years 1901 and 1903, show the surprising increase of over one hundred deaths from cancer each year, which is a much greater annual increase than has before occurred, and seems to demand some new hypothesis for its satisfactory explanation. The following tables and chart show the deaths which have been recorded from cancer during the past twenty-five years.

TABLE 27.—SHOWING DEATHS FROM CANCER IN NEW JERSEY FOR TWENTY-FIVE YEARS.

YEARS.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.
Deaths from cancer. . . . .	378	425	451	402	461	484	498	546	574
Deaths from cancer per 10,000 inhabitants. . . . .	3.70	3.75	3.88	3.37	3.81	3.87	3.89	4.15	4.21

YEARS.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.
Deaths from cancer. . . . .	612	579	640	642	688	723	731	770	11
Deaths from cancer per 10,000 inhabitants. . . . .	4.45	4.11	4.41	4.34	4.55	4.69	4.63	4.60	4.71

YEARS.	1897.	1898.	1899.	1900.	1901.	1902.	1903.
Deaths from cancer. . . . .	857	852	946	921	1,042	1,031	1,132
Deaths from cancer per 10,000 inhabitants. . . . .	4.33	4.70	5.10	4.84	5.43	5.24	5.61

TABLE 28.—DEATHS FROM CANCER IN NEW JERSEY FOR THE YEAR ENDING DECEMBER 31, 1903, PER 10,000 POPULATION, BY COUNTIES AND BY CITIES OF OVER 5,000 INHABITANTS.

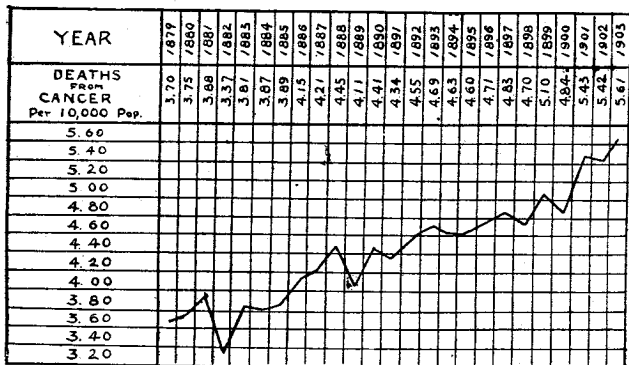
NAME OF PLACE.	Deaths from cancer.	Deaths per 10,000 population.
Atlantic County. . . . .	12	5.80
Atlantic City. . . . .	17	5.11
Bergen County. . . . .	23	3.35
Englewood. . . . .	5	7.41
Hackensack. . . . .	6	5.58
Burlington County. . . . .	40	8.56
Burlington City. . . . .	3	4.06
Camden County. . . . .	13	5.23
Camden City. . . . .	48	6.01
Gloucester City. . . . .	2	2.77
Cape May County. . . . .	4	2.98
Cumberland County. . . . .	7	8.49
Bridgeton. . . . .	23	4.77
Millville. . . . .	10	9.30
Essex County. . . . .	18	8.35
Bloomfield. . . . .	8	7.54
East Orange. . . . .	10	4.17
Irvington. . . . .	2	3.14
Montclair. . . . .	6	3.86
Newark. . . . .	178	6.71
Oranget. . . . .	11	4.28
West Orange. . . . .	6	7.98
Gloucester County. . . . .	11	3.36
Hudson County. . . . .	15	1.20
Bayonne. . . . .	20	5.43
Harrison. . . . .	3	2.66
Hoboken. . . . .	32	4.99
Jersey City. . . . .	126	3.74
Kearny. . . . .	11	9.13
Town of Union. . . . .	11	6.64
West Hoboken. . . . .	18	6.78
West New York. . . . .	2	3.69
Hunterdon County. . . . .	26	7.53
Mercer County. . . . .	14	6.35
Trenton. . . . .	52	6.77
Middlesex County. . . . .	52	5.22
New Brunswick. . . . .	11	5.38
Ferth Amboy. . . . .	5	2.48
South Amboy. . . . .	6	8.55
Monmouth County. . . . .	40	5.71
Long Branch. . . . .	4	4.08
Red Bank. . . . .	4	6.95
Morris County. . . . .	17	3.39
Dover. . . . .	10	8.20
Morristown. . . . .	11	5.42
Ocean County. . . . .	10	4.03
Passaic County. . . . .	16	4.93
Passaic City. . . . .	68	6.01
Paterson. . . . .	15	7.61
Salem County. . . . .	4	6.88
Salem City. . . . .	11	1.10
Somerset County. . . . .	6	3.20
North Plainfield. . . . .	3	2.44
Sussex County. . . . .	8	3.10
Union County. . . . .	5	2.44
Elizabeth. . . . .	29	5.14
Plainfield. . . . .	10	6.02
Rahway. . . . .	4	2.41
Summit. . . . .	18	6.49
Warren County. . . . .	8	6.68
Phillipsburg. . . . .	8	6.68
Total in cities of over 5,000 inhabitants. . . . .	779	
Total for State. . . . .	1,132	
Rate per 10,000 population (State) . . . . .		5.61



TABLE 29.—DEATHS FROM CANCER IN NEW JERSEY, SHOWING ORGANS AFFECTED, AND AGE AT DEATH, FOR THE YEAR ENDING DECEMBER 31, 1903.

CANCER.	Under 1 mo.		Under 1 year.		1 to 5		5 to 10		10 to 15		15 to 20		20 to 25		25 to 30		30 to 35		35 to 40		40 to 45		45 to 50		50 to 55		55 to 60		60 to 70		70 to 80		80 to 90		Over 90.		Total.
	Under 1 mo.	Under 1 year.	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50	50 to 55	55 to 60	60 to 70	70 to 80	80 to 90	Over 90.	Arenotified	Total.																	
Of the mouth.....																																					14
Of the stomach and liver.....																																					413
Of the intestines and rectum.....																																					84
Of the female genital organs.....																																					172
Of the breast.....																																					92
Of the skin.....																																					6
Others.....																																					351
Totals.....	8	2	1	1	6	16	26	53	92	87	143	150	308	177	50	7	6	1132																			

CHART SHOWING DEATHS IN NEW JERSEY FROM CANCER, PER 10,000 INHABITANTS, FOR TWENTY-FIVE YEARS, 1879—1903.



**Typhoid Fever.**—The number of deaths from this disease during the year was 388. The mortality from typhoid fever has been gradually diminishing in New Jersey during the past twenty years, and at present it compares very favorably with the death-rate from this disease in other localities in the United States and Europe. The average number of deaths from typhoid fever in New Jersey during the first decade (1879-1888) since the establishment of this bureau, per 10,000 inhabitants, was 4.62, while the average for the last decade (1894-1903) was only 2.51, a decrease of 54 per cent. The typhoid bacilli are eliminated in the urine and feces, and disinfection of these excretions, could it in every case be effectually accomplished, would soon exterminate this affection. Few wells near dwellings are free from defilement from waste fluids, and although they may long serve as sources of drinking water without apparent injury to health, even when pollution can be demonstrated, they speedily become capable of producing typhoid fever when the typhoid bacillus passes with other polluting material into the well. The bacilli must gain access to the alimentary canal in order to set up the changes which constitute the disease, and doubtless many unsuspected avenues of infection exist, but water and milk are known to be extremely liable to carry the specific bacilli. Oysters, clams, vegetables and flies have all been shown to be capable of transmitting the disease, and insufficiently cooked fish has also been charged with carrying virulent bacilli into the stomach. It should be remembered however, that disinfecting the discharges from the patient will prevent all risk of spreading the infection, and the vehicles capable of transporting and distributing the germs, will then have been rendered innocuous. Unquestionably every case of typhoid fever is preventable, and if the sanitary authorities in the various districts throughout the State could be aroused to a realization of their responsibilities and opportunities, particularly in rural localities, a great reduction in the morbidity and mortality, due to typhoid fever, could be effected by intelligent and conscientious application of the recognized measures for the prevention of the disease, including the safe disposal of excreta, the closing of polluted wells, the introduction of cleanly methods in handling milk and other

food and the early diagnosis of cases by securing the forwarding of specimens of blood to the State laboratory of hygiene for examination.

TABLE 30.—SHOWING DEATHS PER 10,000 POPULATION FROM TYPHOID FEVER IN NEW JERSEY, FOR TWENTY-FIVE YEARS.

YEAR.	Population.*	Number of deaths from typhoid fever.	Deaths from typhoid fever, per 10,000 inhabitants.	YEAR	Population.	Deaths from typhoid fever.	Deaths from typhoid fever, per 10,000 inhabitants.
1879.....	1,020,584	324	3.17	1891.....	1,478,784	695	4.69
1880.....	1,120,892	373	3.39	1892.....	1,511,653	628	3.15
1881.....	1,160,275	574	4.94	1893.....	1,533,799	506	3.28
1882.....	1,189,658	884	7.43	1894.....	1,373,373	483	3.07
1883.....	1,209,048	564	4.66	1895.....	1,672,942	568	3.39
1884.....	1,248,224	640	5.12	1896.....	1,718,543	577	3.35
1885.....	1,278,033	642	5.02	1897.....	1,704,144	478	2.79
1886.....	1,310,431	545	4.15	1898.....	1,810,008	450	2.48
1887.....	1,342,829	522	3.88	1899.....	1,853,872	436	2.35
1888.....	1,375,227	620	4.50	1900.....	1,883,666	356	1.87
1889.....	1,407,625	724	5.14	1901.....	1,923,781	352	1.83
1890.....	1,441,017	782	5.42	1902.....	1,967,393	428	2.17
				1903.....	2,016,707	388	1.92

\*Population estimated except for census years.

TABLE 31.—SHOWING DEATHS FROM TYPHOID FEVER IN NEW JERSEY, FOR YEAR ENDING DECEMBER 31, 1903, AND SHOWING ALSO THE NUMBER OF DEATHS FROM THIS DISEASE IN URBAN AND RURAL DISTRICTS, TOGETHER WITH POPULATION AND DEATHS PER 10,000 INHABITANTS.

	Aggregate population.	Deaths from typhoid fever.	Deaths from typhoid fever, per 10,000 population.
State.....	2,016,797	388	1.93
Cities.....	1,363,464	292	2.14
Rural districts.....	653,333	96	1.47

TABLE 32.—SHOWING DEATHS IN NEW JERSEY, FROM TYPHOID FEVER, WITH AGE AT DEATH, FOR YEAR ENDING DECEMBER 31, 1903.

NUMBER OF DEATHS FROM TYPHOID FEVER.	AGE PERIOD.													Total.					
	Under 1 mo.	1 to 4 mo.	5 to 10 mo.	1 to 2 years.	2 to 3 years.	3 to 4 years.	4 to 5 years.	5 to 6 years.	6 to 7 years.	7 to 8 years.	8 to 9 years.	Over 90.	Not stated.						
	Under 1 year.	1 to 1 year.	1 to 2 years.	2 to 3 years.	3 to 4 years.	4 to 5 years.	5 to 6 years.	6 to 7 years.	7 to 8 years.	8 to 9 years.	Over 90.	Not stated.							
0	3	12	14	19	58	53	55	45	43	27	22	8	11	17	0	0	0	1	388

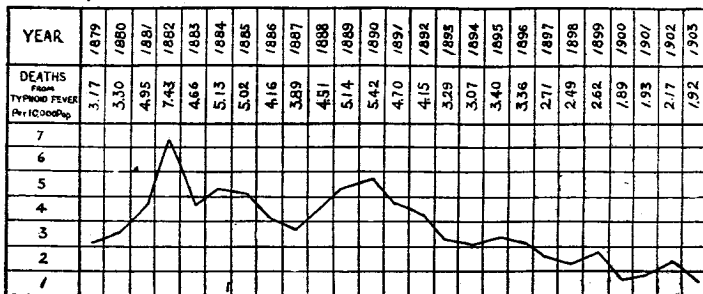
TABLE 33.—SANITARY DISTRICTS IN NEW JERSEY IN WHICH DEATHS FROM TYPHOID FEVER OCCURRED DURING THE YEAR ENDING DECEMBER 31, 1903, WITH POPULATION, NUMBER OF DEATHS, SOURCE OF WATER-SUPPLY AND NATURE OF DRAINAGE.

NAME OF SANITARY DISTRICT.	Estimated Population.	Number of deaths from typhoid fever.	Water Supply.	Drainage.
Aquanekanonk Township.....	5,351	1	Domestic.....	No sewers.
Alloway Township.....	1,328	1	Domestic.....	No sewers.
Atlantic City.....	33,272	11	Public.....	No sewers.
Avononoe City.....	36,820	9	Public.....	Sewers.
Belleville Township.....	5,207	2	Public.....	No sewers.
Belmar Bo.....	907	2	Public.....	Sewers.
Belvidere.....	1,784	1	Public.....	Sewers.
Bernards Township.....	3,056	1	Domestic.....	No sewers.
Bloomton City.....	3,901	1	Public.....	Sewers.
Bordentown City.....	4,110	5	Public.....	Sewers.
Bordentown Township.....	488	1	Domestic.....	No sewers.
Bridgeton.....	14,660	2	Public.....	No sewers.
Dianna Vista Township.....	1,646	1	Domestic.....	No sewers.
Burlington City.....	7,392	8	Public.....	Sewers.
Butler Borough.....	1,367	1	Domestic.....	No sewers.
Caldwell Borough.....	79,811	8	Public.....	Sewers.
Camden City.....	1,951	1	Public.....	No sewers.
Clayton Borough.....	963	1	Domestic.....	No sewers.
Cliffside Park Borough.....	2,854	2	Domestic.....	No sewers.
Cranford Township.....	1,953	1	Domestic.....	No sewers.
Delaware Township (Hunt).....	2,114	1	Domestic.....	No sewers.
Depford.....	6,488	2	Public.....	Sewers.
Dover City.....	588	1	Domestic.....	No sewers.
Eagleswood Township.....	1,323	2	Domestic.....	No sewers.
East Greenwich.....	23,972	2	Public.....	No sewers.
East Orange City.....	56,441	13	Public.....	Sewers.
Elizabeth.....	1,140	1	Public.....	No sewers.
Elmer Borough.....	6,745	1	Public.....	No sewers.
Englewood City.....	1,955	1	Domestic.....	No sewers.
Florence Township.....	2,252	1	Domestic.....	No sewers.
Franklin Township (Glou).....	2,934	1	Public.....	Sewers.
Freehold.....	2,460	2	Domestic.....	No sewers.
Galloway Township.....	7,209	3	Public.....	Sewers.
Glocester City.....	10,739	3	Public.....	Sewers.
Hackensack City.....	2,012	1	Domestic.....	No sewers.
Haddon Township.....	2,776	2	Public.....	Sewers.
Haddonfield Borough.....	11,274	2	Public.....	Sewers.
Harrison City.....	1,569	2	Domestic.....	No sewers.
Harrison Township.....	1,749	4	Public.....	No sewers.
Hightstown Township.....	64,080	10	Public.....	Sewers.
Hoboken City.....	980	1	Public.....	Sewers.
Hopewell Borough (Mer.).....	3,103	1	Domestic.....	No sewers.
Howell Township.....	6,375	1	Domestic.....	No sewers.
Irvning.....	219,402	36	Public.....	Sewers.
Jersey City.....	12,045	2	Domestic.....	No sewers.
Kearny.....	4,637	2	Public.....	Sewers.
Knowlton Township.....	1,638	1	Domestic.....	No sewers.
Lambertville.....	1,355	1	Domestic.....	No sewers.
Landis Township.....	402	1	Domestic.....	No sewers.
Lawrence Township.....	9,795	5	Public.....	Sewers.
Linwood Borough.....	1,424	1	Domestic.....	No sewers.
Long Branch.....	3,754	2	Public.....	No sewers.
Lower Fen's Neck.....	1,033	1	Domestic.....	No sewers.
Madison Borough.....	1,745	1	Domestic.....	No sewers.
Manchester Township.....	13,24	1	Domestic.....	No sewers.
Mannington.....	1,786	1	Domestic.....	No sewers.
Mansfield Township.....	1,298	2	Public.....	No sewers.
Metuchen.....	2,837	2	Domestic.....	No sewers.
Midland Township.....				
Millburn Township.....				

TABLE 33.—SANITARY DISTRICTS IN NEW JERSEY IN WHICH DEATHS FROM TYPHOID FEVER OCCURRED DURING THE YEAR ENDING DECEMBER 31, 1903, WITH POPULATION, NUMBER OF DEATHS, SOURCE OF WATER-SUPPLY AND NATURE OF DRAINAGE.—Continued.

NAME OF SANITARY DISTRICT.	Estimated Population.	Number of deaths from typhoid fever.	Water Supply.	Drainage.
Millstone Township.....	1,509	1	Domestic.....	No sewers.
Millville City.....	10,737	2	Public.....	Sewers.
Montclair.....	15,555	3	Public.....	Sewers.
Montgomery Township.....	1,243	1	Domestic.....	No sewers.
Morristown City.....	12,200	1	Public.....	No sewers.
Neptune Township.....	7,943	1	Domestic.....	No sewers.
Newark.....	265,394	61	Public.....	Sewers.
New Brunswick.....	20,426	1	Public.....	Sewers.
Northampton Township.....	5,168	3	Domestic.....	No sewers.
North Bergen.....	9,213	1	Public.....	No sewers.
North Plainfield.....	5,468	1	Public.....	No sewers.
Nutley Borough.....		1	Public.....	Sewers.
Ocean City.....	1,307	1	Public.....	Sewers.
Orange City.....	25,731	5	Public.....	Sewers.
Passaic City.....	32,432	5	Public.....	Sewers.
Paterson City.....	113,217	24	Public.....	Sewers.
Pemberton Township.....	1,493	1	Domestic.....	No sewers.
Perth Amboy City.....	20,156	2	Public.....	Sewers.
Phillipsburg City.....	11,975	1	Public.....	Sewers.
Pittsgrove Township.....	2,092	1	Domestic.....	No sewers.
Plainfield City.....	16,599	7	Public.....	Sewers.
Pompton Township.....	2,404	1	Domestic.....	No sewers.
Princeton Borough.....	3,899	1	Public.....	Sewers.
Prospect Park Borough.....		1	Public.....	Sewers.
Rahway.....	7,935	3	Public.....	Sewers.
Randolph Township.....	2,246	2	Domestic.....	No sewer.
Raritan Township (Mon.).....	1,524	2	Domestic.....	No sewers.
Readinton.....	2,670	1	Domestic.....	No sewers.
Ridgefield Township.....	2,612	1	Domestic.....	No sewers.
Ridgewood Township.....	3,298	1	Domestic.....	No sewers.
Roselle Borough.....	1,652	1	Public.....	Sewers.
Saddle River Township.....	1,954	2	Domestic.....	No sewers.
Salem City.....	5,811	1	Public.....	Sewers.
Secaucus Borough.....	1,626	2	Domestic.....	No sewers.
Somerville.....	4,843	1	Public.....	Sewers.
South Amboy City.....	7,016	1	Public.....	Sewers.
Southampton Township.....	1,904	1	Domestic.....	No sewers.
South Brunswick.....	2,337	1	Domestic.....	No sewers.
South Orange Township.....	1,630	1	Domestic.....	No sewers.
Stillwater Township.....	1,108	1	Domestic.....	No sewers.
Tewksbury Township.....	1,883	1	Domestic.....	No sewers.
Town of Union.....	16,549	3	Public.....	Sewers.
Trenton.....	76,766	45	Public.....	Sewers.
Vernon Township.....	1,738	1	Domestic.....	No sewers.
Verona.....	2,139	1	Domestic.....	No sewers.
Wall Township.....	3,212	1	Domestic.....	No sewers.
Washington Township (Glou).....	1,252	1	Domestic.....	No sewers.
Washington Township (Mer.).....	1,157	1	Domestic.....	No sewers.
Wayne.....	1,985	1	Domestic.....	No sewers.
West Hoboken City.....	26,523	5	Public.....	Sewers.
West New York City.....	5,423	1	Public.....	No sewers.
Woodbridge.....	7,631	1	Public.....	No sewers.

CHART SHOWING DEATHS FROM TYPHOID FEVER IN NEW JERSEY, PER 10,000 POPULATION, FOR TWENTY-FIVE YEARS.



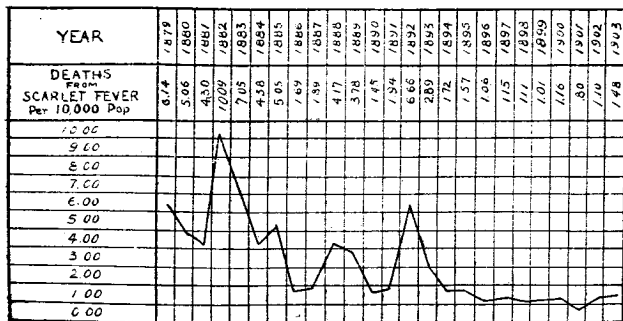
**Scarlet Fever.**—The number of deaths from scarlet fever during the year was 299. This is a considerable increase in the mortality from this disease, and exceeds that of any year since 1893. The mild type which this disease has maintained during the past ten years is shown by comparing the average annual mortality from this affection, per 10,000 inhabitants, for the first ten years (1879-1888) since the establishment of this bureau with that of the last ten years (1894-1903). During the first of these decades the average was 4.97, and during the latter period it was 1.23, or 75% less than during the former. Discussions concerning the duration of the infectious period in scarlet fever have recently been actively renewed, and those who have maintained that the disease is conveyed by means of the desquamated cuticle have been put upon the defensive, and proof to sustain their opinions has not been satisfactorily presented. On the other hand it has been claimed that the disease is invariably spread through the agency of infectious discharges from the throat, nose and ears, and that patients who are convalescent from scarlet fever may safely be released from isolation restrictions without any reference to the desquamation of the skin, provided that the inflammatory processes affecting the throat, nose and ears have disappeared. These ques-

tions have serious import for health officers, and no one is at present warranted in declaring that they are finally settled. The difficulties and uncertainty which attend the continuance of isolation of scarlet fever patients until all desquamation has ceased, have caused much anxiety to every experienced and conscientious administrative officer, and a more definite guide than desquamation to indicate the termination of infectivity in this disease would be welcomed. No dissent has been expressed concerning the infectiousness of the discharges from the air passages and ears, and frequent syringing of the nose, ears and throat with a disinfectant is believed to have value as a prophylactic measure.

TABLE 34.—DEATHS FROM SCARLET FEVER, DIPHTHERIA, AND TYPHOID FEVER IN NEW JERSEY FOR THE TWENTY-FIVE YEARS ENDING DECEMBER 31, 1903, COMPARED WITH TOTAL DEATHS.

YEARS.	Popula- tion.	Total Deaths.	Death- rate per 1,000 popu- lation.	SCARLET FEVER		DIPHTHERIA.		TYPHOID FEVER	
				Number of Deaths.	Death- rate per 1,000 popu- lation.	Number of Deaths.	Death- rate per 1,000 popu- lation.	Number of Deaths.	Death rate per 1,000 popu- lation.
1879		02,440	18.07	627	.61	1,100	1.09	324	.32
1880		18,967	16.77	573	.51	873	.77	373	.33
1881	1,130,892	20,810	18.39	499	.43	1,128	.97	574	.49
1882		25,910	22.90	1,806	1.01	1,472	1.24	884	.74
1883		13,310	20.60	853	.71	1,146	.95	564	.47
1884		21,716	19.20	547	.44	1,027	.82	640	.51
1885	1,278,033	23,807	18.63	646	.51	1,496	1.17	642	.50
1886		22,734	17.80	222	.17	1,303	.99	545	.42
1887		24,331	19.04	255	.19	1,327	1.14	529	.39
1888		27,173	17.01	574	.42	2,036	1.48	620	.45
1889		26,543	18.99	533	.38	1,574	1.12	724	.51
1890	1,441,017	28,530	19.80	209	.15	1,575	1.09	782	.54
1891		28,840	19.50	238	.19	1,737	1.17	695	.47
1892		33,685	21.62	1,008	.67	1,776	1.17	628	.42
1893		30,596	19.88	445	.29	1,677	1.09	506	.33
1894		30,004	19.09	272	.17	1,294	.82	485	.31
1895	1,672,942	30,634	18.31	264	.16	1,464	.88	568	.34
1896		30,767	17.90	183	.11	1,378	1.02	577	.34
1897		29,822	16.90	203	.12	1,382	.78	478	.27
1898		27,337	15.11	201	.11	950	.52	450	.25
1899		30,990	16.70	187	.10	777	.42	486	.26
1900	1,883,669	31,474	16.62	220	.12	927	.49	356	.19
1901		31,739	16.48	179	.09	683	.36	352	.19
1902		31,519	15.91	217	.11	633	.35	428	.22
1903		31,820	15.78	299	.15	748	.37	388	.19

CHART SHOWING DEATHS FROM SCARLET FEVER IN NEW JERSEY, PER 10,000 POPULATION, FOR TWENTY-FIVE YEARS.



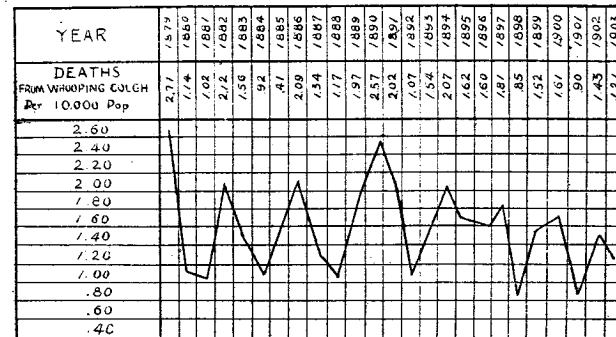
**Whooping Cough.**—This disease continues to cause an average of about 234 deaths in New Jersey from year to year, and thus far its spread has not been materially affected by sanitary regulations. Its insidious approach renders an early diagnosis difficult, and its fatality is so small, compared with the number of individuals whom it attacks, that the employment of isolation restrictions, even if they were capable of limiting the distribution of the disease, would not be sustained by public sentiment.

It is probable that more or less of the deaths which are certified as having been induced by bronchitis, emphysema, pneumonia, marasmus and cerebral hæmorrhage, are in fact due to whooping cough as a primary cause. Whooping cough not infrequently produces chronic invalidism, sometimes involving disturbances of the nervous system, visual defects and deafness, and it is worthy of the most painstaking efforts on the part of health boards to prevent its spread, but reasonable and effectual measures for its restriction have not yet been pointed out.

TABLE 35.—SHOWING DEATHS IN NEW JERSEY FROM WHOOPING COUGH WITH AGES OF DECEDENTS, FOR YEAR ENDING DECEMBER 31, 1903.

AGE PERIODS.	Deaths from whooping cough.	AGE PERIODS.	Deaths from whooping cough.	AGE PERIODS.	Deaths from whooping cough.
Under 1 month.	5	20 to 25...		50 to 55...	
Under 1 year	124	25 to 30...		55 to 60...	
1 to 5	100	30 to 35...		60 to 70...	
5 to 10	8	35 to 40...		70 to 80...	
10 to 15		40 to 45...		80 to 90...	2
15 to 20		45 to 50...		Over 90	
Age not stated	0			Total	245

CHART SHOWING DEATHS FROM WHOOPING COUGH IN NEW JERSEY, FOR THE TWENTY-FIVE YEARS ENDING DECEMBER 31, 1903, PER 10,000 POPULATION.



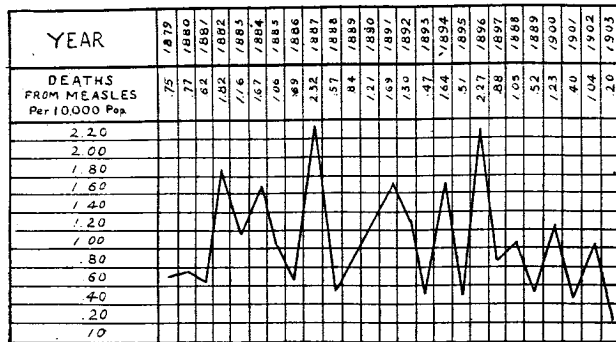
**Measles.**—The number of deaths caused by measles was 41. This is the smallest number of deaths recorded from this disease during any of the twenty-five years since the establishment of this bureau. Ninety-six per cent. of the deaths from measles, in New Jersey, occur in children under ten years of age. The records of this State, and experience in all parts of

this country and Europe, show that periodical outbreaks of this disease occur with much regularity, and no successful measures have thus far been devised to prevent these epidemics. The high infectiousness of measles for one or two days before the appearance of the eruption; before the parents suspect that the cough and coryza indicate the onset of any serious affection, and before a physician is called to see the patient, permits the spread of the disease, particularly in the beginning of each outbreak, and when notification reaches the local sanitary officer, the opportunity to arrest the progress of the disease by isolation of the patient has passed. If parents would invariably consult a physician whenever a child is suddenly attacked with sneezing attended with more or less cough and red and watery eyes early diagnoses in measles would be possible, and the prevalence of the disease might be diminished, but until some measure shall be adopted which will give to health authorities immediate notice of the first symptoms of the disease, there will be no reason to expect improvement in the prevalence of this malady.

TABLE 36.—SHOWING DEATHS IN NEW JERSEY FROM MEASLES, WITH AGE AT DEATH, FOR YEAR ENDING DECEMBER 31, 1903.

AGE PERIODS.	Deaths from measles.	AGE PERIODS.	Deaths from measles.	AGE PERIODS.	Deaths from measles.
Under 1 month.	..	.....	..	.....	..
Under 1 year . . .	7	.....	..	.....	..
1 to 5 . . . . .	29	.....	..	80 to 90 . . . . .	1
5 to 10 . . . . .	4	.....	..	.....	..
				Total . . . . .	41

CHART SHOWING DEATHS IN NEW JERSEY FROM MEASLES, PER 10,000 POPULATION, FOR TWENTY-FIVE YEARS ENDING DECEMBER 31, 1903

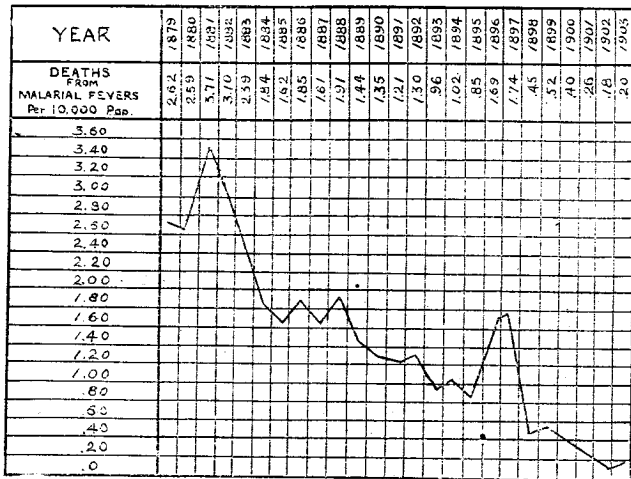


**Malarial Fever.**—Forty deaths were certified as having been caused by malarial infection. Doubtless there has been more or less confusion in the minds of physicians in past years concerning the differentiation of this class of affections from certain other diseases, and until recently the term “typho-malarial” fever was often used in doubtful cases. In classifying deaths it has uniformly been the custom in this bureau to count all certificates in which the cause of death is stated as having been due to typho-malarial fever, as deaths from typhoid fever.

For the prevention of malaria local boards of health should make and enforce ordinances to require that no rain-water barrel, water-tank, cistern or other receptacle shall be maintained without being tightly screened or so covered that no mosquito can enter it; that no discarded cans or other rubbish capable of holding water shall be allowed to remain uncovered on any premises; that every cesspool or other receptacle for waste liquids shall be tightly screened and covered; that no pools of stagnant water shall be allowed to stand upon the ground surface. Frequent inspections should be made of all

premises, to learn if the regulations to prevent the breeding of mosquitoes are being observed, and prompt prosecution should follow any violations which are discovered.

CHART SHOWING DEATHS FROM MALARIAL AFFECTIONS, PER 10,000 INHABITANTS, IN NEW JERSEY, FOR TWENTY-FIVE YEARS.



**Small-Pox.**—The extensive epidemic of small-pox which recently prevailed throughout the United States, and which caused 142 deaths in New Jersey in 1901 and 432 deaths in 1902, rapidly subsided as soon as general vaccination was employed, and notwithstanding the fact that the disease reappeared in several localities, it caused only 16 deaths during the year ending December 31, 1903. In the annual reports of this board for the years 1896-1900 a statement was presented from year to year showing the number of unvaccinated children of

school age in the State, and it is there seen that the proportion gradually increased until, in 1899, it reached twenty-five per cent. of the total enrollment. Added to this large number of unvaccinated school children was a still larger proportion of unvaccinated children under six years of age, while many adults had never been vaccinated or had not recently been vaccinated, and, taken altogether, the material for an epidemic of small-pox was very abundant. But conditions are now greatly changed, and it can confidently be said that no extensive outbreak of small-pox is likely to occur in New Jersey for the present, nor until the protection afforded by the wholesale vaccinations which have been recently done shall have become exhausted. But now is the time for health officers and school officers to complete their records, to show, as far as possible, which individuals are still unprotected against small-pox, and by the annual offer of free vaccination to indigent persons, and by requiring with the co-operation of the board of education, that all school children shall be vaccinated and re-vaccinated after five years, to maintain the defences against future exposure to the infection of this disease.

Because of the errors which have so often arisen in the diagnosis of small-pox, it is advisable that chicken-pox shall also be placed on the notifiable list of diseases. This action has been taken in many localities, and it not only aids in the detection of mistakes in diagnosis, but also removes one of the shields employed by a certain class of unprincipled practitioners who are willing to call small-pox by some other name in the hope of obtaining favor at the hands of the patient.

TABLE 37.—SHOWING DEATHS IN NEW JERSEY, FROM SMALL-POX, FOR TWENTY-FIVE YEARS.

YEARS.	Deaths from small-pox.	YEARS.	Deaths from small-pox.	YEARS.	Deaths from small-pox.
1870	..	1887	5	1895	23
1880	15	1888	5	1896	2
1881	254	1889	3	1897	..
1882	367	1890	..	1898	..
1883	54	1891	..	1899	..
1884	7	1892	38	1900	5
1885	2	1893	43	1901	142
1886	4	1894	11	1902	432
				1903	16

**Bright's Disease.**—The deaths recorded as having been caused by Bright's disease during the past four years have numbered as follows: 1,620 in 1900; 1,246 in 1901; 1,371 in 1902, and 1,686 in 1903.

TABLE 38.—SHOWING NUMBER OF DEATHS FROM BRIGHT'S DISEASE IN NEW JERSEY, IN COUNTIES EXCLUSIVE OF CITIES, AND IN CITIES OF OVER 5,000 INHABITANTS, FOR FOUR YEARS.

NAMES OF COUNTIES AND CITIES.	Estimated population.	Deaths from Bright's Disease.				
		1900.	1901.	1902.	1903.	
Atlantic County.....	20,676	17	13	14	15	
Atlantic City.....	33,272	28	36	32	34	
Bergen County.....	68,718	27	25	27	31	
Englewood.....	6,745	5	2	2	7	
Hackensack.....	10,739	11	8	3	8	
Burlington County.....	46,739	25	40	28	39	
Burlington.....	7,392	10	9	10	12	
Camden County.....	24,868	13	12	17	20	
Camden.....	79,811	99	64	87	84	
Gloucester City.....	7,209	3	2	5	11	
Capa May County.....	13,408	8	12	7	10	
Cumberland County.....	27,081	13	15	16	22	
Bridgeton.....	14,660	16	11	22	24	
Milville.....	10,757	6	7	5	3	
Essex County.....	21,862	48	17	15	19	
Bloomfield.....	10,513	14	11	6	1	
East Orange.....	23,972	14	11	5	20	
Irvington.....	6,375	1	1	4	8	
Montclair.....	15,555	10	11	5	9	
Newark.....	265,394	280	249	255	308	
Orange.....	25,731	35	19	20	38	
West Orange.....	7,510	19	2	2	7	
Gloucester County.....	32,757	20	17	12	32	
Hudson County.....	12,489	69	39	13	22	
Bayonne.....	36,829	28	16	21	25	
Harrison.....	11,274	5	3	2	7	
Hoboken.....	64,080	55	41	57	78	
Jersey City.....	219,492	188	140	158	179	
Keary.....	12,045	11	14	12	7	
Town of Union.....	16,549	11	14	12	19	
West Hoboken.....	26,523	11	14	21	14	
West New York.....	5,425	4	2	4	9	
Hunterdon County.....	34,597	17	17	12	22	
Mercer County.....	22,038	15	6	13	6	
Trenton.....	76,766	73	3	3	60	
Middlesex County.....	35,708	20	22	18	20	
New Brunswick.....	20,426	23	18	19	26	
Perth Amboy.....	20,156	18	9	11	9	
South Amboy.....	7,016	2	2	5	3	
Monmouth County.....	70,079	48	42	50	55	
Long Branch.....	9,795	11	13	10	13	
Red Bank.....	5,752	4	4	2	4	
Morris County.....	50,186	34	30	26	44	
Dover.....	6,488	3	4	4	6	
Morristown.....	12,200	14	8	12	8	
Ocean County.....	20,308	17	11	12	14	
Passaic County.....	24,813	17	7	6	11	
Passaic City.....	32,452	10	11	15	12	
Paterson.....	113,217	94	44	60	75	
Salem County.....	19,719	7	14	11	16	
Salem City.....	5,811	7	4	4	5	
Somerset County.....	34,804	31	17	22	17	
North Plainfield.....	5,468	3	3	3	4	
Sussex County.....	25,061	10	6	8	13	
Union County.....	20,459	10	10	9	15	
Elizabeth.....	56,441	50	48	28	45	
Plainfield.....	16,599	11	14	15	9	
Rahway.....	7,935	14	9	14	12	
Summit.....	5,813	1	1	4	4	
Warren County.....	27,729	13	14	16	17	
Phillipsburg.....	11,973	6	5	4	4	
Totals.....	2,016,797	1,620	1,246	1,371	1,686	

**Suicide.**—Deaths by suicide in New Jersey numbered 314 for the year ending December 31, 1903, or 15.70 per 100,000 inhabitants. In the previous year the number of deaths by suicide was 277, and in 1901 the number was 265, showing a slight increase during the past three years.

TABLE NO. 39.—DEATHS IN NEW JERSEY FROM SUICIDE, SHOWING MODE OF DEATH AND AGE AT DEATH, FOR THE YEAR ENDING DECEMBER 31, 1903.

MODE OF DEATH.	AGE AT DEATH.																Over 90.	Not stated.	Total.
	10	15	20	25	30	35	40	45	50	55	60	70	80						
	to	to	to	to	to	to	to	to	to	to	to	to	to						
By poison.....	4	1	3	17	19	13	20	19	13	15	8	16	2	1	1	1	153		
By asphyxia.....	1	1	1	1	2	6	3	3	2	3	3	1	1	1	1	1	23		
By strangulation.....	1	1	4	2	6	4	3	5	3	1	3	1	1	1	1	1	36		
By firearms.....	1	1	4	7	7	9	8	6	6	4	5	3	1	1	1	1	67		
By cutting instruments.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17		
By drowning.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8		
By precipitation from height.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Others.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	9		
Totals.....	4	1	5	26	33	30	41	41	27	35	19	32	12	21	1	1	314		



TABLE 40.—SHOWING NUMBER OF DEATHS BY SUICIDE RECORDED IN NEW JERSEY, BY CITIES, AND BY COUNTIES, EXCLUSIVE OF CITIES, FOR THE YEAR ENDING DECEMBER 31, 1903.

NAME OF PLACE.	COUNTRY OF BIRTH.										Total.	
	United States.	England.	France.	Germany.	Ireland.	Italy.	Scotland.	Hungary.	Sweden.	Other Foreign.		Not stated.
Atlantic City.....	5											5
Bergen County.....	1											1
Englewood.....	1											1
Burlington County.....	1											1
Burlington City.....	1											1
Camden County.....	3											3
Camden City.....	3			1	1					1		6
Cape May County.....	1											1
Cumberland County.....	1											1
Essex County.....	1											1
Bloomfield.....	1			1								2
East Orange.....	1			1								2
Irvington.....	1				1							2
Montclair.....	3											3
Newark.....	35	4		18	4	2	1	1	1	6	5	77
Orange.....	7			1	1	1						10
West Orange.....	1											1
Gloucester County.....	1											1
Hudson County.....	1			4	1							6
Bayonne.....	1			4	1							6
Harrison.....	1			1								2
Hoboken.....	2			13	1							16
Jersey City.....	21	3		11	4	1			1	3		44
Kearny.....	1											1
Town of Union.....	3			3						1		7
West Hoboken.....	3	2		2						7		15
Hunterdon County.....	1											1
Mercer County.....	1											1
Trenton.....	5			2	2							9
Middlesex County.....	1											1
Perth Amboy.....	1											1
South Amboy.....	1											1
Monmouth County.....	1											1
Long Branch.....	1											1
Red Bank.....	2									1		3
Morris County.....	1											1
Morristown.....	1											1
Passaic County.....	1			1			1					3
Passaic City.....	1											1
Paterson.....	6	1		1	4	1	2			1		16
Somerset County.....	1											1
Sussex County.....	1											1
Union County.....	2			4								6
Elizabeth.....	2											2
Plainfield.....	2								1			3
Summit.....	1				1							2
Warren County.....	1											1
Total.....												314

**Notifiable Diseases.**—The act approved March 22, 1895, provides that every physician shall, within twelve hours after his first professional attendance upon any person suffering from certain infectious diseases, report the same to the local board of health. The diseases named in the act are as follows: Cholera, yellow fever, typhus fever, leprosy, plague, trichinosis, small-pox, varioloid, typhoid fever, diphtheria, membranous croup and scarlet fever. The act authorizes the State board of health to make additions to this list, and purulent ophthalmia was added October 11, 1898. At a meeting of the board held October 11, 1904, the following resolution was adopted:

“Resolved, that in accordance with the provisions of chapter 260 of the laws of 1895, entitled an ‘Act for the protection of the public health,’ the board of health of the State of New Jersey hereby declares and gives notice that malarial fevers, tuberculosis, trachoma, hydrophobia, glanders, anthrax and chicken-pox are preventable, and especially dangerous to the public health.

Resolved, that malaria, tuberculosis (in any of its manifestations) trachoma, hydrophobia, glanders, anthrax and chicken-pox are hereby added to the list of dangerous communicable diseases named in section 1 of chapter 260 of the laws of 1895.”

Chicken-pox was added to the list because it has been found that a large number of cases of small pox are called chicken-pox, either because of an error in diagnosis or because of a desire to deceive the sanitary officers. Tuberculosis is now added to the list of notifiable diseases because the legislature has authorized the establishment of a State institution for the reception and instruction of persons found to be in the incipient stages of this disease, and it therefore appears to be justifiable and desirable to learn the number and location of cases needing such treatment. Doubtless some benefit will also be derived from the distribution of printed information among the families of the infected persons, and cleansing of infected apartments will be more certainly applied after removal of the patient.

The penalty for failure to notify the local board of health of the occurrence of any one of the diseases above mentioned is punishable by a fine of fifty dollars, and the local board should take prompt action to collect the penalty in cases where the law is violated. Upon receipt of notice that any one of the in-

fectious diseases has appeared, the local executive officer should be prepared, and empowered by the health board, to take appropriate action to prevent the spread of the disease. This action will not be the same in all districts, for in built-up localities the risks of communicating the disease are much greater than in rural situations, but under all circumstances there are certain minimum precautions which should be uniformly applied. These are set forth with some minuteness in one of the circulars (98) issued by this board. Every health officer and every sanitary inspector should have a clear understanding of the value and necessity for each measure employed in dealing with the sick, and the local board of health should in each case require of its officers the most considerate and intelligent treatment of these cases.

TABLE 41.—COMMUNICABLE DISEASES REPORTED FOR EACH QUARTER DURING THE YEAR ENDING JUNE 30, 1924.

NAME OF SANITARY DISTRICT.	Diphtheria.				Scarlet fever.				Typhoid fever.				Small-pox..			
	1.	2.	3.	4.	1.	2.	3.	4.	1.	2.	3.	4.	1.	2.	3.	4.
Allentown borough.....									2	1						
Alloway township.....									1	1						
Andover township.....									1							
Asbury Park City.....				1					2	3		1				
Atlantic City.....														1	2	5
Bay Head Borough.....										1						
Bayonne City.....	35	10	19	30	51	26	46	49	2	1	8	4				
Belmar borough.....	9	2	1	1	16	5	1	4	4			2				
Berndis township.....	1			2	4				4		10					
Bethlehem township.....	6	6	5						4	4						
Bogota borough.....									1							1
Bordentown City.....		1														
Bound Brook borough.....																
Bridgeton City.....	2	43	5	1	1	4	6	14	2	2	2	2	2	2		
Bridgewater township.....					1	1		2								
Buena Vista township.....						1	2	1	3	2	1	1	1			
Burlington City.....	3	14	4			9	50	4	3	2	17	1	5			
Camden City.....	19	46	47	89	20	88	88	69	20	1	14	10	7	11	20	9
Carlstadt borough.....		4	4					2							1	1
Centre township.....								1								
Chatham borough.....		1						2	1							
Chesterfield township.....	2			1				1	1						6	
Clayton borough.....																
Clementon township.....	3	8	3				1	1	1		2					
Cliffside Park borough.....		1						1								
Clinton township.....		1	2								3					
Collingswood borough.....		5	2	6	1		4	2	1	3		1				4
Delaware township (C).....																
Delford borough.....			1					2								
Delran township.....	1							4	5	1	3					
Dover City.....	1	27	20	7				4	1							
East Greenwich twp.....						5	4	1								
East Orange City.....		6	29	11		7	23	14		1	4	5				
East Rutherford boro.....	2	4		4	1	7	4	11	2							1
Egg Harbor City.....																
Egg Harbor township.....																
Etna borough.....			2				3	3								1
Evesham township.....																4
Fairview borough.....		1	6													
Florence township.....				1					2							
Frankford township.....													1			
Franklin township (B).....						1										1
Franklin township (S).....									2							
Fredon township.....											3	2				
Freehold town.....	4		2	2												
Freehold township.....		2														
Garfield borough.....				4	8				7	4		1				
Garwood borough.....								2								
Greentownship.....									3							
Greenwich township (C).....								2								
Greenwich twp. (W).....	9	3	1													
Hackensack City.....	9	9	10	15	2	6	41	23	4	6	2				4	
Hackettstown town.....		4														
Haddon township.....			2			2	3	1	2	1						
Haddonfield borough.....				1				3								
Hanover township.....			3						1		1					
Hardyston township.....		6	4	5												
Harrington township.....	2	1	2	2			3									
Helmetta borough.....							12				1					
Hightstown borough.....		1	2	2											2	
Hillsboro township.....								3								
Holly Beach borough.....								2								
Hopewell twp. (M).....																1
Irvington town.....	1	2	2		1		1		2							
Jersey City.....	94	234	248	178	54	149	470	403	2	12	11			1	1	2

TABLE 4I.—COMMUNICABLE DISEASES REPORTED FOR EACH QUARTER DURING THE YEAR ENDING JUNE 30, 1904.—Continued.

NAME OF SANITARY DISTRICT.	Diphtheria.				Scarlet fever.				Typhoid fever.				Small-pox..			
	1.	2.	3.	4.	1.	2.	3.	4.	1.	2.	3.	4.	1.	2.	3.	4.
Junction borough.		3	3			2	2									
Kingswood township.			3													
Lakewood township.		4	3													
Lambertville City.	3	3	2			4	4	1	1	6	4					1
Lawrence township (C).				6												1
Lawrence township (M)			6													
Lebanon township.		7														
Little Ferry borough.	2	7				2	1				1					
Lodi borough.		7				1										
Lodi township.	3					4										
Logan township.			1	4			4									
Long Branch City.	2	2	5		3		23	30				1			1	
Mansfield twp. (B).				3												
Mansfield twp. (W).								3								
Medford township.																1
Menham township.		1	1								1					
Metuchen borough.				1		5										
Midland township.								1			2					
Millville City.	3	6	2			12	4									
Monroe township (G)						4	4	5			3					
Montclair City.	11	33	10	11	6	9	6	2	8	7	5	5	7	1	1	2
Montgomery twp.									2							
Moorestown borough.				1				1								
Morristown City.	1	1	1					1								1
Mt. Laurel township.		13	6	8		3	11	9	2	4	3					
Newark City.	211	361	303	257	83	284	434	494	85	99	39	35				1
New Brunswick City.	20	60	20	3	4	3	10	3	2	1	5					
Newton township.								3								
Northampton twp.							1									
North Plainfield boro.		10		6	1			1	1			5				
Ocean Grove Assn's.		2	1			2										
Oldmans township.			3			6										3
Orange City.	7	22	31	12	7	17	25	18	1	4	10	3	3			
Palisades Park boro.		3				1										
Palmyra township.			2													
Park Ridge borough.					3											
Passaic City.	50	53	30	14	52	33	23	33	8	9	44	8				
Patterson City.	38	89	68	76	26	32	46	44	22	38	16	4				3
Penns Grove borough.		4	2			1		2		3						
Pequanook township.						6										
Perth Amboy City.			21				15									
Plainfield City.	15	72	17	11	2	15	17	9	10	5	1	4				1
Pleasantville borough.					2	2										
Pompton township.									1							
Princeton borough.			5		5				1	5	9	1				
Princeton township.										2	1					
Rahway City.	1	3	1	7	3	1	3	20		2	1	3	1			
Randolph township.										2						
Raritan township (M).	2	1				1				2		3				
Ridgefield Park Village.		4														
Riverside borough.	1			1		3	2									
Riverton borough.		2	12		1		12	1	1							
Rockaway township.																
Roselle Park borough.		2						2								
Salem City.	6	4	2	3	2	1	11				1	1				
Somerville town.		5	2			4	1	1	2	6	1					
South Brunswick twp.				3		1	9									
South Orange twp.						1										
South Orange village.	4	7	3	1		4	13	2	4	1	1					
South River borough.	2	7		1	3	6	3	3	1							
Springfield twp. (B).						1										
Springfield twp. (L).			2				2									
Spring Lake borough.		5						2								
Summit City.	5	5	1	2	1	3	7	3				2				

TABLE 4I.—COMMUNICABLE DISEASES REPORTED FOR EACH QUARTER DURING THE YEAR ENDING JUNE 30, 1904.—Continued.

NAME OF SANITARY DISTRICT.	Diphtheria.				Scarlet fever.				Typhoid fever.				Small-pox..			
	1.	2.	3.	4.	1.	2.	3.	4.	1.	2.	3.	4.	1.	2.	3.	4.
Sussex borough.											1					
Swedesboro borough.										2					1	
Tuckerton borough.																2
Trenton City.	32	99	67	50	5	164	266	93	29	14	33	13			41	4
Union township (H).																
Union township (U).		4	4													
Verona township.									1							
Vineland borough.		3	9						8	7						
Voorhees township.										1						
Wall township.	2	1									1					
Warren township.		1														
Washington twp. (B).										2						
Washington twp. (G).														1		
Westampton township.									5			1	1			
West Amwell township.													2			
West Depford twp.										2	7					
West Orange town.	2	3	13	7		1	4	11	1			2	2	1		
Wildwood borough.											1					
Willingboro township.								1	15	2			1			
Winslow township.															3	
Woodbine borough.		2													1	
Wood Lynne borough.																1
Wood Ridge borough.	1															4
Woolwich township.										1					1	
Total cases reported by quarters	620	1373	1091	852	407	1012	1734	1448	257	283	246	121	20	32	85	27
Total cases reported for year.				3936				4601				907				164

**Infectious Diseases of Animals.**—Glanders was much less prevalent during the year ending October 31, 1904, than during the previous year, only 87 cases having been reported. These cases were distributed by counties, as follows: Bergen, 3; Essex, 19; Hudson, 51; Passaic, 8; Warren, 5 and Cumberland, 1.

The application which was made to the legislature for an increase of \$3,000.00 in the appropriation for the prevention of the spread of glanders was not allowed, and therefore the following circular letter was sent to the local boards of health of those counties in which the disease has heretofore appeared:

"At the last meeting of the legislature application was made by the State Board of Health for additional funds with which to meet the necessary expenses attendant upon the employment of measures to prevent the introduction of glanders into the State of New Jersey, and to limit the spread of the disease within the State. The application was not allowed, and consequently the board finds itself without funds to deal with this disease. We therefore draw your attention to the necessity of action upon the part of local boards of health to require reports of cases of glanders, and to take the necessary steps to secure the destruction of infected animals and the disinfection of infected stables."

The health officer of the city of Newark was empowered July 8, 1904, to issue quarantine orders for the isolation of glandered horses, but he reports that no case requiring isolation has thus far been brought to his attention. In Jersey City the action of the local board of health has been prompt in securing the destruction of all infected animals which have been reported, and disinfection of infected stables has been carefully done. The reports show that a number of the horses affected with glanders which were discovered in Jersey City were imported from New York, and it is believed that many of the other cases which occurred in the State were also brought across the ferries by dealers in diseased animals. Renewed application will be made when the legislature meets for funds with which to employ inspectors who will trace up the parties who buy and sell glandered horses, and to furnish evidence which will effectually break up this traffic.

Anthrax appeared during the summer in the previously infected district bordering on Delaware bay, but only sixteen cases of this disease occurred. At the meeting of the State Board of Health held April 19, 1904, the following resolution was adopted:—"No cattle shall be pastured upon Round or Ragged islands in Lower Alloways Creek Township, Salem

County, unless said animals have been recently inoculated with anti-anthrax vaccine, and a certificate of a competent veterinarian shall have been filed in the office of the State Board of Health showing that said inoculation has been performed." Notice of this regulation was sent to all boards of health in the infected locality.

Following is a statement showing the number of cases of infectious diseases of animals reported during the year: Actinomycosis, 4; anthrax, 16; glanders, 87; forage poisoning, 2; erysipelas, 1; rabies, 3; tuberculosis, 4.

**Cemeteries.**—Chapter two hundred and forty-nine of the laws of 1904 provides that appeals from the action of the local board of health and the local governing body relative to the location or enlargement of cemeteries shall hereafter be made to the board of chosen freeholders of the county in which the site of the proposed cemetery or of the proposed addition thereto is located. Heretofore these appeals have been considered by the State Board of Health, but as the questions presented rarely had any sanitary bearings, and usually involved claims for damage to property, there seemed to be good reason for removing them to one of the courts of the State, where testimony could be taken under oath, and where matters relating to property values could more appropriately be adjudicated. Whether any advantage to the public interests will follow the removal of these cases to the boards of freeholders, time will determine.

**Milk and Dairies.**—During the past year increased efforts have been made to prevent the sale of adulterated and unwholesome milk. In addition to the measures previously employed to detect the presence of preservatives and excess of water in milk, detailed examinations of over three hundred dairy premises have been made, and the defects observed in the care of the cattle; the water supply for the cows and for washing cans, bottles and utensils; the collection, cooling and delivery of the milk, have all been brought to the attention of the producers of the milk. In Jersey City, in co-operation with the city board of health, active operations were continued daily during the months of June, July, August and September, to enforce the law against the adulteration of milk, and in

addition to this work inspections were made by the State inspectors of all of the creameries and also of all of the farms from which milk sold in Jersey City is obtained. The records of these inspections show that 286 dairy premises, on which milk is produced for sale in New Jersey, were inspected, and it was found that the cow stables were well lighted and ventilated on 127 premises; that the stables were kept in a cleanly condition on 82 premises; that 800 cubic feet of air space was allowed each cow in 96 of these stables; that pure water was provided on 165 premises; that the milk was cooled to 50° F. or below on 103 of the farms; that in 89 cases vats were used for cooling the milk; that cans and utensils used on 217 premises were washed in boiling water; that the milk from 270 of these dairies was sold at a creamery, and that the milk was cooled by placing the cans in running water on 151 premises.

The routine service rendered by the State inspectors of food and drugs in preventing the sale of adulterated milk consists in the repeated collection of samples of milk from all dealers, so far as possible, in the districts to which the inspectors are assigned. These samples are immediately iced and forwarded by express to the State laboratory of hygiene, and there they are examined. If preservatives are found, or if water has been added, the facts are sent to the office of the Attorney-General and suits for the penalty are brought in all cases where the evidence is believed to be sufficient to secure a conviction. The examination of dairies is an entirely different duty, and its judicious performance requires a much greater degree of skill and good judgment. The first step in the inspection of dairy premises, as thus far practised, is to obtain, through the local board of health, a list of all the milk dealers who sell milk in a particular municipality, together with a statement of the sources from which each dealer obtains his supply. An inspector of the State Board of Health, accompanied by a local officer whenever this arrangement can be effected, then visits each farm from which the milk is taken, and his observations are recorded upon blanks provided for the purpose. He takes a sample of the water used on each farm, unless inspection shows that there is no reason to suspect pollution, as in the case of public supplies and wells and springs which are located at distant points from buildings and apparent sources of con-

tamination, and the samples are sent to the laboratory. The producers of the milk are notified in writing, from the office of the board, concerning the result of the analysis if the water is found to be unwholesome, and also concerning any other objectionable conditions which are observed. The time consumed in these inspections limits the amount of work which can be accomplished, and applications for the advantages to be derived from this method of tracing up each dealer's supply, are being filed by the health officers of municipalities much faster than the facilities of the State board enable the board to perform the desired service. But the inspectors who are engaged in the work have been greatly interested in the improvements which their interviews with dairymen have already produced, and the outlook is that the entire milk supply of the State will be investigated in this manner in the course of the coming year. Re-examination is necessary in nearly all cases to learn if the improvements, particularly in regard to the water supply, which were found necessary, have been carried out. Not much friction has been encountered by the inspectors, the improvements asked for being so apparent and essential that no ground for contention has existed. Doubtless one reason for the peaceful receptions which have been extended to the inspectors has been the fact that only the most glaring and indefensible defects in the conditions and management of dairy premises have thus far been pointed out, and as the work goes on it now seems probable that a voluntary movement will occur among milk producers, having for its purpose the avoidance of interference with the sale of a product which, because of its perishable nature, will not admit of interruption in the regular disposal of the daily supply, and to also meet the unmistakable demand of the times for clean milk. The recent dairy inspection records are supplemented with photographs, and they show very graphically some of the defects which were observed. Reforms in dairying are now demanded with greater urgency than in earlier times because evidence has in recent years been furnished to show that unclean milk is one of the vehicles through which the organisms causing infantile diarrhoea, typhoid fever, scarlet fever, and probably several other specific diseases, enter the human body, and the commercial questions which relate to the removal of cream and

the addition of water are at present regarded as of little consequence compared with the paramount considerations involving the health and life of consumers. There has heretofore been practically no control over dairy premises, and far too many of them are still conducted as if the cleanliness of milk was of no consequence whatever. It is not regarded as improper by many milkers to strain out cow dung and hair which by chance falls into the milk, and many milkers habitually wet their dirty hands with milk before they begin to draw the milk, permitting the discolored washings to fall into the pail. To employ help of a higher degree of intelligence and to introduce aseptic methods into all of the departments of the milk business costs more money than to go on in the heedless manner which at present prevails, and financial questions are thus introduced into the movement for a reformation in the milk business. Following is the form of an ordinance which has been employed in one of the cities of the State to exclude unwholesome milk:

"Any persons engaged in the sale of milk in . . . . . shall furnish forthwith, when requested so to do by the board of health of said city, or any inspector or officer thereof, a true statement, in writing, upon blanks to be supplied by said board of health, setting forth the locality from which said milk was procured, and also a full and complete list of the persons from whom said milk was purchased, and the names and addresses of all persons and customers to whom such person or persons selling said milk in said City shall supply or deliver the same. Said written statement shall be signed by the person or persons selling said milk in said City. Any person or persons offending against any of the provisions of this section shall forfeit and pay a penalty of one hundred dollars.

It shall be the duty of any persons or person engaged in the sale of milk in . . . . . to notify the board of health of said City immediately upon changing the source of supply of the milk sold by them. Such notices shall be in writing and they shall state the name or names of persons supplying said milk and the locality from which such milk is procured. Any person or persons offending against any of the provisions of this section shall forfeit and pay a penalty of fifty dollars."

**Food and Drugs.**—The inspection, collection and examination of samples of food and drugs has now become well systematized in New Jersey, and every employee in this department is highly skilled in the duties to which he is assigned. The lines of work to which attention has been mainly devoted during the past year are those which have been found by experience to be the most successful in preventing the sale of adulterated articles, and during the summer the efforts of the inspectors were especially applied toward securing improvement in the

milk supply, particularly to detect the addition of preservatives and to prevent the use of polluted water for the washing of milk cans, bottles and utensils. The report of the director of the State laboratory of hygiene and of the chief and assistant inspectors which appear further on in this volume, give detailed statements concerning some of the services which have been rendered.

Attention is drawn to the remarks of the director of the State laboratory concerning the advantages which would attend the erection of a new building to be used exclusively for laboratory purposes. The continuous increase in the number of specimens sent to the laboratory for examination, and the consequent necessity for more room and for suitable accommodation for the animals required for biological examinations, in cases of suspected rabies and certain other infectious diseases, together with the need of additional facilities for testing the efficiency of animal products which are employed for remedial purposes, renders it advisable that a building adapted to the purposes indicated should be provided.

The number of suits instituted during the year for violation of the act to prevent the sale of adulterated food and drugs, was 128, of which 105 were for the sale of unwholesome or adulterated milk; 7 for adulterated food other than milk, and 16 were for adulterated drugs. The total amount of fines collected and transmitted to the State treasurer was \$4,308.30.

The total number of specimens of food and drugs examined in the laboratory during the year has been as follows: Milk, 1,611; water, 184; other food, 1,050, drugs, 927; total, 3,772. During the year ending October 31, 1903, the number examined was 3,526, showing an increase of 246. In the bacteriological department the total number of specimens examined was 6,730, an increase of 1,171 over the number examined in 1903.

TABLE 42.—SHOWING THE NUMBER OF SUITS INSTITUTED FOR VIOLATION OF THE ACT TO PREVENT THE SALE OF ADULTERATED FOOD AND DRUGS, TOGETHER WITH THE DATE OF ANALYSIS OF SAMPLE AND THE DISPOSITION OF EACH CASE, FOR THE YEAR ENDING OCTOBER 31, 1904.

Date of analysis	Number of sample.	Name of article.	Termination of each case.
Nov. 4, 1903.	A-1600	Milk.	Convicted, fine paid.
Nov. 4, 1903.	B-1593	Milk.	Convicted, fine not paid.
Nov. 4, 1903.	B-1591	Milk.	Convicted, fine not paid.
Nov. 7, 1903.	A-1639	Milk.	Convicted, fine paid.
Nov. 14, 1903.	A-1636	Milk.	
Nov. 7, 1903.	A-1623	Tr. Iodine.	
Nov. 17, 1903.	A-1610	Tr. Iodine.	Convicted, fine paid.
Nov. 17, 1903.	B-1610	Tr. Iodine.	Convicted, fine paid.
Nov. 17, 1903.	B-1606	Tr. Iodine.	Convicted, fine paid.
Nov. 17, 1903.	C-1884	Olive oil.	Case dismissed.
Nov. 17, 1903.	A-1637	Olive oil.	Convicted, fine paid.
Nov. 17, 1903.	B-1607	Olive oil.	
Nov. 19, 1903.	D-1392	Milk.	Convicted, fine not paid.
Nov. 20, 1903.	B-1634	Milk.	Convicted, fine paid.
Nov. 20, 1903.	B-1635	Milk.	Convicted, fine not paid.
Nov. 21, 1903.	A-1615	Milk.	
Nov. 23, 1903.	C-1921	Tr. Iodine.	Convicted, fine paid.
Nov. 23, 1903.	A-1641	Tr. Iodine.	Convicted, fine paid.
Nov. 23, 1903.	B-1628	Cream of tartar.	Convicted, fine paid.
Dec. 8, 1903.	D-1352	Milk.	Appealed.
Dec. 8, 1903.	A-1602	Milk.	Convicted, fine paid.
Dec. 8, 1903.	A-1601	Milk.	Convicted, fine paid.
Dec. 31, 1903.	C-1960	Milk.	Convicted, fine paid.
Jan. 22, 1904.	A-1718	Tr. Opium.	Convicted, fine paid.
Feb. 2, 1904.	C-2008	Tr. Iodine.	Convicted, fine paid.
Feb. 2, 1904.	C-2045	Tr. Opium.	Convicted, fine paid.
Feb. 2, 1904.	C-2040	Tr. Opium.	Convicted, fine paid.
Feb. 8, 1904.	C-2069	Cider vinegar.	
Feb. 0, 1904.	C-2074	Oleomargarine.	
Feb. 10, 1904.	A-1761	Milk.	Convicted, fine paid.
Feb. 10, 1904.	A-1762	Milk.	Convicted, fine paid.
Feb. 10, 1904.	A-1763	Milk.	Convicted, fine paid.
Feb. 22, 1904.	D-1192	Tr. Iodine.	Convicted, fine paid.
Feb. 20, 1904.	C-3240	Milk.	
Mar. 5, 1904.	C-3245	Molasses.	
Mar. 7, 1904.	A-1828	Tr. Opium.	Convicted, fine paid.
Mar. 11, 1904.	C-3253	Milk.	
Mar. 25, 1904.	D-1535	Milk.	Convicted, *
Mar. 25, 1904.	A-1835	Milk.	Convicted, fine paid.
Mar. 29, 1904.	C-3324	Milk.	Defendant acquitted.
Apr. 6, 1904.	C-3331	Milk.	Convicted, fine paid.
Apr. 7, 1904.	C-3334	Milk.	Convicted, fine paid.
Apr. 8, 1904.	C-3341	Milk.	Convicted, *
Apr. 13, 1904.	A-1911	Milk.	Convicted, fine paid.
Apr. 13, 1904.	A-1900	Milk.	Convicted, fine paid.
April 15, 1904.	A-1920	Milk.	Convicted, fine paid.

\*Execution issued.

TABLE 42.—SHOWING THE NUMBER OF SUITS INSTITUTED FOR VIOLATION OF THE ACT TO PREVENT THE SALE OF ADULTERATED FOOD AND DRUGS, TOGETHER WITH THE DATE OF ANALYSIS OF SAMPLE AND THE DISPOSITION OF EACH CASE, FOR THE YEAR ENDING OCTOBER 31, 1904.

Date of analysis	Number of sample.	Name of article.	Termination of each case.
Apr. 15, 1904.	A-1919	Milk.	Convicted, fine paid.
Apr. 22, 1904.	D-1642a	Tr. Iodine.	Convicted, fine paid.
Apr. 22, 1904.	C-3391	Milk.	Convicted, fine paid.
Apr. 26, 1904.	C-3409	Milk.	Convicted, fine paid.
Apr. 26, 1904.	C-3408	Milk.	Convicted, fine paid.
May 3, 1904.	C-3424	Milk.	Convicted, fine paid.
May 6, 1904.	A-1940	Milk.	Convicted, fine paid.
May 6, 1904.	A-1938	Milk.	Convicted, fine paid.
May 6, 1904.	A-1937	Milk.	Convicted, fine paid.
May 7, 1904.	C-3447	Milk.	Convicted, fine paid.
May 17, 1904.	D-1691	Cider vinegar.	Summons not served.
May 18, 1904.	D-1710	Milk.	Convicted, fine paid.
May 19, 1904.	D-1790	Milk.	Appealed.
May 19, 1904.	C-3562	Milk.	Convicted, fine paid.
May 20, 1904.	D-1733	Milk.	Convicted, fine paid.
May 25, 1904.	D-1756	Milk.	Defendant acquitted.
May 26, 1904.	A-2037	Milk.	Convicted, fine paid.
June 3, 1904.	D-1794	Milk.	Convicted, *
June 3, 1904.	D-1800	Milk.	Convicted, *
June 3, 1904.	D-1802	Milk.	Convicted, fine paid.
June 14, 1904.	C-3787	Milk.	Convicted, fine paid.
June 14, 1904.	C-3794	Milk.	Convicted, fine paid.
June 18, 1904.	D-1872	Milk.	Convicted, *
June 22, 1904.	C-3847	Milk.	Convicted, *
June 23, 1904.	D-1881	Milk.	Convicted, fine paid.
June 23, 1904.	D-1884	Milk.	Appealed.
June 23, 1904.	D-1882	Milk.	Appealed.
July 5, 1904.	C-3856	Milk.	Convicted, *
July 7, 1904.	A-3026	Milk.	Convicted, fine paid.
July 7, 1904.	A-3030	Milk.	Convicted, fine paid.
July 12, 1904.	C-3921	Milk.	Convicted, fine paid.
July 12, 1904.	D-1046	Milk.	Convicted, *
July 12, 1904.	D-1939	Milk.	Convicted, fine paid.
July 12, 1904.	D-1941	Milk.	Convicted, *
July 17, 1904.	C-3961	Milk.	Convicted, *
July 17, 1904.	C-3959	Milk.	Appealed.
July 18, 1904.	C-3933	Molasses.	Convicted, fine paid.
July 19, 1904.	C-3980	Milk.	Convicted, fine paid.
July 20, 1904.	E-725	Milk.	Defendant acquitted.
July 20, 1904.	A-3114	Milk.	Convicted, fine paid.
July 27, 1904.	C-4023	Milk.	Convicted, fine paid.
July 27, 1904.	C-4026	Milk.	Convicted, fine paid.
July 27, 1904.	D-1989	Milk.	Appealed.
July 27, 1904.	D-1991	Milk.	Convicted, fine paid.
July 27, 1904.	D-1990	Milk.	Convicted, fine paid.
Aug. 2, 1904.	D-2036	Milk.	Convicted, *
Aug. 5, 1904.	D-2057	Milk.	Pending.
Aug. 5, 1904.	D-2055	Milk.	Convicted, *

\*Execution issued.

TABLE 42.—SHOWING THE NUMBER OF SUITS INSTITUTED FOR VIOLATION OF THE ACT TO PREVENT THE SALE OF ADULTERATED FOOD AND DRUGS, TOGETHER WITH THE DATE OF ANALYSIS OF SAMPLE AND THE DISPOSITION OF EACH CASE, FOR THE YEAR ENDING OCTOBER 31, 1904.

Date of analysis	Number of sample.	Name of article.	Termination of each case.
Aug. 5, 1904.	A-3104	Milk	Convicted, fine paid.
Aug. 5, 1904.	D-2051	Milk	Convicted, fine paid.
Aug. 6, 1904.	C-4122	Milk	Convicted.*
Aug. 9, 1904.	C-4153	Milk	Convicted, fine paid.
Aug. 9, 1904.	A-3222	Milk	Convicted.*
Aug. 9, 1904.	A-3221	Milk	Convicted.*
Aug. 9, 1904.	A-3208	Milk	Convicted.*
Aug. 11, 1904.	A-3232	Milk	Convicted, fine paid.
Aug. 11, 1904.	A-3231	Milk	Convicted, fine paid.
Aug. 11, 1904.	A-3220	Milk	Convicted, fine paid.
Aug. 11, 1904.	A-3228	Milk	Convicted, fine paid.
Aug. 12, 1904.	A-3226	Milk	Convicted.*
Aug. 24, 1904.	A-3258	Milk	Convicted.*
Aug. 26, 1904.	D-2088	Cream	Appealed.
Aug. 26, 1904.	D-2087	Milk	Appealed.
Aug. 30, 1904.	B-3032	Milk	Convicted, fine paid.
Aug. 30, 1904.	B-3031	Milk	Pending.
Aug. 30, 1904.	B-3020	Milk	Pending.
Aug. 30, 1904.	B-3027	Milk	Pending.
Aug. 30, 1904.	B-3026	Milk	Pending.
Sept. 5, 1904.	B-3052	Milk	Convicted.*
Sept. 9, 1904.	B-3074	Milk	Defendant acquitted.
Sept. 9, 1904.	B-3077	Milk	Convicted.*
Sept. 9, 1904.	B-3082	Milk	Jury disagreed.
Sept. 9, 1904.	C-4202	Milk	Pending.
Sept. 10, 1904.	C-4206	Milk	Convicted, fine paid.
Sept. 13, 1904.	B-3108	Milk	Pending.
Sept. 14, 1904.	B-3111	Milk	Pending.
Sept. 29, 1904.	C-4374	Milk	Pending.
Sept. 29, 1904.	C-4378	Milk	Pending.
Oct. 11, 1904.	C-4436	Milk	Pending.
Oct. 11, 1904.	B-3175	Milk	Pending.
Oct. 18, 1904.	C-4465	Milk	Pending.
Oct. 19, 1904.	C-4468	Milk	Pending.

\*Execution issued.

**Sanitary Inspection Service.**—The first examination to provide an eligible list from which appointments of local sanitary inspectors and health officers might be made, as provided for in chapter 215 of the laws of 1903, was held in the office of the board of health of the city of Newark, June 1, 1904, and ten candidates for a license certificate appeared. The sanitary examiners, five in number, who were appointed under the law

to conduct these examinations, presented the following questions, and five hours were allowed in which to make the written replies.

Those making application for license as sanitary inspector were required to answer the first twenty-four questions, while those making application as health officer were asked the first twenty-four questions with the last six questions in addition thereto.

- Describe the necessary procedure to cause the permanent closure of a well, the water of which is impure?
- What are the powers of a sanitary inspector with reference to entering private property for the investigation of a suspected nuisance?
- How should a sanitary inspector secure authority to enter a private house for the purpose of investigating a suspected nuisance where such entrance is refused by the owner?
- State what you know concerning the protection of water supplies from pollution.
- What power have local boards of health to prevent the sale of impure milk?
- Describe the proper procedure for filing a certificate of birth, giving the limit of time in which such certificate must be filled, and also the ultimate disposition of such certificate.
- Can a board of health cause an impure well to be closed?
- Does the law protect from pollution ponds and streams from which ice may be cut?
- What are the requirements concerning the interment of dead bodies as to depth and closeness of graves?
- What do you mean by quarantine?
- What precautions are reasonable to prevent the spread of smallpox when all members of the family have been vaccinated: the patient removed to a hospital, and the premises disinfected?
- What constitutes a nuisance? Define its relation to public health.
- Is stagnant water a nuisance?
- How should an infected room be disinfected? Describe in detail each step of the process.
- How may the discharges from a typhoid fever patient be disinfected and safely disposed of?
- Describe in detail how a test of the gas pipes and fixtures in a building should be made.
- Under what conditions are traps siphoned?
- What are the approved methods for final disposal of garbage and rubbish?
- Give a list of diseases the spread of which can be limited by the adoption of sanitary measures.
- State the methods of transmission of the bacillus of typhoid fever from one individual to another.
- At what intervals is it advisable to repeat vaccination?
- Name the most effectual methods for the restriction of the spread of tuberculosis.
- What measures should be adopted by a local board of health to limit the spread of small-pox?
- For what length of time should cases of diphtheria be isolated, and how is the time for release from quarantine in such cases best determined?
- For what purposes may a local board of health pass ordinances?
- What is the proper course of procedure on the part of a local board



of health to cause the abatement of a nuisance existing on private property?  
 27. Describe the method of determining the presence of the bacillus of tuberculosis in sputum.

28. What restrictions have been placed by the legislature on the operation of dairy premises?

29. Will cleansing a well always remove sources of pollution?

30. What regulations govern the transportation, burial and disinterment of dead human bodies?

Stenographic notes were taken of the oral examinations, and all of the written replies and records have been placed on file in the office of the State board of health. At a meeting held July 8, 1904, the State board of health received a report from the sanitary examiners, and licenses were granted as follows: Health officers, Alexander Marcy, Jr., M.D., Riverton, N. J.; William S. Green, M.D., Paterson, N. J.; Walter Taylor, M.D., Jersey City, N. J.; Hiram Williams, M.D., Passaic N. J., and Budd H. Obert, Asbury Park, N. J. Sanitary Inspectors of the first class: Howard L. Baumgartner, Asbury Park, N. J., and Fred W. Hering, Jersey City, N. J. Sanitary Inspector of the second class: Charles Cunningham, M.D., Hammonton, N. J.

The next examination will be held Wednesday, December 7, 1904, in the State House, Trenton, and applications should be filed at least one week before this date. After January 1, 1905, no new appointment can be legally made to the office of health officer or sanitary inspector unless the appointee holds a license showing that he has given evidence that he is qualified to perform the duties of the office.

**Maritime Quarantine.**—During the year ending October 31, 1902, six vessels arrived at the port of Perth Amboy from the plague infected port of Antofagasta, Chile, and five vessels arrived from the same port during the year ending October 1, 1903. These facts led to much apprehension concerning the risk of admitting the infection of this disease at Perth Amboy. In the annual report of the board for 1900 the following statement appears: "An inspection of the harbor of Perth Amboy was made by representatives of the State board of health, August 15, 1900, and the necessity was observed for the substitution of a motor-launch in place of the rowboat at present employed for the boarding of vessels by the health officer or his deputy. In some conditions of wind and currents it is impossible for one man in a rowboat to intercept an incoming vessel, and if masters of vessels obey the harbor requirements

and remain at anchor until the health officer reaches the anchorage grounds, much needless delay ensues. This board therefore recommends that provision be made by the legislature for the maintenance of a launch service at that point." The entrance to the harbor is circuitous and the channel is too narrow to admit of the anchorage of vessels of deep draught nearer than the eastern end of the dredged channel, off Sequin's Point, a distance of seven miles from the most southerly wharf in Perth Amboy. No appropriation was made for providing a boat for use of the health officer, and the board became impressed with the view that the public interests would be better conserved if the quarantine service of the port was administered by the United States Government, and a request was therefore addressed to the health officer of Perth Amboy asking him to resign in order that the way might be clear for the United States Public Health Service to take charge, but this the health officer refused to do. The following action was taken by the board at a meeting held December 18, 1903:

"WHEREAS, Bubonic Plague has become firmly established in several of the Atlantic ports of South America, notably the port of Rio Janeiro, where the disease is now epidemic,

"WHEREAS, No boat for boarding incoming vessels has been provided, by the State, for the use of the health officer of the port of Perth Amboy, and no protection whatever exists against the uninterrupted entrance of steam vessels which may choose to pass through the channel to the wharves of the city or up through the Kill von Kull to points farther north,

"WHEREAS, This board has no confidence in the ability of the health officer of the port of Perth Amboy to defend the State against the introduction of cases of plague,

"WHEREAS, The Public Health and Marine Hospital Department has offered to take charge of the maritime quarantine service at the port of Perth Amboy and to fully relieve the State, at the expense of the United States Government, of the duty of preventing the admission at that point of persons affected with the dangerous infectious diseases,

"RESOLVED, That in the judgment of this board the public interests will be promoted by the resignation of the health officer of the port of Perth Amboy, and by the transfer to the United States Public Health and Marine Hospital Service of the duties pertaining to the prevention of the admission of infected persons or animals at that point."

Because of the prevalence of plague in several of the ports of South America, and the continued arrival of vessels from the infected localities, the Attorney-General and the Governor joined with the State board of health in a request to the United States authorities, advising that the administration of maritime

quarantine at the port of Perth Amboy should be assumed by the Federal Government. Pursuant to this request an officer of the Public Health and Marine Hospital Service was assigned to duty in the port of Perth Amboy, July 19, 1904.

**Nuisances.**—A much clearer understanding than formerly prevailed has been reached in relation to the extent to which nuisances shall be attacked under the provisions of the health laws, and limits have been established which will hereafter defend well informed health officers from endeavoring to improve conditions which affect property values only, and which cannot be shown to have any unfavorable influence upon the public health. Noise nuisances which have been brought to the attention of the court by individuals whose business is damaged, have been abated without bringing into the consideration any of the questions relating to health. And this is by far the better way, for it can rarely be shown to the satisfaction of the courts that the crowing of roosters, stamping of horses, buzzing of automobiles, roar of trolleys, etc., will cause sickness, and it is inadvisable that health boards shall undertake the abatement of any nuisance unless it can be unmistakably proven to be prejudicial to health.

**New Legislation.**—Several acts having relation to the public health were passed by the legislature during the session of 1904, some of which are as follows:

Chapter 76 is intended to regulate the sale of cocaine and prevent its use as an intoxicant.

Chapter 99 provides that a bill may be filed in the Court of Chancery for an injunction to prevent the keeping of cows in a crowded or unhealthy place, and to prevent the sale of unwholesome milk.

Chapter 119 amends the general health law by adding to the duties previously required of local boards of health the further requirement that they shall remove or abate the nuisance caused by the presence of water in which mosquito larvæ breed. This act, as now amended, requires that when the water in which mosquito larvæ breed is found by the local boards of health to exist within their jurisdictions, the owner of the property shall be notified to remove or abate the same at his own expense, but if the owner cannot be found or if he fails or refuses to take the required action, then the local board

is directed by the act to proceed to abate the nuisance or remove the said water, and the expenses incurred may be collected from the owner by action of debt, etc.

It will be seen that the procedure provided for in this amendment compels the local board to perform the work required by the notice, when the owner fails or refuses to comply with its terms, and when it is remembered that the removal of breeding places for mosquitoes is liable to involve large expenditures for the draining or filling of lands, it is found that local boards of health are quite unlikely to render themselves responsible for such outlays and take the risk of securing the return of the money through a suit at law against the owner of the property. A far better plan of operation, for the prevention of malaria and the abatement of the mosquito nuisance is to proceed by suit for a penalty under ordinances made subject to the provisions of paragraph 3 of section 12 of the act approved March 31, 1887. This method of attacking the nuisance would be usual and ordinary, and every active health board in the State is familiar with this procedure, and it has been uniformly found to accomplish the end for which it is designed. It does not require that the local board shall employ labor and construct works, but simply compels the owner to do the necessary work or pay the fine, and if he still fails to comply with the provisions of the ordinances he can be fined again, and so on without end.

Sections 13 and 14 of the act referred to were inserted in the general law to meet cases where the local board had neglected to make ordinances, and for this reason would be deprived of authority to abate nuisances unless some relieving clause was added to meet such cases. The disinclination of local boards to assume liability for expenditures as provided for in these sections is pretty clearly shown by the fact that in not a single instance has action under these sections been brought to the notice of the State board of health during the twenty-five years since the act was approved.

Chapter 171 specifies the latest revision of the U. S. Pharmacopeia as the standard for the purity of the drugs sold in New Jersey.

Chapter 189 re-establishes the board of health in Jersey City.

Chapter 211 authorizes the appointment of inspectors of food and drugs in municipalities.

Chapter 232, as originally introduced, was intended to provide for the free manufacture and distribution of diphtheria antitoxin by the State, but as it finally passed the legislature it provides that a contract for the purchase of the antitoxin from private parties shall be made. No appropriation was made to carry out the purposes of the act.

Chapter 249 relates to applications for the establishment or enlargement of cemeteries and removes the right of appeal, in cases where action has been taken by local authorities, from the State board of health to the board of chosen freeholders of the county in which the proposed cemetery is to be located. Further on in this report will be found a list of the bills relating to the public health which were introduced during the legislative session of 1904, and showing also all of those which became laws.

**Lines of Travel.**—From time to time inspections have been made by direction of the board to learn the methods employed in the cleansing of cars on the various lines of railroad in New Jersey, and reports of these inspections have been placed on file.

The treatment to which the sleeping cars of the Pullman Company are subjected in the yards of the Pennsylvania Railroad, in Jersey City, is shown in the following reports made by Inspector D. C. Bowen:

"On February 12 I visited the car yards of the Pennsylvania Railroad Company in Jersey City and witnessed the cleansing of the interior of the sleeping car Castalia, directly upon the arrival of the car from some point, I believe, in Florida. Upon entering the car the floor and seats were found to be littered with newspapers, magazines, lunch boxes, and other bits of rubbish incident to a long railroad journey, which had been left behind by the passengers hurriedly leaving the coach upon arriving at Jersey City at an early hour in the morning. The berths in the car were tightly closed. The cleaners worked in gangs, each man or set of men performing some particular part of the work. The carpet cleaners loosened and removed the carpet from the car to the carpet cleaning shed. They were immediately followed by two men who gathered up the rubbish, removed the cuspidors to the wash room, where they were subsequently washed in a pail of water and polished with cotton waste and a dry powder. All linen was removed from the car and sent to be laundried. All windows and ventilators in the car were opened and the car "blown out." This "blowing out" process is really dusting by the use of compressed air. A rubber hose, long enough to pass through the car window and reach to all parts of the car, was attached at a convenient point to the compressed air pipes which are distributed

about the yard. The end of the hose was fitted with a self-closing nozzle which is easily manipulated by the operator who, as he stood on a small step ladder, began his work at the top of the car by directing a current of air from the hose against the surface of the woodwork, around the ventilator openings, windows and into every crevice. The air in the pipe was under a high pressure, probably seventy or eighty pounds to the square inch, and it is very effectual in dislodging cinders and dust from seemingly inaccessible places as well as from smooth surfaces. At the same time the air in the car is filled with floating particles of dust, a portion of which is carried out of the open doors and windows and a portion settles and again finds lodgment in the car. This dusting was extended to every part of the car and furnishings, except the interior of the berths, from ceiling to floor and from end to end. The bunks were then lowered and the blankets, mattresses and curtains were removed and placed on the car seats and in the car windows. While the berths were being opened and the bedding removed, I observed a fly crawl from beneath the folds of the bedding. The bed springs were raised and the berths were indifferently dusted out with feather dusters. The bedding was then passed through the car windows, a piece at a time, by one of the workmen to his helper, who spread the article upon a bench on the platform beside the car and dusted it off by directing a stream of air from the hose over the surface. As soon as the piece was dusted, it was directly passed through the window to the workman in the car. The separate pieces belonging to each bed were cleaned one after the other and, when finished, the berth was made up and closed. This method of removing dust from the bedding, when properly applied, is very effectual and is easy to apply to mattresses and pillows, but in the case of blankets, the loose folds are blown from beneath the hands of the operator, thus making them more difficult to handle. The blankets were passed from the car folded in pairs. The workman did not unfold and spread them out but dusted one side, turned a fold back, and dusted the fresh surface exposed. Many parts of the blankets, therefore, were not exposed and subjected to the direct action of the air. The pillows which are kept in pillow boxes beneath the car seats, were removed from the boxes, dusted off by compressed air, the dust was blown from the boxes and the pillows replaced. Removing the bedding from the twelve berths, cleaning and re-placing the same did not consume more than one hour from the time the bunks were lowered until the berths were freshly made up, by using the same bedding and tightly-closed again. The scrubbers were next in the car and cleaned off all the woodwork and the floors. The carpet which was first removed from the car was cleaned by compressed air in an open shed. This method of cleaning carpets is very rapid and thorough. I was informed by Mr. Hoff, yardmaster, that the method above referred to, of cleaning sleepers is applied to long trip cars, each trip, but that in short trip cars the bedding is removed and cleaned every other trip. It was also stated that, barring unusual cases of soiling, blankets and pillows are not changed but once in six months. Mr. Hoff also stated that conductors are supposed to report upon arrival at the terminus of a run if a car has been occupied during the trip by any person known by the conductor to have been affected with a communicable disease. In such cases the car is said to be disinfected, stripped in whole or in part of the bedding, which is sent, as is also badly soiled bedding, to the shops in Wilmington, Delaware, to be cleansed. While observing the work above described, my identity and purpose was not known to the workmen, and for that reason I believe that I had an opportunity to witness the work as it is regularly and usually performed."

"On March 17, I again visited the car yards of the Pennsylvania Railroad Company in Jersey City, for the purpose of inspecting the cleaning of Pullman cars. At the time of this visit I saw the sleeper 'Nicaria' which had just arrived from the southern states, cleaned. The method of performing

the work in this case was practically the same as described in my report of inspection made February 12, 1904. the only difference being that my presence and purpose was known to the yardmaster and the workmen, which I believe prompted the latter to perform the work as well as it is ever done by the methods described. In this case the bedding from the berths, pillows from the pillow boxes, and cushions from the seats were all removed from the car to the bench on a platform beside which the car stood. The two workmen began to open and remove the bedding from the twelve berths in the car at twelve o'clock, M. They had finished cleaning the same and had them replaced and the berths closed up by 1.20 P. M., thus occupying one hour and twenty minutes in performing this part of their work. In these twelve berths were twenty-four mattresses, twenty-four pairs of blankets and twelve sets of berth curtain. It was noted that the man working the nozzle on the compressed air hose would dust or blow off a mattress and pass the same in through the car window in about one minute and it occupied about the same length of time for him to thus treat one pair of blankets. In this case the current of air was actually brought into contact with both sides of each blanket handled by unfolding and turning them. The surface of each side and edges of the mattresses were also well dusted. By actual count fourteen pairs of blankets and seventeen mattresses were cleaned and passed in through the car window in twenty-three minutes and forty-seconds. Twenty-three pillows were cleaned and passed into the car in five minutes and thirty-five seconds."

**Institutions.**—The public institutions of the State are inspected from time to time by officers of the State board of health, and in the course of these inquiries suggestions are made for the improvements of any defects which are observed in the construction, ventilation, lighting and heating of the buildings; in the water and food supplied to the inmates, and in the management of the establishment. At a meeting of the board held January 29, 1904, the following resolution, relating to the Burlington County jail was adopted.

"WHEREAS, A report of an inspection of the Burlington County jail, in Mount Holly, shows that the building was erected more than 100 years ago, and that in many particulars it has undergone no improvement since it was first constructed. The report shows that the windows are small, not exceeding six feet square in area, and that the lighting is inadequate; that no provision whatever has been made for ventilation and that heating of the eastern portion is accomplished by warming the air of one overcrowded and filthy section and delivering the same air to the apartments above.

"WHEREAS, The report shows that the overcrowding in this prison is beyond the limit at which human beings can maintain health, and is one of the worst cases of prison overcrowding that has ever come under the observation of this board. From 77 to 120 cubic feet of space is allowed to each inmate in the portion of the prison in which from 58 to 80 inmates are detained. The average temperature is over 80°, and there are no openings to the outer air. The report also shows that the food furnished to the prisoners is supplied to them in the pen above referred to, there being no provision whatever for their transfer to any other apartment.

"RESOLVED, That this board urgently recommends and advises that action shall at once be taken by the board of freeholders of the county of Burlington to erect a new county jail, and that the use of the present structure as a place of confinement for prisoners shall cease at the earliest possible day."

A communication was received from the board of freeholders which stated that the matter would receive immediate attention. At a subsequent meeting of the board of freeholders of the county, a committee was appointed to submit plans for the improvement of the jail, and the employment of a consulting architect was also advised.

**Sewers.**—The act approved June 13, 1890, provides (section 13) that sewers for public use shall not be constructed by private parties until a map and specifications of the proposed sewer shall have been filed with the State Board of Health and shall have been approved by them. Acting under the provisions of this statute the board has received applications for the approval of sewers to be constructed in Seaside Park, Mullica Hill and Lakehurst. In the case of Seaside Park the application was refused because the plans submitted showed that it was proposed to discharge the sewage, without purification, into the waters of Barnegat Bay near the shore and directly in front of the built-up portion of the borough. The following resolution was adopted:

"WHEREAS, It is necessary for the protection of the public health that all crude sewage shall be purified before it is discharged into the waters of the ocean, or into any of its bays or inlets, adjacent to any seaside resort.

"WHEREAS, Plans and specifications submitted for approval by the Herboth-Mitchell Company, showing sewers already laid and those which it is proposed to construct in the borough of Seaside Park, and showing also points of discharge for crude sewage into the waters of Barnegat Bay, near the shores of the bay, make no provision for such purification. Therefore be it

"RESOLVED, That the plans and specifications filed in the office of this board by the Herboth-Mitchell Company, December 23, 1903, for the construction of sewers in the borough of Seaside Park, are hereby disapproved."

The application from Mullica Hill was approved. The application received July 14, 1904, for approval of a sewer system in Lakehurst, was rejected because upon inspection it was learned that the sewer had already been constructed and that it had been in use for more than one year before the application for its approval was made. A report of the inspection of the sewer shows that the receiving basin and filter is located too near the railroad station, and for these reasons the board refused to sanction the construction.

**Oysters and Clams.**—An investigation was begun early in

the summer for the purpose of learning to what extent oysters are being taken for sale from sewage polluted waters in this State, and the facts thus far collected show that in certain localities the water in which oysters are freshened is contaminated with sewage and unfit for the purpose for which it is employed. The inquiry has not extended to the larger oyster-producing sections of the State, but has thus far only reached the localities which seem to be more liable to contamination. A few of the detailed reports relating to these investigations are published on subsequent pages. The dangers which attend the consumption of uncooked shell fish which are collected from sewage polluted waters have been demonstrated beyond question, both in this country and in Europe, and examinations in the State laboratory of hygiene of samples of clams and oysters grown in such waters has shown the presence of excessive numbers of colon bacilli. It should therefore be required by local health boards that oysters and clams shall not be collected, within their respective jurisdictions, for sale from any waters which are polluted by sewage, and that the freshening or fattening process should be conducted only in water which is known to be free from contamination. Authority to make ordinances to prevent the sale of unwholesome oysters and clams is provided in section 12 of chapter 68 of the laws of 1887. Following is a copy of a circular letter which was sent to the local board of health in each sanitary district of the State where oysters and clams are produced for sale:

"It has been conclusively demonstrated in recent years that clams and oysters which are taken from waters polluted by sewage are liable to cause typhoid fever, and inspections and laboratory examinations made under the direction of this board have shown that in certain localities in this State, oysters and clams are taken from waters which are contaminated by sewage, and that shell fish grown or fattened in said waters contain colon bacilli in large numbers, and that when thus contaminated they are unfit for human food.

"At a meeting of this board, held July 8, 1904, the secretary was directed to draw attention to the foregoing facts, and to advise that a careful examination be made by you of the methods employed in fattening oysters in your district, and that action be taken to prevent the sale of oysters and clams which are either grown or fattened in unclean or polluted water. This board will, upon request, assist in any inquiries which you may decide to undertake concerning the fitness of waters for the production of shell fish."

Very respectfully,

HENRY MITCHELL,

Secretary.

October 31, 1904.

## Summary of Reports from Local Boards of Health.

### ATLANTIC COUNTY.

**Town of Absecon.**—Members and Officers—D. W. Praster, C. C. Allen, E. H. Madden, Jesse S. Showell; Samuel Johnson, Secretary.

**Atlantic City.**—Members and Officers—M. Le Roy Somers, M. D., President; John R. Fleming, M. D., Vice-President; Walter J. McDevitt, Elwood S. Johnson, Jos. E. Lingerman, G. Bolton Parsons; Edward Guion, M. D., Secretary, Harry C. Beck, Health Inspector; Curtis Frambes, Plumbing Inspector; John S. Westcott, Solicitor; S. D. Bickel, Physician; Alfred T. Glenn, Clerk; Thos. W. Clement; Benj. H. Sooy, Wm. H. Rice, Henry Schneider, Jos. Symons, Assistant Health Inspectors.

The Secretary writes as follows:

In the work of keeping the city in a sanitary and healthy condition the board has proceeded in the same systematic manner as during the past year. During the year there have been 1,070 notices issued from this office for the abating of nuisances throughout the city, including 230 for properties not connected with the sewerage system; 170 for low lots; 200 for the cleaning of cesspool vaults, and about 300 for defective drainage, and the balance of notices were issued for general nuisances. The usual number of small nuisances and complaints throughout the year have been abated, after having been first inspected and notified verbally by our inspectors.

The board has continued its endeavors to have all of the old vaults and cesspools removed wherever the sewer privileges would permit.

The board has also caused regular inspections of barber shops throughout the year and have adopted rules to obtain a satisfactory sanitary condition of the shops and greater cleanliness in regard to the work done therein. All the proprietors have been notified of this action and copies of the rules have been posted in all shops. There are at present 84 barber shops in this city.

The board can report an improvement in the quality of the food supplies that have been offered for sale in this city during the past year. Inspections of all meat and fish markets, and of all food supplies have been made throughout the year, and our inspector condemns all supplies that are not satisfactory in his judgment to be offered for sale. Condemned food is saturated with kerosene oil.

## ATLANTIC COUNTY—Continued.

**Smallpox.**—Would report that there have been eight cases of this disease reported at this office during the past year, with no deaths; would also state that all the necessary precautions have been taken, each and every occupant of the premises infected were immediately vaccinated by the physician of the board, and in addition to this a strict quarantine, both day and night, was observed of the premises where this disease occurred. The isolation hospital at present in use by the city is well suited in most ways, and furnishes a very satisfactory, as well as secluded refuge for persons suffering with smallpox.

**Typhoid Fever.**—This disease has been a little more prevalent than during the previous year, there having been reported 54 cases, with 8 deaths resulting. This disease has been general, not limited to any locality of the city.

**Scarlet Fever.**—There have been 141 cases of scarlet fever during the year, as compared with 131 cases reported during the previous year. Only one of these cases proved fatal.

**Diphtheria.**—During the year 80 cases of diphtheria were reported, 12 of which resulted fatally. The disease was not centered in any one part of the city.

**Measles.**—There have been reported 126 cases of measles, an increase as compared with last year, but with no deaths from same.

**Chicken-pox.**—There have been 26 cases of chicken-pox reported at this office during the year.

The following is a table of contagious diseases reported by month, during the past year, with deaths resulting therefrom:

	Diphtheria.		Scarlet.		Typhoid.		Small-Pox.		Measles.		Chicken-Pox.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
1903.												
October.....	5	0	13	0	3	0	0	0	0	0	0	0
November.....	4	0	7	0	4	0	0	0	1	0	0	0
December.....	13	1	11	1	2	0	2	0	1	0	2	0
1904.												
January.....	12	0	41	0	3	1	3	0	3	0	3	0
February.....	6	1	23	0	6	1	2	0	10	0	7	0
March.....	15	4	15	0	2	0	0	0	16	0	4	0
April.....	5	0	15	0	4	2	0	0	14	0	2	0
May.....	1	0	7	0	3	1	0	0	40	0	2	0
June.....	2	1	3	0	0	0	0	0	33	0	6	0
July.....	8	3	1	0	9	1	0	0	6	0	0	0
August.....	5	1	1	0	12	3	0	0	1	0	0	0
September.....	4	1	4	0	6	0	1	0	1	0	0	0
Totals.....	80	12	141	1	54	8	8	0	126	0	26	0

## ATLANTIC COUNTY—Continued.

During the year much time has been devoted to the disinfection of houses where cases of contagious diseases have occurred, and every premises has been given a thorough disinfection with formaldehyde gas, and in no instance has there been a recurrence of the disease. A large amount of clothing, bedding and other goods have been destroyed.

During the past year a great many examinations and peppermint tests of house drains have been made at the request of owners, agents and tenants, and in most cases defective plumbing has been repaired on verbal notification from our inspector without any action by the board, and of which no records have been made. There has been a comparatively small amount of new work for the past year, but a large number of houses with defective plumbing have been repaired to conform to the ordinances of the board, necessitating a large number of inspections. The following is a list of plumbing permits issued from this department during the past year:

1903—October, 4 permits; November, 15 permits; December, 30 permits. 1904—January, 19 permits; February, 9 permits; March, 10 permits; April, 16 permits; May, 19 permits; June, 17 permits; July, 18 permits; August, 11 permits; September, 7 permits. Total, 175 permits.

Would also report that there have been 51 inspections made by our inspector for new sewer connections throughout the year.

**Deaths.**—During the year permits have been issued for the burial of 564 bodies, including 48 still-births, and of this number 408 were residents of this city and 156 were non-residents, or visitors. Four hundred and fifty-six were white and 108 were colored. Two hundred and ninety-seven were males and 267 were females. There were also 22 deaths recorded from contagious disease, and 25 from violence.

**Marriages.**—There were 353 marriages recorded during the past year, of which number 50 were non-residents of the city; 265 were white and 93 were colored. Of the ceremonies 133 were performed by the Methodist clergy; 44 by the Baptist; 44 by Episcopal; 48 by Catholic; 33 by Presbyterian; 6 by Lutheran; 5 by Hebrew; 39 by Justices of Peace, and 1 by the Mayor.

**Births.**—There have been 580 births reported at this office, including 48 still-births, and of this number there were 514 white, and 66 colored, 297 males, and 283 females.

## DISPOSAL OF GARBAGE IN ATLANTIC CITY.

The city has made a decided improvement in the matter of disposal of garbage. The system now in use is the Arnold utilization system, of which nine other similar plants being in use in this country, viz.: New York City (two on Barren Island), Washington, D. C., Boston, Mass., Philadelphia, Pa., Baltimore, Md., Reading, Pa., and Newark, N. J. The Atlantic City plant is operated by a private company and cost to build,

ATLANTIC COUNTY—*Continued.*

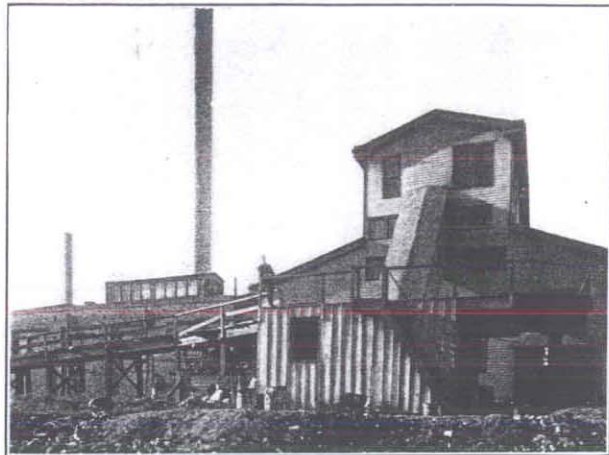
Irrespective of the cost of the ground, \$100,000. The ground belongs to the city, and is rented to the company at a nominal sum. The city pays this company \$20,300 a year for the disposal of the garbage, and each year for ten years an additional thousand dollars is to be added to the price mentioned. Another company collects the garbage throughout the city, delivering same to the garbage disposal company at a cost to the city of \$16,000 per year. Since June 4th, 1904, when the plant was first started, there was destroyed the following amount of garbage: June, 1,570 tons; July, 2,930 tons; August, 6,940 tons; September, 3,110 tons.

Photograph No. 1 shows a picture of the plant. On the right of the picture is an incline up which the wagon with its load of garbage is driven. No. 2 shows the top of incline, the floor of which contains a trap door, through which the garbage is emptied from the wagons into an iron conveyor, which carries the garbage by an endless chain to the digestors (of which this plant has twenty), by means of chutes running from the endless chain arrangement from above to the digestors. No. 3 shows the chutes connecting conveyor with digestors. Each digester holds 15 tons of garbage, is 6 feet in diameter and 18 feet long. The garbage is hermetically sealed in these digestors and boiled from eight to twelve hours, when it is transferred to the receiving tank (which holds 30 tons), and from this tank it is built into "cheeses" or press forms, which make a flat bundle covered with burlap, each cheese being 5 feet square and 6 inches thick. Each cheese is placed between two boards or racks, and fifteen of these cheeses or press forms are placed under the hydraulic press and subjected to a pressure of 300 tons. No. 5 shows hydraulic press at work. The liquid matter is pressed from the digested garbage and carried to large tanks, where the grease is separated and barreled, and then is sold and sent abroad for use in the extraction of glycerine and in the manufacture of soaps, candles, etc. The solid matter remaining after pressing is conveyed to the boiler room, and there used for fuel. After the extraction of grease, the resultant liquid matter, which is a coffee colored, hot (temperature about 100 degrees F.) mixture having an aromatic odor, is utilized for washing the floors, etc., and then allowed to empty into the city sewer. This waste water is sterilized by reason of its having been boiled for over eight hours at a temperature of 340 degrees F.

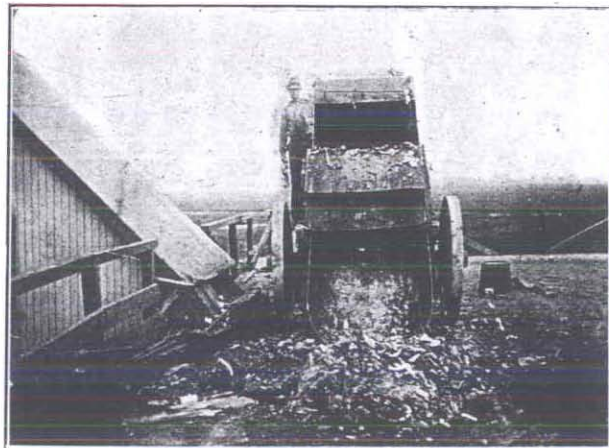
Brigantine Borough.—No organized Board of Health—James R. Bissex, Clerk.

Buena Vista Township.—Members and Officers—Alfred Pennock, Sr., Vineland; Thos. H. Huits, Vineland; Edward J. Smith, Richland; Harry Brown, Newtonville; Douglass Reed, Secretary, Buena.

Egg Harbor City.—Members and Officers—Geo. F. Breder, President;



No. 1. Exterior of garbage disposal plant, Atlantic City, N. J.



No. 2. Top of incline. Garbage disposal plant, Atlantic City, N. J.

ATLANTIC COUNTY—*Continued.*

J. U. Elmer, M. D., V. P. Hofmann, Secretary; H. G. Regensburg, Inspector; Aug. A. Breder, Inspector.

**Egg Harbor Township.**—Members and Officers—Walter Fifield, President, Bakersville; John Blackman, Steelmanville; Allan Tallman, English Creek; A. R. Vickers, Clerk, Bakersville.

**Galloway Township.**—Members and Officers—Joseph C. Bowen, Port Republic; Edward Ertell, Pomerania; Wm. Krebs, Cologne; T. W. Madden, M. D., Absecon; Joseph Nehr, Secretary, Cologne.

**Hammonton Township.**—Members and Officers—Joseph H. Garton, President; J. C. Bitler, M. D., Samuel Anderson, John A. Hoyle, W. J. Lieb, M. D.; J. L. O'Donnell, Secretary; Chas. Cunningham, M. D., Inspector.

**Longport Borough.**—No organized Board of Health—R. M. Elliott, Mayor.

**Mullica Township.**—Members and Officers—W. W. Phillips, Chairman, Elwood; Chas. Saalmana, Egg Harbor City; Alex. J. McKeone, Pleasant Mills; John Mick, Elwood; John T. Irving, Secretary, Elwood.

**Pleasantville Borough.**—Members and Officers—Pardon R. Adams, President; Frank Reiner, Samuel Bartlett, Samuel B. Jones, Lewis H. Barrett; Wilbur Reed, Secretary; R. M. Sooy, M. D., Inspector.

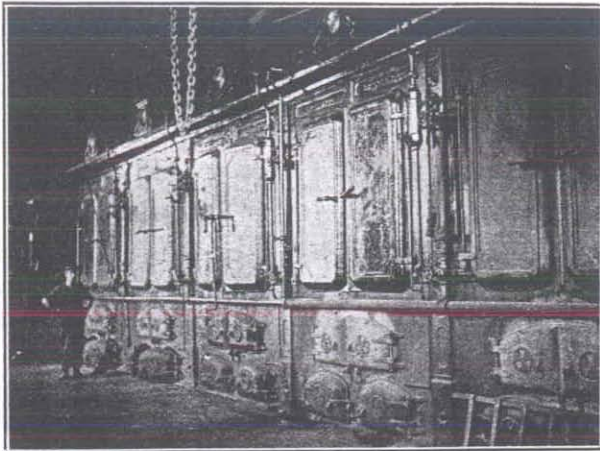
**South Atlantic City.**—Members and Officers—Chas. Bogg, President; P. J. Gilligan, Josiah Norcross, H. F. West; Chas. Hart, Clerk.

**Ventnor City.**—Members and Officers—Geo. Carson, President; Andrew Johnson, Wilbert Harris, Frank Scull; Wm. Kuhl, Secretary; Benj. F. Hilliard, Inspector.

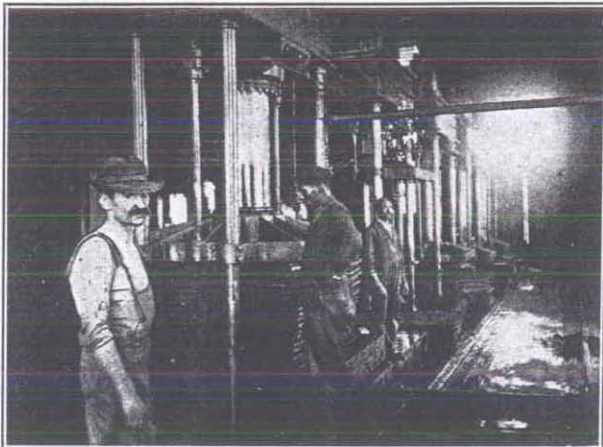
**Weymouth Township.**—Members and Officers—Anderson Campbell, Tuckahoe; Thos. Bailey, Tuckahoe; Franz J. Boehly, Risley; Randolph Marshall, M. D., Tuckahoe; Francis R. McKeague, Secretary, Tuckahoe.

## BERGEN COUNTY.

**Allendale Borough.**—Members and Officers—W. E. Carver, President;



No. 6. Boiler rooms. Garbage disposal plant, Atlantic City, N. J.



No. 5. Hydraulic press. Garbage disposal plant, Atlantic City, N. J.



BERGEN COUNTY—*Continued.*

J. J. Pullis, W. C. Hlsby, John A. Carsha; W. N. Pollock, Inspector; J. M. Christopher, Secretary.

During the year an ordinance prohibiting spitting upon the floors of public buildings has been passed.

**Alpine Borough.**—Members and Officers—W. T. Opdyke, Charles Hauser, Douglass Green, J. H. Conklin; L. H. Tavemler, Clerk.

**Bogota Borough.**—Members and Officers—John McNaughton, President; R. B. Lord, Peter Bogart, Jr., Henry Wehrmaker; T. J. Roberts, Secretary.

**Carlstadt Borough.**—Members and Officers.—Frank Hoffman, President; Chas. Loaz; Herman Foth, Secretary; Ernest F. Sickenberger, Inspector.

The secretary of the board reports as follows:

During the past year eight complaints were received, most of them were remedied. Two were brought before a justice of the peace, one of which resulted in a reprimand, the other with a fine of \$25.00; thereof \$21.80 was received by the secretary, who turned this amount over to the tax collector of the borough. One case was ordered to be prosecuted at our last meeting in September.

During the last year the board held twelve meetings.

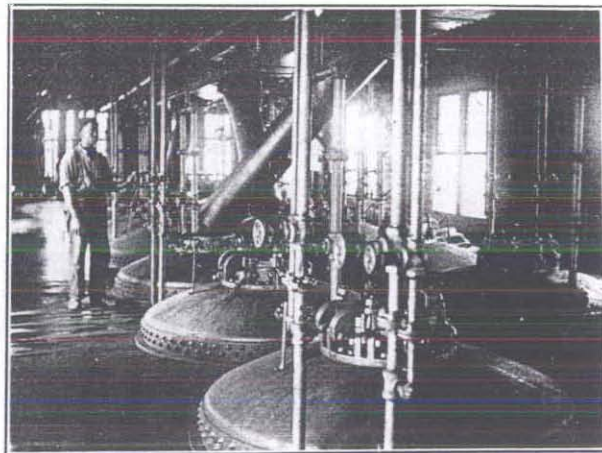
**Cliffside Park Borough.**—Members and Officers—John E. Ferdinand, M. D., President, Cliffside; Albert E. Wicks, Hudson Heights; Leonard Winkler, Cliffside; Daniel P. Woods, Cliffside; Robert H. Nutt, Secretary, Cliffside.

The secretary of the board reports as follows:

The board feels that it has, in an unassuming way, without offense, accomplished some good during the year.

The question of cesspools and the care of waste water in that part of the district not sewered, particularly in connection with large dwellings and tenement houses, is the most serious problem confronting the board. During the year the board has had both cesspools and privy vaults cleaned; has furnished plans for the building of both; has had one cesspool abolished; has had repairs made to private drains, has had the public gutters cleaned and flushed during the summer.

What our district is sorely in need of is a complete sewage system.



No. 3. Digestors. Garbage disposal plant, Atlantic City, N. J.

BERGEN COUNTY—*Continued.*

**Cresskill Borough.**—Members and Officers—John Demarest, President; John W. Flecke, Christie Westervelt, F. G. Simmons, Paul Ruhl; J. B. W. Lansing, M. D., Inspector; Geo. Y. Allaire, Registrar; Henry V. Westervelt, Secretary.

**Demarest Borough.**—Members and Officers—M. J. Bogert, President; C. E. Hutchison, G. E. Looker, A. M. Schureman; Wm. Begg, Secretary.

**Dumont Borough.**—Members and Officers—J. R. Overocker, E. B. Root, W. H. Niehoff; J. E. Pratt, M. D., Secretary.

**East Rutherford Borough.**—Members and Officers—N. Kip, President; A. Bolle, W. E. Ogden, M. D.; W. E. Novo, Secretary; P. B. S. Hodges, inspector.

**Edgewater Borough.**—Members and Officers—Geo. W. Allison, President, Fort Lee; John Riley, Fort Lee; John Winterburn, Edgewater; Robert Proctor, Edgewater; Geo. A. Carleton, Secretary, Edgewater.

**Englewood City.**—Members and Officers—Byron G. Van Horn, M. D., President; Geo. B. Best, M. D., Chas. Morse, Edward J. Shendan; Gilliam D. Bogert, Secretary; Irving Middleton, Inspector.

**Etna Borough.**—Members and Officers—Jay W. Watkins, Richard Domence; Harry I. Angel, Secretary.

**Fairview Borough.**—Members and Officers—Fred. Schneider, President; Wm. Wingerath; C. M. Driggs, Secretary; Chas. Sedore, Inspector; John Bush, Registrar.

**Fort Lee Borough.**—Members and Officers—Max Wyler, President, Fort Lee; Jerome Sardi, Fort Lee; Benj. L. Willan, Coytesville; Wm. E. Wood, Coytesville; Chas. E. Goebel, Fort Lee; Ferd. Knorzor, Fort Lee; Robert H. Morrow, Secretary, Coytesville.

**Franklin Township.**—Members and Officers—Andrew E. Voorhis, President, Wyckoff; John W. Courter, Campgaw; Wm. J. Packer, Midland Park; E. W. Hamilton, M. D., Oakland; Daniel Snyder, Secretary, Midland Park.

**Garfield Borough.**—Members and Officers—John Karl, President; J. W. Dwyer, M. D., Jos. Whitehead, Edward Hegeman; P. J. Scanlon, Secretary; Jacob Brown, Inspector; Dr. R. O. Hasbrouck, Vet. Inspector.

**Glen Rock Borough.**—Members and Officers—John A. Marinus, Harry

BERGEN COUNTY—*Continued.*

Smith, Barney Vandenberg, John J. Storms; Peter Van Winkle, Clerk, Ridgewood.

**Hackensack City.**—Members and Officers—Lemuel Lozier, President; Robert G. Wool, Wm. P. Ammerman, Samuel T. Crissy, Fred. Staib, Tunis A. Haring; C. T. Demarest, Secretary; Robert Ballagh, Inspector; Fred. S. Hallett, M. D., Inspector.

**Harrington Township.**—Members and Officers—John Blauvelt, President, Harrington Park; David A. Ward, Harrington Park; Samuel Dackerman, Northvale; Lewis B. Parcells, M. D., Closter; Wm. J. Demarest, Secretary, Norwood.

**Hasbrouck Heights Borough.**—Members and Officers—Frank S. Flagg, President; A. K. Goodrich, Jas. S. Valentine; John G. Martin, Secretary; S. V. Morris, M. D., Health Inspector; Luther Shafer, Attorney.

**Haworth Borough.**—Members and Officers—Henry E. Crocker, President; W. T. McCulloch, Mayor; M. Dieck, C. A. Park, A. C. Lobeck; E. H. Schuyler, Secretary.

**Hohokus Township.**—Members and Officers—Chas. E. May, Ramseys; Peter Z. May, Ramseys; Jas. H. Carlough, Mahwah; John Ackerman, Secretary, Wyckoff; Jas. W. Collins, M. D., Inspector, Ramseys.

**Leonia Borough.**—Members and Officers—Henry R. Goesser, President; Arthur D. Bogert, J. T. Wyckoff, M. D.; H. M. Thompson, Secretary; A. P. Hurd, John Boyd, Inspectors.

**Lodi Borough.**—Members and Officers—Anthony DeWard, President; Peter DeVries, Josiah DeSchutter; Jacob Van Hook, Secretary; Henry H. Brevoort, M. D., Inspector.

**Lodi Township.**—Members and Officers—Chas. Foose, President, Wood Ridge; Peter Strunk, Wood Ridge; John Switz, Little Ferry; Julius Pries, Secretary, Wood Ridge.

**Maywood Borough.**—Members and Officers—C. E. Breckenridge, H. Heck, J. R. Davies, G. M. Fetzer; Wm. Widnall, Jr., Secretary.

**Midland Township.**—Members and Officers—John G. Zabriskie, Chairman, Rochelle Park; Jacob H. Blauvelt, Ridgewood; Otto Weisgerber, Rochelle Park; John D. Bogert, Secretary, Ridgewood; Frank Freeland, M. D., Inspector, Maywood; Clarence Mable, Counsellor, Hackensack.

BERGEN COUNTY—*Continued.*

**Midland Park Borough.**—Members and Officers—Thos. Holt, President, Midland Park; Jacob Leenas, Secretary, Wortendyke; W. L. Vroom, M. D., Inspector, Ridgewood.

**Oakland Borough.**—Members and Officers—D. J. Fox, President; W. C. Stcut, C. H. Sheffield; W. B. Romaine, Secretary; E. W. Hamilton, M. D., Inspector.

**Orvil Township.**—Members and Officers—E. West, Jr., President, Hohokus; Jas. A. Van Dyne, Waldwick; Wl. A. Sharp, Waldwick; F. T. Russell, Secretary, Hohokus; John E. Young, Inspector; G. M. Oxford, M. D.

**Palisades Park Borough.**—Members and Officers—J. Johnson, P. Herzog, J. Jordon, O. Shultz; Martin Brunings, Secretary.

**Park Ridge Borough.**—Members and Officers—H. C. Neer, President; C. E. Terhune, D. C. Forbes, J. A. Moenig, M. D.; J. H. Stark, Clerk; H. Schlesch, Inspector.

**Ridgefield Borough.**—Members and Officers—H. G. Henwood, President; John C. Banta, J. C. McGill, E. Robinson; B. F. Underwood, M. D., Secretary.

**Ridgefield Park Village.**—Members and Officers—Hugh Innis, President; Louis, Weiss, J. W. DeGroat, P. W. Johnson; D. S. Servoss, Secretary; W. P. Ackerman, M. D., Inspector.

**Riverside Borough.**—Members and Officers—J. H. Jenkins, President; B. S. Mapes, Benj. G. Pratt; W. W. Herrick, Secretary; Robert Ballaugh, Inspector; Chas. Blankenhorn, Fumigator; all of River Edge.

**Rutherford Borough.**—Members and Officers—F. M. Buckles, President; J. C. Sares, Chas. Calhoun, M. D., A. B. Tucker, Geo. F. Shermerhorn; G. W. Lawton, Secretary; John A. Croker, Inspector.

**Teaneck Township.**—Members and Officers—Wm. Bennett, Englewood; C. J. Terhune, Hackensack; Robert Stevenson, Englewood; Peter I. Ackerman, Secretary, Hackensack.

**Upper Saddle River Borough.**—Members and Officers—Herman T. Hopper, President; John Swartz, Henry Snyder, Jacob Snyder, George Goetschins; Wallace N. DeBaun, Secretary. All of Allendale.

**Westwood Borough.**—Members and Officers—S. J. Zabriskie, M. D.,

## BERGEN COUNTY—Continued.

Isaac Onderdonk, Jas. E. Ackerman, Henry Waterbury; Nicholas Cleveland, Secretary.

**Woodcliff Borough.**—Members and Officers—S. Burrage, President, Woodcliff; John H. Wortendyke, Woodcliff; David H. Tice, Allendale; Peter E. Van Riper, Allendale; Wm. English, Woodcliff; G. J. Wortendyke, Secretary, Allendale.

**Wood Ridge Borough.**—Members and Officers—Jos. H. Schmitt, President; Frank Ball, Herman H. Hofener; Frank W. Lehman, Secretary; Chas. R. Ruegger, Inspector.

## BURLINGTON COUNTY.

**Bass River Township.**—Members and Officers—R. F. Garrison, M. D., President; S. B. Allen, B. F. Headley, John W. Bowers; W. D. Cramer, Secretary. All of New Gretna.

**Beverly City.**—Members and Officers—R. P. Haines, President; J. C. Allen, J. J. Currie, M. D., Chas. Parsons, Jr., Geo. Smith; B. F. Soby, M. D., Secretary; C. F. Richardson, Inspector.

**Beverly Township.**—Members and Officers—Frank H. Story, Delanco; Wm. T. Bagg, Beverly; H. N. Perkins, Beverly; H. K. Weiler, M. D., Delanco; Jos. B. Carter, Secretary, Delanco.

Communicable diseases have been reported by physicians, and a record of them kept by the secretary. A house to house inspection is made annually early in the summer. All objectionable matter is required to be put outside, which is removed at the expense of the board of health. After which, a collection of such matter is made twice each month. Garbage is collected twice each week. A record is kept of births, marriages and deaths. No fines have ever been imposed for violation of health ordinances, as the public seems inclined to aid the board in its work.

**Bordentown City.**—Members and Officers—C. D. Mendenhall, M. D., President; Samuel E. Burr, Edwin L. Thompson, L. D. Tebo, M. D., S. R. Magee, D. R. Brown; Wm. H. Shipp, M. D., Secretary; H. J. Marran, Inspector.

## BURLINGTON COUNTY—Continued.

The secretary of the board reports as follows:

"Gratuitous vaccination has not been offered to the public during the past year.

All cases of contagious disease, such as diphtheria and scarlet fever, are promptly isolated, although we have no hospital for the reception of said cases. During the past year not a case of small-pox has occurred, consequently we have had no use for the municipal hospital, where such cases are treated. The following gives the number of cases of contagious diseases reported for the year ending October 1, 1904:

	Typhoid Fever.	Scarlet Fever.	Cerebro Spinal Meningitis.
October .....	1	0	
November .....	0	0	
December .....	4	2	
January .....	1	0	
February .....	7	3	
March .....	8	2	
April .....	1		4
May .....	4		1
June .....	1		
July .....	1		
August .....	1		
September .....	3		
Total .....	32	7	5

During the year the city has purchased a tract of land known as Asays Springs, situated on the Trenton road, at White Horse, for the purpose of supplying the town of Bordertown with water for domestic use. Plans for the proposed works have been drawn and an appropriation to pay for same ordered by the common council."

Total number of meetings held during the year, 16.

**Bordertown Township.**—Members and Officers—C. D. Mendenhall, M. D., C. C. Hance, C. F. Neese, Geo. B. Holloway; Hugh LeJambre, Secretary. All of Bordertown.

**Burlington City.**—Members and Officers—J. E. Cassidy, M. D., President; Wm. C. Farner, Thos. H. Birch, N. D. Keeler, Wm. R. Schuyler; A. P. Silpath, Secretary; Wm. M. Jeffries, Inspector.

Sewers have been extended 1,250 feet during the year, and 415 houses have been connected. A regular monthly inspection is made of alleys, streets and yards, and prompt action is taken by the board of health when nuisances are discovered. Monthly

## BURLINGTON COUNTY—Continued.

inspections of dairies, from which milk is supplied to consumers in the city, are made.

Seven meetings were held.

**Chester Township.**—Members and Officers—Jos. Stokes, M. D., Arthur J. Collins, Geo. Brock; Benjamin Rogers, Secretary; F. G. Stroud, M. D., Inspector. All of Moorestown.

**Chesterfield Township.**—Members and Officers—Edward M. Ridgway, Crosswicks; Chas. E. Wallace, Chesterfield; C. Walter Miller, Chesterfield; Newton H. Chaffee, M. D., Chesterfield; Chas. H. Holloway, Secretary, Chesterfield.

**Cinnaminson Township.**—Members and Officers—Clayton Conrow, Cinnaminson; T. E. Steele, Secretary, Palmyra; J. D. Janney, M. D., Medical Inspector, Cinnaminson.

**Delran Township.**—Members and Officers—Chas. Beaty, Bridgeboro; Alex. Bright, Bridgeboro; Jos. L. Denneler, Riverside; Daniel A. Kendall, Clerk, Riverton.

**Evesham Township.**—Members and Officers—A. W. Lefland, President; Wm. J. Evans, S. D. Farrow, H. D. Lippincott; Benjamin K. Brick, M. D., Secretary. All of Marlton.

**Fieldsboro Borough.**—Members and Officers—Wm. I. Leonard, President; W. N. Errickson, Walter Griffiths; Wm. Leatherbury, Secretary; Samuel Church, Inspector.

**Florence Township.**—Members and Officers—George Beatty, President; David Baird, M. D., Oscar Donnelley, Harry Aikins; Byron Carty, Secretary. All of Florence.

**Mansfield Township.**—Members and Officers—C. G. Kinsley, Chairman, Columbus; A. N. Dobbins, Columbus; C. C. Bryant, Columbus; Jos. H. Armstrong, Secretary, Columbus; A. H. Patterson, M. D., Inspector, Georgetown.

**Mt. Laurel Township.**—Members and Officers—Richard G. Dudley, President, Moorestown; Budd M. Horner, Masonville; Chas. H. Wilkins, Mt. Laurel; Benj. M. Haines, Secretary, Moorestown; J. B. Wintersteen, M. D., Inspector, Moorestown.

**Northampton Township.**—Members and Officers—Jos. E. Elberson, Jos.

## BURLINGTON COUNTY—Continued.

S. Shreve, J. Franklin Hunter, T. Lacey Akins, Fred M. Shemeley; M. H. Girven, Secretary; R. H. Parson, M. D., Inspector.

**Pemberton Borough.**—Members and Officers—Anthony J. Morris, J. G. Montgomery, Wm. H. Smith, J. Newton Clevenger, Harry B. Ridgeway, Earl R. Lippincott; John H. Antrim, Clerk.

**Pemberton Township.**—Members and Officers—Isaac Rogers, Victor Bush, Chas. Kinsley; Barclay Leeds, Secretary, Pemberton.

**Riverside Township.**—Members and Officers—Ernest Rine, Alios Hemmalie, Wm. Mathias; Chas. Heiss, Clerk, Riverside.

**Riverton Borough.**—Members and Officers—J. C. S. Davis, President; C. C. Rianhard, C. L. Flanagan, Harry Wyman; Alex. Marcy, Jr., M. D., Secretary.

The Secretary of the Board reports as follows:

"The past year has been uneventful in the affairs of the board of health. Our district has had but few cases of communicable or contagious diseases to contend with. There have been reported two cases of typhoid fever, one of scarlet fever; no diphtheria or small-pox. Measles and whooping cough prevailed to a very limited extent; tuberculosis very uncommon. Births during the year, 31; deaths during the year, 20.

One of the perplexing problems to be met in the near future is garbage collection and disposal. The cost, for small municipalities, makes it a difficult question to satisfactorily solve. All nuisances reported to the board have been abated, and many that were not reported have been overcome. We are compelling all properties on the line of the public sewer to connect therewith, and abolishing all outside privies."

**Tabernacle Township.**—Members and Officers—J. Cooper Haines, Amos C. Taylor, Wesley Taylor; Geo. H. Wisham, Assessor, Tabernacle.

**Washington Township.**—Members and Officers—Albert Sooy, President, Green Bank; Thos. H. Sooy, Green Bank; Chas. T. Allen, Lower Bank; Walter S. Sooy, Secretary, Green Bank; John E. Cary, Health Inspector, Lower Bank.

**Willingboro Township.**—Members and Officers—Elwood Hart, President, Rancocas; A. J. Jordan, Burlington; T. T. Buzby, Beverly; E. D. Prickett, M. D., Mt. Holly; Jerome Wills, Secretary, Burlington.

**Woodland Township.**—Members and Officers—V. Ritzen-dollar, C. H. Grant, E. Inman; E. C. Dunfee, Secretary. All of Chatsworth.

## CAMDEN COUNTY.

**Camden City.**—Members and Officers—Reuben H. Gaskill, President; M. F. Middleton, M. D., E. W. Collins, M. D., H. H. Davis, M. D., H. H. Sherk, M. D., S. G. Bushey, M. D., M. K. Mines, M. D.; Eugene B. Roberts, Secretary; M. F. Ivins, Treasurer; Thos. P. Curley, Solicitor; J. T. Leavitt, M. D., Health Officer; H. B. Francis, Plumbing Inspector; Jos. A. Starr, Nuisance Inspector; J. O. George, D. V. S., Meat Inspector; G. H. Robinson, Assistant Inspector; Lewis P. Munion, Disinfecter.

The secretary of the board reports as follows:

"About 5,000 feet of new sewers were constructed during the year, mostly in the outlying districts which were annexed to Camden about five years ago. In the city proper nearly all the streets are supplied with sewers, and nearly every house is connected directly and separately to the sewer. There has been no extension to our water supply system during the year.

Fifteen meetings were held during the year.

Contagious diseases reported during the year ending October 1, 1904:

	Cases.	Deaths.
Typhoid fever .....	34	3
Scarlet fever .....	235	14
Diphtheria .....	212	31
Mem. Croup .....	29	15
Smallpox .....	47	13
Tuberculosis .....	30	19
Totals .....	587	95

During the year 1,176 nuisances were reported, and were given immediate attention, and without exception were abated.

One of the needs of this city is a general municipal hospital for the care of all patients of a contagious or infectious nature, as at the present time we only have facilities for small-pox cases, and none for diphtheria or scarlet fever, but hope that the day is not far distant when such a movement will be brought about, as the increase in population and improvements made demand that such an institution be established."

**Centre Township.**—Members and Officers—Harry B. Wolohon, President, Magnolia; Howard M. Haines, Magnolia; Wm. F. Miller, Mt. Ephraim; John H. Jackson, Secretary, Magnolia; Leslie C. Lyon, M. D., Inspector, Magnolia.

## CAMDEN COUNTY—Continued.

Two cases of diphtheria, 3 of scarlet fever, 1 of typhoid fever and 1 of small-pox were reported.

Five meetings were held.

**Clementon Township.**—Members and Officers—Jacob C. Lippencott, President, Kirkwood; Geo. Summerfield, Clementon; Fred Tomlinson, Laurel Springs; Edgar B. Sharp, M. D., Berlin; Geo. W. Evans, Clerk, Lindenwold.

**Collingswood Borough.**—Members and Officers—A. C. Kraft, President; W. L. Patterson, Harry W. Dilks, Chas. S. Fletcher, Geo. Rudderon, A. Hart, Jr., Edward S. Sheldon, M. D., Inspector; Ross G. Pidgeon, Secretary; W. S. Chalfant, Nuisance Inspector; C. R. Shinn, Plumbing Inspector; John O. Wilson, Solicitor.

**Delaware Township.**—Members and Officers—Jos. Hinchman, Jr., Merchantville; J. Watson Matlack, Haddonfield; Richard Kayhn, Haddonfield; Wm. Graff, Assessor; W. B. Jennings, M. D., Secretary, Haddonfield.

**Haddon Township.**—Members and Officers—Harry R. Fort, President, Haddonfield; Archilus L. Farrand, Oaklyn; Joseph J. Irvin, Orston; James Macaulay, Secretary, Haddonfield; W. B. Jennings, M. D., Inspector, Haddonfield.

**Haddonfield Borough.**—Members and Officers—Wm. J. Boning, President; Chas. H. Hillman, Chas. Reeves, Edward B. Austin; Wm. H. Harrison, Secretary; Edward Magill, Inspector.

**Haddon Heights Borough.**—Members and Officers—George Waters, President; Edward Jenks, W. M. Pollock, C. Merchant; Robert J. Clyde, Clerk.

**Merchantville Borough.**—Members and Officers—F. W. Kleinz, President; A. H. Moses, J. W. Marcy, M. D., S. D. Ingham, M. D., Jos. E. Van Kirk; W. B. Stewart, Secretary; Wm. Linderman, Inspector.

**Waterford Township.**—Members and Officers—C. D. Heath, President, Berlin; Exaver Ottinger, Berlin; Wm. L. Walker, Waterford; H. N. Gillon, Secretary, Berlin; F. O. Stem, M. D., Inspector, Berlin.

**Winslow Township.**—Members and Officers—Jos. R. Imhoff, Winslow; W. Brimfield, Cedar Brook; Jos. G. Strock, Cedar Brook; M. G. Burdsall, Secretary, Tansboro.

CAMDEN COUNTY—*Continued.*

**Wood Lynne Borough.**—Members and Officers—Chas. H. Wagner, President and Acting Secretary; Lemuel E. Ware, R. I. Haines, M. D.; Jos. Wood, Inspector.

## CAPE MAY COUNTY.

**Cape May City.**—Members and Officers—Alonzo Leach, M. D., President; Albert B. Little, Lafayette M. Hall, Geo. L. Lovett, Robert S. Hand; V. M. D. Marcy, M. D., Secretary.

**Holly Beach Borough.**—Members and Officers—Samuel K. Spencer, President; Lorenzo C. Johnson, Wm. A. Shaw, Geo. B. M. Adams, M. D.; E. H. Randolph, Secretary; Eben Tenney, Inspector.

**Lower Township.**—Members and Officers—Geo. Dickinson, President, Erma; Aaron Woolson, Fishing Creek; Daniel Schellenger, Erma; W. A. Lake, M. D., Erma; J. P. MacKissic, Secretary, Cape May City.

**Middle Township.**—Members and Officers—Luther T. Garretson, Cape May Court House; J. Morgan Dix, M. D., Cape May Court House; Luther M. Swain, Swanton; V. N. Erricson, Dias Creek; Stillwell H. Townsend, Clerk, Cape May Court House.

**Upper Township.**—Members and Officers—Harry Young, Beesley's Point; Washington Van Gilder, Petersburg; Jas. G. Stille, Tuckahoe; Jesse T. Young, Secretary, Beesley's Point; R. F. Smith, Registrar, Marmora; Randolph Marshall, M. D., Inspector, Tuckahoe.

**West Cape May Borough.**—Members and Officers—Thomas Hughes, President; John Hughes, Samuel Taylor, Jacob Smallwood; A. G. Stevens, M. D., Secretary.

**Wildwood Borough.**—Members and Officers—Frank Shepard, James M. Slaughter, M. D., John N. Reeve; Wm. R. Cills, Secretary; W. H. Washburn, Inspector.

**Woodbine Borough.**—Members and Officers—Wm. Eisenberg, President; S. Kelinson, Jacob S. Levin; Eugene J. Asnis, M. D., Inspector; Morris Subber, Secretary.

## CUMBERLAND COUNTY.

**Bridgeton City.**—Members and Officers—Ellsmore Stiles, M. D., President; Wm. J. Moore, Wm. R. Cummings, Oscar E. Rellum, Chas. R. Tomlin, Wm. Daniels, W. H. Ballenger; John H. Moore, M. D., Secretary; Chas. E. Bellows, Health Inspector; Wm. Paullin, Plumbing Inspector.

**Commercial Township.**—Members and Officers—C. W. Hand, President, Port Norris; Clarence M. Robbins, Port Norris; E. B. Bradford, M. D., Port Norris; Reuben L. Sharp, Mauricetown; John McConnell, Secretary, Port Norris.

**Deerfield Township.**—Members and Officers—Elijah R. Parven, Deerfield Street; Burt Hughes, Rosenhayn; Samuel M. Fox, Bridgeton; Chas. C. Phillips, M. D., Secretary, Deerfield Street; Jas. McNab, Inspector, Bridgeton, R. F. D. No. 5.

**Hopewell Township.**—Members and Officers—E. G. Ayars, President, Bridgeton; E. D. Perry, Bridgeton; D. D. Davis, Shiloh; Walter L. Minch, Secretary, Shiloh.

**Landis Township.**—Members and Officers—O. H. Admas, M. D., President; Harry Taylor, John Van Dyke, Edwin Kyte, W. I. Frost, Geo. W. Ozias; H. M. Dolbey, Secretary, Vineland.

**Lawrence Township.**—Members and Officers—E. L. Mulford, Peter Johnson, David W. Sheppard, Frank M. Bateman, M. D., Furman B. Sheppard; Henry S. Long, Clerk, Cedarville.

Eight cases of small-pox occurred in the township during the year, and one death resulted from the disease.

**Maurice River Township.**—Members and Officers—Chas. Grassman, President, Port Elizabeth; Chas. Champion, Dorchester; Chas. Williams, Heislerville; Henry Reeves, Jr., Secretary, Leesburg.

**Millville City.**—Members and Officers—Silas C. Smith, President; Edwin Conover, R. B. Radcliffe, Wm. G. Champion, J. W. Wade, M. D.; L. H. Hogate, Secretary; Frank Bullock, Inspector.

The secretary of the board reported as follows:

"Fifteen miles of sewers have been laid, and are nearing completion; the cost will be about \$105 000. The sewers are under municipal control,

CUMBERLAND COUNTY—*Continued.*

and when in operation will greatly relieve existing unhealthy conditions. No extensions of water works have been made this year."

**Stow Creek Township.**—Members and Officers—J. B. Seagraves, President, Bridgeton; Lewis Willis, Bridgeton; Chas. D. Fogg, Bridgeton; R. A. Fogg, Secretary, Shiloh.

**Vineland Borough.**—Members and Officers—J. H. Dawler, Jr., President; A. Laricks, E. A. Pierce, J. C. Schramm; S. C. Slade, Secretary; N. P. Marvel, Sanitary Inspector; R. H. Garrison, Plumbing Inspector; H. C. Bartlett, Counselor.

## ESSEX COUNTY.

**Bloomfield Town.**—Members and Officers—E. M. Ward, M. D., President; Jas. H. Moore, Jas. J. Thompson, Allen Andrews, Wm. A. Ritscher, Jr.; Wm. L. Johnson, Secretary.

The secretary reports as follows:

During the year the board and officers have been very active in the performance of their duties. A large number of nuisances have been abated, and at the present time our district is in excellent sanitary condition. Many property owners have been ordered by the board to clean out and fill closet vaults and cesspools, and to make sewer connection; all such orders have been promptly complied with, which has greatly improved our sanitary condition. Property owners have also been compelled to fill up low, swampy ground in different parts of our district; 94 house sewer connections were made during the year; 13 cases of scarlet fever reported, 4 deaths; 7 cases of diphtheria reported, 2 deaths; 4 cases of typhoid reported; 1 case of small-pox.

The following ordinance was adopted:

The local Board of Health of the Town of Bloomfield, in the County of Essex, do ordain as follows:

Section 1. That the carrying or conveying in receptacles, carts or vehicles of any description whatever, through the alleys, streets or highways of the town of Bloomfield, any animal flesh, fat, carrion or putrid meat at any other time and in any other manner than is hereinafter specified, is hereby defined and declared to be and does constitute a nuisance.

Section 2. And any person or persons or corporation are prohibited and forbidden in the Town of Bloomfield, to carry or convey in receptacles,

ESSEX COUNTY—*Continued.*

carts or vehicles of any description whatever, any refuse or animal flesh, fat, carrion or putrid meat, except it be between the hours of 5 and 7 o'clock A. M., from the first day of June to the first day of October, and between the hours of 5 and 8 o'clock A. M., from the first day of October to the first day of June in each year.

Section 3. No receptacle, cart or vehicle of any description whatever used for the purposes mentioned in the two preceding sections of this ordinance shall without necessity therefor stand or remain, nor shall a needless number gather before or near any building, place of business, or other premises; nor shall the person using said receptacle, cart or vehicle occupy and unreasonable length of time in loading or unloading, or passing along any alley, street or highway of said Town of Bloomfield. And when not in use, all such receptacles, carts or vehicles and all implements used in connection therewith shall be stored and kept in some place where no needless offense shall be given to any of the inhabitants of said town.

Section 4. That all receptacles, carts or vehicles mentioned in the three foregoing sections in which any substance in said sections referred to may be or be carried shall be strong, tight, and the sides shall be so high above the load or contents that no part of such contents or load shall fall, leak or spill therefrom. And every such receptacle, cart or vehicle shall be adequately and tightly covered.

Section 5. That any person, persons or corporation violating any of the provisions of this ordinance shall forfeit and pay a penalty of ten dollars. Ordinance adopted August 18, 1904.

E. M. WARD, President.

Attest: WM. L. JOHNSON, Secretary.

**Caldwell Borough.**—Members and Officers—Dr. David M. Gardner, President; Dr. E. E. Peck, W. W. Wright, Lambert Speer; Isaac E. Baldwin, Secretary.

**East Orange City.**—Members and Officers—Eugene M. Brewster, President; Harvey Mott, Warren S. Furman, Chas. M. Matthews, Roger H. Butterworth; Thomas N. Gray, M. D., Secretary; Wm. T. Bowman, Inspector.

**Essex Fells Borough.**—Members and Officers—Walter Brown, President; C. E. Leach, W. Seaman Scott, Jas. A. Speer; F. Byrne Ivy, Clerk.

**Irvington Town.**—Members and Officers—Joseph Clickenger, President; Jonah Hardgrove, Herman Fisher, Hugo Winkler, Chas. Bougas; Edwin Berry, Secretary.

**Montclair City.**—Members and Officers—Chas. D. Thompson, President;



ESSEX COUNTY—*Continued.*

Richard P. Francis, M. D., Levi W. Halsey, M. D., M. N. Baker; John N. Holton, Secretary; Chester H. Wells, Health Inspector; John J. O'Brien, Jr., F. H. Streighthoff, Assistant Inspectors; John A. Clark, Jr., Inspector of Gas Pipes.

**Newark City.**—Members and Officers—H. C. H. Herold, M. D., President; C. M. Zeh, M. D., W. S. Disbrow, M. D., Joshua Brierley, C. P. Zimmerman, J. T. Wrightson, M. D., J. W. Dobbins, H. C. Ross, L. L. Davenport, L. E. Hollister, M. D.; David D. Chandler, Health Officer.

**North Caldwell Borough.**—Members and Officers—Chas. B. Gould, Caldwell; Louis F. Kussmaul, Singac; Wm. E. Captain, Singac; Ralph C. Bach, Little Falls; Sherman Paddock, Secretary, Caldwell; Fred. L. Baldwin, Registrar, Caldwell.

**Nutley Borough.**—Members and Officers—J. LeBel, Chairman; G. B. Philhower, M. D., M. Van Winkle, L. Day; Frederic Clements, Secretary; E. E. Faith, Inspector.

**Orange City.**—Members and Officers—John T. Platt, President; Jas. H. Brown, John Burke, John McGowan, G. Herbert Richards, M. D., John T. Davis, Thos. C. Colt; Wm. Schluer, Secretary; Samuel D. Philpot, Plumbing Inspector; Richard Savage, Sanitary Inspector; Arthur B. Seymour, Attorney; W. Dodge, M. D., Pathologist.

The secretary of the board reported as follows:

There were reported from October 1st, 1903, to September 30th, 1904, eighty-four (84) cases of diphtheria; ninety-two (92) cases of scarlet fever; twenty-two cases of typhoid fever and one case of smallpox.

The deaths from these diseases were: Diphtheria, 11; scarlet fever, 6; typhoid fever, 4.

For the first time in many years scarlet fever and diphtheria were prevalent among the Italians of this city (Out of a population of 24,141 we have over 6,000 Italians.) The first Italian patient suffering with diphtheria was reported June 1st, 1904. From this we traced five other cases, all Italian children. The first case of scarlet fever was reported on June 8th, and fourteen (14) other cases were the result from this case; all Italians. If ever there was an object lesson showing the need of an isolation hospital this is one of them. At the beginning of this outbreak entreaty, admonition or threat failed to keep persons away from the infected places. At the first death we were obliged to call the police to our aid, that a semblance of privacy might be observed at the funeral. Finally, after several more deaths, it began to dawn upon the people that it would be wise to heed our rules and regulations, and today we are on a fair way to suppress the outbreak.

ESSEX COUNTY—*Continued.*

Of the twenty-two (22) cases of typhoid fever fourteen (14) were reported from October 1st, 1903, to March 1st, 1904, and eight (8) cases from March 1st to date. It is to be remarked that at this time of the year, when in former years the disease was most prevalent, we are entirely free; which speaks well for the purity of our water supply and the good quality of milk and ice sold in this city.

In the majority of these cases the source of the disease was found to be outside of this District, yet several cases occurred where the cause could not be surmised.

The small-pox case was of a colored woman. Her case presents several interesting features. She claims that she has not been outside of Orange for two years; that she has not associated with strangers; no prodrome, except headache, for several weeks before the eruption appeared. Four physicians examined the patient before one could be found willing to make a positive diagnosis.

On the date she was discovered (July 26th) the eruption seemed to be ten days old. Her three infant children had lived with her. She was removed to the Isolation Hospital in the South Orange Mountain and her children were taken along. All persons who had come in contact with her were vaccinated, and no other case has developed. She was discharged on September 23rd.

We have no place where a case of diphtheria or scarlet fever might be isolated. In 1902 a law was enacted giving two or more municipalities the right to join in the establishment of an isolation hospital. In compliance with this law a contract was made between all the Oranges, except East Orange, for the erection and maintenance of such an institution, and the sum of \$25,000.00 was awarded to cover cost of the same. A joint committee, comprising representatives of the municipalities interested, was formed and this committee proceeded to select a site for the hospital. As might be expected, opposition to the location of such a hospital was found whenever and wherever a site was being selected, and in all cases the Commissioners of the joint meeting yielded to the objectors. A site was finally selected in a remote part of the Orange Mountain, and even here objections were raised which were carried to the court. A decision has not been rendered. Neither party shows a willingness to push the case to a final issue.

Whether or not we may eventually have an isolation hospital depends upon the decision of the Court and the energy of the Commissioners. In compliance with another law the Essex County Freeholders are about to erect a county hospital at Bellville, but this being five miles from Orange, it will be of little use to us.

The principal industry in Orange is the manufacture of soft felt hats. There is nothing about this trade specially injurious to the health of the operatives.

We make house to house inspections, paying special attention to the

## ESSEX COUNTY—Continued.

less sanitary district. One thousand and seventy-three (1,073) premises were inspected; of these four hundred and twenty-five (425) were found to be in good sanitary condition. The owners of one hundred and eighty-seven (187) premises were ordered to connect their houses with the sewer; the owners of two hundred and ninety-four (294) premises, where partial sewer connection had been made, were ordered to establish closets and to abandon the privy vaults. Minor defects found on the other premises were ordered abated.

We find a great improvement in the desire of the general public to comply with the sanitary laws, and in many instances additional financial burdens are incurred that the necessary improvements may be made. We keep a record of all inspections made.

We have four dairy premises and they are frequently inspected.

We have one hospital in Orange, Memorial Hospital, corner Essex avenue and Henry street. A second hospital is contemplated. It will be in charge of Rev. F. Victor Romanelli, pastor of the Italian Roman Catholic Church, and will be on the corner of Center and Hurlbut streets.

Fifteen (15) suits were instituted during the year. In each case judgment for the Board was obtained. The penalties collected in four suits was \$45. The other eleven the penalty (\$25.00) was refunded on making connections. Eight of the eleven premises have since been connected.

The Board held twelve meetings during the year.

**South Orange Township.**—Members and Officers—H. Stacy Smith, Wm. H. Knox, Wm. H. Kemp, C. A. Cross, A. Moore, W. W. Heberton, M. D., Thomas C. Baker, Secretary; Joseph A. Osborn, Clerk.

**Vailsburgh Borough.**—Members and Officers—Edward A. Zusi, President; John V. Diefenthaler, John F. Murphy, Wm. T. Duhuert, Peter Loehner, P. B. Davenport, M. D., Wm. Billington, Secretary; Robert A. Braitsch, Sanitary Inspector.

**West Caldwell Borough.**—No organized Board of Health. Clifton C. Francisco, Borough Clerk.

**West Orange Town.**—Members and Officers—Jos. B. F. Grady, President; Jos. Fleming, Ditlow Schroll, Jr., Secretary; Benj. L. Williams, Registrar; Jas. M. Maghee, M. D., Inspector.

## GLOUCESTER COUNTY.

**Deptford Township.**—Members and Officers—Wm. A. Allen, Woodbury; Jos. Mobilitts, Wenonah; Benj. Hains, Westville; H. H. Clark, Woodbury; Carroll C. Headley, Secretary, Westville.

**East Greenwich Township.**—Members and Officers—John Heritage, Mickleton; David Brown, Swedesboro; Daniel Packer, Mt. Royal; J. C. Dauson, Clerk, Mickleton.

**Elk Township.**—Members and Officers—Rulof Knisell, President, Aura; Franklin Homan, Glassboro; Thos. Hann, Ewan; Samuel L. Seran, Secretary, Aura.

**Franklin Township.**—Members and Officers—A. A. Smith, M. D., Malaga; A. B. Richman, Malaga; Samuel Lowder, Newfield; Chas. Trinnell, Newfield; W. S. Jones, Franklinville; H. C. Richman, Secretary, Malaga.

**Glassboro Township.**—Members and Officers—C. S. Heritage, M. D., President; Josiah W. Shute, W. Hyenney, J. T. Abbott, Secretary. All of Glassboro.

**Harrison Township.**—Members and Officers—Samuel T. Stratton, Mullica Hill; A. S. Murphy, Richwood; S. F. Ashcraft, M. D., Mullica Hill; Eli Heritage, Secretary, Richwood.

**Logan Township.**—Members and Officers—Isaac Derrickson, President, Repaupo; Hugh McGlincoy, Sr., Bridgeport; Wm. F. Justice, Bridgeport; E. T. Oliphant, M. D., Bridgeport; S. B. Platt, Secretary, Bridgeport; S. H. Richards, Attorney, Bridgeport.

**Mantua Township.**—Members and Officers—W. H. Denn, President, Mantua; Robert Shoemaker; Jos. Lodge, Secretary, Pitman Grove; L. M. Slaughter, M. D., Inspector, Pitman; E. Z. Hilligrove, Inspector, Mantua.

**Monroe Township.**—Members and Officers—D. S. Champion, Harry White, Jas. M. Tweed, L. M. Halsey, M. D.; Clayton B. Tice, Secretary All of Williamstown.

**South Harrison Township.**—Members and Officers—Wm. Hudson, Harrisonville; Richard Ridgway, Mullica Hill; Geo. T. Wilkinson, Basset; Samuel T. Stanger, M. D., Harrisonville; David C. Lippincott, Secretary, Harrisonville.

GLOUCESTER COUNTY—*Continued.*

**Swedesboro Borough.**—Members and Officers—Harry Mayhew, President; Frederick Weber, J. M. Yound; Wm. H. Rieger, Secretary; W. G. Simmons, M. D., Health Inspector.

**Wenonah Borough.**—Members and Officers—Harry A. Stout, M. D., President; Chas. J. Yost, Wm. J. Dawson, Chas. H. Lorence, M. D., Jesse W. English, Clerk.

**West Deptford Township.**—Members and Officers—R. M. Plum, President, Thorofare; W. R. Gibbs, Thorofare; Elmer E. Clements, Thorofare; Jas. Hunter, M. D., Westville; Jas. Carter, Secretary, Thorofare.

**Woodbury City.**—Members and Officers—Wm. T. Cooper, President; H. B. Diverty, M. D., Samuel B. Burkett, John B. Avis, H. A. Wilson, M. D., H. H. Clark, M. D., Arthur Starr, Secretary; Joshua Dawson, Health Inspector; Samuel E. Wilmer, Plumbing Inspector.

**Woolwich Township.**—Members and Officers—Benj. Shoemaker, President; B. Crispen; Nathan Lippincott, W. Grant Simmons, M. D., Secretary; H. C. Howey, Assessor.

## HUDSON COUNTY.

**Hudson County.**—Members and Officers—John E. West, M. D., President; E. J. G. Valentine, M. D., C. B. Converse, M. D., C. J. Rooney, Clerk; Jas. Lynch, Assistant Clerk; John Connell, M. D., Medical Health Inspector; John H. Sullivan, Health Inspector; John T. Nagle, Health Inspector; A. H. Mansfield, Health Inspector; Alex. Simpson, Counsel; Geo. Sanderson, Clerical Assistant.

**Bayonne City.**—Members and Officers—Hon. Thos. Brady, President; Chas. McGee, Lucius F. Donohoe, M. D., Thos. B. Mettam, J. Herman Mahuken, Jas. Foerst, E. T. Carbin, Secretary; A. C. Forman, M. D., Health Inspector; H. S. Winterhalter, Sanitary Inspector; John H. Nevins, Assistant Health Inspector.

The Secretary states that communicable diseases are regularly reported by the attending physicians, that the infected premises are placed under quarantine, and that a notice of the location of each case is forwarded to the superintendent of public schools, and to the superintendent of the public library. Gratuitous vaccination is offered three days in each week at the office of the

HUDSON COUNTY—*Continued.*

board of health. Sanitary inspection of houses are made only on complaint or by the request of citizens, but when such inspections are made a record of the same is kept. Eight thousand two hundred and fifty lineal feet of new sewers were constructed during the year, and 20,162 feet of water pipe, with 30 hydrants, were also added. Only one cemetery is located in the city. Caspar Schmidt, 222 East Twenty-second Street, is superintendent. The records of the vital statistics of the city are kept by the county board of health, no provision in reference to the same having been made by the local board. One private hospital known as the Bayonne hospital, is maintained by subscription, the city contributing \$1,500 a year. Sixty dollars in fines were collected during the year for violation of the sanitary code.

Twelve meetings were held by the board.

**Harrison Town.**—Members and Officers—John J. Malone, President; John J. Daly, Henry Allers, M. D., Nathaniel Comey, John J. Scannell, Secretary; John T. McClure, Health Inspector.

**Hoboken City.**—Members and Officers—E. T. Steadman, M. D., President; Graham M. Sinclair, Millard F. Jackson, August Grassmann, D. B. Pindar, M. D., W. T. Kudlich, Health Warden; Jos. Tucker, Secretary; Antonio Granelli, Health Inspector; John Eronio, Asst. Health Inspector; Jas. A. Marnell, Plumbing Inspector; E. A. S. Lewis, Attorney; Patrick Quinn, Pound Keeper; Chas. Bagley, Dog Census Enumerator.

**Jersey City.**—Members and Officers—G. K. Dickinson, M. D., President; G. E. McLaughlin, M. D., F. E. Lambert, M. D., F. D. Gray, M. D., J. M. Rector, M. D., G. M. McCarthy, Wm. Delaney, J. P. Henry, M. D., H. C. Hespe, M. D., J. A. Sprouls, Henry Smellie, Secretary.

The health officer writes as follows: "In accordance with the provisions of Section thirty-seven of Chapter LXVIII of "An Act to establish in this State, Boards of Health and a Bureau of Vital Statistics, and to define their respective powers and duties," approved March 31, 1887, amended by the act approved March 2, 1901, I respectfully submit herewith the annual report of the sanitary conditions existing within the jurisdiction of the Board of Health of Jersey City, N. J., together with such other subjects and facts as come under the duties and powers of this department, and as required by your circular of inquiries dated September 1, 1904. Since the last annual report, the Board of Health of this city has been re-organized under the provisions of an act approved March 29, 1904, which is similar in effect to the act approved May 15, 1894, and the department is

## HUDSON COUNTY—Continued.

in a state of gradual evolution or change from old methods to new and more modern forms of sanitation. New rules and regulations for our guidance and new ordinances governing, regulating and controlling communicable diseases, nuisances, plumbing and other matters with which we are empowered by law to supervise are being prepared and will soon be adopted and in effect. Every effort will be made to give satisfactory replies, seriatim to the questions presented in the circular, enlarging upon such as are of special interest and importance.

This sanitary district is comprised of the territory embraced within the city boundary lines of Jersey City, and is located in Hudson County; its control is intrusted to a local Board of Health, appointed by the Mayor under the before mentioned act of 1904, composed of ten members, who are well known, experienced and competent gentlemen in the professional and business life of this locality.

The regular meetings of the Board of Health are held on the first and third Mondays of each month, at the City Hall. The office of the department, since October 1, 1904, is located in well lighted and ventilated rooms in the basement of the City Hall (entrance on Mercer street), having been moved from our former quarters, 262 Grove street. The employees, their titles, salaries and term of office are as follows:

Name.	Rank.	Per annum.
Henry Smellie .....	Health Officer and Secretary.....	\$1,400 00
Dr. Ferdinand N. Sauer.....	Chief Deputy Health Officer.....	1,000 00
John Callary .....	Plumbing Inspector .....	1,000 00
Dr. F. C. Robertson.....	Deputy Health Officer .....	800 00
Dr. George D. White.....	Deputy Health Officer .....	800 00
Samuel L. Barry.....	Deputy Health Officer .....	800 00
Hugh F. Gallagher.....	Sanitary Officer .....	800 00
George E. Francis.....	Sanitary Officer .....	800 00
Thomas H. Giblin.....	General Clerk and Stenographer...	720 00
Joseph Lennon .....	Captain Scow No. 1.....	780 00
William H. Dell.....	Captain Scow No. 2.....	780 00

Fred Hering, a patrolman of the Police Department, salary \$1,000, paid by the Police Commissioners, who has been detailed to this board since May 28, 1902, and the present Board of Health have requested the Police Commissioners to continue the detail. (This officer has passed the examination provided for under the provision of the act of 1903, and has been granted a license as Sanitary Inspector of the first-class). Besides attending to the many official duties as executive officer of the department, the Health Officer is required to act as Secretary of the Board; the Chief Deputy is detailed as Superintendent of Contagious Diseases and has charge of fumigations. Deputy Barry is Permit Clerk. Sanitary Officer Gallagher has been appointed an Inspector of Food and Milk, by

## HUDSON COUNTY—Continued.

the State Board of Health, and has taken many samples of this food during the last two months, and has been the means of convicting a number of dealers whose milk was found impure or adulterated. In this work he was assisted by Deputy Robertson and Sanitary Officer Francis, and their work will result in a purer supply of this indispensable article, and reduce sickness and death among infants and young children. Sanitary Inspector Hering has assisted the Plumbing Inspector in making inspections and tests of new plumbing and drainage systems. The prompt attention to complaints of nuisances and securing their abatement is always desirable, but cannot always be accomplished here because of the small force available to do this work, and there is no prospect of any immediate addition because of a lack of funds. All of the employees were reappointed when the present Board of Health took charge, to hold office at the pleasure of the Board. The requirements of Section 38 of the present Health Rules of this department are very similar to those of Section 1 of Chapter 260 of the Laws of 1895, and have been generally observed by physicians practicing in this city. A record of each case of contagious or communicable disease reported, is kept in a book used for no other purpose, and the total number reported, including "glanders" in horses, from December 1, 1903 to October 1, 1904, was 2,647. A nominal fee of ten cents is charged for vaccinations, but many are vaccinated free of charge, when too poor to pay. Gratuitous vaccination is offered to the public at the free dispensaries, five of which are maintained in different parts of the city during the months of July and August of each year, under the supervision of this Board. An emergency hospital, located on Tonnele avenue, is maintained by this department to provide and care for cases of contagious diseases (excepting smallpox), when they cannot be properly isolated or cared for at home, and for persons taken sick at hotels and boarding houses, or while traveling on public conveyances. We have no record showing any particular trade or occupation carried on in this district injurious to the health of operatives, excepting the men employed in the Hudson River tunnel, who are subject to the "bends," or caisson disease, and are treated on the spot, by physicians employed by the company. Prior to this year, house-to-house sanitary inspections have been made every spring, about April 15th, by the Police Department, all over the city, and on their reports notices were sent and abatements secured, all of which have been recorded in precinct books kept for that purpose; but owing to the change in the personnel of the Board of Health, no general sanitary inspection has been made this year, but 2,654 premises have been inspected on complaints. The new water supply contracted for by the city on February 28, 1899, at a cost of \$8,000,000, has been nearly completed, and the city is now receiving a full supply from the new reservoir at Bonton, by the gravity system. Some complaints have been made regarding the purity of the water, and the Board of Health is arranging to cause the water to be analyzed at regular intervals, and pre-

## HUDSON COUNTY—Continued.

vent pollution. During the past year there has been a considerable extension of the water mains, and several large contracts for new and larger pipes have been let, and the work will soon be commenced. A number of new branches of main sewers have been completed, and many small lateral sewers have also been put in this year, making available for building purposes a large area that is now being built on in response to a steadily increasing demand for modern houses and apartments. A large number have been built during the past year, and many more are about to begin building. An inspection of the cow stables and dairy premises located in this district was made by State Inspector George W. McGuire and Deputy Health Officer Robertson in the early part of the summer, and on many of them well water, which was found to be impure on analysis, was in use. Orders have been issued to discontinue its use and to fill up the wells and secure a supply of city water. In one or two cases this will be impossible until the city extends its mains.

The cemeteries in this district are as follows: New York Bay Cemetery, located on Garfield avenue, at Chapel avenue, was established in 1849, and is owned by lot owners and governed by a board of trustees. Bay View Cemetery, located on Ocean and Garfield avenues, at Chapel avenue, was established in 1885 by a stock company, and is well kept and one of the largest and most beautiful in this State. Both of these cemeteries are under the supervision of Thomas W. Tilden, Superintendent, No. 813 Grand street. The Jersey City Cemetery is located at 435 Newark avenue, near the New Jersey Junction Railroad, and was established in 1830; governed by a board of trustees. Arthur Bradshaw is Superintendent, and lives on the premises, 435 Newark avenue. The Bergen Reformed Dutch Cemetery is an old landmark in this community, and is located on both sides of Bergen avenue, between Vroom street and Highland avenue; it is the oldest, and was established in 1660, when Bergen was a stockaded settlement, and within it, rest the remains of many of the first settlers of this section. West of, and adjoining it on Vroom street, is a small plot called "Speer's Cemetery (originally Speer's farm), which is considered a part of the larger cemetery, as they are under one management. William H. Mead is Superintendent, No. 489 Communipaw avenue. The Hudson County Catholic Cemetery is located on West Side avenue, between Montgomery street and Stuyvesant avenue; it was established in 1860, and is the largest in this district. It is a beautiful place, with a well kept, rolling surface, fine lawns and driveways. Its management is directed by the Rev. Father Ter Wert, and John McDonald is Superintendent, No. 3,015 Boulevard. St. Peter's Catholic Cemetery is located on Tonnele avenue, near Beacon avenue, and was established about 1840; this cemetery is not used very often at the present time, and is under the same management as the Hudson County Catholic Cemetery. The Methodist Cemetery is located at No. 127 Linden avenue, near Ocean avenue. This is a small plot belonging to the Greenville Methodist Church, and

## HUDSON COUNTY—Continued.

was established about 1845; it is in charge of John McEntyre of No. 208 Lembeck avenue.

The records of births, marriages and deaths occurring in this city are kept by the County Board of Health, under an agreement between the city and county boards at a joint meeting held August 28, 1896, in accordance with the provisions of Paragraph 2, of "An act concerning boards of health in cities of the first class," approved March 22, 1895, and passed resolutions mutually agreeable defining what each should have charge of within the city limits, but it is the intention of this Board in the near future to establish a "Bureau of Vital Statistics," to record the local births, marriages and deaths occurring within this district.

The MacErlain Institute, corner Jackson and Bidwell avenues, founded by Rev. Father J. C. MacErlain as a private sanatorium for the treatment and cure of alcoholism. The "Raymond Roth Home," Garfield avenue, near Dwight street, for the care of aged and indigent Germans of both sexes.

Fines for violation of health ordinances amounting to eight dollars have been collected, and are paid to this Board by the Court imposing the same. The former Board of Health, which was composed of the three Police Commissioners, two city Physicians and the Health Inspector, held five meetings this year prior to the change. The present Board of Health, since their organization on May 6, 1904, have met fifteen times, and many subjects have been considered for bettering the sanitary conditions of our city, the filling in of meadow lands, the disposal of garbage, the improvement of the sewerage system and the alteration, amending and general revision of the health ordinances are some of the subjects considered. The Health Board has also taken preliminary action for the building of a new city hospital.

The amount of business transacted, and the receipts and expenses will average about the same as that of the preceding two or three years. The total amount received for permits, licenses, fees, etc., from December 1, 1903, to October 1, 1904, including appropriations and balance from last year, was \$12,539.39, as follows:

December, 1903, to balance.....	\$ 641 73
January, 1904, to appropriation.....	2,137 41
March, 1904, to appropriation.....	1,000 00
December 1, 1903, to October 1, 1904, to receipts from sources .....	8,760 22

Expenditures were as follows:

December 1, to October 1, by salaries.....	\$ 7,129 56
December 1, to October 1, by expenses.....	5,033 51
October 1, 1904, by balance on hand.....	356 32

\$12,539 39	\$12,539 39
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HUDSON COUNTY—*Continued.*

Up to October 1, 1904, there have been 2,111 nuisances complained of and inspected, on which 1,807 notices were sent to owners or agents, and 1,039 abatements were secured. Sixty-four vessels have arrived and discharged their cargoes at this port. Seven hundred and thirty-four persons have been vaccinated, and 699 premises have been disinfected; 4,070 dead animals were removed from the streets; 4,182 children have been excluded from the schools because of their having been in contact with communicable diseases, and 3,431 of these have been permitted to return after the time of detention had elapsed, and no other sickness occurred. There have been 238 inspections made and samples taken of milk since July last, when one of our sanitary officers was detailed to this work. He has since been regularly appointed as a State Inspector of Food. This is an important work and somewhat new to this department. It will receive more attention next year. The number of plumbing inspections and tests made were 453, showing a great activity in the building trades. That this work should be well done to prevent disease resulting from defective and improperly constructed plumbing and drainage systems, makes it an important factor in the future good health of tenants and saves expense of repairs to owners."

**Kearny Town.**—Members and Officers—H. W. Schmale, President; Geo. F. Lightfoot, M. D., Jos. Smith, Nevin Kennedy; M. W. Clouse, M. D.; Health Officer; John B. Thomson, Secretary; David W. Reid, Registrar; Albert Geissler, Inspector.

**Town of Union.**—No organized Board of Health.

**Weehawken Township.**—Members and Officers—Dr. Fendricks, President; F. Bergmann, Jr., John M. Hannan, Patrick McGann, T. Minshull; Elijah Blackhurst, Clerk.

**West New York Town.**—Members and Officers—J. J. Benson, M. D., President; John D. Rover; John H. Everly, Clerk; Rudolf Kuntze, Geo. Theabold, Inspectors.

## HUNTERDON COUNTY.

**Bethlehem Township.**—Members and Officers—Wm. Creveling, Pattenburg; Watson C. Wene, Ludlow; J. M. Hoffman, Bloomsbury; D. J. S. Lindabury, Bloomsbury; C. R. Burwell, Secretary, Valley.

**Clinton Borough.**—Members and Officers—Wm. Knight, M. D., A. S.

HUNTERDON COUNTY—*Continued.*

Leatherman, M. D., Wm. H. Carpenter, Jas. Mulligan, Geo. A. Hall, Secretary.

**Clinton Township.**—Members and Officers—Willard E. Berkaw, M. D., President. Annandale; Geo. M. Rinehart, Cokesbury; Matthias J. Wiggins, Annandale; John Shurts, Annandale; Bergen B. Berkaw, Secretary, Annandale.

The secretary of the board reported as follows:

"At a meeting of the board of health of Clinton township, Hunterdon county, held this day, it was directed, owing to the irregular manner in which many certificates of vital statistics or facts were sent to the local registrar of vital statistics, that each clergyman, physician and undertaker who shall officiate respectively at any marriage, birth or death occurring in Clinton township, be notified at once that the act approved February 15, 1888, which requires that all certificates of births, marriages and deaths shall be sent to the local registrar of vital statistics (i. e., the assessor of the township of Clinton), within thirty days after the said birth, marriage or death shall have occurred, will be enforced, and that action will be taken by the board under the act approved March 31, 1887, which provides that those who fail to carry out the provisions of the act approved February 15, 1888, as above stated, are liable to a penalty of \$100 for such failure.

In January, 1904, the board made careful disinfection of a row of tenement houses situate within the district, and belonging to the Central Railroad of New Jersey, owing to some cases of diphtheria occurring among the occupants, Italians. Prompt and efficient aid was extended to the board by officials of the railroad company as soon as notified.

No serious epidemics visited the district during the year, although more than the usual amount of sickness prevailed during the severe winter of 1903-04."

**Delaware Township.**—Members and Officers—Nelson Lambert, Sergeantsville; Alton Lake, Sergeantsville; C. B. Johnson, Raven Rock; G. N. Best, M. D., Rose Mont; J. M. Hoppock, Secretary, Sergeantsville.

**East Amwell Township.**—Members and Officers—E. H. Wilson, John Sloff, Geo. Strumple, P. C. Young, M. D., Edgar Higgins, Secretary, Ringoes.

**Franklin Township.**—Members and Officers—John E. Anderson, Hiram D. Young, Wm. A. C. Robinson, Q. E. Snyder, M. D., J. L. Agans, Secretary, Pittstown.

HUNTERDON COUNTY—*Continued.*

**Frenchtown Borough.**—Members and Officers—E. L. Poore, President; F. H. Decker, M. D., Wm. S. Dalrymple, M. T. Bellis, E. W. Moore, Secretary.

**Holland Township.**—Members and Officers—Walter Burgstreser, President; Herbert Quick, Chas. R. Stull, A. A. Heil, M. D., S. S. Snyder, Secretary; Godfrey Hawk, Registrar. All of Millford.

**Junction Borough.**—Members and Officers—T. B. Fulper, M. D., President; Robert T. Thomson, M. Frank Fritts, James Splane, Edgar E. Riddle, Secretary.

**Kingwood Township.**—Members and Officers—John W. Hoff, President, Baptistown; Thomas McAlone, Point Pleasant; Joseph Hann, Barber-town; S. J. Snyder, Secretary, Locktown; Frank S. Grim, M. D., Medical Inspector, Baptistown.

**Lambertville City.**—Members and Officers—Wm. R. Bowne, President; A. D. Anderson, G. L. Romine, M. D., Harry K. Krammer, Wm. Leary, Edward W. Closson, M. D., Jas. H. Reynolds, Secretary; John L. Coryell, Health Inspector; Chas. Dowdy, City Scavenger.

**Readington Township.**—Members and Officers—G. G. Conover, President; White House Sta.; P. D. Reese, White House Sta.; J. R. Probasco, Three Bridges; J. C. Voorhees, Secretary, White House Sta.; F. L. Johnson, M. D., Inspector, Stanton.

**Tewksbury Township.**—Members and Officers—E. B. Conover, Fairmount; Lewis L. Apgar, Mountainville; Jacob J. Neff, New German-town; Hezekiah Philhower, Secretary, Califon; Theo. Miller, M. D., Inspector, Califon.

**Union Township.**—Members and Officers—Geo. B. Smith, President; J. J. Tharp, Godfrey R. Emery; John Little, Secretary, Jutland; Edgar Allen, M. D., Health Officer.

**West Amwell Township.**—Members and Officers—Chas. A. Slack, President, Lambertville; William Cane, Lambertville; Chas. E. Holcombe, Mt. Airy; Geo. H. Carr, Secretary, Lambertville; F. W. Larison, M. D., Inspector, Lambertville.

## MERCER COUNTY.

**East Windsor Township.**—Members and Officers—Aaron Ely, Hightstown; Frank Chamberlain, Hightstown; E. R. Pickering, Hightstown; S. L. Mount, Secretary, Etra.

**Hamilton Township.**—Members and Officers—Alonzo I. Hunt, M. D., President, Hamilton Square; Azariah Cubberly, Hamilton Square; Joel A. Cranmer, Isaac Robbins, Trenton; Wm. E. Ford, Crosswicks; Wm. T. Robbins, Secretary, Hamilton Square; James N. Reed, Inspector, Trenton.

**Hopewell Borough.**—No organized Board of Health. H. E. Sutphen, Borough Clerk.

**Lawrence Township.**—Members and Officers—T. B. DeCou, Trenton; John C. Applegate, Princeton; John E. Gorden, Port Mercer; Edmund Dewitt, M. D., Lawrenceville; Frank Pierson, Secretary, Lawrenceville.

**Pennington Borough.**—Members and Officers—Jas. R. Bergen, Geo. W. Clendening, Benj. T. Taylor, J. C. Bunn, Secretary; Edgar Hart, M. D., Inspector.

**Princeton Borough.**—Members and Officers—E. H. Loomis, President; Richard Rowland, Gen. Alfred A. Woodhull, Leroy Anderson, Howard Wright, M. D., Joseph Hoff, Thornton Conover, Secretary; V. D. Bayles, Inspector.

**Trenton City.**—Members and Officers—Chas. P. Britton, M. D., President; Richard R. Rogers, Sr., M. D., Thos. S. Chambers, Francis B. Lee, Howard N. Richards, Elmer Barwis, M. D., Thos. B. Holmes, Secretary; Alton S. Fell, M. D., Health Officer; Wm. C. Allen, Sanitary Inspector; Edward L. Titus, Sanitary Inspector; Geo. W. Feaster, Plumbing Inspector; Howard H. Ely, Clerk; Harry C. Valentine, Solicitor.

**Washington Township.**—Members and Officers—Chas. Hulse, Allentown; David H. Taylor, Allentown; Chas. Tindall, Windsor; Dr. Silver, Windsor; E. K. Cole, Secretary, Windsor.

## MIDDLESEX COUNTY.

**Cranbury Township.**—Members and Officers—Jos. C. Chamberlin, President; W. I. Stults, John A. Wyckoff, A. M. Davison, Secretary, Cranbury.

MIDDLESEX COUNTY—*Continued.*

**Helmatta Borough.**—Members and Officers—Geo. A. Helme, President; A. H. Clemons, J. A. Trimmer, Ira Bowne, R. J. Franklin, Secretary; Edward M. Clemons, Registrar; J. G. Denelsbeck, M. D., Inspector.

**Madison Township.**—Members and Officers—James Fountain, Brown-town; Cornelius Burlin, Browntown; Ambrose Green, Browntown; I. C. Crandall, M. D., Old Bridge; D. H. Brown, Secretary, Browntown; Ed. Barker, Inspector, Cliffwood.

**Metuchen Borough.**—Members and Officers—A. C. Kelly, President; Frank Orton, W. V. McKenzie, M. D., Chas. Tansig, Secretary; A. C. Ayers, Registrar.

**Monroe Township.**—Members and Officers—Willard Forman, James-burg; C. A. Morse, Prospect Plains; T. M. Appleget, Cranbury; R. R. Vandenberg, Secretary, Prospect Plains.

**Piscataway Township.**—Members and Officers—Nelson M. Giles, Presi-dent, Bound Brook; T. H. Brantingham, South Plainfield; B. D. Giles, New Market; M. J. Whitford, M. D., New Market; Geo. S. Bunting, Secre-tary, New Brunswick.

**Raritan Township.**—Members and Officers—Theodore III, New Bruns-wick; J. T. Dunham, New Brunswick; Peter Lott, Metuchen; W. V. McKenzie, M. D., Metuchen; Wm. T. Woerner, Clerk, New Brunswick.

**Sayreville Township.**—Members and Officers—August Rohdes, Wm. Burke, Henry Arleth, J. H. Beekman, M. D., B. F. Samsel, Secretary; Chas. Englehardt, Inspector. All of Sayreville.

**South Amboy City.**—Members and Officers—J. L. White, M. D., Presi-dent; E. E. Haines, M. D., Jos. A. Sexton, F. E. DeGraw, Secretary; Chas. S. Buckelew, Inspector.

**South Brunswick Township.**—Members and Officers—Wm. H. Gulick, President, Kingston; J. H. Stults, Cranbury; J. B. Rowland, Monmouth Junction; Wm. Perkins, Secretary, Princeton.

**South River Borough.**—Members and Officers—Joseph Miller, Jr., John Van Norden, Jesse Seiver, Secretary; F. W. Bissett, M. D., Inspector; J. C. Bowne, Registrar.

## MONMOUTH COUNTY.

**Allentown Borough.**—Members and Officers—Dr. Imlay, President; Dr. H. P. Johnson, Chas. Spaulding, Josiah S. Robbins, Secretary; William Forsythe, Inspector.

**Asbury Park City.**—Members and Officers—Theodore H. Beringer, President; David W. Sexton, Jesse Minot, Randolph Ross, George H. Wilbur, Asher S. Burton, Harry C. Millar; B. H. Obert, Secretary; H. L. Baumgartner, Inspector; Samuel A. Patterson, Attorney.

The Secretary writes as follows:

On November 1st, 1903, Mr. D. C. Bowen, former Health Officer, Secre-tary and Registrar of Vital Statistics of the Board of Health, severed his connection with the Board. In recognition of the high esteem in which Mr. D. C. Bowen was held by the Board, the following resolutions were adopted:

Whereas, The resignation of Mr. D. C. Bowen as Health Officer, Secre-tary and Registrar of Vital Statistics of the Board of Health of Asbury Park, which took effect November 1st, 1903, was accepted with much regret by the Board, and we desire to place on record an expression of the high esteem in which Mr. Bowen has been held both by this community and by this Board during his long term of service. Therefore be it,

Resolved, That we hereby testify to Mr. D. C. Bowen's unwavering in-tegrity; his studious and painstaking acquirement of the principles of municipal hygiene; his devotion to the sanitary advancement of the city; his tireless industry; his adroitness in carrying out the instructions of the Board and in securing compliance with the ordinances; his skill in making records and reports; his readiness to risk health and life, when necessary, in the removal and care of infected persons, and his resource-ful dealing with the endless stream of emergencies which beset the path of a municipal health official.

Resolved, That while we regret the loss to Asbury Park of the services of Mr. Bowen, we most heartily congratulate him upon his promotion to a broader field of sanitary labor, and we sincerely wish for his future prosperity and success.

The terms of office of Mr. Nelson E. Buchanon, Hon. James A. Bradley and Mr. George R. Hillier expired May 15th, 1904, and George F. Wilbur, M. D., Asher S. Burton, D. D. S., and Harry C. Millar, D. V. S., were appointed as their successors. The following resolutions were adopted by the Board in recognition of the long and faithful services of Mr. Nelson E. Buchanon and the Hon. James A. Bradley:

Whereas, The retirement of Mr. Nelson E. Buchanon, as President of the Board of Health of the City of Asbury Park, causes regret among the members and calls for some expression and recognition of his long and faithful service to the city, he having served this city as a member of the Health Board since its organization, July 12th, 1880, holding the posi-



MONMOUTH COUNTY—*Continued.*

tion of President of the Board during the past ten years, giving his valuable time and services gratuitously.

Whereas, The standing of this Board has been maintained largely through the untiring efforts and zeal of Mr. Buchanon, he having always stood firm in carrying out the health laws, which in many instances have proved an injury to his own personal interest. Therefore, be it

Resolved, That we record these evidences of our appreciation and high esteem for his long and faithful service to this Board during its infancy and for maintaining its standing throughout his administration as President.

Whereas, The retirement of the Hon. James A. Bradley from membership in the Board of Health of the City of Asbury Park marks an epoch in the affairs of this municipality and calls for some expression of the appreciation in which his service for the promotion of the public health is held by this Board.

Whereas, It is to Mr. Bradley that this community is indebted for the early introduction of public sewers, thereby making possible the abatement of nuisances on nearly every occupied premises in the incorporated district; for early action favoring the introduction of a sure and wholesome public water supply; for the inauguration of a system for the lighting of the streets and for the collection of garbage, rubbish and ashes; for the early establishment (1880) of a local Board of Health, and for the payment from his private funds of all of the expenses of the Board during the first decade of its operations, including the salary of the inspector, office rent, blanks and stationery, and apparatus employed in the various departments of the work; for the provision of a hospital for the reception of cases of infectious diseases, and for ambulances and horses when removal of patients became necessary; for the donation of over two-thirds of the seventy-five acres of land at Spring Hill Park, now owned by the city and devoted to isolation hospital uses; for his foresight and liberality, when founding the future city, in providing large lots and wide streets, thus averting overcrowding in the final development which awaits this favored locality; for his untiring efforts as a member of the board in keeping the city clean and free from all sources of sickness.

Whereas, Mr. Bradley is the pioneer sanitarian in this section of the State, and his determination that Asbury Park shall honestly merit all of the patronage which may be bestowed upon it by persons seeking rest, recreation and health, has resulted in the firm implantation in this community of a high standard of municipal hygiene, and in the cordial support and approval, on the part of the public, of the sanitary progress which has made our city famous throughout the United States. Therefore, be it

Resolved, That we hereby place on record this evidence of our recognition of the great value of the services rendered by Mr. Bradley to the

MONMOUTH COUNTY—*Continued.*

city of Asbury Park by his energetic advocacy and wise official application of the principles of municipal hygiene in the conduct of the public affairs of the city.

Resolved, That the gratifying distinction which Asbury Park enjoys as a carefully and intelligently guarded resort, where residents and sojourners are effectually protected against the spread of infectious diseases and against nuisances prejudicial to the public health is very largely due to the official guidance and personal example of Mr. Bradley, and to his influence in the creation of a public health conscience in this community.

The total number of deaths in Asbury Park for the year ending October 1st, 1904, was fifty-nine, forty-seven among the resident and twelve among the non-resident population. By estimating the resident population at 4,456, the death rate, including all deaths, is 13.24; by including the resident deaths only, the death rate is 10.55. The principal causes of death, as reported, were: Tuberculosis, 8; pneumonia, 6; nephritis, 5; heart disease, 5; cancer, 4; general debility, or old age, 4; carcinoma, 3; asphyxiation, 2.

The number of births reported for the year, twenty-six, is the lowest ever recorded. During the year the Board brought suit against one of the practicing physicians of this city for failure to report births at which he had professionally attended, and when the papers were served upon him for the suit, he at once made five returns of births, one being five years overdue.

## MONMOUTH COUNTY—Continued.

Table Showing the Number of Deaths Occurring in Asbury Park Among the Resident and Non-Resident Population Each Year, 1881 Excepted, for the Past Twenty-five Years.

YEARS.	Resident. Population.*	DEATHS.			Resident Death Rate per 1,000 Population.
		Resident	Non- Resident.	Total.	
1880	1,640	19	13	32	11.58
1882	1,784	30	18	48	16.81
1883	1,856	18	12	30	9.69
1884	1,928	24	15	39	12.44
1885	2,000	20	14	34	10.00
1886	2,125	21	23	44	9.88
1887	2,250	20	29	49	8.88
1888	2,375	16	18	34	6.73
1889	2,500	28	28	56	11.20
1890	2,625	32	39	71	12.19
1891	2,750	34	28	62	13.36
1892	2,875	35	24	59	12.17
1893	3,000	30	19	49	10.00
1894	3,380	40	21	61	11.86
1895	3,761	29	17	56	10.36
1896	3,888	34	25	59	8.85
1897	3,916	43	19	62	10.98
1898	3,993	28	13	41	7.01
1899	4,071	37	22	59	9.08
1900	4,148	36	22	58	8.67
1901	4,225	37	21	58	8.76
1902	4,302	32	19	51	7.44
1903	4,379	36	13	49	8.22
1904	4,456	47	12	59	10.55

\*Resident population estimated, except for years 1880, 1895 and 1900

## MONMOUTH COUNTY.—Continued.

Table Showing Ages at Death in Asbury Park for Year Ending October 1st, 1904.

AGES.	Males.	Females.	Totals.
Under one year	5	..	5
1 to 2 years	..	..	..
2 to 5 "	..	1	1
5 to 10 "	..	..	..
10 to 20 "	3	2	5
20 to 30 "	..	2	2
30 to 40 "	..	2	2
40 to 50 "	1	2	3
50 to 60 "	8	4	12
60 to 70 "	2	4	6
70 to 80 "	5	8	13
80 to 90 "	4	5	9
90 to 100 "	1	..	1
Totals	29	30	59

One case of diphtheria occurred during the year, the patient being a child who was attending the public school. Three cases of scarlet fever were reported during the year. The first case was an adult, thirty-three years of age. The second case was a pupil of the public school, eight years of age. After an absence of two weeks this patient returned to school, and the teacher noticed that the child was picking pieces of loose skin from her hand, and she at once sent the child to the medical inspector of schools, who pronounced it a case of scarlet fever. The child was sent home, together with her sisters, of whom there were two in the school, and the family physician confirmed the diagnosis. The source of infection was not learned in either of the above cases. Other pupils from this house attended the public school during the two weeks above referred to, yet, as far as is known, no other case developed from this source of infection. The case was not reported to the Board of Health until seen by the school authorities, the parents stating that the disease was so mild they did not deem it necessary to call in a physician. The third case of scarlet fever was an infant, eight months of age, who had been visiting in New York city and developed the disease immediately after his return to his home in this city. One case of typhoid fever was reported during the year, an adult twenty-three years of age. The patient commutes to New York each day, eating his midday meal in said city; a short time preceding the date of attack the patient visited Trenton and

## MONMOUTH COUNTY—Continued.

Plainfield, New Jersey, and a town in central New York state, eating at least one meal at each of the places named.

During the past twenty-three years typhoid fever has occurred in Asbury as follows: 1882, 1; 1883, 8; 1884, 5; 1885, 0; 1886, 0; 1887, 0; 1880, 1; 1889, 1; 1890, 0; 1891, 0; 1892, 1; 1893, 1; 1894, 4; 1895, 7; 1896, 1; 1897, 2; 1898, 1; 1899, 3; 1900, 2; 1901, 2; 1902, 3; 1903, 5; 1904, 1.

The public water-supply was introduced in 1886, preceding which date water was obtained from shallow wells on private premises.

One hundred and twenty cases of measles were reported during the year. A child from Philadelphia came to Asbury Park May 1st, visited the public school with her friend on May 2nd, remaining in the same classroom during the entire afternoon session and was said to have had an attack of measles immediately following that period. No physician was in attendance and the Board of Health did not learn of the case until after the child had recovered and many others had been infected. On May 15th twelve cases were reported from the grade referred to and the next group were reported ten days later, thirty cases being reported at this time, the infection having spread to other grades in the school. When the cases of the first group were reported the Board of Health made an effort to check the spread of the infection by excluding from school the pupils affected and any others residing in the houses of the different patients. The pupils absent from grades in which cases of measles were known to exist, were reported by the Superintendent of the school twice daily to the health office, and were visited at their homes by the Inspector to learn if they were suffering from measles. Many cases were thus discovered, no physician being in attendance, which otherwise would not have been discovered by the Board.

## MONMOUTH COUNTY—Continued.

Table Showing the Number of Reported Cases of Infectious Diseases in Asbury Park, and Deaths Occurring Therefrom, During the Past Twenty Years.

YEARS.	RESIDENT POPULATION. (estimated except for census years.)	NUMBER OF CASES REPORTED.					DEATHS.					
		Measles.	Scarlet Fever.	Diphtheria.	Typhoid Fever.	Consumption.	Smallpox.	Measles.	Scarlet Fever.	Diphtheria.	Typhoid Fever.	Consumption.
1885.....	2,000	14	3	1	.....	.....	.....	2	1	.....	.....	2
1886.....	2,125	4	19	9	.....	.....	.....	.....	4	.....	.....	5
1887.....	2,250	82	7	7	.....	.....	.....	.....	7	.....	.....	3
1888.....	2,375	.....	20	2	1	.....	.....	1	1	.....	.....	4
1889.....	2,500	10	3	.....	1	.....	.....	.....	1	.....	.....	3
1890.....	2,625	.....	16	6	.....	.....	.....	1	2	.....	.....	4
1891.....	2,750	1	6	12	.....	.....	.....	.....	.....	.....	.....	5
1892.....	2,875	36	4	7	1	.....	.....	1	3	1	4	.....
1893.....	3,000	.....	7	6	.....	.....	.....	.....	1	.....	.....	3
1894.....	3,280	7	7	2	4	1	8	.....	.....	1	5	1
1895.....	3,761	6	5	5	7	1	.....	.....	3	.....	.....	.....
1896.....	3,838	39	3	2	1	.....	.....	1	1	.....	7	.....
1897.....	3,916	5	14	15	2	1	.....	.....	2	1	2	.....
1898.....	3,993	5	3	1	1	.....	.....	.....	.....	.....	.....	3
1899.....	4,071	4	6	2	2	2	.....	.....	.....	.....	.....	.....
1900.....	4,148	20	.....	4	2	.....	.....	.....	1	.....	.....	5
1901.....	4,225	6	29	2	2	.....	1	.....	.....	.....	.....	7
1902.....	4,302	17	2	2	3	.....	.....	1	.....	1	4	.....
1903.....	4,379	30	1	5	.....	.....	.....	.....	.....	.....	.....	2
1904.....	4,456	120	3	1	1	.....	.....	.....	.....	.....	.....	8
Totals.....	406	141	77	34	5	11	1	8	27	4	79	1

During the year the ladies of the Present Day Club of Asbury Park completed the caretaker's cottage on the Municipal Hospital grounds at a cost of \$1,728.06; they also placed the plumbing in the hospital pavilion at a cost of \$296.05, and have furnished the two wards of said pavilion, consisting of ten beds, ten chairs, ten tables and six screens, at a cost of \$256.10. The water supply has been connected with the said pavilion by the city, at a cost of \$104.00. This pavilion, intended only for infectious diseases, is now ready for instant use. A caretaker has been placed in charge of the Municipal Hospital grounds and is now occupying the caretaker's cottage.

## MONMOUTH COUNTY—Continued.

The following rules for the government of the Asbury Park Municipal Hospital for Contagious Diseases were adopted by the Board November 10th, 1903: 1. Application for admission to the Asbury Park Hospital for Contagious Diseases shall be made in writing to the Board of Health of the city. 2. When any such application has been approved by said Board of Health the patient will be removed in a conveyance provided by said Board and will be received in the hospital for treatment. 3. No person shall accompany the patient to the hospital except the employees of the said Board of Health, provided, however, that in the case of infants and under special circumstances an attendant will be allowed by special permission from the Board of Health to accompany the patient. 4. The medical care and nursing of all patients who are received in the hospital will be provided by the City Board of Health, and no physician, nurse, or other attendant shall be allowed to perform any service in the hospital without authorization obtained from the Board of Health. 5. All supplies shall be purchased by an inspector or authorized agent of the Board of Health, and no article shall be received in or removed from the hospital building except by the direction of the Board of Health or one of its authorized agents. 6. No person will be treated gratis in the Asbury Park Municipal Hospital for Contagious Diseases. Every person who is received and who is financially able to pay the charges which are imposed, shall pay the same, and in case the patient is without funds and unable to pay the charges fixed for the treatment and care furnished in the hospital, the municipality from which such person is received shall pay all charges incident to the care and treatment of such indigent person. 7. No patient and no nurse or other employee shall leave the hospital except by the written consent of the City Board of Health or its authorized agent. A copy of the above rules was sent to each practicing physician in this community.

During the regular sanitary inspection work the search on private premises for breeding places for mosquitoes was continued during the year with the result that mosquitoes were found to be breeding on thirty-four private premises, in miscellaneous receptacles, such as rain-water barrels, wooden tubs, tin cans, etc.; the breeding places were distributed over the entire city and this fact undoubtedly accounts for any mosquitoes present during the summer. Four complaints were made by citizens during the summer, stating that they were being annoyed by the presence of mosquitoes. Investigation showed that in each instance mosquitoes were breeding on a nearby property in some receptacle containing stagnant water.

It now being an established fact that flies play an important part in transmitting certain infectious diseases when permitted to come in contact with excrementitious matter, the Board adopted the following ordinance with a view to abolish all privy vaults, and thus avoid the possi-

## MONMOUTH COUNTY—Continued.

bility of flies disseminating infectious diseases by coming in contact with the filthy contents of such structures:

A Supplement to an Ordinance entitled "The Sanitary Code of the City of Asbury Park, N. J.," adopted August 3rd, 1897.

Section 1. Be it ordained by the Board of Health of the City of Asbury Park, N. J., that in addition to the nuisances already defined in the ordinance to which this ordinance is a supplement, the construction, maintenance, use or continuance of any privy vault, or other receptacle in or upon the ground for human excrement in such a manner that the filthy contents thereof shall be accessible to flies, shall constitute, and is hereby declared to be a nuisance; and the construction, maintenance, use or continuance thereof is hereby prohibited.

Section 2. Any person or corporation violating the provisions of this ordinance shall, on conviction, forfeit and pay a penalty of twenty-five dollars. Adopted July 5th, 1904.

The following notice was ordered by the Board to be sent to the owner or responsible person or corporation of any property in this city on which a privy vault existed in violation of the above ordinance:

Asbury Park, N. J., Aug. 31, 1904.

Dear Sir: Your attention is hereby called to "A Supplement to an Ordinance entitled The Sanitary Code of the City of Asbury Park, N. J.," adopted July 5th, 1904, see copy attached hereto, and you are hereby advised that the privy vault on the premises owned by you No. \_\_\_\_\_ Avenue is maintained in violation of said ordinance.

At the last regular meeting of the Board of Health it was, by motion, ordered that you be notified to discontinue the use of said privy vault, to cause the accumulation in said privy vault to be removed and to also cause said privy vault to be filled with clean earth not later than October 1st, 1904.

Eighty-nine privy vaults have been removed during the year and plans for proposed plumbing work necessary to be constructed before privy vaults are abandoned, are now on file in the office of the Board of Health for the removal of twenty-five additional privy vaults; and it is the intention of the Board that before another season every privy vault in the city shall be abandoned.

MONMOUTH COUNTY—Continued.

Table Showing the Number of Privy Vaults in Asbury Park Each Year For Past Eight Years.

YEARS.	Sewer connected vaults.	Vaults not sewer connected.	Total.	Citizens' complaints against privy vaults.	Referred to Sanitary committee.	Found to be defective and leaky.
1897.....	291	54	345	33	6	2
1898.....	263	49	312	45	6	1
1899.....	237	42	279	44	4	3
1900.....	219	38	257	56	4	6
1901.....	199	38	237	56	4	1
1902.....	182	33	215	57	4	1
1903.....	156	29	185	66	3	5
1904.....	84	12	96	37	2	4

With a view to prevent the spread of infectious diseases in barber shops the following ordinance was adopted:

Be it ordained by the Board of Health of the City of Asbury Park:  
 Section 1. That all persons who conduct the business of barbering and all who are employed or engaged in the business of shaving or hair cutting shall be governed by the following regulations: (1) Barbers must wash their hands thoroughly with soap and warm water before attending any person. (2) No alum or other astringent shall be used in stick form, but if used at all to stop the flow of blood it must be applied in powder form. (3) The use of powder puffs, sponges and finger bowls is prohibited. (4) No towel shall be used for more than one person without being washed. (5) Floors of barber shops must be kept clean and free from accumulations of hair, and all furniture and woodwork must be kept free from dust. (6) Hot and cold running water must be provided in every barber shop. (7) Combs, hair brushes, shaving brushes, razors, clippers, scissors, needles, tweezers and forceps shall be sterilized after use on each person by immersion in boiling water or by exposure to live steam in a suitable sterilizer, for not less than ten minutes, or by immersion for not less than ten minutes in a one per cent. solution of tricresol. (8) All combs shall be made of metal. (9) Towels shall not be dipped into warm water tanks. (10) No barber shop shall be used as a dormitory. (11) Razor strops must be kept clean, and should be used only with razors which are sterile. (12) Shaving mugs shall be thor-

MONMOUTH COUNTY—Continued.

oughly washed before use. (13) Hair dusters shall at all times be kept thoroughly clean and be washed at frequent intervals.

Section 2. Any person who violates any of the requirements of section one of this ordinance shall forfeit and pay a penalty of ten dollars.

Adopted March 1st, 1904.

During an inspection of the twenty-four barber shops in the city the following was learned: Barber shops in which astringents were applied in powder form, eight; astringents applied in stick form, nine; using finger bowls, thirteen; using sponges and powder puffs, one; using towels for wiping hands of barbers which were used on preceding customers, twenty-four, and in a few instances the towels thus used were badly soiled; hot and cold running water, ten; running cold water only, twelve; no running water, two; hot water tanks, three; using metal combs, four; shop used as a dormitory, one.

During the summer it was learned that ice harvested from Deal Lake was being sold by a local company in Asbury Park for domestic uses. Permits for the sale of ice harvested on Deal Lake are granted only for said ice to be used for cooling purposes by butchers, milk, fish, oyster and vegetable dealers and grocers. Notice was at once served upon said company that unless the requirements of the permit issued to them, containing the above restrictions, are strictly adhered to the permit would be revoked. The further sale of the suspected ice was stopped.

On several occasions during the summer an inspector of the State Board of Health collected samples of milk for analysis in this city. A report of the results of the analyses of said samples, received from the State Board of Health, stated "none of the samples of milk collected in Asbury Park fell below the standard required by law and none of them contained a preservative."

Ninety-one specimens of diseased tissues have been sent during the year through this department to the State bacteriological laboratory for diagnosis as follows:

SPECIMEN.	Positive.	Negative.	Unsatisfactory.	Totals.
Suspected diphtheria.....	3	27	3	33
Suspected tuberculosis.....	14	27	0	41
Suspected malarial organism..	0	9	2	11
Suspected typhoid.....	0	4	0	4
Suspected gonococci.....	0	1	1	2
Totals.....	17	68	6	91

## MONMOUTH COUNTY—Continued.

There are but four premises in the city on which dwellings are located which are not connected with the public sewer system. Three of these are to be connected in a short time. No change has been made in the final disposal of sewage from Asbury Park. The subject has been discussed during the year, and methods are now being considered by the Council for a more satisfactory disposal, and it is hoped some satisfactory method will be in operation before another year. Before the city acquired possession of the public sewer system, in 1903, the owner of the said system required that when house sewers, with water closets connected to the house drains, were connected thereto, that a catch basin, with grating, must be placed on the house drain. To prevent the increase of this class of nuisances, and to secure ample light and ventilation in water closet compartments, the following ordinance was adopted by the Board:

An ordinance regulating drain connections and requiring ventilation in water closet compartments.

Section 1. Be it ordained by the Board of Health of the City of Asbury Park that no house or house drain shall hereafter be connected with any privy vault, catch basin or cesspool, nor with any drain emptying into any privy vault, catch basin, or cesspool, not owned by the city of Asbury Park.

Section 2. Be it further ordained, that all water closet compartments placed in any cellar or basement in the City of Asbury Park shall be ventilated by a window or windows opening to the outer air. The area of such window openings shall not be less than four square feet to each one hundred cubic feet of space in such water closet compartment, and no water closet shall be placed in an unventilated room or compartment, not being in a cellar or basement, unless said compartment shall have a window opening to the outer air, or be ventilated by means of an air shaft or air duct having an area of at least two square feet and the opening to the outer air of such air shaft or air duct shall equal in area that of the shaft or duct.

Section 3. Any person, or persons, or corporation violating any of the provisions of this ordinance, shall on conviction thereof, pay a penalty of twenty-five dollars.

Adopted April 5th, 1904.

## MONMOUTH COUNTY—Continued.

Table Showing the Amount and Cost Per Cubic Yard for the Removal and Disposal of Garbage, Dead Animals and Rubbish From Asbury Park, for the Past Six Years.

GARBAGE AND DEAD ANIMALS.			
YEARS.	Contract Price.	No. of Cubic Yards Removed.	Average Cost Per Cubic Yard.
1899.....	\$2,400 00	3,652.83	\$0.6570
1900.....	2,400 00	3,540.94	0.6777
1901.....	2,400 00	3,601.74	0.6663
1902.....	2,850 00	3,624.61	0.7841
1903.....	2,850 00	3,481.97	0.8185
1904.....	2,850 00	3,849.58	0.7403

RUBBISH.			
YEARS.	Contract Price.	No. of Cubic Yards Removed.	Average Cost Per Cubic Yard.
1899.....	\$2,000 00	7,038.5	0.2841
1900.....	2,000 00	7,494.0	0.2669
1901.....	2,000 00	8,410.0	0.2378
1902.....	2,000 00	8,804.0	0.2271
1903.....	2,000 00	10,509.4	0.1903
1904.....	2,000 00	10,437.4	0.1916

The Garbage contractor's daily reports for the past five years show the following number of violations, by householders, of the health ordinances, in the manner of storing garbage and rubbish:

NATURE OF VIOLATION.	1900.	1901.	1902.	1903.	1904.
Premises with leaky metal receptacles.....	21	44	8	38	36
Premises on which garbage was stored in wooden receptacles.....	29	42	49	35	22
Garbage receptacles containing an excessive amount of fluids.....	3	3	3	4	14
Premises on which garbage receptacles were inadequate.....	22	43	57	20	1
Premises on which garbage was stored in inaccessible places.....	0	1	1	0	0
Premises on which garbage receptacles were too large to be conveniently handled.....	8	1	2	15	5
Premises on which ashes were mixed with garbage.....	1	0	0	1	2
Premises on which rubbish was mixed with garbage.....	5	1	0	7	4
Premises on which rubbish contained prohibited substances.....	8	3	1	7	16
Totals.....	97	144	121	127	101

MONMOUTH COUNTY—Continued.

The following table shows the number and nature of citizens' complaints received and investigated during the year:

TABLE SHOWING NATURE OF COMPLAINTS RECEIVED.

DATE OF COMPLAINT.	Offensive odors in dwellings due to causes unknown to occupants.	Overflowing and offensive privy vaults.	Overflowing catch-basins.	Placing rejectamenta from catch-basins upon the ground or in garbages or rubbish receptacles.	Obstructed drains and defective plumbing.	Offensive water-closets apartment.	Refuse accumulations in back yards.	Placing waste fluids upon the ground.	Keeping fowls in back yards.	Against garbage service.	Leaky and offensive garbage receptacles.	Burning garbage and offensive substances.	Offensive fish markets.	Offensive butcher shops.
1903.														
October.....				1	1	4	1	1		12				
November.....	1	5								4				
December.....								1		3				
1904.														
January.....						1				4				
February.....						1	1	1		7			1	
March.....		11	1		1	1	1	1		9				
April.....		5			1	2				17	1			
May.....		1			1	4	4			17			1	
June.....		1				4	4			17			1	
July.....	4	2	1		3	10	1	1	13	6			1	1
August.....	12	2	1		3	10	1	1	13	6			1	1
September.....	2	1	4		3	1	1	1	3	17			1	
Totals.....	7	135	18	4	35	114	34	24	3	160	1		4	2

MONMOUTH COUNTY—Continued.

TABLE SHOWING NATURE OF COMPLAINTS RECEIVED.—Continued.

DATE OF COMPLAINT.	Offensive livery stables.	Offensive private stables.	Unclean streets and street cutters.	Dead animals in public streets.	Dead animals on private property.	Disturbing noises.	Leaky gas pipes and fixtures.	Unclean alleys.	Dump cellars.	Secreted cases of infectious diseases.	Offering for sale immature veal.	Mosquitoes.	Miscellaneous.	Totals.
1903.														
October.....		1												
November.....		1		1										24
December.....		1		1										53
1904.														
January.....														2
February.....				1		2								18
March.....		1		4		2								32
April.....				4		1								32
May.....				2		1								34
June.....		1		2		1								64
July.....		1		2		1		1						60
August.....		1		1		2	1	1						72
September.....		1		3		1		1				1		81
Totals.....	5	27	1	35	10	4	1	7	2	2		2	27	463

MONMOUTH COUNTY—Continued.

Four hundred and sixty-three citizens' complaints were received and investigated during the year. One hundred and sixty complaints against the garbage service were lodged, investigation finding fifteen to be un-ounded; of the remaining three hundred and three complaints of nuisances, no just cause for complaint was found to exist in twenty-three cases.

Table Showing the Number of Written Permits Issued During the Year, by Months.

MONTHS.	NATURE OF VIOLATION.								Totals.	
	Certificates of approval of plumbing plans.	Constructing stable manure receptacles.	To scavengers.	For collecting butchers' offal and fat.	Burial and transit.	Transit, local.	For collecting garbage from private premises.	To return to public school after infectious diseases.		
1903.										
October	10		2		2		1		22	
November	12		6		4				22	
December	3		1		2		2		13	
1904.										
January	3				4		1		10	
February	3				3		2	1	11	
March	12		5		3		1	2	23	
April	21		9		5		5		37	
May	26		7		3		1	8	47	
June	24		14	2	4		4	2	61	
July	10	1	4	1	6		5		27	
August	10	1	11		12		3		37	
September	17	1	5		4		2	2	31	
Totals	155	3	70	3	59		27	5	71	393

MONMOUTH COUNTY—Continued.

Table Showing Number of Prosecutions for Violating Health Ordinances, for Year Ending October 1st, 1904.

NATURE OF VIOLATION.	RESULTS.					
	No. of suits ordered.	Nuisance abated before case was tried.	Judgment secured.	Cases pending.	Amount of judgments rendered.	Amount of judgments collected.
Of plumbing ordinance	2	1	1		\$ 50.00	
Polluting ground by waste fluids	2	1		1		
Leaky and offensive privy vaults	2	2				
Failure to report births	1	1				
Stable manure accumulating and stored upon ground	3	2	1		25.00	\$25.00
Premises not connected with sewer system	1	1				
Maintaining privy vault in a manner permitting flies to have access to filthy contents	2	1	1		25.00	
Totals	13	9	3	1	\$ 100.00	\$25.00

The defendant in the suit brought for polluting the ground by storing stable manure thereon refused to pay the penalty, whereupon a commitment was taken out and the defendant was sent to the county jail for thirty days. After being confined in jail for three days, he paid the fine and costs of suit.



## MONMOUTH COUNTY—Continued.

## OFFICE AND INSPECTION WORK IN ASBURY PARK.

Number of violations of health ordinances reported by inspectors during the year.....	898
Number of re-inspections of premises after notice to abate nuisances had been sent.....	793
Number of citizens' complaint investigated.....	463
Number of written orders sent for abatement of nuisances.....	580
Number of cases in which notice to abate nuisances were known have been complied with without further action.....	143
Number of cases referred to the Board with request for instruction	38
Number of written communications sent from the office.....	1,159
Number of inspections made of plumbing work under construction..	439
Number of air-pressure tests applied to plumbing work under construction.....	140
Number of smoke tests applied to plumbing work.....	92
Number of notices for minor alterations and repairs in plumbing work, filed by plumbers, and inspections made.....	48
Number of plumbing plans filed.....	156
Number of plumbing plans approved.....	155
Number of specimens sent to State bacteriological laboratory and replies received through this office.....	91
Number of rooms disinfected, by request, after tuberculosis and measles .....	6
Dwellings disinfected after infectious diseases.....	4

**Atlantic Township.**—Members and Officers—H. Wyckoff Buck, Bradevelt; S. Trofford Smock, Colts Neck; John H. Polhemus, Phalanx; Chas. V. Scobey, Secretary, Scobeyville.

**Avon Borough.**—Members and Officers—H. L. Walker, Monroe Newman, Jas. Brighton, E. May, H. M. Dolan, Secretary.

**Deal Borough.**—Members and Officers—Geo. W. Weart, Jas. E. Hunt, Wm. Hogencamp, Geo. K. Thompson, Frank B. Mesick; Henry D. Harris, Secretary.

**Farmingdale Borough.**—Members and Officers—Wm. R. Kinmouth, M. D., Edward Imlay, Chas. H. Bond, Levi W. Farry; Frank P. Van Note, Secretary.

**Freehold Town.**—Members and Officers—H. S. Brown, M. D., S. L. Bennett, Wm. H. Ingling, E. D. Clayton, Alonzo Brower; Theo. Sickles, Secretary.

## MONMOUTH COUNTY—Continued.

**Freehold Township.**—Members and Officers—Peter F. Conover, President; John P. Walker, Millard F. Conover, Grandin L. Clayton, Henry Campbell, Clark Conine; Rulif V. Lawrence, Secretary; Harry Neafie, M. D., Inspector. All of Freehold.

**Highlands Borough.**—Members and Officers—Augustus Howser, President; R. G. Andrews, M. D., Edward Layton, Edward Pangborn; S. Liming, Secretary.

**Holmdel Township.**—Members and Officers—Wesley Mason, Keyport; Jonathan Holmes, Holmdel; Jacob O. Lamberton, Hazlet; Aaron Longstreet, Secretary, Keyport; F. V. Thompson, M. D., Inspector, Holmdel.

**Manalapan Township.**—Members and Officers—Edward Hendrickson, Englishtown; J. C. Sutphen, Tennent; W. C. Hartshorn, Milhurst; A. T. Applegate, M. D., Englishtown; S. C. Bowne, Assessor, Tennent; G. B. Conover, Clerk, Englishtown.

**Manasquan Borough.**—Members and Officers—A. Howell Miller, President; John Chapman, Geo. Mount; Robert M. Marks, Secretary; Samuel Garrison, Inspector.

**Marlboro Township.**—Members and Officers—Geo. A. Quackenbush, Englishtown; D. A. Baird, Marlboro; H. P. Hayward, Marlboro; J. D. Ely, M. D., Marlboro; W. C. McElwaine, Secretary, Englishtown.

**Middletown Township.**—Members and Officers—Chas. Grossinger, Chairman; Leonardsville; R. Lufburrow, Middletown; D. W. Vannote, Belford; Geo. C. Henry, Belford; W. B. Conover, Middletown; Henry D. Smith, Secretary, Middletown; O. W. Budlong, M. D., Inspector, Belford.

**Millstone Township.**—Members and Officers—John H. Ely, Chairman, Perrineville; S. Perrine Day, Perrineville; Winfield S. Chambers, Perrineville; Wm. T. McMellen, M. D., Perrineville; Geo. J. Ely, Secretary, Cranbury.

**Neptune City Borough.**—Members and Officers—Stephen H. Hendricks, President; Pierson Gilbert, Howard Van Brunt; Whitfield Smith, Secretary; C. Hubbard Morris, Inspector. All of Bradley Beach.

**Ocean Grove.**—Members and Officers—A. E. Ballard, President; W. H. Wardell, L. Wilson, E. N. Cole; H. B. Alday, M. D., Secretary; J. H. Alday, M. D., Health Officer.

**Raritan Township.**—Members and Officers—Augustave Mauer, Presi-

MONMOUTH COUNTY—*Continued.*

dent; J. Frank Mason, Wm. C. Smith, Abram Huylar, Chas. F. Tuthill; Rufus C. Walling, Secretary; Jas. M. Walling, Inspector.

**Red Bank Town.**—Members and Officers—C. D. Warner, President; F. P. Stryker, B. H. Garrison, M. D., John Sheehan; James H. Sickles, Secretary; Elwood Minugh, Inspector.

**Shrewsbury Township.**—Members and Officers—A. L. Ivins, President, Red Bank; Forman R. Smith, Fair Haven; Wm. T. Parker, Little Silver; Wm. H. Houston, Red Bank; Wm. A. Van Schoick, Red Bank; Victor A. Ligier, Oceanic; A. C. Harrison, Secretary, Red Bank; Wm. Churchin, Inspector, Fair Haven.

**Spring Lake Beach Borough.**—Members and Officers—S. R. Knight, M. D., J. G. Newman, E. W. Remsen, W. D. Robinson; D. H. Hills, Secretary. All of Spring Lake.

**Upper Freehold Township.**—Members and Officers—I. S. Dawes, President, Imlaystown; Thos. I. Smith, Red Valley; Elmer E. Polhemus, Cream Ridge; Wm. Quicksill, Assessor, Hornerstown; F. C. Price, M. D., Secretary, Imlaystown.

**Wall Township.**—Members and Officers—E. C. White, S. Bartley Pearce, Chas. Gifford; Geo. E. Rogers, Secretary, Belmar.

## MORRIS COUNTY.

**Boonton Town.**—Members and Officers—S. L. Garrison, President; J. E. Dunn, Cora Byrnes, E. C. Lyon; N. A. Myers, Secretary; A. E. Estler, Health Inspector.

**Butler Borough.**—Members and Officers—G. E. Coates, M. D., President; Rudolph Guenter, E. P. Smithyman; Samuel K. Owen, Secretary; Allen Looker, Registrar.

**Chatham Borough.**—Members and Officers—Jos. H. Conklin, President; Jos. E. Pollard, M. D., Walter V. Sayre, Geo. E. Hall; D. H. Crawford, Secretary; John J. McCormack, Inspector; Ralph E. Lum, Attorney.

**Dover City.**—Members and Officers—Chas. A. Otto, President; Eugene Buchanan, Eustice Rudine; S. B. Johnson, J. H. C. Hunter, Secretary; John G. Taylor, Inspector.

MORRIS COUNTY—*Continued.*

**Jefferson Township.**—Members and Officers—Cyrus Weaver, Oak Ridge; Wm. Smith, Newfoundland; John Tierney, Woodport; John Walters, M. D., Wharton; Chas. Chamberlain, Secretary, Woodport.

**Madison Borough.**—Members and Officers—Calvin Anderson, M. D., President; I. N. Van Dewater, Samuel Brant, Chas. B. Gee; Chas. E. Cook, Secretary; Fred. Burnett, Inspector.

The Secretary of the board reported as follows:

The sanitary condition of Madison is remarkably good, and is very carefully looked after by all members of the board, who give up much valuable time to the work without any remuneration.

The town of Madison needs very badly a sewer system, and the board of health, together with the council, have been working for three years past to install a system. We are out of reach of trunk sewers, and have had plans made for building filtration and disposal beds. It is difficult to educate the people to the necessity of sewers, and as nothing can be done except by majority vote of the borough, the matter is in abeyance.

**Mendham Township.**—Members and Officers—Geo. W. Savage, Brookside; Madison M. Connett, Brookside; John Quimby, Mendham; Geo. S. DeGroot, M. D., Mendham; John B. Dolan, Secretary, Mendham.

**Morris Township.**—Members and Officers—Alfred M. Armstrong, Chairman; Phoenix Miller, Lewis E. Clark, Watson A. Barton; J. P. Jamieson, Clerk, Morristown.

**Mt. Olive Township.**—Members and Officers—Wm. R. McPeak, Chairman, Mt. Olive; John G. Budd, Budd Lake; W. H. Sharp, Flanders; S. W. Salmon, Secretary, Mt. Olive; W. S. Foster, M. D., Inspector, Flanders.

**Randolph Township.**—Members and Officers—John L. Connolly, Mine Hill; J. F. C. Bryant, Ironia; Jas. O. Wright, Jr., Mt. Freedom; D. H. Dalrymple, Secretary, Dover.

**Roxbury Township.**—Members and Officers—David B. Jardine, Kenvil; Theo. F. King, Ledgewood; James N. Hulise, Port Norris; Thos. K. Wilkinson, Secretary, Ledgewood.

**Washington Township.**—Members and Officers—John A. Parker, Schooleys Mountain; Matthias Fleming, Parker; Edward Sutton, M. D., German Valley; Geo. H. Sliker, Secretary, Pleasant Grove; Mahlon Van Nest, Inspector, German Valley.

MORRIS COUNTY—*Continued.*

**Wharton Borough.**—Members and Officers—H. W. Kice, M. D., President; Robert F. Oram, Miller P. Castner; James Williams, Secretary; Daniel J. Ketrick, Inspector.

## OCEAN COUNTY.

**Beach Haven Borough.**—Members and Officers—John F. Fox, President; T. E. Gifford, T. Cale; W. F. Beer, Secretary; T. A. Gavin, Inspector.

During the year the water mains were extended 1,340 feet.

**Dover Township.**—Members and Officers—W. Scott Jackson, President, Toms River; Bartine Clayton, Silverton; A. A. Dunham, Toms River; T. B. Irons, Toms River; Frank Brouwer, M. D., Toms River; U. S. Grant, Secretary, Toms River.

**Eagleswood Township.**—Members and Officers—H. G. Shinn, West Creek; J. W. Holman, West Creek; Jonathan Cox, West Creek; C. H. Conover, M. D., Tuckerton; E. T. Cranmer, Secretary.

**Lacey Township.**—Members and Officers—John B. Wilbert, Forked River; B. F. Holmes, Forked River; Reuben Tilton, Lanoka; B. F. Mathews, Secretary, Forked River; G. E. Wallace, M. D., Inspector, Forked River.

**Lakewood Township.**—Members and Officers—John L. Reid, President; John Shearman, Jacob Skidmore, G. MacMillan, M. D.; Ernest E. LeCompte, Secretary; Richard B. Robbins, Inspector. All of Lakewood.

**Ocean Township.**—Members and Officers—J. R. Stokes, Chairman; Wm. B. Wilkins, Chas. F. Jones; Oscar Brown, Secretary.

**Point Pleasant Beach Borough.**—No organized Board of Health. Abraham Lower, Borough Clerk.

**Sea Side Park Borough.**—Members and Officers—Chas. Harker, M. D., H. E. Clayton, Chas. B. Coles, L. J. Stone; G. H. Thatcher, Secretary.

**Stafford Township.**—Members and Officers—Joshua Hilliard, M. D., President Manahawkin; Edward E. Predmore, Manahawkin; James H. Aker, Mayetta; Benj. Oliphant, Manahawkin; John B. Courtney, Secretary, Manahawkin.

OCEAN COUNTY—*Continued.*

**Tuckerton Borough.**—Members and Officers—T. T. Price, M. D., President; Wm. S. Steelman, James W. Parker, Barzillai Pullen; J. Frank Mathis, Secretary.

## PASSAIC COUNTY.

**Manchester Township.**—Members and Officers—Samuel Rogers, Chairman; Chas. Erving, Andrew Van Riper; Geo. V. Spangnmacher, Secretary; A. A. Lydecker, M. D., Health Inspector; Richard Krowley, Assistant Inspector. All of Haledon.

**Paterson City.**—Members and Officers—Andrew F. McBride, M. D., President; John H. Banta, M. D., Frank J. Van Noort, M. D., John R. Hurley, Franklin Van Winkle; J. Alex. Browne, Health Officer; Jas. P. McNair, Secretary; John T. Pollitt, Registrar; Wm. H. MacDonald, Plumbing Inspector; Jas. Fitzpatrick, Sanitary Inspector; Wm. S. Green, M. D., Sanitary Inspector; James Higgins, Counsel.

**Pompton Township.**—Members and Officers—Jas. E. Sloat, President, Midvale; Edward J. Brown, Erskine; Walter C. White, Butler; David Beam, Secretary, Midvale; D. N. Shippee, M. D., Inspector, Wanaque.

**Pompton Lakes Borough.**—Members and Officers—John L. Porter, John F. Ball, John Fraser; H. L. Wells, Secretary; C. M. Hawes, M. D., Inspector.

**Prospect Park Borough.**—Members and Officers—Andrew Hopper, President; Garret Planten, H. W. Street, Geo. Bell; Jacob Doele, Clerk; A. A. Lydecker, M. D., Inspector, Haledon.

**West Milford Township.**—Members and Officers—Chilleore Loroe, President; D. E. Drake, M. D., M. J. Shippee, Wm. Eckhart; Celestine Sehulster, Secretary, Echo Lake.

## SALEM COUNTY.

**Alloway Township.**—Members and Officers—Chas. Timberman, President, Alloway; Warren L. Ewen, M. D., Alloway; Jos. Garton, Cohansey; Jeremiah S. Watson, Aldine; Wm. E. Simkins, Clerk, Aldine.

## SALEM COUNTY—Continued.

**Elmer Borough.**—Members and Officers—Wm. B. Barnart, A. B. Woodruff, M. D., Frank Sturr, Jos. M. Garrison, J. Harry Kandle; Hiram Van Meter, Secretary.

**Lower Penns Neck Township.**—Members and Officers—J. H. Jenkins, President, Pennsville; D. F. Dixon, Salem; A. B. Batten, Pennsville; W. H. James, M. D., Pennsville; J. G. Mitchell, Secretary, Pennsville.

**Oldmans Township.**—Members and Officers—H. T. Johnson, M. D., R. Lee Sailor, F. J. Gaventa, J. J. Hunt; Levi C. Justice, Secretary. All of Pedricktown.

**Penns Grove Borough.**—Members and Officers—James D. Tarton, President; Walter S. Springer, John C. Simpkins, Nathan S. Wood; Henry M. Flanagan, M. D., Secretary.

**Pilesgrove Township.**—Members and Officers—S. A. Ridgway, E. C. Moore, Clement McAllister; D. F. Davis, Secretary. All of Woodstown.

**Pittsgrove Township.**—Members and Officers—A. J. Fox, President; John Dillmore, C. S. Atkinson; Geo. Schalick, Secretary, Centreton.

**Quinton Township.**—Members and Officers—F. B. Husted, M. D., President, Quinton; Andrew Harris, Quinton; Wm. Hood, Quinton; Levi P. Horner, Cohansey; Josiah T. Harris, Secretary, Quinton.

**Salem City.**—Members and Officers—Henry Chavanne, M. D., President; Ellen B. Smith, M. D., Thos. Waddington; Clinton Bowen, Secretary; A. T. Walton, Sanitary Inspector.

The Secretary of the board reported as follows:

Eleven wells at the water works, varying from 240 to 500 feet deep, have been constructed, and good water furnished. During the year, the lowlying lands of the east side of the city have been drained, and a ten-year contract given to keep them free, thus insuring much improved sanitary conditions. The laying of improved street pavements, and the system of keeping them clean, together with extension of public sewers, are regarded as a decided advance in the permanent sanitary condition of the city.

**Upper Penns Neck Township.**—Members and Officers—Joseph E. Clark, Wilmer Layton, William Sailor; Geo. W. Hewitt, Secretary, Penns Grove.

## SOMERSET COUNTY.

**Bedminster Township.**—Members and Officers—Chas. Hoffman, Pottersville; R. B. Duycknick, Lamington; J. M. Pickell, Peapack; J. B. Beekman, M. D., Bedminster; E. F. Farrow, M. D., Peapack; M. C. Smalley, M. D., Gladstone; W. D. Vanderbeek, Secretary, Gladstone.

Following is a report of an inquiry conducted by Mr. Geo. W. McGuire, Chief Inspector, concerning the origin of cases of typhoid fever in Bedminster Township, September, 1904:

On my arrival at Gladstone on the 8th inst., I called on Dr. M. C. Smalley and Dr. E. F. Frear, who gave me information concerning cases under their care. Gladstone and Peapack are practically one village, although under separate government. They contain about 900 inhabitants. The one main street is about one mile long with lateral streets running irregularly toward the west and on the east is a range of hills with few if any buildings. Since the first case, June 5th, 1904, there have been five verified cases and one suspected case. The history of these cases was obtained by visits to the houses where the disease existed, supplemented by the records of the physicians in charge. The following are the names of the patients with the dates of first medical attendance: David Melick, June 5th, 1904; Isaac Hockenberry, Aug. 8th, 1904; Mrs. John Wyckoff, Aug. 28th, 1904; Elizabeth Schenck (colored) Aug. 24th, 1904; Elias Howell, Aug. 30th, 1904; Edward Murphy (suspect), Aug. 26th, 1904. The first case was located on Main street about the center of the village and the outbreaks occurred at a distance of about 1,000 to 2,000 feet from each other, taking a triangular course, the suspected case being on the main street about a half mile from the first case. The water supply of the persons having typhoid is obtained as follows: Filtered cistern water, 4; Well, 1; spring in field, 1. The four cisterns are said to be properly cemented and are apparently protected against pollution. The one well is on high sloping ground remote from kitchen drainage or other contamination. The one spring is in a field well covered and carefully protected from drainage. Milk is furnished by the one local milk dealer to three of the sick families. Two are supplied by one can and the first case was furnished milk from a neighbor's cow. There has been no sickness on the premises of John A. Doremus, the local milk dealer and producer, and his water supply (springs) appears to be uncontaminated.

The first case (David Melick) was no doubt imported into the village. Melick was a law student in New York, where he spent every day until taken sick at his mother's house in Gladstone. It does not seem possible to trace any direct connection between the cases except possibly one.

SOMERSET COUNTY—*Continued.*

Isaac Hackenberry had spent two or three days in Newark from July 4th. He began to sicken about Aug. 1st. In the meantime he was milking his cow and supplying Mrs. John Wyckoff with milk. She was taken sick Aug. 28th. The examination shows that the discharges from all the patients were deposited in the privies on the infected premises, without ease, and in some cases weeks elapsed after infection until the disease was named. I recommended to the Secretary of the local health board the immediate cleansing and disinfection of the privy vaults on all infected premises in order to prevent the further spread of the fever through the medium of flies.

**Bernards Township.**—Members and Officers—J. D. Cross, Van Cleave Meeker, Thos. Douglass; S. S. Baldwin, Secretary, Liberty Corner.

**Bound Brook Borough.**—Members and Officers—R. H. Brokaw, President; C. R. P. Fisher, M. D., M. W. Baxter; W. S. Negus, Secretary; Chas. McNabb, Inspector.

The Secretary of the board reports that after a good deal of agitation and discussion, the borough authorities have taken steps to secure the abatement of the nuisance caused by the collection of stagnant water in what is known as the gravel pit section of the borough. Bids have been asked, and the total expenditure for this work will in all probably reach \$10,000. The sewer system of the borough will be extended during the coming year.

**Branchburg Township.**—Members and Officers—A. B. Brokaw, Neshanic Station; James Mingle, North Branch; John C. Stryker, Readington; Henry W. Davis, M. D., North Branch; Peter L. Brokaw, Secretary, Centreville.

Four cases of diphtheria occurred.

**Bridgewater Township.**—Members and Officers—Bernhardt Meyer, President, Somerville; Jas. Q. Ten Eyck, Somerville; Wm. Harris, Somerville; Christopher Ehn, Raritan; Oscar Dow, Raritan; F. T. Rose, Secretary, Somerville; L. M. Lanning, M. D., Inspector, Somerville.

**Franklin Township.**—Members and Officers—Wm. A. Cortleyou, Franklin Park; N. S. Wilson, Millstone; Elias Baker, New Brunswick; L. J. Suydam, Secretary, New Brunswick, R. F. D. No. 5; J. Howard Cooper, M. D., Middlebush.

**Hillsboro Township.**—Members and Officers—J. Vred Ople, Somerville; John V. M. Sutphen, Three Bridges; G. Spencer Van Cleef, Millstone; Wm. H. Merrell, M. D., South Branch; Jos. H. Van Cleef, Assessor, Millstone.

SOMERSET COUNTY—*Continued.*

**Millstone Borough.**—Members and Officers—S. O. B. Taylor, M. D., President; E. M. Davis, Wm. Esler, Jas. H. Hagaman, John P. Ditmars, Wm. C. Kitchen; Wm. H. Polhemus, Secretary.

**Montgomery Township.**—Members and Officers—Geo. W. Campbell, President, Griggstown; Henry A. Duryea, Blawenburg; C. B. Allhouse, Skillman; A. B. Mosher, M. D., Griggstown; Wm. I. Robinson, Secretary, Belle Mead.

**North Plainfield Borough.**—Members and Officers—Andrew Love, President; D. C. Adams, M. D., John McLaughlin, J. O. Osgood; Rev. W. E. Honeyman, Secretary; Wm. N. Pangborn, Inspector.

**North Plainfield Township.**—Members and Officers—Benj. Black, Scotch Plains; Wm. Titus, Watchung; Albert Brokaw, Dunellen; A. P. Voorhies, Secretary, Plainfield.

**Rocky Hill Borough.**—Members and Officers—Theodore Stryker, President; A. C. Skirm, W. N. Stults, Malvin Reeve, M. D.; Elmer R. Logan, Clerk.

**Somerville Town.**—Members and Officers—A. L. Stillwell, M. D., President; Thos. H. Flynn, M. D., John B. Osbourn, John E. Webrly, Wm. R. Suphen, Secretary; Geo. D. Totten, Inspector.

**Warren Township.**—Members and Officers—H. P. Williams, President; J. Gunten, F. Alletta; E. E. Sage, Secretary, Gillette.

## SUSSEX COUNTY.

**Andover Borough.**—Members and Officers—J. C. Clark, M. D., President; S. S. Wills, Thos. Decker, S. H. Willson; W. E. Willson, Secretary.

**Andover Township.**—Members and Officers—C. C. Cox, President, Lafayette; Jos. Longcon, Sparta; Geo. M. Ackerson; J. C. Clark, M. D., Andover; Wm. Iliff, Clerk, Lafayette.

**Branchville Borough.**—Members and Officers—E. S. Dalrymple, M. D., J. M. Jarvis; J. H. Quick, Secretary.

**Fredon Township.**—Members and Officers—David R. Warbass, Newton; Benj. Fritts, Newton; Geo. Van Horn, Newton; E. W. Sander, Stillwater; Jos. E. Huff, Secretary, Newton.

## SUSSEX COUNTY—Continued.

**Green Township.**—Members and Officers—C. L. Cook, Newton; A. Hull, Huntsville; N. Coleman, Tranquility; I. L. Labar, Secretary, Tranquility.

**Hampton Township.**—Members and Officers—A. J. Williams, Balesville. M. H. Northrup, Baleville; J. Martin Couse, Halsey; J. W. Thompson, Secretary, Blair.

**Hardyston Township.**—Members and Officers—Caleb Farber, Hamburg; Robert Edsall, Hamburg; J. Stephens, Franklin; L. R. Congleton, Secretary, Hamburg.

**Hopatacong Borough.**—Members and Officers—Lewis S. Pilcher, M. D., President; John Aldred, R. S. Baker, Dwight B. Smith; Theo. A. K. Gessler, D. D., Clerk. All of Landing.

**Montague Township.**—Members and Officers—John Bigart, Port Jervis, N. Y.; Cora J. Bell, Port Jervis, N. Y.; Timothy Shay, Hainesville; Geo. McCarty, Secretary, Port Jervis, N. Y.

**Newton Township.**—Members and Officers—Shepard Voorhees, M. D., President; Lewis J. Martin, John N. Calbin, Geo. M. Harris; Geo. B. Case, Secretary; I. L. Hallock, Inspector. All of Newton.

**Sandyston Township.**—Members and Officers—Adam Van Syckle, F. M. Shar, E. Rosenkrans; Warren Van Sickle, Assessor; M. D. Hughes, M. D., Secretary. All of Layton.

**Sparta Township.**—Members and Officers—L. C. Burd, Ogdensburg; W. H. Beatty, Sparta; R. H. Earls, Sparta; J. W. Maseker, Clerk, Sparta.

**Stanhope Borough.**—Members and Officers—John McMickle, President; Thos. E. Haggerty, Isaac Kinnicut, Stephen Thompson, John H. Slaght; Austin S. Van Arsdale, Secretary.

**Stillwater Township.**—Members and Officers—John R. Kice, President, Stillwater; C. A. Lewis, Stillwater; E. W. Landes, M. D., Stillwater; W. E. Sitman, Swartswood; O. Van Horn, Secretary, Stillwater.

**Wantage Township.**—Members and Officers—Frank Coe, Irvin Brink, Lebens Martin, W. T. Wright; S. M. Parcell, Secretary. All of Sussex.

## UNION COUNTY.

**Clark Township.**—Members and Officers—Wm. J. Thompson, Benj. O. King, Edwin Mays, Wm. E. Cladek, M. D.; F. P. Bulman, Secretary. All of Rahway.

**Elizabeth City.**—Members and Officers—John W. Whelan, President; L. R. Brown, M. D., J. S. Green, M. D., Louis Quien, C. E., S. T. Quinn, M. D., E. R. O'Reilly, M. D., A. Stern, M. D.; Jas. J. Manning, Clerk; Louis J. Richards, Health Officer; Patrick J. Connell, Henry Toole, Inspectors.

**Fanwood Township.**—Members and Officers—Thos. J. Nicholl, President, Scotch Plains; T. R. Bruchman, Scotch Plains; Edward V. Goodman, Ashbrook; Chas. H. French, Secretary, Westfield; F. W. Westcott, M. D., Inspector, Fanwood; Wm. R. Coddington, Counsel, Plainfield.

**Linden Borough.**—Members and Officers—H. B. Hardenburg, President; Wm. McDonagh, H. L. Browning, Jr., D. N. Hetfield, H. D. Huston, Philetus Smith, Wm. C. Hill; R. S. Cole, Secretary; Wm. H. Donaldson, Inspector.

**Linden Township.**—Members and Officers—W. E. Mitchell, President, Linden; George. McGilloyay, Jr., Linden; John P. Winans, Tremley; H. Page Hough, M. D., Rahway; Asa E. Collins, Clerk, Linden; Wm. T. Day, Inspector, Roselle.

**Mountainside Borough.**—Members and Officers—H. W. Moffett, President; J. W. Badgley, J. Millett; J. O. Conners, Secretary; G. Boyton, Inspector.

**New Providence Borough.**—Members and Officers—Jas. G. Alden, President, West Summit; L. B. Coddington, New Providence; W. C. W. Aufermann, Murray Hill; A. G. Nason, Murray Hill; Wm. Woodruff, Secretary, New Providence; John H. Dickinson, Inspector, New Providence.

**New Providence Township.**—Members and Officers—Henry S. Fullerton, President, Scotch Plains; Victor Mercier, Berkley Heights; Geo. Wahl, Berkley Heights; W. C. Johnson, Clerk, New Providence.

**Plainfield City.**—Members and Officers—Chas. J. Fisk, President; Fred W. Dunn, T. S. Davis, M. D., Chas. H. Dunham; B. Van D. Hedges, M. D., Secretary; L. R. Thurlow, Health Officer; Wm. Addis, Sr., Health Inspector; Miss H. O. Mattison, Registrar.

The Secretary writes as follows:

During the year the following diseases were reported: Diphtheria, 114 cases, 5 deaths; scarlet fever, 47 cases, 1 death; typhoid fever, 26 cases, 4 deaths; smallpox, 1 case; chicken-pox, 74 cases, no deaths; measles, 161

## UNION COUNTY—Continued.

cases, no deaths; tuberculosis, 49 cases, 40 deaths. Total cases, 472; total deaths, 50.

On January 20th a case of smallpox was reported in the person of a colored man, Alexander Stills. Stills was employed as a barber in one of the better class barber shops in Plainfield. As far as could be ascertained, the source of infection was from a traveling salesman, who came from a barber supply company in Philadelphia. The patient was immediately removed to our isolation hospital. Every one who was in any way exposed to the disease was vaccinated, and, according to our custom, kept under observation by a physician every day for two weeks. The barber shop was thoroughly cleansed and disinfected, and all instruments, cups, fixtures, etc., sterilized. No secondary case developed. After ten weeks of illness, the man was released. Gratuitous vaccination was offered to the public last winter, but few people responded because of the thoroughness of the vaccination the previous year.

The Board has felt the need of a hospital where cases of scarlet fever and diphtheria could be isolated. At present there is no such institution in Plainfield, but an isolation ward is to be built shortly in connection with our new hospital.

In June, 1904, a thorough house to house sanitary inspection was started. This work lasted during the summer, but we were unable to entirely finish. Seven hundred and seventy-nine premises were inspected. Following are the tabulated results of the entire inspection:

Total number premises inspected.....	779
Defective plumbing system found.....	38
Accumulation of ashes and garbage.....	27
Accumulation of garbage.....	25
Accumulation of manure.....	10
Privy vaults which required cleaning.....	193
Cesspools which required cleaning.....	15
Abandoned privy vaults not properly filled up.....	33
Abandoned cesspools not properly filled up.....	1

The following notices were served in connection with the above work: Notices to abate nuisances, 102; notices to abolish vaults, 323; notices to abolish cesspools, 94; notices to connect with sewer, 179.

Regular periodical inspection of dairies has been made as outlined in previous reports. Each dairy is visited as often as once a month, and records are kept of these inspections. Samples of all the milk sold in Plainfield are frequently analyzed. The records of dairy inspections and milk analysis are open to the public at all times.

The following is the list of the cemeteries within the limits of the city of Plainfield, and their keepers: St. Mary's Cemetery—Daniel McCarthy; M. E. and Baptist—Thos. Morcom.

## UNION COUNTY—Continued.

A new filing system has been installed in the office, and an exact copy of all marriage, birth and death certificates is kept. There is but one private hospital in Plainfield—Muhlenberg Hospital. This hospital has just moved into a new building, which is well equipped and well situated. A contagious disease ward is soon to be built. During the year numerous violations of the ordinances have been tried before the City Court, and in every case, the Board has succeeded in getting a conviction. One hundred and twenty-five dollars was received in fines, this being paid to the Treasurer of the city. Fourteen meetings were held during the year.

The problem of obtaining a municipal collection and disposal of the city's garbage was taken up with a great deal of energy during the year. The present system of garbage collection is most unsatisfactory; the collectors are private individuals, licensed by the Board of Health to carry on this business. The work is done by incompetent men, in a slovenly way, and consequently is of much annoyance to both the public and the Board of Health. The matter was put in the hands of a joint committee from the Board of Health and the Common Council, and after studying the situation in Plainfield, the committee advised the construction of a crematory and the installation of a system of collection under municipal control. This measure was not adopted for the summer of 1904, but we have every hope that a satisfactory system for the collection and disposal of garbage will be established before the beginning of the summer of 1905.

Rahway City.—Members and Officers—James H. Terrii, President; W. E. Cladek, M. D., E. B. Selover, M. D., C. B. Holmes, M. D., Geo. R. Vansant; Chas. H. Angleman, Secretary; Fred J. Mix, Inspector.

## The Secretary of the board reported as follows:

There has been 142 complaints of nuisances filed with the Board of Health since January 1st last. All of these nuisances have been abated. We have a new sanitary code governing the collection of garbage, ashes, etc., and the cleaning of cesspools and privies, which code went into effect on the 20th day of June, last. Under the provisions of this code there have been several connections made with the sewer, thus eliminating one of our chief troubles, outside water-closets. There is a fee of \$20 for a license to clean privy vaults and cesspools. We have had two such licenses taken out. There is also a fee of \$20 each for a license for the privilege of carting garbage and ashes and disposing of the same. There are three such licenses issued at the present time.

Under the milk ordinance, there have been issued since same went into effect thirty-eight licenses, eight of which are for stores.

There has been reported to this office the following cases of communicable diseases:

Diphtheria, 13; scarlet fever, 36; typhoid fever, 4; purulent ophthalmia, 1.

UNION COUNTY—*Continued.*

Deaths from preventable diseases:  
Scarlet fever, 1; typhoid fever, 2.

**Roselle Borough.**—Members and Officers—H. C. Pierson, President; M. W. Sewall, J. W. Hope, W. B. Hadley; W. J. D. Chandler, Secretary; G. A. Rawlins, Registrar; J. H. Kinney, Inspector.

**Roselle Park Borough.**—Members and Officers—William Kingsland, President; Patrick Cooley, Arthur Cocks, Chas. Englehart, Simon Birmingham; Arthur Churchill, Secretary.

**Springfield Township.**—Members and Officers—James Vanworthway, Richard Trioett, John L. Denmann; Lewis T. Terry, Secretary; J. A. Stites, M. D., Inspector. All of Springfield.

**Summit City.**—Members and Officers—Wm. H. Risk, M. D., President; Henry Atterbury, Wm. D. Gibly, Wm. H. Lawrence, M. D., Col. A. B. Wallace; T. J. Scott, Secretary; Wm. McMane, Health Officer.

**Union Township.**—Members and Officers—Walter A. Miller, President, Hilton; John H. Doremus, Lyons Farms; D. B. Wade, Union; D. Hobart Sayre, Secretary, Union.

**Westfield Town.**—Members and Officers—Joseph B. Harrison, M. D., President; Geo. L. Delatour, H. H. Butler, Edward Edgar; C. W. Harden, Secretary; Sherman Cooper, M. D., Medical Officer; Wm. Addis, Sr., Plumbing Inspector.

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 WARREN COUNTY.

**Allamuchy Township.**—Members and Officers—C. W. Puffer, President, Allamuchy; G. W. Guest, Allamuchy; Richard E. Martin, Hackettstown; L. C. Osmun, M. D., Hackettstown; T. G. Dunlap, Inspector, Allamuchy; Benj. A. Hendershot, Clerk, Allamuchy.

**Blairstown Township.**—Members and Officers—Wm. C. Howell, Blairstown; Chas. Heldemore, Blairstown; H. P. Linaberry, Vail; W. S. Perry, Secretary, Delaware; Henry O. Carhart, M. D., Inspector, Blairstown.

**Hackettstown Town.**—Members and Officers—F. M. Cook, M. D., President; Alden E. Martin, M. D., Augustus W. Cutler, Thos. S. White,

WARREN COUNTY—*Continued.*

Richard G. Clark, James Tamblin, Alfred Hoffman; Frank P. Titus, Secretary.

**Harmony Township.**—Members and Officers—Irvin B. Smith, Rocksburg; H. B. Bassard, M. D., Phillipsburg; J. M. Rush, Stewartsville; Geo. M. Amey, Phillipsburg; Freeman Schuler, Secretary, Rocksburg.

**Independence Township.**—Members and Officers—W. K. Teel, Vienna; J. T. Lomerson, Vienna; A. B. Leigh, Danville; W. H. McCormick, Hackettstown; F. W. Haggerty, M. D., Secretary, Vienna.

**Oxford Township.**—Members and Officers—L. B. Hoagland, President; Jas. W. O'Bryan, Geo. Wildrick, John H. Hildebrand; Michael Mountain, Secretary, Oxford.

**Pahaquarry Township.**—Members and Officers—Garnet Gariss, Richard Lutes, Jason Spangenberg; Jason K. Hill, Secretary, Millbrook.

**Phillipsburg Town.**—Members and Officers—Jos. Pfeiffer, President; Francis Drake, M. D., P. F. Hagerty, Michael Lynch, Henry Bercaw, Daniel Ziegler; Frank Kneidler, Secretary; Howard R. Carey, Inspector.

**Washington Borough.**—Members and Officers—C. M. Williams, John Hornbaker, D. V. Wyckoff, R. M. Petty; Harry Christine, Clerk; A. J. Bigler, Inspector.



List of Sanitary Districts, Showing Population and Names and Addresses of Officers.

SANITARY DISTRICT.	COUNTY.	Population by Census of 1900.	NAME AND ADDRESS OF SECRETARY.	NAME AND ADDRESS OF REGISTRAR OF VITAL STATISTICS.
Cities.				
Asbury Park	Monmouth	4,148	B. H. Oberst	B. H. Oberst
Bayonne	Atlantic	27,838	Edward Gulon, M. D.	Alfred T. Glenn
Beverly	Bergen	32,722	F. Carbin	D. G. Pursell
Bordentown	Burlington	1,954	F. Laferets, M. D.	B. P. Soby, M. D.
Bridgeton	Burlington	4,170	Wm. F. Shinn, M. D.	H. W. Kunz
Burlington	Cumberland	13,913	John H. Moore, M. D.	Frank L. Trewitt
Cape May City	Burlington	7,352	Alfred P. Silpath	H. C. Kramer
Dover	Cape May	75,955	Eugene B. Roberts	John W. Thompson
East Orange	Morris	5,958	H. C. Marcy, M. D.	J. H. C. Hunter
Elizabeth	Atlantic	21,666	N. Gray, M. D.	V. H. Long
Englewood	Union	1,868	James J. Manning	Y. H. Johnson
Gloucester City	Bergen	62,150	William D. Hogert	James J. MacLaugh
Hackensack	Bergen	6,540	William D. Hogert	Robert Jamieson
Hudson	Hudson	9,443	C. J. Den Lane	Daniel F. Lane
Jessieville	Hudson	69,364	Joseph Tucker	Wm. P. Ellery
Lambertville	Hudson	206,433	Henry Smellie	C. J. Tucker
Millville	Cumberland	4,237	James H. Reynolds	James H. Reynolds
Montclair	Essex	13,962	L. H. Hogate	L. H. Hogate
Morris	Morris	13,962	Thomas Martin	John O'Brien, Jr.
Morriswick	Essex	246,070	D. Clark, M. D.	Thomas Martin
New Brunswick	Essex	20,006	S. V. D. Clark, M. D.	James J. Connelly
Passaic	Passaic	17,777	W. B. Schlier	F. J. Ward
Passaic City	Passaic	17,777	W. B. Schlier	W. B. Gano
Patterson	Passaic	105,171	James P. McNair	George F. Grear
Phillipsburg	Middlesex	17,639	W. E. Ramsey, M. D.	John P. Rolitt
Rahway	Union	19,982	Frank D. Kneidler	John P. Rolitt
Rahway City	Union	7,895	Frank D. Kneidler	Frank Kneidler
Salem	Salem	5,811	Clinton Bowen	F. O. Mattison
Spartanburg	Union	6,802	F. J. Scott	Chas. H. Anglemann
Trenton	Union	72,367	Thomas Holmes	Chas. H. Anglemann
Woodbury	Houscouster	4,967	Thomas Starr	F. J. Scott
				C. Edward Murray
				J. E. Estell
boroughs				
Allenhurst	Monmouth	694	J. M. Christopher	J. M. Christopher
Allenhurst	Bergen	146	Wm. H. Conover	Wm. H. Conover

List of Sanitary Districts, Showing Population and Names and Addresses of Officers—Continued.

SANITARY DISTRICT.	COUNTY.	Population by Census of 1900.	NAME AND ADDRESS OF SECRETARY.	NAME AND ADDRESS OF REGISTRAR OF VITAL STATISTICS.
Beronguis—Con.				
Albion	Monmouth	695	Josiah S. Robbins	W. R. Powsyth
Anover	Sussex	17	H. Tavernier	G. G. Wilcox
Angelsea	Cape May	161	Geo. W. Wilson	S. H. Gilson
Atlantic Highlands	Monmouth	1,383	W. N. Sneedker	R. M. Shivers
Avon	Cape May	93	H. M. Dolan	C. N. Sneedker
Barnegat City	Ocean			H. M. Dolan
Bay Head	Ocean	247	Julius Proger	James V. Jones
Belmar Haven	Ocean	259	W. F. Beer	Julius Proger
Bergen Fields	Monmouth	902	Charles O. Hudnut	Thomas A. Gavth
Bogota	Bergen	729	John J. Huyler	John J. Huyler
Bound Brook	Somerset	2,522	Thomas J. Roberts	John J. Huyler
Bradley Beach	Monmouth	382	Wm. S. Kearsney	Harlan P. Ross
Bridgmanle	Sussex	426	E. S. Dalrymple, M. D.	Charles McNabb
Bridgmanle	Morris	99	James R. Bissex	W. K. Brndner
Butler	Morris	1,387	Dr. Stumuel K. Owen	James R. Bissex
Caldwell	Essex	1,453	Isaac B. Baldwin	Allen Looker
Cape May Point	Cape May	153	Herbert H. G. Crawford	J. J. Van Orden
Carls Point	Bergen	1,481	D. H. Crawford	Larkyatic Miller
Chatham	Bergen	1,851	A. G. Silver	D. H. Crawford
Clayton	Houscouster	818	P. H. Nutt, Cliffside	C. Louis Melean
Cliffside Park	Union	966	Geo. A. Hall	C. E. Fister, M. D.
Collingswood	Bergen	1,432	Paul G. Wilson	John H. Reuss
Cresskill	Bergen	485	Henry V. Ostervelt	Alfred Anderson
DeForest	Monmouth	746	H. D. Harris	R. G. Pilgron
Dumont	Bergen	643	William Beeg	Geo. Y. Aldre
East Rutherford	Bergen	1,233	Wilson S. Friedrichs	H. A. Blushkin
Edgewater	Middlesex	2,640	Wm. E. Novo	William Beeg
Elmer	Bergen	1,006	Geo. A. Carleton	Frank A. Coriell
Englishtown	Salem	1,416	Hiram Van Meter	Wm. E. Novo
Englewood Cliffs	Monmouth	218	F. B. Ivy	Geo. A. Carleton
Essex Falls	Essex			Hiram Van Meter
				E. T. Reid
				John G. Reops, Fort Lee
				J. Byrne Ivy

List of Sanitary Districts, Showing Population and Names and Addresses of Officers - Continued.

SANITARY DISTRICT.	COUNTY.	Population by Census 1900.	NAME AND ADDRESS OF SECRETARY.	NAME AND ADDRESS OF REGISTRAR OF VITAL STATISTICS.
Boroughs—Con.				
Astoria	Bergen	1,000	J. I. Angell.	H. I. Angell.
Bergen	Bergen	1,995	Wm. C. Darlge.	John G. Hinch.
Borwick	Monmouth	1,000	Frank F. Van Nole.	Frank F. Van Nole.
Camden	Burlington	459	Wm. Leatherbury.	C. H. Pennington.
Fieldsboro	Morris	752	Henry W. Young.	Henry W. Young.
Florham Park	Bergen	2,934	Robert H. Morrow.	Robert H. Morrow.
Fort Lee	Bergen	3,604	P. J. Scanton.	P. J. Scanton.
Garfield	Bergen	1,856	William Darroch, Pres.	Chas. D. Costleigh.
Glen Ridge	Essex	2,113	H. K. Benson.	Clarence Place.
Glen Rock	Bergen	2,113	Wm. H. J. J. J. J.	Peter Van Winkle, Bridgewood.
Haddon Heights	Camden	1,235	William Tompkins, Borough Clerk.	Robert A. Gleason.
Harrison Park	Bergen	1,000	John G. Martin.	Wm. Tompkins.
Hobrook Heights	Bergen	2,096	John H. Schuyler.	John G. Martin.
Irvington	Bergen	4,447	Robert J. Franklin.	W. J. Schuyler.
Helmets	Middlesex	1,377	Samuel Tate.	Edward M. Clemons.
High Bridge	Monmouth	1,228	S. L. Liming.	P. H. Murray.
Highlands	Monmouth	1,749	J. A. K. Gessler.	S. L. Liming.
Irvington	Essex	980	J. A. K. Gessler.	John J. Carv.
Irvington	Essex	980	J. A. K. Gessler.	John J. Carv.
Hoplacong	Mercer	804	H. M. Thompson.	Thos. A. K. Gessler, Landing.
Island Heights	Ocean	316	Edgar E. Riddle.	Harry E. Sathphen.
Juncton	Hunterdon	958	Edgar E. Riddle.	Frank Simpson.
Laestungh	Cumberland	21	H. M. Thompson.	E. E. Riddle.
Laona	Bergen	402	H. M. Thompson.	Robert H. Good.
Linden	Union	496	W. W. Cole.	H. M. Thompson.
Linwood	Atlantic	1,517	W. W. Cole.	R. S. Cole.
Lyndwood	Bergen	1,517	Jacob Van Hook.	James Parish.
Lodi	Monmouth	8,872	H. Binsdell, Mayor.	A. W. Woodruff.
Long Branch Con.	Atlantic	80	M. E. Elliott.	W. E. Woodruff.
Lopatcong	Morris	3,754	E. Cook, M. C.	E. B. Binsdell.
Madison	Morris	1,511	Wm. A. Rogers.	Chas. E. Cook.
Manawau	Monmouth	1,511	Wm. A. Rogers.	Wm. A. Rogers.
Maywood	Bergen	1,536	Wm. Widmuth.	William Widmuth.

List of Sanitary Districts, Showing Population and Names and Addresses of Officers - Continued.

SANITARY DISTRICT.	COUNTY.	Population by Census 1900.	NAME AND ADDRESS OF SECRETARY.	NAME AND ADDRESS OF REGISTRAR OF VITAL STATISTICS.
Boroughs—Con.				
Metuchen	Camden	1,698	Wm. B. Stewart.	Wm. B. Stewart.
Middlesex	Middlesex	1,786	C. M. Tausig.	Thomas Hoit.
Millstone	Bergen	1,348	Jacob Leenas, Wortendyke.	Thomas Hoit.
Milltown	Somerset	200	Wm. H. Polhemus.	Elas S. Inall.
Milford	Middlesex	561	John H. Kuntzbau.	Robert A. Harkins.
Mountain Side	Morris	276	H. C. Frackeb, M. D.	Paul Pratt.
Mountain Arlington	Union	367	James O'Connors.	George W. Smith.
Mount Tabor	Union	1,000	Widmuth, Smith.	William P. Anall.
National City	Monroe	941	W. C. Clark.	Widmuth, Smith, Avon.
New Hope	Morris	297	William Woodruff.	Wm. Woodruff.
New Providence	Union	565	William Paddeck, Caldwell.	Wm. Woodruff.
North Caldwell	Essex	297	Sherman Paddeck, Caldwell.	E. C. Paddeck.
North Plainfield	Essex	5,000	C. C. Barontime, Hiedon.	Re Wm. E. Honeyman.
North Plainfield	Essex	5,351	Rev. W. E. Honeyman.	Re Wm. E. Honeyman.
North Spring Lake	Monmouth	351	Pred. C. Clemenis.	Henry M. Willifield.
Nutley	Essex	351	Pred. C. Clemenis.	Henry M. Willifield.
Oakland	Bergen	1,307	Chas. H. Rider.	Dr. Chas. E. Rider.
Ocean City	Essex	1,307	Chas. H. Rider.	Dr. Chas. E. Rider.
Old Tappan	Essex	269	R. K. Hurst.	R. K. Hurst, Tappan N. Y.
Park Ridge	Bergen	644	Martha Brunnings.	Martha Brunnings.
Passaic	Bergen	870	J. H. Stark.	J. H. Stark.
Parsippany	Essex	771	J. H. Stark.	J. H. Stark.
Pennsylvan	Bergen	732	Joseph C. Reed.	Wm. A. Parllman.
Passaic	Essex	1,826	Henry M. Flanagan, M. D.	Wm. A. Parllman, M. D.
Passaic	Essex	2,182	Wilbur Reed.	Wilbur Reed.
Point Pleasant Beach	Atlantic	746	W. J. Beck.	Marion Lawert, Point Pleasant.
Princeton Lakes	Essex	847	Horace Wells.	H. Wells.
Princeton Lakes	Essex	3,899	Horace Wells.	Thomson Conover.
Riverside	Essex	3,544	Jacob Doole.	Jacob Doole.
Riverdale	Bergen	584	Wm. Killiger, M. D.	William Killiger.
Riverton	Bergen	661	Wm. W. Herick, River Edge.	W. W. Herick, M. D.
Rockaway	Burlington	1,332	Alex. Marcy, Jr., M. D.	Jacob G. Cottrell.
Rockway	Morris	1,432	Wm. May.	Wm. A. Parllman.
Rocky Hill	Somerset	354	R. Logan.	A. C. Skirrn.

List of Sanitary Districts, Showing Population and Names and Addresses of Officers—Continued.

SANITARY DISTRICT.	COUNTY.	Popu- lation Census of 1900.	NAME AND ADDRESS OF SECRETARY.	NAME AND ADDRESS OF REGISTRAR OF VITAL STATISTICS.
Boroughs—Con.				
Roselle Park.....	Union	1,653	Wm. J. D. Chandler.	G. A. Pawling.
Rutherford.....	Bergen	4,411	Arthur Churchill.	Arthur Churchill.
Southfield.....	Bergen	1,415	Geo. W. Lawton.	Geo. W. Lawton.
Sea Isle City.....	Atlantic	340	Isaac A. Hopper, Fair Lawn.	T. Nelson Woodruff.
Seaside Park.....	Ocean	79	A. L. Miller.	C. J. Field.
Seaucus.....	Hudson	1,626	Chas. Moler.	J. R. Wood.
South Point.....	Hudson	6,338	E. Paulin.	Winfield R. Fox.
South Atlantic City.....	Atlantic	6,338	Isaac A. Hopper.	F. E. De Grauw.
South Round Brook.....	Somerset	833	Chas. De Grauw.	Charles Hart.
Spring Lake.....	Cape May	1,438	James Ritchie, Mayor.	J. Conover Bowae.
Spring Lake Beach.....	Sussex	2,725	Jesse Seiver.	E. H. Hills.
Stockton.....	Hunterdon	590	A. S. Van Hise.	John S. Walsdale.
Sussex.....	Sussex	1,806	John S. Wilson.	Wm. S. Whitte.
Tenafly.....	Bergen	1,748	Wm. F. Becker.	R. B. Whitte.
Totowa.....	Passaic	563	Wilbur De Mott.	William H. Rieger.
Uckerton.....	Ocean	225	J. F. Mathis.	J. E. W. Lansing, M. D.
Upper Saddle River.....	Bergen	2,773	Wallace N. De Baun, Allendale.	J. Wm. Stock.
Vanderburg City.....	Bergen	4,370	Wm. Billington.	W. A. Zabriskie.
Vineland.....	Cumberland	1,812	C. Stahl.	A. M. Billington.
Washington.....	Warren	453	James Brennan.	E. S. Royal.
West Caldwell.....	Essex	3,583	Harry Christine.	R. C. Sade.
West Cape May.....	Cape May	693	Henry V. English.	Harry Christine.
Westwood.....	Bergen	828	John S. Steverson, Clerk.	Jesse W. English.
Wharton.....	Morris	2,958	Nicholas Cleveland.	C. C. Francisson.
Woodbridge.....	Cape May	150	Wm. R. Ellis.	Wm. H. Force.
Woodliffe.....	Bergen	323	Chas. H. Wagner.	Nicholas Cleveland.
Wood Lynne.....	Camden	582	Wm. Lehmann.	William R. Ellis.
Wood Ridge.....	Bergen	1,371	Chas. H. Wagner.	Morris Sabber.
Woodtown.....	Salem	1,371	Wm. Lehmann.	G. J. Foyendyke.

List of Sanitary Districts, Showing Population and Names and Addresses of Officers—Continued.

SANITARY DISTRICT.	COUNTY.	Popu- lation Census of 1900.	NAME AND ADDRESS OF SECRETARY.	NAME AND ADDRESS OF REGISTRAR OF VITAL STATISTICS.
Towns.				
Absecon.....	Atlantic	550	Dr. Samuel Johnson.	Samuel Johnson.
Bloomfield.....	Essex	9,658	Wm. L. Johnson.	Wm. L. Johnson.
Boonton.....	Morris	3,901	N. A. Myers.	d. E. Fisher.
Clarendon.....	Monmouth	2,254	Theo. Sickles.	Rulif V. Lawrence.
Hackettstown.....	Warren	2,474	Frank P. Titus.	Frank P. Titus.
Hammonton.....	Atlantic	10,556	John J. Scannel.	J. Louis O'Donnell.
Harrison.....	Hudson	10,556	Edwin Berry.	Mahton Stockman.
Kearny.....	Essex	10,556	Edwin Berry.	Mahton Stockman.
Keyport.....	Monmouth	3,413	Rufus C. Walling.	Mahton Stockman.
Red Bank.....	Monmouth	5,428	James C. Sietles.	Mahton Stockman.
Somerville.....	Somerset	4,843	Wm. R. Sutphen.	James H. Sietles.
Swampscott.....	Hudson	4,843	Wm. R. Sutphen.	Wm. R. Sutphen.
West Hoboken.....	Hudson	23,094	Wm. Menger, M. D., Inspector.	C. W. Harden.
West Orange.....	Essex	5,267	John H. Eversly.	C. W. Harden.
Villages.				
Hedgefield Park.....	Bergen	2,685	J. Blaurock Honper.	Benj. L. Williams.
Edgewater.....	Bergen	4,508	Allerton D. Hitch.	Thomas Terhune, Hohenus.
South Orange.....	Essex	4,508	Allerton D. Hitch.	W. W. Heberton, M. D.
Townships.				
Aquackanonk.....	Passaic	5,351		Richard Berry, Clifton.
Alexandria.....	Hunterdon	1,045		Robert Rosberry, Bloomsbury.
Almucely.....	Warren	1,587	Almucely	Richard E. Martin, Hackettstown.
Andover.....	Sussex	1,587	Wm. Tur	Wm. Tur
Atlantic.....	Monmouth	1,410	Chas. W. Scooby.	William Hill, Lafayette.
Bass River.....	Burlington	1,809	W. D. Cramer.	Chas. V. Scohey, Scotchville.
Bethlehem.....	Somerset	5,997	W. D. Vanderbeek.	W. D. Vanderbeek, Gladstone.
Berkley.....	Essex	694		Wm. D. Vanderbeek, Gladstone.
Berndam.....	Somerset	3,060	S. S. Baldwin.	Dwight Butler, Bayville.
Bethlehem.....	Hunterdon	1,634	Chas. R. Burwell.	S. S. Baldwin, Liberty Corner.
Beverly.....	Burlington	1,804	Joseph B. Carter.	Chas. R. Burwell, Valley.
Blairstown.....	Warren	1,576	Wm. S. Perry.	Wm. S. Perry, Delaware.
Boonton.....	Morris	709	Geo. W. Blanchard, Boonton.	Joseph Stevenson, Boonton.

List of Sanitary Districts, Showing Population and Names and Addresses of Officers—Continued.

SANITARY DISTRICT.	COUNTY.	Population by Census of 1900.	NAME AND ADDRESS OF SECRETARY.	NAME AND ADDRESS OF REGISTRAR OF VITAL STATISTICS
Townships—Con.				
Bordentown	Burlington	488	Hugh LeJambre, Bordentown.	Geo. Holloway, Bordentown.
Burlington	Burlington	1,041	John Q. Brokaw	Thos. W. Evans, Burlington.
Camden	Somerset	1,012	Peter Q. Brokaw	Peter Q. Brokaw, Burlington.
Franklin	Somerset	1,401	F. T. Ross	J. H. Harvey, Point Pleasant.
Franklin	Somerset	1,235	F. T. Ross	F. T. Ross, Somerville.
Guana Vista	Atlantic	1,646	Doughlass Reed, Huron.	Alfred Denton, Stanhope.
Guana Vista	Atlantic	1,615	John H. Jackson	Thos. Vincent, Cadwgan.
Hampton	Morris	2,122	John H. Jackson	John H. Jackson, Magnolia.
Chester	Morris	4,420	John Rogers	J. H. Bebout, New Providence.
Chester	Morris	1,409	Chas. B. Holloway	Benjamin Rogers, Moorestown.
Chesterfield	Burlington	1,143	Chas. B. Holloway	Chas. B. Holloway, Moorestown.
Clinton	Burlington	1,978	Chas. E. Steele	Chas. B. Steele, Westfield.
Clinton	Burlington	38	P. F. Bullman	P. F. Bullman, Redway.
Clinton	Burlington	2,296	Geo. W. Evans, Lindenwold.	Geo. W. Evans
Clinton	Burlington	2,952	Bergen B. Berkaw	Bergen B. Berkaw, Amnickslo.
Cranbury	Union	2,854	John McConnell	John McConnell, Port Norris.
Cranbury	Union	2,854	A. M. Davison	Arch M. Davison, Cranbury.
Deerfield	Cumberland	3,065	Chas. C. Phillips, M. D., Haddonfield.	Edward S. Crane, Cranbury.
Deerfield	Cumberland	1,679	W. B. Jennings, M. D., Haddonfield.	Wm. Grant, Haddonfield.
Delaware	Burlington	1,826	J. M. Hopcock	J. M. Hopcock, Sergeantsville.
Delmar	Delaware	2,778	Daniel A. Kendall	Daniel A. Kendall, Riverton.
Delmar	Delaware	2,114	C. Headley	C. S. Townsend, Clermont.
Dover	Deean	2,618	L. S. Grant, Toms River.	Thos. B. Franks, Toms River.
Dover	Deean	1,523	Auguste F. Craumer	Sheppard Campbell, Newport.
Eastampton	Burlington	584	Edgar Higgins	Auguste F. Craumer, West Creek.
East Amwell	Hunterdon	2,432	J. C. Dauton	Chas. J. Dennis, Jr., Smithville.
East Brunswick	Mercer	1,891	J. C. Dauton	Wm. J. Dennis, Jr., Smithville.
East Windsor	Mercer	8,221	A. R. Vickers	H. W. Armstrong, New Brunswick, No. 3
Easton	Monmouth	1,868	A. R. Vickers	J. C. Dauton, Mickleton.
Easton	Monmouth	997	Samuel L. Seran	S. L. Mount, Etna.
Easton	Monmouth	997	Samuel L. Seran	A. R. Vickers, Eastonville.
Easton	Monmouth	1,429	K. Brick, M. D., Marlton.	Samuel L. Seran, Avon.
Easton	Monmouth	1,429	K. Brick, M. D., Marlton.	Samuel L. Seran, Avon.
Easton	Monmouth	1,429	K. Brick, M. D., Marlton.	Samuel L. Seran, Avon.
Easton	Monmouth	1,429	K. Brick, M. D., Marlton.	Samuel L. Seran, Avon.

List of Sanitary Districts, Showing Population and Names and Addresses of Officers—Continued.

SANITARY DISTRICT.	COUNTY.	Population by Census of 1900.	NAME AND ADDRESS OF SECRETARY.	NAME AND ADDRESS OF REGISTRAR OF VITAL STATISTICS.
Townships—Con.				
Edwight	Deer	1,333	W. H. Godwaller	Wm. H. Godwaller, Trenton, No. 1.
Edwight	Deer	1,940	Chas. H. French	Wm. H. Thompson, Fairton.
Edwight	Deer	1,955	Byron Carty	Chas. H. French, Westfield.
Frankford	Sussex	932	John W. Ackerman	Byron Carty, Florence.
Franklin	Bergen	2,439	John W. Ackerman	Daniel Dairymple, Papakating.
Franklin	Bergen	2,523	J. C. Akerman	Paul Snyder, Millburg.
Franklin	Somerset	2,838	L. J. Suydam	J. J. Akers, Millburg.
Franklin	Warren	1,250	J. J. Suydam	L. J. Suydam, New Brunswick, No. 5.
Freedom	Sussex	2,531	Rufus F. Lawrence	P. B. Butterwick, Ashbury.
Freedom	Sussex	2,797	Rufus F. Lawrence	Rufus F. Lawrence, Freehold.
Gloucester	Atlantic	2,677	Joseph Nech	Walter H. Ackerson, Bradstown, No. 1.
Gloucester	Atlantic	4,078	J. T. Abbott	J. T. Abbott, Gloucester.
Gloucester	Sanden	1,231	L. Labar	J. T. Abbott, Gloucester.
Gloucester	Sanden	2,252	L. Labar	J. T. Abbott, Gloucester.
Greenwich	Gloucester	969	James McAuley	Jos. Brannell, Paulsboro.
Greenwich	Gloucester	2,012	James McAuley	Wm. Sherrer, Bloombury.
Hamilton	Atlantic	4,184	Wm. Robbins, Hamilton Square.	Howard Shoemaker, Mays Landing.
Hamilton	Atlantic	7,751	John W. Thompson	Azarah Cubberley, Hamilton Square.
Hampton	Sussex	5,366	John W. Thompson	John W. Thompson, Blair.
Hampton	Warren	3,491	Lewis K. Congleton	Joseph H. Heston, Bonton.
Hampton	Warren	1,050	Freeman Schuler	Lewis H. Conkleton, Hamburg.
Harrison	Bergen	3,224	Wm. J. Demarest	Freeman Schuler, Rocksburg.
Harrison	Bergen	1,509	John J. Van Cleef	John J. Demarest, Rocksburg.
Hillsborough	Somerset	2,610	John Ackerman	John J. Demarest, Rocksburg.
Hillsborough	Somerset	1,623	S. Snyder, Milford	C. H. De Voe, Westwood.
Holland	Monmouth	1,190	Sam Longstreet	John Ackerman, Wyckoff.
Hopewell	Warren	1,867	Walter L. Minch	Godfrey Hawk, Bloombury.
Hopewell	Warren	3,360	Walter L. Minch	Archibald H. Townsberry.
Hopewell	Warren	1,190	Walter L. Minch	Walter L. Minch, Shiloh.
Hudson County	Hudson	386,048	J. Rooney, Jersey City.	James H. Butcher, Ardona.

List of Sanitary Districts, Showing Population and Names and Addresses of Officers—Continued.

SANITARY DISTRICT.	COUNTY.	Population by Census of 1900.	NAME AND ADDRESS OF SECRETARY.	NAME AND ADDRESS OF REGISTRAR OF VITAL STATISTICS.
Townships—Con.				
Independence	Warren	805	F. M. Haggerty, M. D., Vienna.	W. K. Teel, Vienna.
Jackson	Ocean	1,595	Chas. Chamberlain.	Walter S. Hendrickson, Jackson's Mill.
Kintner	Morris	1,341	Samuel S. Snyder.	Samuel Chamberlain, Woodport.
Knowlton	Hunterdon	1,304	Samuel S. Snyder.	Samuel Chamberlain, Woodport.
Lacey	Warren	1,719	Wm. B. Moore, Col. Woodport.	Wm. B. Moore, Col. Woodport.
Lafayette	Sussex	717	Wm. B. Moore, Col. Woodport.	B. P. Matthews, Forked River.
Landwood	Ocean	3,094	Ernest E. Le Compte, Lakewood.	J. C. Struder, M. D., Lafayette.
Lawrence	Cambridge	4,221	Howard M. Dolbey.	Howe C. Robbins, Lakewood.
Lebanon	Mersey land.	1,556	Henry L. Long, Cedarville.	Henry R. Shoney, Vireland.
Little Falls	Hunterdon	2,253	Frank Pierson.	Frank Pierson, Lawrenceville.
Little Egg Harbor	Union	1,856	Asa E. Collins.	Asa E. Collins, Linden.
Livingston	Essex	743	Asa E. Collins.	W. W. Wilson, Linden.
Lodi	Bergen	448	Phillips Pries.	David Flynn, Livingston.
Lodge	Gloucester	1,444	S. B. Platt.	Julius Pries, Wood Ridge.
Lodgepole	Warren	152	Phillips Pries.	S. B. Platt, Bridgeport.
Lower Alloways Creek	Salem	1,242	J. G. Mitchell.	Ed Frank Cole, Salem.
Lower Penns Neck	Cape May	1,441	P. Mackessie.	Henry Edwell, Hancock's Bridge.
Madison	Warren	1,624	J. G. Mitchell.	J. P. Mackessie, Cape May.
Manchester	Warren	1,941	D. H. Brown.	John C. Smith, Hainesport.
Manchester	Ocean	1,633	Frank Pierson, Englishtown.	D. H. Brown, Hainesport.
Manchester	Warren	3,989	G. V. Spangenberg, Lakehurst.	Samuel C. Bowne, Hainesport.
Mansfield	Salem	1,745	Joseph H. Armstrong.	Geo. V. Spangenberg, Lakehurst.
Manville	Warren	1,924	Joseph H. Armstrong.	Joseph H. Armstrong, Lakehurst.
Manwaring	Gloucester	2,101	James Leady.	James Leady, Fort Murray.
Manwaring	Monmouth	1,747	W. E. McElwaine.	Joseph Leady, Pitman Grove.
Marble River	Camden	2,510	Henry Reeves, Jr.	Chas. McElwaine, Englishtown.
Medford	Burlington	1,968	Henry Reeves, Jr.	Henry Reeves, Englishtown.
Medford	Warren	1,600	John B. Dolan.	Wm. M. Potts, Medford.
Medford	Warren	2,191	John B. Dolan.	John B. Dolan, Medford.
Middletown	Warren	1,394	Henry D. Smith, Middletown.	John B. Dolan, Medford.
Middletown	Bergen	1,394	John D. Rogert.	Omar Sleeter, Passaic.
Middletown	Bergen	1,394	John D. Rogert.	John D. Rogert, Ridgewood.

List of Sanitary Districts, Showing Population and Names and Addresses of Officers—Continued.

SANITARY DISTRICT.	COUNTY.	Population by Census of 1900.	NAME AND ADDRESS OF SECRETARY.	NAME AND ADDRESS OF REGISTRAR OF VITAL STATISTICS.
Townships—Con.				
Milbourn	Essex	2,887	Geo. J. Ely.	John M. Drake, Milbourn.
Monroe	Gloucester	2,492	Clayton H. Tice.	George Ely, Clifton.
Monroe	Gloucester	1,899	R. Vandenberg.	Robt. B. Vandenberg, Prospect Plains.
Montague	Sussex	710	Geo. McCarty.	Geo. McCarty, Port Jervis, N. Y., No. 1.
Montgomery	Somerset	1,243	Wm. I. Robinson, Belle Mead.	C. B. Allhouse, Hartigen.
Montville	Morris	2,571	J. P. Jamieson, Morristown.	Henry C. Ballwin, Montville.
Mount Laurel	Burlington	1,644	Wm. I. Robinson, Belle Mead.	Bend M. Haines, Morristown.
Mount Olive	Morris	1,221	Wm. I. Robinson, Belle Mead.	S. W. Salmon, M. Olive.
Mullica	Atlantic	7,890	John T. Irving, Elwood.	W. W. Phillips, Elwood.
Mullica	Atlantic	7,890	John T. Irving, Elwood.	Wm. R. O'Brien, Asbury Park.
New Barbadoes	Bergen	1,877	W. C. Johnson.	Chas. Romine, Wrightstown.
New Hanover	Union	4,459	W. C. Johnson.	W. C. Johnson, New Providence.
New Providence	Union	5,459	Geo. J. Case.	Geo. B. Case, Newton.
Northampton	Burlington	9,213	Paul J. Foster, New Durham.	Barth H. Gray, Mt. Holly.
North Bergen	Hudson	847	Paul J. Foster, New Durham.	I. D. Cozzans, New Brunswick.
North Brunswick	Middlesex	654	A. P. Voorhies.	A. P. Voorhies, Plainfield.
North Plainfield	Somerset	4,250	Oscar D. Brown.	Oscar D. Brown, Waretown.
Ocean	Monmouth	1,382	Levi C. Justice.	Levi C. Justice, Forked River.
Oldmans	Salem	1,207	Frank Russell.	Frank Russell, Hockokus.
Oxford	Bergen	1,987	Richard M. Wood.	Richard M. Wood, Oxford.
Oxford	Bergen	3,257	Richard M. Wood.	Richard M. Wood, Oxford.
Oxford	Bergen	860	Richard M. Wood.	Richard M. Wood, Oxford.
Oxford	Bergen	2,300	Richard M. Wood.	Richard M. Wood, Oxford.
Packaraun	Morris	2,432	Harry Seely.	J. A. Harvey, Stirling.
Packaraun	Morris	2,432	Harry Seely.	Harry E. Huron, Monmouthville.
Packaraun	Morris	3,145	Harry Seely.	Wm. E. Ream, Pompton Plains.
Packaraun	Morris	3,260	David F. Davis.	David F. Davis, Woodstock.
Packaraun	Morris	1,744	David F. Davis.	Geo. S. Bunting, New Brunswick, No. 2.
Packaraun	Morris	2,082	Geo. S. Bunting.	Geo. S. Bunting, New Brunswick, No. 2.
Packaraun	Morris	2,215	Geo. S. Bunting.	Geo. S. Bunting, New Brunswick, No. 2.
Packaraun	Morris	1,204	David Beam.	Geo. F. Compton, New Egypt.
Packaraun	Morris	2,404	David Beam.	David Beam, Midvale.
Packaraun	Morris	956	David Beam.	Chas. F. Gullick, Princeton.

List of Sanitary Districts, Showing Population and Names and Addresses of Officers—Continued.

SANITARY DISTRICT.	COUNTY.	Popu-lation by Census 1900.	NAME AND ADDRESS OF SECRETARY.	NAME AND ADDRESS OF REGISTRAR OF VITAL STATISTICS.
Townships—Con.				
Quinton	Salem	1,280	Josiah T. Harris, Quinton.	Josiah T. Harris, Quinton.
Lebanon	Morris	2,247	D. H. Dalrymple.	D. H. Dalrymple, Dover.
Barclay	Middlesex	2,801	Wm. F. Woerner.	Wm. F. Woerner, Wilmington.
Raritan	Monmouth	1,524	W. C. Smith.	W. C. Smith, Keyport.
Readington	Hunterdon	2,670	Jacob C. Voorhees.	Jacob C. Voorhees, White House Station.
Clatsfield	Bergen	2,612	Chas. Weiss, Riverside.	Thomas F. Melton, Coytesville.
Highland	Bergen	4,528	Chas. Weiss, Riverside.	Thos. Grant, Hibernia.
Rockbury	Morris	2,185	Thos. K. Wilkinson.	Thos. K. Wilkinson, Leekwood.
Saddle River	Bergen	1,954	D. Hughes, M. D., Layton.	Isaac A. Hopper, Fair Lawn.
Sandyton	Sussex	991	M. D. Hughes, M. D., Layton.	Edwin E. Smith, Bovans.
Shrewsbury	Burlington	4,910	B. F. Samsel.	W. R. Samsel, Shrewsbury Mills.
Southampton	Monmouth	3,842	A. C. Harrison, Red Bank.	Albert L. Ivins, Red Bank.
South Brunswick	Middlesex	2,767	Wm. Perkins.	Wm. Perkins, Kingston.
South Plainfield	Essex	1,630	Thos. C. Baker.	Thos. C. Baker, Maplewood.
South Orange	Sussex	2,070	John W. Maseker.	Thos. C. Baker, Maplewood.
Springfield	Burlington	1,382	Lewis W. Cherry.	John E. Tilton, Wrightstown.
Springfield	Union	1,069	R. C. Cheney.	Lewis W. Cherry, Springfield.
Stilwellter	Sussex	1,108	Van Horn, Stillwater.	O. Van Horn, Stillwater.
Stee Creek	Cumberland	934	Reuben A. Fogg.	R. O. Fogg, Shiloh.
Taunemack	Burlington	745	Geo. H. Wisham.	Geo. H. Wisham, Vincentown, No. 2.
Tenafly	Bergen	1,894	Peter I. Ackerman.	Peter I. Ackerman, Vincentown.
Tinton	Bergen	1,530	Rezekiah Phillinower.	Rezekiah Phillinower, Carleton.
Union	Hudson	948	John Little.	Thos. R. Buckley, Kingsland.
Union	Hudson	948	John Little.	John Little, Jutland.
Union	Deean	4,395	Wm. A. Jones, Barnegat.	Wm. A. Jones, Barnegat.
Upper Freehold	Monmouth	2,112	Geo. W. C. Price, M. D., Imhazytown.	Wm. W. Brown, Sly, Trenton.
Upper Penns Neck	Salem	1,725	Geo. W. Hewitt.	Geo. W. Hewitt, Penns Grove.
Upper Pittsgrove	Salem	1,738	Jesse T. Young, Beestey's Point.	R. A. Robinson, Monroeville.
Upper	Vape, May	1,738	Jesse T. Young, Beestey's Point.	R. A. Robinson, Monroeville.
Verona	Essex	2,139	C. F. Simonson.	C. F. Simonson, Verona.
Voorhees	Camden	969	S. H. Gardiner, Ashland.	S. H. Gardiner, Ashland.

List of Sanitary Districts, Showing Population and Names and Addresses of Officers—Continued.

SANITARY DISTRICT.	COUNTY.	Popu-lation by Census 1900.	NAME AND ADDRESS OF SECRETARY.	NAME AND ADDRESS OF REGISTRAR OF VITAL STATISTICS.
Townships—Con.				
Walpack	Monmouth	3,242	Geo. B. Rogers.	Geo. E. Rogers, Belmar, R. F. D. No. 2.
Warren	Sussex	371	Geo. W. B. Cart.	J. W. Bunnell, Walpack Centre.
Washington	Sussex	2,217	S. M. Parcell.	S. M. Parcell, Walpack.
Washington	Somerset	1,068	Edmund E. Sage.	Edmund E. Sage, Middleville.
Washington	Burlington	671	Walter S. Sooy.	Geo. H. Youmans, Harrington Park.
Washington	Honoluleu	1,252	Walter S. Sooy.	Walter S. Sooy, Green Bank.
Washington	Worcester	1,157	E. K. Cole.	Chas. D. Nicholson, Turnersville.
Washington	Morris	1,249	Geo. H. Sliker.	Geo. H. Sliker, Pleasant Grove.
Washington	Windsor	2,161	J. N. Gillon, Berlin.	Samuel Knehlart, Washington.
Wayne	Passaic	1,985	J. N. Gillon, Berlin.	Chas. D. Heath, Berlin.
Weehawken	Hudson	5,325	John J. Blackhurst, Clerk.	Thos. D. Hyerson, Wayne.
West Amwell	Burlington	520	Geo. W. Cart.	Hudson R. Holmes, Mount Holly.
West Milford	Gloucester	1,951	James Carter.	Geo. H. Carr, Lambertville.
West Windsor	Gloucester	2,112	Celestine Schulster.	James Carter, Thorofare.
Weymouth	Atlantic	1,279	R. McLaughlin.	Celestine Schulster, Echo Lake.
Wilmington	Atlantic	4,721	R. McLaughlin.	C. H. Muller, Lawrence Station.
Woodbridge	Middlesex	2,322	Michael G. Burdiss.	Jerome Willis, Burlington.
Woodland	Essex	7,631	Oliver Danice, M. D.	Michael G. Burdiss, Transboro.
Woodbridge	Burlington	3,281	Oliver Danice, M. D.	John H. Leisen, Woodbridge.
Woodbridge	Burlington	3,281	Oliver Danice, M. D.	Oliver Danice, Chatsworth.
Woodbridge	Burlington	3,281	Oliver Danice, M. D.	H. C. Hursey, Chatsworth.

## List of Coroners in New Jersey.

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Atlantic County—Albert C. Stephany, Richard Benson, Wm. B. Parcello.  
Bergen County—Willis W. Curry, Charles S. Robertson, James A. Morgan.  
Burlington County—Thomas S. Wells, William Grobler, Frank Ridgway.  
Camden County—Paul N. Litchfield, Ahab H. Lippincott, Philip W. Beale.  
Cape May County—George Sayre, Jr., John D. Craig, Chas. H. Clouting.  
Cumberland County—Ferdinand Jones, Samuel M. Hall, Frank B. Potter.  
Essex County—C. William Heilmann, Richard M. Pearce, Albert J. Holle.  
Gloucester County—Charles S. Heritage, Wesley Grant Simmons, Howard  
A. Wilson.  
Hudson County—George J. Brackner, Peter J. Gormon, Edward C. Zeiger.  
Hunterdon County—Edgar Allen, Isaac S. Cramer, Frank W. Larison.  
Mercer County—William W. Rogers, William M. Disbrow, James N. Rue.  
Middlesex County—William H. Quackenboss, John V. Hubbard, Edward  
C. Haines.  
Monmouth County—Frank J. Queeny, Asbury F. Bedle, Russel G. An-  
drew, Jr.  
Morris County—Henry V. Day, Wilferd A. Surnburger, William E. Collins.  
Ocean County—John Hagaman, J. Clarence Cranmer, J. Fred. Conover.  
Passaic County—George McGlory, Nixon Campbell, Jr., J. Mortimer  
Blauvelt.  
Salem County—Emerson P. McGeorge, Charles W. Denn, Samuel J. Shute.  
Somerset County—Claudius R. P. Fisher, Mahlon C. Smalley, W. Howard  
Toms.  
Sussex County—Charles E. Dowling, Jephth C. Clark, Edward S. Dal-  
rymple.  
Union County—Horace R. Livengood, Russell A. Shirrefs, Alvin R. Eaton.  
Warren County—Michael Kenney, B. Frank Fox, Samuel F. Amerman.

## List of County Physicians in New Jersey.

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Atlantic County—Emanuel C. Shauer, M. D.  
Cumberland County—E. L. Diamant, M. D.  
Essex County—William H. McKenzie, M. D.  
Hudson County—Charles B. Converse, M. D.  
Mercer County—R. R. Rogers, Jr., M. D.  
Middlesex County—Edgar Carroll, M. D.  
Passaic County—Andrew F. McBride, M. D.  
Salem County—Henry Jackson, M. D.  
Somerset County—S. O. B. Taylor, M. D.  
Union County—F. W. Westcott, M. D.  
Warren County—L. B. Hoagland, M. D.

# Report on Inspection of Streams.

By A. Clark Hunt, M. D., State Medical Inspector.

The sanitary inspection of streams, from which water is supplied for potable purposes to various municipalities in the State, has been continued during the past year. The result of the work shows that a great deal has been accomplished in the removal of direct contaminations, and that there has also been a change in public sentiment which has simplified the enforcement of the law. It has not been necessary during the year to institute legal proceedings against any of the individuals upon whose premises evidences of contamination were discovered, and in many instances a verbal notice was sufficient to secure discontinuance of any further contamination. In the report which follows will be found the result of sanitary inspections, and the action which has been taken to secure the purity of public water supplies.

## Hackensack River.

During the past year the Hackensack Water Company appointed a sanitary engineer to investigate all sources of contamination, and whenever a contamination was discovered the facts in the case were immediately reported to the office of the State Board of Health. An inspector of the State Board then made a sanitary survey of the premises, and the owner was at once notified to discontinue the contamination. Two hundred and eighty-five cases of direct or indirect pollution of the waters of the stream have been discovered, and of this number 240 have been abated. Twenty-six of the remaining forty-five are merely under observation, as there is not sufficient evidence in these cases of direct pollution. The results of the methods which have been adopted in the sanitary inspection of the Hackensack River indicate the necessity for the continuous employment, by public water companies, of an inspector who shall make weekly inspections of the water shed. The following is a list of the cases which have been investigated, together with the result of the action which was taken in each instance.



No. 103. Inspection of the premises on the east side of Linden Avenue, opposite Lake St. Oradell, showed that a house drain discharged sewage directly into a tributary of the Hackensack River. A notice to discontinue the pollution of the stream was served upon the owner on January 23, 1903. Reinspection of the premises February 9 showed that the drain had been disconnected, and waste liquids from the house were thrown on the ground. Upon reinspection of these premises May 3, 1904, it was found that a dry earth closet had been placed under the privy from which in times past foul liquids had been discharged into the stream, and that greater care was being exercised in the disposal of sewage.

No. 110.-Inspection of premises located on Great Bear creek, north of Woodcliff, showed that a sink drain discharged into a stream which is one of the tributaries of the Hackensack River. Frequent inspections had been made of these premises during the year 1904, and the owner had been notified to discontinue the contamination. No attention having been paid to the notice, the facts in the case have been presented to the Attorney General, and an application will be made to the Court of Chancery for an injunction to restrain the owner from continuing the contamination.

No. 153. Upon examination of premises located at Norwood it was found that a sink drain discharged sewage directly into a ditch which is one of the tributaries of the Hackensack River, and a manure pile is so located that liquid manure finds its way into the same stream. Notice to discontinue the contamination was served upon the owner September 15, 1903. Reinspection of these premises made May 6, 1904, showed that the sources of contamination had been removed.

No. 162. Upon inspection of premises located one mile east of Westwood it was found that sewage from bath-tubs, closet and kitchen sink was discharged directly into one of the tributaries of the Hackensack River. Notice to discontinue the contamination was served upon the owner September 25, 1903. Reinspection of the premises April 25, 1904, showed that the contamination had been discontinued.

No. 164. Upon examination of premises located at Montvale it was found that house drainage was discharged by a sink drain into a brook which is one of the tributaries of the Hackensack River. Notice to discontinue the contamination was served upon the owner September 25, 1903. Upon reinspection of these premises May 11, 1904, it was found that a cesspool had been constructed.

No. 165. Upon inspection of premises located at Montvale it was found that a drain from a store discharges into a brook which is one of the tributaries of the Hackensack River. Notice to discontinue the contamination was served upon the owner September 25, 1903. The premises were reinspected May 11, 1904, and it was found that a cesspool had been constructed.

No. 168. Inspection of premises located on Railroad Avenue, Westwood, showed that sewage was discharged from a sink drain upon a steep bank within 150 feet of a tributary of the Hackensack River, and that the waters of the river were contaminated thereby. Notice to discontinue the contamination was served upon the owner May 17, 1904. Reinspection of the premises showed that the notice had been complied with.

No. 170. Upon inspection of premises located on Railroad Avenue, Oradell, it was found that sewage was discharged into a road ditch within fifty feet of a culvert, and that a tributary of the Hackensack River was contaminated by the discharge. Notice to discontinue the contamination was served upon the owner May 17, 1904, and a reinspection of the premises showed that the notice had been complied with.

No. 171. Upon inspection of premises located on Maple Avenue, Oradell, it was found that stable manure was placed within eight feet of a ditch which discharged into one of the tributaries of the Hackensack River. It was also noted that a house drain discharged sewage into the ditch. Notice to discontinue the contaminations was served upon the owner May 4, 1904, and a reinspection showed that the notice had been complied with.

No. 178. Upon inspection of premises located in Montvale it was found that a house drain discharged into a street gutter within forty feet of one of the tributaries of the Hackensack River, and that a pile of manure was located within twenty feet of the stream. Notice to discontinue the contamination was served upon the owner May 17, 1904, and reinspection showed that the notice had been complied with.

No. 181. Upon inspection of premises on the north side of Central Avenue, Norwood, it was found that a privy was located within five feet of a ditch, the waters of which are discharged into a tributary of the Hackensack River. Notice to discontinue the contamination was served upon the owner May 17, 1904, and a reinspection August 19, 1904, showed that the notice had been complied with.

No. 183. Upon inspection of premises on the east side of Maple Avenue, Oradell, it was found that house sewage was dis-

charged upon the surface of the ground within sixty feet of a ditch which is connected with one of the tributaries of the Hackensack River. Notice to discontinue the contamination was served upon the owner May 17, 1904, and reinspection of the premises showed that the notice had been complied with.

No. 184. Inspection of premises located on the east side of Maple Avenue, south of Center Avenue, Oradell, showed that house sewage was discharged upon the surface of the ground within fifty feet of the railroad gutter, and that the waters of one of the tributaries of the Hackensack River were contaminated thereby. Notice was served upon the owner May 17, 1904, and upon reinspection of the premises it was found that the notice had been complied with.

No. 185. Inspection of premises at Closter showed that a sink drain discharged directly into a ditch on the east side of the railroad property, and that the waters of one of the tributaries of the Hackensack River were contaminated thereby. Notice to discontinue the contamination was served upon the owner on May 17, 1904, and a reinspection of the premises showed that a cesspool had been constructed, and that the notice had been fully complied with.

No. 169. Inspection of premises on the east side of Railroad Avenue, Oradell, showed that wash water was thrown upon a steep bank within seventy feet of a brook which is one of the tributaries of the Hackensack River. A privy which is north of the house on the premises was recently washed away by a storm, but a wooden vault had been constructed. Notice to discontinue the contamination was served upon the owner May 17, 1904, and upon reinspection of the premises on July 8, 1904, it was found that a tight box had been constructed, and that the notice had been complied with.

No. 180. Inspection of premises located on Highwood Avenue, Tenafly, showed that drainage from the sinks in several houses was discharged into the street gutter, and thence by a box culvert into a stream which is one of the tributaries of the Hackensack River. Notice to discontinue the contamination was served upon the owner May 17, 1904, and upon reinspection August 19, 1904, it was found that a cesspool had been constructed, and that the contamination at this point had ceased.

No. 198. Inspection of premises located on the Flats Road, Harrington Township, showed that a pile of stable manure was located within fifty feet of a tributary of the Hackensack River, and that liquid manure was discharged directly into said tribu-

tary. A notice to abate the nuisance was served upon the owner August 23, 1904. No action was taken by the owner, and the case was referred to the office of the Attorney General for such legal action as the law prescribes.

No. 173. Upon inspection of premises located on the Hook Road, near Westwood, it was found that barn yard manure was placed within thirty feet of the Pascack River, which is one of the tributaries of the Hackensack River. Notice to discontinue the contamination was served upon the owner May 17, 1904. Reinspections of the premises have shown that no action has been taken by the owner to discontinue the contamination, and the facts in the case have been referred to the Attorney General for such action as the law prescribes.

No. 177. Upon inspection of premises located on the Kinderkamack Road, Etna, it was found that a large quantity of stable manure was placed within fifty feet of a ditch which discharges into one of the tributaries of the Hackensack River. Notice to discontinue the contamination was sent to the owner May 17, 1904, and reinspection of the premises showed that an effort had been made to discontinue the contamination.

No. 205. Upon inspection of premises located at Park Ridge, it was found that a pig pen was located within twelve feet of a stream which is one of the tributaries of the Hackensack River, and that foul liquids from the pen were discharged into the stream. Notice to discontinue the contamination was served upon the owner November 1, 1904, and a communication was received from the owner in which it was stated that the use of the pig pen would be abandoned.

No. 206. Upon inspection of premises located at Park Ridge it was found that a privy vault was filled to overflowing, and that in periods of rain the foul liquids from the vault would be discharged upon a steep embankment directly into a tributary of the Hackensack River. A notice to discontinue the contamination was served upon the owner November 1, 1904, and a communication was received in which it was stated that the privy vault had been emptied, and that the use of the privy in its present location had been abandoned.

In addition to the cases above referred to a reinspection has been made of all the cases of pollution which were investigated during the year 1903, and on most of the premises where contaminations had been noted it was found that the owners were anxious to comply with all legal requirements.

## Rahway River.

In October of 1904 the joint sewer system, which has been in the course of construction for over two years, was completed. This sewer system is available for the discharge of sewage from South Orange, West Orange, Vailsburgh, Millburn and Springfield. No action was taken during the year to secure the discontinuance of contaminations of the Rahway River in that portion of the water shed that would be relieved by the construction of the sewer. In those localities which are not reached by the sewer the inspections have been continued, and a number of contaminations were discovered. When the sewer was completed notices were sent to the owners of mill property in Millburn to immediately connect with the sewer, and these notices have been complied with. By arrangement with the health officer of South Orange, owners of property in South Orange, from which directly or indirectly sewage was discharged into the Rahway River, were notified to discontinue such contaminations. As a result of this action twenty-seven premises which either directly or indirectly discharge sewage into the Rahway River have been connected with the sewer system. The dense population of the area from which the water supply of the City of Rahway is obtained is such as to render it almost impossible to maintain the purity of the waters of the stream. It is absolutely essential that the waters of this stream should be purified by filtration before distribution to consumers. The knowledge of the conditions existing throughout this water shed leads to the belief that some other source of supply should be secured for the city of Rahway.

Following is a list of cases in which it was necessary for the State Board of Health to serve notices upon owners to discontinue contamination of the Rahway River.

No. 186. Upon inspection of premises located on North Avenue and Cedar Street, Garwood, it was found that house sewage was discharged into the street gutter on Cedar Street, and thence found its way into one of the tributaries of the Rahway River. Notice to discontinue the contamination was served upon the owner May 24, 1904. Reinspection of the premises showed that house sewage was still discharged into the street gutter, but upon examination of the outlet of a blind drain it was found that there was no direct evidence of pollution. It is the intention of the local authorities to extend the sewer system from Cranford, and if this plan is carried out there will be no necessity of discharging sewage into the street gutters.

No. 187. Upon inspection of premises located on the north side of North Avenue, Garwood, it was found that the overflow of sewage from a cesspool was discharged directly into the street gutter, and in times of storm was discharged into a tributary of the Rahway River. Notice to discontinue the contamination was served upon the owner May 24, 1904, and a reinspection of the premises showed that the notice had been complied with.

No. 188. Upon inspection of premises located on North Avenue, Garwood, it was found that sewage was discharged into the street gutter, and that the waters of the Rahway River were contaminated thereby. Notice to discontinue the contamination was served upon the owner May 24, 1904. Reinspection showed that no action had been taken to prevent the further contamination of the stream, but that the owners of property on North Avenue had under advisement the extension of the Cranford sewer to a point within the borough limits of Garwood.

Nos. 189 and 190. Inspections of premises located on the west side of Center Street, and of other premises located on the east side of Center Street, in Garwood, showed that sewage was discharged directly into a tributary of the Rahway River. Notice to discontinue the contamination was served upon the owner May 24, 1904. Reinspection showed that the direct discharge of sewage into the stream had been discontinued, but at the present time sewage is discharged near a ditch, the waters of which enter a tributary of the Rahway River. Constant reinspection of this section will be necessary if the contamination of the river is to be avoided.

No. 192. Upon inspection of the premises located in Maplewood it was found that house slops and other domestic refuse of a contaminating character were thrown into the waters of Crooked Brook, which is one of the tributaries of the Rahway River, and that the waters of the stream are contaminated thereby. Notice to discontinue the contamination was served upon the owner July 1, 1904. Reinspection of the premises showed that the notice had been complied with.

No. 193. Inspection of premises located near Baker Street, Maplewood, showed that garbage and other waste and decomposing substances were thrown upon the banks of the Rahway River, and that the waters of the stream were contaminated thereby. Notice to discontinue the contamination was served upon the owner July 1, 1904. Upon reinspection of the premises it was found that the notice had been complied with.

No. 194. Upon inspection of premises located on Baker Street,

Maplewood, it was found that the carcass of a dead horse had been buried on the banks of the Rahway River, and within thirty feet of the stream. Notice to remove the carcass was served upon the owner July 5, 1904, and upon reinspection it was found that the owner had complied with the notice.

No. 195. Upon inspection of premises located in Maplewood it was found that waste liquids from a sink were discharged directly upon the banks of a tributary of the Rahway River. Notice to discontinue the contamination was served upon the owner July 5, 1904. Upon reinspection it was found that the contamination had ceased.

No. 199. Upon inspection of premises located on the Northfield Road, West Orange, it was found that waste liquids from a hotel were discharged directly into a street gutter within 200 feet of one of the tributaries of the Rahway River, and a privy vault was located upon a side hill within eighty feet of the street gutter. At the time of inspection, there was a case of typhoid fever upon the premises. Notice to discontinue the contamination was served upon the owner September 9, 1904. Reinspection showed that the owner had complied with the requirements of the notice.

#### Rancocas Creek.

From this stream the water supply for the town of Mount Holly, Burlington County, is obtained. The stream has its course for the most part through a sparsely settled section of the country, but at Smithville, where the works of the H. B. Smith Machine Company are located, there has been a constant source of possible contamination. Notices were served upon the company to perfect the sanitary arrangements at the factory. In the list of contaminations of the stream which follows, the action which has been taken in regard to the contaminations near Smithville is stated.

No. 167. Inspection of the premises located in Smithville showed that excreta was leaking from boxes beneath a privy building on the banks of the Rancocas Creek, also that rubbish was being dumped directly on the borders of the stream, and that a pile of stable manure was located within thirty-five feet of the waters of the stream. Notice to discontinue the contaminations was served upon the owner August 1, 1904. Upon reinspection of the premises it was found that the manure had been removed, and also that improvements had been made in the method of disposal of fecal matter.

No. 196. Upon inspection of premises located near the passenger station at Birmingham, it was found that a privy was located within twelve feet of the creek, and that there was a possibility of the contamination of the waters of the Rancocas Creek. Notice to discontinue was served upon the owners August 1, 1904, and reinspection showed that a new vault had been constructed at a point further removed from the banks of the stream.

No. 197. Upon inspection of premises located at Birmingham it was found that waste fluids from the kitchen sink of a hotel were discharged directly into the Rancocas Creek. The inspection further showed that the waste pipe from the water closet in the hotel building discharged into a ditch leading from the house toward Rancocas Creek. This ditch was obstructed about fifty feet from the stream. The inspection also showed that waste liquids from the laundry buildings on said premises were discharged into a gutter outside of the foundation wall, and flowed over the surface of the ground toward Rancocas Creek for a distance of about fifty feet, and that a privy building is located near the laundry and within twenty feet of the borders of the stream. Stable manure is also deposited upon the ground at one end of the stable building within twenty-five feet of the stream. Notice to discontinue the contaminations was served upon the owner August 1, 1904, and upon reinspection of the premises it was found that the notice had been complied with.

No. 200. Upon inspection of premises located in Smithville, it was found that excrement was conveyed into a field south of a factory, and deposited upon a side hill within 135 feet of the Rancocas Creek. Notice to discontinue the contamination was served upon the owner September 6, 1904, and a communication was received from the owner stating that the polluting material had been removed, and that in future more care would be exercised in the disposal of the contents of the privy vaults.

#### Morris Lake.

The following is a report of an inspection of Morris Lake:  
*Board of Health, State of New Jersey:*

GENTLEMEN—On June 13, an examination was made of the public water supply of Newton. The inspection was made in company with three of the Water Commissioners. The public water supply of Newton was introduced in 1895. The source from which the supply is obtained is Morris Lake, near Sparta, and the water reaches the town of Newton by gravity. At the

time of the introduction of the supply a number of chemical examinations were made, and it was ascertained that the water of the lake was of a high standard of purity. The lake is fed by mountain springs, and by several brooks. A dam was constructed at the lower portion of the lake, so as to increase the amount of water which was stored. The point at which the lake is situated is an elevated one, and the surrounding country is sparsely settled. The investigation showed that the Water Board, having control of the lake, has also under its care a boarding house, which is rented to a person who is supposed to have supervision of the lake. In this boarding house, in the summer time, there are sometimes from thirty to forty boarders. The house is located within 150 feet of the lake, and the ground surrounding the houses reaches to the shores of the lake. The sewage from the bath rooms and closets is discharged at a point below the dam, and there is therefore no contamination of the stream from household waste. There was evidence that the tendency is to make the premises surrounding the boarding house a picnic ground, and that the very fact that there was such a building in close proximity to the lake led people to come from distant points for the purpose of spending the day. Information was obtained showing that a number of people from Sparta were accustomed to walk up the glen from Sparta, and spend the afternoon on the shores of the lake. The lessee of the boarding house also has a number of boats which are rented to parties in the summer season, and also to fishermen. No bathing whatever is allowed in the lake. The location of the lake is such that it is not difficult to prevent any contamination of its waters, and as the supply is of such a standard of purity, and so valuable to the inhabitants of Newton and Sparta, it is essential that every effort should be put forth to prevent the use of the lake as a resort. The town of Newton owns the ground upon which the boarding house is placed, and by renting it for the purpose for which it is used there is the possibility of changing a pure and potable water supply into a polluted and dangerous one. The conclusion therefore reached is that the house, which is at present used as a boarding house, should be abandoned for that purpose, and that all use of the shores of the lake, which are under the control of the Water Board, should be limited in every way possible, and that there should be a careful patrol of the banks of the lake for the purpose of preventing, as far as possible, any tendency to pollution.

## Legal Decisions.

### NUISANCES CAUSED BY THE DISCHARGE OF SEWAGE FROM WEST HOBOKEN INTO THE CITY OF HOBOKEN.

Upon request of the mayor of the city of Hoboken the State Board of Health caused an inspection to be made of the outfall of a sewer in West Hoboken and the report of this inspection showed that the sewage was discharged over the rocks and formed a pool within the limits of the city of Hoboken there constituting a public nuisance because of the offensive gases which were emitted and because the stagnant fluids afforded a breeding place for mosquitoes. Notice requiring the abatement of the nuisance was sent to the authorities of West Hoboken, and, no action being taken, a suit was ordered under the provisions of the act of May 24, 1894. The final decision in this case was filed February 2, 1904, as follows:

#### IN CHANCERY OF NEW JERSEY.

Between

THE STATE OF NEW JERSEY, ON  
THE RELATION OF THE STATE  
BOARD OF HEALTH,

Complainant,

and

THE TOWN OF WEST HOBOKEN,  
IN THE COUNTY OF HUDSON,  
AND THE MAYOR AND COUNCIL  
OF THE CITY OF HOBOKEN,

Defendants.

On Bill, &c.,  
FINAL DECREE.

This cause coming on for final hearing in the presence of COLLINS & CORBIN, Solicitors and Counsel for complainants; AUGUSTUS A. RICH, Counsel for the Town of West Hoboken, and JAMES F. MINTURN, Counsel for The Mayor and Council of the City of Hoboken; and witnesses having been examined, and counsel heard:—

IT IS, on this Twenty-eighth day of January, A. D., Nineteen Hundred and F'Rour, on motion of COLLINS & CORBIN, Counsel for complainant, ORDERED, ADJUDGED and DECREED that a public nuisance exists, injurious to the public health, within the territorial jurisdiction of the local Board of Health of the City of Hoboken, having a source and origin outside of the limits of such territorial jurisdiction, namely, the discharge from the sewer and drain mentioned in the bill on lands and streets in the City of Hoboken of sewage collected in the Town of West Hoboken

by the public sewers of the city and by private drains and flowing from the cliff into the territory of the City of Hoboken, and that the Town of West Hoboken, in the County of Hudson, is responsible for so much of said nuisance as is caused by the discharge of sewage, and is chargeable with the duty of abating the same, and that The Mayor and Council of the City of Hoboken are responsible for so much of said nuisance as is caused by permitting the sewage to stand on sunken lots in their territory without making any provision, either for the drainage of said land by sewers, or for the filling up of vacant sunken lots, and are chargeable with the duty of abating the same; and the Court doth hereby ORDER, ADJUDGE and DECREE, that the Town of West Hoboken, in the County of Hudson, shall abate said nuisance within eight months from the date of this decree, and thereafter shall cease and refrain from discharging any sewage from said drain directly or indirectly from said lands or streets in the City of Hoboken, and that The Mayor and Council of the City of Hoboken shall abate said nuisance within eight months from the date of this decree, and shall thereafter cease and refrain from maintaining pools of stagnant water and sewage upon the vacant lots upon which surface water from the lands as described in said bill discharge and remain stagnant, and that a writ of injunction do issue against the Town of West Hoboken, in the County of Hudson, and The Mayor and Council of Hoboken, and their officers and agents, commanding them to comply with all and singular the premises so enjoined upon them.

AND IT IS FURTHER ORDERED that the complainants do recover their costs of this suit against said defendants one half against each, with a counsel fee of one hundred and fifty dollars to be taxed in the costs.

Respectfully advised,

JOHN R. EMERY,  
Vice Chancellor.

V. J. MAGIE,  
C.

#### PROCEEDINGS UNDER THE OLEOMARGERINE ACT.

New Jersey Supreme Court, June Term, 1904.

George W. McGuire, Chief Inspector,  
who sues, &c., def't in certiorari.

vs.

Jacob Goldberger,  
Plaintiff in Certiorari

ARGUED February 17, 1904.

DECIDED June 13, 1904.

Where a judgment has been rendered in a District Court for a penalty imposed by the oleomargerine act (P. Y. 1886; p. 107; G. S. 1186) and there is open to the defendant the remedy by appeal under Sec. 13 of said act to the court of Quarter Sessions of the county and also by a writ of certiorari to this court, and he collects to pursue the remedy by an appeal

which is afterwards dismissed for want of prosecution, the remedy by certiorari is no longer available.

On certiorari to the District Court of the City of Perth Amboy.  
Before Justices Pitney and Hendrickson.  
For plaintiff in certiorari, Mr. James S. Wight;  
For defendant in certiorari, Mr. William A. Coddington.

The opinion of the court was delivered by Hendrickson, J.

This writ brings up for review the judgment and proceedings of the District Court of the City of Perth Amboy, in the County of Middlesex, in an action brought against the plaintiff in certiorari by George W. McGuire, Chief Inspector, who sues for the use of the State of New Jersey, on complaint for violation of section 4 of the oleomargerine act, approved March 22, 1886 (P. L. 1885, p. 107; G. S. 1166). The charge contained in the complaint was the sale of—"a substance in imitation or semblance of natural butter at retail, &c., without first informing the complainant, the purchaser thereof, that the same was not natural butter but was imitation butter," &c., as required by the fourth section of said act. The case came on regularly for trial in the presence of the parties, and after the prosecutor rested his case, the defendant not offering any testimony, the Court gave judgment for the prosecutor in the sum of one hundred dollars, being the penalty fixed by statute for the first offence thereunder.

The plaintiff in certiorari has assigned a number of reasons for the reversal of this judgment, which are unnecessary to be considered by us, since the prosecutor below has pointed out what seems to us to be a bar to the proceedings here. The return shows that in due time after the judgment of the District Court to the court of Quarter Sessions of the county, &c., by filing a notice thereof in writing in said Court, pursuant to section 13 of said act. The return further shows that the appellant failed to appear and prosecute his appeal in the Middlesex Quarter Sessions agreeably to law, and that the same was by the Court ordered to be dismissed with costs. Afterwards this certiorari was allowed. We are asked to dismiss this writ under the circumstances herein stated. It is apparent that the plaintiff in certiorari was entitled to review these proceedings either by appeal to the Quarter Sessions or by writ of certiorari in the Supreme Court. But having made his election to pursue his remedy by appeal to the Court of Quarter Sessions, which was there dismissed for want of prosecution, the other remedy by certiorari is not now available. *Furman v. Motley*, 38 Vr. 174; *Illenworth v. Ruh*, 29 Vr. 507. We think the principle stated in the cases here cited is sound, and the result is that the writ of certiorari is dismissed with costs.

## CELLAR BAKERIES.

Justice of the Peace Thomas H. Cumming, of Hackensack, rendered a decision August 12, 1904, in the suit brought by the department of fire inspection against Joseph Messineo, a baker, of Garfield, Bergen County, in which he finds Messineo guilty of violating the law prohibiting the establishment of cellar bakeries, and orders that he pay a fine of \$100.

The suit was brought under the act of 1903, which was an amendment to the act of 1896, regulating the establishment of bakeries. The Messineo bakery was opened last December after a warning from the department that it would be a violation of the law.

## REGULATIONS OF BARBER SHOPS.

## LA PORTA v. BOARD OF HEALTH OF CITY OF HOBOKEN.

(Supreme Court of New Jersey. June 13, 1904.)

1. The Legislature has given ample authority to the Board of Health, in the exercise of the police power, to prevent the spread of contagious skin diseases in barber shops, and stringent regulations for that purpose are lawful.

(Syllabus by the Court.)

Certiorari by the State, on the prosecution of Nicholas La Porta, to review an ordinance of the Board of Health of the City of Hoboken. Certiorari dismissed.

Argued February term, 1904, before VAN SYCKEL, FORT, and GARRETSON, JJ.

Leon Abbett, for prosecutor. Edwin A. S. Lewis, for defendant.

VAN SYCKEL, J. This suit certifies unto the Supreme Court an ordinance of the Board of Health of Hoboken providing rules to be observed in barber shops to prevent contagious diseases of the skin, and fixing a license of \$2 in each case. The Legislature has given ample authority to the Board of Health, in the exercise of the police power, to prevent the spreading of contagious skin diseases. Gen. St. p. 1644, Sec. 49; Gen. St. p. 1642, Sec. 39. Powers conferred for the preservation of the public health should receive a liberal construction, so that they may be rendered effective. *Morford v. Board of Health*, 61 N. J. Law, 389, 39 Atl. 706; *Gregory v. City of New York*, 40 N. Y. 273. The license fee which may lawfully be imposed for regulation is reasonable in this case for that purpose. *Benson v. Hoboken*, 33 N. J. Law, 280; *Muhlenbrinck v. Long Branch*, 42 N. J. Law 364, 36 Am. Dec. 518; *Blanke v. Board of Health*, 64 N. J. Law, 42, 44 Atl. 847. In the agreed state of the case it is admitted that the license fees will not be sufficient to pay the additional expenses of printing, clerical work, and of inspection required of the Board of Health by the ordinance.

The only reason assigned for holding that the statutory requirements were not observed in passing the ordinance is that it was not published for two weeks before taking effect. Gen. St. p. 1638, Sec. 16. It was adopted on the 23d of December, 1903, and, by its terms, was to take effect on the 1st day of January, 1904. Gen. St. p. 1638, Sec. 16, was amended by section 9, p. 1644, which provides that the ordinance shall be published at least one week prior to its final passage. By the the agreed state of the case it is admitted that the ordinance was adopted on December 23, 1903, and that it was thereafter published for two weeks. The case fails to show whether it was published before its adoption. The objection now made as to publication is not assigned as a reason, and is not supported by proofs.

The writ of certiorari should be dismissed, with costs.

## Report on Infectious Diseases of Animals.

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Early in June, 1904, it was reported that cases of anthrax had occurred in Cumberland County. Examination of specimens from the infected animals, made at the State Laboratory of Hygiene, proved that the diagnosis of the disease was correct. The supervision of the inoculation of exposed animals, quarantining of premises and proper disposal of the carcasses of infected animals was placed in charge of S. C. Tremaine, D. V. S., of Bridgeton, and his report of the epidemic is herewith submitted.

"To the Board of Health of the State of New Jersey.

Gentlemen:—Last April I inoculated a few herds of cattle in the anthrax infected district of last year in Greenwich Township, Cumberland County, and among them a small herd that was to be turned out on the salt meadow belonging to Henry Bacon. Mr. Bacon had lost eight cattle in 1903 from anthrax, and felt it necessary to take this precaution before exposing the animals to the infected pasture. About two weeks after these cattle were turned out three others were sent to the same meadow by C. J. Fithian, of Bridgeton, N. J. About ten days from that time I received word that one of the Fithian cattle had died very suddenly. I immediately drove to the farm to investigate, and feeling sure this was a case of anthrax sent a specimen to the State Laboratory of Hygiene and in due time received a report which proved the diagnosis to be correct. On the 7th of June I received instructions to inoculate the remainder of the stock on this farm that had not been previously inoculated, consisting of ten cattle, four horses and two mules, and also the stock on the farms adjoining. This was done as quickly as possible. No other deaths occurred in this neighborhood. On the 14th of June I was called to the farm of Elbert Newkirk, in the same township three miles distant from the Bacon farm, to see a horse supposed to be suffering from bee sting, but which proved to be a case of anthrax. Six days from that date another horse died from the same malady. On the 22nd of June a representative of the State Board of Health instructed the township committee to post notices to the effect that all animals exposed to infection from the disease should be quarantined unless protected by



inoculation, and also informed them that the protection would have to be at private expense. I received instructions from the State Board of Health on that date to inoculate as before the animals on the infected Newkirk farm and the farms adjoining. This was done with the result that no more deaths occurred on these farms. I had then inoculated 62 cattle, 19 horses and 2 mules which ended my work, as my instructions were to confine the inoculations strictly to animals liable to infection in the immediate vicinity of the disease. Three other deaths occurred from anthrax in Greenwich Township, and the animals on three farms were immediately inoculated. No other cases of anthrax occurred in this locality. A report of an outbreak of anthrax was sent to me from Heislerville, Maurice River Township, and on the 18th of July I investigated and found that seven cattle had died from anthrax on the farm of Anson Thompson. When the disease first made its appearance several parties pasturing cattle on this farm removed them to their own farms and several of the animals died, and as a result a larger area was infected. I met the township Board of Health and they heartily endorsed preventive inoculation and were ready to do anything in their power to stop the spread of the disease. On July 20 I began to inoculate against anthrax in Maurice River Township, and inoculated 223 head of cattle, 119 horses and 6 mules. Twenty head of cattle died within two weeks from the time the disease first made its appearance, and but two deaths occurred after the first inoculation. These deaths were of animals pasturing in a field that had been infected by the death of one of the cattle removed from the Thompson farm. The farmers of Maurice River Township gladly accepted the preventive inoculation and spared no pains to dispose of the cadavers under my directions. Very respectfully,  
S. C. TREMAINE, D. V.S."

## GLANDERS.

During the year ending October 31, 1904, 87 cases of glanders have been reported to the State Board of Health. Examination of the report of infectious diseases of animals for the year ending October 31, 1903, shows that in that year 237 cases were reported. It is therefore evident that the epidemic of this disease is under control, except in the counties of Essex and Hudson. In 1903 169 cases of glanders occurred in Essex County. The report for the present year shows that but 19 cases were reported in the same county. In Hudson County only 40 cases occurred in 1903 and 51 in the present year. The following list shows the sanitary district in which the cases occurred, together with other data which may be of interest:

NAME OF SANITARY DISTRICT.	DATE AND NUMBER OF CASES REPORTED.	NAME OF PERSON MAKING REPORT.	DISPOSAL OF EACH CASE.
Jersey City	Nov. 11, 1903	W. H. Lowe.	Animal destroyed.
Passaic	" 14, "	W. H. Lowe.	" "
West Hoboken	" 24, "	" "	" "
Glen Rock	" 3, "	" "	" "
Jersey City	" 30, "	" "	" "
Newark	Dec. 8, "	" "	" "
Newark	Jan. 9, 1904	" "	" "
Jersey City	" 26, "	" "	" "
Newark	" 3, "	" "	" "
Newark	" 7, "	" "	" "
Orange	" 7, "	" "	" "
Bayonne	" 13, "	" "	" "
Belleville	" 14, "	J. P. Lowe.	" "
Kearny	" 18, "	W. Runge.	" "
Jersey City	" 23, "	W. H. Lowe.	" "
Newark	" 23, "	" "	" "
Jersey City	" 23, "	" "	" "
Jersey City	Mar. 4, "	" "	" "
Paterson	" 5, "	" "	" "
Carlstadt	" 16, "	" "	" "
Great Meadows	" 16, "	Owner	" "
Newark	" 16, "	W. H. Lowe.	" "
Newark	" 20, "	J. W.	" "
Passaic	Apr. 2, "	J. P. Lowe.	" "
Passaic	" 6, "	" "	" "
Newark	" 7, "	C. Bowen.	" "
Cedar Grove	" 10, "	Raymond Smith,	" "
Bayonne	" 21, "	R. J. Halliday,	" "
Bayonne	May 10, "	" "	" "
East Orange	" 18, "	W. F. Harrison	" "
Newark	" 17, "	D. C. Bowen.	" "
Jersey City	July 15, "	D. C. Bowen.	" "
Carlstadt	" 23, "	W. J. Fredericks,	" "
Jersey City	" 8, "	11 Henry Smellie,	" "
Passaic	" 9, "	1 J. P. Lowe	" "
Bayonne	" 22, "	2 R. J. Halliday,	" "
Haledon	Aug. 6, "	1 W. H. Lowe.	" "
Jersey City	" 6, "	1 Henry Smellie	" "
West New York	" 8, "	3 W. H. Lowe.	" "
Union Hill	" 8, "	2 " "	" "
Bayonne	" 26, "	2 R. J. Halliday,	" "
Passaic	Sept. 8, "	1 J. P. Lowe.	" "
Newark	" 23, "	1 David D. Chandler	" "
Passaic	" 7, "	1 J. P. Lowe.	" "
Newark	" 20, "	2 David D. Chandler	" "
Jersey City	" 22, "	1 Henry Smellie	" "
Jersey City	" 25, "	1 " "	" "
Jersey City	" 26, "	1 " "	" "
Jersey City	" 31, "	1 " "	" "

Examination of the foregoing table shows that the cases of glanders which were reported from different counties are as follows: Bergen, 3; Cumberland, 1; Essex, 19; Hudson, 51; Passaic, 8 and Warren 5, making a total of 87 cases.

The distribution of glanders in the larger cities during the year was as follows: Bayonne, 7 cases; Jersey City, 25; Newark, 15; Passaic, 6 and Paterson 1.

## SUMMARY.

Losses of animals from anthrax 26. Vaccinations for anthrax 431. Animals destroyed on account of glanders 87. Cases of actinomycosis reported 4; forage poisoning 2; erysipelas 1; rabies 3 and tuberculosis in cattle 4.

**Reports on Inspection of Portions of Shrewsbury River and  
Raritan Bay With Reference to the Production of Oysters  
and Clams in these Waters.**

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SHREWSBURY RIVER.

Board of Health of the State of New Jersey:

Gentlemen:—An inspection of Pleasure Bay and the Shrewsbury and Navesink rivers shows that oysters and clams are taken from these rivers from Sandy Hook Bay to the head of the streams. The oysters are mostly planted, and are placed in the upper portions and near the head of the streams, where they are said to thrive and grow well, while the clams are natural to these waters, and are to be found very plentifully near Sandy Hook Bay. It may be that the oysters grow better near the head of the rivers, yet it would seem that the convenience of those engaged in the industry may govern this, for in many instances the places of planting are found to be in waters adjoining properties occupied by their owners, thereby giving the better opportunity for him to guard the property, which he has placed in waters over which he has no legal control, against theft. The question of pollution of the waters appears not to be taken into consideration by planters of oysters, for they are to be found in waters washing the shores of backyards of properties located in thickly populated districts.\* No reliable information was secured showing the extent of the oyster industry in these streams, and in fact, on account of the considerable number of persons engaged therein, many on a small scale, it is somewhat difficult to gather information on this point. I was informed, however, by one of the larger planters, that he estimates the value of the fish and oyster industry in the Shrewsbury River and Pleasure Bay to be about one-fourth of a million dollars annually, and by another that there are not less than two thousand persons dependent on the fish and oyster business in Pleasure Bay and the Shrewsbury River for a livelihood. It was stated that the oysters taken from Pleasure Bay and the Navesink River are not improved by placing them in other places than the grounds where they are planted to drink, and this practice when resorted to is done more as a convenience in marketing than to fatten the oyster, and in any case, it is shown by inspection that the places in which floats are kept on which oysters are placed to drink, are in waters no more polluted than the grounds on which the oysters are grown. A study of the sources of pollution which might injuriously affect the oysters

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\*Cuts showing pollution of waters in which oysters are freshened will be found in folder.

taken from these waters, shows that on the banks of the two rivers and the bay are many towns and summer resorts, which discharge crude sewage through public sewers and private drains into the waters of the river and bay which wash their shores. The sewage from Highlands of Navesink, Highland Beach, Navesink Beach and Normandie discharge into the water on its way from Sandy Hook Bay into the two rivers. The Shrewsbury branch is further polluted by the sewage from Rumson Beach, Seabright, Low Moor, Monmouth Beach, Pleasure Bay and Little Silver, and on the Navesink River is located Oceanic, Fairhaven and Red Bank. In addition to the places above named, the shores of the bay and the two rivers, from Sandy Hook Bay to their head waters, are dotted with summer homes, from which sewage is discharged directly into the river, and in many instances the drains discharge practically onto the oyster grounds. From the waters along the shore directly in front of Pleasure Bay, oysters were at the time of inspection being taken for market from the very mouth of the sewers discharging into the bay in front of hotels, where many thousands of pleasure-seekers congregate daily. The depth of the water on the grounds from which oysters are taken in the rivers and bay varies from about one to five feet, while the average rise and fall of the tides at Seabright in the Shrewsbury River and Pleasure Bay is stated to be about eighteen inches. In the narrow part of the Shrewsbury River, from the mouth of Navesink to a point more than one mile above Seabright where the river broadens, a swift current flows and, on the flood tide, sweeps the sewage poured into it along three miles of thickly populated river front into the upper part of the river and bay, where it is spread over the flats upon which oysters and clams grow, and where the movement of water becomes slow and sluggish. At the head of Pleasure Bay on the grounds occupied by the Long Branch garbage disposal plant, tons of night soil are stacked on the borders of the stream, where, I am informed by an employe, six or eight loads of material removed from privy vaults and cesspools are deposited upon the ground daily, from which drainage flows directly into the stream and down the bay over the oyster grounds one mile below. At Red Bank the effluent from the sewage disposal works is discharged through a pipe into the river at a point about fifty feet from the oyster beds, located one just above and one just below the sewer outfall. In order to show more accurately from what places oysters are taken from these waters and the points where the sewage pollution was noted, I have prepared a map and a number of photographs, which are attached to and made a part of this report. It should be stated here, however, that all spots where sewage pollution takes place shown on said map do not represent all of the points at which sewage is discharged into the streams, and no reference is made herein for other sources of pollution, which, together with sewage pollution, many of the oystermen and fisherman assert is proving ruinous to their business. Samples of oysters from Pleasure Bay and the Navesink River have been sent to the laboratory for examination.

Respectfully submitted.

D. C. BOWEN,  
Ass't. Insp. F. and D.

July 7th, 1904.

#### RARITAN BAY.

Board of Health of the State of New Jersey:

Gentlemen:—Inquiry into the location of the grounds from which oysters are taken from Raritan Bay and the place of fattening the oysters which are shipped to market from Keyport, Monmouth county, shows the following facts:

The main grounds are located off Conasconck Point, beginning about six hundred feet from the shore and extending more than a mile into the bay. These grounds are evidently far removed from any source of sewage pollution. There are a few small grounds near the mouth of Matawan Creek, about six hundred feet distant from the shore of the bay skirting the town of Keyport. After the oysters are taken from the grounds they are placed upon beds prepared for the purpose in Luppapotong Creek, to drink. This creek is a small stream, about fifty feet across at its widest point, and it drains a tract of marshy ground extending several miles back into the country. The drinking beds are covered with about six feet of water at high tide and are barely covered at low tide, at which time the water is clear and but slightly brackish. During the flood tide the creek is filled with water, which washes the shores of the town of Keyport on its way in from the bay. The drinking beds are mostly located within seven hundred feet from the mouth of the Creek. There is one place, however, about three-fourths of a mile above this point, where oysters are placed in the stream to drink. There are two dwellings located near the banks of the stream above the fattening beds near the mouth of the Creek, but no drains were found discharging into the Creek from these places. The border of the Bay below the mouth of the Creek for a distance of more than one-half mile is lined with dwellings, many of which have house drains discharging directly on the sands of the shore at low tide, and at high tide these drains discharge directly into the waters of the bay. In some instances, privy buildings are so placed that excrement falls directly into the bay. On the flood tide, it would therefore seem that some of the waters receiving pollution from the drains and privies above referred to, must flow into the Creek and over the fattening beds. In the first eight to twelve hundred feet below the mouth of the Creek was noted eight house drains and as many privy buildings which discharge directly into the bay, and in the next eight to twelve hundred feet, was counted eight house drains discharging into the bay, and five privy buildings, located within a few feet of the waters edge at high tide. In this entire distance there are about seventy dwellings and business houses, the backyards of which border upon the bay. I am informed by Mr. A. S. Van Buskirk, manager for J. W. Elsworth & Co., the largest planters and shippers of oysters from this point, that there are about 150,000 bushels of oysters taken from the bay and fattened for market in Luppapotong Creek each year. During the opening season, it was stated, the firm above referred to, ships to the western markets about 40,000 gallons of oysters, which are opened at this point.

Clams are taken from the bay and placed upon a float about one hundred and fifty feet from the shore, directly opposite the point where a number of house drains discharge into the bay.

Respectfully submitted,

D. C. BOWEN,  
Ass't. Insp. F. and D.

May 26th, 1904.

## Report of the Director of the State Laboratory of Hygiene.

To the Board of Health of the State of New Jersey:

Gentlemen:—I have the honor to submit the following report of the operations of the State Laboratory of Hygiene during the year ending October 31st, 1904.

The State Laboratory of Hygiene is located at 147 East State street, Trenton, N. J., and consists of two departments—the Bacteriological Department, and the Department of Food and Drugs. The Bacteriological Department is engaged in the examination of specimens for diagnosis from suspected cases of certain communicable diseases, in the bacteriological examination of water from public and private supplies, and in such other investigations bearing upon the public health as it may be called upon from time to time to perform. The Department of Foods and Drugs is engaged in the analysis of specimens of food and drugs, the authority for such examination being contained in an act approved March 21, 1901, entitled, "An act to secure the purity of food, beverages, confectionary, condiments, drugs and medicine, and to prevent deception in the distribution and sales thereof." The work of both these departments has in general followed the same line as that pursued during 1903. The amount of work, however, in both departments has increased. In particular, the examination of specimens of water from public and private supplies has increased greatly, and has become a serious tax upon the members of the laboratory staff, and upon the equipment of the laboratory. Certain new methods have been introduced in both departments which, while they insure greater accuracy and rapidity of results, require a larger expenditure of time and necessitate an increased equipment. The number of specimens examined in the Bacteriological Department during the year was 6,730, an increase of 1,171 over the number examined in 1903. The number examined in the Department of Foods and Drugs was 3,772, an increase of 246 over those examined in 1903. It should be remembered in this connection, that for eleven months of the year, we have been compelled to get along without an assistant chemist, Mr. Brewer having resigned on January 1st, 1904. On account of lack of funds it was deemed inadvisable to replace him at that time, and the position has since been vacant.

This increase of work, while it is very gratifying to all concerned, has become embarrassing because of the increased expenditures involved.

For the last three years the amount of money annually available for the maintenance of the Bacteriological Department has been \$4,000. In 1901, the first year when this appropriation was made, the number of specimens examined was 3,955, and the laboratory was located in Princeton, where running expenses were considerably lighter than they are at Trenton. Since that time the number of specimens examined has nearly doubled, and some entirely new lines of work have been taken up, the cost of apparatus and supplies has decidedly increased, yet the appropriation has remained the same. The sum of \$4,000, which was adequate in 1901 to maintain the laboratory and allow for reasonable growth, is now entirely too small, and it is with the greatest difficulty that it has been possible to continue the service and comply with the increased demands upon us; and, unless some provision is made in the near future to enable us to meet these demands in a more satisfactory manner than we can at present, it will be necessary to curtail this most important work and possibly to abandon certain lines of it altogether.

In the Department of Foods and Drugs a considerable expenditure has been made necessary in order to provide the certain apparatus which is essential in every well equipped laboratory. Unlike most laboratories of its kind, this one was not provided at the start with a good equipment, but we were compelled to make use of certain articles loaned some years ago to the department by the Geological Survey of this State. During the year the return of these articles was demanded by the Geological Survey, and they have been returned. It was necessary to immediately replace most of them as they were in constant use. Although much apparatus has been added during the year, the equipment of the laboratory is not yet complete.

The present location of the laboratory is unsatisfactory. The room at our disposal is insufficient, and is not arranged to the best advantage. Moreover, the location of a laboratory, in which large numbers of specimens from communicable diseases are continually handled, in a crowded office building, exposes the other occupants of the building to needless risks. Every precaution is taken to minimize the danger of spreading infection from the laboratory, and thus far no accidents have occurred, but such accidents have occurred in other places in the past. Even when the greatest care is taken, accidents are possible. While the members of the laboratory staff fully realize the dangers involved in this work, and can therefore take all possible precautions to protect themselves, people not familiar with risks incurred cannot be compelled to take the same precaution. It is therefore desirable that a laboratory where pathogenic bacteria are under investigation should be located in a building devoted to no other purpose, and not accessible to the public. In such a location proper precautions can be taken to prevent the dissemination of disease germs.

For many lines of bacteriological examination it is necessary to keep a stock of animals for experimental purposes. This is impossible to do while the laboratory is in its present location, and certain important in-

vestigations are rendered difficult and some times impracticable because animals are not available. Thus it is impossible to make routine examinations for glanders, as we have no facilities for keeping the necessary guinea pigs. The inconvenience caused by lack of facilities for keeping animals has recently been strikingly demonstrated. During the month of October a request was received from the Trenton Board of Health to test certain lots of diphtheria antitoxin which had been purchased by them and about which complaint had been made. In determining the antitoxic strength of this serum it was necessary to make use of a large number of guinea pigs. There was no place for them in the laboratory, and therefore the test had to be conducted under very unfavorable conditions on a farm more than six miles away; the owner of the farm having kindly placed one of his buildings at the disposal of the laboratory.

The amount and variety of work which is done at the laboratory increases considerably every year, and that this is so is an indication of its usefulness to the public. There is reason to believe that this increase will steadily continue. Throughout the country, such laboratories as this are becoming more and more necessary in the investigation and control of matters relating to the public health. The time has come when the State Laboratory of Hygiene has outgrown its appropriation and its quarters. Unless an increased appropriation and better facilities in the way of room and equipment can be provided, it will be necessary to abandon some of the lines of work recently undertaken, which are of great importance. Such a course would result in a check to the work of the laboratory from which it would take years to recover. It is, therefore, earnestly desired that increased facilities be provided in the near future.

**Bacteriological Department.**—The bacteriological laboratory is open for the reception of specimens from 8 A. M. until 5 P. M. every day except Saturday and Sunday. On Saturday the laboratory closes at noon, and on Sundays and holidays it is open from 8:30 A. M. to 10 A. M. The last mail received at the laboratory arrives at 7 P. M. on weekdays and at 12 M. on Sundays. Specimens coming in by these mails will be examined on the following morning.

**Routine Work.**—The regular work of the bacteriological department consists of the routine examination for diagnosis of specimens from suspected cases of diphtheria, pulmonary tuberculosis, typhoid fever and malaria, and the bacteriological examination of samples of water from public and private supplies. Beside this regular work, the laboratory is prepared to undertake, when practicable, the investigation of other communicable diseases.

**Outfits.**—For the regular work the laboratory provides mailing cases conforming to the requirements of United States Postal Order No. 176\*.

\*Order No. 176.

March 2, 1909.

That the order of the Postmaster-General, of December 27, 1897 (Order No. 877), prescribing the conditions under which specimens of diseased tissues may be admitted to the mails, is modified as follows.

which cases are distributed to repositories located throughout the State, and can be obtained from them or from the laboratory, on request. A list of these repositories will be found on pages 205 to 212 of this report. Persons desirous of having specimens other than those above mentioned examined should, in every case, make application to the director of the laboratory, in writing, before sending the specimens.

**Regulation Governing Receipt of Specimens.**—No specimens from suspected cases of diphtheria, pulmonary tuberculosis, typhoid fever or malaria will be received for examination unless they are inclosed in the containers provided by the laboratory, unless the postage thereon is fully prepaid and the blank form accompanying the container fully filled in. Physicians are requested not to send specimens of urine, tumors, etc., to the laboratory, as no examinations will be made of such substances, the work of the laboratory being devoted wholly to the public health interests of the State.

**Reports.**—Reports of the results of examinations are invariably sent by mail. If the physician requests it, an additional report will be sent by telegraph at the expense of those interested. Reports will be made by telephone if the physician desiring such a report calls the laboratory and asks for it. On account of the possibility of mistakes due to the reception of telephone messages by unauthorized persons, and to imperfect transmission over long distances, the laboratory will not assume any responsibility for the correctness of reports issued by telephone, nor will physi-

Specimens of diseased tissues may be admitted to the mail for transmission to United States, State or municipal laboratories, only when inclosed in mailing packages constructed in accordance with the specifications hereinafter enumerated. Liquid cultures, or cultures, of microorganisms in media that are fluid at the ordinary temperature (below 45° C., or 113° F.), are unavailable. Such specimens may be sent in media that remain solid at ordinary temperatures.

Upon the outside of every package shall be written or printed the words, "Specimen for Bacteriological Examination. This package to be treated as letter mail." No package containing diseased tissue shall be delivered to any representative of any of said laboratories until a permit shall have first been issued by the Postmaster-General certifying that said institution has been found to be entitled, in accordance with the requirements of this regulation, to receive specimens.

Specifications for the construction of packages for safely conveying through the mails pathological specimens for bacteriological examination for diagnosis in cases of suspected diphtheria, tuberculosis, and other communicable diseases:

1. The receptacle for moist specimens of diseased tissues shall be a strong glass vial or test tube having a capacity not greater than two drams. Said vial shall be covered and made water-tight by the use of a metal screw cap and a rubber or felt washer which has been immersed in melted paraffine; or, if a test tube be used, it shall be covered with a tightly-fitting rubber cap.

2. Said vial or test tube shall be placed inverted in a circular tin box. Said box shall be made of I. C. bright tin-plate, and shall have flush or countersunk bottom and soldered joints and not be smaller than one and

icians be called on the telephone for the purpose of reporting results to them.

**Diphtheria.**—The outfit for collecting a specimen from a case of suspected diphtheria consists of a circular, screw-capped, pasteboard-lined box, on the outside of which is a blue label bearing the address of the laboratory. Within is a small tube containing a sterile cotton swab on the end of a wire, and a blue slip, on one side of which is printed directions for preparing the specimen and on the other a form, which must be completely filled in if the specimen is to receive attention. It is of the greatest importance that this form be filled in legibly and in ink. Every slip is preserved and constitutes a permanent record of its case, and confusion constantly occurs because it is impossible to read the name of the physician, that of the patient, or both. Postage on all specimens must be fully prepaid at letter rates. If this is not done specimens are liable to serious delay in the post-office. Specimens from cases of suspected diphtheria are examined every day in the year. Those received at the laboratory at or before 7 P. M. are planted on modified Loeffler's medium, incubated overnight at 37.0 degrees C., and examined at 8 A. M. on the following morning. Specimens received in the morning, before 11 A. M., are immediately planted and placed in the incubator. At 5 P. M. they are examined. It is frequently possible to find diphtheria bacilli after incubation for this length of time, and at least twelve hours are saved when they can be demonstrated on the same day on which they were planted. A negative result after such a short incubation is unreliable, and the specimen, if no

one-quarter inches in diameter and five and one-half inches long. This box shall be closed by a metal screw cover and a rubber or felt washer, or tightly-fitting metal sliding cover, and it shall be so packed with absorbent cotton that the glass vial or test tube contained in said box shall be evenly surrounded on all sides by said cotton, and the cotton shall be closely laid.

3. Said tin box shall be placed inverted inside of a larger tin box similar to the one already described, which should snugly receive the specimen box. Upon the inside of the sides and bottom of this outer box there shall be a lining of compressed paper not less than three-sixteenths of an inch in thickness. Said outer tin box shall be closed by a metal screw cap and a rubber or felt washer; or this outside box may consist of hard wood, being a block having a cylindrical hole bored in one end and extending to within not less than one inch of the opposite end; the open end to be closed with a wooden or metal screw cap with a rubber or felt washer. Or the outside box may be a cylindrical wooden box having a screw cap and washer. The thickness of the sustaining part of the wooden tube to be not less than one-quarter of an inch and be lined as the tin box.

4. The receptacle for dry specimens or diseased tissues shall be a glass test tube, three inches in length and one-half inch in diameter. Said test tube shall be inclosed in a circular tin box similar to those already described but measuring two and one-quarter inches in diameter and three and one-half inches in length, and be lined upon its sides and bottom with compressed paper not less than one-quarter of an inch in thickness. Said box shall be closed by a metal screw cap and a rubber or felt washer. Said test tube shall be closely packed in cotton.

diphtheria bacilli can be found in it, is replaced in the incubator and incubated over night in the usual way. This method of examination after five-hour incubation (originally proposed by Bolton) has been in operation for more than a year, and has given gratifying results. It is believed that the time so saved greatly increases the efficiency of the service. Under ordinary circumstances reports of the results of the examination of diphtheria specimens are mailed at 8.30 A. M., and should reach nearly every city in the state on the same day. Reports sent by telegraph should reach the physician by 10 A. M. To insure prompt delivery of letters and telegrams, physicians should be careful to state their full addresses when sending specimens. Specimens mailed in the morning will usually reach the laboratory on the same day, and the physician should receive a report, if sent by telegraph, within twenty-four hours. The postmaster at Trenton has kindly furnished the laboratory with figures showing the hours when mails leave certain towns throughout the State in time to reach the post-office at Trenton on the mail which arrives at 7 A. M. It is impossible at this time to ascertain these figures for every town in the State in which a repository is located, but it is hoped that this will ultimately be accomplished. As many of these figures as have been obtained will be found in the list of repositories.

**Interpretation of Results.**—Persons having the bacillus of diphtheria in their throats or noses and presenting symptoms of the specific toxæmia due to absorption of the metabolic products of the bacillus, but showing no symptoms indicating a departure from health, while they cannot be regarded as having the disease, are capable of acting as sources of infection, and should be treated as such. It sometimes happens that negative results are obtained from specimens taken from patients who undoubtedly have diphtheria. This may be due to a variety of causes, and a second specimen should always be sent after a negative report has been received if the case is suspicious from a clinical standpoint. It is well established that, in the majority of cases, diphtheria bacilli are present in the throats or noses, or both, of convalescents after all symptoms of the disease have disappeared. In order to find out when the patient ceases to be infectious, it is necessary to have a bacteriological examination made. In no case should a patient be released from quarantine until the specific bacillus has disappeared from the throat and nose. Specimens for release should be taken both from the throat and nose, as it has been found that the bacillus is frequently demonstrable in the nose after the throat is clear. It is very desirable that two consecutive negative reports be received before the patient is released from quarantine, as it has been shown that in a considerable number of cases the diphtheria bacillus has been found after one negative result has been obtained. It sometimes happens that organisms are found in preparations made from specimens sent for diagnosis which resemble somewhat the diphtheria bacilli, but cannot be positively identified as such. In these cases the fact that such bacilli have been found is reported, and another specimen is requested. While the bacilli in the majority of these cases ultimately

prove to be organisms other than the bacillus of diphtheria, it occasionally happens that a second specimen will show typical diphtheria bacilli.

**Tuberculosis.** The outfit for collecting a specimen of sputum from a case of suspected tuberculosis consists of a circular, screw-capped, paste-board-lined tin case, having on the outside a white wrapper bearing the address of the laboratory and containing another screw-capped tin case in which is a quarter-ounce, screw-topped vial wrapped in absorbent cotton and containing enough carbolic acid solution to disinfect the sputum. Between the inner and outer cases is a white slip, bearing, on one side, directions for collecting the sample, and on the other a blank form to be filled in by the physician. The directions should be carefully followed and the case repacked, care being taken to so wrap the vial that it will be kept from moving in transit. Postage should be prepaid at letter rates.

**Examination of Specimens.**—Specimens of sputum are not examined on Sundays or holidays, but, when received on these days, are held until the following morning. Thin smears from the contents of the vials are made on large glass slides, capable of holding twelve smears. These are dried, fixed by heat and stained for five minutes at 80 degrees C. in carbol fuchsin. After thorough washing the slide is immersed in a solution of 3 per cent. hydrochloric acid in methyl alcohol until decolorized, then stained for one minute in Loeffler's methylene blue, washed, dried and examined.

**Interpretation of Results.**—It should always be borne in mind that while the discovery of tubercle bacilli in the sputum of a patient is certain evidence of tuberculosis, yet a single negative result is of little value. In the early stages of the disease the bacilli may be entirely absent from the sputum or present in such small numbers as to escape detection. If a negative report is received on a specimen from a case suspected of having the disease, other specimens should be sent at intervals of a few days until the patient recovers or the bacillus is found. It should also be remembered that there is little or no relation between the number of bacilli present in a single specimen and the stage of the disease. Requests are frequently received for an estimate of the number of bacilli present in a given specimen, or for a comparison between the numbers present in two or more specimens from the same case. It has been customary to give the desired information when possible. This will not be done in the future, as it is believed that erroneous and misleading conclusions are frequently drawn from these reports.

**Typhoid Fever.**—The examination for typhoid fever is made by Widal's method. The outfit consists of a slip of sheet aluminum, having on one side two roughened depressions to receive the blood. A wire loop is fastened to the slip by means of a gummed-label. This slip, together with a card bearing, one side, directions for collecting the specimen, and on the other a blank form to be filled in by the physician, is enclosed in a stout manila envelope, bearing the address of the laboratory on the outside. In collecting blood, physicians should be careful to deposit one full drop in each depression of the slip, and allow the drops to dry without the use of heat before replacing the slip in the envelope.

**Examination of Specimens.**—Specimens from cases of typhoid fever are not examined on Sundays and holidays. These specimens are examined by making a dilution approximating one to fifteen with distilled water, mixing with an equal quantity of a twenty-four-hour broth culture of the typhoid bacillus, and examining in the hanging drop. For convenience, the results obtained are divided into three groups: (a) Positive, when agglutination and clumping can be observed within fifteen minutes and are complete within an hour; (b) negative, when neither clumping nor agglutination occur within an hour; (c) atypical, when signs of either clumping or agglutination show themselves but the reaction is not completed within the specified time.

**Interpretation of Results.**—A positive result from a specimen from a case of suspected typhoid fever at the dilution used is almost certain evidence that the patient is suffering from, or has experienced in the past, an invasion by the typhoid bacillus. A negative result has comparatively little significance, as cases frequently occur in which the reaction is delayed or absent altogether. Negative results from specimens taken before the fifth or sixth day of the disease have no significance whatever. Atypical reactions have no meaning. Subsequently specimens may turn out to be either positive or negative.

**Malaria.**—Examinations for malaria are made by staining a specimen of blood spread in a thin film on a slide or cover glass with some of the well-known stains devised for the purpose. Wright's is generally used. The outfit at present in use consists of two square glass covers wrapped in absorbent cotton and inclosed in half of a slide mailing case for protection. This outfit is objectionable in many ways and will be discarded as soon as a satisfactory one can be devised.

**Interpretation of Results.**—The demonstration of the parasite of malaria is satisfactory evidence that the patient is suffering from the disease. A negative report is of little value. The majority of specimens sent to the laboratory are improperly prepared and can only be examined imperfectly and with difficulty. Although the preparation of a thin and even film of blood, such as is needed for these examinations, does not seem to be difficult to the experienced worker, yet a very considerable amount of practice is necessary before it can be satisfactorily done. In chronic cases and in patients to whom quinine has been administered, the parasites in the peripheral circulation are so few in number that very lengthy and careful searching is necessary to demonstrate their presence. To properly examine specimens from such cases requires an expenditure of time far beyond that available with the present laboratory staff.

**Other Examinations.**—Besides the examinations classed as regular work, a variety of other specimens are occasionally examined, the most important being those from animals suspected of having anthrax, rabies and glanders, the examination of disinfectants, and the investigation of shellfish from certain waters in the State to determine their fitness for human consumption.

**Anthrax.**—In case an animal is suspected of having died of anthrax a

small amount of blood (preferably from the heart or one of the larger vessels) should be obtained from it with aseptic precautions and sent to the laboratory at once. The outfit issued for the collection of sputum may be used for the purpose if care is taken to thoroughly wash out the vial in order to free it from the carbolic acid which it contains. An ear, cut from an animal suspected of having died from anthrax, wrapped in paper and sent to the laboratory by mail, is NOT a satisfactory specimen and will not be examined. The attention of veterinarians is called to the fact that specimens for bacteriological examination cannot be sent through the mails unless enclosed in containers made in conformity with postal order No. 176 (See page 190, footnote). Unless sent in such containers they will not be accepted for examination. The careless practice, indulged in by certain veterinarians, of sending decomposing portions of animals dead of anthrax through the mails, wrapped simply in paper, is both dangerous and disgusting and calls for severe condemnation.

Reports of the examination of specimens for anthrax will usually be made in from forty-eight to seventy-two hours after the receipt of the specimen.

**Rabies.**—Animals suspected of suffering from rabies should NOT BE KILLED, but securely confined and kept under observation by a competent veterinarian. Animals in which the disease has progressed far enough to develop those characteristic symptoms which excite suspicion will not live more than a few days, and if kept under observation, a satisfactory diagnosis can be made in much less time than it takes to make an examination in the laboratory. If, however, it becomes necessary to send specimens to the laboratory, the head of large animals and the entire carcass of small ones, should be sent. Under no circumstances should the brain be removed. As it is necessary to inoculate animals and wait for them to develop symptoms of the disease in order to make a satisfactory diagnosis, it is impossible to make a report in less than six days from the date when the specimen is received, and frequently a much longer time will elapse. On account of the lack of facilities for keeping animals for experimental purposes, and the difficulty of obtaining suitable ones at short notice, the examination of specimens for rabies must necessarily be somewhat unsatisfactory and uncertain until better laboratory facilities are available.

**Glanders.**—The routine examination of specimens from cases suspected of suffering from glanders cannot be undertaken at the present time on account of the lack of facilities for carrying on the work. The examination of specimens for glanders involves the inoculation of animals, and it is impossible to keep a stock of these on hand while the laboratory occupies its present quarters. As soon as suitable accommodations are provided for animals for experimental purposes the examination of specimens for glanders will be made a part of the regular work of the laboratory.

**Miscellaneous Specimens.**—Specimens other than those above mentioned will not ordinarily be examined. Persons desirous of having such



examinations made should in every case communicate with the director of the laboratory, stating in detail the character of the examination desired, before sending the specimen.

A tabulated summary of the work of the laboratory during the year is given in Table I. This is arranged by weeks instead of by months as was formerly the custom, in order to correspond with the weekly reports which are regularly made by the laboratory.

Table I.—Showing the Number of Specimens Examined During the Year, Arranged by Weeks.

WEEK ENDING.	Diphtheria.		Tuberculosis.		Typhoid Fever.		Malaria.		Miscella- neous.		Totals.
	Primary.	Secondary.	Primary.	Secondary.	Primary.	Secondary.	Primary.	Secondary.	Primary.	Secondary.	
Oct. 1-3, 1903.....	12	10	24	3	5	2			1		57
" 10 ".....	29	13	38	5	24	4	3		1		117
" 17 ".....	26	14	37	4	17	3		1	1		103
" 24 ".....	45	11	35	4	20	2	2				119
" 31 ".....	29	25	25	6	17	4			2		108
Nov. 7 ".....	54	39	32	5	20	1	2				153
" 14 ".....	46	27	32	5	18	3		2	1		134
" 21 ".....	36	23	37	3	28	1			2		130
" 28 ".....	39	25	37	5	19	1	1		2		129
Dec. 5 ".....	51	24	35	4	9	5	2		1		131
" 12 ".....	41	25	40	8	13	3	1	1	1		133
" 19 ".....	58	30	36	3	16	3			3		149
" 26 ".....	41	54	33	6	23	6	1				164
Jan. 2, 1904.....	44	35	36	6	17	9					147
" 9 ".....	42	45	34	3	25	3	2				154
" 16 ".....	60	28	41	5	17	5	3				159
" 23 ".....	53	25	39	7	17	1	1		3		146
" 30 ".....	40	32	45	8	17	3	2				147
Feb. 6 ".....	39	31	31	8	22	5			1		137
" 13 ".....	46	29	43	6	27		3				154
" 20 ".....	34	23	31	8	32	6	1		1		135
" 27 ".....	41	16	47	5	24	2	1		2		138
Mar. 5 ".....	35	26	55	7	23	4		1			151
" 12 ".....	42	23	50	6	18	4					143
" 19 ".....	43	28	37	5	21	3	1		1		139
" 26 ".....	24	22	45	8	25	6	1		2	1	134
Apr. 2 ".....	25	11	39	2	14	1	1				93
" 9 ".....	31	12	35	5	22	9	3		1	1	119
" 16 ".....	30	17	53	6	14	5	4		2		131
" 23 ".....	24	21	49	6	8	5	1	1			115
" 30 ".....	37	25	52	4	19	1			2		140
May 7 ".....	23	29	47	4	16	3	1	1		1	125
" 14 ".....	26	16	48	5	18	2			1		116
" 21 ".....	45	19	46	6	18	3	1		1		139
" 28 ".....	29	38	51	10	20	9	3	1	2		163
June 4 ".....	20	24	39	8	15	1		1	1		109
" 11 ".....	25	17	40	9	14	3	1		1		110
" 18 ".....	25	21	47	5	15	1	1	1	1		116
" 25 ".....	30	14	40	3	10	6	1		1		105
July 2 ".....	17	20	27	5	14	4	2		1		90
" 9 ".....	32	10	27	8	19	4	5	1	1		107
" 16 ".....	21	26	45	8	9	3	2		4	1	119



Table 2.—Showing the Number of Specimens Examined During the Year, Arranged by Cities and Towns.—Continued.

TOWN.	Diphtheria.			Tuber- culosis.			Typhoid Fev.r.			Malaria.			Miscella- neous.			Totals.
	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.	
Delanco				2		2										2
Dennisville				1		1										1
Dover				1		1										1
Dumont				5		5										5
Dunellen	3		3	5		5										8
East Orange	26	10	36	43	8	51	29	3	32	3	1	4				123
East Rutherford				6		6						1		1		7
Egg Harbor							1		1							1
Egg Harbor City	2	1	3	1		1			1							4
Elberon	1		1				1		1			2				3
Elizabeth	428	540	968	92	16	108	35	6	41				1		1	1118
Elmer				5	2	7										7
Englewood	25	20	45	10		10	3	2	5				1		1	61
Fairview	2		2	3	4	6										8
Fanwood	9	3	12	3		3										15
Farmingdale				1		1	1		1							2
Flemington	6		6	8	2	10	2		2	4	1	5				23
Florence				1		1										1
Florham Park				3	1	4										4
Forked River				1		1										1
Fort Lee	1	2	3	1		1	2		2							6
Franklin Furnace	13	7	20													20
Freehold				12	3	15	3	1	4							19
Frenchtown				2		2										2
Garfield	1		1	2		2	1		1							4
Georgetown	1		1													1
German Valley				1		1			2		2					3
Gillette	1	1	2													2
Gladstone	11		11	1		1	5	3	8	1		1				21
Gloucester City				6		6										6
Griggstown				1	1	2										2
Hackensack	14	2	16	34	2	36	43	3	46							98
Hackettstown	1		1	3		3	4	2	6	1		1	1		1	12
Haddonfield	16	10	26	14	1	15	5		5							45
Hainesport	1	1	2													2
Haledon				1		1										1
Hamburg	3		3													3
Hamilton Square	1		1													1
Hammonton				3		3										3
Harrison	1		1	4		4										5
Hasbrouck Heights				5		5	3		3							8
Hawthorne				1		1										1

Table 2.—Showing the Number of Specimens Examined During the Year, Arranged by Cities and Towns.—Continued.

TOWN.	Diphtheria.			Tuber- culosis.			Typhoid Fever.			Malaria.			Miscella- neous.			Totals.
	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.	
Hightstown	3		3	7		7										10
Hoboken	3		3	28	1	29	8		8							40
Hopewell				1		1	2		2							3
Inlaystown							1		1							1
Irvington	7	4	11	5	3	8	1		1							3
Jersey City	18	1	19	85	7	92	19	4	23							20
Junston	1		1													134
Kearney				1		1										1
Keypoint				1		1										1
Lakehurst	3		3	10	1	11	2		2							16
Lakewood	1		1													1
Lamberton	11	7	18	2		2										20
Lambertville				4		4	1		1							1
Lawrenceville	5		5	3	1	4	1		1	5	1	6			1	16
Layton	1		1				2		2							3
Leesburg				2		2										2
Lodi	2	1	3	2		2	3	2	5							10
Long Branch				22	2	24	20	4	24	1	1					49
Lyons Farms	1		1	1		1										2
Madison	13	7	20	7	2	9	3		3							32
Magnolia	1		1													1
Maplewood							6	1	7							7
Matawan				14		14										14
Mays Landing	1		1	5	1	6	3		3							10
Maywood							2		2							2
Medford				1		1	1		1							2
Mendham	8	2	10				2	1	3							13
Merchantville	2	1	3	2	1	3	1		1							7
Metuchen	20	5	25	6		6	7	3	10							41
Milford				1		1										1
Milburn	8	1	9													14
Milltown				1		1	2		2	1	1	4			4	14
Millville	5		5	14	4	18										3
Mouth Beach							1		1							23
Montclair		2	2	14	5	19	2		2							1
Moorestown	4	1	5	10	2	12	16	4	20							23
Morris Plains	3		3				2	1	3							37
Morristown	16	3	19	20	2	22	23	5	28	2		2				6
Mount Arlington				2	1	3	1	1	2							71
Mount Holly																5
Mullica Hill	10	2	12	11		11										23
Netcong				1		1	2		2							3
Newark	4		4	1		1	1		1							6
New Brunswick	23	17	40	34	6	40	28	6	34							114

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Table 2.—Showing the Number of Specimens Examined During the Year, Arranged by Cities and Towns.—Continued.

TOWN.	Diphtheria.			Tuber- culosis.			Typhoid Fever.			Malaria.			Miscella- neous.		
	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.
New Market.				1	2	3									2
Newton.	13	11	24	15	3	18	3	2	5		1				48
North Branch		1	1	1		1									2
North Plainfield	1		1												1
Nutley	3	3	6												6
Ocean City.							1		1		1				1
Ocean Grove				1		1									1
Oceanic.				1		1									1
Ogdensburg	1		1												1
Old Bridge.	2		2												2
Orange	20	16	36	66	17	83	46	14	60	1	1				180
Oxford	2		2												2
Palmyra.				1		1	1		1		1				2
Park Ridge.	1		1	2	1	3	2	1	3		1	1			9
Parsippany.				1		1									1
Passaic	56	5	61	88	16	104	48	15	63						228
Paterson.	9	5	14	86	4	90	14	2	16	2	13	3			3126
Pedricktown.				1		1									1
Pemberton.	4		4												4
Penn Grove	5		5												5
Pennsville.				1		1									1
Perth Amboy.				17	7	24	2								20
Phillipsburg.	2		2	1		1									3
Pitman Grove				3		3	1		1						4
Plainfield	208	180	388	93	14	107	31	6	37	9	9				541
Pleasantville	2		2	5		5	3		3						10
Point Pleasant.							4		4						4
Pompton Lakes.				1		1									1
Port Norris.				2		2	2	2	1	3		2	1	3	10
Princeton.	27	8	35	8	3	11	29	4	33						79
Rahway	34	3	37	31	3	34	44	12	56						127
Ramsey	7	5	12	9	2	11	2		2						25
Raritan.				1		1									1
Red Bank.	2		2	36	6	42	4		4						48
Ridgefield.	1		1	1		1									2
Ridgewood.	5	1	6	11		11	3		3						20
Ringoes.	1		1	1		1									2
Riverside				6		6									6
Riverton.	1	1	2	5	3	8	1	2	3	1					14
Rockaway	41	2	43	15	4	19	4		4	1		1	3		70
Rotelle	9	4	13	3		3	3		3						19
Roselle Park	2		2	3		3			6						8
Rutherford.	11	4	15	21		21	11		11						47
Salem	7		7	19	3	22	3		3	2		2	1	4	39
Sayreville.							6	1	7						7

Table 2.—Showing the Number of Specimens Examined During the Year, Arranged by Cities and Towns.—Continued.

TOWN.	Diphtheria.			Tuber- culosis.			Typhoid Fever.			Malaria.			Miscella- neous.		
	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.
Shiloh.				3		3									3
Somerville	11	2	13	21		21	13	4	17						51
South Amboy				1		1									1
South Branch				1		1									1
South Orange.	7	2	9	74	4	78	29	2	31						118
South River.	1		1	5	1	6	5	1	6						13
Spotswood	1	1	2												2
Springfield	2	1	3	1		1	2	1	3						7
Stanhope	2		2	2		2	1		1						5
Stillwater.	1		1												1
Stirling.	5	5	10	2		2	2	1	3						15
Succasunna	1		1	2		2	4		4						7
Summit.	17	9	26	17	2	19	18	7	25						70
Sussex.	2		2												2
Swedesboro				3		3									3
Toms River	1		1	6	2	8									9
Trenton.	130	54	184	218	52	270	176	25	201	14	6	20	23	3	701
Tuckahoe.				1		1									1
Upper Montclair.				1	2	3	4	1	5				1	1	9
Ventnor							1		1						1
Vineland.	4		4	37	6	43	26	4	30						77
Washington.	1		1	10		10	1		1						12
Weehawken.	23	2	25	29	5	34									59
(Town of Union), (Union Hill),															
Wenonah				3		3									3
Westfield	11	14	25	19	1	20	3	2	5						50
West Hoboken				18	3	21	1		1						22
West New York				4		4									4
West Orange	1		1	5		5	3		3						9
Westville				6	1	7									7
Westwood.				3		3	5		5						8
Wharton.				1		1	1		1						2
Whippany	4		4				6		6	4		4			14
White House Station.				1		1									1
Wilburtha.							1		1						1
Windsor				1		1									1
Woodbine.	2		2												2
Woodbridge.	111	138	249	18	3	21	4	1	5				1	1	3
Woodbury				5	2	7									275
Woodstown	2	2	4	2		2									6
Blank	3		3	3		3									6
Totals.	1743	1206	2949	2052	292	2344	1061	211	1272	82	16	98	57	10	6730

In Table 2 will be found a summary of the examinations made during the year, arranged by cities and towns. This table serves to show the extent and distribution of the work throughout the State, no less than 214 cities and towns being represented. An inspection of the figures, however, will reveal the fact that the numbers of specimens coming to the laboratory from the various towns bear little or no relation to the population of those towns. If proper advantage was taken of the facilities for diagnosis offered by the laboratory, the number of specimens received from the larger cities at least should show some sort of a relationship to the population, unless epidemics of more than usual severity have occurred, which is not the case this year. It therefore follows that the physicians in certain communities make much more use of the laboratory than do those from other localities. It is believed that this is due largely to the efforts or lack of interest shown by local boards of health. Where these bodies are efficient in the supervision and control of contagious diseases, especially diphtheria, physicians are forced to confirm their clinical findings by sending specimens to the laboratory; where local boards of health are negligent, the incentive to confirm or disprove a clinical diagnosis in a case of diphtheria is not so great, and carelessness, which in many cases has most serious effects on the patients, is encouraged. This is especially true when specimens taken to determine the absence of diphtheria bacilli in the throat of a patient after apparent recovery, are considered. The number of specimens of this kind received at the laboratory is by no means as large as it should be; in very many cases no specimen being sent except the one to confirm the diagnosis of the physician. The control of diphtheria throughout the State would be much more satisfactory, and the actual number of cases per year would be much smaller than it is at present, if more care were taken to protect the public from unrestrained intercourse with convalescents from diphtheria, especially children, who are still carrying the specific causative organisms in the throat or nose, or both.

The number of specimens each year since the laboratory has been in operation is shown in Table III.

Table 3.—Showing the Number of Specimens of Each Kind Examined Since the Laboratory was Organized.

	1896-97	1898	1899	1900	1901	1902	1903	1904
Diphtheria .....	627	600	577	974	1864	1487	2090	2949
Tuberculosis.....	253	516	766	892	1211	1467	1853	2344
Typhoid Fever.....	27	175	339	431	739	884	1333	1272
Malaria .....		4	*	53	113	196	151	98
Miscellaneous.....	7	18	*	30	28	55	132	67
<b>Totals .....</b>	<b>914</b>	<b>1313</b>	<b>1682</b>	<b>2380</b>	<b>3955</b>	<b>4039</b>	<b>5559</b>	<b>6730</b>

\* The number of these specimens has not been recorded and is therefore omitted. Increase of specimens over 1903, 21.2 per cent.

This table shows very clearly the rapid growth of this department of the laboratory since its beginning eight years ago. No more convincing demonstration could be made of the usefulness of the department to the physician, and through him to the public. The number of specimens examined each year steadily increases, nor is there any reason to suppose that this large increase will not continue for some years, although it is to be expected that, when the time arrives when all or almost all physicians throughout the State make use of the laboratory regularly, the rate of increase will diminish until it runs approximately parallel with the increase of population.

#### LIST OF REPOSITORIES FOR MAILING CASES.

Town.	Repository.	Mail Leaves.
Allentown .....	Carslake's Pharmacy.....	4.00 p. m.
Alloway .....	Dr. W. L. Ewen.....	
Andover .....	Dr. J. C. Clark.....	
Annandale .....	Dr. W. E. Berkaw.....	
Arlington .....	Dr. J. A. Exton.....	
" .....	Dr. A. A. Strasser.....	
Asbury .....	Dr. F. J. LaRiew.....	
Asbury Park.....	Board of Health.....	3.00 p. m.
Atlantic City.....	Board of Health.....	
" .....	Atlantic City Hospital.....	
" .....	A. D. Cuskaden, druggist.....	
" .....	H. H. Deakne, druggist.....	
" .....	Wm. F. Ridgway, druggist.....	
" .....	W. C. Wescott, druggist.....	
Atlantic Highlands.....	Anchor and Shield Pharmacy.....	
Bakersville .....	A. R. Vickers.....	
Basking Ridge.....	Dr. F. C. Jones.....	3.00 p. m.
Bay Head .....	Dr. W. H. Katzenbach.....	
Bayonne .....	Bayonne Hospital.....	2.00 p. m.
" .....	F. N. L'Estrange, druggist.....	
" .....	Charles H. Landell.....	
Belleville .....	A. H. Osborne, druggist.....	
Belmar .....	Board of Health.....	4.00 p. m.
" .....	Seaside Pharmacy.....	" "
Belvidere .....	Faust Bros., druggists.....	
" .....	Dr. Wm. J. Burd.....	
Berlin .....	Board of Health.....	
" .....	W. W. Miller, druggist.....	
Bernardsville .....	Dr. J. Meigh.....	1.00 p. m.
" .....	F. C. Sutphin.....	
Beverly .....	Dr. A. W. Taylor.....	
" .....	Dr. Roberts.....	
Blairstown .....	Dr. W. C. Allen.....	
Bloomfield .....	W. W. Keyler, druggist.....	
" .....	Geo. M. Wood, druggist.....	

Town.	Repository.	Mail Leaves.
Bloomsbury	Dr. E. L. Reigle	
Boonton	Dr. Jno. L. Taylor	
"	Dr. Cuthbert Wigg.	
"	Dr. C. Decker	
"	Dr. A. E. Carpenter	
Bordentown	Dr. W. H. Shipp	5.00 p. m.
"	Paul Traub, druggist.	
"	Woolley & Fitzgerald, druggists.	
Bound Brook	Chas. L. Manning, druggist.	
"	Lloyd & McNabb, druggists.	
Branchville	Dr. E. S. Dalrymple	
"	Dr. J. C. Price	
Bridgeton	Board of Health	
"	Albert S. Elwell, druggist.	
"	Chas. F. Dare & Son, druggists	
"	Dr. Jno. H. Moore	
Burlington	Jno. W. Davis, druggist.	
"	H. B. Weaver, druggist.	
Butler	McCue's drug store.	
Caldwell	Dr. E. E. Bond	
"	Wm. N. Hasler	
Califon	T. Miller, druggist	
Camden	Cooper Hospital	3.00 p. m.
"	Barrett Bros., druggists	" "
"	Dr. J. S. Baer	" "
"	Geo. M. Beringer, druggist.	" "
"	Dr. R. I. Haines	" "
"	F. S. Macpherson, druggist.	" "
"	Geo. J. Pechin, druggist.	" "
"	Wm. P. Weiser, druggist.	" "
Cape May	Dr. A. M. Hand	
Cape May Court House.	Willetts Corson, druggist	
Calrstadt	A. Niederer, druggist.	
"	Dr. E. F. Sickenberger.	
Cedarville	Board of Health	
"	Dr. W. P. Glendon	
Chatham		3.00 p. m.
"	Dr. Pollard	" "
"	Dr. Geo. M. Swain	" "
"	Dr. W. J. Wolfe	" "
Chester	Dr. Harris Day	1.00 p. m.
Clayton	Dr. C. F. Fisler	
Clinton	W. H. Baker, druggist.	
Closter	Dr. L. B. Parsell.	
Collingswood	Wm. A. Chamberlain, druggist.	
Columbus	Wells & Son, druggists.	
Cranford	Jno. Marien, druggist.	

Town.	Repository.	Mail Leaves.
Crosswicks	Dr. C. L. Dey	
Dayton	Edgar Carroll, druggist.	
Deckertown	W. J. Rinkel, druggist.	
Deerfield	Dr. E. S. Goudy	
"	Dr. L. B. Phillips	
Delanco	Dr. H. K. Weiler	
Dover	Robert Kilgore, druggist.	10.00 a. m.
Dumont	Dr. J. E. Pratt.	
Dunellen	Dr. P. W. Brakeley	10.00 a. m.
East Millstone	J. C. Thatcher, druggist.	
East Orange	Garrett Byrnes, druggist.	3.00 p. m.
"	F. L. Fieger, druggist.	" "
"	Gillbard's Drug Store.	" "
East Rutherford	Board of Health	
Eatontown	Edward Van Buskirk, druggist.	
Egg Harbor City	Board of Health	
Elizabeth	Board of Health	4.00 p. m.
"	Elizabeth General Hospital.	" "
"	Richard Frohwein, druggist.	" "
"	Geo. J. Martin, druggist.	" "
"	Oliver & Drake, druggists.	" "
"	W. R. Richart, druggist.	" "
"	Fred M. Egger, druggist.	" "
"	Wm. H. Reibel, druggist.	" "
Elmer	Board of Health	12.00 m.
Englewood	L. Rockefeller Co., druggists.	2.00 p. m.
"	Reeder Bros. & Schneider, druggists.	
Englishtown	Dr. W. E. Anderson	5.00 p. m.
Fanwood	Dr. F. W. Westcott.	
Farmingdale	W. R. Kinmouth	3.00 p. m.
"	C. A. Palmer	
Flemington	F. C. Burk, druggist.	4.00 p. m.
Forked River	Board of Health	
Fort Lee	Dr. Max Wyler	
Franklin Furnace	Dr. C. M. Dunning	
Freehold	Duryee & Conover, druggists.	3.30 p. m.
Frenchtown	E. M. Roche, druggist.	
German Valley	Dr. C. N. Miller	
Gladstone	Dr. M. C. Smalley	
Glassboro	A. Trenchard, druggist.	
Gloucester	Geo. B. Beakey, druggist.	
Gloucester City	Atlantic Pharmacy	
"	W. S. Hillard	
Guttenberg	Gorden's Pharmacy	
Hackensack	Hackensack Hospital	11.30 a. m.
"	Dr. D. St. John	" "

Town.	Repository.	Mail Leaves.
"	Eugene A. McFadden, druggist.	" "
"	Adam's Pharmacy.	" "
Hackettstown	C. V. Rea, druggist.	12.30 p. m.
"	Dr. L. Farrow.	" "
Haddonfield	R. Willard, druggist.	11.00 a. m.
Hainesport	Dr. W. C. Parry.	" "
Hamburg	Dr. J. G. Coleman.	" "
Hammonton	Dr. A. I. Hunt.	" "
Hamilton Square	Board of Health.	12.00 m.
Harrison	Squire's Pharmacy.	1.00 p. m.
Hibernia	Dr. R. C. Lumsden.	" "
High Bridge	W. C. Alpaugh, druggist.	" "
Hightstown	D. H. Cunningham, druggist.	" "
Hoboken	Dr. H. B. Rue.	2.30 p. m.
"	Board of Health.	" "
"	Wm. Kamlah, druggist.	" "
"	A. Schmidt, druggist.	" "
"	Victor Schmidt & Co., druggists.	" "
"	Chas. Sunkel, druggist.	" "
Hopewell	Geo. E. Pierson, druggist.	" "
Imlaystown	Dr. F. C. Price.	" "
Irvington	Dr. A. C. Christian.	" "
"	Harry McDavitt.	" "
Jamesburg	State Reform School.	5.00 p. m.
Jersey City	Maxwell Abernathy, druggist.	" "
"	L. E. Carpenter, druggist.	" "
"	Frederick W. Frey, druggist.	" "
"	Jno. C. Gallagher, druggist.	" "
"	Geo. White, druggist.	" "
"	A. Tod, druggist.	" "
"	H. Smellie, health inspector.	" "
"	E. T. N. Stine, druggist.	" "
"	Frank O. Cole, druggist.	" "
"	Henry J. Lohman.	" "
"	Wm. Buchbinder, druggist.	" "
"	Lyons & Ziegler, druggists.	" "
"	B. J. Bache, druggist.	" "
"	K. E. Wilhelm, druggist.	" "
"	Herman A. Bruckner, druggist.	" "
"	Chas. H. Rogers, druggist.	" "
"	Herman Roder, druggist.	" "
"	Chas. Zoeller, druggist.	" "
"	Herman W. Mayer, druggist.	" "
"	James Foulke, druggist.	" "
"	Lischke Bros., druggists.	" "
Junction	Dr. Hooper.	" "

Town.	Repository.	Mail Leaves.
Keyport	W. E. Warn, druggist.	" "
Lakewood	Chas. A. Bye, druggist.	" "
Lambertville	S. W. Cochran & Co., druggists.	" "
Lawrenceville	Dr. E. K. Fee.	" "
Layton	Dr. M. D. Hughes.	" "
Leesburg	Dr. S. E. Ewing.	" "
Little Falls	S. Austin Reilly, druggist.	" "
Lodi	D. A. Himadi, druggist.	" "
Long Branch	Board of Health.	3.00 p. m.
"	Dr. W. J. Smythe.	" "
"	Dr. Jno. W. Bennett.	" "
"	Monmouth Memorial Hospital.	" "
"	J. Rothenberg & Co., druggists.	" "
"	Jno. T. Britton, druggist.	" "
Lumberton	Prickett's Pharmacy.	" "
Madison	Wm. F. Brown, druggist.	3.00 p. m.
"	W. H. Larison, druggist.	" "
"	Dr. F. H. Seward.	" "
Matawan	Board of Health.	" "
"	Dr. Nathan Ervin.	" "
Mays Landing	Board of Health.	" "
"	Dr. H. C. James.	" "
Medford	Henry P. Thorn, druggist.	10.00 a. m.
Mendham	Geo. Robinson, druggist.	" "
Merchantville	J. W. Kohlerman, druggist.	" "
Metuchen	Board of Health.	4.00 p. m.
"	Dr. W. V. McKenzie.	" "
Middle Valley	Dr. M. S. Simpson.	" "
Millford	Dr. C. H. Darmon.	" "
Millburn	Millburn Pharmacy.	" "
Millville	Geo. W. Weber, druggist.	" "
"	Smith & Rogers, druggists.	" "
Montclair	David H. Baldwin.	12.00 m.
"	Loeser's Pharmacy.	" "
"	W. D. Johnson, druggist.	" "
Moorestown	Board of Health.	1.00 p. m.
Morris Plains	State Hospital.	3.00 p. m.
Morristown	H. M. Smith, druggist.	" "
Mount Holly	E. B. Jones, druggist.	2.00 p. m.
Mullica Hill	Dr. S. F. Ashcraft.	" "
Newark	Dr. T. W. Corwin.	4.30 p. m.
New Brunswick	J. H. Van Duerzen, druggist.	5.00 p. m.
"	Wm. Rust & Sons, druggists.	" "
Newport	Dr. S. E. Robinson.	" "
Newton	Board of Health.	1.30 p. m.
North Plainfield	Board of Health.	" "

## 210 REPORT OF THE BOARD OF HEALTH.

Town.	Repository.	Mail Leaves.
Nutley	Henry T. Lefferts, druggist.	
Ocean City	Bourse Pharmacy	
Ogdensburg	Dr. L. C. Burd	
Old Bridge	Dr. I. C. Crandall	
Orange	Orange Memorial Hospital	3.50 p. m.
"	Abram Master	" "
"	L. E. Fiesler, druggist	" "
"	S. V. Beegle, druggist	" "
Oxford	James A. Allen, druggist	
Palmyra	Dr. L. L. Sharp	
Park Ridge	Dr. H. C. Neer	
Parsippany	Dr. E. P. Cooper	
Passaic	Carroll Drug Co.	
"	St. Mary's Hospital	
"	Berger & Richter, druggists	
"	Dr. H. C. Reynolds	
"	Otto Lane, druggist	
"	Van Riper & Co, druggists	
Paterson	Board of Health	12.00 m.
"	Dr. W. H. Lowe	" "
"	Dr. H. S. Willard	" "
"	Gurdon E. Pellett, druggist	" "
Penn Grove	Robbin's Pharmacy	
Perth Amboy	Board of Health	
Phillipsburg	Dr. J. H. Griffith	
Pitman	Dr. L. N. Slaughter	10.00 a. m.
Plainfield	Board of Health	2.00 p. m.
"	Dr. W. H. Murray	" "
"	Muhlenberg Hospital	" "
Pleasantville	Dr. J. H. Sorth, Jr.	
Pompton Lakes	Dr. J. C. Morgan	
Port Norris	Dr. S. T. Day	
Port Oram	Dr. H. W. Kice	
Princeton	Marsh & Burke, druggists	5.00 p. m.
"	W. L. Briner, druggist	" "
Rahway	Geo. F. Brown, druggist	4.00 p. m.
"	New Jersey Reformatory	" "
Ramsey	Vanderbeek Drug Co.	
Raritan	Board of Health	2.00 p. m.
Red Bank	Chas. A. Minton & Co., druggists	2.30 p. m.
Ridgefield Park	Dr. Henry C. Elsing	
Ridgewood	H. A. Tice, druggist	
"	Dr. W. L. Vroom	
Riverside	Warren C. Pine, druggist	4.00 p. m.
Riverton	Dr. Alex. Marcy, Jr.	
Rockaway	Dr. Geo. H. Foster	2.30 p. m.

Town.	Repository.	Mail Leaves.
"	Dr. F. W. Flagge	" "
Roselle	Jay W. Rewalt, druggist	
Rutherford	Board of Health	
Salem	Salem Pharmacy	12.00 m.
"	Loesser's Pharmacy	" "
"	Jno. E. Davis, druggist	
Sea Bright	Sea Bright Pharmacy	
Shiloh	Dr. E. G. Hummel	
Somerville	James N. Case, druggist	1.00 p. m.
South Amboy	Dr. E. V. Meacham	
South Bound Brook	Dr. J. T. Robinson	
South Orange	Dr. H. A. Pulsford	
"	Mrs. J. A. Griffing, druggist	
"	Jas. W. Gladhill, druggist	
South River	Dr. S. E. Selover	
"	Dr. F. W. Bissett	
Springfield	Dr. J. A. Stites	
Spring Lake	D. H. Hills, druggist	
"	Dr. Wm. N. Trout	
Stanhope	Nelden's Pharmacy	
Stewartsville	Dr. F. W. Curtis	
Succasunna	Dr. N. H. Adsit	
Summit	W. T. Green, druggist	12.00 m.
"	W. H. Rogers, druggist	" "
Sussex	Dr. H. D. Van Gaasbeek	
Swedesboro	Guest & Guest, druggists	12.00 m.
Toms River	Dr. Frank Brouwer	
"	Dr. R. R. Jones	
Town of Union	August Frank, druggist	
	(Weehawken.)	
Trenton	Board of Health	
"	Mercer Hospital	
"	Geo. W. McGuire, druggist	
"	Jno. J. Strasser, druggist	
"	James S. Mathis, druggist	
"	Lewis W. Long, druggist	
"	G. D. Laird, druggist	
"	A. S. Holcombe, druggist	
"	D. Wiley Baker, druggist	
Tuckahoe	Dr. J. S. Douglass	
Tuckerton	Reeve's Pharmacy	
Upper Montclair	J. H. Laubenheimer	
Verona	Verona Pharmacy	1.00 p. m.
Vincentown	Frank S. Hilliard, druggist	
Vineland	A. M. Pierson, druggist	11.00 a. m.
Wanaque	Dr. D. N. Shippee	



Town.	Repository.	Mail Leaves.
Washington	Dr. Chas. N. Williams	1.00 p. m.
Weehawken Heights	Wm. Kyvitz, druggist	
Westfield	Frutchey & Hathaway, druggists	2.30 p. m.
"	Bayard Pharmacy	" "
West Hoboken	A. Giray, druggist	
"	Frank H. Eckert, druggist	
"	Joseph Parentini, druggist	
Westwood	Dr. Theodore E. Townsend	
Whippany	Dr. H. S. Wheeler	
Williamstown	Dr. J. G. Edwards	
Windsor	Dr. George A. Silver	
Woodbridge	Board of Health	
"	Dr. E. W. Hoagland	
"	Dr. I. T. Spencer	12.30 p. m.
Woodbury	J. W. Merritt, druggist	
Woodstown	Buzby's Pharmacy	
Woodstown	Harry Guest, druggist	" "

Outfits for sending specimens from suspected cases of diphtheria, pulmonary tuberculosis, typhoid fever and malaria are kept at the repositories named in the above list and may be obtained from them on request. The figures stating the time when the mails leave refer to the hours when the mails close at the post-office. To insure transportation by the mail given, it is advisable that specimens be left at the post-office at least fifteen minutes before the mail closes. It sometimes happens that mailing cases are mistaken by postmasters of local offices for third or fourth-class mail matter and postage is charged at these rates. In order to insure speedy transportation, it is desirable that the attention of the postmaster be called to the fact that postage on these packages is paid at letter rates, and they should therefore be forwarded with first-class mail.

Examination of water from public and private water supplies.—For some years the feasibility of making periodic analyses of the public water supplies throughout the State has been considered and an attempt has been made to begin this work, but owing to lack of time and to the difficulty of getting the samples collected regularly, the work has been very incomplete. No investigation can be of more importance than this, and the necessity for it is becoming more and more acute in this State on account of its rapidly increasing density of population. Increased facilities for the performance of these analyses and especially for the proper collection of the necessary samples should certainly be provided.

Results of the analyses made during the year are given in the following table:

Results of Analyses of Samples of Water from Certain City Supplies. Parts Per Million.

NO.	DATE.	LOCALITY.	Color.	Oder, coal.	Oder, bot.	Turbidity.	Total solids.	Loss on ignition.	Mineral residue.	NITROGEN	
										As ammonia.	By alkaline permanganate.
C 3238	Feb. 25, 1904	Beverly	0 0	1 e	174.0	114.0	60.0	.014	.015		
C 3239	" 25 "	"	1 g	3 v	122.0	36.0	86.0	.162	.348		
E 628	" 27 "	Canoe Brook	15 0	0	5 132.0	40.0	92.0	.000	.042		
E 609	Nov. 9 1903	Helmetta	8	1 v	20 84.0			.016	.058		
E 610	" 9 "	"	0	3 v	0 84.0			.010	.046		
E 612	" 4 "	Hoboken	32	1 v	2 83.0			.014	.128		
E 635	Jan. 5, 1904	"	30 1 v	3 v	10 73.0	13.0	60.0	.017	.116		
E 641	Mar. 3 "	"	28 1 v	1 v	15 68.0	30.0	38.0	.016	.138		
E 658	Apr. 25 "	"	22 0	1 v	3 64.0	26.0	38.0	.026	.120		
E 666	June 1 "	"	30 1 v	4 v	5 85.5	28.5	57.0	.018	.176		
E 780	Oct. 22 "	"	35 1 v	0	3 103.0	34.0	69.0	.024	.142		
E 602	Nov. 4 1903	Jersey City	35	1 v	3 70.0			.016	.142		
E 634	Jan. 5, 1904	"	27 1 v	2 v	15 57.0	21.0	36.0	.024	.146		
E 647	Mar. 4 "	"	30 2 v	3 v	10 57.0	25.0	32.0	.032	.100		
E 657	Apr. 25 "	"	25 0	1 v	2 58.0	20.0	38.0	.018	.118		
E 665	June 1 "	"	35 2 v	4 v	5 83.5	28.0	55.5	.010	.096		
E 781	Oct. 22 "	"	30 1 v	2 v	3 90.0	31.0	59.0	.022	.142		
E 625	Dec. 1 "	Lambertville	2	1 e	2 98.0	26.0	72.0	.048	.112		
E 792	July. 29 1904	Moorestown	20 0	1 v	2 70.0	44.0	26.0	.002	.094		
E 682	Aug. 28 "	"	50 1 v	3 v	8 104.0	34.0	70.0	.000	.010		
E 622	Nov. 24 1903	Mount Holly	13	norm.	1 39.0			.004	.038		
E 611	" 9 "	New Brunswick	66	2 e	7 65.0			.020	.166		
E 618	" 19 "	"	64	1 v	2 48.0			.006	.088		
E 638	Jan. 19 1904	"	32 1 v	3 v	20 48.0	20.5	27.5	.054	.116		
E 632	Feb. 17 "	"	35 1 v	3 v	30 48.0	20.0	28.0	.032	.140		
E 681	June 30 "	"	80 1 v	2 v	1 58.0	32.0	26.0	.008	.156		
E 667	Aug. 12 "	"	70 1 v	2 v	18 60.0	31.0	29.0	.028	.170		
E 651	Mar. 10 "	Princeton	0 0	1 e	0 99.0	29.0	70.0	.004	.012		
E 671	June 20 "	Rahway	28 0	0	10 172.0	38.0	134.0	.032	.160		
E 646	Feb. 25 "	Runyon	0 0	2 e	0 39.0	12.0	27.0	.012	.004		
E 782	Oct. 25 "	Salem	20		2 192.0	66.0	126.0	.000	.070		
A 3095	July 16 "	Sussex	1 e	1 e				.020	.118		
E 700	" 21 "	Toms River	4 0	0	2 25.0			.000	.036		
E 723	Sept. 21 "	Tuckerton	1 v	2 v				.004	.098		
E 724	" 21 "	"	1 v	1 v				.004	.074		
E 661	" 12 "	Vineland			149.0	70.0	79.0	.7620	.602		
E 606	Nov. 12 1903	Westwood	12	1 e	70.0			.008	.032		

Results of Analyses of Samples of Water from Certain City Supplies.  
Parts Per Million.

	NITROGEN.			Iron.	Hardness.	Alkalinity.	Chlorine.	As nitrates.*	As nitrites.	Bacteria per com.	B. coli communis present in	APPEARANCE ON IGNITION.
	As nitrates.*	As nitrites.	Chlorine.									
.000	5.600	20.7		.17						none		White fumes.
.008	.380	5.25								10cc.		Slight darkening
.002	.200	2.5		29.9	.13					none		
.000	2.700	5.2	67.	75.7	.10					none		
.002	2.200	12.6	2.0	19.5	4.40					none		
.001	.000	3.2	40.0	22.0	.10					none		
.002	.400	3.6	45	46.3						none		Much darkening.
.002	.200	3.2	27	31.2	.32					none		Some darkening.
.0013	.120	2.1	30	33.8	.35					none		Slight darkening.
.000	.000	3.0	42	44.3	.45					none		Some blackening.
.000	.800	4.7	47		.45					1cc.		Some blackening.
.002	.000	2.6	28.0	30.0	.60					none		Considerable blackening
.0015	.300	3.0	21	23.7						none		Some darkening.
.0015	.240	2.2	17	27.3						none		Some darkening.
.003	.120	2.0	19	23.4	.35					none		Some darkening.
.000	.000	2.8	33	36.4	.50					none		Some blackening.
.004	.800	3.6	45							none		
.004	.900	6.0								none		Slightly brown.
.003	2.400	3.8	7.	18.2	.60	730				10cc.		Slight darkening.
.010	.600	8.0	14	28.6	2.00					10cc.		Considerable darkening.
.001	.050	2.0	3.0	12.5	.25					none.		
.002	.400	4.0	5.0	11.0	1.20					none		
.001	.000	4.3	7.0	15.5	.95					none		
.0015	.520	4.8	0	11.1	.15					none		Much darkening.
.0015	.280	3.8	2.0	4.8	.60	240				none		Some darkening.
.001	.120	3.2	7.0	7.9	1.30	1200				none		Much blackening.
.001	.160	3.6	6.	6.4	1.00	3200				1cc.		Some darkening.
.000	.460	2.1		51.4	0					none		
.005	.600	8.7	67	80.0	.50					none		Some darkening.
.002	.000	1.9	30	32.5	2.85					none		No darkening.
.001	.000	17.0	92		1.10					1cc		Blackened.
.000	.000	2.0			4.00					none		
.0015	.800	6.0	1.0		4.00					none		
.000	.000	8.0								10cc		
.000	.000	8.0								none		
.200	2.200	41.0								0.1cc.		Much darkening.
.001	1.650	4.0	17.0	21.0	.60					none		

Table 5.—Results of Analyses of Samples of Water Taken From Private Supplies.  
Parts Per Million.

No.	DATE.	LOCALITY	Odor, cold.	Odor, hot.	Nitrogen			As Ammonia.	By Alkaline Permanganate.	As Nitrites.	As Nitrates.	Chlorine	B. coli communis present in.
					As Ammonia.	As Nitrites.	As Nitrates.						
E 705	Aug. 2,	1904 Allwood.	0	1 w	.008	.072	.002	4.000	11.0	10cc.			
E 650	Apr. 20	" Alpha.	0	0	.000	.005	.005	.360	8.2	none			
E 648	Aug. 20	" Asbury Park.	0	0	.008	.030	.001	1.840	4.2	none			
E 713	Aug. 10	" Benmat.	0	0	.020	.076	.021	4.800	21.6	none			
D 1923	July 2	" Beverly.	0	1 e	.020	.088	.004	40.800	46.0	1cc.			
E 618	Nov. 13,	1903 Ewing Township.	2 w	4 w	.018	.064	.002	8.000	9.0	1cc.			
E 778	Oct. 13,	" Flemington.	1 v	3 v	.044	.114	.004	8.000	7.0	1cc.			
E 644	Feb. 26,	" Hamilton Township.	0	0	.000	.028	.0015	.120	1.8	none			
E 642	" 7	" Hawthorne	0	0	.076	.082	.010	.012	65.0	none			
E 731	Sept. 2	" "	0	1 e	.046	.070	.005	.600	89.0	10cc.			
E 732	" 2	" "	2 o	2 e	.002	.036	.000	.400	5.0	10cc.			
E 733	" 2	" "	0	1 o	.010	.028	.000	.160	4.0	10cc.			
E 734	" 2	" "	3 s	3 s	too high to read	too high to read	.015		1460.0	4.0	10cc.		
E 735	" 2	" "	0	0	.018	.130	.008	32.000	41.5	none			
E 620	Dec. 10,	1903 Irvington.	0	2 d	.008	.024	.002	12.800	22.0	none			
E 683	June 26,	1904 " Kearney.	0	0	.318	.025	.021	14.000	25.0	1cc.			
D 3107	Oct. 20	" "	0	normal	.000	.023	.002	1.800	7.0	1cc.			
E 620	Nov. 21,	1903 Lambertville.	0	0	.004	.034	.000	5.200	7.0	1cc.			
E 697	July 20,	1904 Lawrenceville.	0	1 w	.083	.182	.000	.000	1.5	10cc.			
E 659	Aug. 26	" Moorestown.	0	1 s	.068	.050	.000	3.200	9.2	10cc.			
E 608	Nov. 7,	1903 North Plainfield.	0	1 s	.068	.050	.000						

Table 5.—Continued—Results of Analyses of Samples of Water Taken From Private Supplies.

No.	DATE.	LOCALITY.	Odor, hot.	Odor, cold.	As Ammonia.	As Alkaline Ferrihydrate.	As Nitrates.	As Nitrates.	Chlorine.	B. coli counts present in.
E 730	Oct. 13, 1904	Oxford Township.	1 v	0	.022	.018	.000	.400	6.0	none
E 745	" 13 "	" " " " " " " "	0	0	.000	.040	.000	.000	4.5	10cc.
E 648	Mar. 3 "	Pasquot "	4 o	5 o	.332	.752	.018	1.200	12.0	1cc.
E 652	" 22 "	" " " " " " " "	0	1 l	.263	.306	.032	12.100	56.2	1cc.
E 653	" 23 "	" " " " " " " "	0	0	.002	.004	.001	1.100	6.25	none
E 672	June 15 "	" " " " " " " "	0	0	1.138	.100	.030	1.600	12.5	none
E 718	Aug. 29 "	Paterson "	0	0	.068	.000	.000	1.600	8.00	10cc.
E 707	Aug. 12 "	Pat. Pleasant "	0	le	.004	.004	.000	1.320	32.0	none
E 688	June 30 "	Princeton "	0	0	.000	.002	.0015	10.000	37.5	1cc.
E 706	Aug. 5 "	Randolph Township.	0	2 e	.024	.088	.016	15.000	20.5	1cc.
E 602	May 9 "	Raritan Township	0	0	.000	.016	.000	2.240	10.0	10cc.
E 740	Sept. 8 "	Rearville.	1 o	0	.000	.172	.042	12.000	87.0	10cc.
E 703	Aug. 2 "	Richfield.	0	0	too high to read	.172	.016	11.200	27.0	1cc.
E 704	" 2 "	" " " " " " " "	0	1 v	.016	.030	.010	14.400	12.0	1cc.
E 640	Jan. 21 "	Riverdale.	0	0	.002	.066	.002	.000	2.8	none
E 770	Oct. 11 "	South Branch.	0	1 v	.000	.226	.015	4.000	6.0	1cc.
E 627	Dec. 15, 1903	South Orange.	off.	off.	.000	.120	.013	2.500	13.4	
A 1938	May 2, 1904	Swansea.	0	1 v	.000	.040	.001	.120	35.0	none
A 2075	June 3 "	" " " " " " " "	0	0	.000	.022	.000	.000	39.0	none
E 689	" 11 "	" " " " " " " "	0	0	.026	.059	.003	1.080	6.25	1cc.
E 623	Dec. 1, 1903	Trouton.	0	2 e	.016	.062	.000	4.000	33.2	1cc.
E 777	Oct. 13, 1904	" " " " " " " "	0	2 e	.008	.040	.001	1.800	5.4	
E 607	Dec. 17, 1903	Vinehand	0	2 bony	.004	.010	.001	1.000	7.0	1cc.
E 017	" 17 "	" " " " " " " "	Grassy	0	.000	.114	.007	.350	2.8	
E 018	" 17 "	" " " " " " " "	off.	0	.000	.130	.008	.250	2.6	
					8.230	.800	.090	.400	42.0	

As was to be expected, most of these waters were found to be polluted. It should be evident to every intelligent person that wells located in thickly settled districts and surrounded by privy vaults and cesspools are particularly liable to pollution of a dangerous character. Most of the towns and cities of the State have public water supplies which are far superior to and much safer than ordinary city well water. The majority of the analyses referred to were made in compliance with requests from officers or local boards of health who were desirous of causing the use of the wells to be abandoned if found polluted. The fact that requests for examinations of this sort are rapidly increasing is an indication that the public is at last beginning to realize the danger incurred by using polluted water. The laboratory is prepared at any time to examine samples of water, but in order to systematize the work and keep it within reasonable limits the following regulations governing the analysis of such samples will be rigidly enforced.

1. Any person desiring the analysis of a sample of water for the purpose of determining its fitness for potable use must apply to the local board of health of the town or city in which he resides. If that board, or its executive officer, considers that the circumstances render an examination of the water desirable, he will approve the application and forward it to the Secretary of the State Board of Health. Should the latter approve the application, he will either instruct an inspector of the State Board to collect the sample or forward the application to the Director of the Laboratory of Hygiene, who will ship a sample bottle to the health officer making the application.

2. The sample must be collected by the health officer who forwards the application, or, if there is no health officer in the town, by some person designated by the Secretary of the State Board of Health. The person collecting the sample must sign a certificate stating that he has done so and must fill in fully the sheet sent for the purpose of giving a description of the source of the water.

3. Samples collected in any other way or by any other persons than those described above, or collected in bottles not furnished by the laboratory, will not be received for examination.

4. Transportation charges on sample containers must be paid both ways by the persons interested.

5. The State Board of Health assumes no responsibility for the correctness of analyses made of samples collected by persons other than inspectors of the Board.

Besides the examination of water from public supplies, samples have been examined from wells and springs, used as private supplies, to determine their fitness for potable use. The results of these analyses will be found in the following table:

Examination of water from wells on dairy premises.—During the year a considerable number of analyses have been made of waters from wells or springs on dairy premises, the results of which are given in the following table.

Table 6.—Results of Analyses of Samples From Wells on Dairy Premises, Parts Per Million.

No.	DATE.	LOCALITY.	Odor, cold.	Odor, hot.	NITROGEN.				Chlorine.	B coli commae present in.
					As Ammonia.	By Alkaline Permanganate.	As Nitrates.	As Nitrates.		
B 1504	Nov. 9	1003 Belleville.	off.	off.	.415	.388	.010	44,800	331.0	0-1cc.
B 1505	" 0	"	0	1-o	.010	.025	.001	.900	4.2	none
D 1630	July 2	1004 Belmar.	0	0	.008	.040	.081	2,400	31.0	7
E 677	Sept. 1	Bridgewater Township	5-o	1-o	too high to read	too high to read	.231	3,200	46.0	none
D 1043	Apr. 21	Coll's Neck.	3-o	3-o	1.096	.120	.013	.000	5.5	none
D 1774	May 28	"	4 off.	5 off.	too high to read	.154	.002	0,000	5.2	none
D 3045	Sept. 30	"	1 w	1 w	.008	.228	.001	1,000	11.0	10cc.
D 2002	July 29	Cranford	0	1 e	.000	.040	.012	.900	9.1	10cc.
D 2000	" 29	"	0	0	.002	.028	.001	.480	9.6	1cc.
D 1883	" 26	Cranford Township	0	0	.002	.060	.002	4,400	18.0	1cc.
D 1885	" 26	"	0	0	.010	.044	.002	3,000	18.0	10cc.
D 3044	Sept. 24	"	0	0	.000	.024	.0015	2,000	10.0	1cc.
A 3282	" 8	Dover	1 woody	1 woody	.000	.042	.007	1,000	36.5	1cc.
D 3023	" 16	Eatonstown.	0	0	.006	.048	.000	.000	7.6	10cc.
D 2075	Aug. 12	1004 Fair Haven	0	2-e	.026	.028	.000	.000	0.0	10cc.
D 2076	Aug. 25	"	1-e	1-a	.002	.108	.002	.000	82.0	10cc.
D 1688	Apr. 26	Fair Haven	1-e	1-a	.002	.400	.028	.300	7.6	10cc.
D 1689	May 28	Farmingdale.	1 e	2-a	.048	.044	.024	.900	45.0	none.
D 1689	May 7	"	2 e	3 v.	.012	.074	.000	1,020	4.0	none.
D 1688	" 7	"	2 e	2 e	.152	.102	.012	2,240	48.0	10cc.
D 1897	" 14	"	1 e	2 e	.000	.034	.002	10,000	63.0	.....
D 3004	Oct. 5	"	0	0	.234	.070	.042	3,200	20.0	10cc.

Table 6.—Continued.—Results of Analyses of Samples From Wells on Dairy Premises, Parts Per Million.

No.	DATE.	LOCALITY.	Odor, cold.	Odor, hot.	NITROGEN.				Chlorine.	B coli commae present in.
					As Ammonia.	By Alkaline Permanganate.	As Nitrates.	As Nitrates.		
E 715	Sept 19	1004 Hamilton Township.	0	0	.000	.048	.004	2,400	16.0	1cc.
E 716	" 19	"	0	0	.000	.016	.001	4,500	17.0	1cc.
E 717	" 19	"	0	0	.030	.030	.002	.200	9.0	10cc.
E 679	Sept 4	Hillsboro Township	0	0	.020	.060	.014	8,000	10.0	1cc.
D 3010	" 16	Holmdel	0	0	.018	.052	.0015	14,400	9.0	1cc.
E 540	" 28	Hopewell Township	0	0	.006	.078	.020	13,400	27.0	1cc.
E 542	" 28	"	0	0	.000	.060	.003	1,400	4.5	10cc.
D 3065	Oct. 5	Howell	0	0	.012	.038	.042	16,000	51.0	none.
E 630	Jan. 5	Huntsville.	1 off.	3 off.	.050	.270	.048	1,800	8.0	none.
D 1280	Jan. 7	"	0	0	.114	.206	.002	.000	9.0	none.
E 608	May 25	"	0	0	.182	.036	.000	.000	10.5	none
G 800	June 6	Jersey City	4 off.	5 off.	too high to read	too high to read	.....	.....	144.0	10cc.
G 805	" 6	"	0	2 e	.082	.068	.050	8,000	23.0	1cc.
G 804	" 6	"	0	0	.030	.202	.040	32,000	180.0	1cc.
E 679	June 7	"	1 e	1 e	.008	.038	.020	28,000	70.0	10cc.
E 674	" 8	"	1 m	3 m	.000	.040	.126	14,000	43.0	1cc.
E 676	" 8	"	1 m	4 m	.170	.182	.147	15,900	106.0	1cc.
E 676	" 8	"	2 m	2 m	.150	.108	0.300	2,400	23.0	1cc.
D 1669	Apr. 30	Jerseyville	1 w	5-o	.009	.042	.001	10,000	21.0	none
D 3020	Sept. 19	Limerick	4-o	1 e	.004	.016	.0015	.560	7.0	1cc.
D 2080	Aug. 20	Little Silver	0	0	.006	.040	.002	7,200	17.5	1cc.
D 2081	" 20	"	2 w	0	.064	.003	2,400	15.5	1cc.	
D 2082	" 20	"	1 v.	2 v.	.008	.000	.252	2,400	30.0	1cc.
D 2083	" 20	"	0	0	.018	.050	.000	2,400	17.5	1cc.
D 2084	" 20	"	0	1 e	.010	.038	.0015	5,000	24.5	10cc.

Table 6.—Continued.—Results of Analyses of Samples From Wells on Dairy Premises, Parts Per Million.

No.	DATE.	LOCALITY.	Odor, cold.	Odor, hot.	NITROGEN.					Chlorine.	B. coli counts present in.
					As Ammonia.	By Alkaline Permanganate.	As Nitrates.	As Nitrites.	As Nitrites.		
D. 3002	Aug. 30 1904	"	0	1 e	.....	.....	.....	.....	.....	36.0	10cc.
D. 3003	" 30 "	"	0	2 off.	.....	.....	.....	.....	.....	22.0	10cc.
D. 3015	Sept. 16 "	Middletown	3 e	2 e	.....	.....	.....	.....	.....	10.0	10cc.
D. 3017	" 16 "	Middletown Township	0	0	.....	.....	.....	.....	.....	2.400	15.0 lcc.
D. 3018	" 16 "	"	1 v.	0	.....	.....	.....	.....	.....	8.000	15.0 lcc.
D. 3016	" 19 "	"	1 e	0	.....	.....	.....	.....	.....	3.200	9.0 lcc.
D. 1281	Apr. 7 "	Monroe	0	0	.....	.....	.....	.....	.....	4.000	24.0 lcc.
D. 1987	July 26 "	Mountainside Borough	0	0	.....	.....	.....	.....	.....	13.000	70.0 lcc.
D. 2003	July 29 "	New Orange.	1 v.	1 v.	.....	.....	.....	.....	.....	4.800	33.0 lcc.
D. 2077	Aug. 25 "	Oceanic	3-0	0	.....	.....	.....	.....	.....	20.000	49.5 lcc.
E. 538	" 28 "	Pennington	2 monthly	2 monthly	.....	.....	.....	.....	.....	4.000	44.0 lcc.
A. 3002	July 14 "	Quarryville.	0	1 e	.....	.....	.....	.....	.....	0.880	2.0 lcc.
A. 3003	" 14 "	Rumson Road.	0	0	.....	.....	.....	.....	.....	1.000	3.0 lcc.
D. 2070	Aug. 20 "	Seaneunc.	0	0	.....	.....	.....	.....	.....	6.000	90.0 lcc.
E. 609	May 19 "	Shrewsbury	0	1 e	.....	.....	.....	.....	.....	11.200	30.7 lcc.
D. 2083	Aug. 20 "	"	0	0	.....	.....	.....	.....	.....	4.000	28.0 none
D. 3005	" 30 "	"	0	0	.....	.....	.....	.....	.....	5.600	50.0 none
D. 3006	" 30 "	"	1 v	1 v	.....	.....	.....	.....	.....	8.000	61.0 lcc.
D. 3007	" 30 "	"	4 0	2 0	.....	.....	.....	.....	.....	7.300	11.0 none
D. 3008	" 30 "	"	2 0	1 0	.....	.....	.....	.....	.....	12.000	41.0 lcc.
D. 3040	Oct. 3 "	Somerville.	0	0	.....	.....	.....	.....	.....	9.400	18.0 none
E. 678	Sept. 1 "	"	0	0	.....	.....	.....	.....	.....	0.400	15.0 none

Table 6.—Continued.—Results of Analyses of Samples From Wells on Dairy Premises, Parts Per Million.

No.	DATE.	LOCALITY.	Odor, cold.	Odor, hot.	NITROGEN.					Chlorine.	B. coli counts present in.
					As Ammonia.	By Alkaline Permanganate.	As Nitrates.	As Nitrites.	As Nitrites.		
D. 3022	" 16 "	South Eastontown.	2 0	2 0	.....	.....	.....	.....	.....	25.0	1cc.
D. 1988	July 26 "	Springfield.	0	0	.....	.....	.....	.....	.....	1.600	7.5 lcc.
A. 3252	Aug. 20 "	Staffing.	1 monthly	2 monthly	.....	.....	.....	.....	.....	1.600	4.5 lcc.
A. 3006	July 16 "	Sussex.	0	1 e	.....	.....	.....	.....	.....	2.800	5.0 lcc.
A. 3007	" 16 "	"	1 e	1 e	.....	.....	.....	.....	.....	0.12	2.0 lcc.
D. 3009	Aug. 30 "	Tinton Falls	1 e	1 v	.....	.....	.....	.....	.....	5.600	46.0 lcc.
D. 3010	" 30 "	"	2 v	2 v	.....	.....	.....	.....	.....	2.400	12.0 lcc.
D. 3011	" 30 "	"	1 0	1 0	.....	.....	.....	.....	.....	.400	20.0 lcc.
A. 3004	July 16 1904	Walkhill.	1 e	1 e	.....	.....	.....	.....	.....	15.000	3.0 lcc.
D. 3021	Sept. 16 "	Wayside.	1 e	0	.....	.....	.....	.....	.....	2.400	19.0 lcc.
D. 1985	July 26 "	Westfield.	0	0	.....	.....	.....	.....	.....	.300	9.0 lcc.
D. 3043	Sept. 24 "	Westfield Township.	1 woody	0	.....	.....	.....	.....	.....	2.000	9.0 lcc.
D. 1023	Apr. 15 "	Wickatunk.	0	0	.....	.....	.....	.....	.....	2.500	5.0 none
E. 730	Sept. 2 "	Blank	0	0	.....	.....	.....	.....	.....	12.000	12.0 lcc.

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In interpreting these results much weight has been given to the result of the examination for *B coli communis*. While it seems established that this organism may be found at times in small numbers in specimens of water which are, when judged by chemical standards, uncontaminated; yet it is equally well established that this organism does not lead a saprophytic existence in the soil or in water, and the only considerable source of supply is from the intestinal tract of animals, (mammals). While the occasional presence of this organism in small numbers in water, otherwise unobjectionable, may be indicative of such occasional pollution as may occur in any body of water exposed to the visitations of animals; the continuous presence in a water in fairly large numbers can hardly mean anything except that the water is continually receiving polluting material. This statement applies with especial force to wells, inasmuch as these when properly constructed are not exposed to accidental invasion of colon bearing material. Raw sewage contains this organism in extremely large numbers, 10,000 to 100,000,000 per ccm. It is evident, therefore, that an estimation of the number of colon bacilli per ccm. may under certain circumstances give a rough approximation of the extent of pollution.

Nothing is more likely to lead to error than the establishment of rigid standards of comparison in the interpretation of results of water analyses. To a very large extent each water must be considered by itself, and the results of analyses interpreted in conjunction with a careful study of the source of supply and its surroundings. Nevertheless, in order to make comparisons possible, some kind of a standard must be established. With dairy wells we have disregarded entirely the presence of colon bacilli when they occur in fewer numbers than 1 in 10 ccm. If the number present is between 1 and ten in 10 ccm., the water is regarded as suspicious, if the chemical analysis reveals no distinct evidences of pollution. If the water contains one or more per ccm., it is regarded as being polluted; and, if more than 10 per ccm., as seriously polluted and unfit for domestic uses. Of course if chemical analysis reveals distinct evidences of pollution, a water may be condemned irrespective of the bacterial findings. Even though such a sample may be temporarily free from the colon bacillus, it is always possible, and usually highly probable, that it will become infected at some subsequent period. The analysis of sample E 677 will serve to illustrate this. This specimen was taken from a dug well 30 feet deep, in the bottom of which a pipe had been driven for a further distance of 50 feet. This well is located within 5 feet of a filthy barnyard, the drainage from which runs directly into the well. Chemical analysis indicates that this pollution is great and presumably recent, and the description of its surroundings shows that it would be almost impossible for good water to be obtained from such a well. The absence of the colon bacillus may be accounted for by its removal by filtration of the polluting material through the soil before it reaches the well. But it is never safe to trust to natural soil filtration through short distances to remove bacteria. While a properly constructed sand filter is an exceedingly effective agent for the removal of bacteria when properly cared for

and kept perfectly homogeneous throughout, yet filtration through natural soil for short distances cannot be relied upon, because it is impossible to maintain a homogeneous structure in it, and channels form which convey the unaltered sewage for long distances. This is especially true in some sections of this State where the underlying rock is a soft friable red shale, seamed by innumerable stratification cracks whose inclination is but slightly removed from horizontal. In such rock water travels rapidly for long distances, and a focus of pollution may make itself felt over a large area.

During the year analyses of water samples from wells located at certain railroad stations in the State have been made, to determine whether or not these wells furnish satisfactory drinking water. It is gratifying to be able to state that the railroad companies, when notified that wells which were used to provide water for drinking purposes in railroad stations were polluted, promptly abandoned their use. The following table shows the results of the analyses of these samples:

Table 8.—Results of Analyses of Water Taken From Wells at Railway Stations,  
Parts Per Million.

No.	DATE.	LOCALITY.	Odor, cold.	Odor, hot.	NITROGEN.				As Nitrates.	Chlorine.	B. coli Com- munitis present in.
					As Ammonia.	As Alkaline Permanganate.	As Nitrates.	As Nitrates.			
D 1439	Jan. 25, 1904	Atlantic Highlands.	0	0	.004	.039	.005	3,080	17.4	none	
D 1407	Feb. 20 "	Bayonne	0	0	.040	.144	.006	2,720	29.0	none	
D 1603	Apr. 6 "	"	0	0	.002	.050	.002	2,240	22.0	10cc.	
D 1604	" 6 "	"	0	0	.002	.042	.006	8,000	20.0	10cc.	
D 1485	Feb. 16 "	Belford	0	0	too high to read	.200	.005	2,800	13.0	none	
D 1620	Apr. 15 "	Morganville	0	1 c	.024	.060	.014	11,320	10.5	none	
D 1450	Jan. 29 "	Rockaway	0	1 c	high	very high	.024	10,000	86.7	none	

Table 8.—Miscellaneous Analyses of Water.  
Parts per Million.

No.	DATE.	LOCALITY.	Odor, cold.	Odor, hot.	NITROGEN.				B. coli communitis present in.	
					as ammonia.	by alkaline permanganate.	as nitrates.	as nitrates.		
A 3021	July 14, 1904	Carr's Quarries	0	2 c	.004	.030	.001	.200	2.0	1cc.
B 630	Jan. 5 "	Huntsville	1 c	3 c	.028	.270	.048	1,800	8.0	none
D 1440	Apr. 28 "	"	2 m	4 m	.000	.074	.032	.800	9.3	10cc.
D 1730	May 23 "	Kroyport	2 s	5 s	.158	.180	.018	.....	114.5	1cc.
B 714	Aug. 18 "	Neshanic.	.....	.....	.004	.038	.001	5,000	30.4	1cc.

Besides the analyses already given, a few others for various purposes have been made, and the results will be found in the following table:

**Bacterial analysis of water.**—On account of the difficulty of getting water samples to the laboratory promptly, the determination of the number of bacteria per cubic centimeter is not usually attempted. In every case, however, water samples are examined for *B. coli*. As the methods used in this laboratory (modifications of those proposed by Stone) differ somewhat from those used elsewhere, it seems desirable to give them in full.

Immediately after the receipt of the sample, one cubic centimeter and 10 ccm. are planted, in duplicate, in lactose-neutral-red broth (\*1) in Durham tubes (\*2) and incubated at 40 degrees C. for 18 to 24 hours. Those tubes in which no gas has formed, or where no decolorization of the neutral red has taken place, are discarded as being free from *B. coli*; from those showing gas, decolorization and fluorescence of the solution, 1 ccm. is removed, planted in carbol broth and incubated for 24 hours at 40 degrees C. From carbol broth transfers are made into ordinary fermentation tubes containing lactose-neutral red broth and incubated at 40 degrees for 24 to 48 hours. At the expiration of this time the amount of gas is measured and the gas formula determined. Those tubes which contain between 25 per cent. and 60 per cent. gas and whose gas formulae are approximately correct ( $H_2CO_3 : 2-1$ ) are further tested by plating in lactose litmus agar. Red colonies from these plates are tested in litmus milk, for reduction of nitrates, for indol, and examined for morphology and motility. Bacteria giving typical reactions for these tests are regarded as being *B. coli* communis.

When this method was first adopted, the usual form of fermentation tube was used for the first fermentation and the amount of gas and the gas formula determined after 48 hours. It was found, however, that the results obtained were quite valueless, neither the percentage of gas nor the formula showing any constancy. After passage through carbol broth the second fermentations show a very satisfactory constancy both as regards the total amount of gas and the ratio of hydrogen to carbon dioxide. It is rare that when the second fermentation tube shows a typical reduction of neutral red, from 30 per cent. to 45 per cent. of gas and a correct gas formula, that the organism isolated from it fails to respond to all the other tests for the colon bacillus.

No routine examinations are made for other organisms, as the result of the test for *B. coli* gives very satisfactory results, and the value of tests to demonstrate the presence of *B. enteritidis sporogenes* and sewage streptococci is doubtful on account of the difficulty of interpreting the results when obtained.

**Examination of Shellfish.**—During the year several examinations of shellfish from different parts of the State have been made for the purpose of determining, if possible, whether or not they had suffered deterioration by being immersed in water suspected of being polluted with sewage. Before sending oysters to market it is the custom to remove them from

the beds in which they are grown, and place them for a short time in floats immersed in brackish water in order to fatten them and thus improve their appearance. These floats are usually located at the mouths of rivers or smaller streams where the water at times is nearly fresh. New Jersey is a thickly populated State, and most of its rivers at the points where they empty into the sea are more or less polluted. The object of the investigations in question is to determine whether or not oysters fattened in these localities are to be regarded as dangerous to health. Numerous epidemics of typhoid fever have been caused by the ingestion of raw oysters, and it therefore seems proven that under suitable conditions the oyster has acted and may act as a carrier of infection. The most probable way in which the oyster becomes infected is by being immersed in water containing typhoid bacilli. Large quantities of water are constantly passing through the stomach of the oyster, and any organism present in water is likely to be found in greater numbers in the oyster than in the water. At the present time it seems almost useless to attempt to isolate the typhoid bacillus in the routine examination of shellfish, although it might occasionally be possible if they were present in fairly large numbers. It is very easy, however, to demonstrate the presence of the colon bacillus and make an approximate determination of the number of these organisms present. The methods used, which are modifications of those employed by Houston (\*1) in a similar investigation, are as follows:

Ten oysters from a given locality are selected, the shells thoroughly scrubbed with water, and finally rinsed with sterilized water. The operator's hands are then sterilized and the oysters are carefully opened with a sterile knife, the liquor in the shell being allowed to run into a sterile 1000 ccm. graduate. The oysters are finely cut up with sterile scissors and also placed in the graduate. (\*2) The volume of the mixture having been ascertained, the graduate is filled to the 1000 ccm. mark with sterile water and the mixture thoroughly stirred. Each of three Durham tubes containing lactose-neutral red, broth is now inoculated with 1 ccm. of the mixture, three others are planted with 1-10 ccm., three others with 1-100 and three others with 1-1,000 ccm., the amounts being measured in each case by adding 1 ccm. of the mixture to a suitable quantity of sterile water, shaking thoroughly, and using 1 ccm. of the dilution for planting. In this way amounts of the mixture corresponding respectively to 1-100, 1-1,000, 1-10,000 and 1-100,000 of an average oyster are used. These Durham tubes are treated in exactly the same way as similar tubes used for examining specimens of water for *B. coli*. (see p. 227).

The results of such of these examinations as have been completed are as follows:

\*1 14th Report of Commissioners on Treatment and Disposal of Sewage. Vol. III. 1904.

\*2 It would be preferable to run the bodies of the oysters through a small sterilized meat grinder.

\*1 Standard meat broth containing 1% lactose and .005% neutral red.

\*2 A 3x3-8 test tube inverted in a 6x3-4 tube containing 10 ccm. of lactose-neutral-red broth. Plain broth is filled into the tubes which are sterilized in the autoclave, the lactose and neutral red being added just before the tubes are used.



Table 9.—Examination of Shellfish.

Date.	No.	Kind.	Locality.	Average No. B. coli per oyster.	No. of B. coli per cum. in water from which oysters were taken.
1904.					
June 17		Clams	From Thoroughfare back of Atlantic City, near sewer outlet	100,000	
July 24	E 700	"	Atlantic City. Thoroughfare at sewer outlet	100,000	
" 24	E 701	"	Atlantic City. Thoroughfare 1½ miles north of sewer outlet	10,000	
" 24	E 702	"	Atlantic City. Thoroughfare 1½ miles south of sewer outlet	10,000	
Sept. 13	D 1313	Oysters.	Greenwich Piers, from floats in Cohansey Creek	1,000	
Oct. 8	D 3068	"	Rahway River, 4 miles below Rahway	10,000	0.1
" 24	D 3108	"	Bivalve. From floats on Maurice River	1,000	1.0
" 26	D 3112	"	Maurice River Cove. Ground No. 358.	50	0.0

At the present time the data are quite inadequate to permit an intelligent interpretation of results. It will be seen that the oysters thus far examined with the exception of Sample D 3,112, which was taken from a locality far removed from sources of possible pollution, contain the colon bacillus in very large numbers, but it must be remembered that these oysters came from localities which undoubtedly received polluted water. It will be necessary before it is possible to pass judgment on the results of bacterial analysis to make an extended series of observations on oysters from various localities, both good and bad. Houston (\*) has shown that coli-like organisms may be found in large numbers in oysters taken from beds which are apparently unpolluted. His tests are hardly complete enough to make it certain that the organisms isolated by him were really

B coli, but it is highly probable that they were, and his results show that much caution must be used in judging the quality of shellfish entirely by the result of bacterial analyses. Of course instances occur where pollution of the water in which the oysters are grown or fattened is so great that no error can be made by condemning them; but in most cases, at least in the present state of our knowledge, the bacterial examination must be regarded merely as supplementary to a careful and thorough sanitary examination of the localities in which the oysters occur.

It should not be forgotten that oysters are not necessarily rendered dangerous to health because they have access to and contain large numbers of the germs ordinarily present in sewage. Only when the sewage in question contains the specific organisms of typhoid fever or of the other water borne diseases does the use of oysters taken from water to which sewage is added become dangerous. The discovery of the colon bacillus in numbers sufficient to warrant the assertion that the oysters are actually obtaining sewage in appreciable quantities, therefore merely indicates that such bivalves may, at any time when the sewage becomes infected, act as carriers of disease. That they actually do this, the epidemics directly traceable to them clearly show; that such an occurrence is infrequent will readily be seen when we consider the enormous numbers of oysters, taken from localities which are undoubtedly highly contaminated, which are eaten raw without harmful effects. Great caution is therefore necessary in any attempt to restrict the distribution of shellfish from polluted localities lest unnecessary hardship be inflicted on those engaged in one of our most important industries. There can be no doubt that there is danger in using shellfish from polluted localities; there can also be no doubt that the danger is rapidly increasing as our streams become more and more polluted, but an adequate remedy is not easy to devise which will not more or less completely paralyze the industry.

Department of Foods and Drugs.—The work of this department has consisted, as for several years past, in the examination of certain substances particularly liable to sophistication, the systematic examination of milk and its products, and in the examination of water. The examination of water has already been discussed in the report of the bacteriological department. The variety of articles of food and drugs is limited for three reasons: (1) There is little or no necessity for investigating a large number of these products, which are regularly put on the market in a state of purity sufficient to meet all reasonable requirements; (2) it is only practicable to examine those substances whose degree of purity can be determined beyond question by well established methods of analysis; (3) the law under which these examinations are made is defective, in that it does not include many classes of substances which properly come within the jurisdiction of a pure food law. The following table shows the number of specimens examined during the year in this department:

\*4th Report of Commissioners on Treatment and Disposal of Sewage. Vol. III. 1904.

Table 10.—Table Showing the Number of Specimens Examined During the Year Ending October 31, 1904.

Article.	Above Standard.	Below Standard.	Total.
Milk .....	1335	276	1611
Foods .....	608	453	1042
Drugs .....	444	483	927
Totals .....	2387	1193	3580
Water .....			184
Shellfish .....			8
Total number of specimens examined .....			3772
Percentage of adulteration, 31.8%			

The analyses of water and the examination of shellfish have been included in this table, as no account of them has been credited to the bacteriological department, although fully half the work of water analysis and practically all of examining shellfish has been done in this department. The operation of these two departments overlaps more and more as time goes on, and it should be understood that certain investigations which enlist the services of both departments are classified with one or another largely as a matter of convenience.

**Examination of Milk.**—During the year the examination of milk has been confined to the determination of total solids and to the performance of tests for preservatives and coloring matter. Attention was called in the report of this department for 1903 to the necessity of establishing a legal minimum for the fat content of milk. The fat is usually regarded as the most valuable constituent of milk, and is certainly the most variable and easily tampered with; the necessity for a standard for fat is therefore imperative, and it is suggested that the proper minimum is that established by the U. S. Department of Agriculture, viz., 3.25 per cent. A legal requirement that milk should be continuously kept below a certain temperature, say 50 degrees F., would have an enormous influence for good on the milk supply of the State.

While it may be possible that the conditions under which milk is being produced in this State are improving, it is certain that they are not improving as rapidly as they should, or as they are doing in other states. Public opinion is at last awakening to the fact that milk, in order to be safe, must be the product of healthy cows, drawn and cared for in a cleanly manner, and the public is beginning to demand milk produced in this way. The amount of clean milk available is very small, there being several reasons why its production is limited. (1) Most of our market milk is produced by small farmers, who have neither the intelligence nor the capital to produce it properly. (2) The cost of production of clean

milk is slightly greater than when the primitive methods commonly employed are used, and this increased cost of production is not at present offset by a larger price for the better product. (3) The wholesale price of milk has been so near the actual cost of production for some years, that many farmers, whose habits and business methods are careless, have been actually losing money at the business and are consequently not inclined to make any alterations in their methods which will increase the cost of production.

Laboratory investigations regarding the cleanliness of milk can only supplement the more important work of dairy inspection. While chemical analysis can usually detect the addition of preservatives or other recognized methods of tampering with milk, yet it gives no evidence of importance concerning cleanliness and harmlessness. Bacteriological examination throws much light on the condition of the milk and the care which it has received, but direct inspection of the premises on which the milk is produced and investigation of the methods used in caring for it until it reaches the consumer, yield much more satisfactory information than any other method. The work of the laboratory is confined at present to the chemical analysis of milk for the purpose of determining whether or not it conforms to the legal requirements. The percentage of adulterated samples of milk during the year is 17.1, a much higher percentage than in previous years. This is due to the large number of adulterated samples obtained during the summer from Jersey City and its vicinity. The milk supplied to this locality during the last year has suffered serious deterioration, and special efforts have been made to correct the evil by vigorous prosecution of the offenders. The results of these prosecutions have not been altogether satisfactory for reasons given below.

**Enforcement of the Law.**—During the past summer the defects in the law as it applies to milk have been forcibly demonstrated. A large number of suits were ordered against dealers in Jersey City, and most of these cases were lost because of the cumbersome and ineffective procedure which the law prescribes. Much vexatious delay would be avoided and a more certain administration of justice would be secured if trials of offenders against the law were made summary proceedings. Trial by jury in these cases is unsatisfactory and often unjust, because the jury is called upon to decide questions relating to the chemistry of milk, upon which it is not qualified to pass. A succession of travesties on justice, which encourage the unscrupulous milk dealers to adulterate their milk and greatly hamper the State authorities in their efforts to perform their duties, have been performed during the last summer, and will continue until the law is modified to provide a more direct and effective method of punishment in these cases.

**Bacterial Examination of Milk.**—Up to the present time it has not been found possible to make bacterial examinations of milk. If time permits, a bacterial investigation of the milk supply of one or more cities in the State will be undertaken during the coming year.

## EXAMINATION OF FOODS OTHER THAN MILK.

**Renovated Butter.**—The amount of renovated butter sold in this State as creamery butter is very large, and the greater portion of it contains some preservative to arrest a second decomposition. Provision should be made requiring that this article be sold under its true name.

**Oleomargarine.**—The amount of oleomargarine sold is not as great as formerly, renovated butter having in a measure supplanted it. There can be no doubt, however, that much of it is sold as butter, but violations of the law are exceedingly difficult to detect.

**Cider Vinegar.**—A large number of samples of cider vinegar have been examined and more than half of them have been classed as "below standard," either because they fell below the standard fixed by law for solids or acetic acid, or because vinegar made from some other material than apple cider had been wholly or partly substituted for the genuine article. While there is no difficulty in obtaining genuine cider vinegar in the country districts, a great deal of the so-called cider vinegar sold in cities is partly or entirely spurious, and considerable ingenuity is often shown by manufacturers in preparing imitations, which are difficult to detect by ordinary analytical methods. The standard fixed by law for total solids (2.0 per cent.) is too high; many undoubtedly pure cider vinegars made by the quick process yielding solids lower than this figure. A series of examinations of samples of quick process vinegar of undoubted purity, will illustrate this point:

	Solids. Per Cent.	Acetic Acid. Per Cent.
A .....	1.81	6.12
B .....	1.77	5.63
C .....	1.92	5.81
D .....	1.79	5.96
E .....	1.72	6.33
F .....	1.99	6.10

The provision of the law requiring at least 2.0 per cent. of cider vinegar solids is therefore unjust, if the solids are to be determined by the ordinary methods of analysis, and induces manufacturers to violate the intent of the law, which they do by adding boiled cider or other substances in sufficient quantity to bring up the percentage of solids to the required amount.

It is desirable that some standards be fixed for vinegars other than cider. The terms used to describe the other varieties on the market are so vague and so loosely applied that much confusion and actual fraud arises from their use.

**Molasses.**—Considerable improvement has taken place during the last year in the quality of molasses sold in the State. Much of it sold as pure molasses still contains glucose, but the dealers as a whole are get-

ting to be more careful to call this mixture "compound molasses," a misleading term, whose use should not be permitted. The word "compound" as applied to adulterated foods has been grossly abused by manufacturers, who seem to regard it as a certain safeguard against prosecution. It would be well if makers were compelled to label adulterated articles now sold as "compound" with a formula stating exactly the nature and amounts of the various ingredients used in their preparation.

The following table shows the result of the examination of foods other than milk:

Table 11.—Foods Other Than Milk.

Article.	Above Standard.	Below Standard.	Total.	Percentage of adulteration.
Buckwheat Flour .....	1		1	0.
Butter .....	19	15	34	44.1
Candy .....	1		1	0.
Canned Corned Beef .....	1		1	0.
Cocoa .....	67	12	79	15.1
Coffee .....	8	5	13	38.4
Condensed Milk .....	1		1	0.
Extract of Lemon .....	2	16	18	88.8
Honey .....	35	13	48	27.0
Lard .....	63	2	65	3.0
Maple Syrup .....	36	5	41	12.1
Molasses .....	156	83	239	34.7
Oleomargarine .....		3	3	100.
Orangeade .....	3		3	0.
Syrup .....	1	1	2	50.
Vinegar .....	214	277	491	56.4
Miscellaneous .....		2	2	100.
Totals .....	608	434	1042	41.6

Drugs.—The number of drugs examined this year was much greater than ever before. The following table shows the number and kinds of specimens examined during the year:

Drugs.

Article.	Above Standard.	Below Standard.	Total.	Percentage of adulteration.
Aether.....	19	38	57	66.6.
Alcohol.....		2	2	100.
Antitoxin.....	3		3	0.
Aqua destillata.....		7	7	100.
Capsicum.....	19	7	26	26.9
Kerosene.....	2		2	0.
Linimentum camphoræ.....	32	83	115	72.1
Oleum olivæ.....	120	31	151	20.5
Potassi bitartras.....	122	9	131	6.8
Sinapis nigra.....	11	3	14	21.4
Sodii boras.....	38	30	68	44.1
Spiritus aetheris nitrose.....	2	5	7	71.4
Tinctura iodi.....	59	178	237	75.1
Tinctura opii.....	17	90	107	84.1
Totals.....	444	483	927	52.1

It will be seen by inspecting the table that certain drugs examined, notably tinct. iodi, tinct. opii and linimentum camphoræ show a very high percentage of samples which fall below the requirements of the Pharmacopoea. It is, of course, to be expected that such substances as spiritus aetheris nitrose and aqua destillata would frequently be found not to comply with the legal requirements, because the former is very unstable and the requirements set by the Pharmacopoea for the latter are impossible of fulfillment except by the adoption of methods in its preparation and storage which cannot be used in the manufacture of an article of commerce. There is little excuse, however, for deficiency in strength of the first three drugs mentioned, and the large percentage of adulteration must be attributed to the ignorance or cupidity of the makers. It is true that tincture of iodine deteriorates when kept, but this deterioration is slow when pure iodine and good alcohol are used in its preparation. An obvious method of avoiding such deterioration is to make up the tincture frequently and in small lots. That at least some of the druggists are aware of the deficiency in strength of their tinctures is revealed by the frequent receipt of samples consisting of a saturated solution of iodine in alcohol containing considerable quantities of free iodine undissolved; showing an abortive attempt to improve a defective preparation when an inspector of the State Board of Health is the purchaser. A claim has been made by certain druggists that camphor liniment loses a very considerable amount of camphor when kept and dis-

pensed in the ordinary manner. This claim has no basis of fact. Experiments made in this laboratory show that the loss of camphor from camphor liniment made and stored in the usual way is so slight as to be almost negligible, and certainly will not account for the deficiency of camphor in most of the samples received.

During the coming year the variety of drugs examined will be increased and the total number will also be increased. In view of the large percentage of adulteration it seems that the work of the laboratory in this direction is very necessary and might properly be extended.

# Report on the Food Supplies of State Institutions.

By George W. McGuire, Chief Inspector of Food and Drugs.

To the Board of Health of the State of New Jersey:

Gentlemen:—I have the honor to submit to you, herewith, my reports on the character, condition and handling of the food supplies of the following State institutions:

State Prison .....	Trenton
State Schools .....	Trenton
State Hospital for the Insane.....	Trenton
State School for Deaf Mutes.....	Trenton
State Home for Girls.....	Trenton
State Training School for Colored Youth....	Bordentown

At each institution a thorough examination was made of the food stuffs on hand, and such samples as were most likely to be adulterated, were secured and sent to the laboratory for analysis. In every instance the meats, vegetables, fruits and provisions were found to be of good quality and sound, all perishable foods being furnished by local dealers several times a week, according to the demands of each institution. The water for drinking purposes is supplied either from the Trenton city mains or from very deep tube wells, except at the Colored Training School, where an old-fashioned dug well supplies the demand. At the State Normal and Model Schools, the Deaf Mute School and the State Hospital, manufactured ice is placed in vessels of drinking water to reduce the temperature. This is a questionable practice, inasmuch as the ice, handled by the employes of the ice company and the servants of the institutions, may infect the water. A better plan would be to surround the vessel with ice, so that it would not come in direct contact with the water. At the Deaf Mute School and the State Schools the water is boiled before being used. All the butter examined at the different institutions was sweet and of excellent quality. At the State Home for Girls a good quality of oleomargarine, manufactured by Armour & Co., is used. The analyses of the milk samples secured at the several institutions show that a good quality is provided, so far as the richness of the milk is concerned. There is a wide variation, however, in the methods followed in the handling of the

milk and in the management of the dairies from which it is drawn, as is shown by the records herewith submitted. The price paid by the managers of the different institutions ranges from three and one-quarter to five cents, as follows: State Prison, 3¼ cents; School for Deaf Mutes, 4½ cents; State Home for Girls, 5 cents; State Hospital, 5 cents; State Schools, 5 cents; Colored Training School (own cows). The fact that milk is furnished by regular dealers or middlemen on a competitive basis is no guarantee against its pollution before it reaches the institutions. Cheapness should not be a prerequisite in the purchase of milk, regardless of what treatment it receives at the dairies. If the management of each institution would require the successful bidder to name the source of his supply, and thereupon demand that proper methods be maintained in caring for the milk at the dairies, much could be accomplished toward mitigating the unsanitary conditions found upon some of the dairy premises during the progress of this investigation, and this would at the same time render the State Board of Health valuable assistance in the work it is striving to perform, in improving the hygiene of the milk supply of the State. At the State Hospital at Trenton, the State Schools, the School for Deaf Mutes and the Girl's Home, the milk is kept in dark, unventilated chests, at a temperature ranging from 60 to 45 degrees F. It was found in open vessels, surrounded by strong smelling foods, both cooked and uncooked. The same rules should govern the handling of milk at these establishments as are required of the dairymen. Special ice chests, or at least separate apartments, should be used for the storing of milk, at a low temperature, pending consumption. The following list shows the number of samples of food taken, and the result of each analysis: State Prison—Molasses, pure; vinegar, vinegar solids, 1.80, acetic acid, 5.00 per cent.; milk, total solids, 13.50 per cent. State Hospital for the Insane at Trenton—Molasses, pure; vinegar (not cider vinegar), solids 3.20 per cent., acid, 4.70 per cent.; lard, pure; syrup, pure; butter, unadulterated. School for Deaf Mutes—Butter, unadulterated; lard, pure; vinegar, solids, .94 per cent., acid, 2.35 per cent. State Schools—Molasses, pure; vinegar, solids, 2.70 per cent., acid, 4.90 per cent.; milk, total solids, 13.36 per cent.; syrup, chiefly glucose; lard, pure. Girl's Home—Vinegar, solids, 2.25 per cent., acid, 5.23 per cent.; molasses, contains glucose; lard, pure; milk, total solids, 14.10 per cent. Colored Training School—Vinegar, solids, 2.26 per cent., acid, 4.50 per cent.; lard, pure. On the whole, this investigation has demonstrated that the officials who are entrusted with the selection of the food supplies are conscientiously striving to procure wholesome food for the inmates of the foregoing State institutions. I am indebted to the following officials for their courteous treatment and the willing assistance they rendered me in the above inspection: Hon. E. J. Anderson, Supervisor State Prison; Dr. John W. Ward, Medical Director State Hospital; Miss C. D. Provost, Matron State Schools; Mrs. Elizabeth V. H. Mansell, Superintendent Girl's Home; Prof. John P. Walker, Superintendent Deaf Mute School; Prof. J. M. Gregory, Superintendent School for Colored Youth.

## THE STATE PRISON.

The buildings of the State prison are located at Trenton, and the present occupants consist of thirty-five (35) females and one thousand, one hundred and forty (1,140) males, a total of one thousand, one hundred and fifty-three (1,153) convicts. The diet of the inmates consists chiefly of fresh beef, corned beef, mutton, salt pork, scrapple, fresh fish, salt mackerel, potatoes, onions, turnips, carrots, cabbage, bread, oatmeal, peas, beans, rice, barley, milk, sugar, coffee, tea, canned tomatoes, eggs, butter, prunes, molasses and vinegar. The contracts for furnishing these food supplies are awarded semi-annually to the lowest bidders in conformity with samples furnished by the supervisor, and are not limited to merchants of this State. The food on hand at the time of the inspection, September 13, 1904, was sound and of good quality. Samples of milk, vinegar and syrup were taken, and proved on analyses to be equal to the standard required by law. The milk is furnished at present by George Reck, a local Trenton dealer, in about the following quantities: Mondays, 250 quarts; Tuesdays, 250 quarts; Wednesdays, 250 quarts; Thursdays, 150 quarts; Fridays, 600 quarts; Saturdays, 300 quarts; Sundays, 350 quarts. At present Reck receives his supply of milk for the prison from the territory south of Trenton, in Mercer and Burlington counties. Detailed reports of the management and condition of the dairies are appended to this report. They furnish milk in the following quantities: Richard B. Harrison, Chesterfield, Burlington county, 350 quarts; R. E. Haines, Mercer county, 70 quarts; Walter Haines, Mercer county, 100 quarts; W. H. Mills, Mercer county, 15 quarts; Leandert Bozart, Mercer county, 65 quarts; total 630 quarts. It frequently becomes necessary for the contractor to seek other sources when there is a shortage in the milk furnished by these dairies, and at such times local dealers and creameries are called upon to supply the deficiency. The milk cans are washed by the contractor on his premises at 215 Cummings avenue, and the room used for this purpose is a cellar having a cement floor, with drainage to the city sewer. City water is used in washing the cans and utensils, the hot water being obtained from the kitchen range boiler, through a pipe reaching to the cellar. The cleansing process consists of rinsing with cold water, then scrubbing the cans inside and out with hot water, after which they are rinsed again with cold water and inverted on racks in the yard. The milk arrives at Reck's place from the farms about 4.30 P. M., and the cans, with closed lids, are placed in covered vats of ice water and left there until 6.00 A. M. on the following day. The water is supplied to the vats by hose from the city mains, and the ice comes from the United Ice Company of Trenton. The water remains in the vats about two weeks, and is then discharged into the sewer and the vats refilled with fresh water. This method is faulty, inasmuch as the outside of the cans, by the time of their arrival, may have gathered filth of almost any description, which would necessarily contaminate the water. If no other method of refrigeration is possible, fresh water should be used at least daily. When the milk arrives at the prison it is taken to a large refrigerator room and kept at a temperature of about thirty-five degrees. At the time of the inspection there were seven forty-

quart cans in stock. The lids were off the cans. The milk room contained quantities of fresh and salt meats and two barrels of cabbage, in addition to the milk. As the milk is emptied the cans are washed inside and out with hot water, and taken to the open air and dried. Prisoners are allowed one pint of milk one day a week, and on two days are given dishes of bread and milk and mush and milk. The rest of the milk is used cooked.

#### STATE HOSPITAL FOR THE INSANE.

The State Hospital for the Insane, located at Trenton, is controlled by a board of eight managers appointed by the Governor. The Honorable Garret D. W. Vroom is the president of the board, which has the appointment of the officers of the medical and business departments, the following gentlemen being the chiefs: John W. Ward, Medical Director; William Hays, Warden. At the present time there are 1,226 patients in the institution, about equally divided as to sex. I was informed by Dr. Ward, who has been identified with the Hospital for nearly thirty-eight years, that during his official charge of the institution there has been no case of contagious or infectious disease arising on the premises until the spring of 1904, when fifteen cases of diphtheria developed among the inmates. The patients were isolated and no further cases occurred. No cause was discovered for the outbreak.

The Warden has full power to purchase all food supplies, without resorting to advertisement for bids, except in the case of fresh meats, which are supplied under quarterly contracts. The contract for the meat supply of the last quarter was awarded to the Trenton Abattoir Company, which contract expired September 30. Mr. L. H. Stein, a Trenton butcher, and a dealer in western meats, has received the contract for the next three months. The dietary consists of cereals, fresh and salt meats, fresh and salt fish, bread, butter, coffee, potatoes, all other vegetables, tea, rice, cheese, pickles, oysters, milk and fruits. The food supplies are stored in rooms annexed to each of the four kitchens designated as Centre, East, West and Annex. Connected with the State Hospital there is a farm of one hundred and fifty acres, on which are grown most of the vegetables for use in season. No canned fruits or vegetables are purchased, all these being bought from farmers within twenty miles of the institution and canned in glass by the employees in the kitchens. All the tomatoes are raised on the farm and placed in seven-gallon tin cans. A flour mill on the premises, equipped with modern machinery, furnishes nearly all the flour consumed. When there is a shortage, additional supplies are purchased from Trenton mills. The meats, vegetables and fruits were examined at the time of the inspection and found to be sound and of good quality. All groceries are bought from Trenton merchants. About 14,000 oysters are used per week. No raw oysters are served except in special cases, on requisition from an attending physician. The fish and oysters are furnished by J. M. Atwood, a Trenton dealer. The supply of coffee is bought in the bean and is a mixture of Rio, Maracaibo and Java. One-third chicory is added to it when ground. The Farmers' Exchange at Belle Mead and the Elgin, Illinois, creameries furnish the butter supply.

Lard is furnished by Margerum Brothers, packers, of Trenton. The ice used for ice water is manufactured on the premises from distilled water, and is placed in the water for drinking purposes. About 200 tons of ice is also gathered annually from the Delaware and Raritan canal, and used for cold storage purposes. The water supply is derived from three driven wells, each about 250 feet deep, and one surface well near the laundry building. The latter is walled up for about 13 feet, the well being about 20 feet in diameter. The well contains about three feet of water. A Downey pump, with a pumping capacity of 100,000 gallons per day, is placed over each of the three wells near the engine house. Water from the spring near the canal feeder is also forced to the reservoir by a steam pump.

About 800 quarts of milk are consumed daily, one-half being produced on the hospital dairy farm, and the remainder furnished by Mr. William B. Fort, a dealer at Trenton Junction. The milk from the farm is delivered twice a day and is divided equally among the four kitchens. The milk furnished by Mr. Fort is brought about six o'clock in the morning. The kitchen employees transfer the milk from the contractor's cans to ten-quart cans, which are cleaned daily with hot water and soap. The contractor's cans are left at the kitchens and are washed and dried in the same manner, and returned the next day. The milk is stored in refrigerators attached to each kitchen at a temperature of 50 degrees Fahrenheit. In addition to the milk, all of the refrigerators contain fresh and salt meats, cooked and uncooked vegetables, lard, eggs and cheese. The ice boxes are constantly visited by the kitchen employees, either to deposit the remains of victuals from the dining rooms after meals, or to get materials for cooking and place fresh supplies. Some of the milk cans were covered and some uncovered. Mr. Fort receives his supplies from the following producers, whose premises I have visited, and of which I append detailed reports: Samuel B. Bainbridge, Hopewell Township, Mercer county, 90 quarts; Andrew H. Burroughs, Hopewell Township, Mercer county, 150 quarts; William Hildebrandt, Hopewell Township, Mercer county, 70 quarts; John C. Green, Ewing Township, Mercer county, 75 quarts; Jerry Martin, Hopewell Township, Mercer county, 100 quarts. These producers cart their milk to Trenton Junction in cans which have been previously washed at the hospital kitchens, and as many cans as are needed for the day are transferred to Mr. Fort's wagon. He carts it at once to the hospital, a mile distant, where it is left at the kitchens, and the clean empty cans of the previous day are gathered up and returned to Mr. Fort's premises, where they are placed on racks in the open air until the next morning, when the producers receive them to be refilled. Altogether the milk is carted an approximate distance of five miles.

#### STATE HOME FOR GIRLS.

The State Home for Girls is controlled by nine trustees appointed by the Governor. The members of the present board are: Thomas P. Fay, Mrs. Frederick Johnson, A. D. Carnagy, John D. Rue, Thomas B. Holmes, Martin C. Ribsam, Dr. Madena De Hart, Mrs. Lydia G. Bergen and Mrs.

Stewart Hartshorne. This board appoints the superintendent of the Home, Mrs. Elizabeth V. H. Mansell being now the incumbent of that office. The buildings are located just outside the limits of the city of Trenton, in Ewing township, Mercer county. There are at present one hundred and seven (107) girls confined in the Home, making, with the officers and servants, a total population of 127 people. The food supplies are purchased weekly by the chairman of the purchasing committee and the superintendent, from Trenton merchants, the patronage being distribute among the different dealers. Connected with the institution is a farm of eighty acres, on which are grown most of the vegetables used. The three kitchens, one in the east wing, one in the west wing and one in the cottage, are equipped with ranges, stationary steel steamers for cooking meat and vegetables, porcelain sinks and all necessary dish washing arrangements. The rooms are of ample size, and the floors, walls and all appliances were clean at the time of inspection, no unpleasant odors being noticeable. Adjoining the cottage kitchen is a pantry 7x12x14 feet, with a refrigerator, which at that time contained cooked and uncooked meats and vegetables, and milk in uncovered vessels. The temperature of the refrigerator was from 60 degrees to 65 degrees F. The store room on the same floor contained barrels of sugar, vinegar, firkins of oleo, soaps and a general line of groceries. The room was light and clean. The bakery is in the basement of the west wing, and contains an oven with a capacity of seventy-two loaves. The walls and ceilings were freshly limewashed, and the cement floor was clean. The kitchen in the west wing is 50x25x10 feet, and rather dark. The range and the copper coffee urns were bright and shining, and the walls and cement floor were clean. The pantry, adjoining, contains a refrigerator in which were stored cooked and uncooked meats, vegetables and uncovered milk. The temperature was 65 degrees F. The east wing kitchen is 50x20x15 feet. The officers' food is prepared and cooked in this kitchen, as well as that of some of the girls. A room in the rear contains two steam boilers for vegetables, potatoes, etc., and adjoining this is a room 10x18x15 feet, with a refrigerator 4x7x8 feet, containing meat, vegetables, cooked and uncooked and milk. The temperature was 60 degrees F. All the rooms and utensils were clean. The water supply is obtained from two tube wells 150 feet deep, over which are placed Dean pumps, forcing the water to a tank which supplies all the buildings, through pipes. The daily consumption of milk is about 100 quarts, two-thirds of this being produced on the school farm, and the remainder furnished by the Mercer Dairy Company, of Trenton. The milk from the dairy farm is taken, as soon as drawn from the cows, to the institution kitchens, where it is poured into small cans and placed in the refrigerators. The milk furnished by the Mercer Dairy Company is produced on the farm of Mr. Frank Weart, in Ewing township. Mr. Weart sells the Company about one hundred quarts daily. The morning's milk is kept at the farm until after the noon milking and is then carted to Trenton, a distance of about three miles. The temperature of the milk, on arrival at Trenton, is about 60 degrees F. The required amount ordered for the day by the superintendent of the home is then measured out and

taken to the institution by Mr. Weart, the producer, on his return home. His farm is located near the institution. A record of the inspection of his dairy is herewith appended.

The following are the menus furnished to the inmates of the Home on two date: They are fairly representative of the daily dietary: September 27, 1904: Breakfast, bread and butter, tomatoes, coffee, milk; dinner, bean soup, apples, bread and butter; supper, rice pudding, bread and butter. October 6, 1904: Breakfast, bread, fried potatoes, tomatoes, coffee, milk; dinner, lamb stew, pickles, bread; supper, bread, tomatoes, ginger cake, milk, tea. The food supplies found on hand at the time of inspection were sound and of good quality. Samples of lard, vinegar, molasses and milk were taken for analyses. No case of a contagious disease, other than measles or mumps, has occurred at the Home for at least six years.

#### MANUAL TRAINING AND INDUSTRIAL SCHOOL FOR COLORED YOUTH.

This school is located in Burlington county, one-half mile southwest of Bordentown, and is under the control of the State Board of Education, being supervised by a committee of which Mr. William B. Forbes is chairman. James M. Gregory is principal and Fanny E. Gregory the preceptress. There are at present one hundred and seven persons maintained within the buildings, of whom ninety-six are pupils—thirty-four boys and sixty girls—besides twelve instructors and one cook. Connected with the school is a fertile farm of two hundred and sixty (260) acres, which, with the exception of fifty acres, is sub-let to private persons. On the acreage retained by the State, turnips, sweet and round potatoes, tomatoes, garden vegetables and fruits are grown, a considerable quantity of them being canned by the students for winter use. The food supplies are purchased by the principal, and are bought in rather small quantities from Bordentown, Philadelphia and Trenton merchants. The quantity of perishable food on hand at the time of the inspection was very small, no refrigerators being provided for the school, which makes it impossible to keep such goods longer than a few hours before cooking. The meats are ordered from a local butcher in Bordentown, and are cut by him in such a way as to best conserve the daily menu. The water for all purposes is drawn from a dug well, located one hundred feet from the river bank, on high ground, and twenty feet east of the old "Ironsides" mansion. It is walled up eight inches above the surface, and covered by a tight board platform. The kitchen is in the basement of the new brick administration building, and is a room 18x25x12 feet, having a fine range, an assortment of ordinary cooking utensils and serving tables. An adjoining room has a dresser for clean dishes and sinks for dish washing. The dining room, on the opposite side of the hall, is 25x60x12 feet. These rooms have cement floors. Two cows, belonging to the institution, furnish all the milk used in the school, which is about fifteen quarts daily. The food stuffs on hand at the time of inspection consisted of bread, butter, lard, coffee in the bean, tea,



oatmeal, sweet and round potatoes, turnips, vinegar, molasses, sugar, canned tomatoes, corn, beans, fruits and jellies. No contagious disease has ever occurred among the pupils or teachers of this institution, so far as my informant had knowledge.

#### SCHOOL FOR THE DEAF.

The buildings of the School for the Deaf for the care and instruction of deaf mutes are located on Hamilton avenue, Trenton. The school is under the control of the State Board of Education. The officers in active daily service at the school are: Professor John P. Walker, Superintendent; L. T. Meyers, Matron; Thomas F. Hernon, Steward. There are 137 pupils enrolled for the present year, 86 of whom are boys and 51 girls. The food provision is bought principally from Trenton merchants, and is contracted for twice a year, the lowest responsible bidder receiving the contract. At present the supplies are being furnished by the following firms: Beef, lamb and veal, Armour & Company, Trenton; fresh fish, J. M. Atwood, Trenton; milk, Samuel Heath, Ewing Township, Mercer County; ice (manufactured) Hygeia Ice Company, Trenton; groceries, spices, dried fruits, canned goods, etc., L. Lehman & Company, Trenton. Oysters are used about twice a year, and are always made into a stew, never being eaten raw. About 100 quarts of milk are purchased daily, from Mr. Samuel Heath, the present contractor. The milk arrives at the school about nine or ten o'clock in the morning and is taken to the basement, where it was placed, at the time of the inspection, in a refrigerator, 6x4x8 feet, in the hall in the rear of the store room. The box contained one twenty-quart can and two uncovered earthen dishes of milk, ten inches in diameter and four inches deep. There were also in the refrigerator two firkins of lard, two of butter, a box of cheese, a crate of eggs and several paper boxes of dried currants. The temperature of the ice box was 45 degrees F. The servants' dining room, adjoining the kitchen, contains a refrigerator 5x3x8 feet, in which were stored, at the time of inspection, four open cans of milk, each holding about twelve quarts. These were surrounded by various cooked and uncooked articles of food, among which was a quantity of lard, chopped ham, tomatoes whole and stewed, eggs and fat drippings. The temperature was but 50 degrees F. The kitchen, a room 24x36x9 feet, is in the basement and is furnished with range, two serving tables, and two portable copper-jacketed boiling kettles for sauces and stews. The floors and walls were clean, and no unpleasant odors were present. The drinking water, from city mains, is kept in tanks holding 50 quarts each, in rooms set apart for washing. The girls' room is in the basement and contains seven wash bowls, looking glasses, combs and brushes. The boys' room is on the first floor and has nine wash bowls and a sink. The drinking water is drawn through a faucet from each of the tanks. A large piece of ice was floating in each tank. A common drinking cup, chained to the tank, is used by the pupils in each room. In the hall in the rear of the storeroom there is a refrigerator 8x9x8 feet, which is kept for the meats, fresh and smoked, and also contains grapes, apples, beets, cabbage, tomatoes and

fruits. The temperature at the time of the inspection was 40 degrees F. The storeroom is in the basement and measures 25x25x9 feet. It is clean and well ventilated, and contains stores of groceries, spices, molasses, vinegar, syrup, and the following brands of canned vegetables: Peas, "Magnus," Fredonia Preserving Co., Fredonia, N. Y.; peas, "Schuyler," Hemmingway Preserving Co., Auburn, N. Y.; corn, "Golf," Rome, N. Y.; corn, "Clipper," Baltimore, Md.; string beans, "Dog's Head," Baltimore, Md.; tomatoes, "Ocean View," Lewes, Delaware.

No outbreak of contagious disease has occurred in the school until the last school year, when thirty cases of scarlet fever developed among the pupils. No cause was discovered for the outbreak, except that the disease was prevalent in the city at that time, and the pupils, being allowed to mingle with outside children, may have brought it into the school in that way.

#### STATE NORMAL AND MODEL SCHOOLS.

The school buildings and boarding halls of the Normal and Model Schools are located in Trenton and are under the control of the State Board of Education, special supervision of them being entrusted to a committee on buildings. The following officers appointed by the Board are in charge of the several departments: James M. Green, Ph. D., principal; J. S. Neary, steward; C. D. Provost, matron. At present 442 pupils live in the boarding halls, 60 being boys and 382 girls, besides a corps of officials and servants. The dietary of the institution consists of fresh and salt meats, oysters, fresh and salt fish, potatoes, bread, butter, coffee, tea, fresh vegetables in season, canned vegetables in tin, dried fruits, celery, molasses, syrup, vinegar, lard, cottolene, milk and ice cream. The steward has full authority to purchase all food supplies in such quantities as he sees fit, of any dealers he pleases and without advertising for the lowest bid. The supplies are being furnished at present by the following Trenton merchants: Meats, Armour Packing Company, Armour & Company, S. F. Stein; groceries, J. H. Blackwell & Company, D. P. Forst & Company, Case, Rose & Company, Cole & Taylor; vegetables and fruits, C. Matthews, Fred. Holtz; oysters, Irvin Banks; milk, J. H. Longstreet, Bordentown.

All new supplies are received in the rear of the main boarding hall and placed in the cellar, in rooms arranged for that purpose. Vinegar, molasses, syrups, canned vegetables and dried fruits are stored in a room which has been recently limewashed and is light and well ventilated. Meats, when received, are carried to a room in the front cellar and placed in a refrigerator 9x8 feet, which I found to be clean, and furnished with a cutting table on which all meats are cut by the chef for the daily menu. The table also was clean and the room well ventilated. All the butter supply is made at the Amwell and Spring Farm creameries in Hunterdon County. The oysters are purchased on the day they are

used and opened by the dealer. They are only used in a cooked state. The Hygeia Ice Company supplies the hall with manufactured ice. The water is drawn from the city mains and is never used without boiling, after which the temperature is lowered by placing ice in the water. Thirty-five quarts of cream are furnished once a week by T. B. DeCou & Company, Trenton dealers, and is made into ice cream in the bake shop by the school baker. The following are the brands of canned goods now in stock in the school stores: Lima beans, Golden brand, packers William McKinley Canning Co., Lenox, N. Y.; Blossom brand, packers Blossom Canning Company, Rome, N. Y. Peas, Standard Early June brand, packers A. Brakeley, Bordentown, N. J. Corn Purity brand, packers Chillicothe Canning Co., Chillicothe, Ill.; Golden brand, packers William McKinley Canning Co., Lenox, N. Y. Asparagus, swan brand, packers California Fruit canning Association. Stringless beans, Hamburg brand, packers Hamburg Canning Company, Hamburg, N. Y. Tomatoes, Ajax brand, packers Anderson Canning Co., Hightstown, N. J.

When the milk is received at the kitchen door at 8 A. M., it is poured from the dealer's cans into the twelve-quart cans owned by the school. Four of these are taken to the pantry on the first floor and placed for immediate use in a refrigerator which also contains butter and eggs. This refrigerator was clean and odorless, and had a temperature of 54 degrees F. at the time of the inspection. The remainder of the daily supply is carried to the cellar and placed in a refrigerator 12x7 feet, to be drawn upon as needed. The temperature of this refrigerator was 58 degrees, and in addition to the milk is used for the storage of cooked meats and vegetables. A strong odor of vegetable and animal foods was noticeable on entering the box. The floor and sides were clean, but the space for ice storage is too small to secure a sufficiently low temperature. A change should be made in this system, and another refrigerator provided, where the milk could be kept separately, at a lower temperature. About 175 quarts of milk is the daily consumption. The students are allowed all the milk they wish to drink at breakfast and lunch, and it is also used in a raw state on fruits and cereals. The remainder of the milk is cooked. The milk is produced on the farm of M. J. H. Longstreet, below Bordentown, and furnished by him to the school. It receives better care on this farm than the average milk, as is shown by the record of a recent inspection herewith appended. The milk is supplied daily in the following quantities: Sunday, 120 quarts; Monday, 216 quarts; Tuesday, 144 quarts; Wednesday, 192 quarts; Thursday, 168 quarts; Friday, 144 quarts; Saturday, 144 quarts. The kitchen, which is 25x60x15 feet, is an extension south and east of the two dining rooms on the same floor, and is equipped with ranges, grills, copper-jacketed kettles for soups and stews, steel potato boiler, zinc covered serving table, copper-faced soapstone sinks and all necessary dish washing appliances. The room is well ventilated, and at the time of inspection was clean, neat and odorless. Samples of molasses, syrup, vinegar, milk and lard were taken from the school stores and taken to the laboratory for analyses, a report of which has been made and is now on file.

## REPORT ON THE FOOD SUPPLY OF STATE INSTITUTIONS.

By D. C. Bowen, Assistant Inspector of Food and Drugs.

To the Board of Health of the State of New Jersey.

Gentlemen:—In accordance with instructions I have made examinations of the food supply of the following State institutions: New Jersey State Home for Boys, New Jersey State Village for Epileptics, New Jersey Reformatory, New Jersey Home for Disabled Soldiers, State Home for the Care and Training of Feeble-Minded Women, Home for Disabled Soldiers, Sailors and Marines and their Wives, and the New Jersey Hospital at Morris Plains.

The New Jersey State Home for Boys, located at Jamesburgh, and inspected October 31, 1904, has four hundred and thirty-two inmates, Mr. J. C. Kalleen is the superintendent. The milk supply of this institution is produced from a mixed herd of cows kept on the institution farm. The cows are pastured in summer and housed in a two-story brick cow barn during the winter. The stable has a floor space 110x18 feet, with a tight board ceiling eight feet high and contains about 15,840 cubic feet of air space, or 511 cubic feet for each of the thirty-one cows stabled therein. There are six windows 18x18 inches and three 24x48 inches, fitted with sliding glazed sash, and an opening through the ceiling into the hay loft, about 8½x5 feet, making in all about 37½ square feet of openings for light and ventilation in addition to the doors. The stall floors are brick and the manure trench and floor in the passages in front and at the rear of the stalls are constructed of planks laid lengthwise of the stable. The side walls and ceiling are swept down once each month and lime washed four times each year. The second story of the building is used as a hay loft. Manure is stored in the barn yard, adjoining the stable building, in which corn stalks are fed to the cows during the winter, and from which the manure accumulating therein is removed twice each year. The manure trench is graded to one end of the stable, so that urine and any liquid manure which passes through it falls upon the ground beside the brick foundation wall. The solids, which accumulate upon the ground at this point, are removed about once in two months. Milking is done by inmates of the institution under the supervision of an officer and when the pails are full the milk is poured into cans which stand during milking at one end of the passage in front of the stalls. The cans are kept covered and when milking is over they are removed to a light, clean, well ventilated room in the kitchen building, and the milk is here put into cans which are placed in a cooling box, the water in which is cooled by pipes connected with a refrigerator plant on the premises. Cans and utensils are washed in a wooden sink in which the water is heated by live steam. Most of the butter and lard consumed in the institution is made on the place and a large portion of the pork, mutton, veal and some of the beef is raised on the farm, and practically all of the vegetables and fruits used in the institution are produced on the farm. A new water plant is nearing completion which will furnish water from a

well about eighteen feet deep, sunk on low ground bordering a brook that flows through the grounds, about one and one-quarter miles distant from the institution buildings. Extending from the well into the surrounding soil are several hundred feet of tile drains laid with open joints to increase the supply. A filter basin is also being constructed, beneath the ground surface, and connected with the well by a line of drain so that the water may be drawn from the brook, passed through the filter and drained into the well. Water is to be pumped from the well into a reservoir, large enough to hold one week's supply, located on elevated ground near the main buildings.

The following samples of foods were taken from the store room of the institution and sent to the State Laboratory of Hygiene for analysis: Cider, vinegar, lard, butter, syrup and molasses.

#### STATE EPILEPTIC VILLAGE.

In the New Jersey State Village for Epileptics, located at Skillman, inspection made November 4, 1904, I was informed by Dr. H. M. Weeks, superintendent, that there are now about one hundred patients, and when buildings which are now under construction have been completed there will be room to care for about one hundred and fifty patients. All of the milk used is produced on the village farm from a herd of forty-one graded cows, which are now stabled in a barn about 24x40x8 feet. The ceiling is formed by rails laid across beams and the loft is used for storing hay. The floor and manure gutters are of wood and there is no drainage. There are two rows of stalls so arranged that the cows stand head to head, separated only by a narrow passage and the air space does not exceed 325 cubic feet per cow. There are six windows about 24x36 inches which furnish light and ventilation. Stable manure is stored upon the ground in the stable yard. I am informed by Mr. W. H. Schults, steward, that the use of this building will be discontinued for housing cows as soon the new brick dairy building which is now under construction has been completed. Mr. Bull, an employee, informs me that he is assisted by patients of the Village in the milking and that the milkers go from the work in which they may be employed at milking time and do the milking without first washing their hands or changing of garments. He states that the cows are brushed every morning and that the udders and teats are cleaned with a dry cloth before milking. When the pails are full they are emptied into cans which stand outside the stable door. The full cans are removed to a small clean, well lighted wooden building which stands some distance from the stable. The milk is here strained, cooled by flowing over a "perfection" cooler, placed in small cans and distributed to the various dwellings on the village grounds. The milk room is not supplied with hot or cold water, nor with appliance for sterilizing cans and utensils. The water supply is obtained from artesian wells, about four hundred feet in depth, and distributed under pressure to each building. Meats, provisions and gro-

ceries are purchased in the market and I am informed by the superintendent that care is exercised in selecting the best grades of food for use in the institution.

The following samples of food were taken from the store room and sent to the State Laboratory of Hygiene for analysis. Molasses, lard, butter and cider vinegar.

#### STATE REFORMATORY.

The New Jersey Reformatory is located near Rahway, and Joseph W. Martin is superintendent. On the day of this inspection, November 7, 1904, there were 310 inmates. The milk used in this institution is produced from eight cows which are stabled in a new two-story brick building 30x40x9 feet. The stable has a concrete floor with manure gutters which drain into the sewer. The building is well lighted by windows which may be opened for ventilation. The side walls and ceilings are smoothly finished. The second story is used for storing hay. The cows are cared for and milking is done by inmates of the institution detailed for that work. The colored man now assigned to the work informed me that cows are cleaned daily and that the hands of the persons who do the work are always washed before milking. About fifty quarts of milk are now produced daily which is divided into two parts directly after milking, and delivered to the two institution kitchens. In the kitchen well about 18 feet deep, sunk in low ground bordering Matchaponix brook which I visited the milk was kept in an open vessel placed in a covered wooden sink, partly filled with water. In the new building, now under construction, in which the general dining hall and kitchen are to be located, provision is being made for adequate store rooms and a cold storage plant. The water supply for use in the institution is procured from the public supply of the city of Rahway. The following samples of food were taken from the store room of the institution and sent to the State Laboratory of Hygiene for analysis: Molasses, cider vinegar, extract of vanilla, oleomargarine and ground coffee.

#### HOME FOR DISABLED SOLDIERS.

In the New Jersey Home for Disabled Soldiers, located in Kearney, Peter F. Rogers, superintendent, there are five hundred inmates. One hundred and fifty quarts of milk are supplied daily, by Mr. John Hunkele, who conducts a dairy in Bellville. On the day this inspection was made, November 11, 1904, the milk was delivered at nine A. M. and it was still warm from the cows. When received the cans are placed in a large refrigerator in the basement in which other uncooked and cooked foods are stored, and the cans are returned unwashed to the dairymen. Following is a report of an inspection of Mr. Hunkele's dairy made November 12th, 1904: Name of dairyman, John Hunkele, Jr., Bellville post-office, Bellville township, Essex county; location of dairy, Spring Grove, Bellville; size of stable, 30x40x about 12 feet, attached to and opening into horse barn; cubic feet per cow, 515. Stable well lighted?—No, there are

10 windows 24x28 inches; two about 28x48 inches. Material, construction and drainage of floor.—The floors are plank with manure gutters graded so that urine flows from ends to center of building, thence through an open drain beneath the floor and is discharged and forms a filthy pool upon the ground at the side of the building. Method and frequency of cleaning.—The cattle are turned out shortly after the noon hour daily to go to the spring at the end of the lot adjoining the stable to drink. A cart is then placed at the stable door, the manure shoveled in and removed to the fields. Was stable clean at time of inspection?—No. Are side-walls, ceilings and ledges kept free from cobwebs and dust?—No; in the construction of the cow barn building paper was first nailed to the studding before the clap boards were nailed on. This paper forms the interior surface of the walls. It is torn in many places, is swelled from dampness, making a rough uneven surface and bespattered with manure. Except in spots made bare and white by the sows lapping up their food from the passage between the two rows of stalls the floors are covered with incrustations of dried manure. Ever lime-washed?—No. Sources of water supply for watering stock.—Spring at the bottom of the slope from the high ground on which stands the cow barn, horse stable and pens in which 60 hogs are kept. The distance from the spring to the hog pens is 100 feet; to barn and cow stable 190 feet, and the drainage from these buildings washes over the surface of the ground to and around the spring. Over the spot where the water flows from the ground a wooden box 2½x4 feet and deep enough to set a 40-quart milk can in has been partly sunk into the polluted ground. From the side of the box an overflow pipe leads water into a wooden trough from which the cows drink and in which a flock of ducks, filthy from their search for bits of garbage in a pile of hog pen manure, were seen to take a prolonged bath. In coming to drink the cows sank deep into the oozy ground around the trough and the water which they drank was discolored by the filth from the ducks who preceded them to the trough. Sources of water supply for washing cans, bottles and utensils.—Dug well in dooryard 20 feet from house, said to be about 12 feet deep. The pump in the well is out of repair and no water could be drawn at time of this inspection. It was stated by Mr. Joseph Hunkele that since the pump has been out of repair water for washing cans and all other uses on the dairy has been procured from the spring described under question 12. Distance of well or spring from stable.—About 125 feet. Distance from manure pile.—About 125 feet. Distance from privy vault.—60 feet. Distance from other sources of contamination.—Hog pen 130 feet. Is well apparently liable to contamination?—The privy vault is a hole in the ground. Was sample of water taken for analysis?—Yes; samples from well taken Nov. 16, 1904; well marks 3,181; spring marks D-3,174. Number of cows.—33. State of health?—Said to be good. Ever examined?—The cows have not been examined since in the possession of Mr. Hunkele. It was stated that fresh cows are frequently brought into the herd which are said to be examined when brought into New Jersey from an adjoining state.

Were cows in a cleanly condition at time of inspection?—No; see photo. Amount, kind and quality of feed used.—Clover hay, corn stalks, brewers grains, bran, corn and oil meal. Cows pastured?—In summer. Manure, how and where stored?—Cow manure removed from stable to field. How frequently removed?—Daily. Quantity of manure at time of inspection.—The hog pens adjoin the cow barn. The hogs are fed garbage and the manure is thrown from the pens into heaps upon the ground near the cow barn. The odor from the hog pens permeates the air in and around the stable buildings. How washed and dried?—Mr. Hunkele's son, who washes the cans, states that he first rinses the cans with well or spring water, then about a pail of warm water and a handful of carbonate of soda is placed into a can and the can scrubbed with a brush. The wash water is poured out and the can dried with a towel and inverted on a bench in a small building in the dooryard. Where are the utensils washed?—In the dooryard. Any appliances for sterilizing cans, pails and dippers?—No. Bottles—how washed and dried?—None used. Quantity of milk produced daily?—About 220 quarts. Are milkers' hands washed before milking?—So stated. Are clean garments put on?—No. Udders of cows regularly cleaned?—No. How?—When spattered with mud or dusty, are said to be wiped with dry cloth. When pail is full of milk what is done with it?—Poured into can. Where does the can stand?—In barn. Is can kept covered?—With cheese cloth strainer. Is milk cooled?—Part is. How?—Night's milk is placed in spring described under question 12. The cans containing the milk are set in the spring box and the lid closed down. Mr. Joseph Hunkele stated that it has happened that the overflow pipe stopped up and the water rose over the tops of the cans while in the spring. Morning's milk is delivered without covering, some five or six hours after milking. Where is milk stored?—In spring. How long is milk stored before being shipped?—Over night. Source of ice supply.—None used. If shipped, to whom, and where?—About 150 quarts to New Jersey Home for Disabled Soldiers, also retailed in Arlington and East Newark. Temperature of milk when delivered to customers?—This depends on temperature of air at time of delivery. Quarts sold from cans?—Entire quantity sold. Quarts sold in bottles?—None used. Ever run short?—Yes. If so, where is supply obtained?—From Dennis, Newark, and other dealers. How many persons handle the milk?—Three. All in good health?—So stated. Date of last sickness among persons on dairy premises?—None reported.

The water supply for the institution is from artesian wells about four hundred feet in depth. The following samples of food were taken from the store room of the institution and sent to the State Laboratory of Hygiene for analysis: Molasses, cider vinegar, lard, butter, extract of vanilla and milk.

A sample of milk taken from a full can in the refrigerator in the institution, prior to the date of this inspection, proved upon analysis in the State Laboratory of Hygiene to be below the standard required by law, and a sample taken from a full can in the possession of the dealer just

before delivering same to the institution, on the day of this inspection, also proved by analysis to be below the legal standard while another sample taken from a can partly full, from which the dealer was retailing, showed upon analysis to be above the standard required by law.

In the State Home for the Care and Treatment of Feeble-Minded Women, located in Vineland, inspected Nov. 17, 1904, Mary J. Dunlap, M. D., director and medical superintendent, informs me that there are about one hundred and forty patients. The milk supply is produced on the premises from seven cows which are housed in a two-story stable building in which a room about 42x25x9 feet is fitted for a cow stable. The floors are concrete, with a smooth hard surface, and urine gutter graded to a central point of discharge into a drain connecting with a brick and cement manure vault located about 60 feet distant from the stable building. When the vault is full its contents are removed and spread upon the farm land. The stable is well lighted by four large windows and the air space exceeds one thousand cubic feet per cow. The stable floor and sidewalls at the rear of the stalls were clean but not so the wooden partitions and legs of the two wooden milking stools. Mr. Alexander Hardy, an employee in charge of the dairy, informs me that the cows, whose coats were clean, are curried and brushed daily and that the udders and teats are brushed off by the milker, with the bare hands, before each milking. The cows are pastured in the summer and they are turned out daily for exercise during the winter in a clean yard adjoining the stable building. After milking the milk is delivered to the kitchen in the main building. After milking the milk is delivered to the open vessels and set in the refrigerator. The refrigerator is a small sized room partly constructed beneath the ground surface with air ducts communicating with the ice chamber above. It is used for general refrigerating purposes and the air in it has the characteristic odor invariably found in refrigerators in which meats together with cooked and uncooked foods are kept. The utensils used in milking and handling the milk are washed in the kitchen. The water supply is from the public supply of the borough of Vineland. There is a well in the yard at the front of the main building, but I am informed that water from it is not used. Fruits and vegetables raised on the tilable land are consumed in the institution and groceries, meats and provisions are purchased in quantities as the needs of the institution require. The following samples of foods from the store room of the institution were sent to the State Laboratory of Hygiene for analysis. Molasses, vinegar, syrup, lard and butter.

#### SOLDIERS' HOME, VINELAND.

In the Home for Disabled Soldiers, Sailors and Marines and their Wives, located at Vineland, Mr. J. Wanser, commandant, informs me, on the day of this inspection, Nov. 17, 1904, there were one hundred and thirty inmates. About sixty quarts of milk is furnished daily, which is produced and delivered by Mr. Edward L. Bolles. When the milk is received the cans are now placed in a store room in the basement and

milk is dipped from them as required for use. During warm weather the cans are said to be placed in a refrigerator in which other food is also kept. The cans are returned to the milkman unwashed. Following is a report of an inspection of the dairy on which the milk used in this institution is produced:

Date of inspection, November 17, 1904. Name of dairyman, Edward L. Bolles, postoffice, Vineland, Landis township, Cumberland county. Location of dairy, Spring Road, Vineland. Size of stable.—43x32x6 feet in which eleven cows and five horses are stabled. Cubic feet per cow.—About 600. Stable well lighted?—No; there are five windows 21x23 in., from which full benefit is not derived on account of numerous partitions in stable. Material, construction and drainage of floor.—Wooden floor laid directly upon ground surface, is rough and uneven consequently difficult to clean. Wooden manure gutters. No drainage. Method and frequency of cleaning.—Manure thrown out into stable yard daily. Was stable clean at time of inspection?—Contained little manure. Are side-walls, ceilings and ledges kept free from cobwebs and dust?—No; the building is old and in very poor repair and dust and cobwebs abound. Ever lime-washed?—No. Sources of water supply for watering stock.—Driven well 45 feet from stable buildings and manure pile, 32 feet deep. Sources of water supply for washing cans, bottles and utensils.—Driven well 45 feet deep located beneath shed porch at rear of dwelling. Distance of well from stable.—About 200 feet. Distance from manure pile.—About 225 feet. Distance from privy vault.—There is no privy vault; metal pails are used. Distance from other sources of contamination.—Agricultural tile drain from beneath sink, five feet from well, discharges waste liquids upon the ground about 32 feet distant from well. Is well apparently liable to contamination?—There are markings of waste liquids upon the surface of the ground near well and sink drain is leaky. Was sample of water taken for analysis?—Yes, Marks.—D-3,192. Number of cows.—Eleven. Breed.—Grade. State of health.—Said to be and apparently are in good health. Ever examined?—No. Were cows in a cleanly condition at time of inspection?—Yes. Amount, kind and quality of feed used.—Insilage, corn stalks, hay, bran, beet pulp, gluten food and oil meal. Cows pastured?—Yes. Manure, how and where stored?—Adjoining stable in yard. How frequently removed?—About once each month. Quantity of manure at time of this inspection.—About fifteen loads. Utensils, how washed and dried?—Cans washed with warm water and soap at the dwelling. The cooler is washed in a small room, near the stable building, which is used for a well house and milk room. After the milk has been cooled the water in the cooler, the temperature of which has been slightly raised by the warm milk passing over it, is taken to wash the cooling surface. The pails, cans and cooler are rinsed with well water before use. Where are the utensils washed?—At dwelling and in milk room. Any appliance for sterilizing cans, pails and dippers?—No. Bottles—How washed and dried?—None used. Quantity of milk produced daily?—About 70 quarts. Are milkers' hands washed before milking?—

Usually, especially if much soiled. Are clean garments put on?—No. Udders of cows cleaned?—Yes. How?—Udders and flanks brushed with dry cloth. When pail is full of milk what is done with it?—Taken and poured over cooler. Where does the can stand?—In milk room beneath cooler. Is can kept covered?—No. Is milk cooled?—Yes. How?—Run over Champion areator which contains well water as the cooling medium. How long after milking?—Directly. To what temperature?—Not known. Is milk bottled?—No. Where is milk stored?—Can sits in tub of water near well. How long is milk stored before being shipped?—Over night. Source of ice supply?—None used. If shipped, to whom, and where?—Delivered once a day, about 6.30 A. M., to Home for Disabled Soldiers, Sailors or Marines and their Wives, at Vineland. Temperature of milk when delivered to customers?—Not known. Quarts sold in cans?—About fifty quarts. Quarts sold in bottles?—None. Ever run short?—No. Date of last sickness among persons on dairy premises?—None reported.

The water supply for the institution is from the public supply of the borough of Vineland. The products raised on the small amount of tilable soil connected with the Home is used therein and the general supply of groceries, meats and provisions are purchased in small quantities principally from local dealers.

Samples of the following foods were taken from the store room and sent to the State Laboratory of Hygiene for analysis: Lard, butter, vinegar and sliced dried beef.

#### STATE HOSPITAL FOR INSANE.

At the New Jersey Hospital at Morris Plains on the day of this inspection, November 17th, 1904. there were 1,601 patients. Mr. M. K. Everitt is warden. The institution has its own dairy, which produces all the milk consumed there. The cattle are examined at frequent intervals by a veterinarian and when new cows are added to the herd they are first tested with tuberculin. The dairy barn contains a floor space for cows 87x60 feet and has smooth plastered walls, above the wainscoting, and ceiling ten feet high. All interior woodwork is smooth and painted. In addition there are feed rooms, closet rooms for milkers, suits and stools, a room for cooling and storing milk, and the upper story of the barn is used for storing hay, which is brought into the cow stable through an opening in the ceiling. The stable is well lighted and affords about 700 cubic feet of air space for each of the 72 cows which it accommodates. The floors in the stalls are of wood and in all other parts of the building, together with the manure gutters and feeding troughs, are concrete. The manure gutters are drained to cement manure vaults located some distance from the building and the vaults are drained to the sewer. The floors were being scrubbed with a hose and brooms at the time of this inspection and I was informed that this method of cleansing is practised daily.

The dairy barn not being large enough to house all the cows, one of

the two open sheds which adjoin the exercising yard, has been enclosed, fitted up and is now in use as a cow stable. There is about 550 cubic feet of air space for each of the thirty-four cows stabled in this building and the exposed frame work gives a rough interior finish, a style of construction which is difficult to keep clean and free from dust. In this barn the floors are of wood and cement and stable manure is dumped upon the ground at one end of the building.

The cows were not in the cleanly condition, however, which might be expected from the clean appearance of the stables, a fact which was partly explained when some of them were seen to lie down on a spot in the exercising yard, where corn stalks are fed, and where the ground has become wet and unclean from the accumulation of manure. Mr. Wm. Nunn, head dairyman, informed me that the cows are never cleaned, which was quite apparent from the manure to be seen adhering to their bodies. Mr. Nunn further stated that the milkers wash their hands before milking and that the udders are cleaned by wiping with a dry cloth. The milkers wear washable white overalls and jackets, which are changed several times each week, but clean garment are not put on before each milking. After milking, the cans, which stand in the stable building during the operation, are taken to the milk room in the stable building and placed in a concrete vat, through which spring water flows and to which ice is added, to cool the milk. The covers are tilted on the cans and the vat has a wooden cover. From the vat room the milk is taken to the hospital buildings. In the main building, which I visited, the cans when received from the dairy are placed in a cooling vat in a room set aside for this purpose in the basement. Here the covers also remain tipped on the cans and in this room milk is dipped from the forty quart cans in which it is received, into coverless pitchers and mugs, holding one or two quarts each, in which it is sent to the dining halls or wards for use. The cans and utensils are washed in what is termed the "pot room" in the basement in which the pots and pans from the kitchen are also washed. The washing is done in a wooden sink, supplied with running hot and cold water, to which soap powder is added and the cans are scrubbed by hand, rinsed, wiped, inside and out, with a towel and placed in racks in the wash room where they remain uncovered for several hours before being returned to the dairy barns. The basement room in which the cans are washed is dark, and artificial light is necessary at all times and in it there is an odor peculiar to an underground room when used for such purposes. About nine hundred quarts of milk are daily produced and consumed in this institution and for its proper handling, care and protection against contamination the need of a suitable dairy room, separated and apart from other buildings and suitably equipped, in which the milk can be quickly cooled, bottled and stored is apparent. Proper facilities for washing the cans and utensils are also lacking, which, to meet the reasonable requirements of an institution of this character, should embrace appliances for the sterilization of all receptacles in which the milk is placed.

The water supply is obtained from four reservoirs located on grounds belonging to the institution, on one of which the ice supply is harvested. A sample of water taken for analysis was drawn from a tap in the main building which is supplied from the upper reservoir. Sample marked D-3.204.

Beef is bought on the hoof and slaughtered on the institution grounds but the hogs which are raised thereon are sold alive.

A large amount of farm and garden produce is raised on the grounds. Groceries are purchased in quantities to meet the requirements of the institution. The following samples of food were taken from the store room in the institution and forwarded to the State Laboratory of Hygiene for analysis: Extract of vanilla, extract of lemon, butter, ground mustard, ground pepper, ground cloves, molasses, syrup, ground alspice, lard and milk.

## Dairy Inspection Records.

The following records made by D. C. Bowen, one of the assistant inspectors of food and drugs, of the inspection of dairy premises from which the milk supply of Shrewsbury Township is obtained, show the character of the work.\* Letters of information are sent in cases where the water supply is found to be polluted, and all of the facts set forth in the reports are sent to the local Board of Health of the locality where the milk is sold.

Date of inspection.—August 8th, 1904. Name of dairyman.—Borden Hance, owner. Postoffice, township, county.—Red Bank, Shrewsbury Township, Monmouth Co. Location of dairy.—Fairhaven. Size of stable.—No. 1, 12x52x7 feet (13 cows); No. 2, 14x8x6½, (3 cows). Also three cows kept in horse stable. Cubic feet per cow.—No. 1, 336; No. 2, 243; No. 3, ample. Stable well lighted?—No. 1, three windows 18x24, plus 4 inch wide openings over top of doors. No. 2, no window openings. Material, construction and drainage of floor.—Front of stalls under animals fore feet is earth floor rear of stalls under hind quarters of animals boards are laid directly on ground surface with slope to drain under doors into barnyard. Method and frequency of cleaning.—Solids daily removed but floors and sidewalls were coated with dried manure. Was stable clean at time of inspection?—No, fresh manure in stalls. Are sidewalls, ceilings and ledges kept free from cobwebs and dust?—No. Ever lime-washed?—No. Sources of water supply for watering stock.—Well adjoining stable buildings; pools of drainage in barnyard. Sources of water supply for washing cans, bottles and utensils.—Well five feet from corner of house, covered with board floor with wooden pump box and drain leading to street gutter. Distance of well or spring from stable.—117 feet. Distance from manure pile.—117 feet. Distance from privy vault.—119 feet. Distance from other sources of contamination.—Waste liquids thrown into pump box fall upon ground on borders of well. Is well apparently liable to contamination?—Yes, by waste liquids which flow upon the ground near well. Was sample of water taken for analysis?—Yes. Marks.—D-2,075. Number of cows.—19. State of health.—Apparently good. Ever examined?—No. Were cows in a cleanly condition at time of inspection?—Not seen. Amount, kind and quality of feed used.—Bran and corn meal. Cows pastured?—Yes. Manure, how and where stored?—In stable yard. How frequently removed?—Not learned. Quantity of manure at time of this inspection.—About 50 or 60 wagon loads. Utensils, how washed and dried?—Warm water and soda, rinsed with hot water

\*Cuts showing location of wells liable to pollution on dairy premises will be found in folder.

and placed in open air, inverted, to drain and dry. Where are the utensils washed?—In open shed at dwelling. Any appliance for sterilizing cans, pails and dippers?—No. Bottles—how washed and dried?—None used. Quantity of milk produced daily?—About 150 quarts. Are milkers' hands washed before milking?—No. Are clean garments put on?—No. Udders of cows cleaned?—Not regularly. If badly soiled washed with water and rag. When pail is full of milk what is done with it?—Poured over aerator and cooler into can. Where does the can stand?—Under shed outside of stalls. Cooler is placed on shelf constructed at one end of shed, just outside of stalls, on border of barnyard, so that milk runs from cooler into can which sits upon ground directly under pigeon roost. Is can kept covered?—With cheesecloth strainers. Is milk cooled?—Yes. How?—Run over cooler filled with well water. How long after milking?—Directly. Is milk bottled?—No. Where is milk stored?—Not stored. Source of ice supply.—None used. If shipped, to whom, and where?—Milk delivered to Charles McCloskey, Red Bank, twice daily. Date of last sickness among persons on dairy premises?—None reported.

Date of inspection.—August 8th, 1904. Name of dairyman, Terence J. Mulligan, tenant. Postoffice, township, county.—Fairhaven, Shrewsbury Township, Monmouth Co. Location of dairy.—Fairhaven. Size of stable.—20x24x7. Eight cows and one horse are kept in stable. Cubic feet per cow.—About 373 for each animal kept in stable. Stable well lighted?—No; one opening 2x3 with solid board shutter. Material, construction and drainage of floor.—Earth floor with a small wooden gutter embedded in polluted earth floor, terminating under pile of manure outside of stable. Method and frequency of cleaning.—Floor covered six to twelve inches deep with soft manure. Mr. Mulligan preceded me into the stable and covered the manure on the floor with clean hay. Was stable clean at time of inspection?—No. Are sidewalls, ceilings and ledges kept free from cobwebs and dust?—No. Ever lime-washed?—One-half of stable has been recently. Sources of water supply for watering stock.—Brook in pasture and well near stable building. Sources of water supply for washing cans, bottles and utensils.—Dug well located about 60 feet from dwelling, covered by leaky board platform upon which a washtub filled with milky water stood. Distance of well or spring from stable.—170 feet. Distance from manure pile.—170 feet. Distance from privy vault.—135 feet. Distance from other sources of contamination.—70 feet from chicken yard. Is well apparently liable to contamination?—Waste liquids thrown upon ground between house and well. Was sample of water taken for analysis?—Yes. Marks.—D-2,076. Number of cows.—Eight. State of health.—Apparently good. Ever examined?—Yes. By whom?—Dr. Cattanaugh. Date of last examination?—July, 1904. Were cows in a cleanly condition at time of inspection?—Not entirely. Amount, kind and quality of feed used.—Wheat shorts and corn meal and in winter beet tops. Cows pastured?—Yes. How and where manure stored?—On ground adjoining stable. Quantity of manure at time of this inspection.—About 3 loads. How utensils washed and dried?—With warm water, gold dust and rinsed with cold water. Where are the utensils washed?—In

yard front of dwelling. Any appliance for sterilizing cans, pails and dippers?—No. Bottles—how washed and dried?—Same as cans. Quantity of milk produced daily?—About 70. Are milkers' hands washed before milking?—No. Are clean garments put on?—No. Udders of cows cleaned?—Not regularly. How?—If badly soiled rubbed off with cheese cloth. When pail is full of milk what is done with it?—Poured into cans. Where does the can stand?—It was stated that except in stormy weather in summer cows are kept and milked in pasture. In winter the can is said to stand just outside of stable door during milking. Is can kept covered?—With cheesecloth strainer. Is milk cooled?—Yes. How?—Place cans in tubs of well water. How long after milking?—Directly. To what temperature?—To that of well water. Is milk bottled?—Yes. How long after cooling?—About one and one-half hours. Where is milk bottled?—In milk house. Where is milk stored?—Nights milk in refrigerator. How long is milk stored before being shipped?—Delivered once daily. Source of ice supply.—Monmouth Ice Company. If shipped, to whom, and where?—Retailled in Fairhaven and Oceanic. Temperature of milk when delivered to customers?—Not learned. Quarts sold from cans?—About twenty quarts. Quarts sold in bottles?—About fifty quarts. Ever run short?—Yes. If so, where is supply obtained?—None purchased. How many persons handle the milk?—Two. All in good health?—So stated. Date of last sickness among persons on dairy premises?—None reported.

Re-inspection, made this day, of the dairy premises occupied by Mr. Francis Mulligan, Fairhaven, Shrewsbury Township, shows that the leaky covering has been removed from over the well from which a sample of water was taken for analysis on August 25th, 1904, and a flagging stone covering is now being fitted over the well. September 29th, 1904.

Date of inspection.—August 11, 1904. Name of place.—Oceanic. Name of dealer.—Frederic Dietz. How is the milk stored?—Bottled milk placed in ice house, cans placed in metal lined cooling box containing iced water. How are cans, bottles and utensils washed?—Warm water and soda. Rinsed in cold water. Any appliances for sterilizing cans, bottles and utensils?—No. Quantity of milk sold daily.—About 250 quarts. How is milk cooled?—Cans kept in cooling box until milk is bottled or taken on delivery wagon. Temperature of milk when sold.—Not known. Where is the regular supply of milk obtained? George Schanck, Holmdel, Thomas Tyndall, Rimson Road; George G. Ivins, Rumson Road; Mr. Lufborough, Locust Point, Middletown Township. When short, where is supply obtained?—None bought from other dealers. How many persons handle the milk?—Three. Are all in good health?—So stated. Date of sickness on premises.—None reported. Source of ice supply.—Parmlys pond and Monmouth Ice Co. Source of water supply.—Dug well located beneath kitchen floor. Sink drain discharges upon ground and runs over the surface from border of well. Was sample taken for analysis?—Yes. Marks.—D-2,077.



The kitchen shed and ground surrounding rear of dwelling is unclean. Small shed structure in which bottles are washed and milk is bottled stands in yard. This box like structure has rough board floor laid directly upon the ground surface and the four hundred chickens running at large about the place have access to this house and they perch upon the milk cans and other objects standing in door yard. Mr. Dietz informs me that he supplies about 50 quarts of milk daily to the Lexington Babies Hospital, an institution located in Oceanic.

Re-inspection of the milk depot premises occupied by Frederick Deitz, Oceanic, Shrewsbury Township, shows that there has been no change made in the water supply on said premises for washing milk cans and utensils. I was informed by Mrs. Deitz while on the premises that Mr. Deitz had sold the milk business to Mr. George Hunt, Little Silver, and that after September 30th, no more milk will be stored or sold on the premises occupied by Mr. Deitz. September 29th, 1904.

Date of inspection.—August 11, 1904. Name of dairyman, W. J. Hutchinson, owner. Postoffice, township, county—Sea Bright, Shrewsbury, Monmouth Co. Location of dairy.—Rumson Road. Size of stable.—About 16x40, in which two cows and two horses were stabled. Stable well lighted?—Yes. Cows not placed in stable during summer. Material, construction and drainage of floor.—Wooden floor, no drainage. Was stable clean at time of inspection?—Yes. Are sidewalls, ceilings and ledges kept free from cobwebs and dust?—Yes. Ever lime-washed?—Yes. Sources of water supply for watering stock.—Brook in pasture. Sources of water supply for washing cans, bottles, and utensils.—Water from deep well raised to tank in tower and distributed through pipes above grounds. Distance of well or spring from stable.—150 feet. Distance from manure pile.—150 feet. Distance from privy vault.—No vault. Distance from other sources of contamination.—No other apparent sources. Is well apparently liable to contamination?—No. Was sample of water taken for analysis?—No. Number of cows.—Two. Breed.—Jersey. State of health.—Said to be good. Ever examined?—Yes. Date of last examination.—When purchased. Were cows in a cleanly condition at time of inspection?—Not seen. Cows pastured?—Yes, kept in pasture night and day during summer. Manure, how and where stored?—In stable yard. How frequently removed?—Irregular intervals. Quantity of manure at time of this inspection.—About ten loads. How utensils washed and dried?—Warm water and soap or soda. Where are the utensils washed?—At house. Any appliance for sterilizing cans, pails and dippers?—No. Bottles—how washed and dried?—None used. Quantity of milk produced daily?—About 20 quarts. When pail is full of milk what is done with it?—Brought to house. Where does the can stand?—None used. Is milk cooled?—No. Source of ice supply.—None used in handling milk. If shipped, to whom, and where?—Taken twice each day by Pannaci Hotel, Sea Bright.

Date of inspection.—August 11th, 1904. Name of dairyman.—George S. P. Hunt, tenant. Postoffice, township, county.—Little Silver, Shrewsbury Township, Monmouth County. Location of dairy.—Rumson Road.

Size of stable.—20x70x7 (9,800 cubic feet). Cubic feet per cow.—About 116. Stable well lighted?—Five windows 18x24, fitted with sliding glass sash. Material, construction and drainage of floor.—Board floor under stalls ashes and earth rear of stalls, board manure gutter 12x6 drains into stable yard. Cows stand head to head in two rows. Method and frequency of cleaning.—Twice each week in summer and twice each day in winter. Was stable clean at time of inspection?—Manure gutter full. Are sidewalls, ceilings and ledges kept free from cobwebs and dust?—No. Ever lime-washed?—No. Sources of water supply for watering stock.—Stream from underdrain in pasture and well at stable. Sources of water supply for washing cans, bottles and utensils.—Dug well beneath kitchen floor, about 14 feet deep cleaned last spring. Distance of well or spring from stable.—About 180 feet. Distance from manure pile.—About 180 feet. Distance from privy vault.—60 feet. The privy vault is full to overflowing and slope of surface of ground is from vault toward well. Distance from other sources of contamination.—Drain from pump box discharges upon ground three feet from well. Is well apparently liable to contamination?—Yes, from ground pollution by waste fluids. Was sample of water taken for analysis?—Yes. Marks.—D-2,079. Number of cows.—19. Breed.—Grade. State of health.—Said to be and apparently is good. Ever examined?—No. Were cows in a cleanly condition at time of inspection?—Yes. Amount, kind and quality of feed used.—Bran middlings, ground corn and fodder in winter. Cows pastured?—Yes. How and where manure stored?—In stable yard. How frequently removed?—2 or 3 times each year. Quantity of manure at time of this inspection.—About eight loads. How utensils washed and dried?—Warm water and sal soda, rinsed with cold water, inverted on fence to dry. Where are the utensils washed?—In dooryard. Any appliance for sterilizing cans, pails and dippers?—No. Bottles—how washed and dried?—Same as cans. Quantity of milk produced daily?—About 100 quarts. Are milkers' hands washed before milking?—So stated. Are clean garments put on?—No. Udders of cows cleaned?—Not regularly. How?—If badly soiled, brushed with cloth. When pail is full of milk what is done with it?—Poured into can. Where does the can stand?—In stable building. Is can kept covered?—By cheese cloth strainer. Is milk cooled?—Yes. How?—Set cans in tubs of well water and stir with milk dipper. How long after milking?—Directly. To what temperature?—Temperature of water when drawn, 62 degrees F. Is milk bottled?—Yes. How long after cooling?—After thoroughly cooled. Where is milk bottled?—In yard, nights milk only is bottled. Where is milk stored?—In tubs of water and ice in yard. How long is milk stored before being shipped?—Overnight. Source of ice supply.—Monmouth Ice Co. If shipped, to whom, and where?—Milk is sold in Shrewsbury Township. Temperature of milk when delivered to customers?—Not known. Quarts sold from cans?—About 50 quarts. Quarts sold in bottles?—About 50 quarts. Ever run short?—Not recently. If so, where is supply obtained?—Have bought of Hutchinson. How many persons handle the milk?—Four or five. All in good health?—So stated. Date of last sickness among persons on dairy premises?—None reported.

Re-inspection of the dairy premises occupied by Mr. George Hunt, Rumson Road, Shrewsbury Township, shows that water for washing milk cans and utensils is at present procured from a spring on the borders of a brook which passes through the fields near the dwelling. Mr. Hunt informed me that after notice was received by him from your board informing him that the well on the dairy was polluted he discontinued using the water and has since been taking water from the spring pending arrangements which the owner of the premises has promised to make for a new source of water supply. September 9th, 1904.

Date of inspection.—August 11th, 1904. Name of dairyman, George H. Ivins, owner. Postoffice, township, county.—Little Silver, Shrewsbury, Monmouth Co. Location of dairy.—Rumson Road. Size of stable.—Barn cellar, 45x32x6½ feet. Cubic feet per cow.—About 425. Stable well lighted?—Three windows 1½ feet by 6 feet. Material, construction and drainage of floor.—Plank floor upon which cows stand, with manure gutters 12x18 inches, which have no outlet for fluids. Balance of floors are earth. Method and frequency of cleaning.—Solids shoveled out every day. The earth back of stalls is wet from urine. It was stated that curing the summer the cows are kept in stable during milking only. Was stable clean at time of inspection?—Free from accumulating manure. Are sidewalls, ceilings and ledges kept free from cobwebs and dust?—No. Ever lime-washed?—At some remote period. Sources of water supply for watering stock.—Well in stable and drain in meadow. Sources of water supply for washing cans, bottles and utensils.—Stated that water from well near dwelling is brought to stable to wash cans. Distance of well or spring from stable.—About 200 feet. Distance from manure pile.—About 200 feet. Distance from privy vault.—About 130 feet. Distance from other sources of contamination.—Horses which are taken to the well to drink from cask pollute the ground near well. Is well apparently liable to contamination?—The well is covered by board platform on which sits a cask for watering horses. The well covering is not water tight. Was sample of water taken for analysis?—No. Number of cows.—22. Breed.—Mixed breed. State of health.—Apparently good. Ever examined?—Not since in Mr. Ivins' possession. Were cows in a cleanly condition at time of inspection?—No. Amount, kind and quality of feed used.—In winter sugar beets, corn meal and middlings. Cows pastured?—Yes. How and where manure stored?—In stable yard. How frequently removed?—Spring and fall of year. Quantity of manure at time of this inspection.—About forty loads. How utensils washed and dried?—Hot water and gold dust, rinsed after washing with cold water. Where are the utensils washed?—At stable, near well. Any appliance for sterilizing cans, pails and dippers?—No. Bottles—how washed and dried?—None used. Quantity of milk produced daily?—About eighty quarts. Are milkers' hands washed before milking?—So stated. Are clean garments put on?—No. Udders of cows cleaned?—So stated. How?—If muddy, with water and cloth after which they are dried. When pail is full of milk what is done with it?—Poured over combined aerator and cooler from which it runs into cans. Where does the can stand?—

Near well in stable yard. Is can kept covered?—Yes, with cheese cloth strainer. Is milk cooled?—Yes, How?—See forty-two. How long after milking?—Directly. To what temperature?—Well water used in cooler. Is milk bottled?—No. Where is milk stored?—Not stored. How long is milk stored before being shipped?—Not stored. Source of ice supply.—None used. If shipped, to whom, and where?—Taken by Alfred Grover, Jr., Shrewsbury, in morning and F. Dietz, Oceanic, takes evening milk.

Re-inspection of the dairy premises occupied by George H. Ivins, on the Rumson Road, Shrewsbury Township, shows that a new board covering has been placed over the well from which water has been taken for washing milk cans and utensils, referred to in my report of inspection dated August 11th, 1904. September 29th, 1904.

Date of inspection.—August 11, 1904. Name of place.—Little Silver. Name of dealer.—John H. Van Nest. How is the milk stored?—Bottles set in ice box and cracked ice placed in crates. Cans kept in cooling boxes partly submerged in iced water. How are cans, bottles and utensils washed?—Metal receptacle, containing water sits on gasolene stove in which bottles are washed with brush by hand. Any appliances for sterilizing cans, bottles and utensils?—No. Quantity of milk sold daily.—About 400 quarts. How is milk cooled?—See 5. Temperature of milk when sold.—Said to be about 50 degrees F. Where is the regular supply of milk obtained?—Chas. Wyckoff, Wayside; A. C. Weiderholdt, Shrewsbury; J. V. Holmes, Little Silver; M. Kelly, L. M. S. Bell, near Eatontown. When short, where is supply obtained?—Buy from New Brunswick Hygienic Milk Co., N. B. How many persons handle the milk?—Three. Are all in good health?—So stated. Date of last sickness on premises.—None reported. Source of ice supply.—Henry Parker's pond, Little Silver. Source of water supply.—Dug well about seven feet deep beneath milk house covered with board floor. Waste liquids from pump box and from concrete floor in the milk room discharge into wooden box drain, flush with ground surface, beginning at borders of well, and extends to a point back of stable, about 100 feet distant from well, where it discharges upon the surface of the ground. At time of inspection it was stated by Mr. Van Nest that the water in the well was slightly discolored which he attributed to surface water gaining access into the well during recent rain storm. Was sample taken for analysis?—Yes. Marks.—D-2.081.

Re-inspection of the milk depot premises occupied by Mr. John H. Van Nest, Little Silver, shows that water from the public water works is now being laid on said premises. I was informed by an employee on the premises that since notice was received by Mr. Van Nest from your Board advising him that the sample of water taken August 25th for analysis from the well beneath his milk depot was polluted, all water used for washing milk cans and utensils on the premises has been procured from a well at the dwelling. September 29th, 1904.

Date of inspection.—August 12th, 1904. Name of dairyman.—George H. Lippincott, owner. Postoffice, township, county.—Little Silver, Shrewsbury Township, Monmouth Co. Location of dairy.—Little Silver.

Size of stable.—Portion in which cows are kept is 12x17x5. Cubic feet per cow.—255 feet. Stable well lighted?—Two windows, one 18x18 and one 24x24. Material, construction and drainage of floor.—Earth floor with irregular trench worn in earth at rear of stalls. Method and frequency of cleaning.—Manure thrown out into barnyard. Was stable clean at time of inspection?—No manure in stalls. Are sidewalls, ceilings and ledges kept free from cobwebs and dust?—No. Ever lime-washed?—No. Sources of water supply for watering stock.—Well on border of stable yard. Sources of water supply for washing cans, bottles and utensils.—Dug well in back yard. Water rises within 5 or 8 feet of ground surface, covered with board floor, force pump in house drains water from well. Distance of well or spring from stable.—About 500 feet. Distance from manure pile.—About 500 feet. Distance from privy vault.—About 45 feet. Very little accumulation on ground beneath privy building. It was stated, and ground has this appearance, that the accumulations are frequently removed from beneath privy building. Is well apparently liable to contamination?—Not unless it be from pollution through well covering which is not water-tight. Was sample of water taken for analysis?—No. Number of cows.—Four. Breed.—Not learned. State of health.—Not learned. Ever examined.—Not learned. Amount, kind and quality of feed used.—Not learned. Cows pastured?—Yes. How and where manure stored?—In stable yard near building. How frequently removed?—Not learned. Quantity of manure at time of this inspection.—About 75 to 100 cubic yards. How utensils washed and dried?—First with cold water and sal soda, then rinsed with boiling water taken from tea kettle. Where are the utensils washed?—In dwelling. Any appliance for sterilizing cans, pails and dippers?—No. Bottles—how washed and dried?—None used. Quantity of milk produced daily?—About thirty quarts. Are milkers' hands washed before milking?—Not learned. Are clean garments put on?—Not learned. Udders of cows cleaned?—Not learned. When pail is full of milk what is done with it?—Not learned. Where does the can stand?—Not learned. Is can kept covered?—Not learned. Is milk cooled?—Yes. How?—By placing cans in tubs filled with well water. How long after milking?—Directly. To what temperature?—Temperature of water when drawn 61 degrees F. Is milk bottled?—No. Where is milk stored?—Sometimes in can near well. How long is milk stored before being shipped?—Sometimes overnight. Source of ice supply.—None used. If shipped, to whom, and where?—Taken by George Elgrin, Little Silver.

Date of inspection.—August 12th, 1904. Name of dairyman.—W. C. Lipincott, owner. Postoffice, township, county.—Little Silver, Shrewsbury Township, Monmouth Co. Location of dairy.—Little Silver. Size of stable.—10x13x7. Cubic feet per cow.—About 303 feet. Stable well lighted?—Three windows about 3x2 each, fitted with sliding glass sash. Material, construction and drainage of floor.—Earth floor slope from rear of stalls to side of building. Method and frequency of cleaning.—Solids thrown out daily but rough floor is unclean. Was stable clean at time of inspection?—Manure had been removed. Are sidewalls, ceilings

and ledges kept free from cobwebs and dust?—No. Ever lime-washed?—Yes. Sources of water supply for watering stock.—Brook in meadow. Sources of water supply for washing cans, bottles and utensils.—Dug well beneath kitchen floor. Tile drain carries waste fluids from metal lined pump box 100 feet from well. Distance of well or spring from stable.—400 feet. Distance from manure pile.—400 feet. Distance from privy vault.—100 feet, ground surface slopes from well. Distance from other sources of contamination.—No apparent source of ground pollution. Is well apparently liable to contamination?—There is a wooden box constructed over well in kitchen with hinged lid and articles of food are sometimes lowered into well. Was sample of water taken for analysis?—No. Number of cows.—Three. Breed.—Grade. State of health.—Said to be good. Ever examined?—No. Were cows in a cleanly condition at time of inspection?—No. Amount, kind and quality of feed used.—Clover hay, brown middlings and bran. Cows pastured?—Yes. How and where manure stored?—On ground near stable. How frequently removed?—Every fall. Quantity of manure at time of this inspection.—About 75 cubic yards. How utensils washed and dried?—No cans washed. Milking pails washed. Where are the utensils washed?—At dwelling. Any appliance for sterilizing cans, pails and dippers?—No. Bottles—how washed and dried?—None used. Quantity of milk produced daily?—About 25 to 30 quarts. Are milkers' hands washed before milking?—Said to be. Are clean garments put on?—No. Udders of cows cleaned?—Yes. How?—Cleaned with brush daily. When pail is full of milk what is done with it?—Carried to house. Where does the can stand?—At dwelling. Is milk cooled?—No. How?—Delivered to nearby milk depot as soon as milked. Is milk bottled?—No. Where is milk stored?—Not stored. Source of ice supply.—None used. If shipped, to whom, and where?—Taken to John H. Van Ness, Little Silver. Remarks.—The dwelling stands on high ground with good drainage, and the ground around the house is well kept and presents a neat and clean appearance.

Date of inspection.—August 12th, 1904. Name of dairyman.—Henry Farker, owner. Postoffice, township, county.—Little Silver, Shrewsbury Township, Monmouth Co. Location of dairy.—Little Silver. Size of stable.—10x30x8, loose inclosure. Cubic feet per cow.—600. Stable well lighted?—No windows but numerous cracks and openings through which light enters. Material, construction and drainage of floor.—Earth floor, no drainage, wet and unclean. Method and frequency of cleaning.—Generally once each day accumulation of manure is thrown out. Was stable clean at time of inspection?—No. Are sidewalls, ceilings and ledges kept free from cobwebs and dust?—No. Ever lime-washed?—No. Sources of water supply for watering stock.—Well near dwelling and brook in pasture. Sources of water supply for washing cans, bottles and utensils.—Dug well 6½ feet from ground surface to water, 10 feet from dwelling, covered with board platform not water-tight, depth of well, 12 feet. Distance of well or spring from stable.—45 feet. Distance from manure pile.—45 feet. Distance from privy vault.—About 45 feet. Large box privy half full of offensive accumulation. Distance from other sources of con-

tamination.—Waste liquids from pump box falls upon and flows over surface of ground from border of well. Is well apparently liable to contamination?—Yes, from waste liquids on ground near well. Also leaky well covering. Was sample of water taken for analysis?—Yes. Marks.—D-2,080. Number of cows.—Four. State of health.—Said to be good. Ever examined?—No. Were cows in a cleanly condition at time of inspection?—Not seen. Amount, kind and quality of feed used.—In winter corn stalks, hay and ground corn. Cows pastured?—Yes. How and where manure stored?—In stable yard. How frequently removed?—Spring and fall. Quantity of manure at time of this inspection.—About ten wagon loads. How utensils washed and dried?—Warm water and soap, then rinsed with hot water, hung on fence to drain and dry. Where are the utensils washed?—In shed or in yard. Any appliance for sterilizing cans, pails and dippers?—No. Bottles—how washed and dried?—None used. Quantity of milk produced daily?—About thirty quarts. Are milkers' hands washed before milking?—No. Are clean garments put on?—No. Udders of cows cleaned?—No. How?—It was stated that teats are smeared with lard before milking. When pail is full of milk what is done with it?—Taken to house, strained, put into can and can placed into spring. Where does the can stand?—See 42. Is can kept covered?—No. Is milk covered?—No. Is milk cooled?—Yes. How?—Can placed into spring. How long after milking?—Directly after milking. To what temperature?—Temperature of spring water 58 degrees F.; temperature of well water, 64 degrees F. Is milk bottled?—No. Where is milk stored?—In spring. How long is milk stored before being shipped?—Over night. Source of ice supply.—None used. If shipped, to whom, and where?—Taken by George Elgrin, Little Silver, once each day.

Re-inspection of the dairy premises occupied by Mr. Henry Parker, Little Silver, Shrewsbury Township, shows that there has been no change in the water supply provided on said premises. Mrs. Parker stated at the time of this inspection that no more water would be taken from the well, from which a sample of water was taken for analysis on August 5th, for washing milk cans and utensils but all water used for this purpose will be taken from a spring on the premises referred to in the report of inspection of said dairy. September 29th, 1904.

Date of inspection.—August 12, 1904. Name of place.—Little Silver. Name of dealer.—George Elgrin. Street and number.—Rumson Road and Branch avenue. How is milk stored?—Mr. Elgrin stated that no milk is stored upon the premises. The milk is said to be gathered from producers mornings and delivered to consumers direct. How are cans, bottles and utensils washed?—With warm water and soda, rinsed with freshly drawn well water. Mr. Elgrin stated that he takes empty bottles when he goes to the dairies mornings to collect milk and fills bottles while on the wagon, driving from house to house. Any appliances for sterilizing cans, bottles and utensils?—No. Quantity of milk sold daily.—About 175 quarts. How is milk cooled?—The milk is not cooled but delivered as received from producers. Temperature of milk when sold.—Not known. Where is the regular supply of milk obtained?—L. Warden,

J. Martin, George Lippincott, and A. H. Parker, all of Little Silver, and Dr. Laws of Neets Swamp. When short, where is supply obtained?—From Van Nest, Grover and other dealers. How many persons handle the milk?—One, Mr. Parker only. Are all in good health?—So stated. Date of last sickness on premises.—None reported. Source of ice supply.—None used. Source of water supply.—Dug well located in back yard, five feet from back porch, covered with leaky board platform flush with ground. Water stands in the well to within 12 feet of surface of ground. There are two privy vaults, full to overflowing, located twenty feet distant from the well and waste liquids stand in a pool upon the ground surface within three feet of the border of the well. The cans which Mr. Elgrin delivers to the dairy men who supply him with milk are washed by Mr. Elgrin, with water from this well, before they are sent to the dairies. Was sample taken for analysis?—Yes. Marks.—D-2,082.

An unclean and offensive hog pen is located on the rear of the lot.

Re-inspection of the premises in Little Silver on which Mr. George Elgrin conducted a milk depot and from which a sample of water was taken from the well for analysis on August 25th, shows that the milk business is no longer conducted on said premises. Mr. Elgrin stated he sold his business to Mr. William Reid, of Eatontown. September 29th, 1904.

Date of inspection.—August 12, 1904. Name of dairyman.—James Martin, owner. Postoffice, township, county.—Little Silver. Shrewsbury Township, Monmouth Co. Size of stable.—The cow sheds and stable buildings on this place are old tumbled down structures in which no cows are kept at this season of the year. From examination of the buildings it could not be determined what one of the buildings is used for stabling cows in winter. There was no one on the premises to give information concerning these questions at time of inspection. Method and frequency of cleaning.—Not learned. Every lime-washed?—No, none of the buildings have been. Sources of water supply for watering stock.—Well back of garden. Sources of water supply for washing cans, bottles and utensils. There are two dwellings on this place located about 400 feet apart with the stable buildings located midway between the two; there are also two wells, one beneath the shed floor and one back of the garden, belonging to the other dwelling. They are both covered by wooden floors that are not water-tight, and the ground near both wells shows markings of waste liquids. Mrs. Martin stated that water in the well under shed floor is unfit for use and that water is carried from the well back of garden in which to wash utensils. The can is washed by Mr. Elgrin before delivery. Distance of well or spring from stable.—About 75 feet. Distance from manure pile.—About 75 feet. Distance from privy vault.—There is a privy vault about 45 feet from either well. Is well apparently liable to contamination?—Waste liquids are thrown upon ground near wells. Was sample of water taken for analysis?—Yes. Marks.—D-2,083. Number of cows.—Three. Breed.—Grade. State of health.—Apparently good. Ever examined?—Not learned. Were cows in a cleanly condition at time of inspection?—Yes. Amount, kind and quality of feed used.—Not learned. Cows pastured?—Yes. How and where manure stored?—In stable yard.

How frequently removed?—Not learned. Quantity of manure at time of inspection.—About fifty cubic yards. How utensils washed and dried?—Warm water and cloth, no soap or soda used. Where are the utensils washed?—At dwelling. Any appliance for sterilizing cans, pails and dippers?—No. Bottles—how washed and dried?—None used. Quantity of milk produced daily?—About 30 quarts. Are milkers' hands washed before milking?—Not learned. Are clean garments put on?—Not learned. Udders of cows cleaned?—Not learned. When pail is full of milk what is done with it?—Poured into can. Where does the can stand?—In back yard near well. Is milk cooled?—Yes. How?—Can placed in tub containing water from well. How long after milking?—Directly. To what temperature?—Same as well water when drawn, 60 degrees F. Is milk bottled?—No. Where is milk stored?—In yard in tub containing well water. How long is milk stored before being shipped?—Overnight. Source of ice supply.—None used. If shipped, to whom, and where?—Taken by George Elgrin, Little Silver.

Re-inspection of the well on the dairy premises occupied by James Martin, Little Silver, Shrewsbury Township, shows that the depression which held the stagnant water near the well, from which a sample was taken for analysis on August 25th, has been filled up. Nothing has been done to the well covering to make it water-tight. September 29th, 1904.

Date of inspection.—August 12th, 1904. Name of dairyman.—E. C. Hazard, owner. Postoffice, township, county.—Shrewsbury, Shrewsbury Township, Monmouth Co. Location of dairy.—Shrewsbury. Size of stable.—68x10x7 (10 stalls). Cubic feet per cow.—About 476. Stable well lighted?—Three windows 24x28, also numerous cracks and openings over stall doors. Material, construction and drainage of floor.—Earth floors with no drainage. Method and frequency of cleaning.—Each day solids thrown out, bedding removed and mangers brushed out once each week. Was stable clean at time of inspection?—No, manure in stalls. Are sidewalls, ceilings and ledges kept free from cobwebs and dust?—No. The ceiling is formed by rails laid across beams to form hay loft over stable. Ever lime-washed?—No. Sources of water supply for watering stock.—Well near barn about 12 feet deep, covered by leaky board platform with sink drains upon ground near well. It was stated by Mr. Hazard's son that there is no farmer on the place at present and that milking pails and utensils are taken to the factory near by where they are washed and cleaned with streaming water. Distance of well or spring from stable.—45 feet. Distance from manure pile.—60 feet. Distance from privy vault.—24 feet. Is well apparently liable to contamination?—Yes, by leachings from privy vault and waste liquids upon ground. Was sample of water taken for analysis?—Yes. Marks.—D-3,003. Number of cows.—13. Breed.—Grade. State of health.—Said to be good. Ever examined?—No. Were cows in a cleanly condition at time of inspection?—Not seen. Amount, kind and quality of feed used.—Not learned. Cows pastured?—Yes. How and where manure stored?—In stable yard. How frequently removed?—Two or three times each year. Quantity of manure at time of this inspection.—About 75 to 100 wagon loads. How utensils washed and dried?

—See note 13. Where are the utensils washed?—See note 13. Any appliance for sterilizing cans, pails and dippers?—Not on the dairy premises. Bottles—how washed and dried?—None used. Quantity of milk produced daily?—About 125. Are milkers' hands washed before milking?—Yes. Are clean garments put on?—Not learned. Udders of cows cleaned?—Not learned. Where does the can stand?—Not learned. Is can kept covered?—Not learned. Is milk cooled?—Yes. How?—Cans placed in tubs filled with water. How long after milking?—Directly. To what temperature?—Temperature of well water when drawn, 64 degrees, F. Is milk bottled?—No. Where is milk stored?—In yard near pump. How long is milk stored before being shipped?—Overnight. Source of ice supply.—None used. If shipped, to whom, and where?—Taken by Alfred Grover, Shrewsbury.

Re-inspection August 30th, 1904. Name.—E. C. Hazard. I am informed that preparations are being made to lime-wash the interior of cow stable. Since inspection made August 1th, 1904, the well has been sunk deeper and its depth is now about fifteen feet and, it was stated, it is to be still further deepened. A new curbing has been laid around the well from below and extending several inches above the surface of the ground and the well has been covered with a flagging stone. A windmill has been erected over the well. I am informed that the privy vault is to be removed from its present location. Sample of water at this time was quite turbid in appearance owing, no doubt, to work now being done in well. August 30, 1904.

Date of inspection.—August 12th, 1904. Name of dairyman.—Joseph V. Holmes, tenant. Postoffice, township, county.—Shrewsbury, Shrewsbury Township, Monmouth Co. Location of dairy.—Shrewsbury. Size of stable.—38x12x7, (eight stalls in which are five cows and two yearlings). Cubic feet per cow.—About 456 for each animal. Stable well lighted?—Two windows, 22x30. Material, construction and drainage of floor.—Earth floor with no drainage. Method and frequency of cleaning.—Stalls kept free from manure, cleaned three times each day. Was stable clean at time of inspection?—Free from manure. The two stalls occupied by yearlings contained a quantity of manure and gave evidence of not being frequently cleaned. The animals were obliged to lie in soft manure covering the stalls. Are sidewalls, ceilings and ledges kept free from cobwebs and dust?—No. Ceiling is formed by rails laid across beams to make hay loft above stable. Ever lime-washed?—No. Sources of water supply for watering stock.—Brook in meadow and well. Sources of water supply for washing cans, bottles and utensils.—Dug well located under shed floor. Drainage from house discharged into grease trap located adjoining outside foundation wall opposite well. There is a tile drain leading from grease trap to cesspool about 125 feet distant from well. Distance of well or spring from stable.—About 300 feet. Distance from manure pile.—About 300 feet. Distance from privy vault.—About 75 feet. Distance from other sources of contamination.—Cesspool about 90 feet. Is well apparently liable to contamination?—The well has wooden box over portion of same with hinged cover and articles of food are lowered in well.

Was sample of water taken for analysis?—No. Number of cows.—Five. Breed.—Grade. State of health.—Apparently good. Ever examined?—No. Were cows in a cleanly condition at time of inspection?—Yes. Amount, kind and quality of feed used.—Clover hay, oats and ground corn. Cows pastured?—Yes. How and where manure stored?—In stable yard. How frequently removed?—Usually removed when one load accumulates. Quantity of manure at time of this inspection.—About 25 cubic yards. Where are the utensils washed?—At dwelling. Any appliance for sterilizing cans, pails and dippers?—No. Bottles—how washed and dried?—None used. Quantity of milk produced daily?—About 45 quarts. Are clean garments put on before milking?—No. Udders of cows cleaned?—Yes. How?—Brushed with hands. When pail is full of milk what is done with it?—Poured into can. Where does the can stand?—In stable buildings. Is can kept covered?—Yes. Is milk cooled?—No. Is milk bottled?—No. Where is milk stored?—Not stored. How long is milk stored before being shipped?—Not stored. Source of ice supply.—None used. If shipped, to whom, and where?—Taken by Van Ness, Shrewsbury, twice every day.

Date of inspection.—August 15, 1904. Name of place.—Shrewsbury. Name of dealer.—Alfred Grover, Jr. Street and number.—Sycamore avenue. How is the milk stored?—Cans placed in metal lined cooling boxes in which iced water is kept. How are cans, bottles and utensils washed?—In wooden trays with hot water, gold dust and hand brushes. Any appliances for sterilizing cans, bottles and utensils?—No. Quantity of milk sold daily.—About 500 quarts. Is can kept covered?—After milk is cooled covers placed on cans. How is milk cooled?—Cans partly submerged in iced water in cooling boxes. Temperature of milk when sold.—Not known. Where is the regular supply of milk obtained?—E. C. Hazzard, A. Armstrong, Wm. Conover, James Lobe, all of Shrewsbury. When short, where is supply obtained?—From J. H. Van Nest, Little Silver, or other dealers. How many persons handle the milk?—Three. Are all in good health?—So stated. Date of last sickness on premises.—None reported. Source of ice supply.—Lake Marrior Ice Co. Source of water supply.—Rumson Water Works. Was sample taken for analysis?—No.

The milk house is located in yard separate from other buildings and the place presents a neat and tidy appearance.

Date of inspection.—August 15, 1904. Name of dairyman.—Alfred C. Weiderholdt, tenant. Postoffice, township, county.—Shrewsbury, Shrewsbury, Monmouth Co. Location of dairy.—Shrewsbury. Size of stable.—40x14x6 feet. Stalls for eleven cows. Cubic feet per cow.—About 305. Stable well lighted?—No. Light admitted only through open doors, cracks and places where boards are off building. Material, construction and drainage of floor.—Rough, well worn board floor beneath eight stalls with manure gutter drained into barn yard. Balance of stable has earth floor. Method and frequency of cleaning.—Not learned. Was stable clean at time of inspection?—No. Are sidewalls, ceilings and ledges kept free from cobwebs and dust?—No. Ever lime-washed?—No. Sources of water supply for watering stock.—Well, on border of stable yard and within ten feet of two privy vaults on public school grounds and 15 feet from hog pen.

Sources of water supply for washing cans, bottles and utensils.—Dug well beneath shed floor at dwelling. The wooden floor covering well is leaky. Distance of well or spring from stable.—105 feet. Distance from manure pile.—120 feet. Distance from privy vault.—About 58 feet. Vault full to overflowing. Is well apparently liable to contamination?—Waste liquids from pump box flows through wooden gutter to point twenty feet from well thence over surface of ground. Was sample of water taken for analysis?—Yes. Marks.—D-2,085. Number of cows.—13. State of health.—Said to be good. Ever examined?—No. Were cows in a cleanly condition at time of inspection?—Not seen. Amount, kind and quality of feed used.—Not learned. Cows pastured?—Yes. Manure, how and where stored?—In stable yard. How frequently removed?—Not learned. How utensils washed and dried?—Hot water and scap scalded with hot water and rinsed with cold water; then placed in open air to dry. Where are the utensils washed?—At dwelling. Any appliance for sterilizing cans, pails and dippers?—No. Bottles—how washed and dried?—None used. Quantity of milk produced daily?—About 80 quarts. Are milkers' hands washed before milking?—Not learned. Are clean garments put on?—Not learned. Udders of cows cleaned?—Yes. How?—Washed with water and cloth. When pail is full of milk what is done with it?—Poured on cooler from which it runs into cans. Where does the can stand?—In stable building. Is can kept covered?—Yes, with cheese cloth strainer. Is milk cooled?—Yes. How?—Run over cooler filled with well water. How long after milking?—Directly. To what temperature?—Temperature of water when drawn, 57 degrees F. Is milk bottled?—No. Where is milk stored?—Not stored. Source of ice supply.—None used. If shipped, to whom, and where?—Taken by Mr. J. H. Van Nest, Little Silver, twice daily.

Re-inspection of the premises occupied by A. Weiderholdt, Shrewsbury, Shrewsbury Township, shows that water from the same well from which a sample was taken for analysis August 25th is being used for washing milk cans and utensils. It was stated by Mr. and Mrs. Weiderholdt that all water used in washing milk cans and utensils is first boiled and allowed to cool before use and that none but water which has been first boiled is used on the dairy for washing or rinsing the cans and utensils. The privy vault has been moved further away from the well and Mr. Weiderholdt stated that preparations are being made to lay a new drain, place a new covering over the well, and if found necessary, have the well cleaned. September 29th, 1904.

Date of inspection.—August 15, 1904. Name of dairyman.—Mrs. S. E. Reid, tenant. Postoffice, township, county.—Shrewsbury, Shrewsbury Township, Monmouth Co. Location of dairy.—Shrewsbury. Size of stable.—31x18x7 feet (nine stanchions). Cubic feet per cow.—About 413. Stable well lighted?—Two windows 48 by 28 inches. Material, construction and drainage of floor.—Wooden floor upon which cows stand with earth floor at rear of stalls, no drainage. Method and frequency of cleaning.—Droppings kept shoveled out, board floor thickly incrustated with dry manure. Are sidewalls, ceilings and ledges kept free from cobwebs and dust?—No. Ever lime-washed?—No. Sources of water supply for watering

15 feet from dwelling covered with board platform. Distance of well from privy vault.—25 feet. Vault full to overflowing. Distance from other sources of contamination.—Waste fluids from pump box flows upon the ground 15 feet from well. Is well apparently liable to contamination?—The privy vault and drain are dangerously near well. Was sample of water taken for analysis?—Yes. Marks.—D-3,005. Number of cows.—13. Breed.—Grade. State of health.—Said to be good. Ever examined?—No. Were cows in a cleanly condition at time of inspection?—Not seen. Amount, kind and quality of feed used.—In winter corn, buckwheat and oatmeal and wheat bran. Cows pastured?—Yes. Manure, how and where stored?—In stable yard. How frequently removed?—Three or four times a year. Quantity of manure at time of this inspection.—About thirty loads. How utensils washed and dried?—Hot water and rinsed in hot or cold water and placed in open air to drain and dry. Where is milk cooled?—Night's milk run over cooler filled with well water; morning's milk not cooled. How long after milking?—Directly after milk-utensils washed?—At dwellings. Any appliance for sterilizing cans, pails in yard. Is can kept covered?—Yes. With cheese cloth strainer. Bottles—how washed and dried?—None used. Quantity of milk produced daily?—About 75 quarts. Are milkers' hands washed before milking?—Yes. Are clean garments put on?—No. Udders of cows cleaned?—Yes. How?—Rubbed off with burlap and cows covered to keep off flies. When pail is full of milk what is done with it?—Carried to house and strained into cans. Where does the can stand?—Near dwelling. To what temperature?—Temperature of well water when drawn, 56 degrees F. Is milk bottled?—No. Where is milk stored?—Not stated. Source of ice supply.—None used. If shipped, to whom, and where?—Taken by Alfred Grover, Shrewsbury, twice daily.

Date of inspection.—August 15, 1904. Name of dairyman.—Aaron Armstrong, tenant. Postoffice, township, county.—Shrewsbury, Township, Monmouth Co. Location of dairy.—Shrewsbury. Size of stable.—No. 1, 50x11x7, five stalls; No. 2, 50x15x7, 18 stalls. Cubic feet per cow.—Stable No. 1, 770; stable No. 2, 290. Stable well lighted?—No. 1, 3 windows, 30x30 inches fitted with solid board shutters; No. 2, 5 windows, 30x30, with glass sashes. Material, construction and drainage of floor.—No. 1, earth floors, no drainage; No. 2, board floor upon which cattle stand with manure gutter draining into yard. Earth floor in rear of stalls. Method and frequency of cleaning.—In winter twice daily. Was stable clean at time of inspection?—No. Are sidewalls, ceilings and ledges kept free from cobwebs and dust?—No. Ever lime-washed?—No. Sources of water supply for watering stock.—Brook in pasture and well in barn yard. Sources of water supply for washing cans, bottles and utensils.—Dug well in barn yard from which water is pumped by wind mill to tank in hay loft and distributed through pipes to house and to milk house. There is also a dug well in yard 25 feet from dwelling, covered with raised board platform with wide cracks between each plank and a drain on the surface of the ground into which waste fluids from the pump box falls near the borders

of the well. Distance of well or spring from stable.—Practically under stable. Distance from manure pile.—Under manure pile. Distance from privy vault.—About two hundred feet. Distance from other sources of contamination.—Surrounded by sources of contamination. Is well apparently liable to contamination?—Yes. Was sample of water taken for analysis?—Yes. Marks.—D-3,006. Number of cows.—20. Breed.—Grade. State of health.—Said to be good. Ever examined?—Not learned. Were cows in a cleanly condition at time of inspection?—No. Amount, kind and quality of feed used.—Not learned. Cows pastured?—Yes. How and where manure stored?—In barn yard. How frequently removed?—Spring and fall. Quantity of manure at time of this inspection.—Thirty or forty wagon loads. How utensils washed and dried?—Hot water and soap and generally rinsed in hot water. Where are the utensils washed?—In yard at dwelling or in milk house. Any appliance for sterilizing cans, pails and dippers?—No. Bottles—how washed and dried?—No bottles used. Quantity of milk produced daily?—About 130 quarts. Are milkers' hands washed before milking?—Yes. Are clean garments put on?—No. Udders of cows cleaned?—Not regularly. How?—When soiled with manure or mud washed with water. When pail is full of milk what is done with it?—Taken to milk room and poured over cooler into cans. Where does the can stand?—In milk house. Is can kept covered?—Yes, with cheese cloth strainer. Is milk cooled?—Yes. How?—Poured over cooler containing ice water. How long after milking?—Directly. To what temperature?—Not learned. Is milk bottled?—No. Where is milk stored?—Not stored on premises. Source of ice supply.—Gathered from nearby ponds. If shipped, to whom, and where?—Mr. A. Grover, Shrewsbury, takes milk morning and night.

I have this day procured a sample of water from the dooryard well on the dairy premises owned by Mrs. S. J. Allen, in Shrewsbury, and occupied by Aaron Armstrong and sent the same to the State Laboratory marked "D-3,046." This well, referred to in my report of inspection dated August 15th, is a dug well about thirty feet deep and contains about eleven feet of water. It is covered by a very leaky board platform and the water dripping from the pump spout falls into a wooden trough and from thence upon the ground near the borders of the well. The well is surrounded by apparently clean bare ground with sharp surface drainage from the house past the well and down the hillside. There is a leaching privy vault, pig pen and a pool of stagnant water where the sink drain discharges upon the ground all at a distance of sixty-six feet from the well. September 29th, 1904.

Date of inspection.—August 15, 1904. Name of dairyman.—William I. Conover, tenant. Postoffice, township, county.—Shrewsbury, Shrewsbury Township, Monmouth Co. Location of dairy.—Shrewsbury. Size of stable.—12x22x7 feet. Cubic feet per cow.—About 370. Stable well lighted?—One window, 14x18 inches plus numerous cracks in building. Material, construction and drainage of floor.—Earth floor and no drainage. The stalls were abundantly supplied with clean straw bedding. Method and frequency of cleaning.—Not learned. Was stable clean at time of in-

spection?—Yes. Are sidewalls, ceilings and ledges kept free from cobwebs and dust?—No. Ever lime-washed?—No. Sources of water supply for watering stock.—Brook in pasture and well. Sources of water supply for washing cans, bottles and utensils.—Dug well in lane 35 feet from dwelling. Distance of well or spring from stable.—About 130 feet. Distance from manure pile.—About 140 feet. Distance from privy vault.—About 150 feet. Distance from other sources of contamination.—About 70 feet from hog pen. Is well apparently liable to contamination?—Horses and cows drink from watering trough by side of well and the board floor which covers well is not water-tight. Was sample of water taken for analysis?—Yes. Marks.—D-3,008. Number of cows.—5. Breed.—Grade. State of health.—Said to be good. Ever examined?—Not known to have been. Were cows in a cleanly condition at time of inspection?—Yes. Amount, kind and quality of feed used.—Not learned. Cows pastured?—Yes. How and where manure stored?—Thrown into stable yard. How frequently removed?—Not learned. Quantity of manure at time of this inspection.—About one foot deep, wet and mucky. Over stable yard covering about 5,000 square feet of ground surface. How utensils washed and dried?—Hot water and rinsed with cold water and placed in open air to dry. Where are the utensils washed?—At dwelling. Any appliance for sterilizing cans, pails and dippers?—No. Bottles—how washed and dried?—None used. Quantity of milk produced daily?—About 30 quarts. Are milkers' hands washed before milking?—Not learned. Are clean garments put on?—Not learned. Udders of cows cleaned?—Not learned. When pail is full of milk what is done with it?—Poured over cooler into cans. Where does the can stand?—Outside stable on grass plot. Is can kept covered?—Yes, with cheese cloth strainer. Is milk cooled?—Yes. How?—On cooler containing well water. How long after milking?—Directly. To what temperature?—Temperature of water when drawn, 58 degrees F. Is milk bottled?—No. Where is milk stored?—Not stored. Source of ice supply.—None used. If shipped, to whom, and where?—Delivered to A. Grover, twice each day.

Date of inspection.—August 15, 1904. Name of dairyman.—William Jackson, tenant. Postoffice, township, county.—Tinton Falls, Shrewsbury Township, Monmouth Co. Location of dairy.—Tinton Falls. Size of stable.—32x11x7 feet. Cubic feet per cow.—About 308. Stable well lighted?—Three windows, 18x20 inches. Material, construction and drainage of floor.—Board floor beneath cattle with manure gutter, earth floor rear of stalls. Method and frequency of cleaning.—Morning, night and noon. Cows stabled only during milking during summer time. Was stable clean at time of inspection?—Manure had been removed. Are sidewalls, ceilings and ledges kept free from cobwebs and dust?—No. Ever lime-washed?—No. Sources of water supply for watering stock.—Dug well under stable building. Said to be 75 feet deep. Water from this well is pumped by wind mill to tank in hay mow. Sources of water supply for washing cans, bottles and utensils.—Dug well near corner of dwelling covered with board platform, slightly raised above the ground surface. This well was recently cleaned and, it was stated, its depth is 60 feet.

To a depth of 27 feet from the surface the well is walled up with bricks, the remaining 33 feet is dug through solid rock. Water now standing in the well to within 25 feet of the surface and, it was stated, at times water rises and stands in the well to within 6 feet of the surface. The platform covering the well is not water-tight and there is a horse shoe tile drain leading from the box beneath the pump spout to the public road. This drain, although laid on a sharp grade is said to obstruct occasionally and has to be cleaned. Distance of well or spring from stable.—About 300 feet. Distance from manure pile.—About 300 feet. Distance from privy vault.—About 54 feet. Is well apparently liable to contamination?—It may receive pollution from leaky covering or leaky drain. Was sample of water taken for analysis?—Yes. Marks.—D-3,009. Number of cows.—Eight. Breed.—Grade. State of health.—Said to be good. Ever examined?—No. Were cows in a cleanly condition at time of inspection?—Not seen. Amount, kind and quality of feed used.—In winter ground corn, wheat bran and beets. Cows pastured?—Yes. How and where manure stored?—Thrown into stable yard. How frequently removed?—Every fall. Quantity of manure at time of this inspection.—Forty to fifty cubic yards. How utensils washed and dried?—Hot water and washing powder and rinsed with cold water. Where are the utensils washed?—At dwelling. Any appliance for sterilizing cans, pails and dippers?—No. Bottles—how washed and dried?—None used. Quantity of milk produced daily?—About fifty quarts. Are milkers' hands washed before milking?—Yes. Are clean garments put on?—No. Udders of cows cleaned?—Yes. How?—Washed when dirty. When pail is full of milk what is done with it?—Poured into can. Where does the can stand?—At the dwelling. Is can kept covered?—With cheese cloth strainer. Is milk cooled?—Yes. How?—Placed in cans in tub containing well water and stir milk. How long after milking?—Directly. To what temperature?—Temperature of water when drawn, 52 degrees F. Is milk bottled?—No. Where is milk stored?—In yard. How long is milk stored before being shipped?—Over night. Source of ice supply.—None used. If shipped, to whom, and where?—Taken by John H. Cook, Tinton Falls, each morning.

Re-inspection of the dairy premises occupied by William Jackson, Tinton Falls, shows that there has been no change in the source of water supply on said premises. Mrs. Jackson informed me, at the time of this inspection, that since notice was received from your board, stating that a sample of water taken for analysis on August 30th was polluted, all water for washing milk cans and utensils has been procured from a well at the stable, referred to in report of inspection dated August 15th, 1904, or from a dug well on the adjoining farm. Mrs. Jackson further stated that they are expecting the owner of the property to provide a satisfactory water supply. September 29th, 1904.

Date of inspection.—August 19, 1904. Name of dairyman.—Wellington Wilkinson, owner. Postoffice, township, county.—Tinton Falls, Shrewsbury Township, Monmouth Co. Location of dairy.—Tinton Falls. Size of stable.—30x12x10 (8 stalls). Cubic feet per cow.—516. Stable well lighted?—Yes, three windows 24x42 inches. Fitted with double sliding



glass sashes. Material, construction and drainage of floor.—Earth floor sloping from front of each stall to openings beneath doors into barn yard. Method and frequency of cleaning.—Not learned. Was stable clean at time of inspection?—No. Cows not kept in stable during summer time; are in pasture day and night. Are sidewalls, ceilings and ledges kept free from cobwebs and dust?—No. Ever lime-washed?—Part of stable had been long time ago. Sources of water supply for watering stock.—Dug well near stable and stable yard. Water pumped by wind mill to tank. Sources of water supply for washing cans, bottles and utensils.—Dug well near dwelling with open curb water drawn in buckets attached to ends of chain which works over a wheel fastened in a beam beneath roof over well. The ground about the well is paved with bricks and slopes from the well. It is about 20 feet from surface of ground to water level in well and it was stated that water is 18 feet deep in well. Temperature of water, 52 degrees F. Distance of well or spring from stable.—About 200 feet. Distance from manure pile.—About 200 feet. Distance from privy vault.—34 feet. Distance from other sources of contamination.—50 feet from hog pen. Is well apparently liable to contamination?—Only by introduction of polluting substances into the well owing to lack of cover. Was sample of water taken for analysis?—No. Number of cows.—Seven. Breed.—Not learned. State of health.—Not learned. Ever examined?—Not learned. Were cows in a cleanly condition at time of inspection?—Not seen. Amount, kind and quality of feed used.—Not learned. Cows pastured?—Yes. How and where manure stored?—In stable yard. How frequently removed?—Not learned. Quantity of manure at time of this inspection.—About 20 wagon loads. How utensils washed and dried?—With warm water and borax or soap. Where are the utensils washed?—At dwelling. Any appliance for sterilizing cans, pails and dippers?—No. Bottles—how washed and dried?—None used. Quantity of milk produced daily?—About 25 quarts. Are milkers' hands washed before milking?—Not learned. Are clean garments put on?—Not learned. Udders of cows cleaned?—Not learned. When pail is full of milk what is done with it?—Poured into can. Where does the can stand?—In yard near well. Is can kept covered?—By cheese cloth strainer. Is milk cooled?—No. Is milk bottled?—No. Where is milk stored?—Not stored. Source of ice supply.—None used. If shipped, to whom, and where?—John H. Cook, Tinton Falls, milk shipped twice daily.

Date of inspection.—August 19, 1904. Name of place.—Tinton Falls. Name of dealer.—John H. Cook, Jr. How is milk stored?—Only about 16 quarts stored on premises; milk is gathered mornings from producers and delivered direct to customers. How are cans, bottles and utensils washed?—Warm water and "Miller's Powderine", rinsed with cold water. Any appliances for sterilizing cans, bottles and utensils?—No. Quantity of milk sold daily.—About 140 quarts. How is milk cooled?—The only milk cooled on premises is the 16 quarts stored over night. This is placed in a can and the can is set in a tub containing well water. The temperature of water in the well is 61 degrees F. Temperature of milk when sold.—Not learned. Where is the regular supply of milk obtained?—W. Casler,

W. Wilkins, George Wimple, Tinton Falls; W. Jackson, Shrewsbury Road. When short, where is supply obtained?—From other dealers. How many persons handle the milk?—Two. Are all in good health?—So stated. Date of last sickness on premises.—None reported. Source of ice supply.—None used. Source of water supply.—Dug well in yard covered with board platform which is leaky. Waste fluids are placed upon ground near well. Was sample taken for analysis?—Yes. Marks.—D-3,010.

Date of inspection.—August 19, 1904. Name of dairyman.—Peter Casler, owner. Postoffice, township, county.—Tinton Falls, Shrewsbury Township, Monmouth Co. Location of dairy.—Tinton Falls. Size of stable.—Cows stabled in a two story barn 42x24 feet, which is also used for storing hay. Cubic feet per cow.—Ample. Stable well lighted?—No light except that which enters through cracks. Material, construction and drainage of floor.—Boards laid crosswise in stalls directly upon the ground surface; no drainage. Method and frequency of cleaning.—Stalls well bedded with straw and manure removed daily. Was stable clean at time of inspection?—No manure and abundance of bedding. Are sidewalls, ceilings and ledges kept free from cobwebs and dust?—No. Ever lime-washed?—No. Sources of water supply for watering stock.—Dug well 10 feet from stable and manure pile. Sources of water supply for washing cans, bottles and utensils.—Dug well in door yard 15 feet from dwelling, covered with leaky floor flush with ground surface. Distance of well or spring from stable.—About 140 feet. Distance from manure pile.—About 150 feet. Distance from privy vault.—About 60 feet. Is well apparently liable to contamination?—Yes, from waste fluids on ground and leaky covering. Temperature of water 60 degrees F. Was sample of water taken for analysis?—Yes. Marks.—D-3,011. Number of cows.—Six. Breed.—Common. State of health.—Said to be in good health. Ever examined?—No. Were cows in a cleanly condition at time of inspection?—Not seen. Amount, kind and quality of feed used.—Buckwheat, bran and corn meal in winter. Cows pastured?—Yes. How and where manure stored?—In stable yard. How frequently removed?—Three times each year. Quantity of manure at time of this inspection.—About 20 loads. How utensils washed and dried?—Warm water and soap powder, rinsed with hot water first and afterwards with cold water. Where are the utensils washed?—At dwelling. Any appliance for sterilizing cans, pails and dippers?—No. Bottles—how washed and dried?—None used. Quantity of milk produced daily?—About 60 quarts. Are milkers' hands washed before milking?—Yes. Are clean garments put on?—No. Udders of cows cleaned?—Yes. How?—With brush and rag. When pail is full of milk what is done with it?—Poured into cans. Where does the can stand?—On stable well covering. Is can kept covered?—Yes, with cheese cloth strainer. Is milk cooled?—Yes. How?—Place can in tub of water and stir milk with large spoon and stick. How long after milking?—Directly. To what temperature?—Temperature of water when drawn, 59 degrees F. Is milk bottled? How long after cooling? Where is milk bottled?—When Mr. Cook calls mornings for milk he brings bottles and fills them on the well platform. Where is milk stored?—In yard beside stable well. How long is milk stored be-

fore being shipped?—Over night. Source of ice supply.—None used. If shipped, to whom, and where?—Taken by J. H. Cook, Jr., Tinton Falls.

Date of inspection.—August 19, 1904. Name of dairyman.—Charles E. Wyckoff, owner. Postoffice, township, county.—Wayside, Shrewsbury Township, Monmouth Co. Location of dairy.—Wayside. Size of stable.—26x36x7 feet from floor to rails forming ceiling, with hay loft above stable. Cubic feet per cow.—Ample. Stable well lighted?—One window 18x22 inches; light also enters through cracks. Material, construction and drainage of floor.—Board floor, no drainage. Method and frequency of cleaning.—Cleaned daily in winter. Was stable clean at time of inspection?—Yes. Cows kept in pasture, except during milking, during summer time. Are sidewalls, ceilings and ledges kept free from cobwebs and dust?—No. Ever lime-washed?—No. Sources of water supply for watering stock.—Brook in meadow and well in barn yard. Sources of water supply for washing cans, bottles and utensils.—Dug well 16 feet deep, beneath partly enclosed shed covered by plank platform, with cracks  $\frac{1}{4}$ -inch wide. Waste water discharges from pump box through wooden gutter, about 20 feet from well upon surface of ground. Distance of well or spring from stable.—About 150 feet. Distance from manure pile.—About 150 feet. Distance from privy vault.—About 45 feet. Is well apparently liable to contamination?—Yes, from pollution which may enter well through openings in its covering. Was sample of water taken for analysis?—Yes. Marks.—D-3,021. Number of cows.—Nine. Breed.—Grade. State of health.—Said to be good. Ever examined?—No. Were cows in a cleanly condition at time of inspection?—Not seen. Amount, kind and quality of feed used.—Corn meal, wheat bran, fodder and ensilage. Cows pastured?—Yes. How and where manure stored?—In stable yard. How frequently removed?—About once each week. Quantity of manure at time of this inspection.—None. How utensils washed and dried?—Warm water and soda, rinsed and placed in open air to dry. Where are the utensils washed?—At dwelling. Any appliance for sterilizing cans, pails and dippers?—No. Bottles—how washed and dried?—None used. Quantity of milk produced daily?—About 100 quarts daily. Are milkers' hands washed before milking?—Yes. Are clean garments put on?—No. Udders of cows cleaned?—Yes. How?—Brushed, and if soiled, washed. When pail is full of milk what is done with it?—After milking each cow, poured over aerated into can. Where does the can stand?—In yard near stable. Is can kept covered?—Yes, with cheese cloth strainer. Is milk cooled?—Yes. How?—Poured over aerator filled with well water. How long after milking?—Directly. To what temperature?—Temperature of well water when drawn, (56 degrees F.) Is milk bottled?—No. Where is milk stored?—In yard. How long is milk stored before being shipped?—Over night. Source of ice supply.—None used. If shipped, to whom, and where?—Taken to Mr. J. H. Van Nest mornings.

Date of inspection.—August 20, 1904. Name of dairyman.—Malcom T. Bell, owner. Postoffice, township, county.—Eatontown, Eatontown, Monmouth Co. Location of dairy.—Eatontown. Size of stable.—27x14x7 feet. Cubic feet per cow.—About 529. Stable well lighted?—Yes. Three win-

dows 26x30 inches with sliding glass sash. Material, construction and drainage of floor.—Board floor with manure gutter draining into yard. Method and frequency of cleaning.—Cleaned with shovel and broom; sawdust used to keep floor dry. Was stable clean at time of inspection?—Yes. Cows kept in pasture in summer except during milking. Are sidewalls, ceilings and ledges kept free from cobwebs and dust?—No. Ever lime-washed?—No. Sources of water supply for watering stock.—Dug well beneath stable floor. Sources of water supply for washing cans, bottles and utensils.—Dug well 17 feet deep, 5 feet from dwelling; covered with stone flagging and wooden pump box in which is constructed a box with hinged lid through which milk in cans and other articles are lowered into the well for the purpose of keeping them cool. There is an outlet from the pump box into what is said to be a tile drain leading to the street gutter. Distance of well or spring from stable.—About 200 feet. Distance from manure pile.—About 200 feet. Distance from privy vault.—50 feet. Is well apparently liable to contamination?—From the manner in which it is covered and by the use to which the well is put. Was sample of water taken for analysis?—Yes. Marks.—D-3,023. Number of cows.—5. Breed.—Jersey. State of health.—Apparently good. Ever examined?—No. Were cows in a cleanly condition at time of inspection?—Yes. Amount, kind and quality of feed used.—Ground corn, buckwheat, middlings shorts and bran. Cows pastured?—Yes. How and where manure stored?—On ground outside stable. How frequently removed?—Every fall and spring. Quantity of manure at time of this inspection.—About one cubic yard. How utensils washed and dried?—Warm water, soda or soap. Cans washed by the dealer who takes the milk. Where are the utensils washed?—In dwelling. Any appliance for sterilizing cans, pails and dippers?—No. Bottles—how washed and dried?—None used. Quantity of milk produced daily?—About 50 quarts. Are milkers' hands washed before milking?—Yes. Are clean garments put on?—No. Udders of cows cleaned?—Yes. How?—Always brushed and wiped off with rag. When pail is full of milk what is done with it?—Poured into can. Where does the can stand?—Near well at dwelling. Is can kept covered?—Except while cooling. Is milk cooled?—Yes. How?—Set cans in tub of cold water. How long after milking?—Directly. To what temperature?—Temperature of water when drawn, 56 degrees F. Is milk bottled?—No. Where is milk stored?—Cans suspended to a rope down well. How long is milk stored before being shipped?—From morning until evening. Source of ice supply.—None used. If shipped, to whom, and where?—Taken by Van Nest every evening.

Date of inspection.—August 19, 1904. Name of dairyman.—Thomas J. O'Donohue, owner. Postoffice, township, county.—Shrewsbury, Shrewsbury, Monmouth Co. Location of dairy.—Shrewsbury. Size of stable.—62½x16x7½ feet. Cubic feet per cow.—About 312. Stable well lighted?—5 windows, 2½x5 feet. Material, construction and drainage of floor.—Plank floor with manure gutter 6 inches deep and 16 inches wide, with outlet in end to drain beneath floor. Method and frequency of cleaning.—Manure shoveled into wheelbarrow and removed to stable yard. The

manure gutter is washed with hose and broom every other day and the entire floor and sidewalls once each week. Was stable clean at time of inspection?—Yes. The plank floor had contained a coating of manure dried on. Are sidewalls, ceilings and ledges kept free from cobwebs and dust?—Yes. North Carolina ceiling and sidewalls which receives frequent washing with hose. Ever lime-washed?—No. Sources of water supply for watering stock.—Dug well on border of barn yard and brook in pasture. Sources of water supply for washing cans, bottles and utensils.—Artesian well the water from which is pumped by wind mill into tank. Distance of well or spring from stable.—200 feet. Distance from manure pile.—200 feet. Distance from privy vault.—None on place. Is well apparently liable to contamination?—No. Was sample of water for analysis?—No. Number of cows.—24. Breed.—Guernsey, Jersey, Holstein. State of health.—Said to be and apparently is good. Ever examined?—Yes. By whom?—Dr. McCaffey. Date of last examination?—Last year. Were cows in a cleanly condition at time of inspection?—Yes. Amount, kind and quality of feed used.—Bran and midlings in winter; also beets, corn and hay. Cows pastured?—Yes. How and where manure stored?—In stable yard. How frequently removed?—Was cleaned last fall. Quantity of manure at time of this inspection.—About 200 loads of manure. How utensils washed and dried?—Washed in metal lined washing box, in which water is heated by live steam, cans and pails are then inverted over a steam pipe and a jet of streaming steam is turned into them. Where are the utensils washed?—In milk house. The milk house is a building standing separate from others, has a concrete floor, drained to a cesspool, there is a boiler for making steam. Any appliance for sterilizing cans, pails and dippers?—Flowing steam turned into cans and pails through pipe but no sterilizer. Bottles—how washed and dried?—None used. Quantity of milk produced daily?—150 quarts. Are milkers' hands washed before milking?—Yes. Are clean garments put on?—Overalls put on by milkers. Udders of cows cleaned?—Yes. How?—In mornings washed with water and wiped with cloth. When pail is full of milk what is done with it?—Poured into cans. Where does the can stand?—In stable building. Is can kept covered?—With wire and cloth strainer. Is milk cooled?—Yes. How?—Run over "Reid" cooler through which water from tank passes. How long after milking?—Directly. To what temperature?—Temperature of water when drawn from tank, 62 degrees F. Is milk bottled?—No. Where is milk stored?—Cans placed in large cask containing water and ice. How long is milk stored before being shipped?—Over night. Source of ice supply.—Harvested on pond on place. If shipped, to whom, and where?—Delivered to Sheffield Farm Co, West End.

Date of inspection.—August 19, 1904. Name of dairyman.—Charles M. Patterson, owner. Postoffice, township, county.—Shrewsbury, Shrewsbury, Monmouth Co. Location of dairy.—Shrewsbury. Size of stable.—No. 1, 28x15x8; No. 2, 19x15x7 feet; No. 3, 34x15x7; No. 4, 24x15x8. Cubic feet per cow.—Stable No. 1, 560 feet; No. 2, 496 feet; No. 3, 714 feet; No. 4, 360 feet. Stable well lighted?—There are no window openings in stable. Some light and ventilation enters through cracks and openings over doors.

Material, construction and drainage of floor.—Earth floor, no drainage. Method and frequency of cleaning.—Manure removed every day, cows bedded with sawdust. Was stable clean at time of inspection?—Yes. During summer cows are kept in pasture field except during milking. Are sidewalls, ceilings and ledges kept free from cobwebs and dust?—No. The stalls are on ground floor of two story barn and the ceilings are formed by rails laid across beams above which hay is stored. Ever lime-washed?—No. Sources of water supply for watering stock.—Brook in meadow and dug well beneath floor of barn used as wagon and store house. Sources of water supply for washing cans, bottles and utensils.—See 12. Water is pumped from this well into tank in stable and also tank in dwelling. Well is covered by a board platform and it is not protected by tight curbing and covering to prevent entrance of pollution. Distance of well or spring from stable.—50 feet from horse stable; 150 feet from cow barn. Distance from manure pile.—90 feet. Distance from privy vault.—No vault in use on premises. Distance from other sources of contamination.—36 feet from hog pen. Is well apparently liable to contamination?—Yes. Was sample of water taken for analysis?—Yes. Marks.—D-3,004. Number of cows.—26. Breed.—Grade. State of health.—Apparently good. Ever examined?—Not learned. Were cows in a cleanly condition at time of inspection?—Yes. Amount, kind and quality of feed used.—In winter sugar beets, bran, corn and hay. Cows pastured?—Yes. How and where manure stored?—In stable yard. How frequently removed?—Every fall. Quantity of manure at time of this inspection.—About 150 or 200 cubic yards. How utensils washed and dried?—Rinsed with cold water, washed with sapollo and cold water, then with hot water and pearline and again rinsed with cold water. Where are the utensils washed?—In yard near milk house. Any appliance for sterilizing cans, pails and dippers?—No. Bottles—how washed and dried?—None used. Quantity of milk produced daily?—About 150 quarts. Are milkers' hands washed before milking?—Yes. Are clean garments put on?—No. Udders of cows cleaned?—Yes. How?—Wiped with cloth. When pail is full of milk what is done with it?—Poured into can. Where does the can stand?—In barn. Is can kept covered?—Yes. cheese cloth strainer. Is milk cooled?—Yes. How?—Set cans in tub containing water and ice. How long after milking?—Directly. Is milk bottled?—No. Where is milk stored?—Not stored. Source of ice supply.—Harvested on pond on place. If shipped, to whom, and where?—Shipped twice each day to Smith & McNeil, New York.

Date of inspection.—August 22nd, 1904. Name of place.—Middletown Township. Name of dealer.—George H. Sanborn. Street and number.—Middletown Township. How is the milk stored?—Cans are placed in wooden tubs containing ice and water; these tubs stand in back yard of shed. How are cans, bottles and utensils washed?—Warm water and soda or some other washing powder. Any appliances for sterilizing cans, bottles and utensils?—No. Quantity of milk sold daily.—About 200 quarts. Is can kept covered?—No, lids tipped on cans. How is milk cooled?—Cans placed in tubs which contain water and ice. Temperature

of milk when sold?—Not known. Where is the regular supply of milk obtained?—J. A. Sanborn, L. Soffel, and J. M. Carhart, Middletown Township. When short, where is supply obtained?—Other milkmen in Red Bank. How many persons handle the milk?—One, Mr. Sanborn. Are all in good health?—So stated. Date of last sickness on premises.—None reported. Source of ice supply.—Brought from O. Hess, Red Bank. Source of water supply.—Dug well in yard 5 feet from back door. Water stands in well 8 feet from surface of ground, the well is covered by plank floor in a state of decomposition, laid flush with ground surface. Water falling from the pump spout, as well as dirt from the feet of persons standing upon the well covering, passes through the wide cracks and can be heard to fall into the water in the well. Temperature of water when drawn, 60 degrees F. Was sample of water taken for analysis?—Yes. Marks.—D-3,014.

Date of inspection.—August 22nd, 1904. Name of dairyman.—Theodore M. Carhart, tenant. Postoffice, township, county.—Red Bank, Middletown, Monmouth Co. Location of dairy.—Middletown Township. Size of stable.—20x12x9. While this stable is arranged for six cows by having six stalls there are but two cows now on the place. Cubic feet per cow.—1,030 when occupied by two cows only. Stable well lighted?—One window, 24x32. Material, construction and drainage of floor.—Board floor with main gutters draining into barnyard. Method and frequency of cleaning.—In winter cleaned every morning. Was stable clean at time of inspection?—The cows are not stabled during summer and the stable is now in use for storage of farm products. Are sidewalls, ceilings and ledges kept free from cobwebs and dust? No. Ever lime-washed?—No. Sources of water supply for watering stock.—Well in dooryard. See 13. Sources of water supply for washing cans, bottles and utensils.—Dug well ten feet from back door of dwelling, covered with plank platform flush with ground surface, with openings through which wash water and dirt may fall into the well. Distance of well or spring from stable.—About forty feet. Distance from manure pile.—50 feet. Distance from privy vault.—45 feet. Is well apparently liable to contamination?—Yes. Was sample of water taken for analysis?—Yes. Marks.—D-3,015. Number of cows.—Two. Breed.—Common. State of health.—Said to be good. Ever examined?—No. Amount, kind and quality of feed used.—In winter stalks and hay only are fed. Cows pastured?—Yes. How and where manure stored?—In stable yard upon the ground. How frequently removed?—Cleaned in fall. Quantity of manure at time of this inspection.—About five loads and pools of highly colored stagnant water stood in barnyard.

How utensils washed and dried?—With warm water and pearlina, then rinsed with cold water and placed in the open air to drain and dry. Where are the utensils washed?—At dwelling. Any appliance for sterilizing cans, pails and dippers?—No. Bottles—how washed and dried?—None used. Quantity of milk produced daily?—About 14 quarts. Are milkers' hands washed before milking?—Yes. Are clean garments put on?—No. Udders of cows cleaned?—Yes. How?—Washed always before milking.

When pail is full of milk what is done with it?—Poured into can. Where does the can stand?—In yard near well. Is can kept covered?—Yes. Is milk cooled?—Yes. How?—Cans placed in tubs of well water. How long after milking?—Directly. To what temperature?—Temperature of water when drawn, 58 degrees F. Is milk bottled?—No. Where is milk stored?—In yard. How long is milk stored before being shipped?—Over night. Source of ice supply.—None used. If shipped, to whom, and where?—Taken by George H. Sanborn, Middletown Township.

Date of inspection.—August 22nd, 1904. Name of dairyman.—James A. Sanborn. Postoffice, township, county.—Red Bank, Middletown, Monmouth County. Location of dairy.—Middletown Township. Size of stable 30x22x7. Cubic feet per cow.—289. Stable well lighted?—Three window openings about 2x2, one of which is fitted with a glass sash, one covered with piece of burlap and one has a hinged board shutter. The opening last referred to is also used to throw manure through. Material, construction and drainage of floor.—Earth floor with plank manure gutter, the bottom of which is broken and leaky, back of manure gutter are pieces of boards embedded in soft earth and manure. Method and frequency of cleaning.—Not learned. Was stable clean at time of inspection?—No. Cows kept in pasture this time of year except during milking time. The stable floor, however, was well covered with fresh manure and the sides of stable at rear of stalls were thickly coated with dried manure to a height of four or five feet. Are sidewalls, ceilings and ledges kept free from cobwebs and dust?—No, the ceiling is formed by rails laid across beams, the second story of stable is used as hay loft. Ever lime-washed?—No. Sources of water supply for watering stock.—Brook in pasture and well near stable, (see 13). Sources of water supply for washing cans, bottles and utensils.—Dug well 5 feet from horse stable and stable yard (see photograph); the well is covered with a plank platform raised about eight inches above the ground surface. The platform is not tight and the ground beside well is wet from waste water. There is a dug well at dwelling beneath the shed floor from which the pump has recently been removed and an open curb constructed around the well and, it was stated, it is the purpose to draw water from the well in open buckets by means of a rope or chain working over a pulley fastened to a beam beneath the shed roof. For some months past, since the pump has not been in working order in the well beneath shed floor, water for all uses on the dairy has been taken from the well near the barn. Distance of well or spring from stable.—3 feet. Distance from manure pile.—5 feet. Distance from privy vault.—About 150 feet. Distance from other sources of contamination.—The well is surrounded with sources of pollution. Is well apparently liable to contamination?—Stable well, yes. Was sample of water taken for analysis?—Yes. Marks.—D-3,016. Number of cows.—16. Breed.—Grade. State of health.—Apparently good. Ever examined?—No. Were cows in a cleanly condition at time of inspection?—Yes. Amount, kind and quality of feed used.—Not learned. Cows pastured?—Yes. How and where manure stored?—On ground on

two sides of stable. How frequently removed?—Not learned. Quantity of manure at time of this inspection.—Ten cubic yards. How utensils washed and dried?—Milking pails with warm water and soda. Cans washed by Mr. George H. Sanborn, who takes the milk. Where are the utensils washed?—At dwelling. Any appliance for sterilizing cans, pails and dippers?—No. Bottles—how washed and dried?—None used. When pail is full of milk what is done with it?—Poured over aerator into can. Where does the can stand?—In carriage house. Is can kept covered?—Not learned. Is milk cooled?—Yes. How?—On aerator filled with well water. How long after milking?—Directly. To what temperature?—Temperature of water when drawn, 56 degrees F. Is milk bottled?—No. Where is milk stored?—Not stored on premises. Source of ice supply.—None used. If shipped, to whom, and where?—Taken twice each day by George Sanborn, Middletown Township.

Date of inspection.—August 22nd, 1904. Name of dairyman.—W. H. Lawes, D. V. S., owner. Postoffice, township, county.—Red Bank, Middletown, Monmouth Co. Location of dairy.—Middletown Township. Size of stable.—48x15x8. Cubic feet per cow.—720. Stable well lighted?—Two windows, 2x2. Material, construction and drainage of floor.—Earth floor, no drainage. Method and frequency of cleaning.—Not learned. Was stable clean at time of inspection?—During the summer the cows are kept in the open fields and are not placed in the stable. Are sidewalls, ceilings and ledges kept free from cobwebs and dust?—No. Ever lime-washed?—No. Sources of water supply for watering stock.—Well at stable and brook in meadow. Sources of water supply for washing cans, bottles and utensils.—Dug well in dooryard covered with plank platform flush with ground surface. The pump box discharges waste water on the ground surface beside well which has worn a channel in the earth as it flows toward the lane. Is well apparently liable to contamination?—The well is not covered in a manner to insure exclusion of surface drainage and dirt on covering. Was sample of water taken for analysis?—Yes. Marks.—D-3,017. Number of cows.—Eight. Breed.—Jersey and Grade. State of health.—Apparently good. Ever examined?—Yes. By whom?—Dr. Lawes. Amount, kind and quality of feed used.—Not learned. Cows pastured?—Yes. How and where manure stored?—In stable yard. How frequently removed?—Not learned. Quantity of manure at time of this inspection.—None. Large pool of stagnant water in depression in surface of ground in stable yard. How utensils washed and dried?—Rinsed with cold water, washed with water and soda, then rinsed with hot water. Where are the utensils washed?—At dwelling. Any appliance for sterilizing cans, pails and dippers?—No. Bottles—how washed and dried?—None used. When pail is full of milk what is done with it?—Poured into can. Where does the can stand?—In yard near dwelling. Is milk cooled?—Yes. How?—Cans placed in tubs containing well water and milk stirred with metal ladle. How long after milking?—Directly. To what temperature?—Temperature of water when drawn, 58 degrees F. Is milk bottled?—No. Where is milk stored?—In yard. How long is milk stored before being shipped?—Over night. Source of ice supply.—None used at

present. If shipped, to whom, and where?—Taken to George Elgrin, Little Silver.

Date of inspection.—August 22nd, 1904. Name of dairyman.—Melville S. Reid, owner. Postoffice, township, county.—Red Bank, Middletown, Monmouth Co. Location of dairy.—Middletown Township. Size of stable.—30x18x8. Cubic feet per cow.—720. Stable well lighted?—Yes, through numerous cracks and 15 square feet of window openings. Material, construction and drainage of floor.—Earth floor with two boards embedded in earth at rear of stalls for manure to fall upon. Method and frequency of cleaning. Twice daily in winter the manure is shoveled into stable yard. Was stable clean at time of inspection?—No. In summer the cows are in pasture fields during the day, in stable during night. Are sidewalls, ceilings and ledges kept free from cobwebs and dust?—No. Pigeons are nesting and roost in the cow stable and their droppings cover the floor, trough in which the cows are fed, and in fact everything in the entire building. Ever lime-washed?—No. Sources of water supply for watering stock.—Brook in meadow and dug well on border of stable yard. Sources of water supply for washing cans, bottles and utensils.—Dug well near back door of dwelling, covered with leaky board platform. Waste liquids flow from the pump box upon the ground on the border of the well. Distance of well or spring from stable.—About 300 feet. Distance from manure pile.—About 300 feet. Distance from privy vault.—About 100 feet. Is well apparently liable to contamination?—Yes, from leaky covering and slops on ground near well. Was sample of water taken for analysis?—Yes. Marks.—D-3,018. Number of cows.—Six. Breed.—Common. Ever examined?—No. Were cows in a cleanly condition at time of inspection?—No. Amount, kind and quality of feed used.—In winter corn stalks, hay and corn meal. Cows pastured?—Yes. How and where manure stored?—On ground in stable yard. How frequently removed?—Spring and fall. Quantity of manure at time of this inspection.—About eight cubic yards. How utensils washed and dried?—Rinsed in cold water, then washed with warm water and soap, then rinsed with warm water and placed in open air to dry. Where are the utensils washed?—At dwelling. Any appliance for sterilizing cans, pails and dippers?—No. Bottles—how washed and dried?—None used. Quantity of milk produced daily?—About 25 quarts. Are milkers' hands washed before milking?—No, "not unless nasty." Are clean garments put on?—No. Udders of cows cleaned?—Yes. How?—Wiped off with rag. When pail is full of milk what is done with it?—Poured into cans. Where does the can stand?—In cow stable. Is can kept covered?—No. Is milk cooled?—Yes. How?—Cans placed in tub containing well water. How long after milking?—Directly. To what temperature?—Temperature of water when drawn, 58 degrees F. Is milk bottled?—No. Where is milk stored?—In yard near well. How long is milk stored before being shipped?—Over night. Source of ice supply.—None used. If shipped, to whom, and where?—Taken by C. R. Bedel, Red Bank.

Date of inspection.—August 22nd, 1904 Name of dairyman.—George S.

Schanck, tenant. Postoffice, township, county.—Holmdel, Holmdel, Monmouth Co. Location of dairy. Holmdel. Size of stable.—20x14x9. The cow stable is in part of two story barn and communicates with horse stable through open passage way. Cubic feet per cow.—350. Stable well lighted?—The only light admitted passes through cracks or doors when open. Material, construction and drainage of floor.—Earth floor with slight slope from front to open space beneath doors at rear of stalls. Method and frequency of cleaning.—Twice daily during winter. Was stable clean at time of inspection?—Contained no manure. During summer cows are only in stalls during milking time. Are sidewalks, ceilings and ledges kept free from cobwebs and dust?—No. Ceiling made by laying rails over beams thereby forming hay loft over stable. Ever lime-washed?—No. Sources of water supply for watering stock.—Brook in meadow and a barrel sunk in the ground beneath the outfall of an underdrain at the foot of a slope from a field. Sources of water supply for washing cans, bottles and utensils.—Dug well in dooryard five feet from shed porch. Well covered with board platform raised about ten inches above ground surface, well covering leaky where pump passes through same. Waste liquids fall upon and flow over the surface of ground from border of well. Distance of well or spring from stable.—About 175 feet. Distance from manure pile.—About 200 feet. Distance from privy vault.—32 feet. Is well apparently liable to contamination?—Yes, from waste liquids on ground near well. Was sample of water taken for analysis?—Yes. Marks.—D-3,019. Number of cows.—Eight. Breed.—Common. State of health.—Said to be good. Ever examined?—No. Were cows in a cleanly condition at time of inspection?—Not seen. Amount, kind and quality of feed used.—Not learned. Cows pastured?—Yes. How and where manure stored?—In stable yard on ground. How frequently removed?—Spring and fall. Quantity of manure at time of this inspection.—About forty cubic yards. How utensils washed and dried?—Rinsed with cold water, then washed in hot water to which Gold Dust has been added, then rinsed in cold water and placed in open air to dry. Where are the utensils washed?—At dwelling. Any appliance for sterilizing cans, pails and dippers?—No. Bottles—how washed and dried?—None used at this time. Quantity of milk produced daily?—About 70 or 80 quarts. Are milkers' hands washed before milking?—Yes. Are clean garments put on?—No. Udders of cows cleaned?—Yes. How?—Brushed with rag. When pail is full of milk what is done with it?—Poured into can. Where does the can stand?—In yard near stable. Is milk cooled?—Yes. How?—Cans sometimes set in barrel beneath underdrain, then in cask of water near well. How long after milking?—Directly. To what temperature?—Temperature of water from underdrain, 64 degrees F.; well, 58 degrees F. Is milk bottled?—No. Where is milk stored?—In yard near well. How long is milk stored before being shipped?—Over night. Source of ice supply.—None used. If shipped, to whom, and where?—Taken to F. Deitz, Oceanic, once each day.

Date of inspection.—August 22nd, 1904. Name of dairyman.—Louis

Soffel, tenant. Postoffice, township, county.—Red Bank, Middletown, Monmouth Co. Location of dairy.—Middletown Township, near Lincroft. Size of stable.—43x13x7, two story barn with hay loft above stable. Cubic feet per cow.—About 390. Stable well lighted?—One pane of glass 9x8, ten inch board length of building over doors at rear of stalls is on hinges which is raised for ventilation. Material, construction and drainage of floor.—Earth floor; no drainage. Method and frequency of cleaning.—Manure said to be cleaned out nights and mornings. Was stable clean at time of inspection?—Yes. The cows are kept in pasture during day and in stable yard during night in summer. Are sidewalks, ceilings and ledges kept free from cobwebs and dust?—No. Ever lime-washed?—No. Sources of water supply for watering stock.—Brook in meadow and well at house. Sources of water supply for washing cans, bottles and utensils.—Dug well walled up with stone about 40 feet from surface of ground to water level, open curb around well and water is drawn by buckets on a rope which works over a pulley suspended from a beam, beneath well covering. Prior to last spring there was a wooden covering over the well and water was drawn by an iron pump. Distance of well or spring from stable.—About 400 feet. Distance from manure pile.—About 400 feet. Distance from privy vault.—About 130 feet. Distance from other sources of contamination.—Well located in front yard, 25 feet from any buildings. Is well apparently liable to contamination?—Only by entrance of contamination from open top. Was sample of water taken for analysis?—No. Number of cows. Ten. Breed.—Jersey, Holstein and Grade. State of health.—Said to be good. Ever examined?—No. Were cows in a cleanly condition at time of inspection?—Not seen. Amount, kind and quality of feed used.—In winter ground feed, hay and roots. Cows pastured?—Yes. How and where manure stored?—In stable yard. Quantity of manure at time of this inspection.—Very little. How utensils washed and dried?—Washed in hot water and placed in open air to dry. Where are the utensils washed?—At house. Any appliance for sterilizing cans, pails and dippers?—No. Bottles—how washed and dried?—None used. Quantity of milk produced daily?—About 80 quarts. Are milkers' hands washed before milking?—So stated by employee. Are clean garments put on?—No. Udders of cows cleaned?—Yes. How? Washed with water and cloths. When pail is full of milk what is done with it?—Poured into can. Where does the can stand?—In yard outside of barnyard. Is can kept covered?—Yes, with cheese cloth strainer. Is milk cooled?—No. Is milk bottled?—No. Where is milk stored?—Not stored. Source of ice supply.—None used. If shipped, to whom and where?—Taken to George Sanborn, directly after milking, twice daily.

Date of inspection.—August 22nd, 1904. Name of dairyman.—Christian Soffel, owner. Postoffice, township, county.—Red Bank, Middletown Township. Location of dairy.—Lincroft, Middletown Township. Size of stable.—Space 35x9x7 feet in two story barn with opening into horse stable, 22x15x7 feet. Nine cows and two horses stable in this building, hay loft over stable. Cubic feet per cow, about 410 cubic feet for each

animal kept in stable. Stable well lighted?—No windows, some light enters through openings beneath doors, back of stalls. Material, construction and drainage of floor.—Clay floor with openings beneath doors at rear of each stall to drain into stable yard. Method and frequency of cleaning.—Twice daily. Manure shoveled into yard, meadow grass used for bedding. Was stable clean at time of inspection?—No manure in stalls. In summer cows are in pasture except when put in stalls to feed mornings, noons and nights. Are side-walls, ceilings and ledges kept free from cobwebs and dust?—No. Doors rear of stalls have coating of manure dried on them to height of four or five feet. Ever lime-washed?—No. Sources of water supply for watering stock.—Dug well with open curb, beside stable building. Sources of water supply for washing cans, bottles and utensils.—Dug well, about twenty feet deep located beneath kitchen floor. A lard firkin sets beneath pump spout to catch the drip and the floor over the well, around the pump, is saturated. The floor over the well is not water-tight. Distance of well or spring from stable.—About 200 feet. Distance from manure pile.—About 220 feet. Distance from privy vault.—30 feet, vault full to overflowing. Distance from other sources of contamination.—75 feet to hog pen. Is well apparently liable to contamination?—Yes. Was sample of water for analysis?—Yes. Marks.—D-3,020. Number of cows.—21. Breed.—Holstein and Jersey. State of health.—Said to be good. Ever examined?—No. Were cows in a cleanly condition at time of inspection?—Yes. Amount, kind and quality of feed used.—Bran, middlings and oats, also cut hay. Cows pastured?—Yes. How and where manure stored?—Stable yard on ground. How frequently removed?—Twice each year, spring and fall. Quantity of manure at time of this inspection.—About 50 cubic yards. How utensils washed and dried?—With soap and hot water, rinsed with cold water and placed in open air to dry. Where are the utensils washed?—At dwelling. Any appliance for sterilizing cans, pails and dippers?—No. Bottles—how washed and dried?—Same as utensils. Quantity of milk produced daily?—About 200 quarts. Are milkers' hand washed before milking?—Yes. Are clean garments put on?—No. Udders of cows cleaned?—Yes. Mr. Soffel's son, one of the milkers, stated that the milk from three teats of one cow in the herd is white and cakey in appearance when drawn, and for that reason its use is rejected. Milk from the fourth teat of the cow is put into the milk sent to market. The cow first developed one diseased teat, which gradually spread to others. How?—Washed with water and dried with rags. When pail is full of milk what is done with it?—Poured into can. Where does the can stand?—Near stable well. Is can kept covered?—With cheese cloth strainer. Is milk cooled?—Yes. How?—Cans placed in tubs containing well water. How long after milking?—Directly. To what temperature?—Temperature of water when drawn, 56 degrees F. Is milk bottled? About seven bottles only, morning's milk. How long after cooling?—15 minutes after milking. Where is milk bottled?—At dwelling. Where is milk stored?—In shed, cans covered with cheese cloth and set in

tubs of water containing ice. How long is milk stored before being shipped?—Over night. Source of ice supply.—Harvested on nearby pond. Temperature of milk when delivered to customers?—Not known. Quarts sold from cans?—About 200 quarts. Quarts sold in bottles?—About six or seven quarts. Ever run short?—Yes. If so, where is supply obtained? All in good health?—So stated. Date of last sickness among persons on dairy premises?—None reported.

Date of inspection.—September 16, 1904. Name of dairyman.—James Covert, tenant. Postoffice, township, county.—Eatontown, Eatontown, Monmouth. Location of dairy.—South Eatontown. Size of stable.—No. 1, 14x16x7 feet, stables four cows; No. 2, 14x30x7 feet, stable for eight cows. Cubic feet per cow.—Stable No. 1, about 392; stable No. 2, about 375. Stable well lighted?—No windows; some light enters through cracks in building. Material, construction and drainage of floor.—Earth floor; no drainage. Method and frequency of cleaning.—Every morning in winter. Cows not stabled in summer nor during day in winter. Was stable clean at time of inspection?—Yes. Are sidewalls, ceilings and ledges kept free from cobwebs and dust?—No. Hay loft with rail floor over stable. Ever lime-washed?—No. Sources of water supply for watering stock.—Brook in meadow and dug well in corner of barn yard. Sources of water supply for washing cans, bottles and utensils.—Dug well located beneath shed floor at dwelling. Well 39 feet deep with about 9 feet of water in well. Distance of well or spring from stable.—About 200 feet. Distance from manure pile.—About 225 feet. Distance from privy vault.—69 feet. Distance from other sources of contamination.—30 feet from leaking cesspool. Is well apparently liable to contamination?—Drain leading from border of well to cesspool obstructed and overflowing near border of well; surface drainage from well. Was sample of water taken for analysis?—Yes. Marks.—D-3,022. Number of cows.—Seventeen. Breed.—Grade. State of health.—Said to be good. Ever examined?—No. Were cows in a cleanly condition at time of inspection?—Not sure. Cows pastured?—Yes. How and where manure stored?—In barn yard. How frequently removed?—Every fall. Quantity of manure at time of this inspection.—About 50 or 60 cubic yards. How utensils washed and dried?—Rinsed with cold water, washed with hot water and soda, then rinsed with hot water and placed on fence to dry. Where are the utensils washed?—In yard beneath tree. Any appliance for sterilizing cans, pails and dippers?—No. Bottles—how washed and dried?—Practically no bottles used. Quantity of milk produced daily?—About 70 to 80 quarts. Are clean garments put on?—No. Udders of cows cleaned?—How?—Rubbed with hands by milkers. When pail is full of milk what is done with it?—Poured into can. Where does the can stand?—Near well outside of barn yard. Is can kept covered?—Yes, with muslin strainer. Is milk cooled?—Yes. How?—Cans placed in tubs containing well water and milk, stirred with dipper. How long after milking?—Directly. To what temperature?—Temperature of water when drawn, 54 degrees F. Is milk bottled?—Only three or four quarts. Where is milk stored?—Near barn yard well, in open yard. How long is milk stored before being

shipped?—Over night. If shipped, to whom, and where?—Distributed in Red Bank. Temperature of milk when delivered to customers?—Not known. Quarts sold from cans?—About 80 Quarts sold in bottles?—Three of four. Ever run short?—Yes. If so, where is supply obtained?—From other dealers. How many persons handle the milk?—Three. All in good health?—So stated. Date of last sickness among persons on dairy premises?—None reported.

## New Jersey Sanitary Association,

The program for the thirtieth annual meeting of the New Jersey Sanitary Association makes the following announcements:

First Session.—Friday, December 9th, 3.30 P. M.—1. Introductory Remarks and Announcements, H. B. Francis, Chairman Executive Council. 2. Malaria, —(a) Prevalence and Fatality of Malarial Affections in New Jersey, Dr. D. E. English, Millburn, N. J.; (b) The Etiology of Malaria, Dr. J. T. Wyckoff, Leonia, N. J.; (c) Laboratory Diagnosis of Malaria, Dr. George McLaughlin, Jersey City; (d) The Prevention of Malaria, Dr. S. E. Armstrong, Rutherford, N. J. 3.—Reports of Chairmen committees on Civic Sanitary Societies, Rev. Adolph Roeder, chairman; Improvement of the Sanitary Service, Dr. J. L. Leal, chairman; Publication Committees, Dr. D. C. English, chairman. 4.—Miscellaneous business.

Evening Session.—Friday, December 9th, at 8 o'clock. 5.—Prayer, Rev. C. P. Butler, Lakewood, N. J. 6.—President's Address, Municipal Sanitation in Great Britain, M. N. Baker, C. E., Montclair, N. J. 7.—Oysters and Clams as Vehicles for the Transmission of Typhoid Fever, Dr. Edward Gulon, Atlantic City, N. J. 8.—Is There Any Hygienic Objection to the Proposed Discharge of the Sewage of the Passaic Valley Into New York Bay? Edlow W. Harrison, C. E., Jersey City, and George A. Soper, Ph. D., New York City. 9.—Illustrated Discussion of Some Successful Sewage Disposal Works, F. Herbert Snow, C. E., Boston, Mass.

Third Session.—Saturday, December 10th, 9 A. M. 11.—Medical Inspection of Schools, Dr. Joseph Tomlinson, Bridgeton, N. J. 12.—Can an Outbreak of Measles be Controlled? Dr. T. N. Gray, East Orange, N. J. 13.—To What Extent is Isolation Necessary in Communicable Diseases? Dr. Gordon K. Dickinson, Jersey City. 14.—Prevention of the Sale of Adulterated Milk, John O. George, D. V. S., Camden, N. J. 15.—Election of officers. 16.—Miscellaneous business. 17.—Adjournment.



## Report on the Burlington County Jail.

BY A. CLARK HUNT, M. D., STATE MEDICAL INSPECTOR.

The Burlington County jail was inspected on January 14, 1904, and again on January 27, 1904. The institution is located in Mount Holly, adjoining the Court House. It was built in the year 1800, and the construction is of stone. The four main compartments and a portion of the tramps' quarters are divided into a corridor, three cells and a bath room. The corridors are four feet in width, and each cell is five feet nine inches by eight feet. The height of the ceiling is eight feet. The bath and wash room is five feet nine inches wide and twelve feet long. The air space of this portion of the jail is 1896 cubic feet, and with the nine or ten persons who are usually confined in each of these sections the cubic space per inmate is 189 cubic feet. With the exception of that portion which is used for the detention of women, the cells and corridors are insufficiently lighted, and there is no provision for ventilation. The clothing of the inmates is washed in the bath tubs, and there is but one water closet fixture in each of the apartments. In the basement of the jail there is a part which is used for the detention of persons for slight offenses, such as vagrancy, drunkenness, etc. This portion of the jail consists of a corridor, three cells and a bath room similar to the other apartments, but there are also two extra rooms. The corridor, three cells and the bath room are the same size as those heretofore described, and the two extra rooms have the following dimensions: The larger one, in which there is a fire place, is twelve feet six inches in width by twenty-one feet in length, and the ceiling is eight feet in height. The smaller room is twelve feet long by twelve feet wide, and has a ceiling eight feet in height. Leading to the cells is a corridor forty-two feet long, five feet six inches wide and eight feet in height. The total air space in this portion is 6996 cubic feet. This allows for fifty-eight inmates, the average number. 120 cubic feet of air space, and at the time of the first inspection, as there were eighty-nine inmates, the cubic air space was then seventy-seven cubic feet per inmate. On January

27, there were ninety-two prisoners confined within the jail, and of this number fifty-eight were tramps and vagrants. In examining that portion of the jail in which the tramps and vagrants are confined it was necessary to pass through a dark corridor, and on either side of this corridor, and in the cells and bath room, inmates were seated on the floor so that it was almost impossible to pass between them. Many of them were in their shirt sleeves, and some were lying on mattresses placed upon the floor. In this corridor is located a furnace which supplies heat to a portion of the jail which is located above, and no inlet for fresh air has been provided. By this arrangement the heated air which is supplied on the floor above is obtained from the vitiated atmosphere below. Prisoners are fed in the corridors and cells. No provision whatever is made for the systematic bathing of the inmates, and no towels were noticed in any of the prisoner's quarters. The water supply used in the institution is obtained from the public mains, and sewage is discharged into the public sewer system. The detaining of individuals under such conditions is not only a reflection upon the county, but is a menace to the health of the prisoners, and there is every reason to believe that it is conducive to the spreading of any contagious disease should it be introduced within the confines of the jail. Three times each week the prisoners are taken into the yard, and this portion of the jail is thoroughly washed, but it is impossible with the present construction to confine so many persons within the limited space which is available without producing extremely unsanitary conditions.

In discussing the reason for such conditions, and in endeavoring to ascertain why an institution so constructed is tolerated by the better citizens of the county, it was learned that the prisoners are not the usual class of vagrants. As the county is an agricultural county, there are a number of men that during the summer months are able to secure a livelihood by working upon the cranberry bogs, and also by picking berries and assisting in the marketing of vegetables. As soon as the seasons close for these classes of work the men, having spent the money which they have earned, begin to seek means by which they may be cared for by the county, and, therefore, slight criminal acts are performed and sentences of from ten to thirty days are imposed by the justices. As a result, the jail is filled to overflowing during the winter months, and especially in times of extreme cold. As soon as the spring comes the prisoners are ready to resume work

for the summer and fall. It is argued that if this method were not followed that, with the difficulties which now exist in getting labor to work upon farms, it would be almost impossible for the farmers in Burlington County to secure the help which is necessary to market crops. For these reasons the taxpayers in the county are willing to assist in supporting such individuals during the winter. It is scarcely credible that such conditions should be permitted to exist for any reason, and steps should be taken to urge upon the Board of Freeholders, and the public-spirited citizens of the county, the immediate necessity of providing ample accommodations for the care of such prisoners during the winter.

The only relief that will be permanent is the construction of a new jail.

## Circulars and Laws.

The following bills relating to public health were introduced during the legislative session of 1904:

### ASSEMBLY BILLS, 1904.

No. 39, Mr. Lehlbach. Constitutes a state board of examiners to license barbers, to be appointed by the governor, one boss barber and one journeyman barber for three years; one boss and one journeyman barber for two years, and one physician annually. All applicants to be duly examined and licensed by such board, which shall organize and provide for all details.

\*No. 96, Mr. Duffield. Amends the act relative to the powers of local boards of health.

No. 163, Mr. McGlennon. Requires all ferryboats to have toilet rooms for each sex.

No. 164, Mr. Wilson. Authorizes boards of health in cities and boroughs to appoint a board of four members who shall license all plumbers, etc.

No. 174, Mr. Pennington. Authorizes the governor to appoint five persons to be known as the board of undertakers and embalmers of the state of New Jersey, who shall license all candidates and regulate the practice of embalming, burial and disposal of dead human bodies.

\*No. 184, Mr. Ayres. Amends the pure food and drug bill relative to the standard of drugs.

\*No. 190, Mr. Robbins. Requires persons to whom milk is shipped in cans to remove all milk therefrom and thoroughly cleanse and rinse the same before returning them. Penalty \$25 fine, etc.

No. 208, Mr. Lehlbach. A stringent act to prevent the pollution of the water supply of any municipality. Forbids throwing or depositing into any supply of water for cities, etc., any dead animal, offal, offensive matter or thing detrimental to health, or draining any sewage, etc., therein; \$50 penalty for each offense.

\*No. 222, Mr. Duffield. Authorizes recorders and police justices to enforce ordinances of boards of health.

No. 225, Mr. Henry. Requires the state board of health to provide laboratories and apparatus to make and prepare diphtheria anti-toxin for free distribution to the inhabitants of the state.

No. 247, Mr. Ayers. Provides that not more than \$25,000 may be appropriated for the purchasing of a site and the erection and equipment of a building for the uses of the state laboratory of hygiene.

\*No. 298, Mr. Gallagher. Empowers boards of health in cities to designate from their sanitary inspectors one or more who shall be designated as inspectors of foods and drugs.

No. 372, Mr. Shaw. Amends the pure food act relative to review of judgments found thereunder.

No. 382, Mr. Lange. Requires poisons, etc., shall, when sold, be placed in such vial or bottle, and so corked as to apprise the party uncorking the same, by the sense of touch, that poison is contained there.

No. 422, Mr. Hulse. Empowers boards of health to examine applicants for license as health officers.

#### SENATE BILLS, 1904.

\*No. 55, Mr. Bradley. Authorizing cities to improve and enlarge water supplies by the use of artesian wells or otherwise.

\*No. 56, Mr. Bradley. An act to regulate the sale of cocaine in any form.

\*No. 86, Mr. Bacheller. Regulates age, employment, safety, health and

work hours of persons in factories and workshops and establishes a department for enforcement of the act. New factory and workshop act prepared under governor's supervision.

\*No. 87, Mr. McKee. Authorizes towns, townships, boroughs or villages to contribute towards the maintenance of patients in any public hospital in the state.

\*No. 143, Mr. Lee. Authorizes governing bodies of municipalities to regulate or prohibit the distribution of sample packages of medicines or preparations represented as curative of bodily ailments and imposing a penalty of \$50 for violation.

\*No. 178, Mr. Cross (for the president). Authorizes the state board of health, through the court of chancery to prohibit by injunction the feeding of milch cows on swill or other unwholesome food and to prevent the sale or offer for sale of milk from cows so fed.

\*No. 192, Mr. McKee. Authorizes appointment of a bi-partisan board of health of ten members in Jersey City by the mayor, exempts Newark.

No. 222, Mr. Cross. Repeals act of March 21, 1900, which provided for the examinations of vessels entering ports of this state that might have communicable diseases.

\* These bills became laws.

### CIRCULARS.

The following circular was issued in July, 1904 :

**1. The Mortality from Certain Preventable Diseases in New Jersey during the past nine years is shown in the following table:**

	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.
Consumption.....	3,433	3,542	3,758	3,237	3,225	3,584	3,514	3,257	3,015
Diarrhoeal Diseases of } Children .....	3,893	3,746	3,807	3,450	2,958	3,563	3,010	1,895	1,878
Diphtheria.....	1,294	1,464	1,758	1,382	950	777	927	683	683
Typhoid Fever.....	485	568	577	478	450	456	356	352	428
Scarlet Fever.....	272	264	183	203	201	187	220	179	217
Whooping-Cough.....	328	272	275	321	155	282	306	157	281
Measels.....	257	95	390	155	192	96	231	77	204
Small-pox.....	11	23	2	.....	.....	.....	5	142	432
Malarial Fever.....	162	144	119	132	82	96	84	50	36
Totals .....	10,135	10,118	10,869	9,358	8,213	9,076	8,653	6,792	7,174

During the past twenty-four years (1879-1902) these diseases have caused 222,402 deaths in New Jersey, or an annual average of 9,266 +.

#### GENERAL INSTRUCTIONS FOR PREVENTING THE SPREAD OF DIPHTHERIA, SCARLET FEVER, TYPHOID FEVER AND SMALL-POX.

**2. Isolation of the Sick.**—Promptly separate the sick person from the other occupants of the house, placing him, if possible, on the upper floor of the building and removing all hangings, carpets and other unnecessary articles of furniture and clothing from the room. In cases where the dwelling does not permit absolute separation of the patient from other members of the household, he should be removed to an isolation hospital. No article whatever should be carried from the sick-room until it has been treated as described in paragraphs 4, 5 and 8.

**3. Disinfection of the Discharges.**—All excreta from the sick person should be received in a porcelain vessel containing half a pint of a solution of corrosive sublimate. The solution should be made as follows: Corrosive sublimate, one-half ounce; muriatic acid, one ounce; aniline blue, five grains; water, four gallons. *This solution is poisonous.* Another half pint of the solution should be added to the discharges before they are emptied into the water-closet.

**4. Disinfection of Utensils.**—Dishes, spoons and other utensils, used by the sick person, should be placed in a metallic vessel holding not less than one gallon of water. This vessel should be

placed outside of the door of the sick-room, and twice in each twenty-four hours it should be removed to the kitchen range and its contents should be boiled for at least thirty minutes.

**5. Disinfection of Sheets, Undergarments, &c.**—Towels, undergarments, sheets and pillow-cases should be immersed in water in a metallic wash-boiler and boiled for not less than one hour. Soft paper and small pieces of cotton cloth should be used instead of handkerchiefs, for receiving discharges from the mouth and nose, and when soiled these should be immediately burned in the sick-room.

**6. Nurses.**—Persons attending on the sick should remain within the isolated apartments. Dresses of washable material should be worn.

**7. Precautions During Convalescence.**—The scales and dust from the skin in scarlet fever, small-pox and measles are highly infectious, and all portions of the surface should be rubbed with vaseline every day to prevent the dry particles from being carried about by air currents. When sufficiently recovered, the patient should have a warm bath every day until the skin has ceased to peel off. When the patient leaves the isolated apartments or premises, he should first be bathed, including thorough washing of the hair and scalp, and be clothed in uninfected garments, and no article whatever should be removed from the infected premises until after the final disinfection of the sick-room.

**8. Final Disinfection of the Sick-room**—Articles which are of little value should be burned in the sick-room. After removal of the patient, all clothing, bedding and other articles which can be transported should be exposed for thirty minutes to a temperature of 240° in a steam sterilizing chamber.

In localities where no such disinfecting chamber is provided, all of the contents of the room should be treated by the free application of a solution of corrosive sublimate (see paragraph 3). This can be done effectually by (a) immersing all clothing, garments, sheets, blankets, &c., in wooden tubs containing the solution, and by thoroughly saturating with the solution all of the articles in the room, including the mattresses, pillows and carpet, and also the side walls, woodwork and floors, by the use of a garden pump and hose with a large rose or spray-producing nozzle. The woodwork and furniture should immediately afterward be scrubbed

with soap and water, and be wiped dry. Disinfection of garments can also be affected by (b) placing them, one by one, with as little folding as possible, in trunks, or in boxes, and applying to each layer of the goods, by the use of a small sprinkling pot, a 40 per cent. solution of formaldehyde gas (formalin). The receptacle containing the articles thus treated should be closely covered. After twenty-four hours the wash-goods should be boiled and then washed with soap and water.

**9. Disinfection of Refuse.**—All masses of infected filth, in privy pits or in heaps or piles, should be covered liberally with dry chloride of lime.

**10. Precautions in Case of Death.**—In case of death the body should be enveloped in sheets saturated with the solution of corrosive sublimate (see paragraph 3) and be placed in a coffin as soon as possible. The burial should take place without delay, and the funeral should be strictly private.

**11. Attendance of Children at School.**—Children should not be allowed to attend day-school nor Sunday-school from a house in which there is an infectious disease. No child should be allowed to return to school until a certificate from the medical attendant shows that there is no longer any danger that other children will be infected.

**12. Cleansing School Buildings.**—Each day during the prevalence of infectious disease, after the school is dismissed, all parts of doors, casings and other woodwork of the infected apartment which can be touched by the hands of the children, including seats and desks, should be scrubbed with warm water, soap and a stiff scrubbing-brush.

The floor should be in good repair and without open cracks or crevices. It should be sprinkled with clean water daily before being swept.

The difficulty attending the cleansing of books should cause great care to be taken by teachers to prevent books from being passed from hand to hand, or touched by anyone except the child to whom they belong or to whom they have been assigned. Books which have been used by a pupil who is suffering from any one of the communicable diseases should be destroyed by fire, or they may be treated by exposure to formaldehyde gas in a small air-

tight space. A box or cabinet may be conveniently employed for this purpose, and the gas can be liberated by exposing formalin upon a shallow dish inside of the box. Books should be so placed that the leaves will fall apart. Pencils and other articles in daily use by the pupils may also be disinfected by placing them in this cabinet. The cabinet should remain closed for at least twelve hours.

During each vacation the walls and woodwork, including doors, desks and floors, should be wetted with a solution of bichloride of mercury (see paragraph 3), and the windows should be kept open to admit great floods of sunlight and pure air. Finally scrub with clean water.

Water coolers are unclean and unnecessary. They should not be allowed in school buildings. When practicable, drinking fountains, consisting of jet of water rising from the center of a piece of marble, requiring no cups, should be supplied.

Individual seats and desks should be provided in every school.

Light and airy cloak-rooms should always be provided, and hooks should be so separated that the garments of different pupils will not come in contact.

It has been shown that diphtheria is less prevalent during vacation periods than during school terms, and that it is spread through short distances only, and by contact between infectious particles and the mucous membranes. When children are massed together in large numbers in school buildings, the danger is great that some one of them may be carrying the bacilli of diphtheria in throat and nose, and that the infectious material may be smeared upon door-knobs, hand-rails, slates, books, lead pencils, desks and floors. Assuming that no child will contract the disease unless the bacilli are actually planted directly upon the mucus surfaces, it is not difficult to believe that such transfer from door-knob, slate, desk, &c., does in each case occur. The fingers and the mouth are in very intimate relation in the case of nearly every school child.

a. The best and safest protection against the spread of diphtheria seems to lie in the following measures:

b. Bacteriological examinations in the case of convalescents, and in the cases of persons known to have been exposed to the infection, to learn when the bacilli have ceased to be present.

c. Isolation of all affected persons during the infective period.

d. The immediate destruction or efficient disinfection of all discharges from the nose and throat in the case of infected persons, and the disinfection of infected articles and premises.

The measures employed to prevent the spread of the dangerous infectious diseases, and which have the support and approval of physicians and the public, cannot be successfully enforced against those affections which cause but few deaths, for example, mumps, rotheln, &c.

### 13. Incubation Periods and Duration of Infectiousness of Certain Communicable Diseases.<sup>1</sup>

#### DIPHTHERIA.

*Incubation period.*<sup>2</sup>—Least, unknown; average, two days; greatest, seven days.

*Period of observation of exposed persons.*—Seven days from last exposure to infection.

*Infective period.*—From the commencement of symptoms during the whole period of the illness and convalescence, and until repeated bacteriological examinations show that the specific bacillus has disappeared. The bacillus persists in the mouth and throat for a considerable time after the false membrane has vanished. It is not safe, therefore, to permit patients who have recovered, even although their tonsils appear healthy, to mingle with other persons until at least fourteen days shall have elapsed since the disappearance of the membrane.

#### *Sources of infection—*

1. From a previous case of diphtheria.
2. From a case of apparently simple tonsillitis or sore throat.
3. From a case of apparently simple nasal ulceration.
4. From domestic animals (cats, pigeons, fowls) suffering from a throat affection.
5. From infected cows' milk.
6. From infected bedding, clothes, carpets, curtains, books, toys, drinking cups, spoons, forks, lead pencils, &c.
7. From a person who has been in contact with a diphtheria patient, but who has not himself contracted the disease.

#### SCARLET FEVER.

*Incubation period.*—Least, less than twenty-four hours; average, one to three days; greatest, seven days.

<sup>1</sup> Compiled mainly from "Infectious Diseases," by Louis C. Parkes, M. D., London, 1894.  
<sup>2</sup> The incubation period is the period between the exposure to infection and the first appearance of symptoms of illness.

*Period of observation of exposed persons.*—Seven days from last exposure to infection.

*Infective period.*—From the earliest appearance of symptoms (usually sore throat) until all desquamation has ceased.

*Sources of infection*—

1. From a previous case of scarlet fever.
2. From a case of sore throat without discoverable rash, but really a mild form of the disease.
3. From infected milk.
4. From infected books, toys, dishes, garments, &c.

*Diagnosis.*—Nausea or actual vomiting is rarely absent. Sore throat may be present without the patient complaining, and an examination should be, the routine with children; in scarlatina the pharynx, soft palate, tonsils and hard palate present a red punctiform appearance which is easily recognized. The temperature in the beginning is 100 to 104 deg. F., and the next day it falls, to rise again in the evening. It generally becomes normal by the eighth or ten day. The pulse is more characteristic, seldom being below 120 and often continuing rapid after the temperature is normal. The rash is never seen on the end of the nose or around the lips, and appears first where the skin is softest, as in the flexure aspect of the arms, the sides of the chest, the lowest part of the abdomen, the upper part of the thighs and in the axilla. It is almost invariably out by the third day. At the flexed elbow, at Poupard's ligament and behind the flexed knee, a brownish along the folds of the skin is noted. The tongue is coated heavily and the injected papillae show through; when the coating strips off, the true "strawberry" tongue is seen. This is a red (not coated) tongue, bearing red papillae. In a doubtful case the author excludes scarlatina if the patient has had the disease; if not, he examines for rash on palate, backs of hands or sides of fingers, brownish of the flexures, stripping of the tongue and reddish spots, smaller and more acuminate than rose spots, on the lower limbs. These, with vomiting or nausea, justify isolation. Otorrhea is sometimes the first marked manifestation in mild cases. In measles the rash appears on the fourth day of catarrhal symptoms and appears first on the face and upper parts of the body. It consists of raised, reddish-brown crescentic spots. In rubella the pulse is slower and the patient does not feel ill in proportion to the amount of the rash. The peeling of the tongue is absent, and vomiting is rare. Other diseases occasionally closely simulating scarlet fever are meningitis, typhoid fever, septicemia, rheumatic fever, urticaria and erythema, but these can be distinguished in the course of the disease.<sup>1</sup>

#### MEASLES.

*Incubation period.*—Least, four days; average, nine to ten days; greatest, fourteen days.

<sup>1</sup> J. M. Day, Dublin "Journal of Med. Science," March, 1902.

*Period of observation of exposed persons.*—Fifteen days from last exposure to the infection.

*Infective period.*—From the earliest appearance of symptoms until convalescence is well established. The catarrhal stage preceding the eruption is very infectious.

*Sources of infection*—

1. From a previous case of measles.

#### MUMPS.

*Incubation period.*—Least, fourteen days; average, twenty-one days; greatest, twenty-five days.

*Period of observation of exposed persons.*—Twenty-five days from last exposure to infection.

*Infective period.*—From the onset of the prodromal stage (which may last three or four days) and for two or three weeks subsequent to the appearance of the parotitis. The chance of the infection being propagated diminishes progressively from the onset of the parotitis.

*Sources of infection*—

1. From a previous case of mumps.
2. From infected articles.

#### GERMAN MEASLES.

*Incubation period.*—Least, five days; average, eighteen days; greatest, twenty-one days.

*Period of observation of exposed persons.*—Twenty-one days from last exposure to infection.

*Infective period.*—From the onset of the prodromal or pre-eruptive stage until the cessation of desquamation.

*Sources of infection*—

1. From a previous case of German measles.
2. From infected articles.

#### INFLUENZA.

*Incubation period.*—Least, less than twenty-four hours; average, three to four days; greatest, five days.

*Period of observation of exposed persons.*—Five days from last exposure to infection.

*Infective period.*—From the earliest onset of the symptoms until convalescence is well established.

*Sources of infection—*

1. From a previous case of influenza.
2. From infected articles.

## WHOOPIING-COUGH.

*Incubation period.*—Least, seven days; average, not determined; greatest, twenty-one days.

*Period of observation of exposed persons.*—Twenty-one days from last exposure to the infection.

*Infective period.*—During the whole of the illness from the onset of the earliest catarrhal symptoms.

*Sources of infection—*

1. From a previous case of whooping-cough.
2. From infected articles.

## SMALL-POX.

*Incubation period.*—Least, nine days;\* average, twelve days; greatest, fifteen days.

*Period of observation of exposed persons.*—Fifteen days from date of last exposure to infection.

*Infective period.*—From the onset of initial symptoms until all scabs have been removed. The period of greatest infectivity is during the acute stage (vesicular and pustular). During the initial illness, and until the appearance of the rash, the liability to impart infection is not great; therefore, isolation of a case very shortly after the appearance of the eruption, when associated with measures of vaccination, re-vaccination and disinfection, is very commonly effective in preventing further spread of the disease.

*Sources of infection—*

1. From a previous case of the disease.
2. From infected articles.

## CHICKEN-POX.

*Incubation period.*—Least, thirteen days; average, fourteen days; greatest, nineteen days.

*Period of observation of exposed persons.*—Nineteen days from date of last exposure to infection.

*Infective period.*—From the appearance of the eruption until this has entirely disappeared.

\*In hemorrhagic small-pox there is some evidence that the incubation period is shortened to seven days.

*Sources of infection—*

1. From a previous case of the disease.
2. From infected articles.

## TYPHOID FEVER.

*Incubation period.*—Least, eight days; average, twelve to fourteen days; greatest, twenty-three days.

*Period of observation of exposed persons.*—Twenty-three days from last exposure to infection.

*Infective period.*—The excreta are infectious throughout the whole course of the disease and for undetermined periods thereafter.

*Sources of infection.*—Water and food contaminated by the specific bacteria contained in the excretions of an enteric fever patient.

Polluted well waters may remain infective or retain the infection latent for long and unknown periods after the original mode of infection has ceased to operate.

The food most often implicated in the production of enteric fever is cows' milk which has acquired its infectiveness by the addition to it of water polluted by excreta, or by contact with cans and utensils which have been infected by polluted water, or by contact with unclean hands. Outbreaks of enteric fever have been traced to ice cream, herb beer and other drinks manufactured on premises where enteric fever has existed.

Shell-fish grown in waters receiving sewage have caused enteric fever, and flies have been shown to be carriers of the disease.

The attendants upon enteric fever patients may become infected by taking meals with unwashed hands.

Instances are known where washerwomen have contracted the disease from handling infected clothing or bedding of enteric fever patients. The infection may persist for several weeks in infected clothing and bedding shielded from contact with light and air.

## TYPHUS FEVER.

*Incubation period.*—Average, seven days.

*Period of observation of exposed persons.*—Fourteen days from date of last exposure to infection.

*Infective period.*—From the commencement of illness until convalescence.

*Sources of infection.*—From a previous case of the disease. The virulence of the contagion is rapidly destroyed by fresh air and free ventilation combined with cleanliness, so that the spread of the infection is generally observed only in the overcrowded and unsanitary quarters of the poorest class of the population in industrial towns.

14. Vacher's Table.

DISEASES.	Time from inception to beginning of eruption.	Time from first precursory symptom to beginning of eruption.	Time from beginning of eruption to cessation of pyrexia.	Time from beginning of eruption till patient ceases to be infective.
Small-pox.....	13 days (range, 7 to 21 days.)	2 days (range, a few hours to 7 days.)	14 days.....	36 days.
Modified Small-pox...	13 days (range, 7 to 21 days.)	2 days (range, a few hours to 7 days.)	14 days.....	35 days.
Chicken pox.....	13 days (range, 4 to 7 days.)	2 days (range, a few hours to 7 days.)	5 days.....	17 days.
Measles.....	14 days (range, 7 to 21 days.)	4 days (range, 1 day to 9 days.)	6 days.....	27 days.
German Measles.....	14 days (range, 10 to 20 days)	1 day (range, nil to 3 days.)	7 days.....	14 days.
Scarlatina.....	4 days (range, a few hours to 14 days)	1 day.....	7 days.....	49 days.
Diphtheria.....	5 days (range, 1 day to 14 days.)	2 days (range, a few hours to 4 days.)	14 days.....	28 days.
Idiopathic Erysipelas.	5 Days (range, 2 to 14 days.)	1 day.....	14 days.....	35 days.
Typhus Fever.....	19 days (range, a few hours to 28 days.)	7 days (range, 3 to 7 days.)	7 days (range, 7 to 14 days.)	21 days.
Typhoid Fever.....	21 days (range, 1 day to 28 days.)	7 days (range, 7 to 12 days.)	21 days (range, 14 to 24 days.)	28 days.
Mumps.....	18 days (range, 8 to 25 days.)	4 days.....	7 days.....	21 days.

15. Whitelegge's Table.

	Quarantine to be continued after exposure to infection.	EARLIEST DATE OF RETURN TO SCHOOL AFTER AN ATTACK.
Small-pox.....	18 days..	When all scabs have fallen off.
Chicken-pox.....	18 days..	When all scabs have fallen off.
Scarlet Fever.....	14 days..	Six weeks, and then only if no desquamation or sore throat.
Diphtheria.....	12 days..	Three weeks, if convalescence is complete, and no bacilli remain.
Measles.....	16 days..	Three weeks, if all desquamation and cough have ceased.
Whooping-Cough..	21 days..	Six weeks from the commencement of the whooping, if the characteristic spasmodic cough and whooping have ceased. Earlier, if all cough be gone.
Rötheln, or Rubella	16 days..	Two to three weeks, according to the nature of the case.
Mumps.....	24 days..	Four weeks, if all swelling has subsided.

**16. Bacteriological Diagnosis.**—The State Board of Health supplies facilities for the examination of specimens in cases of suspected diphtheria, tuberculosis, typhoid fever and malaria. The State laboratory is located in Trenton, and the service, rendered free of charge, is prompt and satisfactory. By an order of the postal department, the transportation of diseased tissues through the mails is permitted under certain restrictions, when said tissues are enclosed in specified mailing-cases. These mailing-cases are supplied, without charge, upon request, to physicians, health officers and school officers, and repositories have been established in many parts of the State where the mailing-cases may at all times be obtained. Reports showing the result of the examination will be sent out from the laboratory within twenty-four hours. Reports will be sent by telegraph if a request is sent with the specimen.

In cases where diphtheria is found to exist, specimens should subsequently be sent, at intervals of a few days, for the purpose of learning when the diphtheria bacilli have ceased to exist in the throat, and to guide in the removal of the isolation restrictions.

No specimen will be examined if it is sent through the mails otherwise than in one of the packages furnished by the laboratory.



**17. Vaccination.**—Local boards of health should prevent the occurrence of small-pox by securing general vaccination and re-vaccination.

Every parent should cause each child to be vaccinated before one year of age.

School boards should require that all children and teachers who attend the public schools shall first be vaccinated.

Local boards of health should offer, at least once each year, free vaccination to all who are unable to pay for this service.

In factories, the superintendent should advise or direct all employes to be vaccinated.

Re-vaccination should be practiced as often as once every five years, and if a case of small-pox appears in the neighborhood, all persons in the vicinity should be re-vaccinated.

Small-pox would forever cease if the preventive methods now well understood—vaccination, isolation and disinfection—were thoroughly enforced.

**18. The Minor Infectious Diseases.**—Those infectious diseases which are attended by few deaths cannot be dealt with by isolation as in the case of the more fatal affections, for public sentiment will not sustain sanitary authorities in the enforcement of preventative measures in these diseases; moreover, the usual precautions, which are effective in restricting the spread of scarlet fever, diphtheria, &c., are almost wholly inapplicable in outbreaks of the class of diseases referred to. In this connection, mention may be made of mumps, whooping-cough, malarial fever, influenza, communicable diseases of the eye and parasitic diseases of the skin. Certain other infectious diseases which are not usually included in the notifiable list, but which, nevertheless, are attended with a high fatality, are as follows: tuberculosis in all of its forms, cerebro-spinal meningitis, pneumonia, diarrhoeal diseases of children, dysentery, puerperal fever, erysipelas, rabies, tetanus, anthrax, glanders.

**19. Notification of Cases of Infectious Diseases.**—Section 1 of the following act requires that physicians shall report certain communicable diseases to the clerk or other designated officer of the local board of health. In addition to the diseases named in this section, local boards of health may, by ordinance, specify such other communicable diseases as they may deem necessary, and require reports of the same. Section 2 provides that the clerk or secretary or other officer of the local board of health shall

transmit, at least once in each week, by mail, to the office of the State Board, Trenton, upon blanks furnished by the State Board, a statement of the number of cases of preventable diseases which have been reported to the local board.

## 20. An Act for the Protection of the Public Health.

(Approved March 22, 1835—Gen. Stat., p. 1677)

1. That every physician shall, within twelve hours after his first professional attendance upon any person who is suffering from cholera, yellow fever, typhus fever, leprosy, plague, trichinosis, small-pox, varioloid, enteric (or typhoid) fever, diphtheria, membranous croup, scarlet fever, or any other contagious, infectious or communicable disease which hereafter may be publicly declared by the State Board of Health to be preventable and especially dangerous to the public health, report such sickness to the clerk of the local board of health having jurisdiction over the territory within which such sickness may be, or if such local board of health shall have designated some other officer thereof to receive such reports, then to such officer, which report shall be in writing, signed by such physician, and shall set forth the name, age and precise location of the person suffering from such disease; and every houseowner or householder who knows that any person living, dwelling or being in any building under his control is affected by any of the contagious, infectious or communicable diseases hereinabove specified or referred to shall, when no physician has professionally attended such sick person, within twelve hours after discovering the same, report the fact in writing to the same person and in the same manner as any physician attending such sick person would be required to do as hereinabove set forth; and on the thirtieth day of June and the thirty-first day of December in each and every year, every physician, houseowner and householder making any report or reports as in this section required, shall be entitled to receive from officer to whom such report or reports shall have been made during the preceding six months, a certificate in writing under the hand of such officer, setting forth the number of names of persons reported to have been affected with any of the diseases hereinabove specifically named or referred to, which certificate when presented by such physician, houseowner or householder to the proper disbursing officer of the city, borough, town or other local municipal government or township within which such affected person may have been, shall entitle such physician, houseowner or householder to receive from such disbursing officer the sum of ten cents for each and every name by such certificate certified to have been reported, unless such notification shall be found to have been erroneous; and any physician, houseowner or householder who shall refuse or neglect to perform the duty hereinabove required of him shall be liable to a penalty of fifty dollars.

2. That the facts contained in every report filed with the clerk or other officer of any local board of health, pursuant to the provisions of the first

section of this act, shall be entered by the officer to whom the same shall be delivered in a book kept exclusively for that purpose, which book shall be subject to the inspection of the local board of health and its proper officers, and to the State Board of Health and its officers only; the officers of the local board of health to whom such report shall be delivered, and whose duty it is to make record of same, as in this section above set forth, shall also, at least once in each week, and daily when required by the state board of health, transmit the facts stated therein by mail to the board of health of the state of New Jersey, at Trenton, and shall further keep the said State Board of Health constantly informed concerning the measures which are employed by the local board of health to prevent the spread of the diseases in such reports mentioned, which facts and information shall be conveyed to the said State Board of Health in writing and upon such blank forms as may be furnished by the said State Board of Health; any officer whose duty it is to make any report to said State Board of Health, as in this section above provided, and who neglects or fails to perform such duty, shall be liable to a penalty of fifty dollars for each and every such neglect or failure of duty.

3. That it shall be unlawful for any common carrier to accept for transportation, or to transport or carry, within this state, any person affected with any of the contagious, infectious or communicable diseases named or referred to in the first section of this act, or any infected article or articles of clothing, bedding or other property whatsoever or the body of any person who shall have died of said contagious, infectious or communicable diseases, except the same be inclosed in an hermetically-sealed casket, and except a license for such transport be first obtained in writing from the local board of health of the municipality or township in which the said infected person, infected articles or dead body may be located; and any common carrier knowingly violating any of the provisions of this section shall be liable to a penalty of one hundred dollars.

4. That if the board of health of the state of New Jersey shall ascertain any vaccine virus, antitoxin or other animal product sold, or offered for sale, or held for sale or use within this state for prophylactic or remedial purposes, to be dangerous to human health, or so impure or inert as to be inefficacious in rendering immune or less susceptible to disease any person in whom such product may be used, it shall be lawful for the said board of health of the state of New Jersey to prohibit the further sale or use within this state of any vaccine virus, antitoxin or other animal product, as aforesaid, manufactured or produced by the party who shall have manufactured or produced such dangerous, inert, impure or inefficacious product; any person who shall, after such prohibition, and with knowledge thereof, sell, or offer for sale, or use, or offer for use within this state any such prohibited product shall be liable to a penalty of one hundred dollars.

5. Any penalty incurred under any of the provisions of this act may be recovered, with costs, in a summary proceeding, either in the name of the board of health of the state of New Jersey or in the name of the local board of health of the township, city, borough, town or other local muni-

cipal government within whose jurisdiction the penalty may have been incurred; it shall be the duty of any health inspector, registrar of vital statistics or member of any local board of health, who shall know or be informed of any violation of this act, whereby any penalty may have been incurred, to make, and any other person having such knowledge may make, under oath or affirmation, a complaint against the person incurring such penalty, setting forth the facts of such violation, which complaint shall be filed with the clerk of the district court or any justice of the peace of the county within which the offense may have been committed, or with any police justice or recorder of the township, city or municipality within which any local board bringing suit shall have jurisdiction, and the clerk of the district court, the justice of the peace, police justice or recorder with whom any complaint shall be filed as aforesaid, setting forth facts sufficient to show that any penalty prescribed by this act has been incurred, is hereby authorized and required to issue process, either in the nature of a summons or warrant, which process when in the nature of a warrant, shall be returnable forthwith, and, when in the nature of a summons, shall be returnable in not less than five nor more than fifteen days; on the return of such process, or at any time to which the trial shall have been adjourned, the said court, justice of the peace, police justice or recorder shall proceed to hear the testimony and to determine and give judgment in the matter without the filing of any pleadings, and, if judgment shall be given in favor of the plaintiff, execution shall be forthwith issued against the goods and chattels of the defendant for the amount of the penalty, with costs; the officers to serve and execute any process or execution issued as aforesaid shall be the constables of the county, which service and execution, in the case of any execution issued out of a district court, shall be made in the same manner and under the same liabilities as other executions issued out of said court are served and executed; the officers to serve and execute any process or execution issued by a justice of the peace, police justice or recorder shall be the constables of the county, which service and execution shall be made in the same manner and under the same liabilities as prescribed in cases of the service and execution of process and executions by the act entitled "An act constituting courts for the trial of small causes," and the supplements thereto; all moneys recovered in any such proceeding shall be paid to the plaintiff therein and applied by such plaintiff to any purpose for which it may be legally authorized to expend money.

6. This act shall take effect immediately.

21. **Ordinances.**—From time to time suggestions have been made in circulars, now out of print, and in the annual reports of the State Board of Health, indicating some of the approved forms of sanitary ordinances for the use of townships and small municipalities. These suggestions have sometimes appeared under the

title "Model Ordinances." Following is a revised copy of a sanitary code recently adopted by several township health boards:

The Local Board of Health of the township of \_\_\_\_\_, in the county of \_\_\_\_\_, by virtue of the provisions of the act of the Legislature of New Jersey, entitled "An act to establish in this State Boards of Health and a Bureau of Vital Statistics, and to define their respective powers and duties," approved March 31, 1887, and of other acts, ordains:

Section 1. That whatever is dangerous to human health, or whatever renders the ground, the water, the air or food a hazard or an injury to human health, is hereby declared to be a nuisance, and any person or persons creating or maintaining or aiding in the creation or maintenance, of any such nuisance, shall be liable to a penalty of twenty-five dollars.

Section 2. That any decaying animal or vegetable substance or substances, or other offensive matter in the form of rubbish, garbage or offal, in or upon any lot, street or highway, or in or upon any public or private place, is hereby declared to be a nuisance, and any person or persons who shall maintain any such nuisance, or who shall aid therein, shall be liable to a penalty of twenty-five dollars.

Section 3. That the pollution of any stream, well, spring or reservoir of water used for drinking purposes is hereby prohibited, and any person or persons who shall cause such pollution, or who shall aid therein, shall be liable to a penalty of one hundred dollars.

Section 4. That the placing of house sewage, waste fluids or fouled liquids on the surface of the ground in such a manner as to become the source from which offensive odors shall emanate, or in such manner as to pollute ground, air or water, or in such manner as to endanger the purity of the water of any well, stream, pond or lake, or the discharge of such sewage or fluids into any street or highway, is hereby declared to be a nuisance, and any person or persons who shall cause or maintain, or who shall aid in causing or maintaining, any such nuisance, shall be liable to a penalty of twenty-five dollars.

Section 5. That the storage of animal refuse or decaying or putrescible matter in liquid or solid form in any vault, cesspool or other receptacle in such manner that the same shall, by reason of offensive odors emanating therefrom, become a source of discomfort to persons living or passing in the vicinity thereof, is hereby declared to be a nuisance, and any person or persons causing or maintaining any such nuisance, or aiding therein, shall be liable to a penalty of twenty-five dollars.

Section 6. That the discharge or deposit of any foul or offensive liquids or solids into or upon any lots or lands without first obtaining a permit therefor from the local board of health, or the keeping or forming of sunken places or excavations upon any lot or land and the accumulation thereon of foul water or offensive animal or vegetable matter, is hereby declared to be a nuisance; and any person or persons who shall cause or maintain any such nuisance, or who shall aid in causing or maintaining the same, shall be liable to a penalty of twenty-five dollars.

Section 7. That the keeping of any tenement house or other house or

building, or any part thereof, in a state of uncleanness, or the crowding of persons in any tenement or other house or building in such manner as to endanger the health of the persons dwelling therein, is hereby declared to be a nuisance; and any person or persons through whose act or neglect such state of uncleanness shall be caused, and any person or persons by whom such crowding shall be caused, shall be liable to a penalty of twenty-five dollars.

Section 8. That the keeping of any jail, prison, almshouse or other public building, or any part thereof, in a state of uncleanness, or the crowding of prisoners or inmates therein in such manner as to endanger the health of such prisoners or inmates, is hereby declared to be a public nuisance; and any person or persons, officer or officers, through whose act or neglect such state of uncleanness shall be caused, and any person or persons, officer or officers by whom such crowding shall be caused, shall be liable to a penalty of twenty-five dollars, provided, however, that this section shall not apply to any person or officer having the care of prisoners or in any jail, prison, almshouse or other public building, where such building is of insufficient dimensions for the proper care of such prisoners or inmates, and such person or officer has no authority or power under the law to limit the number of prisoners or inmates that shall be committed to such building or to enlarge such building.

Section 9. That the keeping of any dwelling house or building in which there is or has been any dangerous or communicable disease without cleansing and disinfection, is hereby prohibited. Any person or persons offending against this section shall be liable to a penalty of twenty-five dollars.

Section 10. That the keeping of any pen or enclosure for fowls, goats, swine or other animals, or of any slaughter house, tannery or factory, in such manner that offensive odors shall emanate therefrom to the detriment or discomfort of persons living or passing in the vicinity thereof or to common discomfort, is hereby declared to be a nuisance; and any person or persons who shall keep any such pen, enclosure, slaughter house, tannery or factory in such manner as aforesaid, shall be liable to a penalty of twenty-five dollars.

Section 11. That the sale of any meat or vegetable food or drink that is unwholesome or unfit for food is hereby prohibited; any person or persons making any such sale as aforesaid shall be liable to a penalty of one hundred dollars.

Section 12. That any physician, midwife, nurse, clergyman, magistrate or other person who shall officiate at any death, birth or marriage, and who shall neglect to make return thereof to the proper officer, according to law, shall for each and every failure to make such return or report be liable to a penalty of fifty dollars.

Section 13. That any owner or occupier of any premises within this \_\_\_\_\_ shall cleanse every cesspool or privy upon such premises and remove the contents therefrom upon notice in writing to that effect from this board, and every such occupier or owner who shall neglect or refuse to cleanse any such cesspool or privy for two days after such notice shall forfeit and pay a penalty of ten dollars for every such offense.

Section 14. Whenever this board shall have satisfactory evidence that any well, the water of which is used for domestic purposes, has become polluted and rendered unsafe for potable use, notice to discontinue the use of said polluted water shall be sent to the owner or party in charge of said well, and, at the discretion of this board, the owner or the party in charge of said well may be ordered in writing, to close, fill up or withdraw from the ground the said well. If the said order is not complied with within the time therein specified, this section shall be deemed violated and this board may proceed to cause the said well to be closed, filled up or withdrawn from the ground. Every well which is used for domestic purpose shall be at least forty (40) feet distant from every privy vault, cesspool, manure vault and horse or cow stable. Any person or persons offending against any of the provisions of this section shall forfeit and pay a penalty of fifty dollars.

Section 15. No person shall sell or deliver or have in possession for sale any milk which has been watered or adulterated, or which contains any unhealthful ingredient, constituent or substance, or which has been transported or stored in any unclean manner, or which is produced from cows which are kept or stabled under unhealthful conditions, or which are diseased. Any person or persons or corporation who shall violate any of the provisions of this section shall forfeit and pay a penalty of fifty dollars.

Section 16. No principal, teacher, or superintendent of any school and no parent or guardian of any child attending any school, shall permit any child sick with any communicable disease, or any child residing in any house in which such disease shall exist, to attend any school until this board shall have given its permit therefor. Any person or persons offending against any of the provisions of this section shall forfeit and pay a fine of twenty dollars.

Section 17. Whenever it shall be deemed necessary by this board to establish the true character of any disease which they may believe to be communicable, a medical examination of the person or persons affected by such disease may be ordered, and such examination shall be permitted by all attendants and persons. Any person or persons offending against any of the provisions of this section shall forfeit and pay a penalty of fifty dollars.

Section 18. In case of infectious or contagious or communicable diseases in this ——— the persons affected thereby shall, at the discretion of this board, be isolated, or they may be removed to such locality as this board may order and direct; and all buildings, clothing, property, premises and vehicles which may become infected by the presence of persons affected by contagious, infectious or communicable disease, shall be disinfected, and said disinfection shall be made and performed in such manner and with such materials and within such stated time and under such supervision as this board may direct. And this board may establish such separation and isolation or quarantine of the sick from other persons not necessary as attendants, and also provide and effect such special care, disinfection and cleansing of property and premises as shall, in the judgment of the board, be needed in order to prevent the spreading of

such diseases to other persons. Any person or persons offending against any of the provisions of this section, or obstructing any duly-authorized agent of this board in carrying out the instructions of the board shall forfeit and pay a penalty of fifty dollars.

Section 19. Whenever quarantine or isolation and separation of persons or property is ordered by this board, notice of said order shall be given to the persons affected thereby. Said notice shall be in writing and it may be served personally, left with some person at the infected house, or it may be posted upon the building or premises occupied by the infected persons or property. The requirements of said quarantine notices shall be obeyed by all persons, and no such notice or any other sign indicating the presence of communicable disease upon any premises shall be removed except by consent of this board. Any person or persons offending against any of the provisions of this section shall forfeit and pay a penalty of one hundred dollars.

Section 20. No person or article liable to propagate a communicable disease shall be brought within or removed from the limits of the ——— without the written permit and under the direction of the board of health thereof; and whenever it shall come to the knowledge of any person that such person or article has been brought within such limits, he shall immediately give notice thereof to the said board. No person shall, within this ———, without a permit from the board of health thereof, carry or remove from one building to any other, any person sick of any communicable disease, nor shall any person by any exposure of any individual sick of any communicable disease, or of the body of such person, or by any negligent act connected therewith, or in respect to the care or custody thereof, or by a needless exposure of himself, cause or contribute to or promote the spread of communicable disease. Any owner, lessee or any tenant of any dwelling in which there shall occur a case of communicable disease, shall immediately notify the board of health of the same, and until instructions are received from the said board, shall not permit any clothing or other property that may have been exposed to infection to be removed from the house. Nor shall any occupant of such a house change his residence elsewhere without the consent of the said board during the prevalence of any public danger from said disease. Any person or persons offending against any of the provisions of this section shall forfeit and pay a penalty of fifty dollars.

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REPORT  
OF THE  
BUREAU OF VITAL STATISTICS  
OF THE  
STATE OF NEW JERSEY  
FOR THE  
Year Ending December 31, 1903.

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## INTRODUCTION.

A few minor additions have been made to the tables of deaths for the year ending December 31, 1903, to render them more convenient for the special use of those who most frequently consult them, but there has been no alteration in the classification nor in the grouping of facts which are presented. The certificates of deaths are now filed alphabetically for the entire State, and at the end of the year the certificates are bound into books of five hundred each, thus forming an index-catalogue of the decedents for each year.

## Certificates of Death.

Section 3 of the act approved February 15, 1888, provides that certificates of death shall be made by the attending physician if practicable, but, when necessary, any physician may, after having viewed and examined the dead body, and being satisfied that the death was not due to unlawful means, furnish the certificate.

The section reads as follows :

"That when any person shall die within this state, it shall be the duty of the physician who shall have attended such person during his or her last sickness to furnish to the undertaker, or any member of the family applying therefor, a certificate of such death, which certificate shall set forth particularly, to the best of such physician's knowledge, the name, age, sex, color, nativity, occupation, last place of residence, the township, city or municipality and the county within which the death occurred and the cause of death; if no physician shall have attended such deceased person during his or her last sickness, or if the physician who shall have attended such deceased person shall be absent or sick, so that no certificate of death can be obtained from him in time for burial, then and in either of such cases it shall be lawful for any physician to whom application may be made, after having viewed and examined the dead body, and being satisfied that the deceased person did not come to his or her death by the contrivance, aiding, procuring or other misconduct of any person or persons, to furnish such certificate as aforesaid, in case the attending physician, or the physician applied to as aforesaid, after having consented to act upon such application and viewed and examined the dead body, shall refuse to furnish such certificate as aforesaid, except upon the ground aforesaid, he shall be liable to a penalty of twenty dollars; and if any physician shall refuse to furnish such certificate as aforesaid, upon the ground aforesaid, the same proceedings shall be had as are provided by law for the investigation of the cause of violent, sudden or casual deaths, and the physician or officer who shall conduct such investigation shall furnish such certificate of death as aforesaid."

Following is the form of the certificate of death :

## State of New Jersey--Bureau of Vital Statistics.

## CERTIFICATE AND RECORD OF DEATH.

Full Name of Deceased.....  
[If an infant not named, so state and give sex.]

Years. Months. Days. Hours.

Age..... Color..... Occupation.....

Single, Married, Widowed or Divorced. Birthplace.....  
[Cross out all but the right one.] [State or country.]

Last Place of Residence..... How long resident in this State.....

Place of Death.....  
[If in a city, give name, street and number; if in township, give name and county; if in an institution, so state.]

Father's Name..... Country of Birth.....

Mother's Name..... Country of Birth.....

I hereby certify that I attended the deceased during the last illness, and that.....died on the.....day of.....190 , and that the cause of death was.....

..... Length of sickness.....

Name of Undertaker.....  
[Medical Attendant.]

Residence of Undertaker.....  
[P. O. Address.]

Place of Burial.....

It is advisable that every local board of health should keep a record of the deaths which occur in the sanitary district in which the board is located, together with the cause of death in each case and the location of the dwellings in which the deaths occur. Record books for this purpose should be furnished by the local municipal authorities. The following form of ruling and printing has been found to be convenient : \*

Record of Deaths Occurring in . . . . . in the Year . . . . .

No.	DATE		NAME OF DECEDENT	SEX		AGE		PLACE OF DEATH	Resident or Transient	CAUSE OF DEATH	PLACE OF BURIAL	MEDICAL ATTENDANT	UNDER-TAKER
	Mo.	Day		Color	M.	F.	Yr.						

\*If blanks of this description are used they should be provided by order of the local authorities. The state board of health is not authorized by law to furnish blanks for this purpose.

Table 43.—Births, Marriages and Deaths, by Counties, Cities, Boroughs, and Townships, and Totals for the State, for the Year Ending December 31, 1903, and Showing Increase and Decrease from Previous Year.

ATLANTIC COUNTY.

NAME OF PLACE.	BIRTHS.		MARRIAGES.		DEATHS.	
	Number in 1903.	Variation from 1902.		Number in 1903.	Variation from 1902.	
		Increase.	Decrease.		Increase.	Decrease.
Absecon . . . . .	9	8	5	2	6	9
Atlantic City . . . . .	535	46	359	22	510	5
Buena Vista . . . . .	46	4	17	9	21	6
Brigantine . . . . .	0		0		3	
Egg Harbor City . . . . .	52	7	20	4	31	8
Egg Harbor . . . . .	40	5	7	5	42	
Galloway . . . . .	40	3	12	6	34	
Hamilton . . . . .	39	12	9	7	29	
Hammononton . . . . .	89	33	41	24	70	
Linwood . . . . .	0		2	1	6	
Mullica . . . . .	22	7	3	2	17	
Pleasantville . . . . .	65	19	19		26	
Somers Point . . . . .	10	4	1	6	4	
South Atlantic City . . . . .	1		0		2	
Weymouth . . . . .	15	1	4	2	9	
TOTALS	976	105	75	47	815	39

\*Marriages certificates received from County Clerks in which the places where the marriages were performed are not stated.

## BERGEN COUNTY.

NAME OF PLACE.	BIRTHS.		MARRIAGES.		DEATHS.	
	Number in 1903.	Variation from 1902.	Number in 1903.	Variation from 1902.	Number in 1903.	Variation from 1902.
		Increase.		Decrease.		Increase.
Atlantide	9	2	10	8	7	2
Bergenfield	25	5	3	1	10	3
Bogota	10	2	1	1	3	3
Carlstadt	72	6	21	0	40	5
Cliffside Park	29	4	3	1	17	6
Cresskill	13	2	1	1	3	2
Delford	18	3	7	4	10	0
Dumont	15	2	3	0	4	2
East Rutherford	56	7	12	6	49	15
Edgewater	311	26	6	5	15	2
Englewood City	114	24	65	10	107	2
Englewood Cliffs	4	1	1	1	2	0
Etna	12	12	0	0	5	3
Fairview	45	10	5	0	14	3
Franklin	6	24	5	3	14	6
Garfield	111	31	38	12	94	52
Glen Rock	15	6	1	1	8	1
Hackensack City	210	2	103	7	176	83
Harrington	47	7	11	9	37	6
Harrison Heights	17	3	4	4	12	4
Hillsdale	13	3	6	4	9	4
Hobokus	38	3	14	1	45	12
Leonia	13	3	5	4	12	3
Little Ferry	43	6	0	4	17	1
Lodi Borough	73	21	9	12	45	11
Lodi Township	21	4	4	4	5	2
Maywood	15	0	0	0	5	0
Midland	22	1	15	0	40	4
Midland Park	34	1	5	3	16	14
Montvale	6	2	0	0	4	2
North Arlington	1	1	0	0	5	4
Oakland	12	7	8	7	4	2
Old Tappan	4	2	1	1	5	3
Orvil	8	2	8	4	10	7
Overpeck	54	4	4	1	34	6
Palisade	20	3	7	0	13	4
Parsippany Park	18	3	1	0	10	3
Park Ridge	17	2	7	2	11	1
Ridgefield Borough	8	1	3	1	12	10
Ridgefield Township	51	22	18	3	52	2
Ridgewood	72	10	27	1	45	9
Riverside	16	11	5	2	7	1
Rutherford	65	0	22	7	29	32
Saddle River Borough	5	2	3	2	7	1
Saddle River Township	36	12	7	3	23	13
Teaneck	6	1	2	2	2	4
Teaneck	31	1	10	5	20	4
Union	15	1	2	1	22	5
Upper Saddle Borough	0	1	3	2	2	1
Washington	3	1	0	2	1	1
Washington	8	12	1	3	10	2
Westwood	16	8	5	3	14	3
Woodcliff	5	7	0	0	2	5
Wood Ridge	9	3	0	0	12	8
	1,620	281	63	500	74	233

\*Marriage certificates received from County Clerk in which the places where the marriages were performed are not stated.

## BURLINGTON COUNTY.

NAME OF PLACE.	BIRTHS.		MARRIAGES.		DEATHS.	
	Number in 1903.	Variation from 1902.	Number in 1903.	Variation from 1902.	Number in 1903.	Variation from 1902.
		Increase.		Decrease.		Increase.
Bass River	9	9	3	8	6	6
Beverly City	28	5	8	8	44	21
Beverly Township	19	8	14	2	27	3
Bordentown City	51	27	50	20	77	6
Bordentown Township	4	1	0	9	2	1
Burlington City	81	41	95	9	166	11
Burlington Township	1	1	0	0	6	7
Chester	86	4	10	5	8	5
Chesterfield	15	4	9	0	9	0
Cinnaminson	17	2	4	1	16	5
Delran	27	1	3	6	11	5
Eastampton	5	4	0	1	6	1
Evesham	20	6	4	4	19	1
Fieldsboro	18	13	1	8	8	3
Florence	48	2	9	4	33	9
Lumberton	14	3	7	5	17	8
Mansfield	7	5	7	2	14	3
Medford	38	5	23	13	34	7
Mount Laurel	38	1	7	4	34	15
New Hanover	19	5	9	15	16	7
Northampton	105	31	66	3	114	7
Palmers	53	5	24	1	41	14
Pemberton Borough	21	2	3	11	11	1
Pemberton Township	12	5	4	3	56	12
Riverside	53	1	17	2	40	10
Riverton Borough	29	11	5	4	10	6
Shamong	1	1	0	0	6	3
Southampton	8	22	6	0	16	1
Springfield	6	4	0	0	12	2
Tabernacle	4	1	4	3	8	1
Washington	5	4	3	1	8	1
Westhampton	6	1	1	1	9	1
Williston	4	2	1	1	9	3
Woodland	9	2	3	1	2	6
	880	132	109	462	63	91
					936	154
						44



CAMDEN COUNTY.

NAME OF PLACE.	BIRTHS.		MARRIAGES.		DEATHS.	
	Number in 1903.	Variation from 1902.	Number in 1903.	Variation from 1902.	Number in 1903.	Variation from 1902.
		Increase.		Decrease.		Increase.
Camden City	1,447	212	1,771	119	1,281	87
Centre	36	1	6	1	49	8
Cheshilhurst	9	6	9	1	11	2
Clementon	29	29	13	13	15	15
Collinswood	29	1	29	15	30	3
Delaware	14	2	1	1	22	3
Gloucester City	143	1	88	27	11	20
Gloucester Township	44	30	19	7	80	2
Haddon	44	12	16	5	25	0
Haddonfield	36	0	29	5	39	4
Merchantville	29	7	28	7	31	0
Pensauken	38	13	9	4	17	1
Voorhees	12	0	0	17	14	1
Waterford	50	4	4	4	35	1
Winslow	35	9	0	0	38	17
Wood Lynne Borough	4	3	0	0	3	3
	1,978	308	31	*6	1,836	61
			2,037	197		113

\*Marriage certificates received from County Clerk in which the places where the marriages were performed are not stated.

CAPE MAY COUNTY.

NAME OF PLACE.	BIRTHS.		MARRIAGES.		DEATHS.	
	Number in 1903.	Variation from 1902.	Number in 1903.	Variation from 1902.	Number in 1903.	Variation from 1902.
		Increase.		Decrease.		Increase.
Anglesea Borough	2	1	2	0	0	0
Avalon	0	0	0	0	0	0
Cape May City	34	0	31	11	37	10
Cape May Point	23	0	0	0	0	0
Dennis	23	65	5	0	14	22
Holly Beach Borough	15	4	6	5	11	12
Lower	22	2	12	4	19	7
Middle	32	5	19	6	34	3
Ocean City	45	10	23	8	25	3
Sea Isle City	7	5	0	3	0	5
Upper	13	5	14	3	13	10
West Cape May	7	1	1	0	0	0
Wildwood	6	1	2	7	5	3
Woodbine	50	50	1	1	11	11
	256	70	96	*1	177	28
			116	32	30	59

\*Marriage certificate received from County Clerk in which the place where the marriage was performed is not stated.

CUMBERLAND COUNTY.

NAME OF PLACE.	BIRTHS.		MARRIAGES.		DEATHS.	
	Number in 1903.	Variation from 1902.	Number in 1903.	Variation from 1902.	Number in 1903.	Variation from 1902.
		Increase.		Decrease.		Increase.
Bridgeton	210	3	114	12	202	7
Commercial	45	3	13	3	32	6
Deerfield	26	17	41	3	28	14
Downe	30	8	8	1	17	4
Fairfield	18	4	6	1	19	3
Greenwich	35	19	7	4	20	2
Hopewell	28	9	11	1	42	0
Lendis	71	5	7	2	68	0
Lawrence	20	13	9	1	17	4
Maurice River	34	2	13	5	15	3
Millville City	294	13	144	27	152	7
Stow Creek	19	16	2	7	10	3
Vineland	105	10	96	9	84	12
	926	71	83	44	706	44
				46		46

ESSEX COUNTY.

NAME OF PLACE.	BIRTHS.		MARRIAGES.		DEATHS.	
	Number in 1903.	Variation from 1902.	Number in 1903.	Variation from 1902.	Number in 1903.	Variation from 1902.
		Increase.		Decrease.		Increase.
Belleville	106	16	45	6	101	5
Bloomfield City	182	8	65	9	119	20
Caldwell Borough	21	2	10	2	20	3
Caldwell Township	15	7	2	5	13	0
Clinton	4	3	6	0	0	0
East Orange City	391	39	168	12	233	13
Essex Falls	10	1	1	1	2	0
Glen Ridge	19	4	5	5	25	9
Irvington	108	10	54	30	82	6
Livingston	21	6	4	0	20	4
Milburn	61	1	2	3	38	3
Montclair City	337	10	68	13	271	56
Newark City	6,092	44	3,093	386	4,901	70
North Caldwell Borough	1	1	0	0	0	6
Nutley Borough	65	16	24	3	40	9
Orange City	691	55	210	37	525	25
South Orange Borough	69	18	43	12	58	1
South Orange Township	29	0	14	5	18	1
Valburg	66	11	1	5	36	2
Verona	22	13	1	1	34	9
West Orange City	123	7	24	7	79	4
	8,423	184	77	3,856	490	52
					6,615	197
						73

GLOUCESTER COUNTY.

NAME OF PLACE.	BIRTHS.		MARRIAGES.		DEATHS.	
	Number in 1903.	Variation from 1902.	Number in 1903.	Variation from 1902.	Number in 1903.	Variation from 1902.
		Increase.		Decrease.		Increase.
Clayton	54	7	23	7	24	15
Deptford	26	1	8	1	27	22
East Greenwich	25	9	5	10	27	3
Elk	12	3	0	1	23	8
Franklin	50	13	11	2	33	2
Glassboro	57	5	25	2	29	6
Greenwich	47	9	9	1	24	6
Harrison	13	2	11	7	17	7
Logan	16	17	4	4	17	2
Martus	30	1	17	29	26	2
Monroe	35	2	20	29	44	13
South Harrison	34	5	4	1	13	5
Swedesboro	15	6	2	2	9	5
Washington	5	3	0	5	3	2
Wenonah	5	3	0	5	9	2
West Deptford	33	2	14	4	64	9
Woodbury	50	3	38	3	9	13
Woolwich	23	6	1	5	9	13
	522	76	38	213	18	44
				44	383	41
						70

\*Marriage certificate received from County Clerk in which the place where the marriage was performed is not stated.

HUDSON COUNTY.

NAME OF PLACE.	BIRTHS.		MARRIAGES.		DEATHS.	
	Number in 1903.	Variation from 1902.	Number in 1903.	Variation from 1902.	Number in 1903.	Variation from 1902.
		Increase.		Decrease.		Increase.
Bayonne	1,228	140	341	30	679	99
East Newark	29	9	18	1	4	5
Guttenburg	121	7	17	2	62	5
Harrison	352	52	95	1	210	5
Hoboken	1,833	328	805	0	1,140	16
Jersey City	3,731	49	2,428	218	4,150	104
Kearny	237	18	73	2	213	20
North Bergen	231	29	49	3	129	90
Secaucus	51	10	1	4	205	120
Town of Union	405	29	249	24	265	5
Weehawken	118	37	28	70	3	7
West Hoboken	812	46	34	9	312	12
West New York	152	3	38	11	65	14
	8,999	696	61	4,451	349	20
					7,532	323
						160

\*Marriage certificates received from County Clerk in which the places where the marriages were performed are not stated.

HUNTERDON COUNTY.

NAME OF PLACE.	BIRTHS.		MARRIAGES.		DEATHS.	
	Number in 1903.	Variation from 1902.	Number in 1903.	Variation from 1902.	Number in 1903.	Variation from 1902.
		Increase.		Decrease.		Increase.
Alexandria	16	1	5	4	19	16
Bethlehem	21	1	9	2	32	3
Clinton Borough	21	8	12	4	10	3
Clinton Township	21	17	13	5	21	1
Delaware	22	17	22	2	22	2
East Amwell	16	2	14	3	13	1
Franklin	7	30	11	6	17	6
Frenchtown	11	2	11	6	7	7
High Bridge	31	14	19	2	19	2
Holland	19	8	8	1	26	7
Junction	19	18	7	9	9	6
Kingwood	23	50	2	2	19	4
Lambertville	97	72	40	15	60	17
Lebanon	24	1	18	2	25	6
Raritan	65	21	27	4	65	13
Readington	28	7	11	4	39	7
Stockton	7	2	1	2	12	4
Tewksbury	42	12	18	2	31	10
Union	12	10	1	1	11	2
West Amwell	14	12	0	1	12	1
	487	177	110	232	19	43
					482	72
						44

MERCER COUNTY.

NAME OF PLACE.	BIRTHS.		MARRIAGES.		DEATHS.	
	Number in 1903.	Variation from 1902.	Number in 1903.	Variation from 1902.	Number in 1903.	Variation from 1902.
		Increase.		Decrease.		Increase.
East Windsor	15	8	4	3	13	6
Ewing	4	4	3	19	3	2
Hamilton	34	4	10	15	37	2
Hightstown	10	1	18	18	27	26
Hopewell Borough	28	11	17	1	11	5
Hopewell Township	10	7	17	11	22	7
Lawrence	9	5	6	1	13	1
Pennington Borough	0	6	6	3	13	2
Princeton Borough	74	11	23	7	66	4
Princeton Township	11	3	3	3	11	1
Trenton	923	7	750	127	1,408	8
Washington	3	6	3	5	10	1
West Windsor	14	2	2	5	10	1
	1,151	39	30	890	173	24
					1,662	42
						14

\*Marriage certificates received from County Clerk in which the places where the marriages were performed are not stated.

## MIDDLESEX COUNTY.

NAME OF PLACE.	BIRTHS.		MARRIAGES.		DEATHS.				
	Number in 1903.	Variation from 1902.		Number in 1903.	Variation from 1902.		Number in 1903.	Variation from 1902.	
		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.
Cranbury	19		6	13		5	19		1
Dunellen	32	25	6	22	11		28		13
East Brunswick	11		5	10	5		22		1
Helmetta	5	1		1		3	1		1
Jamesburg	12		3	26	4		3		1
Madison	10		9	5	1		10		8
Metuchen	34	18		22		1	30	9	
Milltown	33	15		9	1		20		1
Monroe	19		9	1		3	15	14	
New Brunswick	444	106		198		18	397		4
North Brunswick	7	3		3	18		9		1
Perth Amboy	380	1		319	37		256		44
Piscataway	42	4	10	18	7		54	7	
Raritan	15		1	8		2	45	4	
Sayreville	116		1	26	5		46	3	
South Amboy	103		36	36		21	110		20
South Amboy Township	0			0			0		
South Brunswick	34	9		13	10		31		7
South River	89	2		53	32		29		18
Woodbridge	133		30	26		2	118	13	
	1,538	184	109	805	113	70	1,243	71	98

## MONMOUTH COUNTY.

NAME OF PLACE.	BIRTHS.		MARRIAGES.		DEATHS.					
	Number in 1903.	Variation from 1902.		Number in 1903.	Variation from 1902.		Number in 1903.	Variation from 1902.		
		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.	
Allenhurst	1		3	4	4		6		4	
Allentown	8	3		3			7			
Asbury Park	36	4	5	58		1	53		2	
Atlantic	13			4			15		3	
Atlantic Highlands	15		13	14		5	18		5	
Avon	3	2		4	4		1		1	
Belmar	23	4		21		1	11		11	
Bradley Beach Borough	11		1	5		4	8		2	
Deal	2	2		0			1		1	
Eatontown	50	6		25	4		33		10	
Englishtown	2		2	3		3	4		1	
Farmingdale			1	1			7		11	
Freehold	75	5		46		2	89		11	
Highlands	4		4	4		7	16		6	
Holmdel	19	8		7	1		18		1	
Howell	35	17		31		2	44		6	
Long Branch	138	3		80		29	198		1	
Manalapan	10	5		5		3	16		5	
Manasquan	30	9		9		6	31		14	
Marlboro	15	4		4		4	29		15	
Matawan Borough	32	1		27	17		22		8	
Matawan Township	6		12	5		12	9		2	
Middletown	66		7	23	1		78		6	
Millstone	9	3		10	9		28		14	
Neptune Township	129		6	51		13	139		21	
Neptune Spring Borough	1		4	0			7		2	
North Spring Lake	0			0		2	0		2	
Ocean	21		2	11	6		18		20	
Raritan	86	1		28		10	70		2	
Red Bank City	86	18		67	35		72		1	
Sea Bright	2	1		2		1	1		1	
Shrewsbury	59		1	24		2	70		32	
Spring Lake Borough	13	9		0		3	11		3	
Upper Freehold	28	4		6		3	29		4	
Wall	52	7		16			29			
	1,088	116	64	*4	605	84	1,05	1,174	97	110

\*Marriage certificates received from County Clerk in which the places where the marriages were performed are not stated.

NAME OF PLACE.	BIRTHS.		MARRIAGES.		DEATHS.			
	Variation from 1902.		Variation from 1902.		Variation from 1902.			
	Number in 1903.	Increase. Decrease.	Number in 1903.	Increase. Decrease.	Number in 1903.	Increase. Decrease.		
Boonton City	53		39	1	46	5		
Boonton Township	43	21	13		4	3		
Butler	27	6	12	3	23	1		
Chatham Borough	123	2	29	5	3			
Chatham Township	15	5	5		29	23		
Chester	134	18	69	2	90	7		
Dover City	4	2	1	1	3			
Florham Park Borough	26	2	9	14	154	19		
Hanover	4	3	11	6	12	6		
Jefferson	93	3	23	3	46	27		
Madison	35	6	1	10	25	1		
Mendham	7		3	1	19	2		
Montville	17		0		32			
Morris Township	140	26	73	10	219			
Morristown City	3		0		4	2		
Mount Arlington	15	5	7		16	4		
Mount Olive	40	35	3		19	10		
Netcong	33	19	7	3	4			
Passaic	33	19	7	3	14	19		
Pasquanook	20		11	2	31	5		
Randolph	17	1	1		22	2		
Rockaway Borough	318	6	17	9	78			
Rockaway Township	69	9	12	4	9			
Roxbury	50	22	28		31	4		
Washington	23	8	5	12	24	14		
Wharton Borough	27	4	10	10	49	28		
<b>TOTAL</b>	<b>948</b>	<b>175</b>	<b>46</b>	<b>19</b>	<b>96</b>	<b>1,127</b>	<b>84</b>	<b>133</b>

OCEAN COUNTY.

NAME OF PLACE.	BIRTHS.		MARRIAGES.		DEATHS.			
	Variation from 1902.		Variation from 1902.		Variation from 1902.			
	Number in 1903.	Increase. Decrease.	Number in 1903.	Increase. Decrease.	Number in 1903.	Increase. Decrease.		
Bay Head	31	1	2		0			
Beach Haven	0		0		6	2		
Berkeley	9		1	1	7	5		
Brick	39	20	19	13	17	12		
Dover	38	7	23		4	6		
Eagleswood	1		5	4	1	2		
Island Heights	1		3		4			
Jackson	16		4		14			
Lacey	51	6	4	4	12	4		
Lakewood	71	25	41	14	57	11		
Lavallette	0		0		2	2		
Little Egg Harbor	5		0		9			
Long Beach	0		0		1	1		
Manchester	0		16		3	8		
Ocean	9	3	3	1	3	4		
Plumstead	23	3	7	1	16	2		
Point Pleasant Beach	4		22	8	1			
Sea Side Park Borough			1		1	11		
Stafford	11		4		7	6		
Tuckerton	19		6		1	9		
Union	7		10	3	5	10		
<b>TOTAL</b>	<b>271</b>	<b>65</b>	<b>67</b>	<b>30</b>	<b>24</b>	<b>202</b>	<b>18</b>	<b>88</b>

\*Marriage certificate received from County Clerk in which the place where the marriage was performed is not stated.

PASSAIC COUNTY.

NAME OF PLACE.	BIRTHS.		MARRIAGES.		DEATHS.				
	Variation from 1902.		Variation from 1902.		Variation from 1902.				
	Number in 1903.	Increase. Decrease.	Number in 1903.	Increase. Decrease.	Number in 1903.	Increase. Decrease.			
Acquanckanonk	74	9	31	22	72	22			
Hawthorne	33	18	5	1	8	17			
Little Falls	55		9		37				
Manchester	46	10	10	3	30	9			
North Haledon	1				5	6			
Passaic City	1,215		567	772	650	87			
Paterson	2,093	373	1,172	195	1,730	43			
Pompton	15	18	25	3	34	1			
Pompton Lake Borough	16	6		5	14	4			
Prospect Park Borough	12	5	0		17				
Totowa	4	3	0		4				
Wayne	24	2	11	1	22	9			
West Milford	30	4	19		32	9			
<b>TOTAL</b>	<b>3,620</b>	<b>420</b>	<b>98</b>	<b>2,062</b>	<b>274</b>	<b>11</b>	<b>2,655</b>	<b>125</b>	<b>88</b>

SALEM COUNTY.

NAME OF PLACE.	BIRTHS.		MARRIAGES.		DEATHS.				
	Variation from 1902.		Variation from 1902.		Variation from 1902.				
	Number in 1903.	Increase. Decrease.	Number in 1903.	Increase. Decrease.	Number in 1903.	Increase. Decrease.			
Alloway	25	4	11	4	17	6			
Elmer Borough	29	9	15	4	23	10			
Elsinboro	4		0		11	8			
Lower Alloways Creek	21	19	6		19				
Lower Penns Neck	19		3		14	7			
Mannington	22		9	2	34	9			
Oldmans	35	3	6	3	20	5			
Penns Grove Borough	34	9	19	5	29	8			
Pilesgrove	26		15		29				
Pittsgrove	46	20	5	1	17	1			
Quinton	30	2	11	6	14	6			
Salem City	94	13	66	2	109	2			
Upper Penns Neck	16		1		19	3			
Upper Pittsgrove	29	18	9	6	2				
Woodstown	14	1	11	5	23	22			
<b>TOTAL</b>	<b>434</b>	<b>78</b>	<b>28</b>	<b>187</b>	<b>31</b>	<b>16</b>	<b>364</b>	<b>70</b>	<b>27</b>

SOMERSET COUNTY.

NAME OF PLACE.	BIRTHS.			MARRIAGES.			DEATHS.		
	Number in 1903.	Variation from 1902.		Number in 1903.	Variation from 1902.		Number in 1903.	Variation from 1902.	
		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.
Bedminster	37		4	9		7	20		2
Bernards	28		12	24		7	39		9
Bound Brook Borough	34		15	34		1	35		2
Branchburg	21	12		22		2	10	13	
Bridgewater	25	9		15		2	29		8
Franklin	36	1		12		6	49		5
Hillsborough	24		4	0		6	30		2
Millstone	8		3	0		8	10		1
Montgomery	8		3	46		24	72		6
North Plainfield City	105	14		5		2	12		4
North Plainfield Township	7			21		2	30		20
Raritan	20		2	3		1	8		5
Rocky Hill	15		5	3		1	67		9
Somerville	73		15	42		16	16		
Warren	15		4	1		1			
	468	50	38	222	60	27	427	31	57

SUSSEX COUNTY.

NAME OF PLACE.	BIRTHS.			MARRIAGES.			DEATHS.		
	Number in 1903.	Variation from 1902.		Number in 1903.	Variation from 1902.		Number in 1903.	Variation from 1902.	
		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.
Andover	9		2	5		1	9		2
Branchville	0		4	7		7	0		1
Brooklyn	0			18		6	8		11
Byram	24	11		7		7	15		6
Frankford	3		4	3		2	1		2
Green	10		7	7		3	1		2
Hampton	10		5	11		7	5		3
Hardyston	27	5		11		7	38		6
Hopatcong	1		1	1		1	3		3
Lafayette	5		1	10		4	13		5
Montague	7		5	4		4	5		4
Newton	73	1		46		15	34		4
Sandyston	9		1	1		1	3		11
Sparta	26	2		9		4	17		11
Stillwater	17		7	11		1	19	10	11
Sussex Borough	4		11	24		3	13		6
Vernon	9		7	6		15	14		1
Walpack	3		6	4		1	3		1
Wantage	3		2	8		3	19		7
	243	37	44	189	50	53	230	49	45

UNION COUNTY.

NAME OF PLACE.	BIRTHS.			MARRIAGES.			DEATHS.		
	Number in 1903.	Variation from 1902.		Number in 1903.	Variation from 1902.		Number in 1903.	Variation from 1902.	
		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.
Clark	4		3	0		1	2		1
Cranford	45		4	19		3	36		3
Elizabeth	1,004	114		482		49	934		98
Fanwood Borough	1			1		1	20		2
Fanwood Township	1		16	15		1	20		2
Garwood Borough	5			2		3	5		3
Linden Borough	1			2			5		7
Linden Township	10		6	1		1	9		7
Mountainside	11		3	1		3	5		1
New Providence Borough	7		1	2		2	14		1
New Providence Twp.	366	43		125		8	263		7
Plainfield	91		37	65		8	123		16
Rahway	25		18	6		1	19		2
Roselle Borough	38		5	8		2	16		2
Roselle Park	22		1	12		6	13		3
Springfield	125		8	3		2	83		16
Summit City	21		5	5		1	27		4
Union	37		27	35		13	67		4
Westfield	1,868	266	29	789	60	38	1,638	140	35

WARREN COUNTY.

NAME OF PLACE.	BIRTHS.			MARRIAGES.			DEATHS.		
	Number in 1903.	Variation from 1902.		Number in 1903.	Variation from 1902.		Number in 1903.	Variation from 1902.	
		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.
Allamuchy	12		10	1		2	9		8
Belvidere	17		9	5		3	13		1
Blairstown	12			16		3	22		2
Franklin	14		1	6		5	8		3
Frelighuysen	2		1	3		5	15		6
Greenwich	10		19	27		15	46		5
Hackettstown	4		5	0		1	6		1
Hardwick	8		5	0		1	15		1
Harmony	17		4	10		2	15		3
Hope	14		4	8		3	15		3
Independence	5			6		7	6		3
Knowlton	16		6	3		12	11		3
Lopatcong	16			3		0	11		3
Mansfield	4		19	5		4	22		4
Oxford	64		19	28		4	47		4
Pahaquarry	2			0		1	0		0
Phillipsburg	176		4	1		202	50		4
Pohatcong	64		32	26		9	36		14
Washington Borough	67		19	32		12	46		4
Washington Township	13			5		4	11		4
	576	165	23	419	90	28	535	41	38

\*Marriage certificates received from County Clerk in which the places where the marriages were performed are not stated.

## SUMMARY.

NAME OF PLACE.	BIRTHS.			MARRIAGES.			DEATHS.		
	Number in 1903.	Variation from 1902.		Number in 1903.	Variation from 1902.		Number in 1903.	Variation from 1902.	
		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.
Atlantic County . . . . .	976	38		510	7		815	56	
Bergen County . . . . .	1,620	170		500	25		1,181		9
Burlington County . . . . .	880	23		462		28	936	111	
Camden County . . . . .	1,978	275		2,037	178		1,836		52
Cape May County . . . . .	256		28	116	4		177		31
Cumberland County . . . . .	926		30	444	16		706		2
Essex County . . . . .	8,423	107		3,856	435		6,615	126	
Gloucester County . . . . .	522	18		213		34	383		11
Hudson County . . . . .	8,999	542		4,451	316		7,532	154	
Hunterdon County . . . . .	487	45		232		24	482		19
Mercer County . . . . .	1,151		5	890	141		1,662	96	
Middlesex County . . . . .	1,538	77		805	62		1,243		39
Monmouth County . . . . .	1,088	16		605		15	1,174		22
Morris County . . . . .	948	122		371		70	1,127	121	
Ocean County . . . . .	271		2	152	7		202		70
Passaic County . . . . .	3,620	327		2,062	236		2,655	37	
Salem County . . . . .	434	50		187	3		364	43	
Somerset County . . . . .	468	13		222	27		427		26
Sussex County . . . . .	243	14		189	1		230		8
Union County . . . . .	1,868	242		789	7		1,638	105	
Warren County . . . . .	576	42		419	58		535	3	
	37,242	2,121	65	19,512	1,523	171	31,820	871	270

**THERE IS NO PAGE 335 IN THIS REPORT.**

TABLE 44.—DEATHS FROM ALL CAUSES AND CERTAIN SPECIFIED DISEASES, IN THE STATE OF NEW JERSEY FOR THE TWENTY-FIVE YEARS ENDING DECEMBER 31, 1903.

Year	DEATHS AT ALL AGES.										DEATHS FROM THE MORE COMMON CAUSES.																				
	Under one month.	Under one year.	One to five.	Five to twenty.	Twenty to sixty.	Over sixty.	Undefined.	Total, including un-defined.	Estimated population.	Death-rate per 1,000.	Remittent fever, etc.	Euteric or typhoid fever.	Small-pox.	Scarlet fever.	Measles.	Whooping cough.	Diphtheria and croup.	Erysipelas.	Diarrheal diseases of children	Consumption, M.	Consumption, F.	Acute lung diseases.	Brain and nervous diseases of children.	Diseases of heart and circulation.	Renal and cystic diseases.	Adult brain and spinal diseases.	Digestive and intestinal diseases.	Cancer.	Acute rheumatism.	Puerperal.	Violent deaths.
1879	4,652	3,157	1,905	5,920	4,337	349	20,440	1,020,584	20.03	268	324	15	627	77	277	1100	147	1849	2788	+	2160	1647	972	558	1314	1041	378	76	194	+	
1880	4,566	2,841	1,816	5,725	3,831	138	18,967	1,130,392	16.77	293	373	15	575	87	150	873	109	2165	2714	+	1988	1638	982	516	1347	1005	425	64	234	+	
1881	4,629	2,988	2,016	5,515	4,487	178	20,812	1,160,275	17.94	431	574	254	499	70	119	1125	124	2255	2989	+	2008	1642	1213	698	1502	1080	451	89	305	+	
1882	5,934	4,578	2,886	7,237	4,962	212	25,954	1,189,658	21.82	379	884	267	1306	206	253	1472	94	2792	1696	1779	2752	1999	1181	765	1521	740	102	52	214	793	
1883	5,378	3,412	2,338	7,060	4,827	200	23,310	1,209,048	19.28	290	560	54	853	131	199	1146	90	2566	1527	1594	2756	1683	1235	759	1562	923	461	33	198	907	
1884	*1,495	5,123	2,848	1,993	7,097	4,583	+	21,716	1,248,224	17.40	230	640	7	547	189	116	1027	80	2462	1557	1658	2174	1598	1324	892	1664	1075	484	62	221	+
1885	*1,606	5,711	3,499	2,210	7,106	5,142	+	23,807	1,278,023	18.63	209	642	2	646	135	181	1496	74	2845	1673	1647	2566	1791	1503	939	1895	1149	498	36	268	857
1886	*1,501	5,414	3,123	2,073	7,109	4,863	+	22,734	1,310,431	17.35	242	545	4	222	98	274	1303	79	2664	1651	1554	2300	1774	1506	926	1932	1213	546	68	257	997
1887	*1,714	5,849	3,396	2,139	7,624	5,167	+	24,331	1,342,829	15.12	217	522	5	255	296	181	1527	96	2604	1910	1743	2557	1886	1530	873	1966	1242	574	132	293	1051
1888	*1,770	6,534	3,974	2,695	8,162	5,747	+	27,173	1,375,227	19.76	264	620	5	574	74	161	2036	123	3508	1723	1635	2622	1971	1491	1020	2095	1476	612	142	271	1320
1889	*1,952	6,842	3,512	2,393	8,068	5,586	140	26,543	1,407,625	18.86	203	533	3	533	118	278	1574	114	3377	1772	1677	2862	1923	1786	1056	1991	1459	579	117	294	1720
1890	*2,050	7,115	3,623	2,439	9,209	6,051	+	28,530	1,441,017	19.89	195	782	...	209	174	371	1575	81	3527	1903	1766	3804	2032	1945	1149	2308	1521	640	106	250	1235
1891	*2,075	6,935	3,750	2,808	9,132	6,388	126	28,849	1,478,784	19.50	180	695	...	288	250	299	1737	85	3191	1849	1607	4101	2029	1969	1200	2333	1573	642	76	296	1365
1892	*2,236	7,973	4,396	3,067	9,856	7,190	173	32,683	1,511,653	21.62	198	856	...	308	197	163	1776	94	4043	1851	1724	5187	2242	2183	1444	2457	1625	688	109	262	1667
1893	*2,178	7,574	3,733	2,670	9,832	6,654	133	30,596	1,538,799	19.88	148	506	43	445	73	237	1677	74	3961	1790	1639	3974	2072	2179	1441	2611	1753	723	102	282	1538
1894	2,213	5,639	3,625	2,320	9,197	6,519	116	30,004	1,578,373	19.09	162	485	11	272	257	328	1294	97	3393	1831	1602	4183	2083	2112	1447	2413	1565	731	91	293	1500
1895	2,212	5,429	3,645	2,379	10,905	6,874	99	30,634	1,672,942	18.31	141	568	23	264	95	272	1464	74	3746	1860	1682	4596	1925	2268	1523	2626	1589	770	82	294	1469
1896	2,119	5,144	4,199	2,525	9,618	6,784	81	30,767	1,718,543	17.99	119	577	2	183	390	325	1758	69	3807	1786	1572	4146	2018	2412	1584	2610	1622	811	59	283	1428
1897	2,110	4,975	3,520	2,207	9,817	7,054	90	29,822	1,764,144	16.99	132	478	...	203	156	321	1382	68	3450	1765	1472	4039	1809	2479	1751	2582	1572	857	69	278	1685
1898	2,082	4,417	2,866	2,022	9,181	6,682	87	27,337	1,810,008	15.11	82	450	...	201	195	155	060	58	2958	1772	1453	3411	1642	2286	1694	2790	1484	852	55	264	1451
1899	2,136	5,058	3,163	2,076	10,404	8,042	120	30,999	1,855,872	16.70	96	486	...	187	96	282	777	88	3568	1956	1628	4322	1954	2731	1925	2842	1556	946	73	267	1724
1900	2,252	4,727	3,474	2,134	10,650	8,028	159	31,474	1,883,669	16.62	81	356	5	220	231	306	927	111	3010	1787	1727	4795	1767	2852	2073	2046	1700	921	73	288	1712
1901	+	+	+	+	+	+	+	31,739	1,925,781	16.48	59	352	142	179	77	357	683	71	1895	3257	+	+	+	2772	2045	+	2221	1042	116	207	2153
1902	+	+	+	+	+	+	+	31,319	1,967,893	15.91	36	428	432	217	204	281	633	69	1878	3015	+	+	+	3066	2021	+	2042	1031	84	225	1770
1903	+	+	+	+	+	+	+	31,820	2,016,797	15.87	40	388	16	299	41	245	748	86	1603	3380	+	+	+	3166	2260	+	2960	1132	71	279	2010

\*All added under 1 year. †Not classified for the year.



TABLE 45—RETURN OF DEATHS FROM ALL CAUSES AND CERTAIN SPECIFIED DISEASES, IN THE CITIES OF THE STATE OF NEW JERSEY OF OVER 5,000 INHABITANTS, FOR THE TWENTY-FIVE YEARS ENDING DECEMBER 31, 1903.

Year	DEATHS AT ALL AGES.							Estimated population.	Death-rate per 1,000.	DEATHS FROM THE MORE COMMON CAUSES.																						
	Under one month.	Under one year.	One to five.	Five to twenty.	Twenty to sixty.	Over sixty.	Undefined.			Total, including un-defined.	Remittent fever, etc.	Enteric or typhoid fever.	Small-pox.	Scarlet fever.	Measles.	Whooping cough.	Diphtheria and croup.	Erysipelas.	Diarrhoeal diseases of children.	Consumption, M.	Consumption, F.	Acute lung diseases.	Brain and nervous diseases of children.	Diseases of heart and circulation.	Renal and cystic diseases.	Adult brain and spinal diseases.	Digestive and intestinal diseases.	Cancer.	Acute rheumatism.	Puerperal.	Violent deaths.	
1879	2,568	2,088	1,172	3,480	1,754	146	11,208	564,209	17.01	179	173	302	52	172	619	63	1,145	1,588	1,180	1,066	492	285	598	400	196	27	120	.....	.....	.....	.....	
1880	2,921	1,965	1,139	3,543	1,706	57	11,331	583,626	19.41	150	210	411	70	79	591	48	1,450	1,646	1,200	1,168	521	296	667	491	232	28	136	.....	.....	.....	.....	
1881	2,984	2,057	1,227	4,123	2,049	68	12,508	604,896	20.67	196	310	193	340	49	799	64	1,388	1,845	1,393	1,146	664	336	729	510	241	49	174	.....	.....	.....	.....	
1882	3,817	3,186	1,803	4,490	2,118	83	15,527	626,166	21.80	207	527	292	821	156	1,814	60	1,814	1,041	1,061	1,741	1,364	598	437	686	379	220	25	126	457	.....	.....	
1883	3,520	2,385	1,498	4,295	2,202	.....	14,022	647,436	24.01	140	344	49	657	87	801	57	1,739	969	942	1,651	1,152	652	430	758	564	252	21	124	527	.....	.....	
1884	3,497	2,029	1,281	4,516	2,206	.....	13,612	668,706	20.40	121	431	4	369	152	725	37	1,712	1,009	987	1,416	1,110	746	558	806	609	288	28	131	.....	.....	.....	
1885	3,785	2,361	1,386	4,650	2,339	.....	14,616	689,977	21.18	110	396	.....	480	87	102	1,061	1,091	929	1,618	1,240	840	534	921	623	289	17	176	511	.....	.....	.....	
1886	3,760	2,262	1,346	4,682	2,354	.....	14,467	716,078	20.20	132	352	1	165	69	173	985	53	1,101	950	1,554	1,287	838	553	991	693	327	37	148	623	.....	.....	
1887	4,124	2,450	1,351	5,123	2,456	.....	15,597	742,179	21.04	125	349	3	129	192	107	1,154	1,058	1,294	1,600	1,380	882	557	954	673	326	72	172	646	.....	.....	.....	
1888	4,614	2,841	1,662	5,426	2,748	.....	17,364	768,280	22.60	176	399	4	383	50	105	1,425	1,144	992	1,947	1,440	954	643	1,084	843	343	78	162	820	.....	.....	.....	
1889	4,906	2,672	1,642	5,500	2,715	64	17,449	794,381	22.03	127	512	.....	413	104	183	1,214	1,180	1,069	1,968	1,452	992	657	1,052	840	331	63	181	687	.....	.....	.....	
1890	5,182	2,771	1,674	6,276	2,940	46	18,989	820,984	23.13	135	589	.....	158	134	250	1,248	1,299	1,107	2,680	1,515	1,099	716	1,214	910	374	67	163	790	.....	.....	.....	
1891	4,831	2,873	1,711	6,315	2,199	63	19,022	841,479	23.37	114	487	.....	222	183	198	1,359	57	1,042	2,828	1,539	1,141	758	1,205	957	391	34	184	898	.....	.....	.....	
1892	5,775	3,371	2,071	6,744	3,589	68	21,618	870,985	24.81	122	457	33	774	156	101	1,233	68	1,243	3,417	1,709	1,275	922	3,117	998	434	62	157	968	.....	.....	.....	
1893	5,330	2,734	1,740	6,853	3,414	48	20,119	868,945	23.38	81	349	22	316	51	147	1,104	52	1,232	3,047	2,802	1,556	1,315	940	1,439	1,100	413	54	195	983	.....	.....	.....
1894	4,559	4,069	2,705	5,877	3,276	58	19,724	924,006	20.96	97	328	7	234	193	203	973	64	1,228	2,861	1,599	1,207	965	1,309	930	415	56	188	918	.....	.....	.....	
1895	4,549	3,970	2,660	6,827	3,474	47	20,026	950,484	20.87	90	410	20	186	68	194	1,070	42	1,239	3,096	1,432	1,271	1,002	1,415	1,004	457	46	193	939	.....	.....	.....	
1896	4,432	3,923	3,181	6,629	3,437	32	20,339	908,581	20.37	69	422	2	135	270	180	1,344	45	1,229	2,904	1,485	1,427	1,042	1,355	1,025	509	32	188	910	.....	.....	.....	
1897	4,473	3,509	2,585	6,808	3,711	34	19,616	1,042,802	18.81	63	279	.....	145	126	233	1,017	42	970	2,651	1,312	1,503	1,190	1,353	969	534	40	185	1,179	.....	.....	.....	
1898	4,484	3,190	2,141	6,523	3,534	42	18,273	1,071,834	17.05	36	295	.....	150	145	105	657	38	969	2,409	1,221	1,373	1,137	1,485	947	531	34	185	994	689	.....	.....	
1899	4,401	3,626	2,343	6,112	4,306	53	20,631	1,100,866	18.74	58	355	.....	137	76	216	574	61	1,404	2,919	1,439	1,663	1,312	1,596	1,004	571	43	198	1,149	795	.....	.....	.....
1900	4,653	3,413	2,682	6,525	4,480	114	21,628	1,159,971	18.65	47	233	2	177	185	219	681	77	1,400	3,472	1,355	1,771	1,433	1,709	1,128	596	47	208	1,216	810	.....	.....	.....
1901	4,511	3,573	2,063	6,463	4,434	52	20,628	1,191,338	17.52	52	250	22	92	41	119	597	42	1,411	2,941	1,260	1,764	1,489	1,694	1,098	651	33	190	1,248	857	.....	.....	.....
1902	.....	.....	.....	.....	.....	.....	22,521	1,311,207	18.28	21	319	279	671	165	387	524	46	1,366	2,242	.....	2,049	1,487	.....	1,481	683	61	189	1,048	.....	.....	.....	
1903	.....	.....	.....	.....	.....	.....	22,888	1,363,464	15.78	22	292	15	236	29	175	582	66	1,242	2,550	.....	.....	2,152	1,638	.....	1,521	779	49	220	1,414	.....	.....	.....
Totals	12,152	90,763	58,405	34,907	132,309	468,471	1,075,444	21,961,880	12.77	2,470	9,078	958	9,633	2,890	3,857	41,364	1,364	52,058	34,221	20,862	52,248	31,219	29,173	21,418	26,367	21,717	10,397	1,103	4,314	18,865	3,151	

\*Average population, 878,475. †Average death rate, 20.52.

TABLE 46.—SHOWING OCCUPATIONS OF DECEDENTS IN NEW JERSEY, WITH  
FOR THE YEAR ENDING

	Occupations																	
	Bakers	Bankers and brokers	Barbers	Barkeepers, brewers and saloonkeepers	Blacksmiths	Boatmen	Bookkeepers	Bruis and iron workers	Trickmakers	Butchers	Bottommakers	Chemists	Cigar-makers	Clerkmen	Clerks	Cooks	Coopers	Constables and policemen
Consumption.	10 to 15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Totals	8	1	13	21	19	24	19	18	1	21	1	0	14	5	118	4	0	7
Cancer.	10 to 15																	
Totals	2	0	0	2	3	9	2	1	0	3	0	0	1	1	5	0	0	0
Suicide.	10 to 15																	
Totals	3	0	2	5	0	3	2	0	0	0	0	0	2	0	5	1	1	0
Diseases of the brain and organs of sense.	10 to 15																	
Totals	7	3	4	5	16	23	29	13	1	13	0	0	15	1	40	3	0	5

SOME OF THE PRINCIPAL CAUSES OF DEATH, AND AGES AT DEATH,  
DECEMBER, 31ST, 1903.

	Principal Causes of Death																							
	Contractors, carpenters and builders	Dressmakers and seamstresses	Drivers, hostlers and teamsters	Druggists	Physians	Engineers	Barbers	Electricians	Expressmen	Males	Female	Farmers	Fishermen	Florists and gardeners	Foundrymen and molders	Glassblowers	Glassworkers	Grinders and polishers	Grocers	Hatters	Hotelkeepers, restaurateurs and stewards	Housekeepers and housewives	Joemen	
Consumption.	14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Totals	48	21	71	2	3	16	1	4	0	3	9	51	9	2	9	15	2	1	10	5	30	4	696	0
Cancer.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Totals	15	4	11	1	1	3	1	0	0	0	0	42	1	1	4	1	0	3	1	3	6	4	326	0
Suicide.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Totals	12	0	8	1	1	3	0	0	0	0	0	11	2	0	1	0	0	0	1	0	2	1	42	0
Diseases of the brain and organs of sense.	2	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1
Totals	85	11	28	5	4	14	1	4	0	4	1	142	6	0	12	5	3	0	2	4	12	48	557	1









TABLE 48.—SHOWING OCCUPATIONS OF DECEDENTS IN CITIES OF OVER 5,000 INHABITANTS IN NEW JERSEY FOR YEAR ENDING DECEMBER 31ST, 1903.

Estimated population of cities.	Professions, Trades, and Occupations.		Females.
	Males.	Females.	
Atlantic City	53,272	2	
Bayonne	56,829	5	
Bloomfield	10,013	1	
Bordentown	4,118	1	
Bridgeton	17,309	1	
Camden City	79,811	2	
Dover	6,488	1	
East Orange	23,972	2	
Elizabeth	6,745	1	
Gloucester City	10,759	1	
Hackensack	10,759	1	
Harrison	64,950	0	
Irvington	6,375	10	
Jersey City	219,402	10	
Kearny	12,045	1	
Little Ferry Branch	10,737	1	
Montclair	15,555	1	
Morrisown	12,200	1	
Newark	205,391	11	
New Plainfield	26,468	2	
Orange	25,731	1	
Passaic City	13,452	1	
Paterson	113,217	1	
Plainfield	11,076	1	
Plainfield	109,599	1	
Railway	7,895	1	
Red Bank	5,752	1	
Expressmen	1		1
Electricians	4		2
Engravers	1		1
Fitters	1		1
Dyers	1		1
Drummers	1		1
Teamsters	1		1
Drivers, hostlers and seamstresses	1		1
Dressmakers and Contractors, carpenters and builders	1		1
Contractors, carpenters and policemen	1		1
Cooks	1		1
Clerks	1		1
Clergy men	1		1
Cheerleaders	1		1
Chemists	1		1
Chinamen	1		1
Buttonmakers	1		1
Burthers	1		1
Brickmakers	1		1
Brass and iron workers	1		1
Bookkeepers	1		1
Boatmen	1		1
Blacksmiths	1		1
Bartenders, brewers and saloonkeepers	1		1
Barbers	1		1
Bankers and brokers	1		1
Bakers	1		1

TABLE 48.—SHOWING OCCUPATIONS OF DECEDENTS IN CITIES OF OVER 5,000 INHABITANTS IN NEW JERSEY FOR YEAR ENDING DECEMBER 31ST, 1903.

Estimated population of cities.	Professions, Trades, and Occupations.		Females.
	Males.	Females.	
Atlantic City	1		
Bloomfield	1		
Bordentown	1		
Bridgeton	1		
Camden City	1		
Dover	1		
East Orange	1		
Elizabeth	1		
Gloucester City	1		
Harrison	1		
Irvington	1		
Jersey City	1		
Kearny	1		
Little Ferry Branch	1		
Montclair	1		
Morrisown	1		
Newark	1		
New Plainfield	1		
North Plainfield	1		
Passaic City	1		
Paterson	1		
Plainfield	1		
Plainfield	1		
Railway	1		
Red Bank	1		
Farmers	1		
Fishermen	1		
Fiermen	1		
Foresters and gardeners	1		
Foundrymen and Moulders	1		
Glassblowers	1		
Glassworkers	1		
Grinders and polishers	1		
Grocers	1		
Hatters	1		
Hotelkeepers, restaurateurs and stewards	1		
Housekeepers and housewives	1		
Janitors and watchmen	1		
Jewellers	1		
Watchmakers	1		
Laborers	1		
Laundresses	1		
Laundrymen	1		
Launderers	1		
Lawyers	1		
Leatherworkers	1		
Letter carriers	1		
Linemen	1		
Locksmiths	1		
Machinists	1		
Managers and Superintendents	1		
Manufacturers	1		
Masons	1		
Millmen	1		
Millers	1		











TABLE 40.—SHOWING NUMBER OF DEATHS IN NEW JERSEY FROM EACH OF THE CLASSIFIED CAUSES BY COUNTIES, FOR THE YEAR ENDING DECEMBER 31ST, 1903.—(Continued.)

	Atlantic	Bergen	Burlington	Camden	Cape May	Cambridland	Essex	Glooucester	Hudson	Hunterdon	Mercer	Middlesex	Monmouth	Morris	Ocean	Passaic	Salem	Somerset	Trenton	Warren	Totals	
Other Accidental Injuries	10	35	11	45	2	11	148	255	51	51	29	70	29	36	13	33	5	14	8	26	141	
Other Accidental Poisoning	4	2	1	10	2	1	191	29	3	6	4	4	13	5	1	21	0	1	3	5	195	
Burns by Corrosive Substances	146	4	3	8	0	3	11	20	11	11	5	8	12	3	3	19	3	4	0	0	80	
Scalds and Freezing	147	3	2	8	0	3	11	20	11	11	5	8	12	3	3	19	3	4	0	0	80	
Accidental Drowning	148	18	20	4	81	1	27	9	75	1	0	18	12	3	13	17	4	7	8	0	282	
Overwork	149	2	1	1	0	0	3	0	2	0	0	0	0	0	0	2	0	2	0	0	18	
Inhalation of Noxious Gases (Shaft-hole excepted)	150	3	0	0	0	0	3	0	2	0	0	0	0	0	0	2	0	2	0	0	18	
Other Accidental Poisoning	151	0	4	1	0	0	15	0	20	0	2	0	0	0	0	8	1	0	0	0	59	
Other External Violence	152	1	4	1	0	0	12	0	10	0	4	0	0	0	0	10	0	0	0	0	59	
Other External Violence	153	3	1	1	0	0	4	0	6	0	2	0	0	0	0	3	0	0	0	0	62	
Other External Violence	154	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	11	
Power	155	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	33	
Inflammatory Peyer	156	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	11	
Dropsy of Cerebrum	157	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	11	
Stomach	158	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	11	
Stomach	159	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	33	
Other Tumors	160	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	33	
Unknown or Not Specified Diseases	161	11	9	11	6	7	16	1	31	3	16	4	7	1	0	1	1	0	0	0	173	
Grand Total	143	1181	936	1836	177	706	661	588	753	682	663	1241	1774	1027	202	265	364	427	1200	638	535	1820

TABLE 40.—SHOWING NUMBER OF DEATHS IN NEW JERSEY FROM EACH OF THE CLASSIFIED CAUSES BY COUNTIES, FOR THE YEAR ENDING DECEMBER 31ST, 1903.—(Continued.)

	Atlantic	Bergen	Burlington	Camden	Cape May	Cambridland	Essex	Glooucester	Hudson	Hunterdon	Mercer	Middlesex	Monmouth	Morris	Ocean	Passaic	Salem	Somerset	Trenton	Warren	Totals	
Other Accidental Injuries	166	10	35	11	45	2	11	148	255	51	29	70	29	36	13	33	5	14	8	26	141	
Other Accidental Poisoning	167	4	2	1	10	2	1	191	29	3	6	4	13	5	1	21	0	1	3	5	195	
Burns by Corrosive Substances	168	146	4	3	8	0	3	11	20	11	5	8	12	3	3	19	3	4	0	0	80	
Scalds and Freezing	169	147	3	2	8	0	3	11	20	11	5	8	12	3	3	19	3	4	0	0	80	
Accidental Drowning	170	148	18	20	4	81	1	27	9	75	1	0	18	12	3	13	17	4	7	8	282	
Overwork	171	149	2	1	1	0	0	3	0	2	0	0	0	0	0	2	0	2	0	0	18	
Inhalation of Noxious Gases (Shaft-hole excepted)	172	150	3	0	0	0	0	3	0	2	0	0	0	0	0	8	1	0	0	0	59	
Other Accidental Poisoning	173	151	0	4	1	0	0	12	0	10	0	4	0	0	0	10	0	0	0	0	62	
Other External Violence	174	152	1	4	1	0	0	4	0	6	0	2	0	0	0	3	0	0	0	0	62	
Other External Violence	175	153	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	11	
Power	176	154	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	11	
Inflammatory Peyer	177	155	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	33	
Dropsy of Cerebrum	178	156	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	11	
Stomach	179	157	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	11	
Stomach	180	158	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	11	
Other Tumors	181	159	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	33	
Unknown or Not Specified Diseases	182	160	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	33	
Grand Total	143	1181	936	1836	177	706	661	588	753	682	663	1241	1774	1027	202	265	364	427	1200	638	535	1820







TABLE 31.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES THE YEAR ENDING

	AGE PERIODS.											
	Under one month.	Under one year.	One to five.	Five to ten.	Ten to fifteen.	Fifteen to twenty.	Twenty to twenty-five.	Twenty-five to thirty.	Thirty to thirty-five.	Forty to forty-five.	Forty-five to fifty.	
Appendicitis	93							1				
Acute Nephritis	96		2					1	1			
Bright's Disease	97		1	3	1	1	1	5	2	1	1	
Accidents of Pregnancy	116	1						1	1	1	3	
Puerperal Hemorrhage	117					1						
Puerperal Septicæmia	119 A						1					
Puerperal Albuminuria and Eclampsia	121							1				
Erysipelas	122									1		
Gangrene	123											
Phlegmon, Acute Abscess	123 F		1	1			1					
Other Diseases of the Skin and Adnexa	129 F											
Malformations	137	4										
Conenatal Debility Icterus and Sclerema	138	17	15									
Want of Care	139		1									
Other Diseases Peculiar to Infancy	140	3										
Senile Debility	141											
Suicide, } By Poison	143 A							2				
} By Firearms	143 D							1				
} By Cutting Instruments	143 E							1				
Other Accidental Injuries	143 F		1		2		3	5	5	3	3	
Burns by Fire	146 A		3	3				2	5	3		
Burns by Corrosive Substances	146 B							2	5	3		
Accidental Drowning	148					1	1	4	1			
Inhalation of Noxious Gases (Suicide Excepted)	150					1		1			1	
Other Accidental Poisoning	151											
Other External Violence	152			1								
Unknown or Not Specified Diseases	161							1	1		1	
Totals	53	127	96	30	9	21	24	33	55	36	24	26
Death-rate 18.44.												

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY FOR DECEMBER 31ST, 1903.

	AGE PERIODS.								SEX.	COLOR.	NATIVITY.							SOCIAL CONDITION.								
	Fifty to fifty-five.	Fifty-five to sixty.	Sixty to seventy.	Seventy to eighty.	Eighty to ninety.	Over ninety.	Not stated.	Male.			Female.	Color of decedent white unless designated by mark.	United States.	England.	France.	Germany.	Ireland.		Italy.	Scotland.	Hungary.	Sweden.	Other foreign.	Not stated.	Married.	Single.
	1	1	3	1	1		10	9	1	12	1		1								1	1	5	3		19
	4	3	1				13	11	1	13	2	4		4							3	11	8	10	7	25
							1	2		1	1	3		3							1	3	2	1	7	3
							1	1		1	1										1	1	1	1		1
	1						1	1		1	1			1							1	1	1	1		1
							2	2		1	1										1	1	1	1		2
							7	15	1	3	3											1	4	4		4
							1	1	1	3	2											3	3	2		32
							5	3	3	3	3											3	3	3		3
							3	3	3	1	1			1							1	1	7			8
	1						2	2	2	2	2			2	1						1	3				3
							2	1	1	1	1			1							1	1	10	3		1
							21	5	5	1	11	1		7	1						5	13	10	3		26
							3	5	1	6	6			1							1	1	7			8
	1						1	1	1	4	2			1							2	4	4	2	1	2
							3	1	1	2	1			1							1	2	1	1		3
	1						1	1	1	1	1			1						2	2	4	1	1		1
							2	1	1	1	1			1							2	2				3
	32	25	41	34	11	1	1	379	300	17	450	26	0	47	86	6	5	3	1	51	4	201	398	80	2	679









TABLE 34.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES  
THE YEAR ENDING

DEATHS IN BRIDGETON.	AGE PERIODS.											
	Under one month.	Under one year.	One to five.	Five to ten.	Ten to fifteen.	Fifteen to twenty.	Twenty to twenty-five.	Twenty-five to thirty.	Thirty to thirty-five.	Thirty-five to forty.	Forty to forty-five.	Forty-five to fifty.
Other Diseases of the Liver.....												
Inflammatory Peritonitis (Non-Pneumonal).....	92											
Acute Nephritis.....	93				1							
Bright's Disease.....	97				1							
Other Diseases of the Kidneys and Adnexa.....	100						1					
Diseases of the Bladder.....	102											
Gangrene.....	136											
Other Diseases of Bones.....	132						1					
Congenital Debility Icterus and Sclerema.....	138	8	2									
Want of Care.....	139						1					
Other Diseases Peculiar to Infancy.....	140	2	1									
Senile Debility.....	141											
Other Accidental Injuries.....	145							1				
Burns by Fire.....	146		1									1
Sunstroke and Freezing.....	147											
Accidental Drowning.....	148											
Other Accidental Poisoning.....	151				1			1				
Exhaustion-Cachexia.....	153		1									
Abdominal Tumor.....	158											
Totals.....	15	16	9	5	5	7	7	6	5	8	7	5

Death-rate 13.78.

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY FOR  
DECEMBER 31ST, 1903.

AGE PERIODS.	COLOR.	NATIVITY.										SOCIAL CONDITION.																
		United States.	England.	France.	Germany.	Ireland.	Italy.	Scotland.	Hungary.	Sweden.	Other Foreign.	Not stated.	Married.	Single.	Widowed.	Not stated.	Totals.											
Fifty to fifty-five.																												
Fifty-five to sixty.		1																										
Sixty to seventy.		2																										
Seventy to eighty.		5																										
Eighty to ninety.		6																										
Over ninety.		5																										
Not stated.																												
Male.		12																										
Female.		13																										
Color of decedent white unless designated by mark.																												
United States.		2																										
England.		1																										
France.		22																										
Germany.		1																										
Ireland.																												
Italy.																												
Scotland.																												
Hungary.																												
Sweden.																												
Other Foreign.																												
Not stated.																												
Married.																												
Single.																												
Widowed.																												
Not stated.																												
Totals.		13	8	34	27	22	22	22	0	3	83	119	13	189	0	0	5	2	0	2	0	0	4	0	72	73	57	202

TABLE 55.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES THE YEAR ENDING

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY FOR DECEMBER 31ST, 1903.

DEATHS IN BURLINGTON CITY.	AGE PERIODS.												
	Under one month.	Under one year.	One to five.	Five to ten.	Ten to fifteen.	Fifteen to twenty.	Twenty to twenty-five.	Twenty-five to thirty.	Thirty to thirty-five.	Thirty-five to forty.	Forty to forty-five.	Forty-five to fifty.	
Typhoid Fever.....		1											
Scarlet Fever.....			1										
Diphtheria and Croup.....		1	5	5	1		3		2				
Influenza.....													
Mumps.....		9											
Pyæmia and Septicæmia.....	13		1										
Tuberculosis of the Lungs.....	14		1										
Of the Meninges.....	22					1	3	3	1	2			
Cancer of the Stomach and Liver.....													
Of the Intestines and Rectum.....	25												
Diabetes.....	38												
Anæmia Chlorosis.....	32												
Simple Meningitis.....	39	1	2						1	1			
Cerebral Hemorrhage and Congestion.....	42				1								
Paralysis Without Indicated Cause.....	44												
General Paralysis.....	45												
Endocarditis.....	56		1										
Organic Diseases of the Heart.....	57	2											
Angina Pectoris.....	58							1	1			1	
Diseases of Arteries, Atheroma, Aneurism, etc.....	59												
Hemorrhage.....	65												
Broncho-Pneumonia.....	69	1	1										
Pneumonia.....	71												
Other Diseases of the Respiratory System.....	77	1		1						2			
Diseases of the Pharynx.....	79												
Diseases of the Esophagus.....	81		1										
Infantile Diarrhoea, Athrepsia.....	82	1	6	3	1								
Diarrhoea and Enteritis.....	83												
Hæmias and Intestinal Obstructions.....	86												
Cirrhosis of the Liver.....	90												
Other Diseases of the Liver.....	92	1											
Inflammatory Peritonitis (Non-Puerperal).....	93					1							
Acute Nephritis.....	96			1									
Bright's Disease.....	97												
Diseases of the Bladder.....	102												
Accidents of Pregnancy.....	116												
Puerperal Septicæmia.....	119												
Erysipelas.....	125												
Congenital Debility Icterus and Sclerema.....	139	5	4	2									
Want of Care.....	141												
Senile Debility.....	142												
Suicide or Attempt at Suicide.....	143												
By Cutting Instruments.....	143												
Other Accidental Injuries.....	143												
Insanition.....	149												
Other External Violence.....	152												
Asphyxia-Cyanosis.....	156	2										1	
Unknown or Not Specified Diseases.....	161			2		1							
Totals.....		14	13	20	12	2	3	4	9	4	6	4	2
Death rate 22.46.													

AGE PERIODS.	SEX.	COLOR.	NATIVITY.												SOCIAL CONDITION.										
			United States.	England.	France.	Germany.	Ireland.	Italy.	Scotland.	Hungary.	Sweden.	Other foreign.	Not stated.	Married.	Single.	Widowed.	Not stated.	Total.							
Fifty to fifty-five.																									
Fifty-five to sixty.																									
Sixty to seventy.																									
Seventy to eighty.																									
Eighty to ninety.																									
Over ninety.																									
Not stated.																									
Male.																									
Female.																									
Color of decedent white unless designated by mark.																									
United States.																									
England.																									
France.																									
Germany.																									
Ireland.																									
Italy.																									
Scotland.																									
Hungary.																									
Sweden.																									
Other foreign.																									
Not stated.																									
Married.																									
Single.																									
Widowed.																									
Not stated.																									
Total.																									
11	9	17	23	9	4	0	84	82	7	143	6	0	2	11	1	1	0	0	1	1	48	73	35	10	166



TABLE 36.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES THE YEAR ENDING

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY FOR DECEMBER 31ST, 1903.

DEATHS IN CAMDEN CITY.	AGE PERIODS.												
	Under one month.	Under one year.	One to five.	Five to ten.	Ten to fifteen.	Fifteen to twenty.	Twenty to twenty-five.	Twenty-five to thirty.	Thirty to thirty-five.	Thirty-five to forty.	Forty to forty-five.	Forty-five to fifty.	
Hernia and Intestinal Obstructions.	86		1	1	1			1		1			
Other Diseases of the Intestines.	87 A	1			1								
Cirrhosis of the Liver.	90		1	2	1								
Other Diseases of the Liver.	92	1	5										
Inflammatory Peritonitis (Non-Puerperal).	93				2								
Appendicitis.	95				1	1							
Acute Nephritis.	96					2							
Bright's Disease.	97				1	2				1			
Other Diseases of the Kidneys and Adnexa.	100	1		3	1	1	2	7	2	1	7	1	
Diseases of the Prostate.	104												
Other Diseases of the Uterus.	112											1	
Ovarian Cysts and Other Ovarian Tumors.	113												
Accidents of Pregnancy.	116	4	1										
Puerperal Septicæmia.	119 A											1	
Puerperal Metroperitonitis.	120												
Puerperal Albuminuria and Eclampsia.	121						1	1	2				
Puerperal Phlegmasia Alba Dolens.	122												
Erysipelas.	125		2										
Gangrene.	126					1		1					
Anthrax Carbuncle.	127								1				
Phlegmon. Ac. Abscess.	128											1	
Other Diseases of the Skin and Adnexa.	129 F						1						
Potts' Disease.	130				1	1							
Other Diseases of the Joints.	134 B											1	
Malformations.	137	3	2										
Congenital Debility Icterus and Sclerema.	138	51	45	4									
Want of Care.	139	20											
Other Diseases Peculiar to Infancy.	140	5	6										
Senile Debility.	144												
By Poison.	A					1							
By Firearms.	D												
By Cutting Instruments.	E	145											
By Drowning.	F												
Fractures.	143												
Other Accidental Injuries.	145			3	1	2		4	3	2	5	1	
Burns by Fire.	146 A			2	2	1						1	
Sunstroke and Freezing.	147	1											
Accidental Drowning.	148			2		3	1	1	1	1	1		
Other Accidental Poisoning.	151											2	
Other External Violence.	152					2	1						
Exhaustion-Cæcæmia.	153	1	1										
Inflammatory Fever.	154 B				1								
Dropsy.	155											1	
Asphyxia-Cyanosis.	156	3											
Other Tumors.	159												
Unknown or Not Specified Diseases.	161	1		1									
Totals.		115	221	112	38	23	40	39	30	58	30	62	60
Death-rate 16.05.													

AGE PERIODS.	SEX.	COLOR.	NATIVITY.	SOCIAL CONDITION.					Totals.				
				Married.	Single.	Widowed.	Not stated.	Totals.					
Fifty to fifty-five.	1												
Fifty-five to sixty.	2												
Sixty to seventy.	3												
Seventy to eighty.	4												
Eighty to ninety.	5												
Over ninety.	6												
Not stated.	7												
Male.	8												
Female.	9												
Color of decedent white unless designated by mark.	10												
United States.	11												
England.	12												
France.	13												
Germany.	14												
Ireland.	15												
Italy.	16												
Scotland.	17												
Hungary.	18												
Sweden.	19												
Other foreign.	20												
Not stated.	21												
Married.	22												
Single.	23												
Widowed.	24												
Not stated.	25												
Totals.	26												

58 57 133 117 48 5 2 655 626 154 1102 30 27 61 47 1 1 0 0 26 6 425 633 211 12 1281





TABLE 38.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES THE YEAR ENDING

DEATHS IN EAST ORANGE	AGE PERIODS.											
	Under one month.	Under one year.	One to five.	Five to ten.	Ten to fifteen.	Fifteen to twenty.	Twenty to twenty-five.	Twenty-five to thirty.	Thirty to thirty-five.	Thirty-five to forty.	Forty to forty-five.	Forty-five to fifty.
	A	B	C	D	E	F	G	H	I	J	K	
Typhoid Fever	1											
Scarlet Fever	5											
Whooping Cough	7											
Diphtheria and Croup	5											
Influenza	9											
Erysipela and Septicæmia	14											
Tuberculosis Of the Lungs.	1											
Of the Meninges.	22											
Of the Stomach and Liver.	B											
Of the Intestines and Rectum	C											
Of the Breast	E											
Others	G											
Diabetes	28											
Anæmia Chlorosis.	32											
Alcoholism (Acute or Chronic)	34											
Simple Meningitis.	39											
Cerebral Hemorrhage and Congestion.	42											
Softening of the Brain.	43											
Paralysis Without Indicated Cause.	44											
General Paralysis	45											
Convulsions of Infants	49											
Endocarditis	56											
Organic Diseases of the Heart.	57											
Angina Pectoris	58											
Dise's of Arteries, Atheroma, Aneurism, etc.	59											
Embolism.	60											
Other Diseases of the Circulatory System	66											
Acute Bronchitis	69											
Chronic Bronchitis	70											
Broncho-Pneumonia	71											
Pneumonia	72											
Other Diseases of the Respiratory System	77											
Other Diseases of the Stomach (Cancer Excepted)	81											
Infantile Diarrhæa, Atresia	82											
Hernia and Intestinal Obstructions	86											
Inflammatory Peritonitis (Non-Puerperal)	93											
Appendicitis.	95											
Acute Nephritis	96											
Bright's Diseases	97											
Puerperal Albuminuria and Eclampsia	124											
Other Diseases of Bones.	132											
Malformations.	137											
General Debility, Icterus and Sclerema	138											
Want of Care	139											
Senile Debility	141											
Suicide. ) By Poison	141											
) By Strangulation	C											
Other Accidental Injuries	145											
Accidental Drowning	148											
Inhalation of Noxious Gases (Suicide excepted)	150											
Abdominal Tumor	158											
Other Tumors	159											
Unknown or Not Specified Diseases	161											
Totals.	16	18	23	5	4	4	10	9	4	8	10	10

Death-rate 9.72.

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY FOR DECEMBER 31ST, 1903.

AGE PERIODS.	SEX.	COLOR.	Color of decedent white unless designated by mark.	NATIVITY.										SOCIAL CONDITION.												
				United States.										Married.	Single.	Widowed.	Not stated.									
				England.	France.	Germany.	Ireland.	Italy.	Scotland.	Hungary.	Sweden.	Other foreign.	Not stated.													
Fifty to fifty-five.																										
Fifty-five to sixty.																										
Sixty to seventy.																										
Seventy to eighty.																										
Eighty to ninety.																										
Over ninety.																										
Not stated.																										
Male.																										
Female.																										
Totals.	13	16	26	32	22	1	2	108	125	15	187	9	1	8	16	1	6	0	1	4	0	83	105	44	1	233



TABLE 59.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES THE YEAR ENDING

	AGE PERIODS.											
	Under one month.	Under one year.	One to five.	Five to ten.	Ten to fifteen.	Fifteen to twenty.	Twenty to twenty-five.	Twenty-five to thirty.	Thirty to thirty-five.	Thirty-five to forty.	Forty to forty-five.	Forty-five to fifty.
DEATHS IN ELIZABETH.												
Other Diseases of the Liver.	.92	2										
Inflammatory Peritonitis (Non-Puerperal).	.93	1		1								
Appendicitis.	.95			1								
Acute Nephritis.	.96		1	1								
Bright's Disease.	.97											
Diseases of the Bladder.	102											
Others.	114 C						1					
Accidents of Pregnancy.	116	2										
Puerperal Septicemia.	119 A											
Puerperal Metroperitonitis.	120											
Puerperal Albuminuria and Eclampsia.	121						3					
Erysipelas.	125	1										
Other Diseases of the Skin and Adnexa (Cancer Excepted).	129 F		1									
Malformations.	137	2										
Conenital Debility Icterus and Sclerema.	138	38	33									
Want of Care.	139	5	1									
Senile Debility.	141											
Suicide.												
By Poison.	A											
By Asphyxia.	B											
By Strangulation.	C	142										
By Firearms.	D											
Fractures.	143											
Other Accidental Injuries.	143	1		2	1		5	3	2	2	3	1
Burns by Fire.	146 A											
Sunstroke and Freezing.	147		6	1								
Accidental Drowning.	148				1							
Inhalation of Noxious Gases (Suicide excepted).	150											
Other Accidental Poisoning.	151											
Other External Violence.	152											
Asphyxia-Cyanosis.	156	2										
Abdominal Tumor.	158	1										
Unknown or Not Specified Diseases.	161	1										
Totals.		75	159	82	30	11	25	35	38	41	43	29
Death-rate 16.55.												

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY FOR DECEMBER 31ST, 1903.

	AGE PERIODS.					SEX.	COLOR.	NATIVITY.										SOCIAL CONDITION.											
	Fifty to fifty-five.	Fifty-five to sixty.	Sixty to seventy.	Seventy to eighty.	Eighty to ninety.			Over ninety.	Not stated.	Male.	Female.	Color of decedent white unless designated by mark.	United States.	England.	France.	Germany.	Ireland.		Italy.	Scandin.	Hungary.	Sweden.	Other foreign.	Not stated.	Married.	Single.	Widowed.	Not stated.	Totals.
	2	1	2						10	7	3	1	2	3	10	1	3	1			2	1	13	3	2	2	3		
	4	2	14	6	3	3		30	15	4				2	1	6	1	3	1	3	1	23	12	11	1	45			
								4						1								1	1	1	1	4			
								1		1				3								1	1	1	1	3			
								1		1				2								1	1	1	1	5			
								1		1				3								1	1	1	1	4			
								1		1				1								1	1	1	1	2			
								1		1				3								1	1	1	1	3			
								1		1				1								1	1	1	1	2			
								4	3	2				6								7	1	1	1	10			
								1		1				8								1	1	1	1	6			
								1		1				1								1	1	1	1	4			
								2		2				1								1	1	1	1	2			
								21	5	5				11		10	2					14	11	1	1	26			
								4	8	1				7		1	1	1	1			1	1	2	1	12			
								6	1	1				1		1	2					3	1	1	1	6			
								1	1	1				1		1	1	1	1			1	1	1	1	5			
								2	2	2				2		1	1	1	1			2	2	2	2	3			
								1	1	1				1		1	1	1	1			1	1	1	1	5			
								3	1	1				3		1	3					2	2	2	2	3			
								1	1	1				3		1	3					1	1	1	1	4			
								3	1	1				3		1	3					4	4	4	4	4			
								1	1	1				1		1	3					2	2	2	2	4			
								525	409	36				613	21	5	95	114	18	12	6	3	40	7	281	487	155	11	934

TABLE 60.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES FOR YEAR ENDING

DEATHS IN ENGLEWOOD.	AGE PERIODS.													
	Under one month.	Under one year.	One to five.	Five to ten.	Ten to fifteen.	Fifteen to twenty.	Twenty to twenty-five.	Twenty-five to thirty.	Thirty to thirty-five.	Thirty-five to forty.	Forty to forty-five.	Forty-five to fifty.		
	Typhoid Fever	1											1	
Tuberculosis of the Lungs.		2		1	1	3						2		
Of the Meninges	22	A												
Cancer of the Stomach and Liver.		B												
Of the Female Genital Organs.	25	D							1					
Others		C										1		
Rheumatism	26				1									
Leukemia	31													
Anemia Chlorosis.	32													
Alcoholism (Acute or Chronic).	34													
Cerebral Hemorrhage and Congestion.	42							1						
Softening of the Brain.	43													
General Paralysis	45													
Pericarditis	55							1						
Endocarditis	56													
Organic Diseases of the Heart	57						1	1		1				
Diseases of Arteries, Atheroma, Aneurism, etc	59													
Other Diseases of the Circulatory System.	68													
Diseases of the Larynx and Thyroid Body	68													
Broncho-Pneumonia	71		1											
Pneumonia.	72		3	1	1									
Other Diseases of the Respiratory System.	77	B				1								
Other Diseases of Stomach (Cancer excepted)	81							1						
Infantile Diarrhea, Athrepsia	83		6	1										
Diarrhea and Enteritis.	83													
Other Diseases of the Liver.	92													
Inflammatory Peritonitis (Non-Puerperal)	93					1	1	2						
Acute Nephritis.	96													
Bright's Disease.	97											1		
Accidents of Pregnancy	116													
Phlegmon, Acute Abscess.	128									1				
Potts' Disease	130													
Conenital Debility Icterus and Sclerema.	139		5	2										
Senile Debility.	141													
Suicide or Attempt at Suicide by Poison.	142	A				1								
Other Accidental Injuries	143						1	1	1					
Infantion.	149	B												
Other Accidental Poisoning.	151						3							
Unknown or Not Specified Diseases	161													
Totals			5	14	3	1	2	2	5	8	3	10	7	3

Death-rate 15.36.

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY FOR DECEMBER 31ST, 1903.

AGE PERIODS.	SEX.	COLOR.	NATIVITY.										SOCIAL CONDITION.												
													Married.	Single.	Widowed.	Not stated.									
			United States	England.	France.	Germany.	Ireland.	Italy.	Scotland.	Hungary.	Sweden.	Other foreign.	Not stated.	Not stated.	Not stated.										
Fifty to fifty-five.																									
Fifty-five to sixty.																									
Sixty to seventy.																									
Seventy to eighty.																									
Eighty to ninety.																									
Over ninety.																									
Not stated.																									
Male.																									
Female.																									
Color of decedent white unless designated by mark.																									
Total.																									
4	7	20	11	2	1	0	59	48	29	71	5	1	6	14	2	1	0	0	3	4	46	42	18	1	107

TABLE 61.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES THE YEAR ENDING

DEATHS IN GLOUCESTER CITY.	AGE PERIODS.										
	Under one month.	Under one year.	One to five.	Five to ten.	Ten to fifteen.	Fifteen to twenty.	Twenty to twenty-five.	Twenty-five to thirty.	Thirty to thirty-five.	Forty to forty-five.	Forty-five to fifty.
Typhoid Fever.	1										
Diphtheria and Group.	9										
Pyemia and Septicæmia.	14										
Tuberculosis of the Lungs.											
General.	22	F	1		1	5	2	2	2	1	
Cancer of the Female Genital Organs.	D										
Others.	25	G									
Diabetes.	23										
Simple Meningitis.	39		1	1				1			
Cerebral Hemorrhage and Congestion.	42		1	1						1	
Paralysis Without Indicated Cause.	44										
Convulsions of Infants.	49		3	5	1						
Other Diseases of the Nervous System.	52	C		1	1						
Organic Diseases of the Heart.	57				1	1			1		
Broncho-Pneumonia.	71		1								
Pneumonia.	72		1	1	1	1			1		
Other Diseases of the Stomach (Cancer Excepted).	81				1	1					
Infantile Diarrhoea, Athrepsia.	82		2	6	1			1	1		
Diarrhoea, and Enteritis.	83										
Other Diseases of the Intestines.	87	A	1	2							
Cirrhosis of the Liver.	90										1
Other Diseases of the Liver.	92			1							
Acute Nephritis.	96				1						
Bright's Disease.	97								1	1	
Other Diseases of the Kidneys and Adæna.	99								1	1	
Accidents of Pregnancy.	116		1								
Anthrax Carbuncle.	127										
Congenital Debility, Icterus and Sclerema.	138		5	2							
Want of Care.	139		1								
Senile Debility.	141										
Other Accidental Injuries.	145							1		1	
Accidental Drowning.	145										
Unknown or Not Specified Diseases.	161		1			1					
Totals.	14	20	7	4	2	4	6	2	6	3	5
Death rate 17.85.											

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY FOR DECEMBER 31ST, 1903.

AGE PERIODS.	SEX.	COLOR.	NATIVITY											SOCIAL CONDITION.											
			United States.	England.	France.	Germany.	Ireland.	Italy.	Scotland.	Hungary.	Sweden.	Other foreign.	Not stated.	Married.	Single.	Widowed.	Not stated.	Totals.							
Fifty to fifty-five.																									
Fifty-five to sixty.																									
Sixty to seventy.																									
Seventy to eighty.																									
Eighty to ninety.																									
Over ninety.																									
Not stated.																									
Male.				1																					
Female.					1																				
Color of decedent white unless designated by mark.				1																					
United States.				1																					
England.																									
France.																									
Germany.				14	1																				
Ireland.							1																		
Italy.																									
Scotland.																									
Hungary.																									
Sweden.																									
Other foreign.													1												
Not stated.																									
Married.													4								1				
Single.															1										
Widowed.																1									
Not stated.																									
Totals.																									
6	10	11	21	5	0	0	62	67	0	101	8	0	2	16	0	1	0	0	1	0	33	67	27	2	129



TABLE 63.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES  
THAT YEAR ENDING

	AGE PERIODS.									
	Under one month.	Under one year.	One to five.	Five to ten.	Ten to fifteen.	Twenty to twenty-five.	Twenty-five to thirty.	Thirty to thirty-five.	Forty to forty-five.	Forty-five to fifty.
DEATHS IN HARRISON.										
Typhoid Fever.....	1				1					
Scarlet Fever.....	6		2		1					
Whooping Cough.....	3	1	2	1						
Diphtheria and Group.....	9									
Influenza.....	9									
Intermittent Fever.....	19		1		1					
Tuberculosis of the Lungs.....	32	A	2	1	2	3	9	3	2	2
Of the Meninges.....	B									
Of the Stomach and Liver.....	C									
Of the Breast.....	D									
Others.....	E									
Rheumatism.....	26						1			
Diabetes.....	28				1					
Leukemia.....	31						1			
Simple Meningitis.....	39		4	8						
Cerebral Hemorrhage and Congestion.....	42						2	2	1	
General Paralysis.....	45									
Convulsions of Infants.....	49	3	6	2						
Other Diseases of the Nervous System.....	52	C								
Endocarditis.....	56									
Organic Diseases of the Heart.....	57			1	1					
Hemorrhage.....	63	2				2	2	1		
Diseases of the Larynx and Thyroid Body.....	68						1			
Acute Bronchitis.....	69		1				1	1	1	
Chronic Bronchitis.....	70		1							
Broncho-Pneumonia.....	71	1	1					1		
Pneumonia.....	72	4	4	2	2	1				
Congestion and Apoplexy of Lungs.....	74		1							
Asthma.....	76									
Other Diseases of the Respiratory System.....	77	B								
Other Diseases of Stomach (Cancer excepted).....	81		1	1						
Infantile Diarrhoea, Athrepsia.....	82		3	1						
Diarrhoea and Enteritis.....	83									
Cirrhosis of the Liver.....	90						1	1	1	
Other Diseases of the Liver.....	92									
Inflammatory Peritonitis (Non-Puerperal).....	93									
Acute Nephritis.....	96						1	1	1	
Bright's Disease.....	97									
Diseases of the Bladder.....	102	1								
Puerperal Metropéritonitis.....	120							1		
Congenital Debility Icterus and Sclerema.....	138	9	10							
Want of Care.....	139		1	1						
Senile Debility.....	141									
Suicide or Attempt at Suicide by Poison.....	143	A								
Fractures.....	143				1			1	1	
Other Accidental Injuries.....	143				2		3	1		
Sunstroke and Freezing.....	147									
Accidental Drowning.....	148			1			2			
Unknown or Not Specified Diseases.....	161					1	1	2		
Totals.....	18	32	26	7	3	11	7	12	12	13

Death-rate 18.63.

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY FOR  
DECEMBER 31ST, 1903.

AGE PERIODS.	SEX.	COLOR.	NATIVITY.										SOCIAL CONDITION.																																																																																																																																																																																																		
			Color of decedent white unless designated by mark.										Married.	Single.	Widowed.	Not stated.	Total.																																																																																																																																																																																														
			United States.	England.	France.	Germany.	Ireland.	Italy.	Sweden.	Hungary.	Other Foreign.	Not stated.																																																																																																																																																																																																			
4	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210





TABLE 64.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES THE YEAR ENDING

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY FOR DECEMBER 31ST, 1903.

DEATHS IN HOBOKEN.	AGE PERIODS.											
	Under one month.	Under one year.	One to five.	Five to ten.	Ten to fifteen.	Fifteen to twenty.	Twenty to twenty-five.	Twenty-five to thirty.	Thirty to thirty-five.	Thirty-five to forty.	Forty to forty-five.	Forty-five to fifty.
Other Diseases of the Liver.....	92	3										
Inflammatory Peritonitis (Non-Puerperal).....	93	1										
Appendicitis.....	95											
Acute Nephritis.....	96	1	1	1	1	4	1					1
Bright's Disease.....	97											
Renal Calculus.....	99				1	2	2	2	4	6	11	
Diseases of the Bladder.....	102											
Other Diseases of the Uterus.....	112											
Accidents of Pregnancy.....	116	6				1	2					1
Puerperal Septicæmia.....	119 A						2					
Puerperal Albuminuria and Eclampsia.....	121					3	1					
Erysipelas.....	122	2	1	1								
Gangrene.....	126					1				1		
Anthrax Carbuncle.....	127											1
Other Diseases of the Skin and Adnexa (Cancer excepted).....	129 F		1									
Potts' Disease.....	130											1
Diseases of the Joints.....	134 B											
Malformations.....	137	8	29			1						
Congenital Debility Icterus and Sclerema.....	138	26	23	3								
Want of Care.....	139	3	2									
Other Diseases Peculiar to Infancy.....	140											
Senile Debility.....	141											
Scalds.....	142											
By Poison.....	A						2	2	1			
By Asphyxia.....	B											
By Strangulation.....	C											
By Firearms.....	D											
Fractures.....	143					1						
Other Accidental Injuries.....	144											
Burns by Fire.....	146 A			2	1	1	1	5	1	4	5	
Sunstroke and Freezing.....	147											
Accidental Drowning.....	148											
Overwork.....	149 A					4	1	4	3	2		
Inhalation of Noxious Gases (Suicide excepted).....	150											1
Other External Violence.....	152					1						
Inflammatory Fever.....	154 B					1						
Dropsy.....	155											
Asphyxia-Cyanosis.....	156											
Other Tumors.....	159											
Unknown or Not Specified Diseases.....	161											
Totals.....		79	165	105	47	17	25	51	59	65	75	69
Death-rate 17.79.												

AGE PERIODS.	SEX.	COLOR.	NATIVITY.											SOCIAL CONDITION.										
			England.	France.	Germany.	Ireland.	Italy.	Sweden.	Hungary.	Switzerland.	Other foreign.	Not stated.	Married.		Single.	Widowed.	Not stated.	Totals						
Fifty to fifty-five.		Male.																						
Fifty-five to sixty.		Female.																						
Sixty to seventy.		Color of decedent white unless designated by mark.																						
Seventy to eighty.		United States.																						
Eighty to ninety.		England.																						
Over ninety.		France.																						
Not stated.		Germany.																						
		Ireland.																						
		Italy.																						
		Sweden.																						
		Hungary.																						
		Switzerland.																						
		Other foreign.																						
		Not stated.																						
		Married.																						
		Single.																						
		Widowed.																						
		Not stated.																						
		Totals																						
50	59	116	63	26	3	649	491	8	638	20	7	227	149	30	13	3	2	45	6	353	600	184	3	1140







TABLE 66.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES THE YEAR ENDING

DEATHS IN JERSEY CITY.	AGE PERIODS.													
	Under one month.	Under one year.	One to five.	Five to ten.	Ten to fifteen.	Fifteen to twenty.	Twenty to twenty-five.	Twenty-five to thirty.	Thirty to thirty-five.	Thirty-five to forty.	Forty to forty-five.	Forty-five to fifty.	Fifty to fifty-five.	Sixty to seventy.
Senile Debility.....	141													
Suicide or attempt at suicide														
By Poison.....	A		1											9
By Asphyxia.....	B													1
Strangulation.....	C	142				1	1	5	2	1	6	3	3	1
By Firearms.....	D					2				1	2	1	2	1
Cut'g Instmt.....	E													1
Fractures.....	143													
Other Accidental Injuries.....	145	2		9	10	2	2	20	16	14	10	12	12	6
Burns by Fire.....	146 A			3	2	5	1	1	2	2	1	1	1	12
Sunstroke and Freezing.....	147	1	1	3	2	2	2	2	2	1	1	1	1	2
Accidental Drowning.....	148			1	2	2	5	5	2	3	6	2	1	1
Inanition.....	149 B	1												4
Inhalation of Noxious Gases (Suicide excepted).....	150					1	1	1	1	1	1	1	1	2
Other Accidental Poisoning.....	151			1	1									2
Other External Violence.....	152													
Exhaustion-Cachexia.....	153	1					1	1	1	1	1	1	1	
Dropsy.....	155													
Asphyxia-Cyanosis.....	156	2												
Abdominal Tumor.....	158													
Unknown or not Spec'd Dise's	161	3	2	2			1	3	1	1				1
Totals.....		292	574	445	152	46	104	183	218	245	222	252	181	215
Death rate 18.82.														378

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY FOR DECEMBER 31ST, 1903.

AGE PERIODS.	SEX.	COLOR.	NATIVITY.											SOCIAL CONDITION.										
			Seventy to eighty.	Eighty to ninety.	Over ninety.	Not stated.	Male.	Female.	Color of decedent white unless designated by mark.	United States.	England.	France.	Germany.	Ireland.	Italy.	Scotland.	Hungary.	Sweden.	Other foreign.	Not stated.	Married.	Single.	Widowed.	Not stated.
17	20	4	19	31	1	13	10	1	13	2	3	2	17	2				2	2	10	7	31	2	50
			7	10		4	1		4	1	1	1	2	2				2	2	13	7	4	3	23
			3	1		6	1		4	1	1	1	1	1				2	2		3	4	2	7
			2	1		1	1		1	1	1	1	1	1				1	1		3	1	1	3
			1	1		1	1		1	1	1	1	1	1				1	1		5	1	1	7
			2	2		2	2		2	2	2	2	2	2				2	2		6	2	2	10
			3	3		3	3		3	3	3	3	3	3				3	3		9	3	3	15
			120	25	2	83	3	9	21	7	9	12	11	5	66	16	11	148						12
			2	6		4	1	1	4	2	1	3	5	4	3	2	1	12						13
			33	6		16	4	5	2	1	3	5	11	15	2	1	5	35						2
			2	2		2	2		2	2	2	2	2	2	2	2	2	2						2
			5	4	2	4	1	1	1	1	1	1	1	1	1	1	1	4	3	2	2	2	2	9
			3	1		4	1		2				2					3						5
			1	1		1	2		2				1					2						2
			1	1		1	1		1				1					1						1
			1	1		1	1		1				1					1						1
			5	8		9	1	1	1	1	1	1	1	1	1	1	1	4	7	1	1	1	1	13
289	101	14	1,210	1981	103	2720	103	19	370	594	81	40	8	7	134	54	1213	2107	698	112	4130			



TABLE 67.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES  
THE YEAR ENDING

DEATHS IN KEARNEY	AGE PERIODS.							
	Under one month.	Under one year.	One to five.	Five to ten.	Ten to fifteen.	Fifteen to twenty.	Twenty to twenty-five.	Twenty-five to thirty.
Acute Nephritis.....	96					1	1	1
Bright's Disease.....	97					1		
Other Diseases of the Kidneys and Adnexa.....	106							1
Diseases of the Bladder.....	192							1
Diseases of the Female Genital Organs.....	114	C						
Puerperal Metrorrhorrhagia.....	120				1			
Erysipelas.....	125		1					
Gangrene.....	136	1						
Pleurisy. Acute Abscess.....	137	3						
Malformations.....	138	4	4					
Congenital Debility, Icterus and Sclerema.....	139	1	1	1				
Want of Care.....	140	1	1					
Other Diseases Peculiar to Infancy.....	141							
Senile Debility.....	142	A				1	1	2
Suicide or Attempt at Suicide—By Poison.....	143						1	2
Other Accidental Injuries.....	144				1	2	1	2
Sunstroke and Freezing.....	147						1	
Inhalation of Noxious Gases (Suicide excepted).....	150							1
Dropsy.....	155							1
Unknown or Not Specified Diseases.....	161							1
Totals.....	14	15	14	9	5	7	9	6
Death rate 17.68.								7

IN THE STATISTICAL DIVISION OF THE STATE OF NEW JERSEY FOR  
DECEMBER 31ST, 1903.

AGE PERIODS.	SEX.	COLOR.	NATIVITY.														SOCIAL CONDITION.									
			United States.	England.	France.	Germany.	Ireland.	Italy.	Scotland.	Hungary.	Switzerland.	Other foreign.	Not stated.	Married.	Single.	Widowed.		Not stated.								
Fifty to fifty-five.	2	2	Male.	1	1														1	1						4
Fifty-five to sixty.	2	1	Female.	1	1														1	1						7
Sixty to seventy.	3	6	Color of decedent white unless designated by mark	4	1	1													2	1						12
Seventy to eighty.	2	2	United States.	2	2														1	1						6
Eighty to ninety.	2	1	England.	1	1														1	1						3
Over ninety.	1	1	France.	1	1														1	1						2
Not stated.	1	1	Germany.	1	1														1	1						2
			Ireland.	1	1														1	1						2
			Italy.	1	1														1	1						2
			Scotland.	1	1														1	1						2
			Hungary.	1	1														1	1						2
			Switzerland.	1	1														1	1						2
			Other foreign.	2	2														2	2						4
			Not stated.	3	3														4	4						8
			Married.	4	4														6	6						12
			Single.	1	1														1	1						2
			Widowed.	1	1														1	1						2
			Not stated.	2	2														2	2						4
Totals.	4	10	40	29	16	0	2	131	82	4	153	13	2	10	14	3	8	0	2	3	5	66	85	55	7	213

TABLE 68.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES THE YEAR ENDING

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY FOR DECEMBER 31ST, 1903.

DEATHS IN LONG BRANCH.	AGE PERIODS.											
	Under one month.	Under one year.	One to five.	Five to ten.	Ten to fifteen.	Fifteen to twenty.	Twenty to twenty-five.	Twenty-five to thirty.	Thirty to thirty-five.	Thirty-five to forty.	Forty to forty-five.	Forty-five to fifty.
Typhoid Fever.....	1											
Scarlet Fever.....	6											
Whooping Cough.....	7											
Diphtheria and Croup.....	5											
Pyæmia and Septicæmia.....	14											
Intermittent Fever.....	19											
Tuberculosis.....	22											
Of the Lungs.....	A											
Of the Meninges.....	E											
Of the Peritonium.....	C											
Of Other Organs.....	E											
Cancer of the Stomach and Liver.....	D											
Of the Female Genital Organs.....	B											
Rheumatism.....	26											
Diabetes.....	23											
Anæmia Chlorosis.....	32											
Alcoholism (Acute or Chronic).....	34											
Simple Meningitis.....	39											
Cerebral Hemorrhage and Congestion.....	42											
Paralysis Without Indicated Cause.....	44											
General Paralysis.....	45											
Convulsions of Infants.....	49											
Tetanus.....	50											
Endocarditis.....	56											
Organic Diseases of the Heart.....	57											
Diseases of Arteries, Atheroma, Aneurism, etc.....	59											
Chronic Bronchitis.....	70											
Broncho-Pneumonia.....	71											
Pneumonia.....	72											
Pleurisy.....	73											
Asthma.....	76											
Diseases of the Respiratory System.....	77											
Diseases of the Stomach (Cancer excepted).....	81											
Infantile Diarrhoea, Atrepsia.....	82											
Diarrhoea and Enteritis.....	83											
Chirrosis of the Liver.....	90											
Biliary Calculi.....	91											
Other Diseases of the Liver.....	92											
Inflammatory Peritonitis (Non-Puerperal).....	93											
Appendicitis.....	95											
Acute Nephritis.....	98											
Bright's Disease.....	97											
Diseases of the Bladder.....	102											
Uterine Tumors (Non-Cancerous).....	111											
Accidents of Pregnancy.....	116											
Gangrene.....	126											
Malformations.....	137											
Congenital Debility, Icterus and Sclerema.....	138											
Want of Care.....	139											
Diseases Peculiar to Infancy.....	140											
Senile Debility.....	144											
Suicide by Poison.....	142											
By Strangulation.....	A											
Accidental Injuries.....	143											
Burns by Fire.....	145											
Accidental Drowning.....	143											
Other External Violence.....	153											
Dropsy.....	155											
Other Tumors.....	159											
Unknown or Not Specified Diseases.....	161											
Totals.....	11	22	9	6	6	5	7	10	16	18	12	5

Death rate 20.21.

AGE PERIODS.	SEX.	COLOR.	NATIVITY.										SOCIAL CONDITION.															
			Fifty to fifty-five.	Fifty-five to sixty.	Sixty to seventy.	Seventy to eighty.	Eighty to ninety.	Over ninety.	Not stated.	Male.	Female.	Color of decedent white unless designated by mark.	United States.	England.	France.	Germany.	Ireland.	Italy.	Scotland.	Hungary.	Sweden.	Other foreign.	Not stated.	Married.	Single.	Widowed.	Not stated.	Total.
7	11	21	21	10	2	0	101	97	30	166	3	0	7	10	5	2	0	0	3	2	0	3	2	67	97	28	6	198



TABLE 69.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES THE YEAR ENDING

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY FOR DECEMBER 31ST, 1903.

DEATHS IN MILLVILLE	AGE PERIODS.											
	Under one month.	Under one year	One to five.	Five to ten.	Ten to fifteen.	Fifteen to twenty	Twenty to twenty-five	Twenty-five to thirty.	Thirty to thirty-five.	Thirty-five to forty.	Forty to forty-five.	Forty-five to fifty.
Typhoid Fever.	1				1	1						
Scarlet Fever.	6											
Diphtheria and Croup.	3											
Erysipelas and Septicæmia.	14											
Tuberculosis of the Lungs.	23	A				1	3	1	1			
Of the Stomach and Liver.		B										
Of the Intestines and Rectum.		C										
Of the Female Genital Organs.	25	D										
Of the Skin.		E										
Others.		F										
Rheumatism.	26	G										
Alcoholism (Acute or Chronic).	34											
Simple Meningitis.	39											
Progressive Locomotor Ataxia.	40											
Cerebral Hemorrhage and Congestion.	42		1									
Paralysis Without Indicated Cause.	44											
General Paralysis.	45					1						
Epilepsy.	47											
Convulsions of Infants.	49		2	2								
Tetanus.	50											
Other Diseases of the Nervous System.	52	C				1						
Diseases of the Ears.	54											
Endocarditis.	56											
Organic Diseases of the Heart.	57					1	1					
Diseases of Arteries, Atheroma, Aneurism, etc.	59											
Other Diseases of the Circulatory System.	66		1									
Diseases of the Larynx and Thyroid Body.	68											
Acute Bronchitis.	69											
Chronic Bronchitis.	70											
Broncho-Pneumonia.	71											
Pneumonia.	72		1	2								
Congestion and Apoplexy of the Lungs.	74											
Asthma.	76											
Diseases of the Respiratory System	77	B										
Diseases of the Stomach (Cancer Excepted)	81											
Infantile Diarrhæa, Atrepsia.	82		1	4								
Diarrhæa and Enteritis.	83											
Dysentery.	84											
Other Diseases of the Intestines.	87	A										
Cirrhosis of the Liver.	90											
Other Diseases of the Liver.	92											
Inflammatory Peritonitis (Non-Puerperal)	93											
Brieh's Disease.	97											
Ovarian Cysts and other Ovarian Tumors.	113											
Accidents of Pregnancy.	116											
Puerperal Septicæmia.	119	A										
Malformations.	137											
Congenital Debility, Interus and Sclerema.	138		6	6								
Diseases Peculiar to Infancy.	140											
Senile Debility.	141											
Other Accidents and Injuries.	145											
Sunstroke and Freezing.	147											
Accidental Drownine.	148											
Asphyxia-Cyanosis.	156											
Unknown or Not Specified Diseases.	161											
Totals.	14	21	14	5	4	5	6	5	2	4	6	1
Death rate 14.13.												

AGE PERIODS.	SEX.	COLOR.	NATIVITY.	SOCIAL CONDITION.																				
				Married.	Single.																			
Fifty to fifty-five.																								
Fifty-five to sixty.																								
Sixty to seventy.																								
Seventy to eighty.																								
Eighty to ninety.																								
Over ninety.																								
Not stated.																								
Male.																								
Female.																								
Color of descent white unless designated by mark.																								
United States.																								
England.																								
France.																								
Germany.																								
Ireland.																								
Italy.																								
Scotland.																								
Hungary.																								
Sweden.																								
Other foreign.																								
Not stated.																								
Married.																								
Single.																								
Withheld.																								
Not stated.																								
Totals.																								
7	6	18	27	6	1	0	80	72	5	137	2	0	5	5	0	1	0	1	0	51	73	26	2	152

TABLE 70.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES THE YEAR ENDING

DEATHS IN MONTCLAIR.	AGE PERIODS.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
	Under one month.	Under one year.	One to five.	Five to ten.	Ten to fifteen.	Fifteen to twenty.	Twenty to twenty-five.	Twenty-five to thirty.	Thirty to thirty-five.	Thirty-five to forty.	Forty to forty-five.	Forty-five to fifty.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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Inhalation of Noxious Gases (Suicide excepted).....	150												Other Accidental Poisoning.....	151												Other External Violence.....	152												Totals.....	16	87	24	7	8	7	2	12	8	3	10	7																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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Other External Violence.....	152												Totals.....	16	87	24	7	8	7	2	12	8	3	10	7																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
Totals.....	16	87	24	7	8	7	2	12	8	3	10	7																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															

Death rate 17.42.

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY FOR DECEMBER 31ST, 1903.

AGE PERIODS.	SEX.	COLOR.	NATIVITY.										SOCIAL CONDITION.															
			United States.	England.	France.	Germany.	Ireland.	Italy.	Scotland.	Hungary.	Sweden.	Other foreign.	Not stated.	Married.	Single.	Widowed.	Not stated.	Total.										
Fifty to fifty-five.			1	2	1														3									
Fifty-five to sixty.			1	1	1														3									
Sixty to seventy.			2	2	2														6									
Seventy to eighty.			1	1	1														3									
Eighty to ninety.			1	1	1														3									
Over ninety.			6	10	7														13									
Not stated.			2	2	2														6									
Male.			1	1	1														3									
Female.			1	1	1														3									
Color of descent white unless designated by mark.			1	1	1														3									
United States.			3	3	3														9									
England.			1	1	1														3									
France.																												
Germany.																												
Ireland.																												
Italy.																												
Scotland.																												
Hungary.																												
Sweden.																												
Other foreign.																												
Not stated.																												
Married.																												
Single.																												
Widowed.																												
Not stated.																												
Total.			7	12	26	17	16	1	1	138	133	26	230	4	0	6	17	7	2	0	0	3	2	57	173	38	1	271

TABLE 71.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES THE YEAR ENDING

	AGE PERIODS.											
	Under one month.	Under one year.	One to five.	Five to ten.	Ten to fifteen.	Fifteen to twenty.	Twenty to twenty-five.	Twenty-five to thirty.	Thirty to thirty-five.	Thirty-five to forty.	Forty to forty-five.	
Typhoid Fever.	1											
Whooping Cough.	7											
Diphtheria and Croup.	8											
Pyæmia and Septicæmia.	14											
Of the Lungs.	A											
Of the Meninges.	B											
Of Other Organs.	E											
General.	22											
Cancer of the Stomach and Liver.	F											
Of the Intestines and Rectum.	C											
Others.	G											
Diabetes.	28											
Anæmia Chlorosis.	28											
Simple Meningitis.	32											
Cerebral Hemorrhage and Congestion.	33											
Paralysis Without Indicated Cause.	44											
Convulsions of Infants.	49											
Pericarditis.	55											
Endocarditis.	56											
Organic Diseases of the Heart.	57											
Angina Pectoris.	58											
Diseases of Arteries, Atheroma, Aneurism, etc.	59											
Phlebitis and Other Diseases of the Veins.	62											
Hemorrhage.	65											
Other Diseases of the Circulatory System.	66											
Diseases of the Nasal Fosse.	67											
Diseases of the Larynx and Thyroid Body.	68											
Acute Bronchitis.	69											
Broncho-Pneumonia.	71											
Pneumonia.	72											
Pleurisy.	73											
Congestion and Apoplexy of Lungs.	74											
Pulmonary Emphysema.	77											
Ulcer of Stomach.	80											
Infantile Diarrhœa, Atrepsia.	82											
Diarrhœa and Enteritis.	83											
Dysentery.	84											
Hernia and Intestinal Obstructions.	86											
Other Diseases of the Intestines.	87											
Cirrhosis of the Liver.	90											
Other Diseases of the Liver.	92											
Inflammatory Peritonitis (Non-Peuralperal).	93											
Appendicitis.	95											
Acute Nephritis.	96											
Bright's Disease.	97											
Erysipelas.	123											
Pleomom. Acute Abscess.	123											
Malformations.	137											
Constitutional Debility, Icterus and Sclerema.	138											
Other Diseases Peculiar to Infancy.	140											
Senile Debility.	141											
Suicide or Attempt at Suicide.	142											
Other Accidental Injuries.	145											
Burns by Fire.	146											
Sunstroke and Freezing.	147											
Accidental Drowning.	148											
Unknown or Not Specified Diseases.	161											
Totals.	23	29	17	6	2	5	13	6	7	12	0	8

Death rate 17.95.

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY FOR DECEMBER 31ST, 1903.

AGE PERIODS.	AGE.	COLOR.	NAT. VITY.										SOCIAL CONDITION.												
			United States.	England.	France.	Germany.	Ireland.	Italy.	Scotland.	Hungary.	Sweden.	Other foreign.	Not stated.	Married.	Single.	Widowed.	Not stated.	Totals							
Fifty to fifty-five.	Male.	Female.	Color of blood not white unless designated by mark.																						
Fifty-five to sixty.																									
Sixty to seventy.																									
Seventy to eighty.																									
Eighty to ninety.																									
Over ninety.																									
Not stated.																									
	9	14	27	22	15	3	1	19	100	19	163	8	0	8	22	7	0	0	6	4	52	114	42	11	219









TABLE 73.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES THE YEAR ENDING

DEATHS IN NEW BRUNSWICK.	AGE PERIODS.											
	Under one month.	Under one year.	One to five.	Five to ten.	Ten to fifteen.	Fifteen to twenty.	Twenty to twenty-five.	Twenty-five to thirty.	Thirty to thirty-five.	Thirty-five to forty.	Forty to forty-five.	Forty-five to fifty.
	Inflammatory Peritonitis (Non-Puerperal).....	93			1	1	1	1				
Appendicitis.....	86					1						
Acute Nephritis.....	96		1									
Bright's Disease.....	97			1			2	1	1	1	1	
Puerperal Hemorrhage.....	117						1	1	1	1	1	
Puerperal Septicæmia.....	119 A											
Puerperal Albuminuria and Eclampsia.....	121						1	1				
Gangrene.....	126											
Phlegmon Acute Abscess.....	128	1			1							
Congenital Debility Icterus and Sclerema.....	138	12	3				1					
Want of Care.....	139	3	3									
Semile Debility.....	141											
Other Accidental Injuries.....	145				1	2	2			1	2	
Burns by Fire.....	146 A						1					
Sunstroke and Freezing.....	147											
Accidental Drowning.....	148				1	1						
Other Accidental Poisoning.....	151											
Other External Violence.....	152							1				
Dropsy.....	155											
Asphyxia Cyanosis.....	156	1										
Abdominal Tumor.....	158											
Unknown or Not Specified Diseases.....	161									1		
Totals.....	26	64	37	20	10	11	14	15	15	12	12	

Death-rate 19.43.

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY FOR DECEMBER 31ST, 1903.

AGE PERIODS.	SEX.	COLOR.	NATIVITY.										SOCIAL CONDETION.		Totals.										
			NATIVITY.										SOCIAL CONDETION.												
			Fifty to fifty-five.	Fifty-five to sixty.	Sixty to seventy.	Seventy to eighty.	Eighty to ninety.	Over ninety.	Not stated.	Male.	Female.	Color of decedent white unless designated by mark.	United States.	England.		France.	Germany.	Ireland.	Italy.	Scotland.	Denmark.	Sweden.	Other foreign.	Not stated.	Married.
15	18	47	41	17	7	1	21	133	29	291	7	6	21	43	5	0	3	1	10	15	99	209	82	7	397



TABLE 74.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES THE YEAR ENDING

DEATHS IN NORTH PLAINFIELD.	AGE PERIODS.											
	Under one month.	Under one year.	One to five.	Five to ten.	Ten to fifteen.	Fifteen to twenty.	Twenty to twenty-five.	Twenty-five to thirty.	Thirty to thirty-five.	Thirty-five to forty.	Forty to forty-five.	Forty-five to fifty.
Typhoid Fever.....	1											
Whooping Cough.....	7	2										
Diphtheria and Croup.....	4		1									
Erysipelas and Septicæmia.....	14											
Tuberculosis of the Lungs.....	22	A				1						
Of the Stomach and Liver.....	25	B					4			1		
Of the Breast.....		C									1	
Others.....												1
Rheumatism.....	28											
Progressive Locomotor Ataxia.....	40											
Cerebral Hemorrhage and Congestion.....	42								1			
Other Forms of Insanity.....	46											
Other Diseases of the Nervous System.....	52	C										
Pericarditis.....	53									1		
Endocarditis.....	56											
Organic Diseases of the Heart.....	57									1		
Angina Pectoris.....	58											
Diseases of Arteries, Atheroma, Aneurism, etc.....	59											
Other Diseases of the Circulatory System.....	66											
Acute Bronchitis.....	69		1									
Pneumonia.....	72			1								
Congestion and Apoplexy of Lungs.....	74								1			
Other Diseases of the Respiratory System.....	77	B			1							
Other Diseases of Stomach (Cancer excepted).....	81											
Infantile Diarrhoea, Athrepsia.....	82											
Diarrhoea and Enteritis.....	83										1	
Dysentery.....	84											
Hernia and Intestinal Obstructions.....	86											
Acute Nephritis.....	96											
Bright's Disease.....	97											
Ovarian Cysts and Other Ovarian Tumors.....	113											
Puerperal Septicæmia.....	119	A				1	1					
Erysipelas.....	125											
Gangrene.....	136											
Congenital Debility Icterus and Sclerema.....	138	B	2		1							
Other Accidental Injuries.....	145											
Unknown or Not Specified Diseases.....	161			1								
Totals.....	3	5	2	2	2	0	2	5	1	4	3	3
Death-rate 13.17.												

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY FOR DECEMBER 31ST, 1903.

AGE PERIODS.	SEX.	COLOR.	NATIVITY.										SOCIAL CONDITION.													
			United States.	England.	France.	Germany.	Ireland.	Italy.	Scotland.	Hungary.	Sweden.	Other foreign.	Not stated.	Married.	Singles.	Widowed.	Not stated.	Totals.								
Fifty to fifty-five.																										
Fifty-five to sixty.																										
Sixty to seventy.																										
Seventy to eighty.																										
Eighty to ninety.																										
Over ninety.																										
Not stated.																										
Male.																										
Female.																										
Color of descent white unless designated by mark.																										
United States.																										
England.																										
France.																										
Germany.																										
Ireland.																										
Italy.																										
Scotland.																										
Hungary.																										
Sweden.																										
Other foreign.																										
Not stated.																										
Married.																										
Singles.																										
Widowed.																										
Not stated.																										
Totals.																										
4	6	6	13	9	1	1	1	32	40	6	56	1	1	1	7	2	2	0	0	1	1	26	21	24	1	72



TABLE 75.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES  
THE YEAR ENDING

	AGE PERIODS.											
	Under one year.	Under one month.	One to five.	Five to ten.	Ten to fifteen.	Fifteen to twenty.	Twenty to twenty-five.	Twenty-five to thirty.	Thirty to thirty-five.	Forty to forty-five.	Forty-five to fifty.	
DEATHS IN ORANGE.												
Other Diseases of the Female Genital Organs	114	C										
Accidents of Pregnancy	116											
Puerperal Septicemia	119	A										
Puerperal Albuminuria and Eclampsia	121											
Erysipelas	125											
Pott's Disease	130											
Other Diseases of Bones	132											
Malformations	137											
Congenital Debility, Icterus and Sclerema	138	23										
Want of Care	139											
Other Diseases Peculiar to Infancy	140											
Senile Debility	141											
By Poison	142											
By Strangulation	C											
By Firearms	D											
By Cutting Instr'm'ts	E											
Fractures	143											
Other Accidental Injuries	145											
Burns by Fire	146	A										
Other Accidental Poisoning	151											
Exhaustion-Cachexia	153											
Asphyxia-Cyanosis	156											
Other Tumors	159											
Unknown or Not Specified Diseases	161											
Totals	39	56	38	15	7	12	25	33	38	24	38	31
Death rate 20.40.												

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY FOR  
DECEMBER 31ST, 1903.

AGE PERIODS.	SEX.	COLOR.	NATIVITY.													SOCIAL CONDITION.										
			England.	France.	Germany.	Ireland.	Italy.	Scotland.	Hungary.	Sweden.	Other foreign.	Not stated.	Married.	Single.	Widowed.	Not stated.	Total.									
fifty to fifty-five.																										
Fifty-five to sixty.																										
Sixty to seventy.																										
Seventy to eighty.																										
Eighty to ninety.																										
Over ninety.																										
Not stated.																										
Male.																										
Female.																										
Color of decedent white unless designated by mark.																										
United States.																										
England.																										
France.																										
Germany.																										
Ireland.																										
Italy.																										
Scotland.																										
Hungary.																										
Sweden.																										
Other foreign.																										
Not stated.																										
Married.																										
Single.																										
Widowed.																										
Not stated.																										
Total.																										
	30	32	45	50	11	1	0	269	256	67	359	12	0	29	86	29	1	0	0	3	4	182	243	94	6	525



TABLE 76.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES THE YEAR ENDING

DEATHS IN PASSAIC CITY.	AGE PERIODS.												
	Under one month.	Under one year.	One to five.	Five to ten.	Ten to fifteen.	Fifteen to twenty.	Twenty to twenty-five.	Twenty-five to thirty.	Thirty to thirty-five.	Thirty-five to forty.	Forty to forty-five.	Forty-five to fifty.	
Bright's Disease.....	97	1	1	1	1	1	1	1	1	1	1	1	
Diseases of the Bladder.....	102												
Accidents of Pregnancy.....	116	1											
Puerperal Hemorrhage.....	117												
Puerperal Septicæmia.....	119 A					2	1	2	1	1	1	1	
Erysipelas.....	125	1	2										
Gangrene.....	126												
Pneumon. Acute Abscess.....	128												
Other Diseases of the Skin and Adnexa (Cancer excepted).....	129 F		1										
Malformations.....	137	4	1										
Congenital Debility, Icterus and Sclerema.....	138	40	20	1	1								
Want of Care.....	139	5	1										
Other Diseases Peculiar to Infancy.....	140	3											
Senile Debility.....	141												
Suicides.....	142	A						1					
By Poison.....		F											
By Firearms.....		D											
By Drowning.....		E											
Other Accidental Injuries.....	145					1		1		1	1	1	
Burns by Fire.....	146 A		5	3									
Accidental Drowning.....	149			1									
Inhalation of Noxious Gases (Suicide excepted).....	150					1							
Other Accidental Poisoning.....	151												
Other External Violence.....	152												
Exhaustion-Cæchexia.....	153												
Dropsy.....	155												
Unknown or Not Specified Diseases.....	161												
<b>Totals.....</b>		15	150	109	32	8	14	29	26	18	25	20	17
Death rate 20.03.													

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY FOR DECEMBER 31ST, 1903.

AGE PERIODS.	SEX.	COLOR.	NATIVITY.											SOCIAL CONDITION.															
			United States.	England.	France.	Germany.	Ireland.	Italy.	Scotland.	Hungary.	Sweden.	Other foreign.	Not stated.	Married.	Single.	Widowed.	Not stated.	Total.											
Fifty to fifty-five.																													
Fifty-five to sixty.																													
Sixty to seventy.																													
Seventy to eighty.																													
Eighty to ninety.																													
Over ninety, Not stated.																													
Male.																													
Female.																													
Color of decedent white unless designated by mark.																													
United States.																													
England.																													
France.																													
Germany.																													
Ireland.																													
Italy.																													
Scotland.																													
Hungary.																													
Sweden.																													
Other foreign.																													
Not stated.																													
Married.																													
Single.																													
Widowed.																													
Not stated.																													
Total.																													
24	26	39	24	8	3	1	324	326	14	469	8	0	29	27	18	8	15	0	70	6,155	439	47	9	650					











TABLE 79.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES THE YEAR ENDING

DEATHS IN PHILLIPSBURG.	AGE PERIODS.											
	Under one month.	Under one year.	One to five.	Five to ten.	Ten to fifteen.	Fifteen to twenty.	Twenty to twenty-five.	Twenty-five to thirty.	Thirty to thirty-five.	Thirty-five to forty.	Forty to forty-five.	Forty-five to fifty.
	Chronic Bronchitis.....	70										
Broncho-Pneumonia.....	71											
Pneumonia.....	72	1	2									
Diseases of the Pharynx.....	79 A				1	1						
Other Diseases of the Stomach (Cancer excepted).....	81	2	1									
Infantile Diarrhea, Atrespsia.....	82	2	1									
Diarrhea and Enteritis.....	83	6										
Hernia and Intestinal Obstructions.....	86					1						
Other Diseases of the Intestines.....	87 A											
Cirrhosis of the Liver.....	90							1				
Inflammatory Peritonitis Non-Puerperal.....	93											
Acute Nephritis.....	96											
Bright's Disease.....	97	1										
Other Diseases of the Kidneys and Adnexa.....	100											
Accidents of Pregnancy.....	116											
Puerperal Hemorrhage.....	117 A											
Puerperal Septicemia.....	119 A											
Puerperal Albuminuria and Eclampsia.....	121											
Gangrene.....	126											
Malformations.....	137	1										
Congenital Debility, Icterus and Sclerema.....	138	8	2									
Want of Care.....	139											
Other Diseases Peculiar to Infancy.....	140											
Senile Debility.....	141											
Other Accidental Injuries.....	145											
Burns by Fire.....	146 A											
Accidental Drowning.....	148											
Abdominal Tumor.....	158											
Other Tumors.....	159											
Totals.....	14	21	10	9	4	4	10	3	5	7	9	4
Death rate 13.44.....												

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY FOR DECEMBER 31ST, 1903.

AGE PERIODS.	SEX.	COLOR.	NATIVITY.														SOCIAL CONDITION.										
			NATIVITY.																								
			United States.	England.	France.	Germany.	Ireland.	Italy.	Scotland.	Hungary.	Sweeden.	Other foreign.	Not stated.	Married.	Single.	Widowed.		Not stated.									
Fifty to fifty-five.																											
Fifty-five to sixty.																											
Sixty to seventy.																											
Seventy to eighty.																											
Eighty to ninety.																											
Over ninety.																											
Not stated.																											
Male.																											
Female.																											
Color of decedent white unless designated by mark.																											
United States.																											
England.																											
France.																											
Germany.																											
Ireland.																											
Italy.																											
Scotland.																											
Hungary.																											
Sweeden.																											
Other foreign.																											
Not stated.																											
Married.																											
Single.																											
Widowed.																											
Not stated.																											
Totals.																											
11	5	19	12	12	2	0	86	75	2	129	3	2	7	15	1	0	1	0	1	2	54	73	30	4	161		

TABLE 80.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES THE YEAR ENDING

DEATHS IN PLAINFIELD.

AGE PERIODS.

Table with columns for disease categories and age periods (Under one month to Forty-five to fifty).

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY FOR DECEMBER 31ST, 1903.—Continued.

Table with columns for age periods, sex, color, nativity, and social condition, including sub-headers like 'United States', 'England', 'France', etc.



TABLE 81.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES THE YEAR ENDING

DEATHS IN RAHWAY.	AGE PERIODS.										
	Under one month.	Under one year.	One to five.	Five to ten.	Ten to fifteen.	Fifteen to twenty.	Twenty to twenty-five.	Twenty-five to thirty.	Thirty to thirty-five.	Thirty-five to forty.	Forty-five to fifty.
Typhoid Fever.	1		1	2							
Whooping Cough.	7	1	1								
Diphtheria and Croup.	8		1								
Tuberculosis of the Lungs.	22	1			1		1	1	1	2	
Cancer of the Stomach and Liver.	25	1								1	
Rheumatism.	26										
Diabetes.	28										
Simple Meningitis.	39	1	3	1							
Cerebral Hemorrhage and Congestion.	42										
Softening of the Brain.	43										
Paralysis Without Indicated Cause.	44										
General Paralysis.	45										
Convulsions of Infants.	49	1	1								
Endocarditis.	56										
Organic Diseases of the Heart.	57	1					1				
Acute Bronchitis.	69										
Broncho-Pneumonia.	71		1	1							
Pneumonia.	72	1	1								
Pleurisy.	73			1							
Congestion and Apoplexy of Lungs.	74										
Gangrene of Lungs.	75									1	
Other Diseases of Stomach (Cancer excepted).	81		1								
Infantile Diarrhoea, Athropsia.	82	1	2								
Diarrhoea and Enteritis.	83										
Dysentery.	84			1							
Erynia and Intestinal Obstructions.	85										
Inflammatory Peritonitis (Non-Puerperal).	93				1						
Acute Nephritis.	96					1					
Bright's Disease.	97					1				2	
Diseases of the Bladder.	102										
Gangrene.	126										
Congenital Debility Icterus and Sclerema.	138	2	6								
Want of Care.	139										
Other Diseases Peculiar to Infancy.	140	2	2								
Senile Debility.	141										
Other Accidental Injuries.	145				2	4	3			1	
Accidental Drowning.	148			1							
Unknown or Not Specified Diseases.	161										
Totals.	812	9	4	3	1	4	7	3	1	2	5
Death-rate 15.50.											

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY FOR DECEMBER 31ST, 1903.

AGE PERIODS.	SEX.	COLOR.	NATIVITY.										SOCIAL CONDITION.												
			England.	France.	Germany.	Ireland.	Italy.	Scotland.	Hungary.	Sweden.	Other foreign.	Not stated.	Married.	Single.	Widowed.	Not stated.	Totals.								
Fifty to fifty-five.																									
Fifty-five to sixty.																									
Sixty to seventy.																									
Seventy to eighty.																									
Eighty to ninety.																									
Over ninety.																									
Not stated.																									
Male.																									
Female.																									
Color of decedent white unless designated by mark.																									
United States.																									
England.																									
France.																									
Germany.																									
Ireland.																									
Italy.																									
Scotland.																									
Hungary.																									
Sweden.																									
Other foreign.																									
Not stated.																									
Married.																									
Single.																									
Widowed.																									
Not stated.																									
Totals.																									
4	12	20	13	9	6	0	68	55	19	89	3	1	8	9	2	3	1	0	2	3	42	48	29	4	123













TABLE 86—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES THE YEAR ENDING

	AGE PERIODS.											
	Under one month.	Under one year.	One to five.	Five to ten.	Ten to fifteen.	Fifteen to twenty.	Twenty to twenty-five.	Twenty-five to thirty.	Thirty to thirty-five.	Thirty-five to forty.	Forty to forty-five.	Forty-five to fifty.
Want of Care.....	139	1										
Other Diseases Peculiar to Infancy.....	140	2										
Senile Debility.....	141											
Suicide.....	142											
By Poison.....	A											
By Asphyxia.....	B											
By Firearms.....	D											
By Cutting Instruments.....	E											
Other Accidental Injuries.....	145											
Burns by Fire.....	146	1	1		1	1	3	2	1			
Inhalation of Noxious Gases (Suicide except'd.).....	150					1						
Exhaustion-Cachexia.....	153											
Dropsy.....	155			1								
Unknown or Not Specified Diseases.....	161					1						
Totals.....	22	30	23	6	4	7	14	10	15	19	14	8
Death-rate 16.07.												

DEATHS IN TOWN OF UNION.

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY FOR DECEMBER 31ST. 1903.

AGE PERIODS.	SEX.	COLOR.	NATIVITY.										SOCIAL CONDITION.											
			United States.	England.	France.	Germany.	Ireland.	Italy.	Scotland.	Hungary.	Sweden.	Other foreign.	Not stated.	Married.	Single.	Widowed.	Not stated.	Totals.						
Fifty to fifty-five.																								
Fifty-five to sixty.																								
Sixty to seventy.																								
Seventy to eighty.																								
Eighty to ninety.																								
Over ninety.																								
Not stated.																								
Male.																								
Female.																								
Color of decedent white unless designated by mark.																								
Totals.																								
10	16	35	24	7	2	0	157	109	2	149	2	2	80	11	6	0	1	13	1	95	119	42	10	266

TABLE 87.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES THE YEAR ENDING

DEATHS IN TRENTON	AGE PERIODS.											
	Under one month.	Under one year.	One to five.	Five to ten.	Ten to fifteen.	Fifteen to twenty.	Twenty to twenty-five.	Twenty-five to thirty.	Thirty to thirty-five.	Thirty-five to forty.	Forty to forty-five.	Forty-five to fifty.
Typhoid Fever.....	1					10	8	7	5	3	5	4
Scarlet Fever.....	6											
Whooping Cough.....	7	1	3	3								
Diphtheria and Croup.....	9	1	10	1	2							
Influenza.....	9											
Pyæmia and Septicæmia.....	14											
Intermittent Fever.....	19											
Tuberculosis.....												
Of the Lungs.....	A	3	3			9	23	27	22	19	25	7
Of the Meninges.....	B											
Of the Peritoneum.....	C											
Of Other Organs.....	E											
General.....	E											
Scrofula.....	23	1										
Of the Mouth.....	A											
Of the Stomach and Liver.....	E											
Of the Intestines and Rectum.....	C											
Of the Female Genital Organs.....	D											
Of the Breast.....	E											
Others.....	C											
Rheumatism.....	28											
Diabetes.....	28											
Leukæmia.....	31											
Anæmia Chlorosis.....	32											
Alcoholism (Acute or Chronic).....	34											
Simple Meningitis.....	39	10	8	1	1							
Progressive Locomotor Ataxia.....	40											
Progressive Muscular Atrophy.....	41											
Cerebral Hemorrhage and Congestion.....	42	2	3	1								
Softening of the Brain.....	43											
Paralysis Without Indicated Cause.....	44											
General Paralysis.....	45											
Other Forms of Insanity.....	47											
Epilepsy.....	47											
Convulsions of Infants.....	49	8	13	6	1							
Tetanus.....	50											
Other Diseases of the Nervous System.....	52											
Pericarditis.....	55											
Endocarditis.....	56											
Organic Diseases of the Heart.....	57	4	1	1	1							
Angina Pectoris.....	58											
Diseases of Arteries, Atheroma, Aneurism, etc.....	59											
Embolism.....	60											
Hemorrhage.....	65											
Other Diseases of the Circulatory System.....	66											
Diseases of the Larynx and Thyroid Body.....	68											
Acute Bronchitis.....	69	3	10	3								
Chronic Bronchitis.....	70											
Broncho-Pneumonia.....	71											
Pneumonia.....	73	5	21	9	8	1	4	5	1	9	6	5
Pleurisy.....	73											
Congestion and Apoplexy of Lungs.....	74											
Gangrene of Lungs.....	75											
Asthma.....	76											
Pulmonary Emphysema.....	A											
Other Dis'ns of the Respiratory System.....	B											
Diseases of the Esophagus.....	79											

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY FOR DECEMBER 31ST, 1902.—Continued.

AGE PERIODS.	SEX.	COLOR.	NATIVITY.	SOCIAL CONDITION.								
				Married.	Single.	Widowed.	Not stated.					
Fifty to fifty-five.	Male.	Female.	United States.	Other foreign.	Not stated.	Married.	Single.	Widowed.	Not stated.	Totals.		
Fifty-five to sixty.	Male.	Female.	England.	France.	Germany.	Ireland.	Italy.	Hungary.	Sweden.	Other foreign.	Not stated.	Totals.
Sixty to seventy.	Male.	Female.	United States.	Other foreign.	Not stated.	Married.	Single.	Widowed.	Not stated.	Totals.		
Seventy to eighty.	Male.	Female.	United States.	Other foreign.	Not stated.	Married.	Single.	Widowed.	Not stated.	Totals.		
Eighty to ninety.	Male.	Female.	United States.	Other foreign.	Not stated.	Married.	Single.	Widowed.	Not stated.	Totals.		
Over ninety.	Male.	Female.	United States.	Other foreign.	Not stated.	Married.	Single.	Widowed.	Not stated.	Totals.		
Not stated.	Male.	Female.	United States.	Other foreign.	Not stated.	Married.	Single.	Widowed.	Not stated.	Totals.		





TABLE 83.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES THE YEAR ENDING

	AGE PERIODS.																		
	Under one month.	Under one year.	One to five.	Five to ten.	Ten to fifteen.	Fifteen to twenty.	Twenty to twenty-five.	Twenty-five to thirty.	Thirty to thirty-five.	Thirty-five to forty.	Forty to forty-five.	Forty-five to fifty.							
Diarrhea and Enteritis.....	83	1								1		1							
Cirrhosis of the Liver.....	90																		
Other Diseases of the Liver.....	92																		
Inflammatory Peritonitis (Non-Puerperal).....	93	1	1			1													
Acute Nephritis.....	96																		
Bright's Disease.....	97	1	1	1						2									
Accidents of Pregnancy.....	116	4										2							
Puerperal Hemorrhage.....	117							1											
Malformations.....	137																		
Congenital Debility, Icterus and Sclerema.....	138	8	5																
Want of Care.....	139	1	1																
Other Diseases Peculiar to Infancy.....	140	2	1																
Senile Debility.....	141																		
Suicide or Attempt at	142	A	E	D															
By Poison.....																			
By Asphyxia.....																			
Suicide.....	143	A	E	D															
By Firearms.....																			
Fractures.....		1									1								
Other Accidental Injuries.....			1	1															
Inhalation of Noxious Gases (Suicide Excepted).....	150		1									1							
Other External Violence.....	152		1						1										
Exhaustion-Cachexia.....	153																		
Dropsy.....	154																		
Other Tumors.....	159											1							
Unknown or Not Specified Diseases.....	161	1																	
Totals.....	29	43	23	11	4	6	6	15	14	17	23	11							
Death rate 11.76.																			

DEATHS IN WEST HOBOKEN.

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY FOR DECEMBER 31ST, 1903.

	AGE PERIODS.								SEX.	COLOR.	NATIVITY.												SOCIAL CONDITION.					
	Fifty to fifty-five.	Fifty-five to sixty.	Sixty to seventy.	Seventy to eighty.	Eighty to ninety.	Over ninety.	Not stated.	Male.			Female.	Color of decedent white unless designated by mark.	United States.	England.	France.	Germany.	Ireland.	Italy.	Scotland.	Hungary.	Sweden.	Other foreign.	Not stated.	Married.	Single.	Widowed.	Not stated.	Totals.
15	14	41	28	10	2	0	161	151	0	168	15	8	65	16	15	4	0	20	1	128	136	45	3	3	12	1		





TABLE 90.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES THE YEAR ENDING

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY FOR DECEMBER 31ST, 1903.

DEATHS IN WEST ORANGE.	AGE PERIODS.											
	Under one month.	Under one year.	One to five.	Five to ten.	Ten to fifteen.	Fifteen to twenty.	Twenty to twenty-five.	Twenty-five to thirty.	Thirty to thirty-five.	Thirty-five to forty.	Forty to forty-five.	Forty-five to fifty.
Whooping Cough	7		2									
Diphtheria and Croup	3				1							
Tuberculosis Of the Lungs	22					1		1	2			
Cancer	23		1									
Of the Stomach and Liver	6											
Others	17											
Diabetes	23							1	1			
Simple Meningitis	39	1										
Cerebral Hemorrhage	43	2										
Epilepsy	47							1	1			
Endocarditis	56											
Organic Diseases of the Heart	57			1						1		
Diseases of the Larynx and Thyroid Body	63								1	1		
Acute Bronchitis	69	1										
Chronic Bronchitis	70											
Broncho-Pneumonia	71		1									
Pneumonia	72											
Pleurisy	73								2			
Other Diseases of the Respiratory System	77											
Other Diseases of the Stomach (Cancer Excepted)	81											
Infantile Diarrhea, Acute	82	1						1				
Dysentery	83											
Other Diseases of the Intestines	87											1
Cirrhosis of the Liver	90											1
Other Diseases of the Liver	92											1
Inflammatory Peritonitis (Non-Puerperal)	96											1
Acute Nephritis	96											1
Bright's Disease	97	1										1
Diseases of the Bladder	102											1
Puerperal Hemorrhages	117											1
Puerperal Albuminuria and Eclampsia	121											1
Conenital Debility, Eterus and Sclerema	138	2	3			1						
Senile Debility	141											
Suicide or Attempt at Suicide	142											1
Other External Violence	152											1
Totals	2	9	4	1	1	2	0	7	5	6	6	

Death rate 10.32.

AGE PERIODS.	SEX.	COLOR.	NATIVITY.											SOCIAL CONDITION.					
			United States.	England.	France.	Germany.	Ireland.	Italy.	Sweden.	Hungary.	Switzerland.	Other foreign.	Not stated.	Married.	Single.	Widowed.	Not stated.	Total.	
Fifty to fifty-five.	3	2																	2
Fifty-five to sixty.	7	1																	10
Sixty to seventy.	11	3																	13
Seventy to eighty.	11	1																	11
Eighty to ninety.	2	1																	10
Over ninety.	1	1																	2
Not stated.	3	2																	7
Male.	3	2																	5
Female.	7	1																	10
Color of decedent white or designated by mark.	11	4																	15
United States.	8	3																	11
England.	1	1																	2
France.	2	1																	3
Germany.	1	1																	2
Ireland.	2	1																	3
Italy.	1	1																	2
Sweden.	1	1																	2
Hungary.	1	1																	2
Switzerland.	1	1																	2
Other foreign.	1	1																	2
Not stated.	3	2																	5
Married.	11	4																	15
Single.	3	1																	4
Widowed.	2	2																	4
Not stated.	1	1																	2
Total.	8	7	7	6	7	0	0	36	43	1	54	7	0	8	8	0	0	0	79

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**THE PHOTOGRAPHS ON THE PAGES THAT FOLLOW  
ARE STORED IN A PACKET ATTACHED TO THE INSIDE  
OF THE BACK COVER.**

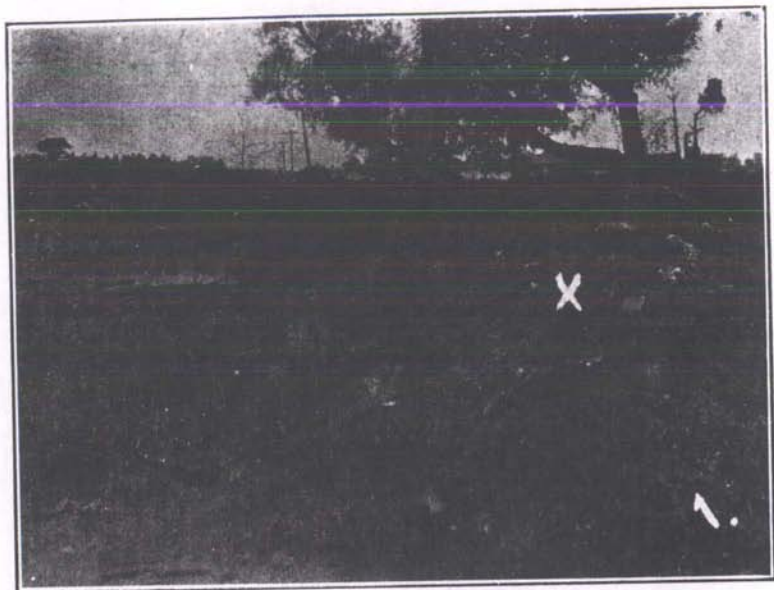




Oyster grounds near Highlands of Navesink, receive water from open ditch in Parkertown. (Page 184.)



Clamming grounds near Parkertown, receiving sewage of large populated district. (Page 184.)



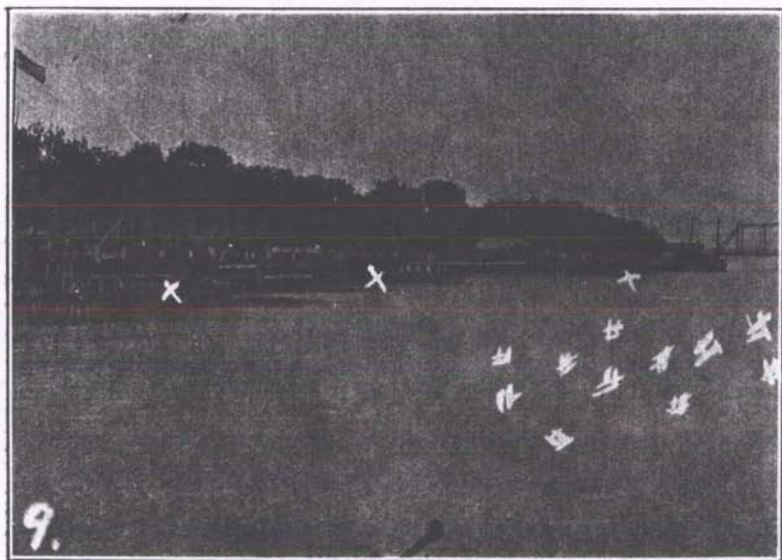
Night soil on the banks of Pleasure Bay near oyster grounds. (Page 184.)



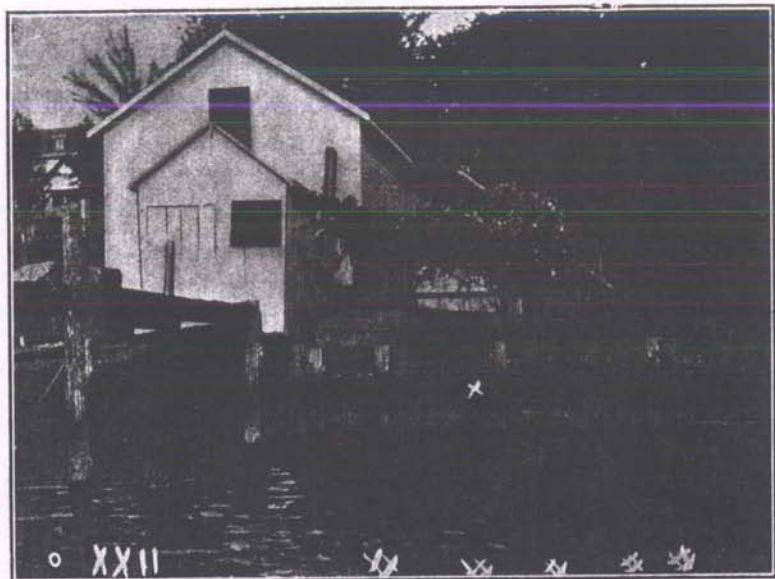
Sewer discharging near clam grounds, Highland Beach. (Page 184.)



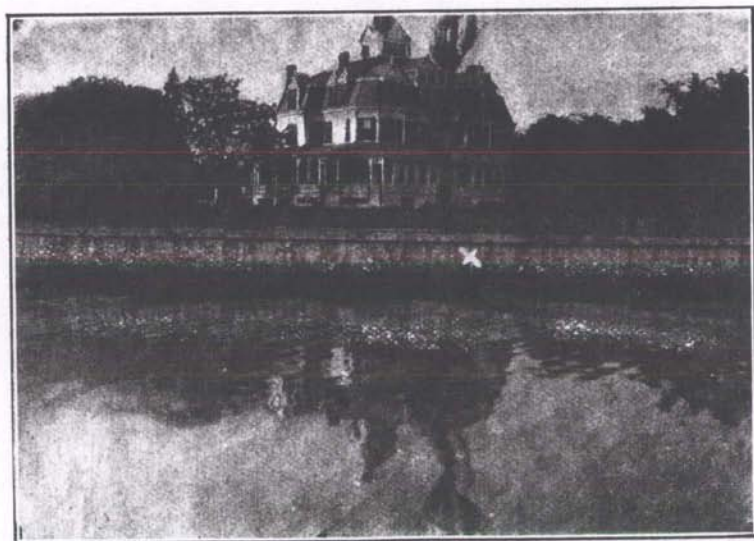
Sewage from hotel discharges directly upon oyster grounds. (Page 184.)



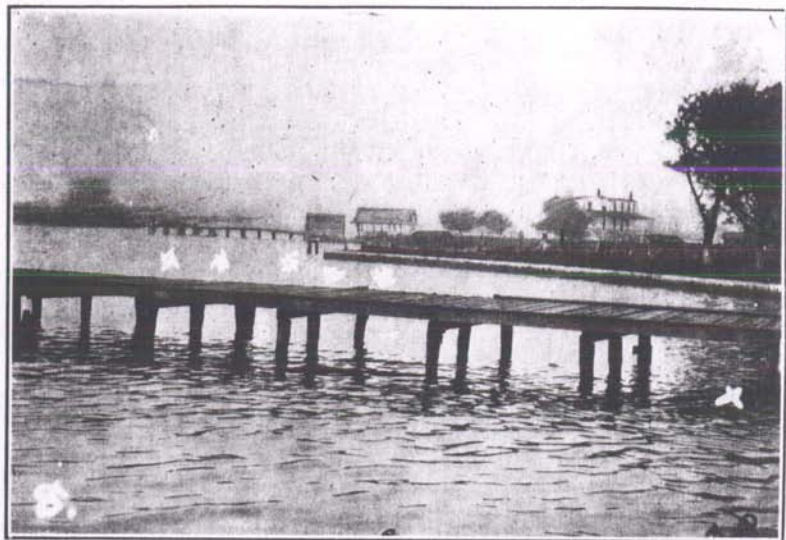
Pleasure Bay. Sewers from hotels discharge into water near oyster beds. (Page 184.)



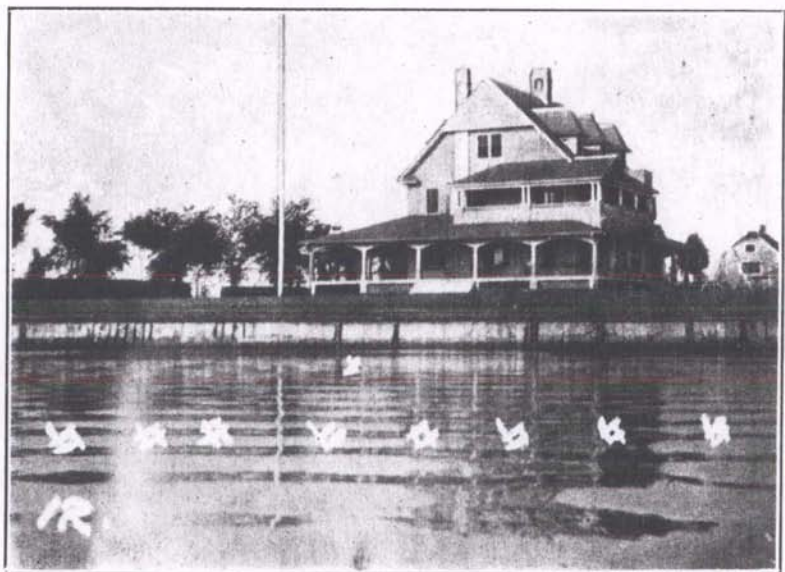
House sewer discharges directly upon oyster grounds in Shrewsbury river.  
(Page 184.)



Sewer discharges near oyster freshening grounds, Pleasure Bay. (Page 184.)



Sewage from Pleasure Bay house discharges beneath wharf. Oysters are planted nearby. (Page 184.)



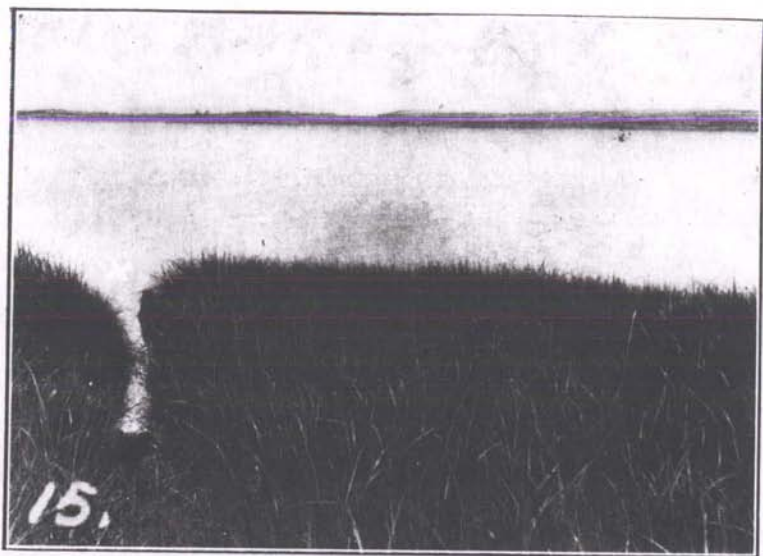
Sewage from this dwelling discharges directly upon oyster grounds. (Page 184.)



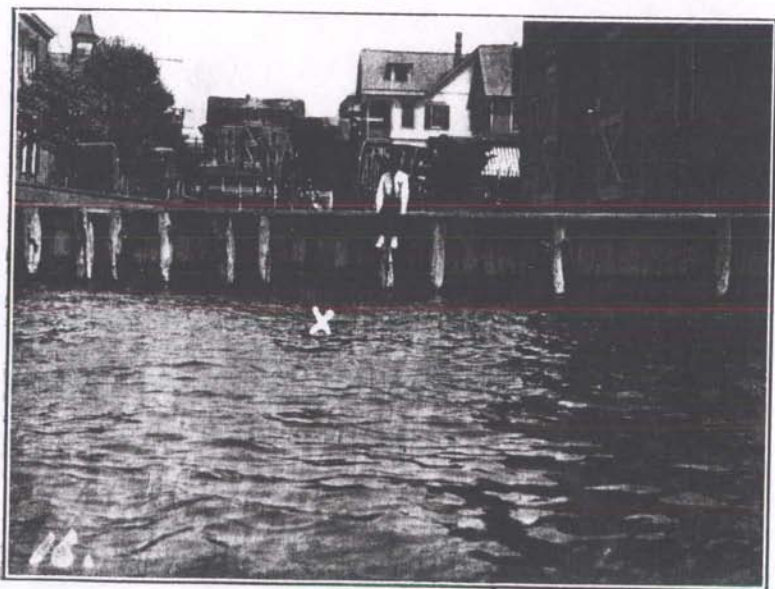
Sewer outlet into Shrewsbury river directly upon oyster ground. (Page 184.)



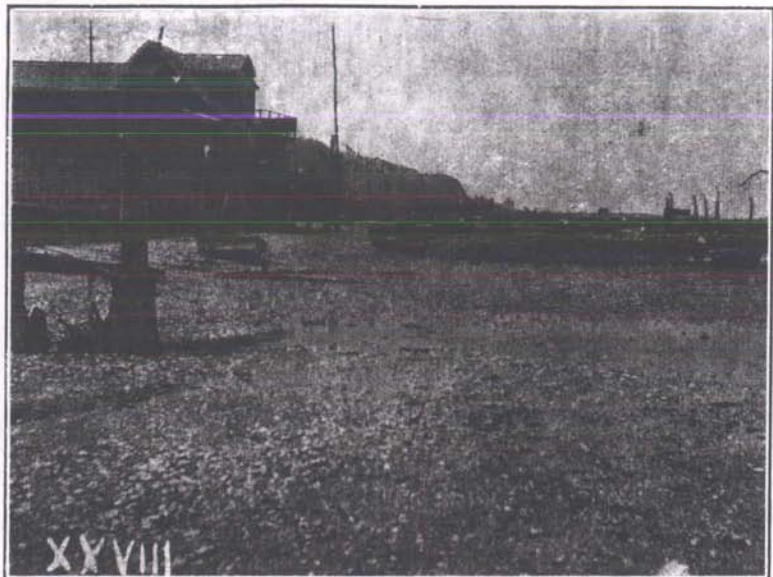
Sewer in Oceanic discharging near oyster grounds. (Page 184.)



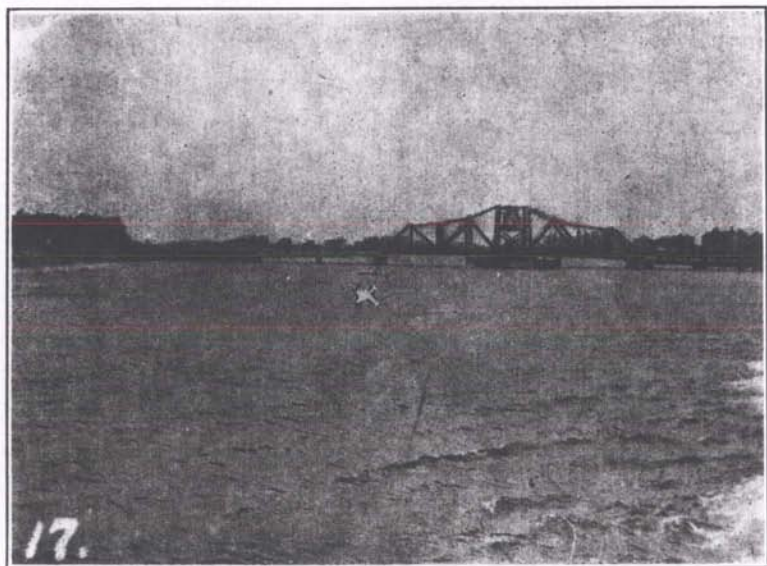
Sewer discharging upon oyster beds near Monmouth Beach. (Page 184.)



Seabright. Sewer discharges into river near clamming grounds. (Page 184.)

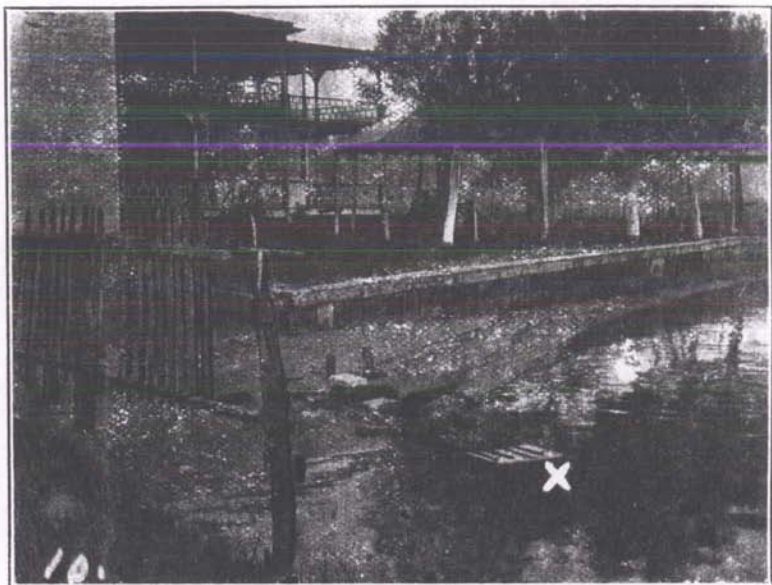


Parkertown. Clams are taken from waters near the outfall from an open sewer. (Page 184.)

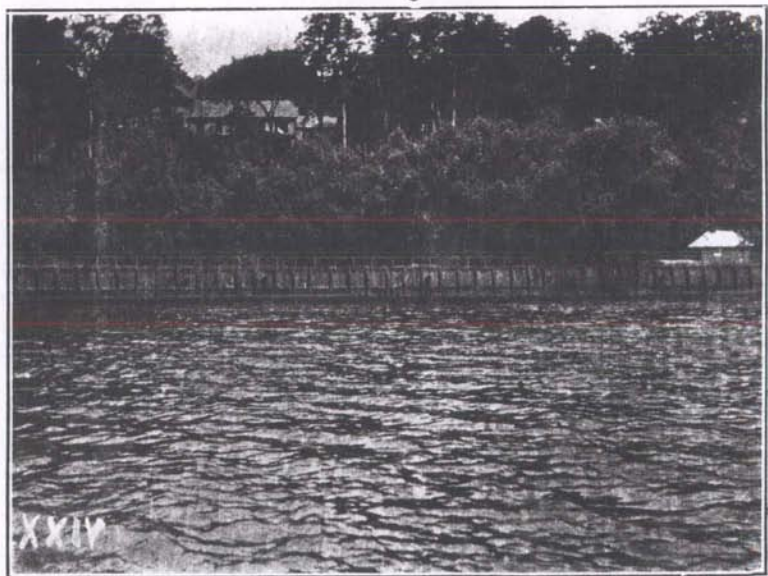


Polluted waters near Seabright from which clams are taken for market. (Page 184.)

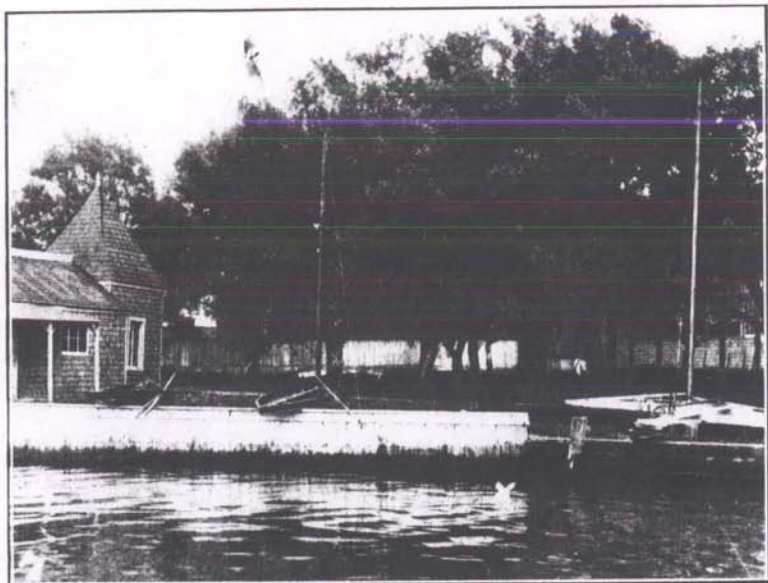




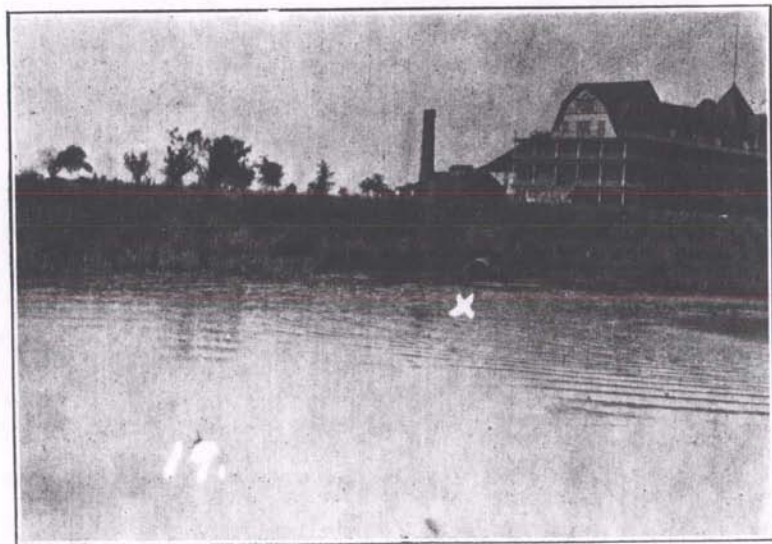
Sewer outlet from hotel within 50 feet of oyster beds. (Page 184.)



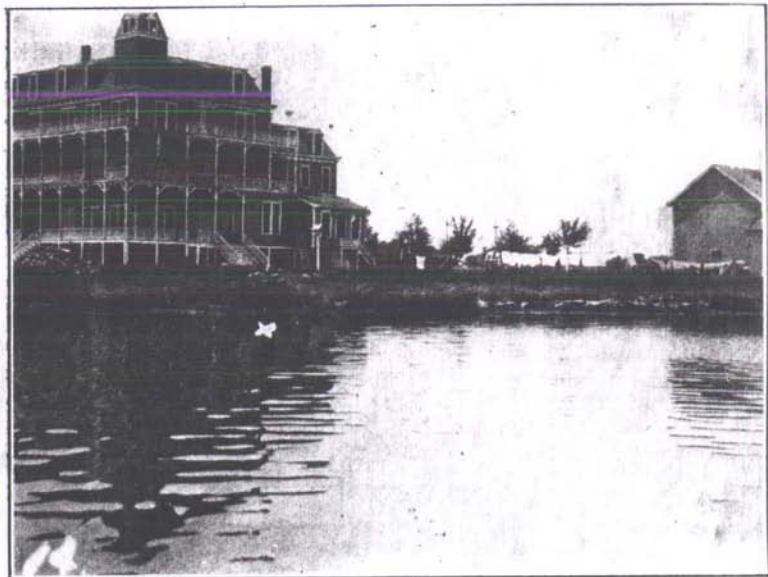
Drains discharging into Navesink river near oyster grounds. (Page 184.)



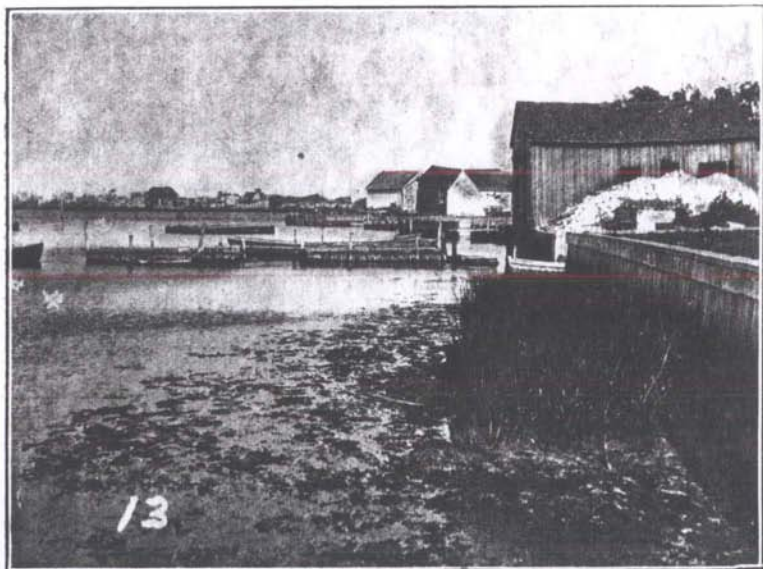
Sewage discharging into Pleasure Bay near oyster grounds. (Page 184.)



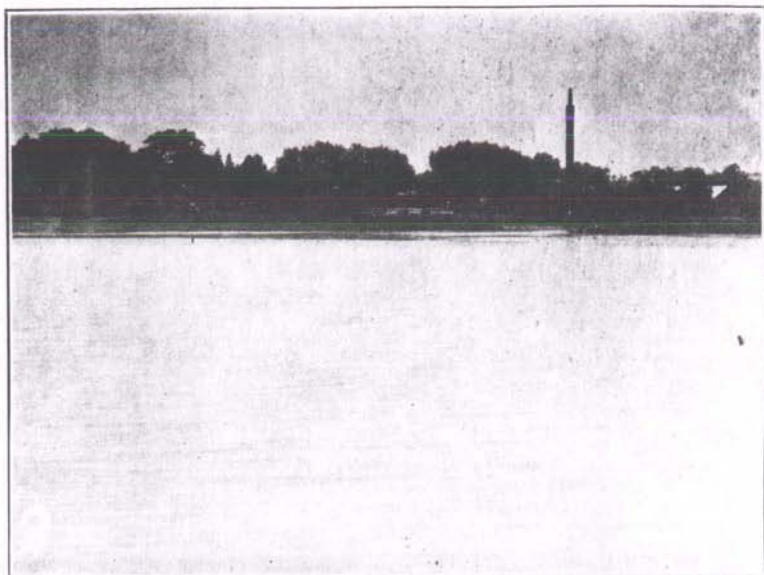
Sewer from hotel in Monmouth Park, discharging into Shrewsbury river near oyster grounds. (Page 184.)



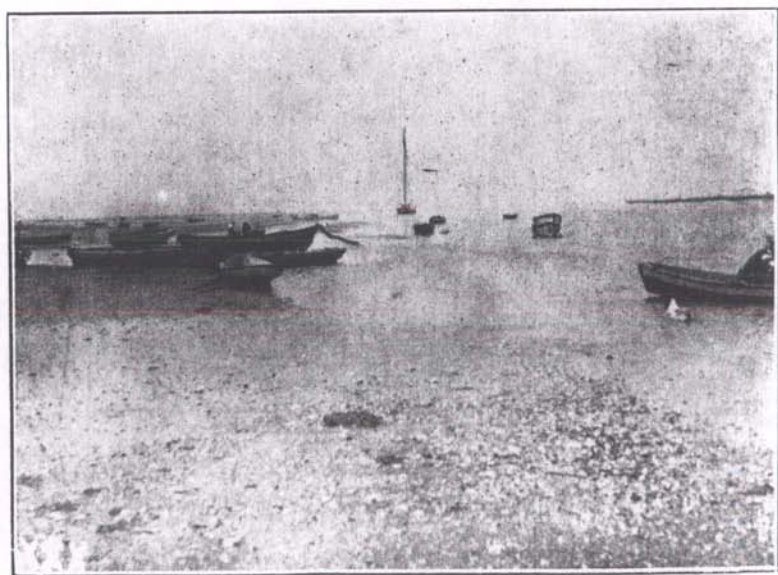
Sewer from hotel in Solomon's creek discharges near oyster grounds and floats. (Page 184.)



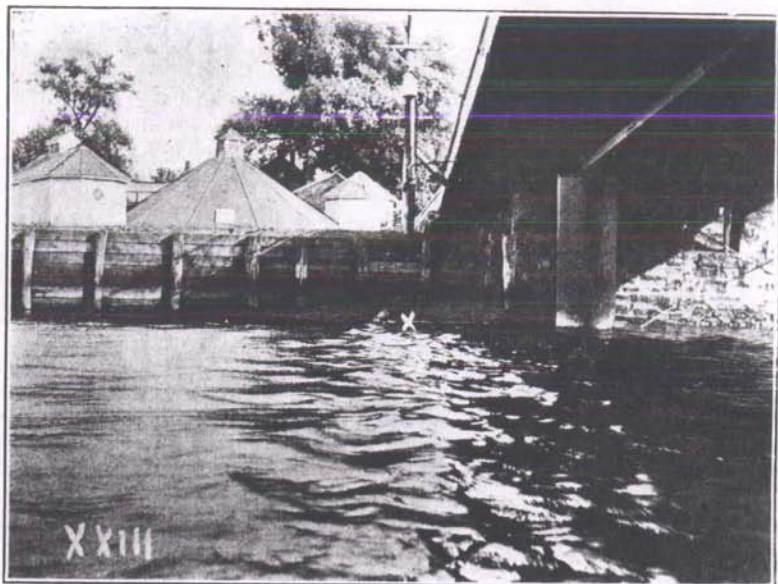
Oyster floats in Solomon's creek, near outfall of hotel sewer. (Page 184.)



Garbage destructor and night soil dump west of Long Branch, near oyster beds. (Page 184.)



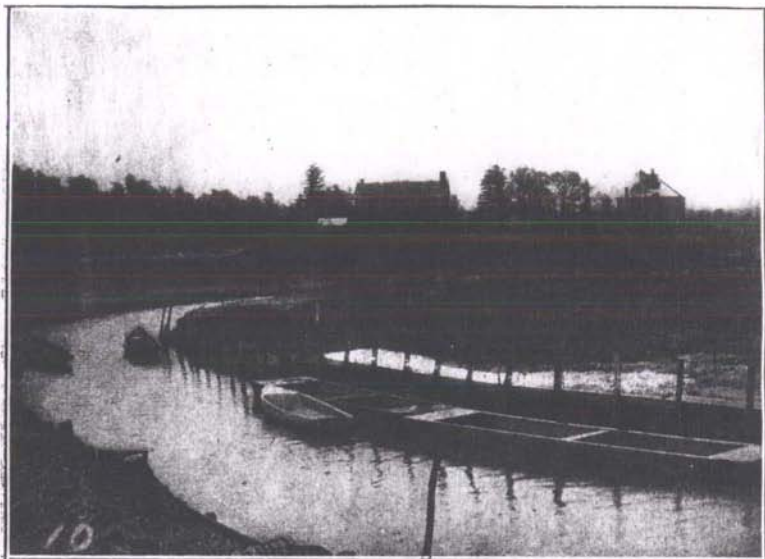
Claming grounds near Parkertown. (Page 184.)



Outlet of sewer at Red Bank, near oyster beds. (Page 184.)



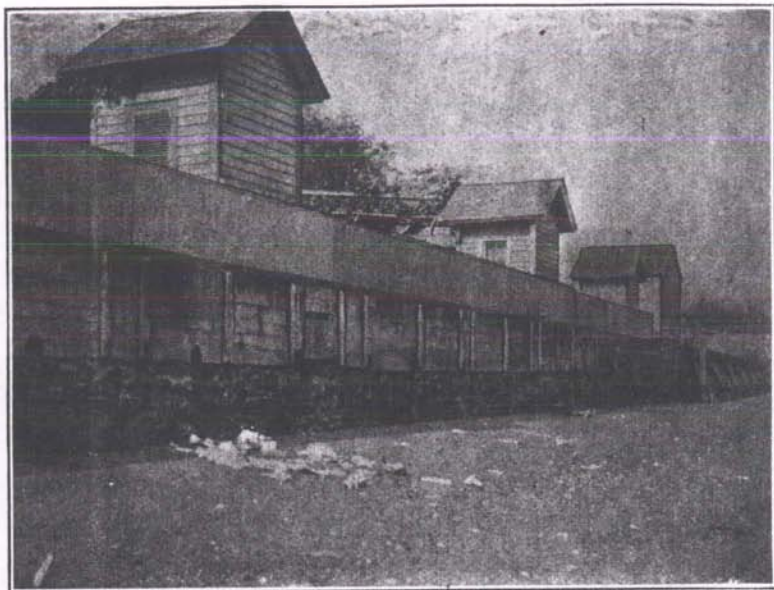
Red Bank; sewage discharged near oyster beds. (Page 184.)



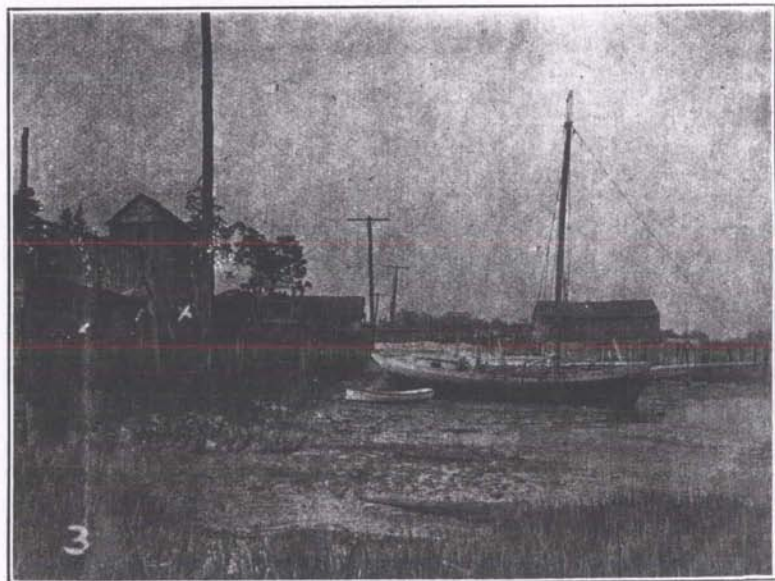
Oyster freshening stream near Keyport. (Page 185.)



Creek where oysters are freshened in Keyport. (Page 185.)



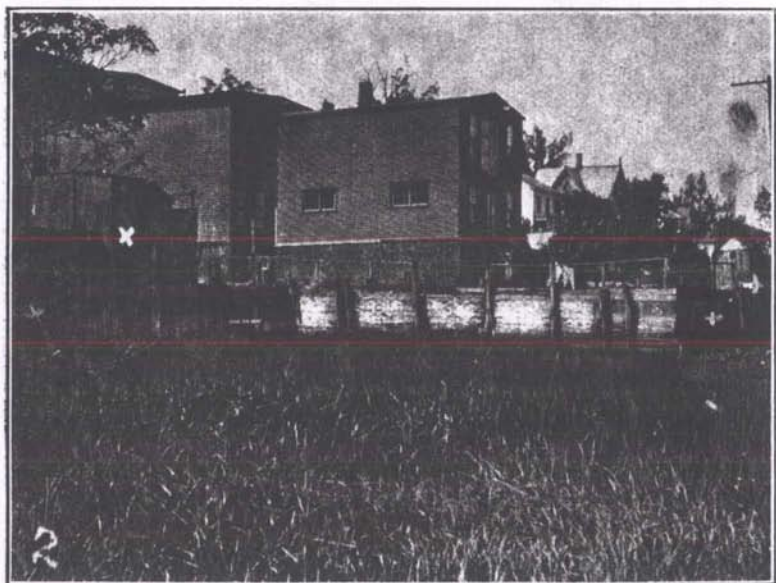
Low tide at Keyport. Oyster freshening grounds nearby. (Page 185.)



Privy located over waters near oyster freshening grounds at Keyport. (Page 185.)

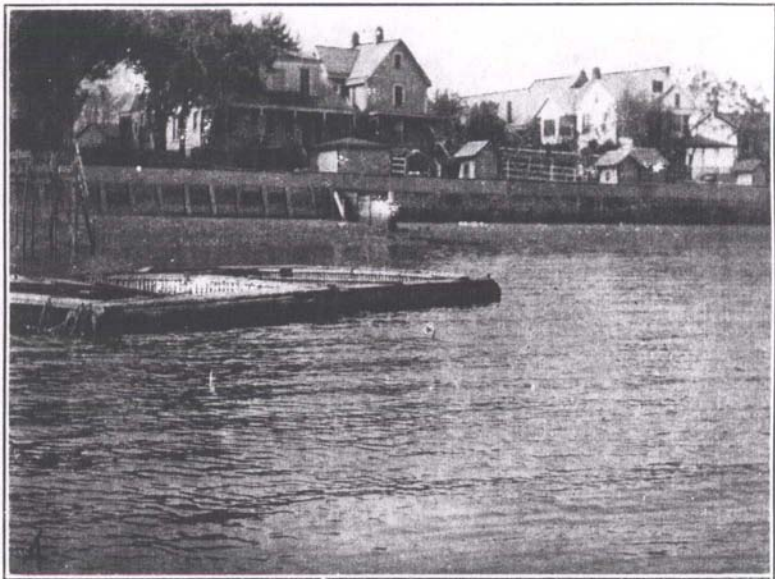


Privy in Keyport, near creek where oysters are freshened. (Page 185.)



Privy over marsh in Keyport, near creek in which oysters are freshened.  
(Page 185.)





Clam float at Keyport. Sewers discharging nearby. (Page 185.)



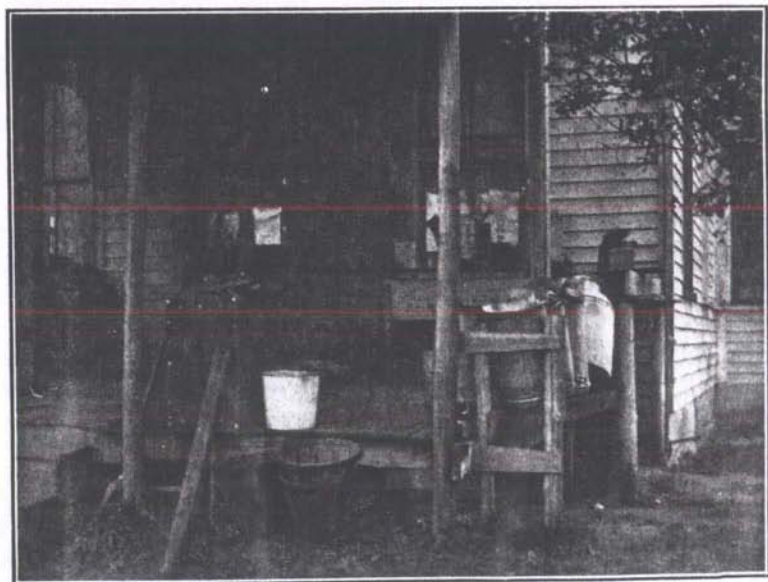
Well from which water is taken for washing cans and utensils on dairy premises. (Page 249.)



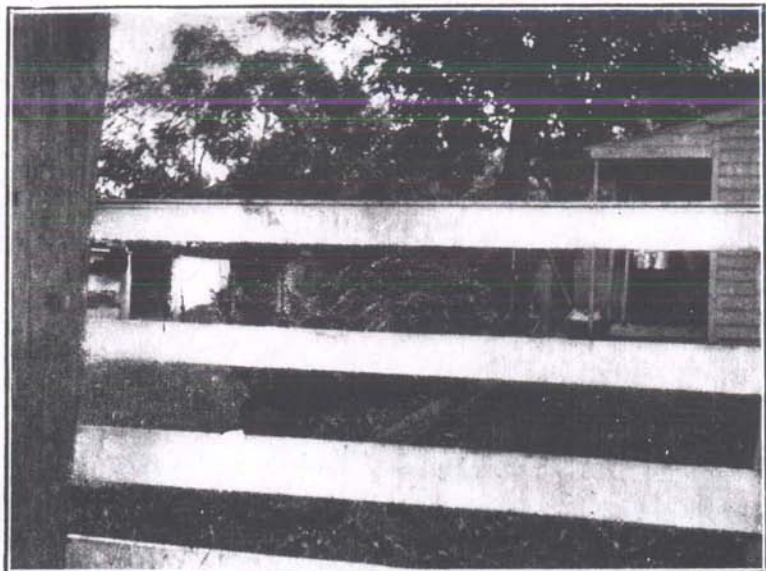
Condition of cows in stable on dairy premises. (Page 249.)



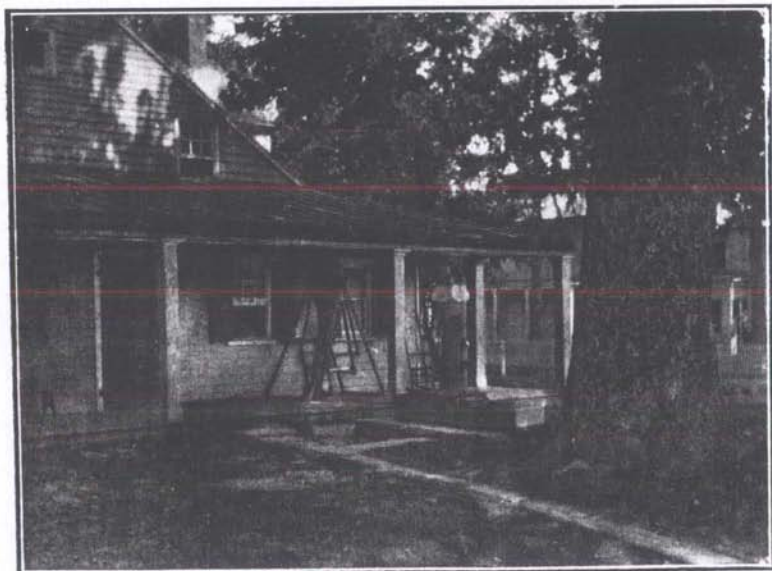
Pool receiving drainage from stable and hog pen, and in which milk is placed in cans to be cooled. (Page 249.)



Well located in back yard of dairy farm house. (Page 252.)



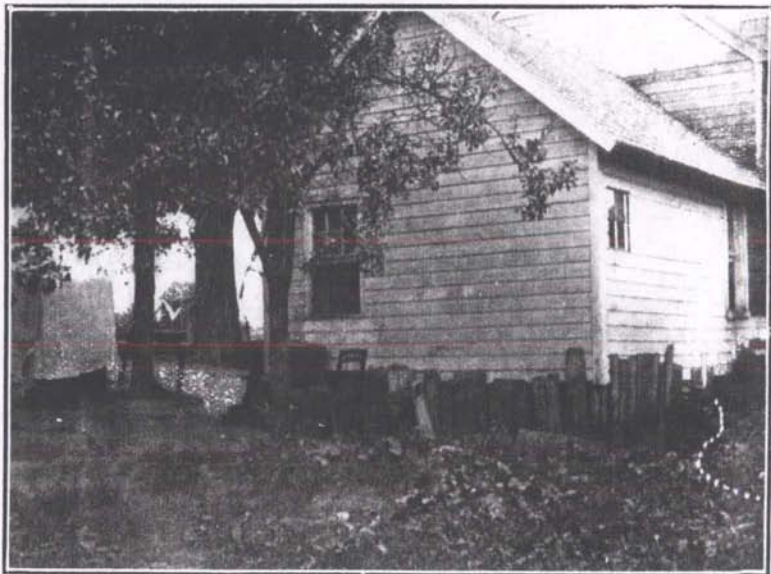
Door-yard well on dairy premises. (Page 256.)



Well near back door on dairy farm. (Page 277.)



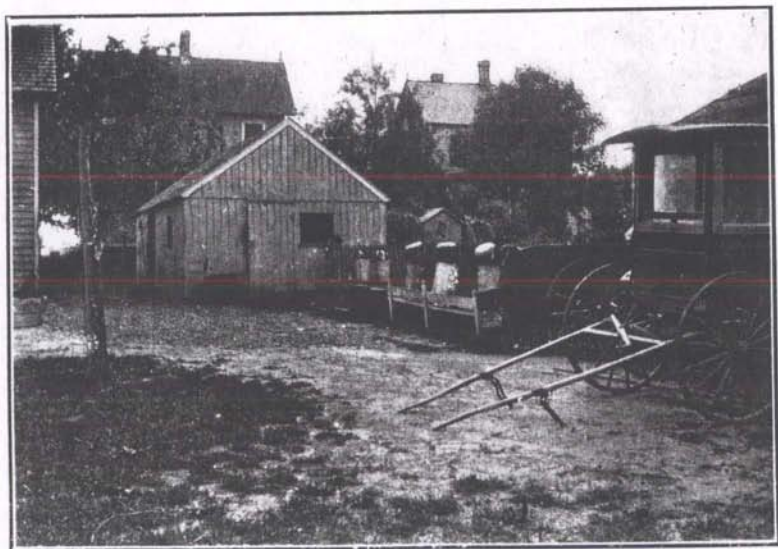
Well on dairy farm. (Page 258.)



The well on this dairy premises is under the house, and slops flow over the ground. (Page 259.)



Well in stableyard on dairy premises. (Page 261.)



Well on this dairy premises is under the milk house. (Page 262.)



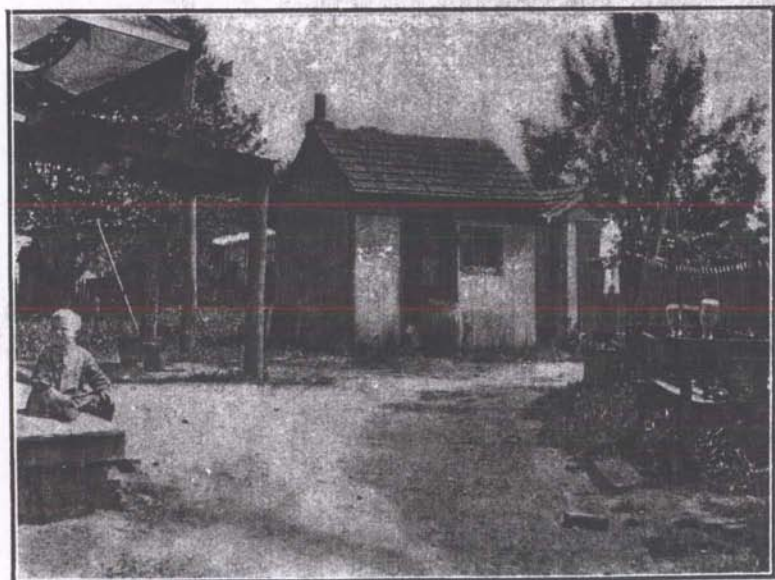
Dairy well. (Page 264.)



Stableyard on dairy premises. (Page 266.)

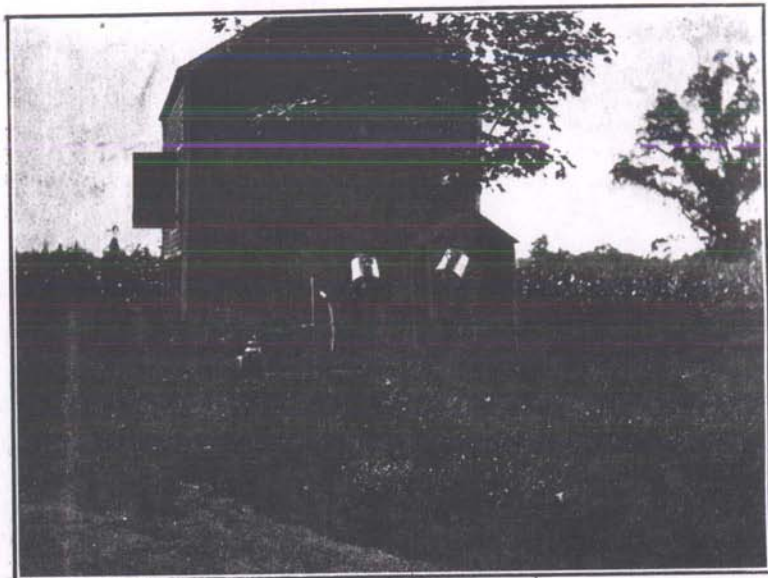


Well in dooryard on dairy premises. (Page 265.)

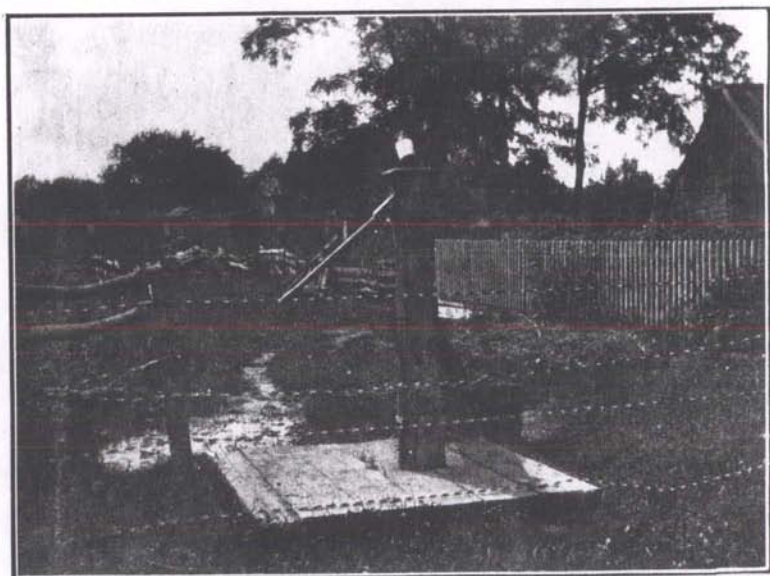


Well in backyard on dairy premises. (Page 265.)

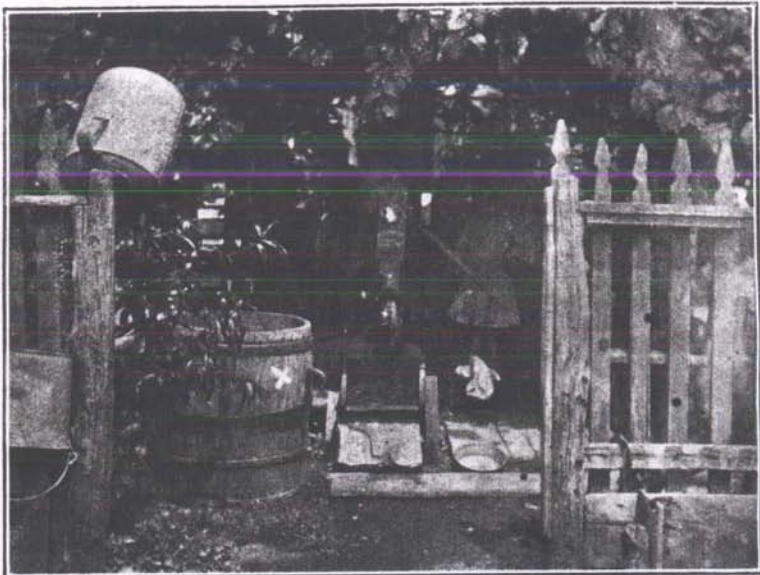




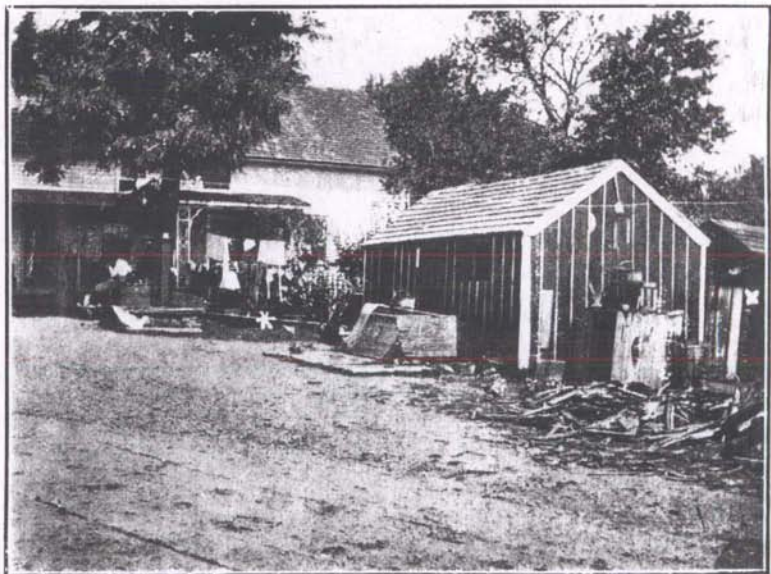
Well near privy on dairy premises. (Page 267.)



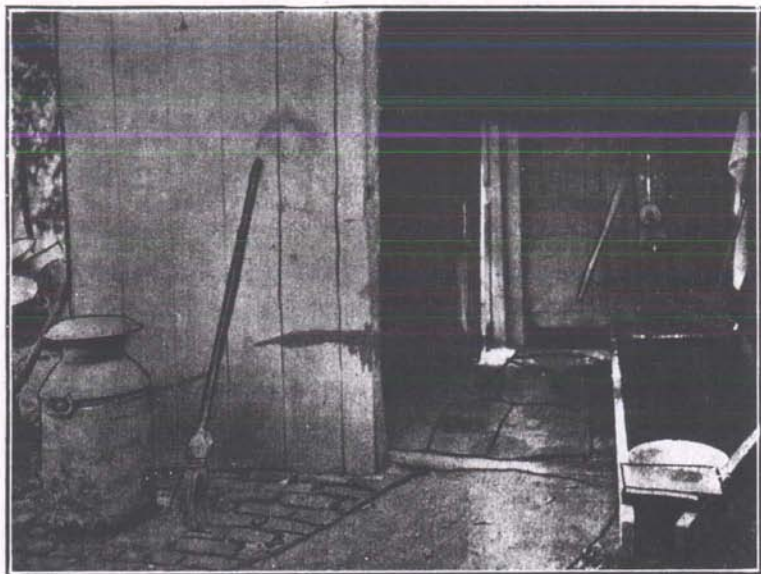
Well near pool of stagnant water, on dairy farm. (Page 266.)



Well near back door on dairy premises. (Page 270.)



Well on dairy farm. (Page 270.)



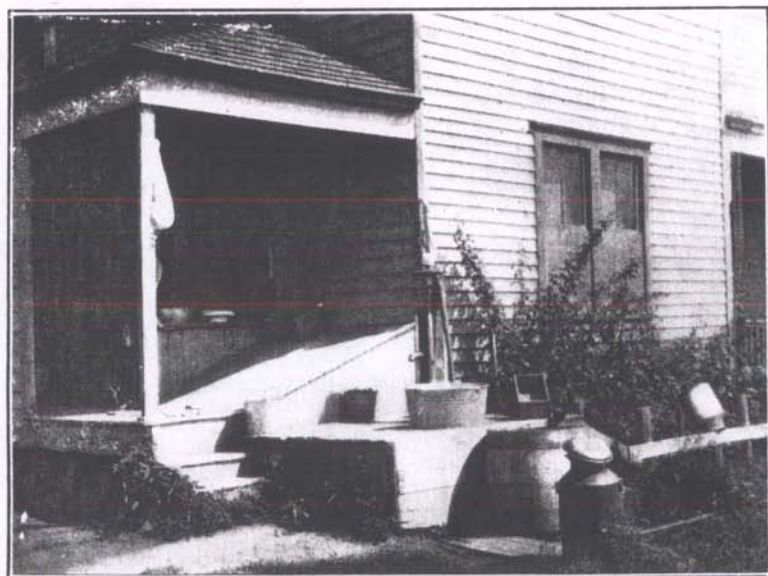
Well under shed in rear of dwelling on dairy farm. (Page 270.)



Well in barnyard on dairy farm. (Page 271.)



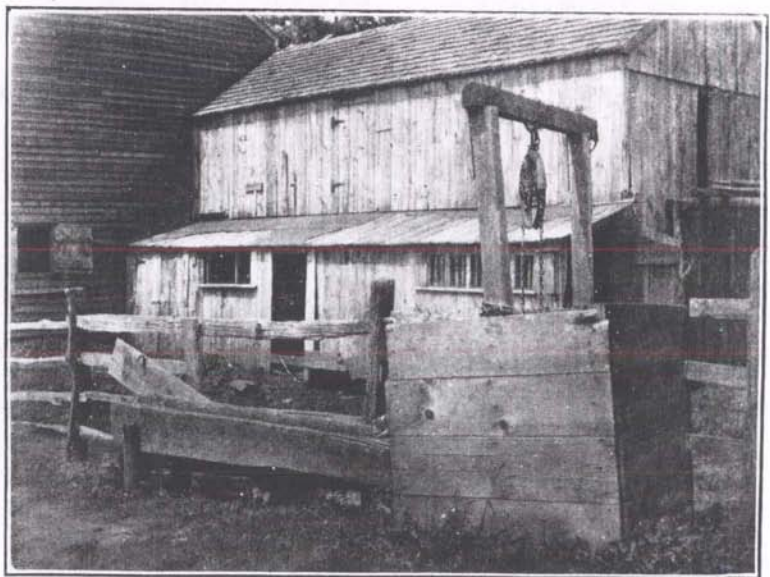
Well on dairy premises. (Page 273.)



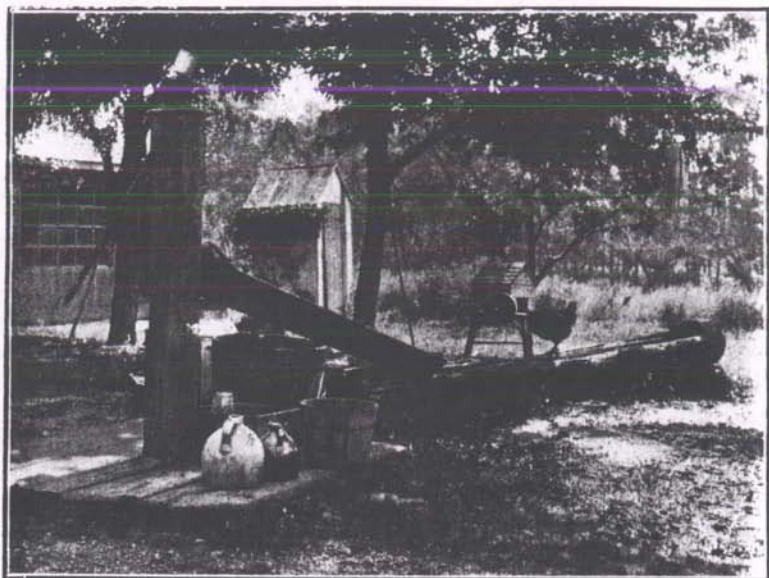
Well on milk depot premises. (Page 275.)



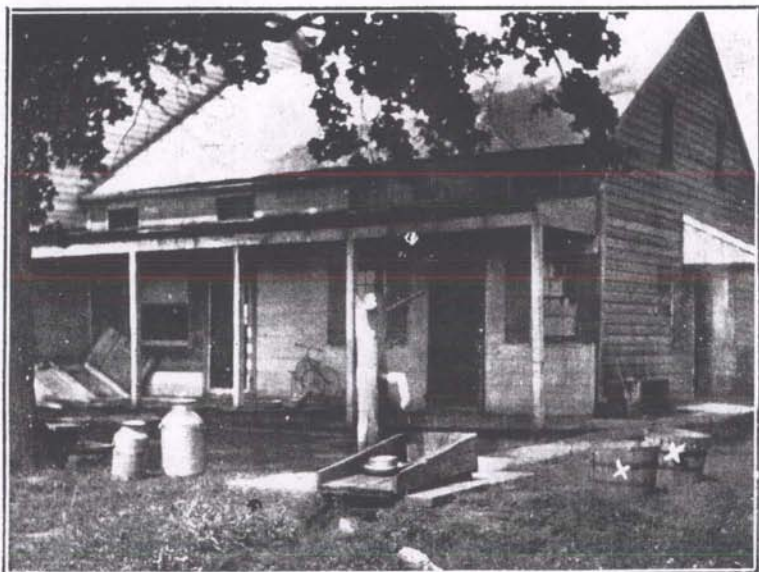
Well on premises where milk is sold. Water used for washing cans, bottles and utensils. (Page 280.)



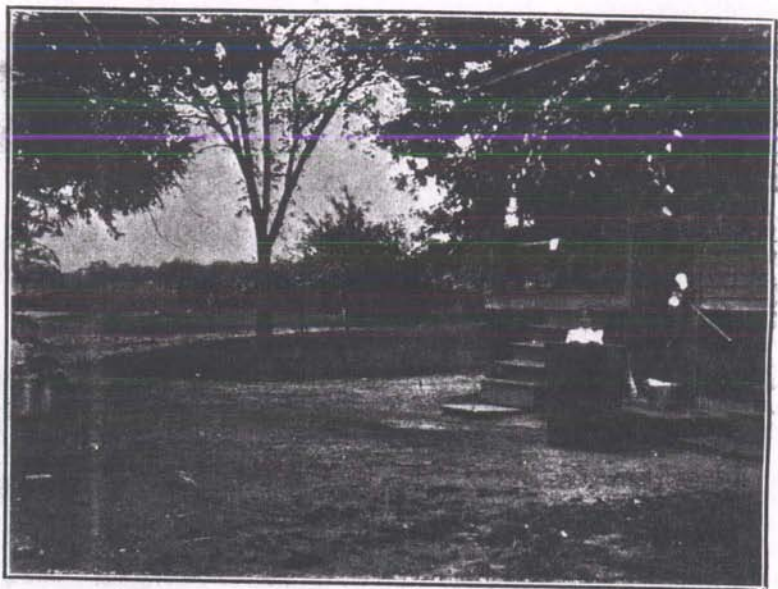
Well in barnyard on dairy premises. (Page 284.)



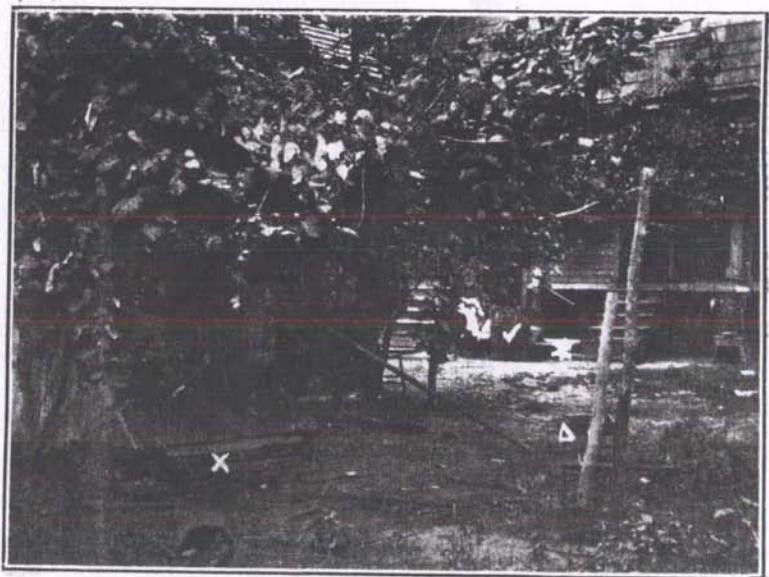
Dairy well. (Page 281.)



Dooryard well on dairy premises. (Page 283.)



Well 32 feet from privy vault on dairy farm. (Page 285.)



Well on dairy farm. (Page 285.)