

THIRTIETH ANNUAL REPORT

OF THE

Board of Health of the State of New Jersey

1906

AND

ANNUAL REPORT OF THE BUREAU OF VITAL STATISTICS



TRENTON, N. J.

THE JOHN L. MURPHY PUBLISHING CO., PRINTERS.

1907.

Board of Health of the State of New Jersey.

C. F. BRACKETT, *President.*

THE SECRETARY OF STATE, }
THE ATTORNEY-GENERAL, } *Members ex-officio.*
THE STATE GEOLOGIST, }

WILLIAM H. MURRAY,
LABAN DENNIS,

GEORGE P. OLCOTT,
WILLIAM M. LANNING,

HENRY B. RUE.

HENRY MITCHELL, *Secretary.*

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TRENTON, N. J., October 31st, 1906.

To His Excellency Edward C. Stokes, Governor of New Jersey:

SIR—In compliance with the provisions of section 3 of chapter 68 of the laws of 1887, I have the honor to transmit herewith the thirtieth annual report of the Board of Health of the State of New Jersey, and the report of the Bureau of Vital Statistics.

Very respectfully,

HENRY MITCHELL,

Secretary.

(1)

General Report.

To His Excellency Edward C. Stokes, Governor of New Jersey:

SIR—The State census of 1905 shows that the estimated increase in population in New Jersey during the past five years has been substantially correct, and that the published rates of mortality, based upon the estimated number of inhabitants, have therefore varied but little from the true figures. In the quinquennial tables which are herewith presented the figures are computed on the census statements of population, and it will be observed that they compare favorably with the results reached by the use of the estimates which are of necessity depended upon during the intercensal years. The census shows that five additional municipalities are now included in the list of sanitary districts having 5,000 inhabitants or over, and these towns are therefore named in the following table:

TABLE 1.—POPULATION OF THE COUNTIES OF NEW JERSEY AND OF MUNICIPALITIES HAVING 5,000 INHABITANTS OR OVER FOR THE CENSUS YEARS 1880, 1885, 1890, 1895, 1900 AND 1905.

	1880.	1885.	1890.	1895.	1900.	1905.
Atlantic County.....	18,704	22,356	28,826	34,750	46,402	59,862
Atlantic City.....	5,477	7,842	13,055	18,329	27,838	37,593
Bergen County.....	96,786	99,830	47,226	68,251	78,411	100,008
Englewood.....					6,253	7,922
Garfield.....						5,092
Hackensack.....			6,004		7,282	9,443
Rutherford.....						5,218
Burlington County.....	55,403	57,558	58,528	59,117	58,241	62,042
Bordentown.....	5,334	5,857	5,090	5,176	4,110	4,078
Burlington.....	7,227	7,690	7,264	7,844	7,392	8,068
Camden County.....	62,942	76,085	87,087	100,104	107,643	121,555
Camden City.....	41,859	52,834	58,313	68,467	76,063	83,393
Gloucester City.....	5,347	5,966	6,564	6,225	6,840	8,055
Capo May County.....	9,765	10,744	11,263	12,855	13,201	17,390
Cumberland County.....	37,687	41,962	45,438	49,815	51,198	52,110
Bridgeton.....	8,722	10,065	11,224	13,292	13,919	15,624
Milville.....	7,660	8,824	10,002	10,466	10,588	11,834
Essex County.....	189,929	213,764	256,098	312,000	359,053	409,928
Bloomfield.....			7,708	8,098	9,668	11,668
East Orange.....			13,282	17,927	21,506	25,175
Irvington.....				3,888	5,255	7,180
Montclair.....			8,656	11,738	13,962	16,370
Newark.....	136,508	152,368	181,830	215,806	246,070	283,289
Orange.....	13,207	15,231	18,844	22,792	24,141	26,101
West Orange.....			4,838	5,854	6,889	7,572

4 REPORT OF THE BOARD OF HEALTH.

TABLE 1.—POPULATION OF THE COUNTIES OF NEW JERSEY AND OF MUNICIPALITIES HAVING 5,000 INHABITANTS OR OVER FOR THE CENSUS YEARS 1880, 1885, 1890, 1895, 1900 AND 1905—Continued.

	1880.	1885.	1890.	1895.	1900.	1905.
Gloucester County.....	25,898	27,608	28,649	31,191	31,905	34,477
Hudson County.....	187,944	240,842	275,126	328,680	386,048	449,879
Bayonne.....	9,372	33,060	19,063	19,856	32,722	42,262
Harrison.....	6,998	6,806	8,828	9,672	10,596	12,829
Hoboken.....	30,999	37,724	43,648	54,083	59,364	65,468
Jersey City.....	120,722	183,513	163,003	182,713	206,433	232,699
Kearny.....				10,487	10,896	13,601
Town of Union.....	5,849	8,398	10,613	13,336	15,187	17,005
West Hoboken.....			11,665	18,296	22,094	29,082
West New York.....					2,267	7,196
Hunterdon County.....	38,570	37,420	35,353	35,334	34,507	33,258
Lambertville.....						5,016
Mercer County.....	58,061	66,785	79,978	85,538	95,365	110,516
Chambersburg.....	5,437	8,542				6,029
Princeton.....	29,910	34,886	57,458	62,518	73,307	84,180
Trenton.....	52,286	56,190	61,734	70,058	79,702	89,273
Middlesex County.....	17,166	18,238	19,603	19,310	20,066	22,133
New Brunswick.....			9,512	13,030	17,699	25,895
Perth Amboy.....			4,380	5,571	6,349	6,236
South Amboy.....			7,231	7,338	8,372	12,183
Monmouth County.....	55,588	62,324	69,128	75,543	82,057	87,919
Long Branch.....		5,140	7,261	4,145	4,888	6,263
Red Bank.....						67,984
Morris County.....	50,861	50,675	54,101	59,586	65,156	67,984
Dover.....					5,998	6,353
Morristown.....	6,837	8,790	8,156	10,290	11,267	14,146
Ocean County.....	14,453	15,586	15,974	18,739	19,747	20,880
Passaic County.....	68,960	83,374	105,046	133,227	155,202	175,858
Passaic City.....	6,532		13,028	17,894	27,777	37,387
Paterson.....	51,031		78,847	97,844	105,171	111,529
Salem County.....	24,579	25,373	25,151	26,064	25,880	26,278
Salem City.....	3,066	5,316	5,516	6,337	5,811	6,443
Somerset County.....	27,162	27,425	28,311	30,447	32,948	36,270
North Plainfield.....					5,049	5,516
Sussex County.....	23,539			4,285	24,134	23,325
Union County.....	55,371	22,401	22,259	22,586	24,134	23,325
Elizabeth.....	28,229	32,119	37,764	43,884	52,130	60,509
Plainfield.....	8,125	8,913	11,267	13,629	15,369	18,468
Railway.....	6,455	6,861	7,105	7,945	7,933	8,849
Summit.....				4,450	5,302	6,345
Westfield.....						5,265
Warren County.....	36,580	37,737	36,553	37,283	37,781	40,403
Phillipsburg.....	7,181	8,058	8,644	9,081	10,352	13,332

PUBLIC WATER—SUPPLIES.

We desire again to call attention to the advisability of providing additional protection for public water-supplies against pollution by an enactment which will effectually prohibit bathing and swimming in streams from which water for public uses is obtained. We also desire to call attention to a reaffirmation by the court of chancery of the validity of the act of 1899 which prohibits the pollution of streams of water which are used to furnish any public supply for drinking purposes. In the case of the State board of health against George Ihnken it was shown that the waste water from a creamery

building was discharged into one of the tributaries of a stream which flows into a reservoir from which water is taken for public uses in the city of Newark. The court enjoined the managers of the creamery from discharging waste fluids into the stream, and sustained the view previously adopted in the Diamond Mills case, where the washings from a paper mill were allowed to flow into water used as a public supply in the city of Rahway. Another action which has been brought by the State board of health under the same statute, to restrain the borough of Vineland from discharging the effluent from the sewage filtration beds into the Maurice river, is now pending before the court of chancery.

ANNUAL SANITARY CONFERENCE.

The act approved April 19th, 1906, providing for an annual conference between the State board of health and delegates from local boards, promises to prove exceedingly valuable in promoting a greater degree of efficiency in sanitary administration throughout the State. The purpose of this conference, as stated in the law, is "for the consideration of questions relating to the prevention of the spread of dangerous communicable diseases, and the promotion of the public health." But little uniformity at present exists in the measures which are employed in the different sanitary districts, and this dissimilarity in the operations of the different health boards is partly due to the lack of opportunity for comparison of views concerning common problems with the officials of other districts. The act approved April 8th, 1903, which provides that future appointees of local boards of health shall be qualified for the duties which they are expected to perform, will doubtless effect valuable improvements in the service, and annual meetings between these officers for the discussion of questions relating to their work will tend to prevent the repetition of errors and give to each individual the advantages which attend the experience of fellow-officials. The first of these conferences was held in the State House, Trenton, October 19th and 20th, 1906. A report of the proceedings is presented herewith.

ANTHRAX.

The reappearance of anthrax during the past summer in Cumberland and Salem counties again suggests the advisability of supplying from the State laboratory of hygiene the immunizing material which is the main reliance for arresting the spread of this most fatal of all diseases affecting cattle in New Jersey. Several years ago this question was presented in these reports, and the subject was given some consideration, but no action was taken by the legislature. Because of the liability of causing a small proportion of deaths among cattle which are treated with an immunizing fluid of a reliable strength, and the consequent danger of suits for damages which is incurred by private manufacturers if they supply anthrax vaccine having a potency which can with certainty be depended upon to protect cattle and horses against the development of anthrax after exposure to the infection of this disease, immunizing vaccine of sufficient strength cannot be bought in the market. It has been learned in the State of Pennsylvania that recurrences of anthrax can be prevented only by providing, free of cost, a quality of vaccine which can be relied upon to fully immunize the animals. This has been done in Pennsylvania and outbreaks of anthrax have been greatly diminished in that State. Proposals by this board to purchase anthrax vaccine of reliable strength from the State authorities of Pennsylvania have been refused, for the same reasons which apply in the cases of private manufacturers. We, therefore, recommend that the anti-anthrax vaccine which is needed in New Jersey shall be prepared under the direction of the State laboratory of hygiene, and that this material shall be furnished by the State, without cost, for the uses of owners of cattle. All cattle in the infected districts should be immunized early every spring, before the animals are turned out to pasture, and before any case of anthrax has developed among them. It is estimated that the cost to the State for the manufacture of anthrax vaccine would not exceed \$1,000 annually, after the plant has been provided, and that the cost of the necessary building and equipment would probably not exceed \$15,000.

THE MERIT SYSTEM.

The merit system, in selecting employes for the public health service in New Jersey, was adopted by the State board of health April 10th, 1896, and since that date permanent appointments have been made only after the applicant has been tested for fitness for the duties to which he is to be assigned. Following is the record of the action of the board governing this matter:

"1. That a new standing committee shall be appointed in accordance with the provisions of section 10 of the by-laws, and that to this committee shall be assigned the duty of conducting suitable examinations for fitness in the case of all persons who may hereafter apply for appointment to any position within control of this board.

"2. That hereafter every applicant for appointment by this board to any official position shall be of good moral character and shall make application in writing upon blanks furnished by the board.

"3. All examinations to be written, as far as possible, and all examination papers and ratings to be preserved for reference.

"4. Appointments to be made from an eligible list of applicants, certified by the said committee to have passed a satisfactory examination in the line of service required.

"5. All applications to be submitted upon the blank forms furnished by the board, and they should include the following facts: Name of applicant. Age. Sex. Residence. Previous employment (during preceding two years)."

In the following pages a statement of the work of the board during the year is presented, including also the annual statistical report.

Respectfully submitted,

SAMUEL D. DICKINSON.
ROBERT H. McCARTER.
HENRY B. KUMMEL.
WILLIAM H. MURRAY.
GEORGE P. OLCOTT.
LABAN DENNIS.
CYRUS F. BRACKETT.
WILLIAM M. LANNING.
HENRY B. RUE.
HENRY MITCHELL.

Secretary's Report.

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

GENTLEMEN—The number of certificates of births received during the year ending December 31st, 1905, was 39,689, this being 938 more than during the previous year. A legislative bill having for its purpose the improvement of the system at present employed to secure reports of births, marriages and deaths, was passed by both houses during the last session of the legislature, but in the form in which it was presented it did not meet with the approval of the Governor and it was vetoed. The neglect of those who professionally attend at the births of children to report the facts to the local registrar is believed to be due in part to the long period (thirty days) which, under the present law, may elapse before the certificate is required to be transmitted and filed, and to overcome this defective feature the new bill named five days in place of thirty. If the physician or midwife knows that a whole month may lawfully pass before the certificate is prepared, those who are inclined by nature or training to procrastinate are liable to overlook the duty altogether, while if only five days is allowed in which to perform this service, it appears to have better chance of attention. The actual time consumed in preparing the certificate, except in very exceptional cases, does not exceed five minutes, and there is no good reason for long delay in attending to a matter which is a most important public duty, and which is often of great value also to the individual whose birth is recorded. The bill provided for an increase in the registration fee to twenty cents for every birth certificate received by the local registrar of vital statistics. This provision was incorporated in the bill for the purpose of stimulating the local officers to more active efforts to collect the certificates.

TABLE 2.—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-SEVEN YEARS ENDING DECEMBER 31, 1905.

YEAR.	Population.*	BIRTHS.		MARRIAGES.		DEATHS.	
		Number of births reported.	Birth-rate per 1,000 population.	Number of marriages.	Persons married per 1,000 population.	Number of deaths.	Death-rate per 1,000 population.
1879.....	1,020,584	23,116	22.65	7,096	13.91	20,440	20.03
1880.....	1,130,892	23,680	20.94	7,963	14.08	18,967	16.77
1881.....	1,160,275	23,484	20.24	8,109	13.98	20,812	17.94
1882.....	1,169,638	23,108	19.42	8,887	14.86	25,959	21.82
1883.....	1,206,048	24,180	20.21	9,166	15.16	23,810	19.28
1884.....	1,248,224	25,268	20.20	8,968	14.37	21,716	17.40
1885.....	1,278,063	24,077	18.84	8,880	14.07	23,807	18.63
1886.....	1,310,431	25,497	19.46	12,351	18.85	22,734	17.35
1887.....	1,342,820	27,340	20.36	15,416	22.06	24,331	18.12
1888.....	1,375,227	28,074	20.41	16,025	23.31	27,173	19.76
1889.....	1,407,625	29,099	20.67	15,726	22.34	26,543	18.86
1890.....	1,441,017	30,103	20.89	15,964	21.60	28,330	19.80
1891.....	1,478,784	28,882	19.53	15,305	20.70	28,840	19.50
1892.....	1,511,658	30,627	20.26	16,082	21.28	32,685	21.62
1893.....	1,538,799	32,285	20.98	17,178	22.33	30,596	19.88
1894.....	1,578,373	33,662	21.33	16,245	20.58	30,004	19.09
1895.....	1,672,942	31,742	18.97	15,875	18.98	30,634	18.31
1896.....	1,718,543	31,207	18.16	18,370	21.38	30,767	17.90
1897.....	1,764,144	31,595	17.91	18,171	20.60	29,822	16.90
1898.....	1,810,008	32,515	17.96	18,213	14.39	27,337	15.11
1899.....	1,853,872	29,419	15.84	18,336	14.37	30,999	16.70
1900.....	1,883,693	32,270	17.13	14,611	15.31	31,474	16.62
1901.....	1,925,781	34,842	18.08	16,539	17.18	31,739	16.48
1902.....	1,967,898	35,116	17.84	18,150	18.45	31,319	15.91
1903.....	2,016,797	37,242	18.47	19,512	19.35	31,820	15.67
1904.....	2,058,909	38,751	18.82	18,919	18.88	33,288	17.14
1905.....	2,144,143	39,689	18.51	20,572	19.19	38,864	15.79

* 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 1898 was directly consequent upon the enactment of the law requiring a license in cases where both parties are non-residents of the State.

Marriages.—The number of marriages in New Jersey during the year ending December 31st, 1905, was 20,572. This number exceeds that of any previous year and probably indicates the influence upon marriage which the general prosperity among all classes exerts. The following table shows the number of marriages per 1,000 inhabitants for each year from 1879 to 1905:

TABLE 3.—SHOWING NUMBER OF MARRIAGES RECORDED IN NEW JERSEY FOR THE TWENTY-SEVEN YEARS ENDING DECEMBER 31, 1905.

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	18,370
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	16,589	18,150	19,512	18,919	20,572
Persons married per 1,000 population.....	20.60	14.50	15.40	15.51	17.23	18.45	19.35	18.38	19.19

Deaths.—The deaths from all causes in New Jersey for the year ending December 31st, 1905, numbered 33,864, and the population by the State census was 2,144,143, thus giving a death-rate of 15.79 per 1,000 inhabitants. This is a lower death-rate than that of any preceding year except the year 1898, when the rate was 15.11. The diminution in the annual mortality in New Jersey is shown very clearly by comparing the average death-rate for the first eighteen years, during which the records were tabulated (1879-1896) with the figures which have been recorded during the nine years ending December 31st, 1905. During the first of these periods the average annual death-rate was 19.00 per 1,000 inhabitants, while in the latter period the average rate was 16.28. By reference to the tables which follow it will be seen that this improvement has been largely due to the diminished number of deaths which have been caused by the preventable affections, particularly in pulmonary tuberculosis, diarrhoeal diseases of children, diphtheria, typhoid fever and scarlet fever.

TABLE 4.—DEATHS IN NEW JERSEY, PER 10,000 POPULATION, FROM CERTAIN CLASSIFIED CAUSES, FOR TWENTY-SEVEN YEARS.

CAUSES OF DEATH.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.
Acute lung diseases.....	21.16	17.57	17.30	23.13	22.70	17.41	20.07	17.55	19.04
Consumption.....	27.31	23.99	25.76	29.21	25.81	25.75	25.97	24.45	27.20
Diarrhoeal 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	14.48	14.15	16.80	13.92	12.80	11.01	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.....	10.29	8.88	9.80	6.22	7.63	8.62	8.91	9.25	9.24
Renal and cystic diseases.....	5.46	4.96	5.24	6.42	6.27	7.14	7.94	7.06	6.50
Violent deaths.....				6.60	7.50		6.59	7.00	7.82
Cancer.....	3.70	3.75	3.88	3.37	3.31	3.87	3.89	4.15	4.21
Typhoid fever.....	3.17	3.29	4.94	7.43	4.66	5.12	5.02	4.15	3.83
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	1.36	.92	.41	2.09	1.84
Malarial fever.....	2.62	2.39	3.74	3.10	2.39	1.84	1.62	1.85	1.61
Measles.....	.73	.76	.60	.73	1.08	1.51	1.05	.67	2.30
Erysipelas.....	1.34	.96	1.06	.79	.74	.64	.57	.60	.71
Acute rheumatism.....	.74	.56	.76	.43	.27	.49	.28	.51	.96
Small-pox.....		.13	2.18	3.06	.44	.56	.01	.03	.03

TABLE 4.—DEATHS IN NEW JERSEY, PER 10,000 POPULATION, FROM CERTAIN CLASSIFIED CAUSES, FOR TWENTY-SEVEN YEARS—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	23.90	24.46	3.37	23.64	22.28	21.77	21.17	19.53
Diarrhoeal 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.....	15.23	14.14	16.01	15.77	16.25	16.96	15.28	15.59	15.18
Brain and nervous diseases of children.....	14.33	13.66	14.10	13.72	14.83	13.46	12.11	11.60	11.74
Diseases of heart and circulation.....	12.29	12.68	18.49	18.25	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	8.75	10.22
Digestive and intestinal diseases.....	10.73	10.30	10.55	10.63	10.74	11.39	9.92	9.49	9.43
Renal and cystic diseases.....	7.41	7.30	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	4.80	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	1.43	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	1.37	2.57	2.07	1.07	1.54	2.07	1.62	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	1.62	.56	2.26
Erysipelas.....	.98	.80	.56	.57	.62	.48	.61	.41	.40
Acute rheumatism.....	.10	.38	.73	.51	.66	.66	.57	.49	.34
Small-pox.....	.08	.02			.25	.27	.06	.13	.01

CAUSES OF DEATH.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Acute lung diseases.....	22.39	18.86	22.29	25.21	23.27	23.18	22.73	27.78	22.47
Consumption.....	18.34	17.31	19.31	18.48	16.31	15.32	16.73	17.33	16.73
Diarrhoeal diseases of children.....	19.55	16.34	19.23	15.83	9.84	9.54	7.95	11.77	10.68
Adult brain and spinal diseases.....	14.63	14.91	15.31	15.49	16.20	16.40	16.60	16.51	13.72
Brain and nervous diseases of children.....	10.25	9.06	10.53	9.29	11.26	9.72	9.95	10.63	9.77
Diseases of heart and circulation.....	14.52	12.62	14.72	14.99	14.37	15.58	15.70	16.08	15.47
Diphtheria and croup.....	7.83	5.24	4.19	4.87	3.55	3.74	3.71	4.46	3.26
Pneumonia*.....					13.18	12.30	13.03	16.93	12.89
Digestive and intestinal diseases.....	8.31	8.19	8.38	9.47	11.42	10.38	10.21	11.03	20.36
Renal and cystic diseases.....	9.92	9.85	10.37	10.90	10.45	10.27	10.71	11.11	11.58
Violent deaths.....	9.55	8.01	9.29	9.00	11.20	9.02	9.97	11.56	10.08
Cancer.....	4.83	4.70	5.10	4.81	5.42	5.24	5.61	5.46	5.98
Typhoid fever.....	2.70	2.48	2.62	1.87	1.83	2.17	1.92	1.87	1.68
Scarlet fever.....	1.15	1.11	1.01	1.16	.93	1.10	1.43	2.02	.73
Puerperal.....	1.57	1.45	1.44	1.51	1.70	1.14	1.28	1.07	1.11
Whooping cough.....	1.31	.85	1.51	1.61	.82	1.43	1.21	.60	1.33
Malarial fever.....	1.74	.45	.52	.40	.26	.18	.20	.23	.10
Measles.....	.38	1.47	.52	1.21	.40	1.04	.29	.87	.46
Erysipelas.....	.38	.32	.47	.58	.37	.35	.43	.55	.42
Acute rheumatism.....	.39	.31	.39	.38	.60	.48	.35	.33	.47
Small-pox.....					.74	2.20	.07	.01	

*Deaths under this classification were not separately recorded until 1901.

CHART SHOWING DEATH-RATES IN NEW JERSEY, PER 1,000 INHABITANTS, FOR TWENTY-SEVEN YEARS, 1879-1905.

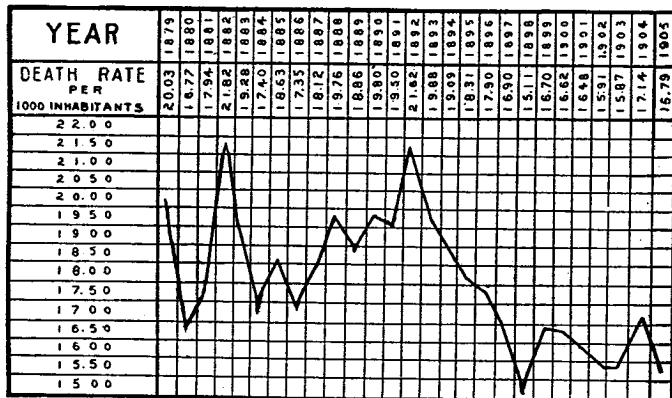


TABLE 5.—SHOWING NUMBER OF DEATHS IN NEW JERSEY FROM CERTAIN CLASSIFIED DISEASES FOR TWENTY-SEVEN YEARS, 1879-1905.

DISEASES.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.
Acute lung diseases.....	2,160	1,968	2,208	2,752	2,756	2,174	2,566	2,600	2,557
Consumption, M.....	2,788	2,714	2,989	1,696	1,527	1,557	1,673	1,651	1,910
Consumption, F.....				1,779	1,594	1,638	1,647	1,554	1,748
Diarrhical diseases of children.....	1,849	2,163	2,305	2,792	2,556	2,462	2,845	2,664	2,634
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	1,866
Diseases of the heart and circulation.....	972	982	1,212	1,161	1,253	1,324	1,503	1,506	1,530
Diphtheria and croup.....	1,100	873	1,138	1,472	1,146	1,027	1,496	1,303	1,527
Digestive and intestinal diseases.....	1,041	1,005	1,060	740	923	1,075	1,140	1,213	1,242
Renal and cystic diseases.....	558	516	608	765	759	892	939	926	873
Violent deaths.....				793	907	857	897	901	1,051
Cancer.....				402	461	484	498	546	574
Typhoid fever.....	324	373	574	884	564	640	642	545	522
Scarlet fever.....	627	573	499	1,306	853	547	616	222	255
Puerperal.....	194	244	303	244	198	221	268	257	263
Whooping cough.....	277	130	110	253	189	116	181	274	181
Malarial fever.....	268	293	431	379	290	290	209	243	217
Measles.....	77	87	70	206	131	189	135	88	296
Erysipelas.....	137	109	124	94	80	80	74	79	96
Acute rheumatism.....	76	64	89	402	35	62	96	68	132
Small-pox.....		15	254	367	54	7	2	4	5
Total deaths per year.....	15,797	15,542	17,589	25,910	23,310	21,716	23,807	22,734	24,381

TABLE 5.—SHOWING NUMBER OF DEATHS IN NEW JERSEY FROM CERTAIN CLASSIFIED DISEASES FOR TWENTY-SEVEN YEARS, 1879-1905—Continued.

DISEASES.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.
Acute lung diseases.....	2,922	2,860	3,894	4,101	3,187	3,974	4,132	4,597	4,146
Consumption, M.....	1,723	1,772	1,903	1,849	1,851	1,790	1,881	1,860	1,786
Consumption, F.....	1,635	1,677	1,767	1,607	1,724	1,637	1,602	1,572	
Diarrhical diseases of children.....	3,508	3,377	3,527	3,191	4,043	3,981	3,393	3,746	3,807
Adult brain and spinal diseases.....	2,095	1,991	2,308	2,332	2,457	2,611	2,418	2,626	2,610
Brain and nervous diseases of children.....	1,971	1,923	2,082	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	2,112	2,268	2,412
Diphtheria and croup.....	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	1,373	1,625	1,733	1,363	1,589	1,622
Renal and cystic diseases.....	1,020	1,056	1,149	1,200	1,444	1,441	1,447	1,523	1,584
Violent deaths.....	1,820	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.....	629	724	732	608	628	506	483	568	577
Scarlet fever.....	574	533	209	283	1,008	445	272	264	183
Puerperal.....	271	254	250	296	282	282	293	294	283
Whooping cough.....	161	278	371	299	163	237	323	272	275
Malarial fever.....	264	343	185	180	138	148	163	144	119
Measles.....	74	118	174	250	197	73	257	95	390
Erysipelas.....	128	114	81	85	94	74	97	74	69
Acute rheumatism.....	142	117	106	76	100	102	91	82	59
Small-pox.....	5	3			48	43	11	23	2
Total deaths per year.....	27,173	26,543	28,530	28,840	32,685	30,596	30,004	30,634	30,767

DISEASES.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Acute lung diseases.....	4,099	3,414	4,322	4,795	4,188	4,236	4,265	5,309	4,445
Consumption, M.....	1,765	1,772	1,856	1,787	3,257	3,015	3,380	3,670	3,587
Consumption, F.....	1,472	1,453	1,628	1,727	1,895	1,878	1,903	2,423	2,290
Diarrhical diseases of children.....	3,450	2,958	3,568	3,010	2,836	2,787	2,880	3,053	3,942
Adult brain and spinal diseases.....	2,582	2,700	2,842	2,946					
Brain and nervous diseases of children.....	1,899	1,642	1,550	1,767	2,012	1,806	1,795	1,866	2,095
Diseases of the heart and circulation.....	2,451	2,296	2,731	2,852	2,773	3,066	3,166	3,301	3,316
Diphtheria and croup.....	1,382	950	777	927	683	683	748	918	699
Digestive and intestinal diseases.....	1,572	1,484	1,556	1,700	2,221	2,042	2,060	2,279	2,133
Renal and cystic diseases.....	1,752	1,694	1,925	2,072	2,043	2,021	2,100	2,561	2,467
Violent deaths.....	1,685	1,434	1,724	1,711	2,173	2,010	2,038	2,162	
Cancer.....	857	852	946	921	1,042	1,031	1,132	1,125	1,282
Typhoid fever.....	473	450	486	356	323	428	388	364	380
Scarlet fever.....	203	201	187	230	179	217	299	416	164
Puerperal.....	278	294	267	283	207	225	279	221	228
Whooping cough.....	321	153	282	306	157	281	245	124	186
Malarial fever.....	132	82	96	84	50	36	40	47	21
Measles.....	156	195	96	221	77	294	41	180	96
Erysipelas.....	88	111	71	71	69	86	113	90	118
Acute rheumatism.....	69	55	73	73	116	94	71	68	101
Small-pox.....				5	142	432	16	24	1
Total deaths per year.....	29,822	27,337	30,999	31,474	31,739	31,319	31,820	35,296	33,864

TABLE 6.—SHOWING DEATH-RATE, PER 1,000 POPULATION, IN THE CITIES OF NEW JERSEY HAVING OVER 5,000 POPULATION, FOR TWENTY-SEVEN YEARS, 1879-1905.

NAMES OF CITIES.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.
Atlantic City*			24.46	31.76	26.29	32.50	23.54	21.03	27.20
Bordentown	16.82	16.89	16.31	16.88	16.87	19.08	15.88	15.88	13.32
Burlington	21.10	15.61	18.37	22.94	25.31	22.37	25.85	20.27	20.49
Camden	18.88	19.27	22.90	24.55	20.01	22.37	18.30	19.27	20.49
Gloucester	14.10	15.70	20.19	18.32	21.88	21.69	15.42	16.59	22.96
Bridgeton	16.72	17.75	19.72	23.85	15.48	18.69	17.78	11.92	16.19
Milville	20.22	22.71	22.71	17.75	18.27	18.54	16.89	13.75	16.53
Newark	25.26	18.71	21.12	22.66	25.49	24.70	24.38	23.94	24.40
Orange	19.88	16.35	18.02	25.44	21.81	22.03	19.70	19.93	21.14
Bayonne	26.73	15.04	16.43	26.89	20.91	22.19	18.58	23.78	23.16
Plainfield	23.63	20.06	21.61	22.08	20.79	21.13	17.48	15.12	17.80
Hoboken	27.01	28.71	25.82	31.42	25.90	22.19	22.35	24.52	24.28
Jersey City	28.04	20.98	23.61	30.12	25.74	25.13	22.42	22.02	24.01
Town of Union	20.04	18.80	36.93	38.73	33.42	25.84	22.03	22.74	22.74
Trenton	26.08	20.68	18.89	20.53	20.79	21.13	17.48	15.12	17.80
New Brunswick	27.01	28.71	25.82	31.42	25.90	22.19	22.35	24.52	24.28
Perth Amboy							19.06	19.17	23.77
Long Branch							12.84	14.00	
Morrisstown	16.40	18.71	15.94	17.70	28.96	20.77	14.61	13.70	13.58
Passaic		21.78	19.44	22.82	20.82	23.38	16.64	13.02	22.82
Paterson	25.61	23.07	22.75	29.61	27.72	28.33	20.29	17.38	22.83
Salem		15.02	14.63	19.58	23.14	15.43	19.22	20.30	16.13
Elizabeth	18.20	15.88	19.97	21.68	24.30	20.93	21.70	18.90	22.82
Plainfield	18.03	16.00	18.58	19.31	16.23	17.48	15.12	17.80	17.47
Rahway	24.31	17.97	16.11	28.35	20.29	17.19	15.60	14.58	16.91
Phillipsburg	14.08	17.54	15.87	23.53	20.46	18.10	18.37	14.40	19.24

NAMES OF CITIES.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.
Atlantic City*	29.34	26.93	20.01	20.46	20.19	16.47	18.38	19.20	18.78
Hackensack	16.56	15.02	18.43	20.79	20.72	17.44	14.91	15.83	18.07
Bordentown	21.46	20.13	18.30	20.44	24.24	18.82	25.47	18.87	19.28
Camden	22.79	18.73	23.15	23.68	25.37	22.06	23.85	22.07	19.97
Gloucester	23.13	21.82	18.89	21.85	28.38	24.77	20.78	23.78	28.24
Bridgeton	17.69	14.81	17.00	19.50	16.53	17.63	18.81	17.00	15.34
Milville	24.12	18.43	19.43	16.51	16.62	15.23	13.79	17.01	18.43
Montclair									13.90
Newark	27.02	25.59	27.26	23.69	29.17	24.67	22.68	21.53	20.79
Orange	24.49	22.85	24.50	20.29	23.31	20.88	19.37	15.69	19.89
Bayonne	26.38	24.24	20.37	20.37	21.11	19.83	19.46	18.21	20.32
Harrison	26.50	26.65	27.67	31.70	28.27	26.50	22.17	25.12	25.45
Hoboken	28.13	25.57	25.62	25.41	26.97	23.97	24.63	22.98	22.59
Jersey City	25.98	22.66	25.96	26.60	27.78	26.67	25.82	24.61	23.61
Town of Union	24.12	19.74	22.43	26.05	20.80	20.31	18.97	17.89	15.96
Trenton	19.51	14.94	17.35	15.51	19.75	16.16	14.14	18.01	18.60
New Brunswick	19.28	20.18	17.71	17.51	24.60	16.31	17.96	17.38	20.03
Perth Amboy	27.41	24.76	17.41	23.05	22.61	19.71	18.47	18.96	17.84
Long Branch	26.38	12.41	14.65	12.16	12.40	19.83	18.88	18.21	12.51
Morrisstown	18.95	24.32	19.91	16.55	20.80	18.55	19.04	18.56	18.85
Passaic	24.28	24.86	16.81	23.77	22.27	21.64	20.07	21.57	22.26
Paterson	27.17	24.02	21.87	22.96	22.61	21.00	20.31	18.25	19.22
Salem	18.85	18.18	17.60	16.86	18.43	17.43	16.69	16.69	16.77
Elizabeth	23.28	20.13	19.30	19.41	21.19	20.22	18.56	18.23	18.05
Plainfield	22.81	16.97	16.89	16.87	17.04	19.21	17.33	17.89	18.37
Rahway	20.41	19.20	19.32	17.61	23.05	23.87	18.76	18.12	17.43
Phillipsburg	18.28	13.98	14.96	15.75	14.77	14.29	13.50	20.71	14.70

*The death-rate in summer resorts is calculated on the basis of the resident population, whereas the actual population is often several times larger, and on account of this floating population and the large number of invalids included in it, the death-rate is not a criterion of health conditions.

TABLE 6.—SHOWING DEATH-RATE, PER 1,000 POPULATION, IN THE CITIES OF NEW JERSEY HAVING OVER 5,000 POPULATION, FOR TWENTY-SEVEN YEARS, 1879-1905—Continued.

NAMES OF CITIES.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.	Aver. for 27 yrs.
Atlantic City*	20.45	16.89	19.08	17.85	10.85	16.25	15.33	14.92	16.79	
Englewood			17.57	17.75	15.74	16.45	15.86	18.82	14.90	
Hackensack	14.49	11.43	14.94	13.66	17.52	18.34	16.39	18.78	17.43	
Bordentown	14.78	18.17	17.33	19.46	16.55	17.27	18.73	19.71	13.26	17.46
Burlington	18.20	14.28	16.87	24.76	19.75	21.28	22.46	22.32	16.57	20.08
Camden	20.71	17.82	19.35	14.11	17.56	16.90	16.05	18.01	16.17	20.18
Gloucester	25.61	18.31	19.50	19.88	11.27	21.03	17.89	17.32	18.37	20.09
Bridgeton	15.02	13.10	18.74	14.38	13.82	13.89	13.78	16.66	14.09	16.21
Milville	9.87	12.38	15.78	14.61	16.27	14.18	16.67	13.73	16.45	
Bloomfield					14.55	18.50	11.21	14.64	11.40	
East Orange				10.97	9.71	10.94	9.72	12.11	10.72	
Bridgeton					9.24	14.66	12.86	10.67	12.53	
Irvington	10.63	11.76	13.00	15.11	16.87	14.43	17.42	20.28	18.05	
Newark	19.60	16.65	19.40	19.60	19.14	18.71	18.47	19.61	17.05	22.51
Orange	16.50	19.08	18.10	20.63	17.45	20.26	20.40	21.85	20.46	20.48
West Orange					13.25	10.27	10.52	11.02	13.59	
Bayonne	21.80	25.00	25.59	17.39	16.38	15.33	18.44	16.60	15.76	20.78
Harrison	18.61	23.77	19.18	22.37	21.24	19.83	18.63	16.69	18.37	
Hoboken	21.94	18.06	19.91	23.01	18.67	18.80	17.70	23.33	21.11	23.49
Jersey City	19.60	19.16	19.78	20.34	19.12	18.65	18.82	20.85	18.88	23.02
Essex					17.45	17.68	17.08	25.70	17.20	
Town of Union	14.70	13.58	11.63	14.16	11.25	16.39	16.07	17.76	12.94	
West Hoboken					12.95	11.76	14.48	14.37		
West New York					14.53	11.96	14.14	15.42		
Trenton	16.44	15.45	17.71	16.42	16.35	17.19	18.30	18.09	17.63	18.00
New Brunswick	19.33	14.73	16.04	21.29	18.18	20.00	19.43	22.15	19.66	19.45
Perth Amboy	17.11	14.93	16.16	14.46	16.38	14.82	12.70	14.39	12.20	
South Amboy	17.31	13.14	12.65	13.86	16.14	19.32	15.08	16.06	19.97	
Long Branch	14.11	18.13	17.51	18.15	24.07	21.30	20.21	22.37	21.51	
Red Bank					16.44	12.38	12.52	13.87	15.97	
Dover	19.12	15.73	14.34	12.46	16.01	15.39	13.87	14.09	15.85	18.49
Morrisstown	16.16	17.38	19.18	16.38	18.50	16.64	17.05	18.84	20.42	18.49
Passaic	24.29	19.84	23.64	20.99	18.22	17.71	20.03	18.52	18.29	
Paterson	18.71	15.89	19.65	18.70	17.53	16.37	15.28	17.34	16.51	21.10
Salem	16.65	18.30	18.30	20.13	14.11	16.40	16.00	16.31	18.37	
North Plainfield					12.40	14.44	13.17	11.57	17.27	
Elizabeth	17.16	15.50	17.25	17.69	17.17	15.30	16.55	18.72	15.63	18.98
Plainfield	15.01	14.16	15.72	16.01	16.36	15.94	15.84	16.60	15.70	18.88
Rahway	16.06	14.30	16.67	15.50	14.87	17.32	15.58	13.96	18.64	
Summit					14.62	11.81	14.28	13.62	12.27	
Phillipsburg	16.75	18.40	13.68	12.13	14.34	15.04	13.44	13.52	10.03	15.8

*The death-rate in summer resorts is calculated on the basis of the resident population, whereas the actual population is often several times larger, and on account of this floating population and the large number of invalids included in it, the death-rate is not a criterion of health conditions.

DIAGRAM SHOWING MORTALITY-RATE IN MUNICIPALITIES HAVING 5,000 INHABITANTS OR OVER, FOR THE YEAR ENDING DECEMBER 31, 1905.

CITIES.	Death-rate per 1,000 population.	SCALE.											
		9	10	11	12	13	14	15	16	17	18	19	20	21	22
Atlantic City	16.76	_____											
Asjonne	15.76	_____											
Bloomfield	11.40	_____											
Bridgeton	14.09	_____											
Bordentown	13.26	_____											
Burlington	16.67	_____											
Camden	16.16	_____											
Dover	15.58	_____											
East Orange	10.72	_____											
Elizabeth	15.63	_____											
Englewood	14.90	_____											
Gloucester City	18.37	_____											
Hackensack	17.49	_____											
Harrison	15.87	_____											
Hoboken	21.11	_____											
Irvington	12.53	_____											
Jersey City	18.88	_____											
Kearny	17.20	_____											
Long Branch	21.50	_____											
Long Hill	13.72	_____											
Montclair	18.02	_____											
Morristown	20.42	_____											
Newark	17.43	_____											
New Brunswick	18.76	_____											
North Plainfield	17.27	_____											
Orange	20.46	_____											
Passaic City	18.26	_____											
Paterson	16.51	_____											
Perth Amboy	12.20	_____											
Phillipsburg	10.03	_____											
Plainfield	15.65	_____											
Rahway	13.64	_____											
Red Bank	15.97	_____											
Salem City	16.93	_____											
South Amboy	19.97	_____											
Summit	12.27	_____											
Town of Union	12.53	_____											
Trenton	17.62	_____											
West Hoboken	14.37	_____											
West New York	15.43	_____											
West Orange	18.59	_____											

NOTE.—These death-rates are calculated on the resident population, whereas the real population in summer resorts is often much increased by transient visitors, and on account of this floating population the death-rate is not a criterion of sanitary conditions in these localities.

TABLE 7.—DEATHS IN NEW JERSEY, BY AGE PERIODS, FOR THE YEAR ENDING DECEMBER 31, 1905.

Under 1 mo.	Under 1 year.	AGE PERIODS.																Total number of deaths.	
		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.
2293	4638	2913	996	591	900	1257	1419	1551	1547	1591	1625	1644	1713	3810	3500	1587	245	24	33864

TABLE 8.—SHOWING DEATHS FROM CERTAIN SELECTED CAUSES OF DEATH, PER 10,000 INHABITANTS, FOR THE YEARS ENDING DECEMBER 31, 1904, AND DECEMBER 31, 1905, ALSO SHOWING AVERAGE NUMBER OF DEATHS FROM SAID DISEASES DURING PAST TWENTY-SEVEN YEARS.

DISEASES.	Average number of deaths for twenty-seven years.	Deaths per 10,000 inhabitants during year ending December 31st, 1904.	Deaths per 10,000 inhabitants during year ending December 31st, 1905.
Consumption	3,355	17.83	16.73
Diarrhoeal diseases of children	2,930	11.77	10.63
Pneumonia*	.....	16.93	12.89
Diseases of heart and circulation	2,074	16.03	15.47
Digestive and intestinal diseases	1,414	11.03	20.86
Diphtheria and croup	1,254	4.46	3.26
Renal and cystic diseases	1,348	11.47	11.58
Violent deaths	1,233	11.56	10.03
Cancer	725	5.46	5.98
Typhoid fever	524	1.87	1.63
Scarlet fever	421	2.02	.76
Puerperal	260	1.07	1.11
Whooping cough	229	.60	1.33
Malarial fever	178	.23	.10
Measles	154	.87	.46
Erysipelas	91	.55	.42
Acute rheumatism	79	.33	.47
Small-pox	50	.01	.....

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

TABLE 9.—SHOWING MORTALITY IN NEW JERSEY, FROM CERTAIN SELECTED CAUSES OF DEATH, FOR THE YEAR ENDING DECEMBER 31, 1905, COMPARED WITH DEATHS FOR THE PREVIOUS YEAR.

SELECTED DISEASES.	Deaths for year ending December 31st, 1904.	Deaths for year ending December 31st, 1905.	Comparative mortality.
Consumption	3,670	3,587	- 83
Diseases of heart and circulation	3,301	3,316	+ 15
Renal and cystic diseases	2,361	2,487	+126
Digestive and intestinal diseases	2,271	2,183	- 88
Diarrhoeal diseases of children	2,423	2,290	-133
Cancer	1,125	1,232	+107
Diphtheria	918	699	-219
Typhoid fever	384	360	- 24
Scarlet fever	416	164	-252
Puerperal diseases	221	233	+ 12
Whooping cough	124	186	+ 62
Erysipelas	113	90	- 23
Acute rheumatism	68	101	+ 33
Measles	180	98	- 82
Malarial fever	47	21	- 26
Small-pox	24	1	- 23

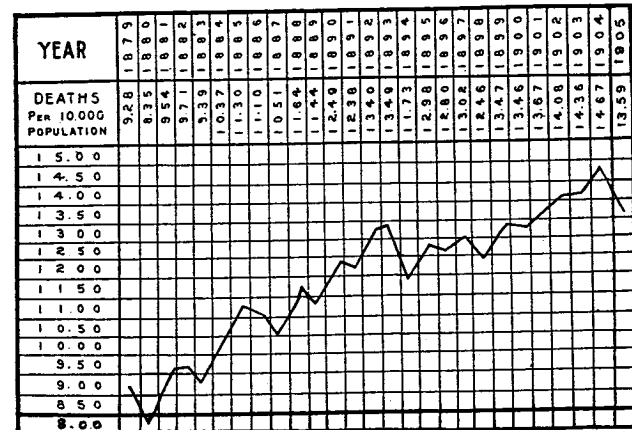
TABLE 10.—SHOWING NUMBER OF DEATHS IN NEW JERSEY FOR THE YEAR ENDING DECEMBER 31, 1905, FROM TEN SELECTED PREVENTABLE DISEASES, WITH PERCENTAGE OF TOTAL MORTALITY.

NAME OF DISEASE.	Deaths.	Percentage of total mortality.
Consumption	3,587	10.59
Pneumonia	2,764	8.16
Diarrhoeal diseases of children.....	2,290	6.78
Diphtheria	699	2.06
Typhoid fever.....	380	1.06
Whooping cough.....	186	.55
Scarlet fever.....	164	.48
Measles	98	.29
Malarial fever.....	21	.06
Small-pox.....	1	.....

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

DISEASES	NUMBER OF DEATHS
CONSUMPTION	90573
DIARRHOEAL DISEASES OF CHILDREN	79105
DISEASES OF HEART & CIRCULATION	55989
DIGESTIVE & INTESTINAL DISEASES	40183
RENAL & CYSTIC DISEASES	36405
DIPHTHERIA & CROUP	33991
VIOLENT DEATHS	33424
CANCER	19562
TYPHOID FEVER	14159
SCARLET FEVER	11366
PUERPERAL FEVER	7026
WHOOPIING COUGH	6177
MALARIAL FEVER	4801
MEASLES	4169
ERYSIPELAS	2451
ACUTE RHEUMATISM	2126
SMALL POX	1353

CHART SHOWING DEATHS IN NEW JERSEY, PER 10,000 INHABITANTS, FROM DISEASES OF THE BRAIN, THE HEART AND THE KIDNEYS COMBINED, FOR TWENTY-SEVEN YEARS, 1879-1905.



Consumption.—The number of deaths from pulmonary tuberculosis has continued to be comparable with the record for the past nine years. During this period the average number of deaths per 10,000 inhabitants from this disease was 17.52, and for the year ending December 31st, 1905, the deaths from this cause per 10,000 inhabitants numbered 16.73, but during the years 1879-1896 the average annual deaths per 10,000 inhabitants from consumption was 24.49. This progressive improvement in the mortality from this most destructive of all diseases is doubtless due to better modes of living, and to some extent to a more general knowledge of the infectious character of this affection.

TABLE 11.—SHOWING NUMBER OF DEATHS AND DEATHS PER 10,000 POPULATION FROM CONSUMPTION IN NEW JERSEY, AND THE PROPORTION OF DEATHS FROM CONSUMPTION TO TOTAL DEATHS DURING TWENTY-SEVEN YEARS.

YEARS.	Population.*	Total deaths in New Jersey.	Deaths from consumption.	Proportion of deaths from consumption to total deaths.	Deaths from consumption per 10,000 population.
1879.....	1,020,584	20,444	2,788	13.64	27.32
1880.....	1,130,892	18,967	2,714	14.30	24.00
1881.....	1,160,275	20,810	2,989	14.36	25.76
1882.....	1,189,658	25,910	3,475	13.41	29.21
1883.....	1,209,048	23,310	3,121	13.39	25.81
1884.....	1,248,224	21,716	3,215	14.80	25.76
1885.....	1,278,033	23,307	3,320	13.94	25.19
1886.....	1,310,431	22,734	3,205	14.10	24.46
1887.....	1,342,829	24,331	3,653	15.01	27.20
1888.....	1,375,227	27,173	3,358	12.44	24.42
1889.....	1,407,625	26,543	3,449	12.99	24.50
1890.....	1,441,017	28,530	3,669	12.96	25.46
1891.....	1,478,784	28,840	3,456	11.98	23.37
1892.....	1,511,653	32,685	3,575	10.94	23.65
1893.....	1,538,799	30,596	3,429	11.21	22.28
1894.....	1,578,373	30,004	3,433	11.44	21.75
1895.....	1,672,942	30,634	3,542	11.56	21.17
1896.....	1,718,543	30,767	3,358	10.92	19.54
1897.....	1,764,144	29,822	3,237	10.85	18.35
1898.....	1,810,008	27,337	3,225	11.79	17.82
1899.....	1,855,872	30,999	3,584	11.56	19.31
1900.....	1,883,669	31,474	3,514	11.17	18.64
1901.....	1,925,781	31,739	3,257	10.26	16.91
1902.....	1,967,893	33,655	3,015	8.96	15.32
1903.....	2,016,797	31,820	3,380	10.62	16.76
1904.....	2,058,909	35,298	3,670	10.40	17.83
1905.....	2,144,143	33,864	3,587	10.59	16.73

* Estimated except for census years.

CHART SHOWING DEATHS FROM CONSUMPTION IN NEW JERSEY, PER 10,000 POPULATION, FOR THE TWENTY-SEVEN YEARS ENDING DECEMBER 31, 1905.

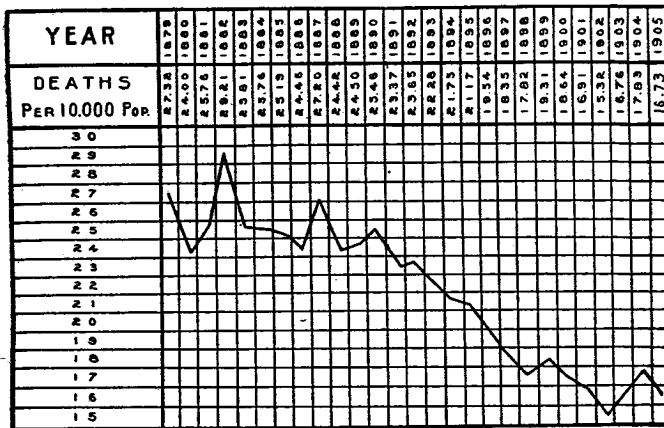


TABLE 12.—DEATHS FROM CONSUMPTION IN NEW JERSEY, BY AGE PERIODS, FOR FIVE YEARS.

YEARS.	AGE PERIODS.											Totals.
	Under 1 year.	1 to 10.	10 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	Over 80.	Not stated.	
1901.....	39	78	241	937	827	510	319	199	87	25	.....	3,257
1902.....	39	62	227	842	759	504	281	199	76	19	7	3,015
1903.....	49	81	285	941	877	584	310	191	95	16	1	3,380
1904.....	67	80	315	983	1,005	575	337	217	78	11	2	3,670
1905.....	40	89	309	972	915	606	335	197	100	23	1	3,587
Totals.....	284	385	1,377	4,673	4,883	2,729	1,582	1,003	436	94	11	16,909

TABLE 13.—SHOWING MORTALITY RATES FROM ALL CAUSES AND FROM CONSUMPTION ONLY, IN MUNICIPALITIES HAVING 5,000 INHABITANTS OR OVER, FOR THE YEAR ENDING DECEMBER 31, 1905, PER 10,000 POPULATION.

	Deaths from all causes per 10,000 population.	Deaths from consumption per 10,000 population.
Atlantic County.....	162.9	12.86
Atlantic City.....	157.6	11.44
Bergen County.....	126.1	10.90
Englewood.....	148.9	11.36
Hackensack.....	174.8	14.42
Burlington County.....	144.3	14.18
Bordentown.....	132.6	9.82
Burlington.....	166.7	11.19
Camden County.....	157.9	13.25
Camden City.....	161.6	16.79
Gloucester City.....	188.7	26.07
Cape May County.....	113.8	8.63
Cumberland County.....	139.1	12.47
Bridgeton.....	141.0	11.01
Millville.....	137.2	16.82
Essex County.....	163.6	21.39
Bloomfield.....	113.9	13.71
East Orange.....	107.2	13.11
Irvington.....	128.3	12.33
Montclair.....	180.2	11.61
Newark.....	174.5	23.19
Orange.....	204.6	32.18
West Orange.....	185.9	20.82
Gloucester County.....	127.3	11.60
Hudson County.....	184.0	19.38
Bayonne.....	157.5	14.67
Harrison.....	188.9	21.84
Hoboken.....	211.1	25.81
Jersey City.....	388.3	39.15
Kearny.....	172.0	11.76
Town of Union.....	129.3	10.59
West Hoboken.....	143.7	14.44
West New York.....	154.2	9.78
Hunterdon County.....	130.2	12.89
Mercer County.....	157.4	20.45
Trenton.....	176.3	22.21
Middlesex County.....	147.1	10.72
New Brunswick.....	167.0	16.86
Perth Amboy.....	122.0	5.02
South Amboy.....	199.7	25.57
Monmouth County.....	144.7	14.79
Long Branch.....	215.1	32.80
Red Bank.....	159.7	25.54
Morris County.....	156.5	13.10
Dover.....	135.8	9.44
Morristown.....	204.2	18.94
Ocean County.....	118.8	11.02
Passaic County.....	159.6	15.41
Passaic City.....	182.6	15.33
Paterson.....	165.1	16.68
Salem County.....	138.9	15.41
Salem City.....	178.2	20.17
Somerset County.....	148.9	12.41
North Plainfield.....	172.7	10.63
Sussex County.....	108.0	12.41
Union County.....	145.27	15.27
Elizabeth.....	156.3	15.58
Plainfield.....	136.5	17.33
Rahway.....	136.4	20.81
Summit.....	122.7	16.07
Warren County.....	131.2	11.85
Phillipsburg.....	100.4	8.99

TABLE 14.—SHOWING AVERAGE ANNUAL DEATH-RATES FROM ALL CAUSES AND AVERAGE ANNUAL DEATH-RATES FROM CONSUMPTION IN NEW JERSEY FOR TWENTY-SEVEN YEARS, BY COUNTIES, COMPARED WITH DEATH-RATES FROM ALL CAUSES AND DEATH-RATES FROM CONSUMPTION, FOR THE YEAR ENDING DECEMBER 31, 1905, PER 10,000 POPULATION.

COUNTIES.	AVERAGES PER YEAR.			
	Average annual death-rate from all causes per 10,000 population for twenty-seven years.	Average annual death-rate from consumption per 10,000 population for twenty-seven years.	Death-rate per 10,000 population for year ending Dec. 31, 1905.	Death-rate from consumption per 10,000 population for year ending Dec. 31, 1905.
Atlantic County.....	174.0	18.69	162.8	12.86
Bergen County.....	82.15	15.35	126.1	10.90
Burlington County.....	153.8	18.60	144.3	14.18
Camden County.....	191.9	23.41	158.0	18.18
Cape May County.....	143.3	15.17	113.9	8.63
Cumberland County.....	65.34	20.48	147.9	12.47
Essex County.....	197.9	27.29	165.6	21.39
Gloucester County.....	147.5	18.00	127.3	13.05
Hudson County.....	222.4	26.82	184.0	19.38
Hunterdon County.....	134.4	14.93	130.2	12.93
Mercer County.....	176.2	23.45	156.4	20.45
Middlesex County.....	165.5	17.87	147.1	10.72
Monmouth County.....	153.1	17.44	144.7	14.79
Morris County.....	91.95	22.51	166.5	12.90
Ocean County.....	145.9	21.00	118.8	11.02
Passaic County.....	191.6	23.15	159.6	15.41
Salem County.....	148.2	19.32	139.6	12.41
Somerset County.....	138.9	16.73	148.9	11.41
Sussex County.....	122.7	15.55	108.0	15.43
Union County.....	130.9	15.53	154.6	15.27
Warren County.....	145.6	15.50	131.2	11.63
The State.....	178.5	22.02	157.9	16.73

Pneumonia.—The number of deaths caused by pneumonia during the year 1905 was 2,764, this being 8.16 per cent. of the total mortality, and being 722 less than the number of deaths from this disease during the previous year. The recorded deaths from pneumonia per 10,000 inhabitants during the past five years have been as follows: 1901, 13.18; 1902, 12.30; 1903, 13.03; 1904, 16.93; 1905, 12.89.

If the deaths which are certified as being due to "broncho-pneumonia" are added to those registered as deaths from pneumonia, the

deaths for the year 1905, as shown by both of these items in the classification, number 3,379, and for statistical purposes in determining the fatality attending acute inflammatory affections of the lungs, the latter figures lead to more correct conclusions. Likewise the addition of the number of deaths classified as having been caused by chronic bronchitis, to those which are reported as being due to pulmonary tuberculosis, swells the number charged to the latter affection to 3,848. The difficulties which attend the uniform classification of all deaths from pneumonia and consumption are apparently insurmountable, for the certification of deaths from these causes varies according to the judgment and opinions of the professional attendant, and individual views as to the character and location of the lesions differ in ill-defined or obscure cases, and these facts must be considered in studying the tabulated statements.

TABLE 15.—SHOWING DEATHS IN NEW JERSEY FROM PNEUMONIA, WITH AGE AT DEATH, FOR THE YEAR ENDING DECEMBER 31, 1905.

DEATHS FROM PNEUMONIA.	AGE PERIODS.														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.	Not stated.
	60	462	368	60	31	60	59	90	141	166	182	135	148	127	276	311	121	16	1	2,764

TABLE 16.—SHOWING DEATHS FROM PNEUMONIA IN CITIES OF OVER 5,000 INHABITANTS, IN NEW JERSEY, BY MONTHS, FOR THREE YEARS ENDING DECEMBER 31, 1905.

YEARS.	Estimated population.	MONTHS.												Totals.
		Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	
1903.....	1,363,464	271	288	261	128	155	67	98	58	75	91	202	278	1,972
1904.....	1,370,719	401	350	394	315	241	134	42	51	72	108	187	289	2,584
1905.....	1,429,100	309	271	251	190	178	96	75	73	69	121	199	209	2,041

Infant Mortality.—The number of deaths in New Jersey among children under five years of age was 9,864, or 1,049 less than during the previous year. Very gratifying figures are also presented by the records of mortality in this class of decedents in the six largest cities of the State. The accompanying chart shows that the deaths among children per 10,000 inhabitants have been greatly diminished during the past twelve years, and, as has been often mentioned in these reports, this decrease is mainly due to the better care which milk has received before it is fed to young children. The relative mortality among children, per 10,000 inhabitants, in the manufacturing towns in New Jersey, compared with that of the rural portions of their respective counties, shows that the less populous localities are much more favorable to child life. This fact is doubtless due in part to the purer air of the rural districts, but cleaner food and less overcrowding in dwellings are doubtless very important factors.

TABLE 17.—SHOWING DEATHS AMONG CHILDREN UNDER FIVE YEARS OF AGE IN NEW JERSEY PER 10,000 POPULATION, FOR TWENTY-SEVEN 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	1893.....	49.22	24.26
1880.....	40.38	25.12	1894.....	49.75	22.97
1881.....	39.90	25.75	1895.....	45.67	21.79
1882.....	49.88	38.48	1896.....	43.99	24.43
1883.....	44.48	28.22	1897.....	40.16	20.00
1884.....	41.04	22.82	1898.....	35.91	15.83
1885.....	44.69	26.87	1899.....	38.22	17.04
1886.....	41.31	23.83	1900.....	37.05	18.44
1887.....	43.56	25.29	1901.....	36.11	13.48
1888.....	47.51	28.90	1902.....	36.18	13.63
1889.....	48.61	24.95	1903.....	37.08	15.38
1890.....	49.38	25.38	1904.....	36.18	16.82
1891.....	46.90	25.36	1905.....	32.42	13.59
1892.....	52.74	29.08			

TABLE 19.—SHOWING TOTAL DEATHS, DEATHS UNDER FIVE YEARS, PERCENTAGE OF DEATHS UNDER FIVE YEARS TO TOTAL DEATHS, AND DEATHS UNDER FIVE YEARS PER 10,000 INHABITANTS, FOR THE CITIES OF NEW JERSEY HAVING OVER 4,000 POPULATION, FOR THE FIVE YEARS ENDING DECEMBER 31, 1905.—Continued.

NAME OF PLACE.	1901.			1902.			1903.			1904.			1905.			
	Total deaths.	Deaths under five years.	Percentage of deaths under five years to total deaths.	Deaths under five years per 10,000 population.	Deaths under five years.	Percentage of deaths under five years to total deaths.	Deaths under five years per 10,000 population.	Deaths under five years.	Percentage of deaths under five years to total deaths.	Deaths under five years per 10,000 population.	Deaths under five years.	Percentage of deaths under five years to total deaths.	Deaths under five years per 10,000 population.	Deaths under five years.	Percentage of deaths under five years to total deaths.	Deaths under five years per 10,000 population.
Orange	605	181	29.9	74.15	595	183	30.8	51.60	551	189	34.3	61.80	611	172	28.2	46.30
Passaic City	1,542	297	19.3	58.61	1,780	333	18.7	102.00	1,611	371	23.0	103.98	1,811	373	20.6	46.30
Paterson	1,871	627	33.5	58.74	1,778	634	35.7	58.64	1,788	645	36.1	44.00	1,811	550	30.4	40.31
Phillipsburg	1,024	327	32.0	82.79	2,564	119	4.6	59.04	2,948	125	4.2	61.17	3,161	146	4.6	46.24
Plainfield	1,024	327	32.0	82.79	2,564	119	4.6	59.04	2,948	125	4.2	61.17	3,161	146	4.6	46.24
Rahway	257	58	22.6	38.59	208	75	36.0	45.78	208	75	36.0	45.78	184	40	21.7	28.16
Red Bank	118	20	16.9	25.20	189	33	17.5	36.55	111	14	12.6	17.64	138	19	13.8	20.87
Secaucus	91	31	34.0	42.52	172	15	8.7	26.08	98	20	20.3	40.46	100	10	10.0	31.93
South Amboy	105	33	31.4	39.25	100	21	21.0	36.14	118	17	14.4	28.41	124	22	17.7	34.81
Summit	80	35	43.8	40.48	88	19	21.6	23.36	76	17	22.4	28.41	230	41	17.8	32.11
Town of Union	275	95	34.5	61.07	201	89	44.3	45.32	266	42	15.8	64.00	230	41	17.8	32.11
West Hoboken	1,287	340	26.4	56.69	1,405	369	26.3	46.77	1,482	421	28.4	61.38	1,484	418	28.2	47.63
West New York	982	140	14.3	49.71	315	21	6.7	38.77	390	164	42.1	67.18	418	131	31.3	46.08
West Orange	71	29	40.9	65.80	79	15	19.0	19.97	85	20	23.5	37.18	107	30	28.0	33.30

TABLE 20.—SHOWING NUMBER OF DEATHS IN NEW JERSEY; DEATHS AMONG CHILDREN UNDER FIVE YEARS OF AGE; DEATHS UNDER FIVE YEARS FROM DIARRHEAL DISEASES, AND DEATHS UNDER FIVE YEARS PER 10,000 INHABITANTS.

DEATHS.	NEW JERSEY.				
	1901.	1902.	1903.	1904.	1905.
Total deaths.....	31,739	31,319	31,820	33,296	33,864
Deaths under five years.....	9,549	9,802	9,950	10,913	9,864
Deaths under five years from diarrhoea.....	1,787	1,857	1,608	2,354	2,290
Percentage of deaths under five years to total deaths.....	30.09	31.30	31.27	30.92	29.13
Deaths under five years per 10,000 population.....	49.59	49.81	44.34	53.00	46.00

TABLE 21.—SHOWING DEATHS IN NEW JERSEY UNDER FIVE YEARS OF AGE PER 10,000 POPULATION FOR TWENTY-SEVEN YEARS, TOGETHER WITH AVERAGES FOR THE NINETEEN YEARS, 1879-1897, AND ALSO AVERAGES FOR THE EIGHT YEARS, 1898-1905.

YEARS.	Deaths under five years per 10,000 population.	YEARS.	Deaths under five years per 10,000 population.
1879.....	75.55	1898.....	51.74
1880.....	65.50	1899.....	55.26
1881.....	65.65	1900.....	55.49
1882.....	88.36	1901.....	49.59
1883.....	72.70	1902.....	49.81
1884.....	63.86	1903.....	52.46
1885.....	71.36	1904.....	53.00
1886.....	65.14	1905.....	46.01
1887.....	68.85		
1888.....	76.41		
1889.....	78.56		
1890.....	74.74		
1891.....	72.26		
1892.....	81.32		
1893.....	75.48		
1894.....	72.72		
1895.....	67.46		
1896.....	68.42		
1897.....	60.16		

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

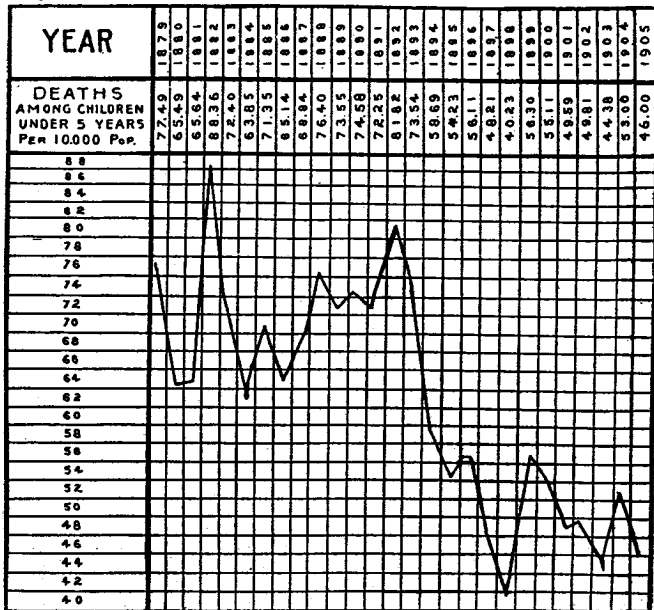


TABLE 22.—SHOWING DEATHS IN CERTAIN CITIES OF NEW JERSEY, ALSO DEATHS AMONG CHILDREN UNDER FIVE YEARS OF AGE; DEATHS UNDER FIVE YEARS FROM DIARRHOEA, AND DEATHS UNDER FIVE YEARS PER 10,000 INHABITANTS.

DEATHS.	NEWARK.					JERSEY CITY.				
	1901.	1902.	1903.	1904.	1905.	1901.	1902.	1903.	1904.	1905.
Total deaths.....	4826	4831	4901	5801	4948	4088	4026	4130	4699	4394
Deaths under five years.....	1513	1516	1386	1679	1329	1426	1449	1325	1482	1426
Deaths under five years from diarrhoea.....	431	216	199	324	325	213	270	242	315	315
Percentage of deaths under five years to total deaths.....	32.27	31.38	28.28	31.57	26.70	35.31	35.51	32.08	32.14	32.45
Deaths under five years per 10,000 population.....	59.06	58.72	52.22	62.12	46.60	67.53	66.78	60.37	64.85	61.28

DEATHS.	PATERSON.					CAMDEN.				
	1901.	1902.	1903.	1904.	1905.	1901.	1902.	1903.	1904.	1905.
Total deaths.....	1871	1773	1730	1988	1841	1377	1368	1281	1847	1347
Deaths under five years.....	627	634	505	647	550	323	445	448	539	412
Deaths under five years from diarrhoea.....	246	112	91	152	144	155	58	63	192	83
Percentage of deaths under five years to total deaths.....	33.50	35.76	29.20	32.55	29.88	23.46	32.57	34.97	29.20	30.59
Deaths under five years per 10,000 population.....	69.36	59.00	44.60	58.06	49.31	66.56	55.60	56.13	62.74	49.42

DEATHS.	HOBOKEN.					TRENTON.				
	1901.	1902.	1903.	1904.	1905.	1901.	1902.	1903.	1904.	1905.
Total deaths.....	1128	1156	1140	1420	1382	1234	1234	1405	1482	1494
Deaths under five years.....	361	406	349	456	384	340	409	359	431	433
Deaths under five years from diarrhoea.....	125	51	55	70	70	73	92	85	69	99
Percentage of deaths under five years to total deaths.....	32.22	34.86	30.61	31.14	27.79	27.55	30.66	25.55	28.41	30.58
Deaths under five years per 10,000 population.....	62.07	65.58	55.14	71.71	58.65	45.05	52.69	46.77	51.38	53.22

TABLE 23.—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, 1905

AGE PERIODS.	Deaths from diarrhoeal diseases.	Deaths from all causes among children under five years of age.
Under one month.....	175	2,293
Over one month and under one year.....	1,683	4,658
One to five.....	397	2,913
Total.....	2,255	9,864

Diphtheria.—This disease caused 699 deaths in New Jersey during the year ending December 31st, 1905, this number being 219 less than the number of deaths from diphtheria during the previous year, and being only 3.26 deaths per 10,000 inhabitants. The average number of deaths from this cause for the past twenty-seven years was 1,254, showing a reduction in the mortality for the year 1905 of 55 per cent. from the average. Reference to table 4 shows that this is the lowest death-rate which has been recorded from this disease since this bureau was established. The accompanying chart shows that the mortality from this disease has been much diminished since the year 1896, and there can be no reasonable doubt that this improvement has been due to the use of antitoxin.

CHART SHOWING DEATHS FROM DIPHTHERIA, PER 10,000 POPULATION, IN NEW JERSEY, FOR THE TWENTY-SEVEN YEARS ENDING DECEMBER 31, 1905.

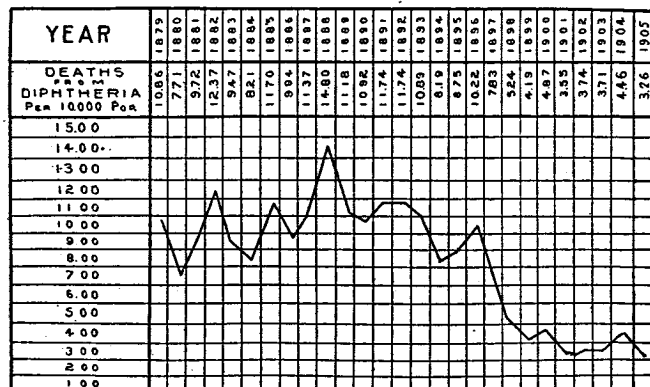


TABLE 24.—SHOWING DEATHS IN NEW JERSEY FROM DIPHTHERIA, WITH AGES OF DECEDENTS, FOR YEAR ENDING DECEMBER 31, 1905.

AGE PERIODS.	Deaths from diphtheria.	AGE PERIODS.	Deaths from diphtheria.	AGE PERIODS.	Deaths from diphtheria.
Under 1 month....	1	25 to 30.....	2	60 to 70.....	1
Under 1 year....	87	30 to 35.....	2	70 to 80.....	1
1 to 5.....	392	35 to 40.....	2	80 to 90.....	.....
5 to 10.....	182	40 to 45.....	3	Over 90.....	.....
10 to 15.....	34	45 to 50.....	2	Not stated.....	.....
15 to 20.....	6	50 to 55.....	.....	Total.....	699
20 to 25.....	3	55 to 60.....	1		

In 1904 the legislature passed an act which provides that antitoxin may be distributed by the State board of health, free of charge, to those who need this remedy and who are financially unable to pay the market price for the article, but no appropriation was made for carrying out the provisions of the act, and consequently its provisions were not effective. In its original form the bill to authorize the free distribution of antitoxin provided that the remedy should be manufactured by the State, but commercial interests secured a change in

the wording of the act, to require that if the substance was furnished it should be purchased from private manufacturers. At no time while this bill was under discussion was the State board of health consulted concerning the advisability of enacting such a law, and no action was taken by the board favoring the passage of the measure. The position taken by the board has uniformly been that if antitoxin is to be furnished under certain circumstances at public expense the distribution should be conducted by municipal authorities and not by the State, and that the cost should also be borne by the local authorities. This is the method by which vaccine has been supplied during outbreaks of small-pox, and there are excellent reasons for depending upon the same regulations for supplying other animal products for remedial or prophylactic purposes. It is estimated that not less than 500 repositories for the distribution of antitoxin would be needed if the State should undertake the distribution of this article, and to keep these stations constantly supplied with fresh material would cost at least \$5,000 annually, whereas if the local authorities provided the remedy only when necessary, buying it through the local druggist when it was required, the cost to each locality, if the distribution was strictly limited to indigent persons, would be insignificant. Moreover, if the State shall once adopt the policy of supplying remedial substances, where shall this charity stop? And if remedies are to be supplied, why not food and clothing? The public care of needy persons is at present conducted by each municipality and township, by means of a long established system, and the proposition to transfer the responsibility of the local poormaster to the State is not likely to meet with favorable action. Doubtless the original proposal that the State should furnish free antitoxin was presented in good faith, but in its amended form the act shows the influence of the trade, and the philanthropic purpose of the author of the original bill is much modified by the interposition of the manufacturer's requirement that the State shall not produce the remedy, but shall become a large customer for those who are in the business of making and selling the article. The bill (Senate No. 23), which was passed during the last session of the legislature, and which was vetoed by the Governor, was almost a duplicate of the act which was already on the statute books.

Typhoid Fever.—Three hundred and sixty deaths were caused by typhoid fever, or 1.68 per 10,000 inhabitants. This is the lowest

death-rate from this disease which has thus far been recorded in New Jersey, and its most important indications probably relate to improvements throughout the State in both the water and milk supplies. The inspection of dairies, which has been actively continued for the past ten years, has included the collection of samples of water from suspected wells, and in cases where the water has been found to be contaminated notice has been sent to the responsible parties, and many polluted sources of water-supply have in this manner been removed. The public water-supplies are being extended from year to year, and it is estimated that 70 per cent. of the inhabitants of the State are now provided with water from public works. There has been some improvement in the degree of cleanliness with which milk is collected and distributed, but very great advances in this direction may reasonably be expected from the operation of the act approved April 20th, 1906, and when the more general exclusion of flies from milk-rooms, kitchens and dining-rooms shall be practiced, in addition to greater care concerning the consumption of uncooked foods, a further reduction in the number of deaths from typhoid fever will doubtless occur. The fly as a carrier of disease producing organisms is coming into greater prominence, for in addition to their conveyance of typhoid fever these insects can doubtless transport the causative organisms of other affections. For sanitary reasons, therefore, excreta and all discharges from the human body should be disposed of in a manner which will prevent contact with flies, and hospitals, kitchens and dining-rooms should be screened in a manner which will effectually exclude these insects. The breeding places of flies are found in the filthiest places, and a general and wholesale cleaning up and removal of filthy accumulations, particularly including stable manure, will prevent the local propagation of the fly nuisance.

To prevent the transmission of typhoid fever by means of celery, lettuce and other vegetables which are consumed without cooking, it is advisable that ordinances shall be made by local boards of health prohibiting the use of liquid human excreta as a fertilizer.

TABLE 25.—DEATHS FROM TYPHOID FEVER IN NEW JERSEY, BY AGE PERIODS, FOR FIVE YEARS.

YEARS.	AGE PERIODS.											Totals.
	Under 1 year.	1 to 10.	10 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	Over 80.	Not stated.	
1901.....	2	35	57	107	74	86	17	13	9	1	1	352
1902.....	1	25	72	124	92	53	33	18	8	1	1	428
1903.....	3	26	77	108	88	49	19	17			1	388
1904.....	2	24	77	106	83	31	35	16	5	3		384
1905.....	3	33	73	86	65	49	28	16	6	1		360
Totals.....	11	143	356	533	402	218	132	80	28	6	3	1,912

TABLE 26.—SANITARY DISTRICTS IN NEW JERSEY IN WHICH DEATHS FROM TYPHOID FEVER OCCURRED DURING THE YEAR ENDING DECEMBER 31, 1905, 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.
Absecon township.....	616	1	Domestic	No sewers.
Acquackanonk township.....	7,157	1	"	"
Alentown borough (Monmouth).....	633	1	"	"
Atlantic City.....	37,598	9	Public	Sewers.
Bayonne.....	42,262	5	"	"
Bedminster township.....	2,346	1	Domestic	No sewers.
Belm.....	1,939	1	Public	Sewers.
Belleville.....	7,632	1	"	No sewers.
Berkeley township.....	558	1	Domestic	"
Beverly City.....	2,258	1	Public	Sewers.
Bloomfield.....	11,668	1	"	"
Boonton City.....	3,985	2	"	"
Bordentown.....	4,073	3	"	"
Brick township.....	2,122	1	Domestic	No sewers.
Bridgeton.....	33,624	3	Public	Sewers.
Bridgewater township.....	9,896	1	Domestic	No sewers.
Burlington City.....	8,038	4	Public	Sewers.
Caldwell borough.....	1,670	1	Domestic	No sewers.
Camden City.....	83,363	15	Public	Sewers.
Cape May City.....	3,006	1	"	"
Chester township.....	4,849	2	Domestic	No sewers.
Clayton borough.....	1,864	1	Public	"
Delaware township (Camden).....	1,470	1	Domestic	"
Depford township.....	2,234	1	"	"
Dover township (Ocean Co.).....	2,889	1	"	"
Downe township.....	1,664	1	"	"
Eastampton township.....	587	1	"	"
East Orange.....	25,175	2	Public	Sewers.
East Rutherford borough.....	3,165	1	"	No sewers.
East Windsor township.....	863	1	Domestic	"
Eaton township.....	2,874	1	"	"
Elizabeth.....	61,509	6	Public	Sewers.
Elmer borough.....	1,219	1	Domestic	No sewers.
Englewood.....	7,922	4	Public	Sewers.

TABLE 26.—SANITARY DISTRICTS IN NEW JERSEY IN WHICH DEATHS FROM TYPHOID FEVER OCCURRED DURING THE YEAR ENDING DECEMBER 31, 1905, 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.
Evesham township.....	1,356	1	Domestic	No sewers.
Florence township.....	1,967	1	"	"
Glassboro township.....	2,807	1	"	"
Gloucester City.....	8,033	5	Public	Sewers.
Guttenburg.....	4,563	2	"	No sewers.
Hackensack.....	11,098	3	"	Sewers.
Hamilton township (Atlantic).....	2,021	1	Domestic	No sewers.
Hamilton township (Mercer).....	5,150	1	"	"
Hammonton township.....	4,334	1	"	"
High Bridge township.....	1,382	2	"	"
Highland Park borough.....	714	1	Public	Sewers.
Highlands borough.....	1,275	1	Domestic	No sewers.
Hoboken.....	65,468	10	Public	Sewers.
Holland township.....	1,328	1	Domestic	No sewers.
Hopewell township (Cumberland).....	1,840	1	"	"
Jackson township.....	1,384	1	"	"
Jersey City.....	282,699	45	Public	Sewers.
Kearny.....	13,601	4	"	"
Lakewood.....	64,365	1	"	"
Landis township.....	5,331	5	Domestic	No sewers.
Lawrence township (Cumberland).....	1,730	1	"	"
Lawrence township (Mercer).....	2,043	1	"	"
Long Branch.....	12,183	11	Public	No sewers.
Matawan borough.....	1,473	1	Domestic	No sewers.
Maurice River township.....	2,134	1	"	"
Middle township.....	2,584	1	"	"
Middletown township.....	5,600	1	"	"
Milville.....	11,884	3	Public	Sewers.
Montclair.....	16,370	3	"	"
Morristown.....	12,146	12	"	No sewers.
Neptune township.....	9,357	2	Domestic	No sewers.
Neptune City borough.....	759	2	Public	"
New Brunswick.....	283,289	40	"	Sewers.
North Plainfield.....	23,133	8	"	"
Norwood borough.....	5,616	1	Domestic	No sewers.
Nutley borough.....	4,482	1	Public	"
Orange.....	4,556	1	"	"
Oxford township.....	26,101	5	"	Sewers.
Passaic City.....	2,964	2	Domestic	No sewers.
Paterson City.....	57,837	3	Public	Sewers.
Perth Amboy.....	111,529	16	"	"
Pennington borough.....	768	1	"	No sewers.
Perth Amboy.....	25,895	4	"	Sewers.
Phillipsburg.....	13,932	2	"	"
Plainfield.....	18,468	3	"	"
Pohatcong township.....	3,408	2	Domestic	No sewers.
Rahway.....	8,649	3	Public	Sewers.
Randolph (Morris).....	2,827	1	Domestic	No sewers.
Raritan (Monmouth).....	1,473	1	"	"
Raritan borough (Somerset).....	3,954	1	Public	"
Red Bank.....	6,263	1	"	Sewers.
Ridgewood township.....	3,890	1	Domestic	No sewers.
Riverside.....	3,301	1	Public	"
Rocky Hill borough.....	479	1	Domestic	"
Rutherford borough.....	5,218	1	Public	Sewers.
Salem City.....	6,443	1	"	"
Sayreville.....	4,779	1	Domestic	No sewers.
Somerville borough.....	4,782	3	Public	Sewers.
South Orange borough.....	4,982	2	"	"
Springfield township.....	1,323	1	Domestic	No sewers.
Staford township.....	994	1	"	"
Stanhope borough.....	887	1	"	"
Summit.....	6,845	1	Public	Sewers.
Swedesboro borough.....	1,484	1	"	"

TABLE 26.—SANITARY DISTRICTS IN NEW JERSEY IN WHICH DEATHS FROM TYPHOID FEVER OCCURRED DURING THE YEAR ENDING DECEMBER 31, 1905, 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.
Town of Union.....	17,005	1	Public.....	Sewers.
Trenton.....	84,180	22	".....	"
Upper township.....	1,350	1	Domestic.....	No sewers.
Upper Pittsgrove township.....	1,722	1	".....	"
Vineland.....	4,398	1	".....	"
Voorhees township.....	1,009	1	".....	"
Washington.....	3,518	1	".....	"
Washington township.....	1,089	1	".....	"
West Cape May.....	932	1	Public.....	"
Westfield.....	5,235	3	".....	Sewers.
West Hoboken.....	29,082	2	".....	"
West New York.....	7,196	2	".....	No sewers.
West Orange.....	7,852	1	".....	"
Westwood borough.....	1,044	1	".....	"
Woodbridge township (Middlesex).....	10,221	1	Domestic.....	"
Woodstown.....	1,500	3	".....	"

TABLE 27.—SHOWING DEATHS FROM TYPHOID FEVER IN NEW JERSEY, FOR YEAR ENDING DECEMBER 31, 1905, 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.....	2,144,143	360	1.68
Cities.....	1,429,100	262	1.83
Rural Districts.....	715,043	98	1.37

TABLE 28.—SHOWING DEATHS PER 10,000 POPULATION FROM TYPHOID FEVER IN NEW JERSEY FOR TWENTY-SEVEN YEARS.

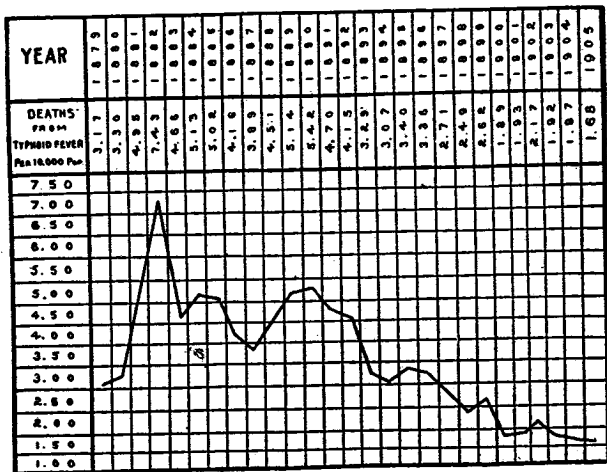
YEAR.	Population.*	Number of deaths from typhoid fever.	Deaths from typhoid fever, per 10,000 inhabitants.	YEAR.	Population.*	Number of deaths from typhoid fever.	Deaths from typhoid fever, per 10,000 inhabitants.
1879.....	1,020,584	324	3.17	1893.....	1,338,799	506	3.78
1880.....	1,130,892	373	3.29	1894.....	1,378,373	485	3.07
1881.....	1,160,275	574	4.94	1895.....	1,672,942	568	3.39
1882.....	1,189,658	884	7.43	1896.....	1,718,543	577	3.35
1883.....	1,209,048	564	4.66	1897.....	1,764,141	478	2.70
1884.....	1,248,224	640	5.12	1898.....	1,810,008	430	2.48
1885.....	1,278,083	642	5.02	1899.....	1,853,872	486	2.62
1886.....	1,310,431	545	4.15	1900.....	1,988,669	356	1.87
1887.....	1,342,829	522	3.88	1901.....	1,925,781	352	1.93
1888.....	1,375,227	620	4.50	1902.....	1,967,898	428	2.17
1889.....	1,407,625	724	5.14	1903.....	2,016,797	388	1.92
1890.....	1,441,017	782	5.42	1904.....	2,058,909	384	1.87
1891.....	1,478,784	695	4.69	1905.....	2,144,143	360	1.68
1892.....	1,511,653	628	4.15				

*Population estimated except for census years.

TABLE 29.—SHOWING DEATHS FROM TYPHOID FEVER IN NEW JERSEY, PER 10,000 POPULATION, BY COUNTIES, FOR THE FIVE YEARS ENDING DECEMBER 31, 1905, WITH AVERAGES FOR FIVE YEARS.

COUNTIES.	YEARS.					Averages for five years.
	1901.	1902.	1903.	1904.	1905.	
Atlantic County.....	2.67	2.74	2.81	1.97	2.01	2.44
Bergen County.....	.99	1.08	1.16	1.24	1.10	1.11
Burlington County.....	2.58	2.23	3.61	2.59	2.58	2.78
Camden County.....	2.11	2.44	1.07	2.46	1.81	1.98
Cape May County.....	2.26	.60	.75	.....	.....	1.73
Cumberland County.....	1.94	2.32	.96	2.29	2.88	2.08
Hudson County.....	1.93	2.12	2.04	1.41	1.39	1.78
Gloucester County.....	2.81	2.17	2.16	1.54	1.16	1.97
Hudson County.....	1.74	1.86	1.66	1.99	2.66	1.98
Hunterdon County.....	1.45	2.03	1.74	1.45	.90	1.51
Mercer County.....	1.75	6.04	5.14	3.87	2.35	3.83
Middlesex County.....	1.47	1.95	1.05	2.63	1.55	1.73
Monmouth County.....	1.92	2.36	1.63	1.95	2.62	2.10
Morris County.....	1.66	1.21	1.75	1.00	2.21	1.46
Ocean County.....	1.00	2.98	.49	2.43	3.35	2.05
Passaic County.....	2.19	2.50	2.02	.75	1.14	1.75
Salem County.....	.....	1.96	1.96	3.53	2.28	1.97
Somerset County.....	.60	.59	1.16	.86	2.48	1.14
Sussex County.....	.41	2.51	.80	1.97	.43	1.22
Union County.....	2.64	2.57	2.32	1.99	1.37	2.18
Warren County.....	1.85	4.74	1.05	2.35	1.73	2.34
The State.....	1.83	2.17	1.92	1.87	1.68	1.89

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

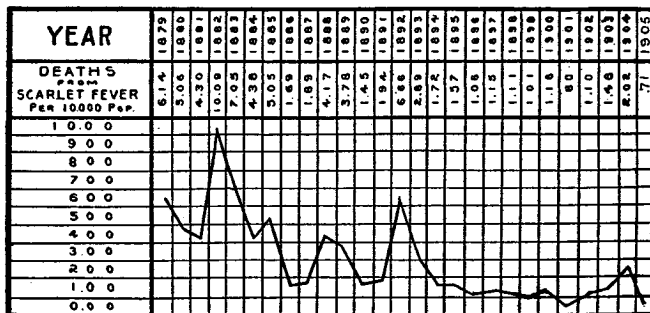


Scarlet Fever.—The reduction in the mortality from scarlet fever has been very marked during the past thirteen years, but the low death-rate from this disease during the year 1905 is below that of any previous year, having been only .71 per 10,000 inhabitants. The considerable increase in deaths from scarlet fever which occurred during the previous year seemed to indicate that the mild type which this affection has assumed in recent years was undergoing a change and that the mortality from this cause was about to return to its former disastrous proportions, but the record for the year 1905 is reassuring.

TABLE 30.—DEATHS FROM SCARLET FEVER, DIPHTHERIA AND TYPHOID FEVER IN NEW JERSEY FOR THE TWENTY-SEVEN YEARS ENDING DECEMBER 31, 1905, COMPARED WITH TOTAL DEATHS.

YEARS.	Population.	Total deaths.	Death-rate per 1,000 population.	SCARLET FEVER.		DIPHTHERIA.		TYPHOID FEVER.	
				Number of deaths.	Death-rate per 1,000 population.	Number of deaths.	Death-rate per 1,000 population.	Number of deaths.	Death-rate per 1,000 population.
1879.....		20,440	18.07	627	.61	1,100	1.09	324	.32
1880.....		1,130,822	18.77	573	.51	873	.77	373	.33
1881.....		20,810	18.39	499	.48	1,128	.97	574	.49
1882.....		23,610	22.90	1,306	1.01	1,472	1.24	884	.74
1883.....		13,810	20.60	833	.71	1,146	.95	564	.47
1884.....		21,716	19.20	547	.44	1,027	.82	640	.51
1885.....		23,207	18.63	646	.51	1,496	1.17	642	.50
1886.....	1,278,023	22,734	17.80	522	.17	1,303	.99	545	.42
1887.....		24,521	19.04	255	.19	1,357	1.14	522	.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	1,375	1.09	782	.54
1891.....		28,340	19.50	288	.19	1,737	1.17	695	.47
1892.....		32,685	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.....		30,634	18.31	264	.16	1,451	.88	568	.34
1896.....	1,672,942	30,767	17.90	183	.11	1,758	1.02	577	.34
1897.....		29,522	16.90	203	.12	1,332	.78	478	.27
1898.....		27,337	15.11	201	.11	950	.62	450	.25
1899.....		30,990	16.70	187	.10	777	.42	486	.26
1900.....	1,883,963	31,474	16.62	220	.12	927	.49	856	.19
1901.....		31,739	16.48	179	.09	683	.36	352	.19
1902.....		31,319	15.91	217	.11	683	.35	428	.22
1903.....		31,820	15.73	259	.15	748	.37	333	.19
1904.....		35,298	17.14	416	.20	918	.45	384	.19
1905.....	2,144,143	32,864	15.79	164	.07	699	.33	360	.17

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



Whooping Cough—The number of deaths certified as having been caused by whooping cough during the year ending December 31st, 1905, was 186. Reference to the following chart shows that very little improvement has occurred in the mortality which is annually caused by this disease, and that about every third or fourth year it prevails as an epidemic in many parts of the State. It proves most fatal to infants under one year of age, but it is a serious disease when it occurs in children under five. In recent years whooping cough has sometimes caused more deaths than scarlet fever, and it has also, in some years, caused more deaths than measles. No measures, except isolation of the patient, have thus far been found efficient for the restriction of the disease, and as its usual course renders the patient infectious for several weeks, isolation becomes exceedingly irksome, especially because the infected person is very rarely confined to the bed, and usually feels quite well between the paroxysms of coughing.

CHART SHOWING DEATHS FROM WHOOPING COUGH IN NEW JERSEY, PER 10,000 POPULATION, FOR THE TWENTY-SEVEN YEARS ENDING DECEMBER 31, 1905.

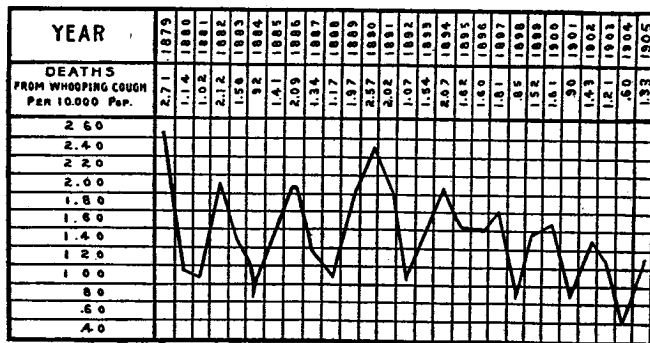


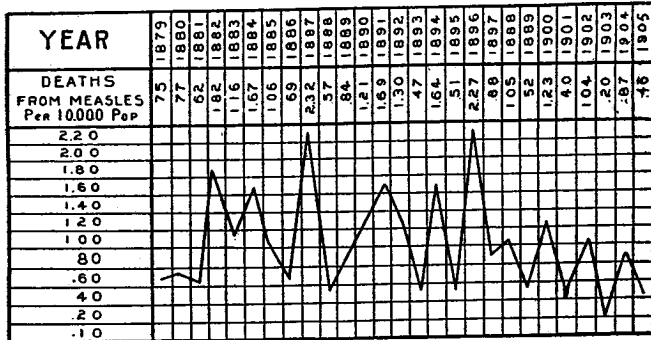
TABLE 31.—SHOWING DEATHS IN NEW JERSEY FROM WHOOPING COUGH, WITH AGES OF DECEDENTS, FOR YEAR ENDING DECEMBER 31, 1905.

AGE PERIODS.	Deaths from whooping cough.	AGE PERIODS.	Deaths from whooping cough.	AGE PERIODS.	Deaths from whooping cough.
Under 1 month...	8	20 to 25.....	1	50 to 55.....	.....
Under 1 year.....	102	25 to 30.....	.....	55 to 60.....	.....
1 to 5.....	65	30 to 35.....	1	60 to 70.....	.....
5 to 10.....	6	35 to 40.....	.....	70 to 80.....	.....
10 to 15.....	2	40 to 45.....	.....	80 to 90.....	.....
15 to 20.....	1	45 to 50.....	.....	Over 90.....	.....
				Total.....	186

TABLE 32.—SHOWING DEATHS IN NEW JERSEY FROM MEASLES, WITH AGE AT DEATH, FOR YEAR ENDING DECEMBER 31, 1905.

AGE PERIODS.	Deaths from measles.	AGE PERIODS.	Deaths from measles.	AGE PERIODS.	Deaths from measles.
Under 1 month...	1	25 to 30.....	1	60 to 70.....	1
Under 1 year.....	19	30 to 35.....	1	70 to 80.....	.....
1 to 5.....	57	35 to 40.....	1	80 to 90.....	.....
5 to 10.....	10	40 to 45.....	.....	Over 90.....	.....
10 to 15.....	5	45 to 50.....	1		
15 to 20.....	1	50 to 55.....	.....	
20 to 25.....	.....	55 to 60.....	.....	Total.....	98

CHART SHOWING DEATHS IN NEW JERSEY FROM MEASLES, PER 10,000 POPULATION, FOR TWENTY-SEVEN YEARS ENDING DECEMBER 31, 1905.



Cancer.—The deaths from cancer in New Jersey for the year 1905 numbered 1,282, or 5.98 per 10,000 inhabitants. These figures, compared with those of the previous twenty-six years, show a continuous increase in the recorded number of deaths from this cause. Better recognition of cancer affecting the internal organs, and increased longevity due to diminution of deaths in early life, thus giving an increased death-rate among the aged, are believed to be important factors in explaining the increase in the frequency of this disease.

TABLE 33.—DEATHS FROM CANCER IN NEW JERSEY, SHOWING ORGANS AFFECTED AND AGE AT DEATH, FOR THE YEAR ENDING DECEMBER 31, 1905.

CANCER.	AGE AT DEATH																	Totals.
	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.	
Of the mouth.....	1	1					2	2	3	7	4	6	5	16	11	4		62
Of the stomach and liver.....	1	4	8		1	2	2	4	20	34	44	54	72	149	63	21	1	482
Of the intestines and rectum.....		1	1				3	1	3	8	7	9	12	44	21	6		117
Of the female genital organs.....				1	1	2	5	6	9	24	31	29	27	42	18	4	2	201
Of the breast.....				1	1	2	1	4	13	18	6	14	18	19	4			101
Of the skin.....		1	1				1	2					6	1				12
Others.....	1	1	2	4	1	1	11	20	23	26	27	33	78	57	19	3		307
Totals.....	1	5	12	3	4	7	7	15	26	61	109	130	131	163	353	190	58	1,282

TABLE 34.—DEATHS FROM CANCER IN NEW JERSEY, BY AGE PERIODS, FOR FIVE YEARS.

YEARS.	AGE PERIODS.										Totals.	
	Under 1 year.	1 to 10.	10 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	Over 80.		Not stated.
1901.....	1	6	9	19	85	196	280	240	159	47	1	1,043
1902.....	1	7	5	24	92	190	322	216	136	31	7	1,051
1903.....		10	2	22	79	179	293	308	177	57		1,132
1904.....	7	5	9	21	81	168	286	302	199	47		1,125
1905.....	6	15	11	22	87	239	294	353	190	64	1	1,282
Totals.....	15	43	36	108	424	972	1,475	1,419	861	246	14	5,613

TABLE 35.—SHOWING DEATHS FROM CANCER IN NEW JERSEY FOR TWENTY-SEVEN YEARS.

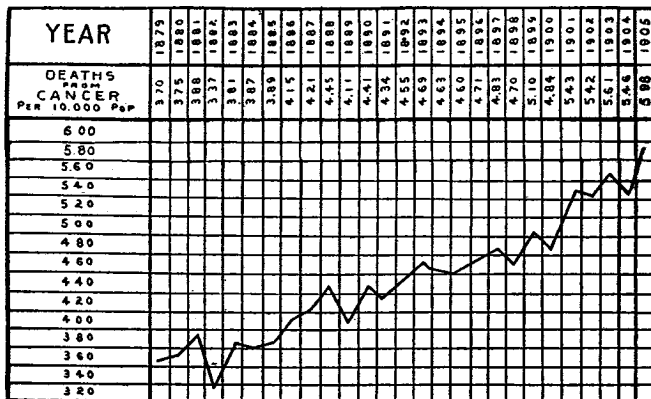
YEARS.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.
Deaths from cancer.....	373	425	451	402	461	484	498	546	574	612	579	640	642
Deaths from cancer per 10,000 population.....	3.70	3.75	3.88	3.37	3.81	3.87	3.89	4.15	4.21	4.45	4.11	4.41	4.34

YEARS.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Deaths from cancer.....	688	723	731	770	811	857	852	946	921	1,042	1,031	1,132	1,125	1,282
Deaths from cancer per 10,000 population.....	4.55	4.69	4.63	4.60	4.71	4.83	4.70	5.10	4.84	5.43	5.24	5.61	5.46	5.98

TABLE 36.—DEATHS FROM CANCER IN NEW JERSEY FOR THE YEAR ENDING DECEMBER 31, 1905, 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.....	5	2.25
Atlantic City.....	19	5.05
Bergen County.....	40	4.94
Englewood.....	5	6.31
Hackensack.....	9	8.11
Burlington County.....	38	7.61
Burlington City.....	6	7.46
Camden County.....	11	3.65
Camden City.....	45	5.40
Gloucester City.....	3	3.73
Cape May County.....	9	5.18
Cumberland County.....	18	6.77
Bridgeton.....	9	6.61
Millville.....	9	7.57
Essex County.....	19	5.89
Bloomfield.....	5	4.29
East Orange.....	16	6.36
Irlington.....	2	2.79
Montclair.....	14	8.64
Newark.....	189	6.67
Orange.....	20	7.66
West Orange.....	4	5.08
Gloucester County.....	18	5.22
Hudson County.....	13	4.37
Bayonne.....	15	3.55
Harrison.....	4	3.12
Hoboken.....	54	8.25
Jersey City.....	142	6.10
Kearny.....	11	8.09
Town of Union.....	12	7.05
West Hoboken.....	14	4.51
West New York.....	1	1.39
Hunterdon County.....	27	8.12
Mercer County.....	14	5.32
Trenton.....	56	6.65
Middlesex County.....	22	5.27
New Brunswick.....	11	4.76
Perth Amboy.....	13	5.02
South Amboy.....	3	4.79
Monmouth County.....	29	4.17
Long Branch.....	14	11.49
Red Bank.....	4	6.39
Morris County.....	30	6.08
Dover.....	7	1.57
Morristown.....	7	5.76
Ocean County.....	13	6.23
Passaic County.....	12	4.53
Passaic City.....	23	6.26
Paterson.....	77	6.90
Salem County.....	10	5.04
Salem City.....	3	4.66
Somerset County.....	21	6.83
North Plainfield.....	1	1.78
Sussex County.....	8	3.43
Union County.....	13	5.72
Elizabeth.....	33	5.45
Plainfield.....	14	7.68
Rahway.....	7	8.09
Summit.....	6	8.77
Warren County.....	26	9.61
Phillipsburg.....	5	3.74
Total in cities of over 5,000 inhabitants.....	890	
Total for State.....	1,282	
Rate per 10,000 population (State).....		5.98

CHART SHOWING DEATHS IN NEW JERSEY FROM CANCER, PER 10,000 POPULATION, FOR TWENTY-SEVEN YEARS, 1879-1905.



Bright's Disease.—The number of deaths recorded as having been due to this cause was 1,840.

TABLE 37.—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 SIX YEARS.

NAMES OF COUNTIES AND CITIES.	DEATHS FROM BRIGHT'S DISEASE.					
	1900.	1901.	1902.	1903.	1904.	1905.
Atlantic County.....	17	13	14	15	21	25
Atlantic City.....	28	36	32	34	38	60
Bergen County.....	27	25	22	31	47	36
Englewood.....	5	2	5	7	5	7
Hackensack.....	11	8	3	8	8	16
Burlington County.....	23	40	28	39	47	46
Bordentown.....					5	3
Burlington.....	10	9	10	12	10	12
Camden County.....	13	12	17	29	20	27
Camden.....	99	64	87	84	106	113
Gloucester City.....	3	2	5	11	6	6
Cape May County.....	8	2	7	10	12	11
Cumberland County.....	13	15	16	22	27	19
Bridgeton.....	16	11	22	24	24	18
Millville.....	6	7	5	3	8	12

TABLE 37.—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 SIX YEARS—Continued.

NAMES OF COUNTIES AND CITIES.	DEATHS FROM BRIGHT'S DISEASE.					
	1900.	1901.	1902.	1903.	1904.	1905.
Essex County.....	48	17	15	19	23	21
Bloomfield.....		5	6	1	5	7
East Orange.....	14	11	20	20	20	15
Irvington.....			4	8	6	2
Montclair.....	10	11	5	9	13	11
Newark.....	280	249	255	308	287	279
Orange.....	55	19	20	38	20	18
West Orange.....			2	7	5	7
Gloucester County.....	20	17	12	32	23	28
Hudson County.....	69	39	13	22	29	36
Bayonne.....	28	16	21	25	23	29
Harrison.....	5	3	2	7	9	9
Hoboken.....	55	41	57	78	80	75
Jersey City.....	188	140	158	179	194	236
Kearny.....			7	7	10	6
Town of Union.....			12	19	15	14
West Hoboken.....			21	14	12	29
West New York.....			4	9	5	8
Hunterdon County.....	17	17	12	22	26	28
Mercer County.....	15	6	13	9	9	8
Trenton.....	73	3	54	60	71	74
Middlesex County.....	20	22	18	20	13	25
New Brunswick.....	23	18	19	26	19	28
Perth Amboy.....	18	9	11	9	5	17
South Amboy.....		2	5	3	4	1
Monmouth County.....	48	42	50	55	57	48
Long Branch.....	11	13	10	13	8	13
Red Bank.....		4	2	4	3	4
Morris County.....	34	30	26	44	35	36
Dover.....	3	4	4	6	7	9
Morristown.....	14	8	12	8	13	10
Ocean County.....	17	11	12	14	13	16
Passaic County.....	17	7	6	11	9	17
Passaic City.....	10	11	15	12	21	20
Paterson.....	94	44	60	75	70	84
Salem County.....	7	14	11	16	14	9
Salem City.....			4	5	7	9
Somerset County.....	31	17	22	17	17	19
North Plainfield.....		3		4	2	4
Sussex County.....	10	6	8	13	10	12
Union County.....	10	10	9	15	11	17
Elizabeth.....	50	48	28	45	50	51
Plainfield.....	11	14	15	9	15	13
Rahway.....	14	9	14	12	9	6
Summit.....		1	4	1	5	2
Warren County.....	13	14	16	17	24	21
Phillipsburg.....	6	5	4	4	8	5
Totals.....	1,620	1,246	1,371	1,686	1,722	1,840

Suicide.—The number of deaths in New Jersey which were certified during the year 1905 as having been due to suicide was 354. Certain deaths, which are reported as having been caused by drowning, poison, &c., and where the attending circumstances are not stated, are inquired into by communicating with the person who forwarded the certificate. The following forms are used in making these inquiries:

STATE BOARD OF HEALTH AND
BUREAU OF VITAL STATISTICS.

Trenton, N. J.....190

.....M.D.

Dear Doctor:

In the certificate of death referred to below the cause of death as stated does not permit of proper classification. Will you kindly state more particularly what was the true cause of death, append your signature, and return this sheet in the stamped envelope herewith enclosed?

Very respectfully,

HENRY MITCHELL, M.D.,

Medical Superintendent.

.....aged.....

died on the.....day of.....190 , in

.....New Jersey. The

cause of death was.....

Signed,

.....
Medical Attendant.

NOTE.—No certificate giving "heart failure," "dropsy," or other mere symptom, as the sole cause of death, will be accepted unless accompanied by a satisfactory written explanation, and additional information will be required in cases where the following statements are made, without explanation, as the sole cause of death: Abortion, abscess, cellulitis, childbirth, convulsions, hemorrhage, gangrene, gastritis, erysipelas, meningitis, metritis, miscarriage, necrosis, peritonitis, phlebitis, pyæmia, septicæmia and tetanus.

The fact should be made plain whether death from drowning, shooting, poisoning, &c., was by suicide, homicide or accident.

STATE BOARD OF HEALTH AND
BUREAU OF VITAL STATISTICS.

Trenton, N. J. 190

Dear Sir:

In the certificate of death referred to below, the.....
..... was omitted. Will you kindly write this information on
the following blank, and return it in the stamped envelope herewith enclosed?

Very respectfully,

HENRY MITCHELL, M.D.,

Medical Superintendent.

..... aged
single, married, widowed or divorced, died in
(Cross out all but the right one.)

..... New Jersey, on the
..... day of 190

Cause of death.....

Signed,

.....
Medical Attendant.

In 1901 the number of deaths recorded from suicide was 265; in
1902, 271; in 1903, 314 and in 1904, 330. Previous to 1904 the
deaths from this cause were not separately recorded, but were in-
cluded in the group classified as violent deaths.

TABLE 38.—DEATHS IN NEW JERSEY FROM SUICIDE, SHOWING MODE OF DEATH
AND AGE AT DEATH, FOR THE YEAR ENDING DECEMBER 31, 1905.

MODE OF DEATH.	AGE AT DEATH.																	Totals.
	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.	
By poison.....	1			9	19	15	14	13	14	11	13	9	13	12				143
By asphyxia.....			2	3	4	6	6	5	4	4	7	2	2	3	1			47
By strangulation.....			2	4	4	2	2	2	2	2	2	3	4	2				84
By firearms.....	1	1	3	6	9	12	8	7	8	12	4	2						87
By cutting instruments.....		1	3	6	5	2	2	2	2	2	3	4	2					11
By drowning.....			2	1	1	1												6
By crushing.....		1	1	1			2	4	3	1	2	3	2					20
By precipitation from height.....								1	2									6
Others.....					1				2									6
Totals.....	1	1	2	13	38	29	35	33	43	31	29	30	44	26	3			354

TABLE 39.—SHOWING NUMBER OF DEATHS BY SUICIDE RECORDED IN NEW JERSEY,
BY CITIES, AND BY COUNTIES, EXCLUSIVE OF CITIES, FOR THE YEAR ENDING
DECEMBER 31, 1905.

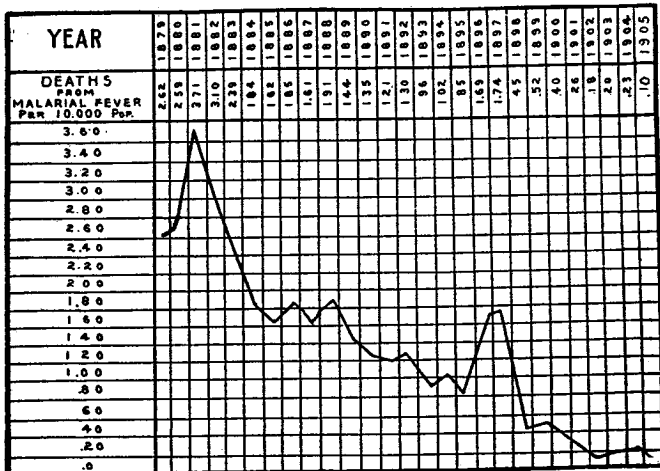
NAME OF PLACE.	COUNTRY OF BIRTH.										Total.		
	United States.	England.	France.	Germany.	Ireland.	Italy.	Scotland.	Hungary.	Sweden.	Other foreign.			
Atlantic County.....												1	
Atlantic City.....	5			1							1	10	
Bergen County.....												1	
Englewood.....	1											1	
Hackensack.....	1											1	
Burlington County.....												4	
Burlington.....												2	
Camden County.....												4	
Camden City.....	2	1								1		4	
Gloucester City.....					1							1	
Cape May County.....												2	
Cumberland County.....												4	
Bridgeton.....	1											1	
Millville.....	1											1	
Essex County.....												9	
Bloomfield.....												4	
East Orange.....	3			1								4	
Irvington.....	2			2								4	
Montclair.....	1											1	
Newark.....	51			25					1			6	
Orange.....				1	2							3	
West Orange.....	1			1								2	
Gloucester County.....												3	
Hudson County.....												9	
Bayonne.....	4			2				1				3	
Harrison.....			1									3	
Hoboken.....	2			7			1					1	
Jersey City.....	2	1		14	8		1		1			2	
Kearny.....												1	
Town of Union.....	1			3								1	
West Hoboken.....				4	1							7	
West New York.....												4	
Hunterdon County.....												4	
Mercer County.....												4	
Trenton.....	5			1			1		1			2	
Middlesex County.....												10	
New Brunswick.....												5	
Perth Amboy.....	1											1	
Monmouth County.....												2	
Long Branch.....												3	
Red Bank.....								1				1	
Morris County.....												4	
Dover.....												1	
Morrisstown.....	1											3	
Ocean County.....												3	
Passaic County.....												4	
Passaic City.....	2											4	
Paterson.....	2											1	
Salem County.....			1				7	3	2			3	
Salem City.....	2											2	
Somerset County.....												1	
North Plainfield.....	1											4	
Sussex County.....												1	
Union County.....												4	
Elizabeth.....	3			1	1							6	
Plainfield.....	2											3	
Rahway.....					1							1	
Warren County.....												2	
Phillipsburg.....	2											2	
Totals.....	131	4	1	71	19	6	4	2			25	5	354

Malarial Fever.—Only twenty-one deaths were certified as having been caused by this disease, whereas in former years it was much more prevalent, as shown by the following table and chart. The legislature has entered the experimental field in dealing with the mosquito question, and chapter 134 of the laws of 1906 appropriates \$350,000 for the draining, filling or otherwise abolishing the breeding places of these insects.

TABLE 40.—SHOWING DEATHS IN NEW JERSEY FROM MALARIAL FEVER FOR TWENTY-SEVEN YEARS.

YEARS.	Deaths from malarial fever.	YEARS.	Deaths from malarial fever.	YEARS.	Deaths from malarial fever.
1879.....	268	1888.....	264	1897.....	132
1880.....	293	1889.....	203	1898.....	82
1881.....	431	1890.....	195	1899.....	96
1882.....	379	1891.....	180	1900.....	84
1883.....	290	1892.....	198	1901.....	50
1884.....	230	1893.....	148	1902.....	36
1885.....	209	1894.....	162	1903.....	40
1886.....	243	1895.....	144	1904.....	47
1887.....	217	1896.....	119	1905.....	21

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



Small-pox.—During the year 1905 only one death occurred in New Jersey from small-pox, but the disease prevailed, in an exceeding mild type, in several counties in the State, as follows; Bergen, 30; Camden, 1; Cumberland, 1 and Essex, 2. From information received it seems probable that many unreported cases, possibly several hundred, of this mild form of small-pox occurred during the year in various parts of the State. In some localities the true nature of the disease was not suspected and no physicians were called to attend the persons who, suffering only headache and backache with very little fever and an almost unnoticeable eruption, were affected with the prevailing disorder. Vaccination, wherever it was practiced, promptly and effectually terminated the outbreak, but as there was practically no mortality attending the disease, the protection afforded by vaccination was often neglected, and new cases are consequently still appearing, sometimes in localities quite distant from the source of infection. The widespread epidemic of small-pox which occurred in the United States during the years 1897-1904, and which extended to every county in New Jersey, led to the vaccination and revaccination of a large number of persons, but the continued reappearance of small-pox shows that many persons did not protect themselves against the disease. Dr. J. F. Schamburg is authority for the statement that "of more than three thousand small-pox patients treated at the Philadelphia Municipal Hospital during the last three years not one had been recently successfully vaccinated. None of the medical attendants were attacked. Of one hundred women, working near the patients, four refused to be vaccinated. These were stricken with small-pox, while those who submitted to the operation were unscathed. Of seven hundred medical students who have worked in small-pox wards only one caught the infection, and he had never been vaccinated. If any evidence is good for anything, this is proof that failure to be vaccinated is an opportunity for small-pox. No such combination of circumstances as are here recorded could be without a reason, and the reason is clear enough. If a person persists in not being vaccinated, he multiplies his chances of having small-pox."

TABLE 41.—SHOWING DEATHS IN NEW JERSEY FROM SMALL-POX FOR TWENTY-SEVEN YEARS.

YEARS.	Deaths from small-pox.	YEARS.	Deaths from small-pox.	YEARS.	Deaths from small-pox.
1879.....		1888.....	5	1897.....	
1880.....	15	1889.....	3	1898.....	
1881.....	25½	1890.....		1899.....	
1882.....	367	1891.....		1900.....	5
1883.....	5½	1892.....	38	1901.....	142
1884.....	7	1893.....	43	1902.....	432
1885.....	2	1894.....	11	1903.....	16
1886.....	4	1895.....	23	1904.....	24
1887.....	5	1896.....	2	1905.....	1

Cerebro-spinal Meningitis.—The mystery which has attended the spread of this disease has been removed in great degree by the knowledge that the meningococcus is carried in the nose and throat in the case of healthy persons, and the dissemination of the infection may therefore be through the agency of individuals who are not suspected to be affected with the disease. The infectious organisms are probably distributed as in diphtheria by kissing, by suspended droplets of moisture which are liberated in the acts of speaking, coughing, sneezing, &c., and, therefore, isolation of the patient is of first importance, and no one except the necessary attendants should be admitted to the sick room. It has been found that the infectious organisms die out quickly when they are deposited upon clothing, bedding, furniture, &c., and the spread of the disease is doubtless mainly due to the direct exposure of susceptible persons to contact with an individual who is carrying the cocci upon the mucous surfaces of the throat or nose.

Notifiable Diseases.—The law requires that the following diseases shall be reported to the local board of health within twelve hours after they are discovered: Diphtheria, membranous croup, scarlet fever, typhoid fever, small-pox, varioloid, chicken-pox, tuberculosis, hydrophobia, trachoma, glanders, anthrax, cholera, yellow fever, typhus fever, leprosy, plague, trichinosis, malaria.

For the convenience of physicians local boards in some districts have furnished blanks printed on postal cards somewhat like the following:

Report immediately on making diagnosis.

..... N. J.,190

I hereby report a case of.....

Name of patient.....age.....

sex..... residence.....

date of attack.....number of families in house.....

..... Any school children?..... Is patient and nurse satisfactorily isolated?.....

.....M.D.

Report all cases, not only first cases, but also all subsequent cases.

NOTIFIABLE DISEASES.

Cholera, yellow fever, typhus fever, leprosy, plague, trichinosis, small-pox, typhoid fever, malaria, tuberculosis, trachoma, hydrophobia, glanders, anthrax, chicken-pox, diphtheria, membranous croup, scarlet fever, varioloid.

Verbal notice from the attending physician does not give to the health board a legal basis for the enforcement of isolation restrictions and other precautionary measures, and the notice should, in every instance, be in writing. Valuable time is often gained by sending the information by telephone, but the written notice should follow as soon as possible, for it is upon the written statement that the health board depends for its action, and without the written notice there would be no record of the report of the case. The language of the law is that the 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."

TABLE 42.—INFECTIOUS DISEASES REPORTED FOR EACH QUARTER DURING THE YEAR ENDING JUNE 30, 1906.

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.
Allamuchy township.....								4								
Asbury Park city.....	2	1	11	2				2	1							
Atlantic Highlands borough.....																
Berona city.....	18	17	14	30	18	5	1	20								
Belleville township.....	2						2	3								
Belmar borough.....	1				1			1		2						
Bernards township.....	1	4			4	6	2	1	3							
Bethlehem township.....								1								
Bridgeton township.....									3		1					
Bound Brook borough.....		1														
Bridgeton city.....		4	3	7	1	20	15	9	10	1	8	3				
Bridgewater township.....		1	1			3	2								3	
Buena Vista township.....							20	1	1							
Burlington city.....	9	1	2	1	3	1	4	2	3	10						
Camden city.....	22	49	40	57	38	99	124	37	12	9	11	6				
Cape May city.....		4	4	2												
Carlstadt borough.....		1					2	2								
Centre township.....		1								1	2					
Chesterfield township.....																
Clementon township.....		1	1													
Closter Park borough.....																
Collingswood borough.....		2	1	10				3			1	1				
Cranford township.....								1				1				
Delaware township (Camden).....										2						
Delran township.....																
East Greenwich township.....		6	3	4	9	8	1	3	4	1						
East Orange city.....	18	16	20	7	5	17	27	10	4	2						
Egg Harbor city.....	1					3	2									
Elizabeth city.....	106	104	159	191	24	73	59	38	2	1	5					
Elk township.....				1												
Essex Falls borough.....								1	2							
Etna borough.....															5	
Evesham township.....									2							
Ewing township.....						1	7	1								
Easton borough.....																
Franklin township (Bergen).....										1						
Freehold town.....	2	6	2	1												
Freehold township.....	2															
Garfield borough.....		1				2		3								
Glassboro township.....		1				1	3									
Glen Rock borough.....																
Gloucester City.....	2	11	3	1	4	3	4	1	1	5	12	4				
Gloucester township.....																2
Green township.....																
Greenwich township (Cum.).....						1	3									
Greenwich township (Warren).....							1	2								
Hackensack city.....	8	3	4	10	1	2	6	4	7	7	4	2				
Hackettstown town.....																
Haddon township.....	1							1	1	1	1					
Haddonfield borough.....	1					1		1	1	1	2					
Haddon Heights borough.....						1		1								
East Greenwich township.....			3	2		1	1									
Hardyston township.....						1	1									
Harrison town.....	6		1	4	3	8	4	3	1							
Hopatcong borough.....																
Hopewell borough.....																
Hopewell township (Mercer).....	1															
Irvington town.....	4	3	3			9	8									
Jersey City.....	69	135	220	122	31	58	146	152	4	9	2					4
Junco township.....	2	1	19	1	6	8	2	4	3	8	1					
Keary town.....																
Lakewood township.....	2	11	1	3		6	2	4	1	3	1					
Lambertville city.....	1	1	1			1	7									
Little Ferry borough.....	1															
Long Branch city.....		2														
Manasquan borough.....			1													
Maurice River township.....			5	8												

TABLE 42.—INFECTIOUS DISEASES REPORTED FOR EACH QUARTER DURING THE YEAR ENDING JUNE 30, 1906.—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.	
Mendham township.....														1		2	
Metuchen borough.....															4	3	
Middle township.....														2			
Midland township.....														3			
Millville city.....	4	23	5	20	12	8	2	1	2	4	1	1					
Montclair city.....	2	23	13	11	12	37	44	19	1	3	7	1					
Moorestown borough.....	1				2	1	3	4	1	1	3	2					
Morristown city.....	11	6	4	9	4	7	23	16	21			1					
Morris township.....																	
Mount Laurel township.....																	
Mount Holly borough.....																	
Newark city.....	297	486	456	278	107	182	250	209	1	2	74	84	39	27			
New Brunswick city.....	1				5	5		39	64	12							
New Hanover township.....																	
Newton township.....	4	13								1	17						
North Arlington borough.....										2	3	14	13	3	1	2	
North Plainfield borough.....										1	2						
Norwood borough.....																	
Oakland borough.....										1	1						
Orange city.....	15	42	37	18	8	16	18	27	6	13	1	2					
Palmyra township.....										1							
Passaic city.....																	
Paterson city.....	49	84	53	39	18	41	58	37	18	1	3						
Pennington borough.....																	
Pitman borough.....																	
Plainfield city.....	7	4	6	4	10	15	17	6	6	1	4	3					
Port Republic borough.....	1	1															
Princeton borough.....	1	4	11							3	1	4	1				
Rahway city.....	1	19	6	1										2	4		
Randolph township.....																	
Raritan township (Mid.).....																	
Red Bank town.....																	
Riverside borough.....	1																
Riverton borough.....														1	2		
Roselle borough.....																	
Roselle Park borough.....	1																
Rutherford borough.....																	
Salem city.....																	
Somerville town.....	2																
South Orange township.....																	
South Orange village.....		2	3	1													
South River borough.....		3	13	2													
Springfield township (Union).....																	
Spring Lake borough.....																	
Summit city.....																	
Sussex borough.....																	
Swedesboro borough.....																	
Tewksbury township.....	1																
Trenton city.....	26	32	59	38	9	111	133	113	16	9	24	20					
Union township (Union).....																	
Vineland borough.....	3	2	2														
Wallington borough.....																	
Warren township.....																	
Washington borough.....																	
Washington township (Bur.).....																	
Washington township (Glou.).....																	
Waterford township.....																	
Wenonah borough.....																	
West Amwell township.....																	
West Deptford township.....																	
West Hoboken town.....	27	22	7	27	18	7	33	20									
West Orange township.....	3	2	10	10	4	3	12	3	2								
Westwood borough.....																	
Wood Lynne borough.....																	
Wood Ridge borough.....																	
Woolwich township.....																	

Total cases reported by quarters..... 739 1186 1325 960
 Total cases reported for year..... 4230 533 780 1192 866 264 234 137 136 4 1 38 39

Creameries.—The act approved April 20th, 1906, was rendered necessary because some of the establishments where milk is received for distribution have been conducted without due regard for cleanliness, and additional legislation was required to bring the construction and management of all creameries up to the sanitary standard which has voluntarily been reached by the proprietors of many of them, and which is essential for the protection of the milk from contamination while it is passing through these buildings. Inspections have been made of all premises in the State where milk is sold to dealers or persons who buy to sell it again, and 108 licenses to conduct creameries have thus far been issued. The law defines the word "creamery," as used in the act, to mean establishments where milk is sold at wholesale, and the reports on file in the office of the board show that there are numerous repositories for milk in cities, which are unmistakably classed as creameries in the law, where the conditions are altogether unsuitable for handling milk.

The record shows that not less than 132 establishments in which the law is violated have been inspected, and notices have been sent to the owners informing them that they are conducting creameries in violation of the law. Suits have also been ordered against some of these parties. Since the passage of the act 349 letters and notices have been forwarded to the owners of creameries, and important improvements have been made on about sixty per cent. of these premises. Broken and leaky floors have been replaced by water-tight constructions, and in several instances wooden floors have been replaced with concrete. Side walls and ceilings have been made smooth, and dust and cobwebs have disappeared. The water-supply has been inquired into in every doubtful case, and every creamery which has been licensed is provided with wholesome water. Screening against the entrance of flies is not so general in creameries as it should be, but before the beginning of another season this precaution will doubtless be applied in every creamery building. The results already obtained under the provisions of the creamery act are highly gratifying, but vast improvements are still required in conducting the business of distributing milk, and substantial progress will have been made when every creamery, milk depot and milk shop shall be conducted in a cleanly manner. The chart on page 32, showing the diminishing mortality among children, should encourage health officers to continue and increase their efforts to secure the marketing of clean milk.

The following revised regulations for securing sanitary conditions on creamery premises were adopted October 10th, 1906:

RULES AND REGULATIONS FOR THE MANAGEMENT OF CREAMERIES.

1. The site of the creamery building should be dry, and the surroundings should be clean and free from all refuse accumulations. Creamery buildings should not be located near any stable, chicken yard, hog pen or slaughter house, and no open privy vault, or other receptacle for filth, should be allowed near said buildings. If cess-pools or privy vaults are necessary they should be screened to prevent the entrance and exit of flies. Waste fluids from creamery premises should be conducted through sub-surface drains, and finally disposed of in a manner which will create no nuisance.
2. No portion of a creamery building should be used as a dwelling.
3. If the creamery is provided with a cellar, this apartment should be well lighted and ventilated, and it should be kept scrupulously clean.
4. The floors of all rooms in which the milk is handled should be constructed of material which is impervious to water, and the surfaces should be graded to permit quick escape of waste fluids into a properly constructed drain.
5. The surfaces of the side walls and ceiling of all rooms in which milk is handled should be smooth and be free from ledges, projections or crevices which will afford lodgement for cobwebs and dust.
6. The milk should, when practicable, be elevated when it is received, and before it is transferred from the dairymen's cans to receptacles provided by the creamery, to a sufficient height to permit it to flow by gravity, through open channels, to the separator, cooling apparatus, cans or bottles, &c. If pumps and closed pipes are used in conveying milk, they should be so constructed that every portion of their interior surfaces will be accessible for cleaning. All pipes used for this purpose should be at least two inches in internal diameter, and they should be in short lengths and be placed in the sterilizing chamber daily for thirty minutes before use.
7. Every creamery should be equipped with a steam sterilizing chamber large enough to receive all cans, bottles and utensils used in handling the milk, and all such containers and utensils, after thorough washing, should be exposed daily to live steam at a temperature of at least 240° for not less than thirty minutes before use.
8. Milk and cream should at all times be handled in a cleanly manner. No measuring rod or other instrument or utensil should be put into the milk unless such rod, instrument or utensil has been sterilized before use.
9. The water used in creameries should be pure and wholesome.
10. No milk can, bottle, vessel, receptacle or container shall be used in any creamery for any other substance than milk or milk products.
11. No decomposing milk shall be stored in or near any creamery building.
12. The temperature of milk held for sale or shipment should not be above 50° F.
13. Every portion of the creamery building should be kept clean and free from dust, cobwebs and accumulations, and should be effectually screened against flies.
14. No urinal, water-closet, privy or stable shall be so located as to pollute the air of any rooms in which milk is received, cooled or handled.
15. The employes should be neat in their habits; their outside garments should be made of material which can be readily cleansed by washing, and said garments should be washed daily. Warm water, soap and clean towels should be provided to permit convenient washing of hands. The hands of employes should be kept clean.

16. No cats, dogs, fowls or other domestic animals should be kept or allowed in or about creamery buildings.

17. Persons affected with any infectious disease must not be employed in any creamery. Every owner and the manager of every creamery, on the occurrence of any case of typhoid fever, scarlet fever, diphtheria or tuberculosis, either in himself or in his family or among his employes or their immediate associates, or among the persons supplying milk to the creamery, or among the family or employes of said persons, shall immediately notify the Board of Health of the State of New Jersey. No persons except those who are actually employed in handling the milk should be permitted to enter any room in a creamery containing milk or its products.

Food and Drugs.—Efforts to improve the milk supply have continued to have first place in the operations of the board under the provisions of the acts of the legislature which are designed to prevent the sale of adulterated and unwholesome food. During the year ending October 31st, 1906, 12,316 samples of milk were examined by the State inspectors, and 2,340 of them were sent to the State laboratory of hygiene for analysis. Five hundred and seventy-eight of the samples analyzed, or 24.7 per cent. were found to be below the statutory standard, and in 302 cases the evidence was found to warrant a demand for the penalty. By the act approved June 13th, 1906, the provisions of the law which previously governed the sale of adulterated milk were materially modified, and under the new enactment the penalty for the sale of milk which is below the statutory standard for solids may be paid without publicity, and the amount of the penalty in first offenses is reduced to fifteen dollars. For the addition of preservatives the penalty is increased to one hundred dollars, and for second offenses it is still further increased to two hundred dollars. The inspection of dairy premises has been continued, including the examination of the water used for washing milk cans, bottles and utensils and for watering stock. The proportion of dairy wells which have been found to be contaminated has been about 80 per cent. of those from which samples were collected for examination in the State laboratory of hygiene. It should be stated, however, that samples of water are not usually collected from dairy wells except in cases where the well is so located that, in the judgment of the inspector, it appears probable that the well water may be contaminated by house slops, privy, leaky drain, cesspool or other nearby source of pollution, and therefore nearly all of the dairy wells examined are regarded as suspicious when the water is collected. On many dairy premises the water is taken from sources which are unquestionably free from

danger, and during the past few years numerous new and safe sources of water-supply for dairy farms have been installed to take the place of dooryard and barnyard wells which have been examined and found to be polluted.

Attention has from time to time been called to the unfavorable consequences which have occasionally attended the voluntary inspection of dairy premises in New Jersey by agents of the New York City department of health, and also by inspectors of local boards of health of this State who extend their operations to districts outside of their own jurisdiction. If these parties would limit their operations to the collection of facts to be reported to their respective boards, no objection could reasonably be offered to their excursions into neighboring localities or districts from which milk is shipped for sale in the various cities and towns in which the visiting inspectors and agents are employed, but almost invariably these parties exceed their proper privilege, and freely advise the dairyman concerning the water-supply of his dwelling and stables; the disposal of waste fluids; the construction of the stables, milk rooms, &c., and often give advice altogether in opposition to that authorized by the State board of health, and certain of these recommendations have been in direct violation of the acts of the legislature. The remedy for these acts of mistaken zeal lies in closer co-operation with this board on the part of sanitary authorities from without the State, and also on the part of local boards in New Jersey desirous of ascertaining the nature of the conditions under which the milk which is to be sold in their respective towns is produced and handled. Our inspectors will always be assigned, upon request, to accompany any sanitary officer who may desire to investigate conditions on dairy or creamery premises in New Jersey, and if this arrangement should be regularly adhered to in future, dairymen would find their dealings with milk inspectors much less confusing.

The Pasteurizing of milk is being practiced by some dealers as a precaution against souring, and it is in reality, as thus employed, merely a method of prolonging the selling limit of dirty milk. If milk is collected, cooled and handled in a fairly cleanly manner it will keep sweet for at least forty-eight hours, which is quite as long as it is advisable that milk shall be held before it is consumed. The dealer who Pasteurizes his product takes no note of the objectionable consequences of this treatment, but he is actuated solely by the desire to prevent the milk from becoming unsalable before it is delivered to

the purchaser. A recent writer says of laboratory investigations concerning Pasteurized milk: "Raw and Pasteurized milks were found to contain 1,260 and 12 bacteria respectively, but at the end of seventy-two hours the numbers were 17,000,000 and 148,000,000."

* * * "Pasteurizing brings the bacteria within a safe limit, but, as shown by examinations at various points in the process, by the time the milk is cooled and bottled it has again acquired a high bacterial content."*

The following resolution was adopted at a recent meeting of the State board of health:

Whereas, It is indispensable, when taking samples from cans of milk for inspection, that the employes of this board shall so conduct the operation that no contamination of the milk will occur as a consequence of their manipulations.

Resolved, That the food inspectors of this board be directed to employ the dipper provided by the milk dealer for the purpose of stirring the milk and for taking samples, but in cases where no dipper is furnished by the vendor of the milk, then the inspector may supply a clean dipper, or stirrer, but no such dipper or stirrer shall be again used unless it has first been washed and made clean.

* Amer. Med., March 11th, 1905.

TABLE 43.—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 THE CASE, FOR THE YEAR ENDING OCTOBER 31, 1906.

Date of analysis.	Number of sample.	Name of article.	Termination of each case.
Nov. 1, 1905.....	A-4530.....	Milk.....	Suit discontinued.
Nov. 2, 1905.....	A-4534.....	Oleomargarine.....	Convicted, appealed.
Nov. 2, 1905.....	A-4535.....	Oleomargarine.....	Convicted, appealed.
Nov. 2, 1905.....	A-4537.....	Oleomargarine.....	Suit discontinued.
Nov. 6, 1905.....	D-6147.....	Oleomargarine.....	Appealed.
Nov. 8, 1905.....	D-6155.....	Milk.....	Convicted, fine paid.
Nov. 8, 1905.....	D-6156.....	Milk.....	Convicted, fine paid.
Nov. 15, 1905.....	A-4547.....	Milk.....	Convicted, fine paid.
Nov. 15, 1905.....	A-4544.....	Milk.....	Convicted, fine paid.
Dec. 8, 1905.....	C-6542.....	Oleomargarine.....	Convicted, fine paid.
Dec. 26, 1905.....	C-6575.....	Oleomargarine.....	Convicted, fine paid.
Jan. 4, 1906.....	A-5121.....	Milk.....	Pending.
Jan. 4, 1906.....	A-5122.....	Milk.....	Pending.
Jan. 4, 1906.....	A-5123.....	Milk.....	Pending.
Jan. 8, 1906.....	C-6583.....	Oleomargarine.....	Pending.
Jan. 9, 1906.....	A-5139.....	Oleomargarine.....	Convicted, fine paid.
Jan. 9, 1906.....	A-5140.....	Oleomargarine.....	Convicted, fine paid.
Jan. 26, 1906.....	D-6307.....	Oleomargarine.....	Convicted, appealed.
Jan. 26, 1906.....	D-6310.....	Oleomargarine.....	Convicted, appealed.
Jan. 26, 1906.....	A-6308.....	Oleomargarine.....	Convicted, fine paid.
Jan. 26, 1906.....	D-6309.....	Oleomargarine.....	Convicted, appealed.
Jan. 26, 1906.....	D-6335.....	Oleomargarine.....	Convicted, appealed.
Jan. 31, 1906.....	D-6337.....	Oleomargarine.....	Convicted, appealed.
Jan. 31, 1906.....	D-6336.....	Oleomargarine.....	Convicted, fine paid.
Feb. 2, 1906.....	E-1106.....	Milk.....	Convicted, fine paid.
Feb. 3, 1906.....	A-5247.....	Milk.....	Convicted, fine paid.
Feb. 14, 1906.....	D-6344.....	Molasses.....	Convicted, fine paid.
Feb. 19, 1906.....	D-6377.....	Molasses.....	Convicted.
Feb. 23, 1906.....	D-6392.....	Oleomargarine.....	Convicted, appealed.
Feb. 23, 1906.....	D-6394.....	Oleomargarine.....	Convicted, appealed.
Feb. 23, 1906.....	D-6395.....	Oleomargarine.....	Convicted, appealed.
Feb. 23, 1906.....	D-6306.....	Oleomargarine.....	Convicted, appealed.
Feb. 23, 1906.....	D-6398.....	Oleomargarine.....	Pending.
Feb. 24, 1906.....	C-6843.....	Milk.....	Convicted, fine paid.
Feb. 24, 1906.....	A-5342.....	Oleomargarine.....	Convicted, appealed.
Feb. 24, 1906.....	A-5343.....	Oleomargarine.....	Duplicate of A-5342.
Mar. 8, 1906.....	A-5374.....	Milk.....	Convicted, fine paid.
Mar. 8, 1906.....	D-6419.....	Tr. Opium.....	Convicted, fine paid.
Mar. 9, 1906.....	D-6460.....	Milk.....	Convicted, fine paid.
Mar. 9, 1906.....	D-6459.....	Milk.....	Convicted.
Mar. 16, 1906.....	A-5413.....	Milk.....	Convicted, fine paid.
Mar. 16, 1906.....	A-5419.....	Milk.....	Convicted, fine paid.
Mar. 16, 1906.....	A-5421.....	Milk.....	Convicted, fine paid.
Mar. 16, 1906.....	A-5425.....	Milk.....	Convicted, fine paid.
Mar. 16, 1906.....	A-5424.....	Milk.....	Convicted, fine paid.
Mar. 27, 1906.....	A-5461.....	Milk.....	Convicted, fine paid.
Mar. 27, 1906.....	A-5462.....	Milk.....	Convicted, fine paid.
Mar. 27, 1906.....	A-5465.....	Milk.....	Convicted, fine paid.
Mar. 31, 1906.....	A-5468.....	Milk.....	Convicted, fine paid.
Mar. 31, 1906.....	A-5467.....	Milk.....	Acquitted, appealed.

TABLE 43.—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 THE CASE, FOR THE YEAR ENDING OCTOBER 31, 1906—Continued.

Date of analysis.	Number of sample.	Name of article.	Termination of each case.
Mar. 31, 1906	A-5469	Milk	Convicted, fine paid.
Mar. 31, 1906	A-5471	Milk	Convicted, fine paid.
April 4, 1906	D-6531	Milk	Convicted.
April 5, 1906	A-5488	Milk	Convicted, fine paid.
April 21, 1906	D-6574	Milk	Convicted, fine paid.
April 21, 1906	D-6573	Milk	Convicted, fine paid.
April 21, 1906	D-6571	Milk	Convicted, fine paid.
April 21, 1906	D-6570	Milk	Convicted, fine paid.
April 21, 1906	D-6569	Milk	Convicted, fine paid.
April 21, 1906	D-6568	Milk	Convicted.
April 21, 1906	D-6567	Milk	Convicted, fine paid.
April 21, 1906	D-6566	Milk	Convicted, fine paid.
April 24, 1906	A-5542	Milk	Convicted, fine paid.
April 27, 1906	C-7073	Milk	Convicted.
April 30, 1906	D-6441	Molasses	Convicted, fine paid.
April 30, 1906	D-6444	Molasses	Convicted, fine paid.
May 3, 1906	C-7103	Milk	Convicted, fine paid.
May 9, 1906	A-5578	Milk	Pending.
May 9, 1906	A-5577	Milk	Pending.
May 18, 1906	C-7151	Milk	Convicted, fine paid.
May 18, 1906	C-7149	Milk	Convicted, fine paid.
May 18, 1906	D-6591	Milk	Convicted, fine paid.
May 18, 1906	D-6609	Milk	Convicted, fine paid.
May 22, 1906	C-7170	Milk	Convicted, fine paid.
May 30, 1906	A-5678	Milk	Convicted.
June 1, 1906	D-6621	Milk	Convicted, fine paid.
June 1, 1906	D-6622	Milk	Convicted, fine paid.
June 1, 1906	D-6623	Milk	Convicted.
June 1, 1906	B-3333	Milk	Pending.
June 1, 1906	B-3328	Milk	Pending.
June 2, 1906	C-7211	Cider vinegar	Convicted, fine paid.
June 6, 1906	B-3356	Milk	Acquitted, appealed.
June 6, 1906	C-7224	Tr. Iodine	Convicted, fine paid.
June 6, 1906	C-7226	Tr. Iodine	Convicted.
June 7, 1906	C-7231	Milk	Convicted, fine paid.
June 8, 1906	A-5748	Milk	Pending.
June 9, 1906	C-7244	Milk	Convicted, fine paid.
June 14, 1906	B-3378	Milk	Paid penalty.
June 14, 1906	B-3391	Milk	Paid penalty.
June 14, 1906	B-3390	Milk	Paid penalty.
June 14, 1906	B-3387	Milk	Convicted, appealed.
June 14, 1906	A-5775	Milk	Convicted, fine paid.
June 14, 1906	A-5779	Milk	Convicted, fine paid.
June 15, 1906	B-3404	Milk	Paid penalty.
June 15, 1906	B-3405	Milk	Paid penalty.
June 15, 1906	B-3410	Milk	Paid penalty.
June 15, 1906	B-3399	Milk	Convicted.
June 15, 1906	B-3403	Milk	Paid penalty.
June 15, 1906	D-6668	Milk	Convicted, fine paid.
June 16, 1906	D-6675	Molasses	Convicted, fine paid.

TABLE 43.—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 THE CASE, FOR THE YEAR ENDING OCTOBER 31, 1906—Continued.

Date of analysis.	Number of sample.	Name of article.	Termination of each case.
June 18, 1906	D-6877	Milk	Paid penalty.
June 18, 1906	D-6879	Milk	Paid penalty.
June 18, 1906	D-6880	Milk	Paid penalty.
June 20, 1906	D-6894	Milk	Settled.
June 20, 1906	D-6888	Milk	Paid penalty.
June 20, 1906	B-3420	Milk	Paid penalty.
June 20, 1906	D-6693	Milk	Duplicate of D-6694.
June 20, 1906	C-7298	Cider vinegar	Convicted, fine paid.
June 22, 1906	B-3447	Milk	Convicted.
June 22, 1906	B-3433	Milk	Suit discontinued.
June 22, 1906	B-3446	Milk	Convicted.
June 22, 1906	B-3445	Milk	Paid penalty.
June 26, 1906	A-5828	Milk	Paid penalty.
June 26, 1906	A-5832	Milk	Paid penalty.
June 27, 1906	D-6898	Milk	Convicted, appealed.
June 29, 1906	A-5854	Milk	Paid penalty.
July 2, 1906	C-7352	Cider vinegar	Convicted, appealed.
July 3, 1906	D-6745	Milk	Convicted, fine paid.
July 3, 1906	C-7365	Milk	Paid penalty.
July 3, 1906	D-6744	Milk	Duplicate of D-6745.
July 5, 1906	B-3515	Milk	Convicted.
July 5, 1906	B-3514	Milk	Paid penalty.
July 6, 1906	C-7400	Milk	Convicted, fine paid.
July 6, 1906	D-6782	Milk	Paid penalty.
July 6, 1906	A-5860	Milk	Paid penalty.
July 6, 1906	A-5863	Milk	Suit discontinued.
July 6, 1906	A-5861	Milk	Paid penalty.
July 6, 1906	D-6791	Milk	Paid penalty.
July 6, 1906	A-5859	Milk	Paid penalty.
July 6, 1906	C-7372	Tr. Iodine	Convicted, fine paid.
July 7, 1906	C-7416	Milk	Pending.
July 9, 1906	E-1107	Milk	Convicted, fine paid.
July 10, 1906	A-5872	Milk	Paid penalty.
July 10, 1906	A-5882	Milk	Paid penalty.
July 10, 1906	A-5875	Milk	Paid penalty.
July 10, 1906	A-5881	Milk	Paid penalty.
July 10, 1906	A-5879	Milk	Paid penalty.
July 10, 1906	D-6804	Milk	Convicted.
July 10, 1906	D-6805	Milk	Pending.
July 10, 1906	D-6810	Milk	Convicted, fine paid.
July 10, 1906	D-6877	Milk	Paid penalty.
July 11, 1906	D-6802	Tr. Iodine	Convicted, fine paid.
July 11, 1906	C-7430	Milk	Paid penalty.
July 12, 1906	B-3528	Milk	Convicted, fine paid.
July 12, 1906	B-3529	Milk	Convicted, fine paid.
July 12, 1906	B-3532	Milk	Paid penalty.
July 12, 1906	B-3536	Milk	Paid penalty.
July 12, 1906	D-6821	Milk	Paid penalty.
July 13, 1906	B-3558	Milk	Convicted, fine paid.
July 14, 1906	C-7450	Oleomargarine	Suit discontinued.

TABLE 43.—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 THE CASE, FOR THE YEAR ENDING OCTOBER 31, 1906—Continued.

Date of analysis.	Number of sample.	Name of article.	Termination of each case.
July 14, 1906	C-7446	Milk	Paid penalty.
July 14, 1906	C-7447	Milk	Paid penalty.
July 14, 1906	D-6827	Milk	Convicted, fine paid.
July 14, 1906	D-6831	Milk	Paid penalty.
July 14, 1906	D-6832	Milk	Paid penalty.
July 16, 1906	D-6851	Milk	Convicted, appealed.
July 16, 1906	D-6852	Milk	Duplicate of D-6851.
July 17, 1906	C-7455	Milk	Paid penalty.
July 18, 1906	C-7464	Tr. Iodine	Convicted, fine paid.
July 18, 1906	D-6889	Milk	Paid penalty.
July 18, 1906	D-6890	Milk	Paid penalty.
July 20, 1906	D-6931	Milk	Paid penalty.
July 24, 1906	B-3568	Milk	Paid penalty.
July 24, 1906	B-3571	Milk	Convicted.
July 24, 1906	B-3572	Milk	Convicted, fine paid.
July 24, 1906	B-3577	Milk	Paid penalty.
July 24, 1906	B-3578	Milk	Convicted, fine paid.
July 25, 1906	A-5916	Milk	Convicted, fine paid.
July 25, 1906	A-5918	Milk	Paid penalty.
July 25, 1906	A-5922	Milk	Suit discontinued.
July 25, 1906	A-5921	Milk	Convicted, fine paid.
July 25, 1906	B-3621	Milk	Paid penalty.
July 25, 1906	B-3610	Milk	Paid penalty.
July 25, 1906	B-3609	Milk	Paid penalty.
July 25, 1906	B-3629	Milk	Paid penalty.
July 25, 1906	B-3622	Milk	Paid penalty.
July 25, 1906	B-3623	Milk	Convicted.
July 25, 1906	B-3624	Milk	Paid penalty.
July 25, 1906	B-3592	Milk	Paid penalty.
July 25, 1906	B-3586	Milk	Paid penalty.
July 25, 1906	B-3626	Milk	Paid penalty.
July 25, 1906	B-3590	Milk	Paid penalty.
July 25, 1906	B-3600	Milk	Paid penalty.
July 25, 1906	B-3628	Milk	Paid penalty.
July 25, 1906	B-3588	Milk	Paid penalty.
July 25, 1906	B-3599	Milk	Paid penalty.
July 25, 1906	B-3597	Milk	Paid penalty.
July 25, 1906	B-3627	Milk	Paid penalty.
July 25, 1906	B-3587	Milk	Paid penalty.
July 25, 1906	B-3594	Milk	Paid penalty.
July 25, 1906	C-7475	Milk	Paid penalty.
July 25, 1906	C-7476	Milk	Convicted.
July 25, 1906	D-6944	Milk	Paid penalty.
July 27, 1906	C-7493	Milk	Paid penalty.
July 28, 1906	D-6951	Milk	Paid penalty.
July 30, 1906	D-6976	Milk	Paid penalty.
July 31, 1906	D-6986	Milk	Suit discontinued.
July 31, 1906	D-6987	Milk	Suit discontinued.
July 31, 1906	D-6987	Milk	Convicted, fine paid.
July 31, 1906	D-6988	Milk	Paid penalty.
July 31, 1906	D-6989	Milk	Duplicate of D-6988.

TABLE 43.—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 THE CASE, FOR THE YEAR ENDING OCTOBER 31, 1906—Continued.

Date of analysis.	Number of sample.	Name of article.	Termination of each case.
July 31, 1906	D-6990	Milk	Duplicate of D-6988.
Aug. 2, 1906	C-7512	Milk	Paid penalty.
Aug. 7, 1906	A-5972	Milk	Acquitted, appealed.
Aug. 7, 1906	A-5943	Milk	Convicted, fine paid.
Aug. 7, 1906	A-5944	Milk	Convicted, fine paid.
Aug. 7, 1906	A-5946	Milk	Convicted, appealed.
Aug. 7, 1906	A-5947	Milk	Paid penalty.
Aug. 7, 1906	A-5965	Milk	Paid penalty.
Aug. 7, 1906	A-5966	Milk	Settled.
Aug. 7, 1906	C-7538	Milk	Suit discontinued.
Aug. 7, 1906	D-7050	Milk	Paid penalty.
Aug. 7, 1906	D-7052	Milk	Paid penalty.
Aug. 7, 1906	D-7055	Milk	Convicted, fine paid.
Aug. 7, 1906	D-7057	Milk	Paid penalty.
Aug. 8, 1906	D-7074	Milk	Paid penalty.
Aug. 8, 1906	D-7079	Milk	Suit discontinued.
Aug. 10, 1906	D-7085	Cream	Convicted, fine paid.
Aug. 10, 1906	D-7086	Milk	Convicted, fine paid.
Aug. 10, 1906	D-7090	Milk	Paid penalty.
Aug. 11, 1906	D-7093	Milk	Paid penalty.
Aug. 11, 1906	D-7094	Milk	Paid penalty.
Aug. 11, 1906	D-7095	Milk	Paid penalty.
Aug. 11, 1906	D-7097	Milk	Paid penalty.
Aug. 11, 1906	D-7104	Cream	Convicted, fine paid.
Aug. 14, 1906	A-5989	Milk	Paid penalty.
Aug. 14, 1906	E-1110	Milk	Convicted, fine paid.
Aug. 14, 1906	C-7564	Milk	Convicted, fine paid.
Aug. 15, 1906	A-5995	Milk	Paid penalty.
Aug. 15, 1906	C-7571	Milk	Paid penalty.
Aug. 15, 1906	C-7575	Milk	Convicted.
Aug. 15, 1906	D-7105	Milk	Convicted, fine paid.
Aug. 15, 1906	D-7119	Milk	Convicted.
Aug. 15, 1906	D-7120	Milk	Duplicate of D-7119.
Aug. 16, 1906	B-3637	Milk	Paid penalty.
Aug. 16, 1906	B-3638	Milk	Convicted, fine paid.
Aug. 16, 1906	B-3639	Milk	Paid penalty.
Aug. 16, 1906	B-3640	Milk	Convicted, fine paid.
Aug. 16, 1906	B-3641	Milk	Settled.
Aug. 16, 1906	B-3642	Milk	Paid penalty.
Aug. 16, 1906	B-3643	Milk	Paid penalty.
Aug. 16, 1906	B-3649	Milk	Paid penalty.
Aug. 16, 1906	B-3651	Milk	Suit discontinued.
Aug. 16, 1906	B-3652	Milk	Suit discontinued.
Aug. 16, 1906	B-3653	Milk	Convicted.
Aug. 16, 1906	D-7121	Milk	Paid penalty.
Aug. 16, 1906	D-7125	Milk	Paid penalty.
Aug. 18, 1906	B-3655	Milk	Paid penalty.
Aug. 18, 1906	B-3668	Milk	Paid penalty.
Aug. 18, 1906	B-3673	Milk	Paid penalty.
Aug. 18, 1906	D-7135	Milk	Settled.

TABLE 43.—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 THE CASE, FOR THE YEAR ENDING OCTOBER 31, 1906—Continued.

Date of analysis.	Number of sample.	Name of article.	Termination of each case.
Aug. 18, 1906	D-7136	Milk	Duplicate of D-7135.
Aug. 18, 1906	D-7137	Milk	Duplicate of D-7135.
Aug. 18, 1906	D-7141	Milk	Convicted, fine paid.
Aug. 21, 1906	D-7149	Milk	Pending.
Aug. 21, 1906	D-7150	Milk	Paid penalty.
Aug. 21, 1906	D-7151	Milk	Paid penalty.
Aug. 21, 1906	D-7154	Milk	Convicted, fine paid.
Aug. 21, 1906	D-7158	Milk	Paid penalty.
Aug. 21, 1906	D-7159	Milk	Paid penalty.
Aug. 21, 1906	D-7162	Milk	Convicted, fine paid.
Aug. 21, 1906	D-7166	Milk	Convicted.
Aug. 22, 1906	D-7174	Milk	Suit discontinued.
Aug. 24, 1906	C-7604	Milk	Paid penalty.
Aug. 24, 1906	C-7605	Milk	Paid penalty.
Aug. 24, 1906	C-7606	Milk	Paid penalty.
Aug. 25, 1906	C-7613	Milk	Paid penalty.
Aug. 25, 1906	D-7199	Milk	Pending.
Aug. 26, 1906	D-7208	Milk	Convicted.
Aug. 26, 1906	D-7214	Milk	Convicted.
Aug. 26, 1906	D-7219	Milk	Convicted.
Aug. 26, 1906	D-7226	Milk	Paid penalty.
Aug. 26, 1906	D-7228	Milk	Convicted.
Aug. 26, 1906	D-7231	Milk	Paid penalty.
Aug. 26, 1906	D-7233	Milk	Paid penalty.
Aug. 26, 1906	D-7234	Milk	Paid penalty.
Aug. 26, 1906	D-7237	Milk	Settled.
Aug. 26, 1906	C-7625	Milk	Pending.
Aug. 30, 1906	D-7238	Milk	Pending.
Aug. 30, 1906	D-7239	Milk	Duplicate of D-7238.
Aug. 30, 1906	D-7240	Milk	Duplicate of D-7238.
Aug. 30, 1906	C-7645	Milk	Paid penalty.
Aug. 30, 1906	D-7242	Milk	Convicted, fine paid.
Aug. 30, 1906	D-7243	Milk	Duplicate of D-7242.
Aug. 30, 1906	D-7244	Milk	Duplicate of D-7242.
Aug. 31, 1906	D-7245	Milk	Pending.
Aug. 31, 1906	D-7246	Milk	Pending.
Aug. 31, 1906	D-7248	Milk	Duplicate of D-7246.
Aug. 31, 1906	D-7251	Milk	Pending.
Sept. 1, 1906	C-7661	Milk	Convicted, fine paid.
Sept. 3, 1906	D-7252	Milk	Paid penalty.
Sept. 4, 1906	C-7638	Tr. Iodine	Convicted.
Sept. 5, 1906	A-6058	Milk	Pending.
Sept. 5, 1906	A-6062	Milk	Paid penalty.
Sept. 5, 1906	A-6063	Milk	Paid penalty.
Sept. 5, 1906	A-6066	Milk	Paid penalty.
Sept. 5, 1906	A-6067	Milk	Paid penalty.
Sept. 5, 1906	A-6071	Milk	Paid penalty.
Sept. 5, 1906	A-6073	Milk	Paid penalty.
Sept. 5, 1906	A-6075	Milk	Paid penalty.
Sept. 7, 1906	B-3687	Milk	Pending.

TABLE 43.—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 THE CASE, FOR THE YEAR ENDING OCTOBER 31, 1906—Continued.

Date of analysis.	Number of sample.	Name of article.	Termination of each case.
Sept. 7, 1906	D-7271	Cream	Convicted, fine paid.
Sept. 7, 1906	D-7272	Milk	Paid penalty.
Sept. 7, 1906	D-7274	Milk	Pending.
Sept. 7, 1906	D-7275	Milk	Duplicate of D-7274.
Sept. 7, 1906	D-7276	Milk	Duplicate of D-7274.
Sept. 7, 1906	D-7278	Milk	Paid penalty.
Sept. 8, 1906	A-6087	Milk	Paid penalty.
Sept. 8, 1906	A-6081	Milk	Pending.
Sept. 8, 1906	A-6091	Milk	Paid penalty.
Sept. 8, 1906	C-7687	Milk	Paid penalty.
Sept. 11, 1906	A-6124	Milk	Suit discontinued.
Sept. 11, 1906	A-6125	Milk	Paid penalty.
Sept. 11, 1906	A-6130	Milk	Paid penalty.
Sept. 12, 1906	D-7281	Milk	Settled.
Sept. 12, 1906	D-7285	Milk	Paid penalty.
Sept. 12, 1906	D-7286	Milk	Pending.
Sept. 12, 1906	D-7287	Milk	Paid penalty.
Sept. 12, 1906	D-7290	Milk	Pending.
Sept. 12, 1906	D-7291	Milk	Pending.
Sept. 12, 1906	D-7293	Milk	Pending.
Sept. 13, 1906	C-7701	Milk	Paid penalty.
Sept. 13, 1906	C-7689	Tr. Opium	Pending.
Sept. 14, 1906	A-6151	Milk	Paid penalty.
Sept. 14, 1906	A-6158	Milk	Paid penalty.
Sept. 14, 1906	A-6169	Milk	Paid penalty.
Sept. 15, 1906	C-7718	Milk	Paid penalty.
Sept. 29, 1906	D-8032	Milk	Pending.
Oct. 2, 1906	D-8031	Tr. Iodine	Pending.
Oct. 3, 1906	A-6257	Milk	Pending.
Oct. 5, 1906	A-6266	Milk	Paid penalty.
Oct. 5, 1906	D-8036	Milk	Pending.
Oct. 5, 1906	D-8037	Milk	Paid penalty.
Oct. 5, 1906	D-8038	Milk	Pending.
Oct. 5, 1906	D-8042	Milk	Paid penalty.
Oct. 5, 1906	D-8045	Milk	Pending.
Oct. 9, 1906	C-7826	Maple Syrup	Pending.
Oct. 11, 1906	D-8047	Milk	Pending.
Oct. 11, 1906	D-8048	Milk	Duplicate of D-8047.
Oct. 17, 1906	C-7765	Cider Vinegar	Pending.
Oct. 18, 1906	D-8074	Milk	Pending.
Oct. 18, 1906	D-8069	Cream	Pending.
Oct. 18, 1906	E-1112	Milk	Pending.
Oct. 24, 1906	A-6329	Milk	Pending.
Oct. 24, 1906	A-6331	Milk	Pending.
Oct. 24, 1906	C-7726	Tr. Opium	Pending.
Oct. 24, 1906	C-7748	Tr. Opium	Pending.
Oct. 25, 1906	C-7766	Cider Vinegar	Pending.
Oct. 25, 1906	C-7767	Cider Vinegar	Pending.
Oct. 26, 1906	A-6356	Milk	Pending.
Oct. 26, 1906	A-6363	Milk	Pending.
Oct. 26, 1906	C-7769	Tr. Opium	Pending.

Beverages.—The habit of drinking sweetened and highly-flavored, and often highly-colored, fluids has greatly increased during recent years, and periodical laboratory examinations of liquids of this character have been made in the State laboratory of hygiene. The reports of these examinations have not shown that the ingestion of the substances which enter into the composition of these beverages is necessarily injurious to health in the quantities usually contained in them, but an inspection of the methods employed in their preparation and sale has in every instance shown disregard of cleanliness. Unclean utensils are used in mixing the ingredients; unclean hands are used in the work; flies are not excluded from contact with the mixtures; the receptacles in the so-called "fountains" from which these fluids are usually drawn are difficult of access and often found to be unclean; the open receptacles containing these liquids, which frequently stand exposed to view, receive dirt from the street. The drinking glasses which are provided for dispensing these beverages are usually rinsed in filthy water. The legislature has not yet provided authority under which the preparation and sale of these fluids may be regulated, but doubtless action will be taken as soon as a popular demand for better conditions shall be made.

Confectionery.—Illness which is believed to be due to eating candy is reported occasionally, but investigations have not resulted in finding poisonous ingredients in the samples forwarded to the laboratory. The sickness in these cases is probably due to the excessive quantities which are consumed, or, in some instances, to other articles which are introduced into the stomach, and concerning which no report is made.

Inspections are in progress in New Jersey to learn the methods which are employed in packing confectionery after the manufacturing process is finished, and the facts thus far reported indicate that uncleanly practices are not uncommon. The candy is freely exposed to flies, and it is handled by unclean hands and brought into contact with tables having unclean surfaces. Before it reaches the consumer it is sometimes exposed for long periods to the dust of the shop, and when retailed it is again handled by unclean fingers.

Sanitary Inspection Service.—During the past year licenses have been granted under authority contained in the act approved April 8th, 1903, as follows: To serve as health officer, 14; to serve as sanitary inspector of the first class, 15; to serve as meat inspector,

3; to serve as plumbing inspector, 7. A list of all persons to whom licenses have been issued is published in this report, and a report from the secretary of the sanitary examiners is also presented.

Chapter 129 of the laws of 1906 authorizes two or more adjacent municipalities or townships to join in the employment of a health officer, and thus obtain the services of a skilled official, the salary to be paid on some basis which may be agreed upon by the employing authorities. By this arrangement it is hoped that certain sanitary districts, which have heretofore been poorly served by a poorly paid sanitary officer, will hereafter adopt this co-operative system, and in this manner secure the advantage of first-class sanitary service at a minimum of cost.

The public health service as a career is attracting an increasing number of brilliant men to the executive and laboratory departments, but the salaries which are paid to inspectors have not yet proved tempting. The public demand, however, for skillful and high-class appointees has begun to influence the selection of health officers and sanitary inspectors in the larger municipalities, and there is general recognition of the fact that the inspectors' art cannot be "picked up," and that it can be acquired only by persons who are fitted for it by nature, and who have been prepared for the work by education and special training.

Local Sanitary Administration.—In conducting municipal sanitary operations it is advisable, while carrying on the general work uninterruptedly, to at all times give especial attention to one class or group of unsanitary conditions. Without relaxing in any manner the routine enforcement of the laws and ordinances, a considerable amount of time may be set aside each day for investigation and improvement of certain local conditions affecting the public health. These questions will arise from time to time, and they often assume a degree of importance which urgently calls for close study and prompt remedial action. By this method all of the sanitary problems which claim attention, but which do not belong to the emergency group, can have painstaking and exhaustive investigation, and when appropriate remedies have been applied to each in its turn, a new subject can be selected for special examination. The aim of every local health officer and sanitary inspector should be to gain for his district a degree of healthfulness above the general average for the State, as shown by the annual morbidity and mortality rates.

Special or extraordinary investigations may relate to the milk-supply; the sale of unwholesome food; mosquito-breeding localities; the vaccinal status of infants; the water-supply; the disposal of refuse substances; tracing the sources of infectious diseases, &c. The sanitary officer who is not afraid of work and who has a clear conception of his duties to the community in which he is located will never fail to find some particular question which is pressing for inquiry, and it is from these studies that he obtains the keen delight which attends the examination and betterment of conditions which affect human health and life unfavorably.

Infectious Diseases of Animals.—An outbreak of anthrax occurred in March, 1906, on the farm of Richard V. Northrup, located near Newton, in Sussex county. Efforts to trace the origin of these cases proved unsuccessful. Preventive inoculations were administered to the animals in the locality, and the disease did not spread beyond the premises where it first appeared. No other cases have occurred in Sussex county.

The disease appeared during the spring and summer in Cumberland and Salem counties in localities which had in previous years been infected with anthrax, and the total number of deaths among animals from this cause in these districts during the year ending October 31st, 1906, was sixty-eight. The State board of health caused anti anthrax vaccinations to be employed, and all cattle and horses which were exposed to the infection were inoculated. To prevent the annual recurrence of outbreaks of anthrax in the infected districts in New Jersey, it is essential that protective inoculations shall be made before animals are permitted to feed in the infected pastures. Owners of horses and cattle in the localities where anthrax has occurred have been notified by this board of the necessity for inoculations early in the spring of each year, but thus far few owners have availed themselves of the protection which is afforded by the employment of anti anthrax vaccine, and it appears that the only effectual means which can be employed to prevent the further appearance of this disease will be to offer free inoculations at the expense of the State. A serious outbreak of glanders appeared in Middlesex county, and the origin of these cases was clearly traced to animals purchased at a sale stable in New York City by a local trader. The infected horses were bought because they were cheap. As a result of this importation, twenty-four horses affected with glanders were destroyed in Perth Amboy and vicinity. During the year 147 cases

of glanders were reported. These facts show that a closer supervision is needed at points where animals infected with glanders are brought into the State, viz., at the ferries in Jersey City and Camden, and it is very desirable that an additional amount shall be appropriated by the legislature to warrant the employment of two inspectors to be located at the points above named. A detailed statement of the cases referred to is presented further on in this report.

Embalming.—It has been pointed out that there is no certain method by which "arsenic administered by the mouth or rectum which produced death can be discriminated from arsenic contained in the embalming fluid of the undertaker," and "it is now demonstrated that a perfectly sure, safe and reliable embalming fluid can be made without the use of arsenic or any poison or ingredient dangerous to human life."* With these considerations in view the legislature inserted a clause in the act approved May 12th, 1906, as follows: "But no person shall employ, for the purpose of embalming or preserving any dead human body, any arsenical solution nor any other poisonous agent which may, by its presence in the viscera, prevent the detection of criminal uses of said poisonous agents before the death of the individual occurred." Examinations of the embalming fluids employed in this State will be made from time to time, and persons violating the act above quoted will be prosecuted.

Nuisances.—A misapprehension concerning the directions in which activity shall be exercised by sanitary officers still prevails in some portions of the State, but it is gratifying to note that fewer instances are reported in which smoke and noise nuisances have been attacked under the health laws, and it appears to be reasonable to expect that the annual conferences which are provided for in chapter 131 of the laws of 1906, will do much toward preventing unwise and useless efforts to attain desirable ends through wrong channels.

In addition to the usual and ordinary class of nuisances which it has been found practicable to deal with under the authority contained in the health laws, the abolition of the breeding places of house flies has been undertaken in some localities. These insects have been conclusively shown to be carriers of the causative agents of typhoid fever and tuberculosis, and it is probable that they also act as distributors of certain other affections, and measures to prevent their breeding offer a most satisfactory and beneficial line of work in every sanitary district. All places in which maggots can live should be declared,

*The Lancet, April 7th, 1906.

by ordinance, to be nuisances prejudicial to the public health, and appropriate action should be taken to remove the accumulations which furnish lodgement for these larvæ. Stable manure should be removed from all built-up districts daily during the warm months; all receptacles for human excreta should be screened to prevent the entrance of flies, catch basins, drains and sewers should be screened, and all premises should be kept clear of accumulations of refuse in which maggots can live.

The deposit of garbage from the city of New York upon the seashore of Monmouth county was brought to the attention of the Governor by complaints from local residents, and the following communication was received:

Dr. Henry Mitchell, Secretary State Board of Health:

MY DEAR DOCTOR MITCHELL.—My attention has been called to the pollution of the waters along our sea coasts, especially our seaside resorts in the upper part of the State, due to the deposit of sewage in New York bay or vicinity. It is highly important that this matter be thoroughly investigated, a report made thereon and steps taken to remedy the nuisance.

With best wishes, I am,

Very sincerely yours,

E. C. STOKES.

Inspections were immediately made to learn the facts and an interview was had with a representative of the street cleaning department of New York City. The following letters were forwarded to the Governor:

July 2d, 1906.

Hon. Edward C. Stokes, Governor, Trenton, N. J.:

DEAR SIR.—Inquiries for the purpose of learning the extent and character of the defilement of the bathing beaches of the northerly portion of the sea coast of New Jersey, caused by the deposit upon the sand of garbage and rubbish which is cast ashore in these localities, shows that the bathing season opened about June 15th, and that since that date refuse materials have been coming ashore in large quantities, at certain times, from the Highlands to Spring Lake. The investigation shows that during the week ending June 23d the offensive substances were deposited upon the beach daily, and that they were composed of decayed vegetables, dead animals, and discarded domestic articles of many sorts, clearly indicating that they were floating portions of the garbage and rubbish from the city of New York, which materials are at present disposed of by dumping them into the ocean. The reports received indicate that the point at which garbage and rubbish has at times been dumped, from the scows in which it is transported from New York City, is located about six miles off shore, and about southeast from Seabright. During the week ending June 30th westerly winds were prevalent, and the nuisance caused by the deposits of refuse on the beaches was much less troublesome than during the previous week. Following is a summary of the information obtained at various points along the shore:

Highland Beach.—Mr. McGarry, an employe at the Sandless bathing pavilion,

stated that two weeks ago refuse materials in large quantities were cast upon the shore by the surf, and that these conditions continued for nearly one week. The refuse materials consisted of decaying fruit, dead animals, boxes and decaying vegetables. He also stated that during the past two years no such quantity of refuse material had come upon the beach during the same length of time.

Seabright.—The bathing master at Pannacis' pavilion stated that two weeks ago large quantities of refuse materials were cast upon the beach at Seabright and remained for several days. The character of these substances was similar to that above described. He also stated that at that time the prevailing winds were from the northeast and east, and that since the winds became westerly the deposit of refuse materials upon the beach had ceased.

Long Branch.—Mr. William Hayes, proprietor of a bathing pavilion, stated that about two weeks ago large quantities of refuse materials, of similar character to those above described, were deposited upon the beach. An interview with a representative of the local board of health of Long Branch showed that numerous complaints were received by the board relating to the nuisance caused by the presence of decomposing substances on the beach.

Deal Beach.—Mr. Thomas J. Howland, manager of the bathing grounds at this point, stated that he has been on the beach daily since June 2d, 1906, and that during the prevalence of easterly winds the shore has been strewn with quantities of refuse materials, consisting of garbage and rubbish, and said materials were present in large quantities.

Allenhurst.—Mr. William Henderson, manager of the bathing grounds, stated that between June 15th and June 24th easterly winds prevailed, and that the beach was covered during most of that time with decomposing vegetable and animal substances. Mr. Henderson also stated that he had observed that refuse of this character is not cast upon the shore when westerly winds are blowing, but it is deposited generally about six hours after the winds become easterly or northeasterly and continues intermitently as long as the winds continue from the east.

Loch Arbour.—Captain Benjamin Van Brunt, of life-saving station No. 6, located at Loch Arbour, stated that during the week ending June 24th easterly winds prevailed, and that large quantities of refuse materials were cast upon the shore by the surf, and that these materials consisted of vegetable and animal substances in a state of decomposition. Mr. C. A. Johnson, who is manager of the bathing houses at Loch Arbour, stated that the shore has been comparatively free from offensive accumulations since June 24th, but that during the previous week, when easterly winds were prevailing, the shore was strewn with garbage and rubbish.

Asbury Park.—Mr. Stalee, lessee of the bathing privileges at this point, stated that a nuisance caused by the deposit of garbage and rubbish on the beach was exceedingly annoying during the week ending June 23d.

Ocean Grove.—Mr. J. S. Ross, proprietor of the Ross bathing grounds, stated that during his many years of experience in conducting this bathing establishment, he has never before observed such quantities of garbage and rubbish in the sea water as it contained during the week ending June 23d. During the week ending June 30th, while the winds were prevailing from the west, no deposit upon the beach of offensive materials occurred.

Belmar.—Mr. W. F. Gordon stated that the nuisance caused by floating garbage and rubbish has given much annoyance.

Spring Lake.—Mr. C. W. Simonson, manager of the bathing grounds, stated that

refuse materials have been coming ashore in large quantities from time to time recently during the prevalence of easterly winds.

From the foregoing it appears that the nuisance which was caused by the rubbish and garbage which was cast upon the bathing beaches of New Jersey, during the week ending June 23d, was due to the dumping of refuse materials from the New York City garbage boats in localities near the New Jersey coast, and that the dumping at these points was owing to the prevalence of high easterly winds which caused the employes in charge of the boats to discharge their loads without going to the distant localities which are easily reached in calm weather.

Very respectfully,
HENRY MITCHELL,
Secretary.

July 3d, 1906.

Hon. Edward C. Stokes, Governor, Trenton, N. J.:

DEAR SIR—I desire to supplement the report of yesterday, relating to the investigation conducted by this board concerning the defilement of the bathing beaches on the northern sea coast of New Jersey, as follows:

On July 2d, 1906, in an interview with Capt. Gibson, deputy commissioner of the street cleaning department of the city of New York, a representative of this board was informed that numerous complaints have been received by the department of street cleaning in reference to the deposit of garbage upon the New Jersey shores, and also upon the ocean front of Coney Island. Since the destruction of the disposal works on Barren Island, May 20th, 1906, it has been found necessary to transport a large portion of the garbage and rubbish from New York City by boat and dispose of it by casting it into the sea. Capt. Gibson stated that in some instances the requirement made by the commissioner of street cleaning that all refuse matter thus disposed of should be dumped at least fifteen miles east from Gedney's channel may not have been complied with, but that imperative orders have been issued relating to this matter, and that hereafter measures will be taken to secure compliance with the order of the commissioner and that it is altogether improbable that a repetition of the nuisance complained of will occur.

Very respectfully,
HENRY MITCHELL,
Secretary.

Subsequently during the summer garbage and rubbish came ashore in small quantities occasionally during the prevalence of long continued easterly winds, and in response to renewed complaints the Governor and representatives from the State board of health and from several coast towns, including Long Branch, Deal, Allenhurst, Asbury Park, Ocean Grove, Bradley Beach and Belmar, visited the Acting Mayor of New York City, to endeavor to secure the necessary action to prevent further defilement of the New Jersey beaches. Acting Mayor McGowan promised to send the refuse far enough to sea to prevent its being floated back upon the New Jersey coast. The disposal works on Barren Island, L. I., was sufficiently completed about September first to admit of the deposit there of garbage

from New York, and it is therefore improbable that any further annoyance from this cause will be experienced along the New Jersey coast.

Lines of Travel.—The following instructions were issued to the assistant State inspectors May 1st, 1906:

When in the ordinary performance of the duties heretofore assigned to you in accordance with the provisions of chapter 85 of the laws of 1901, it becomes necessary to travel on any of the railroads of the State, you are hereby instructed to make observations and inspections, when opportunity offers, as follows:

1. Learn the sources of the water-supply for the waiting-rooms of railroad stations, and in cases where the water is taken from surface wells or other sources which are liable to be polluted take a sample of the water and forward it to the State laboratory of hygiene for examination.
2. Inspect the water closets and urinals of railroad stations, and report to this board concerning the location, construction and condition of the same.
3. Inspect the interior of waiting-rooms of railroad stations with reference to the degree of cleanliness with which they are maintained, particularly as follows: (a) Is the shelf or counter over which tickets are sold kept clean and free from accumulations from unclean hands? (b) Are the door knobs and woodwork kept clean by frequent washing? (c) Is spitting permitted on the platforms of the stations, or upon the floors of the waiting-rooms?

Reports of these inspections should be mailed to the office of this board every Saturday.

Blanks for recording the observations of the inspectors were furnished as follows:

BOARD OF HEALTH OF THE STATE OF NEW JERSEY.

RECORD OF INSPECTION OF RAILROAD STATION.

1. Name of station.....
 2. Name of railroad.....
 3. Date of inspection.....
 4. Water-supply.....
 5. Was sample of water taken for analysis?..... Marks
 6. Source of ice supply.....
 7. Floors and platforms.....
 - (a) Construction.....
 - (b) Condition.....
 8. Door knobs, hand rails and ticket shelf kept clean?.....
 9. Is toilet apartment kept clean?.....
 10. Location and construction of toilet.....
 11. Premises connected with public sewer?.....
 12. Any refuse accumulations?.....
- Remarks
- Inspector.

Upon receipt of reports showing that the water-supply is unwholesome, or that any other unsanitary condition exists in any railroad station, the attention of the general superintendent of the line is called to the matter by letter, and reinspection of the premises is ordered. The reports show that general improvements have been introduced on at least two of the lines of railroad doing business in the State, in the system employed for the sanitary care of passenger stations, and additional improvements are in prospect. A few detailed reports of inspections of passenger stations and of the methods employed in the cleaning of cars are printed on subsequent pages of this report.

Conference of State and Local Boards of Health.—The first annual conference of State and local boards of health was held in the State House, Trenton, October 19th and 20th, 1906. One hundred and fifteen delegates were in attendance, and the discussions of practical questions covered many subjects of the daily routine in the local health officers' experience. The success of this meeting justifies the hope that in the near future the methods employed in the various sanitary districts of the State, for preventing the spread of infectious diseases, will become more nearly uniform, and that obsolete, useless and annoying measures will be abandoned. An account of the proceedings of the conference is published further on in this report.

Public Water-Supplies.—Inspections of streams from which water is taken for municipal supplies have been continued during the year, and a detailed account of the work performed accompanies this report. The three cases which were brought to the attention of the chancellor by this board, because of the pollution of the water-supply of the city of Newark, were carried to a successful termination, and the parties who were responsible for the nuisances were compelled by the order of the court to discontinue the contamination. The Hackensack water-shed in New Jersey, above the intake of the Hackensack Water Company at New Milford, has been practically freed from direct sources of pollution. Numerous contaminations of the Tintern Manor supply have been removed and many other supplies have received attention.

Garbage Disposal.—No satisfactory method for the disposal of garbage in the more thickly populated districts, and in places of resort, has thus far been devised except by destruction by fire in a properly constructed furnace. Every city is morally bound to so con-

duct the disposal of its refuse materials that they will not create a nuisance in any other locality, and the experience of Asbury Park during the past season in permitting its rubbish to be strewn broadcast, and then burned in open fires, thus liberating smoke in large volume, and annoying all residents within a radius of at least one mile, should serve as a warning to other municipal authorities, but the nuisance caused by burning rubbish was trifling compared with the nauseating stench which attended the treatment of the garbage. The residents in the city itself did not suffer from the offensive odors, for the refuse was removed by the contractor to a point about two miles distant from the western boundaries of the corporation, but the reduction plant was the center of the trouble. The garbage was boiled in large open vats to obtain the grease, and the residue was sold to seventy-five farmers who carted it to their respective pig-pens, thus filling the atmosphere of the entire neighboring region with the odors of garbage, and rendering a large district unsuitable for pleasure riding, and repellant to all who were not engaged in raising hogs. The numerous complaints which followed this unwise distribution of decomposing refuse led to the withdrawal of the contractor from his attempt to perform the service, and resulted in the assumption of the duty by the city itself, through the health department.

The city is now considering the erection of an incinerating plant where both garbage and rubbish can be reduced to ashes without causing a nuisance.

Very respectfully,

HENRY MITCHELL,
Secretary.

List of Sanitary Districts.

With Names and Addresses of Officers and Members.

CITIES.

Asbury Park, Monmouth County; population, 4,526. Members and Officers—Theo. H. Beringer, President; David W. Sexton, Randolph Ross, George F. Wilbur, M.D.; Asher S. Burton, Harry C. Millar, J. H. Bryan, M.D., Samuel A. Patterson, Attorney; B. H. Obert, Health Officer, Secretary and Registrar; Thomas J. Duffield, Sanitary Inspector; Harry K. Ingalls, Inspector; Miss Sadie H. Layton, Clerk.

Atlantic City, Atlantic County; population, 37,593. Members and Officers—Elwood S. Johnson, President; John J. Mahoney, Vice President; J. Harper Carver, Treasurer; Alfred W. Bailey, M.D., Wm. S. Cuthbert, M. LeRoy Somer, M.D., Secretary; Alfred T. Glenn, Registrar; Harry C. Beck, Health Inspector; Thos. W. Clement, Food Inspector; Wm. F. Brode, Plumbing Inspector; Wm. H. Rice, Assistant Health Inspector; Benj. H. Sooy, Assistant Health Inspector; Henry Schneider, Assistant Health Inspector.

Bayonne, Hudson County; population, 42,262. Members and Officers—Pierre P. Gawin, President; Garret L. Post, Wm. J. Morrison, Frank B. Eddy, Robert J. Farrell, J. H. Mahuken, John Gottko, A. C. Forman, M.D., Health Inspector; Henry S. Winterhalter, Sanitary Inspector; Frederick E. Wilson, Deputy Inspector; James D. Boyd, Clerk.

Belvidere, Warren County; population, 1,869. Members and Officers—F. P. Lefferts, M.D., Secretary.

Beverly, Burlington County; population, 2,258. Members and Officers—R. P. Haines, President; G. Smith, J. J. Currie, M.D., C. Parsons, Jr., B. Kiple, B. F. Soby, M.D., Clerk; J. Tracy, M.D., Inspector.

Bordentown, Burlington County; population, 4,073. Members and Officers—Samuel E. Burr, President; Samuel R. Magee, Wm. M. Kester, M.D., David R. Brown, Wm. H. Shippis, M.D., Edw. L. Thompson, I. C. Leedom, M.D., Clerk; Harry W. Kunzi, Registrar; Amos P. Thorn, Inspector.

Bridgeton City, Cumberland County; population, 13,624. Members and Officers—C. R. Tomlin, President; Wm. H. Ballinger, Treasurer; W. J. Moore, Wm. R. Cummings, Amos P. Johnson, Harry P. Rice, Oscar Kelum, Jacob B. Jones, Secretary; Ellsmore Stites, M.D., Health Officer.

Burlington, Burlington County; population, 8,038. Members and Officers—J. B. Cassidy, M.D., President; F. S. Carter, C. P. Farner, N. D. Keeler, W. R. Schuyler, T. S. Mooney, Clerk; Wm. M. Jeffries, Inspector.

Camden, Camden County; population, 82,912. Members and Officers—H. H. Davis, M.D., President; H. H. Sherk, M.D., S. G. Bushey, M.D., M.

K. Mines, M.D., M. F. Middleton, M.D., R. H. Gaskill, E. Wilmer Collins, Harry C. Kramer, Registrar; Eugene B. Roberts, Secretary; John F. Leavitt, M.D., Inspector; Henry B. Francis, Inspector; Jos. A. Starr, Inspector; J. O. George, Inspector; G. H. Robinson, Inspector.

Cape May, Cape May County; population, 3,006. Members and Officers—A. L. Leach, M.D., President; G. L. Lovett, L. M. Hall, Robert S. Hand, Albert B. Little, V. M. D. Marcy, M.D., Clerk; John W. Thompson, Registrar.

Dover, Morris County; population, 6,353. Members and Officers—Eustice Rudine, President; S. B. Johnson, Ed. Jenkins, Jas. Hogan, J. H. C. Hunter, Clerk; John G. Taylor, Inspector.

East Orange, Essex County; population, 25,175. Members and Officers—Roger H. Butterworth, President; E. M. Brewster, Chas. M. Matthews, Warren S. Furman, Harvey Mott, F. W. Lockwood, Secretary; Edgar Williams, Registrar; Wm. T. Bowman, Inspector.

Egg Harbor City, Atlantic County; population, 2,280. Members and Officers—George F. Breder, President; Henry G. Regensburg, August A. Breder, Valentine P. Hofmann, Secretary; John U. Elmer, M.D., Inspector.

Elizabeth, Union County; population, 60,509. Members and Officers—John W. Whelan, President; Jacob L. Bauer, L. R. Brown, M.D., James S. Green, M.D., H. R. Livengood, M.D., S. T. Quinn, M.D., Arthur Stern, M.D., John F. Kenah, Clerk; L. J. Richards, Health Officer; P. J. Connell, Inspector; Henry Toole, Inspector.

Englewood, Bergen County; population, 7,922. Members and Officers—Wm. C. Tucker, President; Robert A. Sheppard, M.D., Chas. A. Bogert, F. C. Bradner, Gilliam D. Bogert, Secretary; Irving Middleton, Inspector.

Gloucester City, Camden County; population, 8,055. Members and Officers—George W. Turner, President; J. A. Beek, M.D., John M. Kandle, Harlan S. Miner, Charles E. Rang, Harry Reeves, Carlos B. Allen, Secretary; George C. Wynkoop, Registrar; D. W. Blake, Jr., M.D., Inspector.

Hackensack, Bergen County; population, 11,098. Members and Officers—Lemuel Lozier, President; Peter Kylvander, Treasurer; John Klauer, Chas. F. Stephens, E. B. Walden, Frank W. Smith, J. G. Ackerson, Secretary; Fred'k S. Halleth, Health Officer; Robert Ballagh, Sanitary Inspector; A. C. Hart, Counsel.

Hoboken, Hudson County; population, 65,468. Members and Officers—E. T. Steadman, M.D., President; G. M. Sinclair, D. B. Pindar, M.D., David Van Wyk, I. Weiman, Joseph Tucker, Secretary; A. Grannelli, Health Inspector; John Beronio, Assistant Health Inspector; J. A. Marnell, Jr., Plumbing Inspector; W. T. Kudlich, M.D., Health Warden; Harry W. Lange, Attorney.

Jersey City, Hudson County; population, 232,699. Members and Officers—F. E. Lambert, M.D., President; Joseph A. Sprouls, William De-laney, August Ziegler, J. H. Finnerty, M.D., Seth A. Chester, S. H. Culver, M.D., N. L. Rowe, M.D., Hugo Gille, M.D., Henry Smellie, Clerk; Thomas H. Giblin, Registrar; Hugh F. Gallagher, Milk Inspector; John Greaves, Sanitary Inspector; Hugh F. Parle, Plumbing Inspector; Edward J. Kelly, Plumbing Inspector; Fred. W. Hering, Plumbing Inspector.

Lambertville, Hunterdon County; population, 5,016. Members and Officers—William R. Bowne, President; Albert D. Anderson, Edward W. Closson, M.D., John Cooney, Harry K. Kramer, George L. Romine, M.D., James H. Reynolds, Secretary; John L. Coryell, Inspector.

Long Branch, Monmouth County; population, 12,133. Members and Officers—John W. Bennett, M.D., President; John A. Howland, John L. Price, B. D. Woolley, Louis Rothenberg, Robert Tappin, E. B. Blaisdell, Secretary and Registrar; James Milmore, Inspector; M. C. Burns, Plumbing Inspector.

Millville, Cumberland County; population, 11,834. Members and Officers—Silas C. Smith, President; J. W. Wade, Edwin Conover, R. B. Radcliffe, W. G. Champion, L. H. Hogate, Secretary; Frank Bullock, Health Inspector; J. D. Braudriff, Plumbing Inspector.

Montclair, Essex County; population, 16,370. Members and Officers—M. N. Baker, President; R. P. Francis, M.D., L. W. Halsey, M.D., H. M. Lloyd, J. N. Holton, Secretary; Chester H. Wells, Registrar and Health Officer; Jay G. Foose, Sanitary Inspector; Jay E. Kilpatrick, Sanitary Inspector.

Morristown, Morris County; population, 12,146. Members and Officers—John H. Rosevear, President; O. N. Hughson, I. R. Pierson, John R. Burr, James Douglas, M.D., David H. Wilday, Secretary and Registrar; Robert S. Van Dyke, Inspector.

Newark, Essex County; population, 233,239. Members and Officers—H. C. H. Herold, M.D., President; W. S. Disbrow, M.D., J. T. Wrightson, M.D., L. L. Davenport, J. W. Dobbins, L. E. Hollister, M. D., J. R. Rutan, G. R. Kent, M.D., I. R. Denman, J. B. Wood, Jas. F. Connelly, Registrar; David D. Chandler, Health Officer.

New Brunswick, Middlesex County; population, 23,133. Members and Officers—Fred. B. Kilmer, President; Francis C. Van Dyck, Arthur L. Smith, E. Irving Cronk, M.D., Geo. B. Rule, James Morrison, Registrar; Benj. Gutmann, M.D., Secretary and Inspector; H. B. Willis, Counsel.

Orange, Essex County; population, 26,101. Members and Officers—G. H. Richards, M.D., President; D. W. Poor, M.D., O. S. Williams, L. B. Clark, J. T. Davis, S. C. Colt, J. Kane, Eugene H. Sullivan, Secretary and Health Officer; W. B. Gano, Registrar; S. D. Philpot, Plumbing Inspector; R. Savage, Sanitary Inspector; A. B. Seymour, Attorney.

Passaic City, Passaic County; population, 37,837. Members and Officers—B. G. Volger, President; R. R. Armstrong, M.D., J. A. Hanlon, A. L. Pettersen, E. Remig, Wm. B. Davidson, Clerk; Geo. F. Grear, Registrar; Hiram Williams, M.D., Health Officer.

Paterson, Passaic County; population, 111,529. Members and Officers—John T. Pollitt, President and Registrar; John R. Hurley, Andrew F. McBride, M.D., William McKeon, F. J. Van Noort, M.D., F. Van Winkle, Jas. P. McNair, Clerk; J. A. Browne, M.D., Health Officer; Wm. H. MacDonald, Inspector; James Fitzpatrick, Inspector; W. S. Green, M.D., Inspector; Wm. H. Lowe, Inspector.

Perth Amboy, Middlesex County; population, 25,895. Members and Officers—V. W. Main, President; J. N. St. John, R. E. Comegys, J. B. Quick, H. Shragovitz, J. R. Parr, M. Hansen, Chas. M. MacWilliam, Secretary; G. W. Fithian, M.D., Health Officer.

Phillipsburg, Warren County; population, 13,325. Members and Officers—Joseph Pfeiffer, President; P. F. Hagerty, Michael T. Lynch, Francis Coyne, Daniel Ziegler, A. Williston, M.D., Frank Kneeder, Clerk; Howard R. Carey, Inspector; B. C. Frost, Attorney.

Plainfield, Union County; population, 18,468. Members and Officers—Chas. J. Fisk, President; Fred. W. Dunn, T. S. Davis, M.D., Chas. H. Dunham, B. Hedges, M.D., Secretary; Miss H. O. Mattison, Registrar; L. R.

Thurlow, Health Officer; Wm. Addis, Inspector; R. W. Meeker, Sanitary Inspector.

Rahway, Union County; population, 8,649. Members and Officers—Charles B. Holmes, M.D., President; Geo. R. Van Sant, E. B. Silvers, M.D., W. E. Clodek, M.D., Jos. G. Smith, Chas. H. Lambert, Secretary; Fred. J. Mix, Inspector; Fred. W. Sell, M.D., Health Officer.

Salem, Salem County; population, 6,443. Members and Officers—H. Chavanne, M.D., President; Warren T. Sparks, Clinton Bowen, Secretary; A. T. Walton, Inspector.

Summit, Union County; population, 6,845. Members and Officers—W. H. Lawrence, M.D., President; A. B. Wallace, H. B. Twombly, James G. Owens, F. D. Peale, J. E. Rowe, Secretary and Health Officer; T. J. Scott, Plumbing Inspector; N. M. Bullard, Inspector; J. J. McGrath, Inspector.

Trenton, Mercer County; population, 84,147. Members and Officers—Thos. Holmes, Secretary.

Woodbury, Gloucester County; population, 4,560. Members and Officers—Wm. T. Cooper, President; S. B. Burkett, W. H. Duffield, H. B. Diverty, M.D., W. A. Fisher, A. W. Cattell, Arthur Starr, Secretary; Joshua Dawson, Inspector.

BOROUGHES.

Allendale, Bergen County; population, 762. Members and Officers—W. E. Carver, President; W. C. Illsley, Mr. Pollock, John W. Steele, Clerk; Dr. Parkhurst, Inspector.

Allenhurst, Monmouth County; population, 247. Members and Officers—Wm. H. Conover, Secretary.

Allentown, Monmouth County; population, 653. Members and Officers—Dr. Imlay, President; Dr. Johnson, Chas. Spaulding, Josiah S. Robbins, Clerk; Wm. R. Forsythe, Inspector.

Alpine, Bergen County; population, 448. Members and Officers—W. S. Opdyke, President, Alpine; Douglas Green, Closter; Chas. Hauser, Alpine; John H. Conklin, Alpine; L. H. Tavernier, Clerk and Inspector, Alpine.

Andover, Sussex County; population, 427. Members and Officers—J. C. Clark, M.D., President; S. S. Wills, T. A. Decker, Wm. E. Willson, Clerk; S. H. Willson, Registrar.

Anglesea, Cape May County; population, 400. Members and Officers—Geo. W. Dougherty, Secretary.

Atlantic Highlands, Monmouth County; population, 1,480. Members and Officers—H. A. Hendrickson, M.D., President; A. G. Hall, P. S. Conover, L. D. Morrison, C. M. Sibley, Thomas H. Leonard, Clerk and Inspector.

Audubon, Camden County; population, 525. Members and Officers—Daniel Ott, President; Frederick Wiehard, James Mackintosh, Joseph Birschall, Howard Callingham, Clerk; Wm. Osborn, Inspector.

Avalon, Cape May County; population, 86. Members and Officers—Rev. John E. Peters, President; Elbut B. Heigh, Elijah Batts, Chas. B. Kates, Clerk; Hugh H. Holmes, Inspector.

Avon, Monmouth County; population, 328. Members and Officers—Walter Harris, President; James Brighton, Monroe Newman, Frank Soilfield, H. M. Dolan, Clerk.

Barnegat City, Ocean County; population, 78. Members and Officers—James V. Jones, Registrar.

Bay Head, Ocean County; population, 278. Members and Officers—Julius Foster, Secretary and Registrar.

Beach Haven, Ocean County; population, 301. Members and Officers—John T. Fox, President; Thos. Cale, Thos. E. Gifford, W. F. Beer, Clerk; Thos. A. Gavin, Registrar and Inspector.

Belmar, Monmouth County; population, 1,089. Members and Officers—Harry E. Snow, President; Wm. M. Bergen, Cyrus B. Honce, Frank P. Philbrick, George G. Titus, Fred. M. Davison, Chas. O. Hudnutt, Clerk; L. McCormick, Inspector.

Bergen Fields, Bergen County; population, 1,095. Members and Officers—David Cohn, President; W. B. Van Saun, William B. May, Paul Martin, John J. Huyler, Registrar.

Bogota, Bergen County; population, 522. Members and Officers—John MacNaughton, President; F. W. Cane, R. B. Lord, Peter Bogart, Henry Wehrnmaker, John F. Hill, Clerk; H. P. Ross, Registrar; M. G. Thuerit, Inspector; Robert Ballagh, Plumbing Inspector.

Bound Brook, Somerset County; population, 3,389. Members and Officers—R. H. Brokaw, President; C. R. P. Fisher, M.D., G. Stryker, W. S. Negus, Secretary and Treasurer; Chas. McNabb, Registrar and Inspector.

Bradley Beach, Monmouth County; population, 1,037. Members and Officers—F. M. Brinber, President; A. W. Allen, W. Hallmeyer, Chas. F. Burney, Clerk; G. W. Bostick, Inspector.

Branchville, Sussex County; population, 591. Members and Officers—E. S. Dalrymple, M.D., Secretary.

Brigantine, Atlantic County; population, 95. Members and Officers—J. A. Price, Registrar.

Butler, Morris County; population, 2,188. Members and Officers—Samuel K. Owen, M.D., Secretary.

Caldwell, Essex County; population, 1,670. Members and Officers—Isaac E. Baldwin, Secretary.

Cape May Point, Cape May County. Members and Officers—Lafayette Miller, Registrar.

Carlstadt, Bergen County; population, 3,100. Members and Officers—Frank Hoffman, President; E. F. Sickenberger, Charles Long, Adolph Schmidt, Herman Foth, Secretary and Registrar; Charles Schmidt, Inspector.

Chatham, Morris County; population, 1,554. Members and Officers—Joseph H. Conklin, President; Joseph E. Pollard, M.D., Walter V. Sayre, J. Thomas Scott, David H. Crawford, Clerk; John J. McCormack, Inspector.

Chesilhurst, Camden County; population, 258. Members and Officers—John Graham, Jr., President; Harry Horton, George Mathews, Clarence Glatteer, William Brooks, Jacob T. Humphries, Clerk; James Brearey, Inspector.

Clayton, Gloucester County; population, 1,864. Members and Officers—A. G. Silver, President; J. W. Dooling, D. W. Moore, N. D. Brown, C. F. Fisler, M.D., Clerk and Inspector.

Cliffside Park, Bergen County; population, 2,128. Members and Officers—Chas. S. Brady, M.D., President, Grantwood; Albert E. Wicks, Hudson Heights; D. P. Woods, Grantwood; Leonard P. Winkler, Cliffside; Robert H. Nutt, Secretary, Cliffside; J. H. Raas, Registrar, Grantwood.

Clinton, Hunterdon County; population, 830. Members and Officers—A. S. Leatherman, President; Wm. Knight, Geo. A. Hall, Clerk; Jas. Mulligan, Inspector; Wm. Carpenter, Inspector.

Closter, Bergen County; population, 1,272. Members and Officers—Alfred Anderson, Registrar.

Collingswood, Camden County; population, 2,588. Members and Officers—Chas. S. Fletcher, President, Collingswood; Wm. Hambrecht, Jr., Collingswood; Geo. Rudderow, Collingswood; H. B. Earnest, Collingswood; W. L. Patterson, Collingswood; Thos. H. Peacock, M.D., West Collingswood; A. Hart, Jr., West Collingswood; Ross G. Pidgeon, Secretary and Registrar, Collingswood; Edw. S. Sheldon, M.D., Inspector.

Cresskill, Bergen County; population, 505. Members and Officers—C. A. Lewis, President, Cresskill; J. W. Flecke, Cresskill; P. O. E. Rhuel, Cresskill; C. Westervelt, Cresskill; J. Diehl, Cresskill; Henry V. Westervelt, Clerk, Cresskill; Geo. Y. Allaire, Registrar, Cresskill; J. B. Lanning, M.D., Inspector, Tenafly.

Deal, Monmouth County; population, 164. Members and Officers—Wm. Hogencamp, President, Deal Beach; Frank B. Mesick, Deal Beach; George K. Thompson, Deal Beach; Henry D. Harris, Secretary and Registrar, Deal Beach.

Delford, Bergen County; population, 841. Members and Officers—R. W. Cooper, President, New Milford; J. W. Bellis, Oradell; W. E. Williams, Oradell; Geo. F. Moore, Secretary, Oradell; F. O. Blenckstone, M.D., Inspector.

Demarest, Bergen County; population, 480. Members and Officers—M. J. Bogert, President; C. E. Hutchinson, Geo. V. Morton, J. Lutz, Wm. Begg, Clerk.

Dumont, Bergen County; population, 913. Members and Officers—W. H. Niehoff, President; W. J. Friend, J. T. Cottingham, Clerk; H. C. Van Buskirk, Registrar; J. E. Pratt, M.D., Inspector.

Dunellen, Middlesex County; population, 1,517. Members and Officers—Jno. R. Campbell, President; P. W. Brakely, M.D., Geo. W. Churchill, W. S. Frederick, Clerk; C. A. Coriell, Registrar; C. W. Blaine, Inspector.

East Newark, Hudson County; population, 2,828. Members and Officers

East Rutherford, Bergen County; population, 3,165. Members and Officers—N. Kip, President; P. B. S. Hodges, N. E. Ogden, M.D., C. R. Wheatley, Clerk; John J. Dupuy, Inspector.

Edgewater, Bergen County; population, 1,392. Members and Officers—Geo. A. Carleton, Secretary and Registrar.

Elmer, Salem County; population, 1,219. Members and Officers—Joseph M. Garrison, President; M. F. Riley, Isaac B. Reeve, J. H. Kandle, J. V. Conover, M.D., David P. Dare, Clerk; H. Van Meter, Registrar.

Englewood Cliffs, Bergen County; population, 266. Members and Officers—John G. Ropes, Registrar, Fort Lee.

Englishtown, Monmouth County; population, 416. Members and Officers—E. T. Reid, Registrar.

Essex Felis, Essex County; population, 393. Members and Officers—J. S. Throckmorton, President; J. C. Sprigg, James A. Speer, C. E. Leach, F. Byrne Ivach, Clerk.

Etna, Bergen County; population, 681. Members and Officers—Jay W. Watkins, President; Ferdinand A. Maul, Harry I. Angell, Clerk.

Fairview, Bergen County; population, 1,693. Members and Officers—Chas. Sedore, President; Wm. Wingerath, John S. Tracy, C. M. Driggs, Clerk; John Bush, Registrar.

Fanwood, Union County; population, 445. Members and Officers—F. W. Westcott, President; A. D. Becken, Octavius Knight, Burton P. Hall, Secretary.

Farmingdale, Monmouth County; population, 399. Members and Officers—Wm. R. Kinmouth, M.D., President; Chas. H. Bond, Edward Im-lay, Levi W. Fany, F. P. Van Note, Secretary and Registrar.

Fieldsboro, Burlington County; population 451. Members and Officers—Wm. I. Leonard, President; W. H. Errickson, Walter Griffiths, W. Leatherbury, Clerk; Samuel Church, Inspector.

Florham Park, Morris County; population, 803. Members and Officers—Wm. H. Hopping, President, Florham Park; Chas. H. Genung, Madison; N. A. Felch, Florham Park; Frank Budd, Chatham; W. A. Hehn, Clerk, Chatham; Henry O. Youngs, Registrar, Florham Park; N. A. Felch, Inspector, Florham Park.

Folsom, Atlantic County; population, —. Members and Officers—George W. Cowden, President; John C. Eby, Clerk.

Fort Lee, Bergen County; population, 3,433. Members and Officers—Max Wyler, M.D., President and Inspector, Fort Lee; Jas. F. Sheelan, Fort Lee; Jerome Sardi, Fort Lee; Ed. Kavanagh, Fort Lee; Robt. H. Morrow, Clerk, Coytesville; Ferd. Knorzer, Treasurer, Fort Lee.

Frenchtown, Hunterdon County; population, 975. Members and Officers—E. L. Poore, President; F. H. Decker, M.D., M. F. Bellis, W. S. Dalrymple, E. W. Moore, Secretary.

Garfield, Bergen County; population, 5,092. Members and Officers—John Karl, President, Garfield; Joseph Whitehead, Garfield; Max Mat-tauch, Garfield; James F. Hennessy, M.D., Garfield; P. J. Scanlan, Registrar, Garfield; O. Bonnema, Inspector, Garfield; R. O. Hasbrauck, Veteri-nary Inspector, Passaic.

Garwood, Union County; population, 564. Members and Officers—Wallace Kaylor, Sr., William J. Kelly, Jr., Walter F. Sargent, Chas. D. Costleigh, Clerk.

Glen Ridge, Essex County; population, 2,062. Members and Officers—H. K. Benson, Secretary.

Glen Rock, Bergen County; population, 778. Members and Officers—Peter Van Winkle, Secretary and Registrar, Ridgewood.

Haddonfield, Camden County; population, 3,466. Members and Officers—William J. Boning, President; Chas. Hillman, Watte H. Smith, M.D., Stanley Rusk, Wm. H. Harrison, Secretary; Edward F. Magill.

Haddon Heights, Camden County; population, 654. Members and Officers—Wm. M. Pollock, Secretary.

Harrington Park, Bergen County; population, 233. Members and Offi-cers—H. G. Daehnke, D. Vanderbeek, Edward W. Walters, Cornelius G. Eckerson, Clerk.

Hasbrouck Heights, Bergen County; population, 1,650. Members and Officers—G. J. Elwood, President; J. G. Martin, H. B. Vannote, W. F. De Voy, Secretary; S. V. Morris, M.D., Inspector.

Haworth, Bergen County; population, 400. Members and Officers—Henry E. Crocker, President, Haworth; Adolph C. Lobeck, Haworth; Clark A. Park, Haworth, Mattias Dieck, Haworth; Wm. T. McCulloch,

Haworth; Erwin H. Schuyler, Secretary and Registrar, Haworth; A. E. Pratt, M.D., Inspector, Dumont.

Hawthorne, Passaic County; population, 2,570. Members and Officers—F. D. Garrison, President, Hawthorne; J. Beaton, North Paterson; D. W. Clark, Hawthorne; J. M. Nicol, Hawthorne; J. G. Whittaker, Clerk, Hawthorne; W. E. Thompson, Registrar, Hawthorne; A. Vanderbeek, M.D., Paterson.

Helmetta, Middlesex County; population, 575. Members and Officers—A. H. Clemons, President, Helmetta; John A. Trimmer, Helmetta; C. M. Thorne, Helmetta; John A. Johnson, Helmetta; Robt. J. Franklin, Clerk, Helmetta; Ed. M. Clemons, Registrar, Helmetta; J. G. Denelsbeck, Inspector, Spottswood.

High Bridge, Hunterdon County; population, 1,382. Members and Officers—P. H. Murray, President; Samuel Tait, M. F. Apgar, John L. Phillips, Clerk; P. H. Murray, Registrar; W. C. Alpaugh, Inspector.

Highlands, Monmouth County; population, 1,275. Members and Officers—Henry Frazor, President; Lewis Cane, Sam. Wilson, Jack Boidge, Harry Scothorp, S. Liming, Secretary and Registrar.

Highland Park, Middlesex County; population, 714. Members and Officers—Wm. E. Burns, New Brunswick.

Hightstown, Mercer County; population, 2,093. Members and Officers—Frank V. Jemison, Registrar.

Holly Beach, Cape May County; population, 1,327. Members and Officers—C. A. Haswin, President; W. A. Shaw, E. Yenny, Forrest B. Long, Secretary; H. S. Hewitt, Registrar; Marshall Lummis, M.D., Inspector.

Hopatcong, Sussex County; population, 125. Members and Officers—T. A. K. Gessler, Secretary and Registrar, Landing.

Hopewell, Mercer County; population, 984. Members and Officers—Robert P. Miller, M.D., President; John H. Merz, Hugh A. Smith, William H. Hart, Robert Zulauf, Clerk.

Island Heights, Ocean County; population, —. Members and Officers—

Junction, Hunterdon County; population, 974. Members and Officers—Theo. B. Fulper, M.D., President and Inspector; James Spillane, Robt. Thompson, W. F. Fritts, E. E. Ridde, Clerk.

Lavallette, Ocean County; population, 22. Members and Officers—A. G. Fischer, Registrar.

Leonia, Bergen County; population, 1,041. Members and Officers—Henry R. Goesser, President; John Boyd, Charles W. Mooney, Arthur D. Bogert, H. M. Thompson, Clerk and Registrar; J. T. Wyckoff, M.D., Inspector.

Linden, Union County; population, 403. Members and Officers—H. B. Hardenburg, President; Philetas Smith, H. D. Huston, S. Rechnitzer, C. H. Smith, H. S. Browning, Wm. McDonough, Joseph B. McDonough, Clerk; Wm. H. Donaldson, Inspector.

Linwood, Atlantic County; population, 503. Members and Officers—Henry H. Potter, President, Linwood; John B. Mitchell, Linwood; D. B. Ireland, Linwood; Wm. W. Force, Steelmanville; James Farish, Secretary and Registrar, Linwood; Philip S. Steelman, M.D., Inspector, Linwood.

Little Ferry, Bergen County; population, 1,772. Members and Officers—Jacob Lawrance, President; Joseph Kavrick, Charles Heuer, Louis Braüer, Clerk; John Dair, Inspector.

Lodi, Bergen County; population, 2,793. Members and Officers—Anthony DeWard, President; Peter DeVries, G. DeYoung, John Verhoeve, Jacob Van Hook, Secretary; H. H. Brevort, M.D., Inspector.

Longport, Atlantic County; population, 133. Members and Officers—R. M. Elliott, Mayor.

Madison, Morris County; population, 4,115. Members and Officers—I. N. Van DeWater, President; C. B. Gee, F. Sewand, M.D., Samuel Brant, C. E. Cook, Clerk; S. T. Burnett, Inspector.

Manasquan, Monmouth County; population, 1,636. Members and Officers—A. H. Miller, President; John Chapman, George Mount, Robert M. Marks, Clerk; Samuel Garrison, Inspector.

Matawan, Monmouth County; population, 1,479. Members and Officers—Wm. A. Rogers, Secretary and Registrar.

Maywood, Bergen County; population, 687. Members and Officers—C. E. Breckenridge, President; J. R. Davies, Henry Heck, Charles Kraeger, G. M. Fetzer, Secretary and Registrar; A. Grassick, Inspector.

Merchantville, Camden County; population, 1,632. Members and Officers—F. W. Kleinz, President; J. W. Marcy, M.D., J. E. Van Kirk, S. D. Ingham, M.D., A. H. Moses, W. B. Stewart, Secretary; Wm. Linderman, Inspector.

Metuchen, Middlesex County; population, 1,907. Members and Officers—A. C. Kelly, President; F. M. Orton, H. Gross, M.D., R. B. Crowell, A. L. Ellis, M.D., Secretary.

Midland Park, Bergen County; population, 1,617. Members and Officers—Jacob Leenas, Secretary, Wortendyke.

Millstone, Somerset County; population, 156. Members and Officers—Wm. H. Polhemus, Secretary; Elias H. Hall, Registrar.

Milltown, Middlesex County; population, 1,210. Members and Officers—F. E. Riva, M.D., President; Conrad Wagner, Adam Wagner, Henry Kuchtebau, Wm. G. Evans, Clerk; R. A. Harkins, Registrar; Chas. Bauries, Inspector.

Montvale, Bergen County; population, 502. Members and Officers—Paul Pratt, Secretary and Registrar.

Mount Arlington, Morris County; population, 250. Members and Officers—H. C. Upchurch, M.D., Secretary.

Mountainside, Union County; population, 314. Members and Officers—J. O'Connors, Secretary.

Mount Tabor, Morris County; population, —. Members and Officers—Frank S. Waller, Secretary.

National Park, Gloucester County; population, 160. Members and Officers—Wm. P. Abdill, Registrar.

Neptune City, Monmouth County; population, 808. Members and Officers—John McNulty, President, Avon; John Palmer, Avon; John Lamon, Avon; Stephen H. Hendrickson, Clerk, Asbury Park.

Netcong, Morris County; population, 1,024. Members and Officers—H. W. Thayer, M.D., President; M. Van Horn, R. W. Walter, W. R. Jackson, Chas. W. Eaton, Secretary.

New Providence, Union County; population, 754. Members and Officers—Alfred G. Nason, President, Murray Hill; L. B. Coddington, Murray Hill; W. T. Hickson, West Summit; F. Schwarzwaelder, Murray Hill; Wm. Woodruff, Secretary and Registrar, New Providence; John W. Dickinson, Inspector, New Providence.

North Caldwell, Essex County; population, 483. Members and Officers—Fred. L. Baldwin, Registrar, Caldwell.

Northfield City, Atlantic County; population, 688. Members and Officers—Joseph Lake, President; T. L. McConnel, Walter Heckman, William Oxley, E. C. Duberson, Clerk.

North Haledon, Passaic County; population, 697. Members and Officers—Geo. Courter, Secretary and Registrar, Haledon.

North Plainfield, Somerset County; population, 5,616. Members and Officers—J. O. Osgood, President; D. C. Adams, Andrew E. Kenny, Thomas Doud, A. H. Dundon, M.D., Clerk; Frank Dencklan, Inspector.

North Spring Lake, Monmouth County; population, —. Members and Officers—F. M. Hunt, Registrar, Spring Lake Beach.

Norwood, Bergen County; population, 432. Members and Officers—M. Martin, President, Norwood; Wm. F. Harra, West Norwood; H. Elling, Demarest; A. Portz, Closter; Paul Luebker, Secretary and Registrar, Norwood.

Nutley, Essex County; population, 4,556. Members and Officers—F. Clements, Secretary.

Oakland, Bergen County; population, 586. Members and Officers—D. J. Fox, President; C. H. Sheffield, W. C. Stout, W. B. Romaine, Secretary; E. W. Hamilton, M.D., Inspector.

Oaklyn, Camden County; population, 454. Members and Officers—J. F. Johnson, President; Otto Doeman, William Anthony, Frank Ashdale, Edward Bartells, Emil C. Hessert, Clerk; Harry Schworie, Inspector.

Ocean City, Cape May County; population, 1,835. Members and Officers—Chas. B. Rider, M.D., Secretary.

Ocean Grove, Monmouth County; population, —. Members and Officers—A. E. Ballard, President; W. H. Wardell, E. N. Cole, H. B. Alday, M.D., Secretary; J. H. Alday, M. D., Sanitary Officer.

Old Tappan, Bergen County; population, 280. Members and Officers—R. B. Haring, Secretary and Registrar, Tappan, N. Y.

Orvil, Bergen County; population, 443. Members and Officers—Robert B. Potts, President, Orvil; James Sherwood, Orvil; W. H. Russell, Orvil; Wm. H. Leazer, Orvil; Charles W. Harreys, M.D., Health Inspector, Ridgewood; Francis C. Kopp, Clerk, Orvil.

Palisades Park, Bergen County; population, 911. Members and Officers—Martin Brunings, Secretary and Registrar, Palisades Park.

Park Ridge, Bergen County; population, 1,189. Members and Officers—H. C. Neer, M.D., President; J. A. Moenig, M.D., Chas. E. Terhune, J. H. Stark, Clerk; H. Schesch, Inspector.

Paulsboro, Gloucester County; population, 2,269. Members and Officers—Chas. Schanley, President; M. J. Doolittle, W. A. Stetser, Harry Lamson, Jacob Ballinger, Clerk; G. C. Laws, Inspector.

Pemberton, Burlington County; population, 821. Members and Officers—Anthony J. Morris, President; J. G. Montgomery, Wm. H. Smith, J. Newton Clevenger, John B. Nutt, J. J. Brander, Clerk.

Pennington, Mercer County; population, 768. Members and Officers—Henry L. Lanning, Secretary and Registrar.

Pennsgrove, Salem County; population, 2,062. Members and Officers—Richard Shannon, President; Warren English, Nathan Wood, Walter Springer, C. P. Lummis, M.D., Secretary.

Pitman Grove, Gloucester County; population, 1,018. Members and Officers—C. B. Phillips, M.D., Registrar.

Pleasantville, Atlantic County; population, 2,824. Members and Officers—Henry C. Thomas, President; Seward Scofield, Charles Shewell, G. Wm. Braun, Wilbur Reed, Secretary; Clyde M. Fish, M.D., Inspector.

Point Pleasant, Ocean County; population, 977. Members and Officers—Abraham Lower, Registrar.

Pompton Lakes, Passaic County; population, 1,013. Members and Officers—W. Washburn, M.D., President and Inspector, Pompton Lakes; John E. Schuyler, Pompton Lakes; Frank Dufford, Pompton Lakes; John Crawford, Pompton Lakes; E. J. Davies, Pompton; Horace L. Wells, Secretary and Registrar, Pompton Lakes.

Port Republic City, Atlantic County; population, 451. Members and Officers—W. C. Van Sant, Secretary and Registrar.

Princeton, Mercer County; population, 6,029. Members and Officers—E. H. Loomis, President; A. A. Woodhull, Richard Rowland, Joseph Hoff, Bayard Stockton, W. S. MacLaren, Thornton Conover, Clerk and Registrar; V. D. Bayles, Inspector.

Prospect Park, Passaic County; population, 1,911. Members and Officers—Thomas Frazer, President, Prospect Park; Garret Planten, Prospect Park; Wm. Crawford, Prospect Park; Lambert Boer, Prospect Park; Jacob Doeel, Clerk, Prospect Park; A. A. Lydecker, M.D., Inspector, Haledon.

Raritan, Somerset County; population, 3,944. Members and Officers—Wm. Green, Secretary; Geo. H. Brightbill, Registrar.

Ridgefield, Bergen County; population, 745. Members and Officers—H. G. Henwood, President; John G. McGill, E. Robinson, J. C. Banta, B. F. Underwood, M.D., Secretary and Registrar.

Riverside, Bergen County; population, 670. Members and Officers—John H. Jenkins, President, Cherry Hill; Bend. G. Pratt, River Edge; E. W. Herrick, River Edge; Samuel Phillips, River Edge; Wm. W. Herrick, Clerk, River Edge; Jos. Weston, Registrar, Cherry Hill; Robert Ballaugh, Plumbing Inspector, Hackensack; Geo. H. McFadden, M.D., Inspector, Hackensack; Chas. Blankenborn, Inspector, Flemington.

Riverton, Burlington County; population, 1,557. Members and Officers—J. C. S. Davis, President; Chas. S. Flanagan, Chas. C. Rianhard, Harry C. Wyman, Alex. Marcy, Jr., M.D., Clerk and Inspector; Jacob Cottrell, Registrar.

Rockaway, Morris County; population, 1,585. Members and Officers—Wm. A. Parliman, Registrar.

Rocky Hill, Somerset County; population, 479. Members and Officers—Theo. Stryker, President; Wm. N. Stults, Malvin Reeve, M.D., Benjamin Teeple, E. R. Logan, Clerk; A. C. Skirm, Registrar.

Roosevelt, Middlesex County; population, —. Members and Officers—Edward J. Heil, President; Emil Wilhelm, Adolph Grohman, Isadore Schwartz, C. C. Sheridan, Clerk, Carteret; F. W. Sell, M.D., Health Inspector, Rahway.

Roselle, Union County; population, 2,142. Members and Officers—Henry C. Pierson, M.D., President; Minot W. Sewall, Wm. B. Hadley, James W. Hope, Wm. J. D. Chandler, Secretary; Geo. W. Rawlins, Registrar; John Kinney, Inspector.

Roselle Park, Union County; population, 2,236. Members and Officers—S. W. Kingsland, President; Arthur W. Cocks, Patrick Cooley, Charles Engelhard, Fred'k E. Nichols, Clerk and Registrar; Simon Birmingham, Inspector.

Rutherford, Bergen County; population, 5,218. Members and Officers—F. M. Buckler, President; J. C. Sarer, Geo. F. Schermerhorn, Chas. Calhoun, M.D., A. B. Tucker, Geo. W. Lawton, Clerk and Registrar; Geo. K. Thomas, Inspector.

Saddle River, Bergen County; population, 474. Members and Officers—T. N. Woodruff, Secretary and Registrar.

Seabright, Monmouth County; population, 1,166. Members and Officers—J. M. Algor, President; J. H. Johnson, A. Embley, D. J. Poffery, James P. Armstrong, Secretary.

Sea Isle City, Cape May County; population, 432. Members and Officers—John J. Nagle, President; A. S. Steelman, Theo. L. De Bow, W. H. Hambleton, Clerk; H. L. Steinus, M.D., Inspector.

Seaside Park, Ocean County; population, 92. Members and Officers—Chas. Harker, M.D., President; Chas. B. Coles, Henry A. Clayton, G. H. Thatcher, Secretary; L. J. Stone, Inspector.

Secaucus, Hudson County; population, 3,191. Members and Officers—Chas. Maier, Secretary.

Somers Point, Atlantic County; population, 431. Members and Officers—John Townsend, President; Ephraim Conley, David Robinson, H. C. Fleming, Lewis Mason, Clerk; James E. Scull, Registrar and Inspector.

South Amboy, Middlesex County; population, 6,258. Members and Officers—J. L. White, M.D., President; E. E. Haines, M.D., Chas. S. Bucklew, S. Locker, F. E. De Graw, Secretary and Registrar; Joe A. Sexton, Inspector.

South Atlantic City, Atlantic County; population, 115. Members and Officers—Chas. Hart, Secretary and Registrar.

South Cape May, Cape May County; population, 5. Members and Officers—James Ritchie, Mayor.

South River, Middlesex County; population, 3,585. Members and Officers—F. W. Bissett, M.D., President and Inspector; John Van Norden, Joseph Miller, Jr., Jesse Selover, Clerk; J. C. Bowne, Registrar.

Spring Lake Beach, Monmouth County; population, 1,039. Members and Officers—S. R. Knight, M.D., President; Jacob Newman, D. W. Robinson, D. H. Hills, Clerk; E. W. Remsen, Inspector.

Stanhope, Sussex County; population, 887. Members and Officers—John McMickle, President; Isaac Kinnicut, T. E. Haggerty, J. H. Slaght, Stephen Thompson, A. S. Van Arsdale, Clerk.

Stockton, Hunterdon County; population, 588. Members and Officers—Horace M. Reading, President; Hiram B. Neice, Peter A. Shepherd, Willard W. Johnson, John S. Wilson, Clerk; E. Rockafellow, Registrar and Inspector.

Sussex, Sussex County; population, 1,318. Members and Officers—S. F. Quince, Secretary; F. B. Whittle, Registrar.

Swedesboro, Gloucester County; population, 1,484. Members and Officers—T. B. Turner, President; Fred. Weber, Wm. A. Homann, W. H. Rieger, Secretary and Registrar; W. G. Simmons, M.D., Inspector.

Tenafly, Bergen County; population, 2,142. Members and Officers—Fred L. Colver, Secretary; J. B. W. Lansing, M.D., Registrar.

Totowa, Passaic County; population, 738. Members and Officers—Wilbur De Mott, Secretary and Registrar, Paterson.

Tuckerton, Ocean County; population, 1,332. Members and Officers—J. F. Mathis, Secretary; T. W. Speck, Registrar.

Upper Saddle River, Bergen County; population, 324. Members and

Officers—Wallace N. De Baun, President, Allendale; John G. Carlough, Allendale; John Swartz, Allendale; John E. Berdon, Allendale; Wm. T. Post, Allendale; Geo. E. Goetschins, Clerk, Allendale; A. A. Zabriskie, Registrar, Allendale.

Ventnor City, Atlantic County; population, 116. Members and Officers—Frank R. Scull, President; John F. Snyder, E. Stanley Grove, Gilbert Harris, William Kuhl, Clerk; Benj. F. Hilliard, Inspector.

Vineland, Cumberland County; population, 4,593. Members and Officers—J. H. Dowler, Jr., President; A. Laricks, J. C. Schramm, E. A. Pierce, S. C. Slade, Secretary and Registrar; N. P. Marvel, Inspector.

Wallington, Bergen County; population, 2,475. Members and Officers—James Brennan, Secretary and Registrar, Wallington.

Washington, Warren County; population, 3,431. Members and Officers—Harry Christine, Secretary and Registrar.

Wenonah, Gloucester County; population, 569. Members and Officers—Wm. J. Dawson, President; Wm. C. Cottell, Chas. H. Lorence, M.D., A. D. Harlan, Jesse W. English, Clerk; Joseph H. Chew, Sanitary Inspector; Harry A. Stout, M.D., Medical Inspector.

West Caldwell, Essex County; population, 490. Members and Officers—Marcus S. Crane, President, Caldwell; John R. Jacobous, Caldwell; Milton H. Canfield, Caldwell; James O. Courtes, Clerk, Caldwell; Joel M. Harrison, Inspector, Caldwell.

West Cape May, Cape May County; population, 902. Members and Officers—A. G. Stevens, M.D., Secretary, Eldredge.

Westwood, Bergen County; population, 1,044. Members and Officers—John J. Voorhis, President; Charles Haring, Raymond Meyers, John W. Horn, Nicholas Cleveland, Clerk and Inspector.

Wharton, Morris County; population, 2,285. Members and Officers—Henry W. Kice, M.D., President; Robert F. Oram, Miller P. Castner, James Williams, Clerk; Daniel J. Ketrick, Inspector.

Wildwood, Cape May County; population, 500. Members and Officers—G. J. R. Miller, President; W. H. Washburn, J. D. Hoffman, C. Eldridge, Clerk and Registrar; Wm. D. Middleton, Inspector.

Woodbine, Cape May County; population, 1,850. Members and Officers—E. J. Arnis, M.D., President and Inspector; S. Reilenran, W. Lipman, L. Danenbergh, Louis Shapiro, Secretary.

Woodcliff, Bergen County; population, 477. Members and Officers—Wm. English, President, Woodcliff; John H. Wortendyke, Woodcliff; Augustus Cleveland, Woodcliff; David H. Tice, Allendale; Peter E. Van Riper, Allendale; G. J. Wortendyke, Secretary, Allendale, R. F. D. No. 2.

Wood Lynne, Camden County; population, 388. Members and Officers—Geo. Annesley, President; W. Burnside, Claude N. Davis, Frank G. Muggleworth, Clerk; Frank E. Meredith, Inspector.

Wood Ridge, Bergen County; population, 721. Members and Officers—J. H. Schmitt, President; F. C. Ball, J. Dorfinger, Sr., F. W. Lehmann, Clerk; C. R. Ruegger, Inspector.

Woodstown, Salem County; population, 1,500. Members and Officers—Isaac B. Coles, President; E. P. McGeorge, M.D., Henry V. Foster, Wm. Coleman, Chalkley Haines, Wm. B. Foster, Secretary; Henry H. Steples, Registrar; F. P. Vanlier, Inspector.

TOWNS.

Absecon, Atlantic County; population, 616. Members and Officers—T. J. Hamilton, President; Henry Alexander, Samuel Giberson, Samuel Johnson, Clerk; E. H. Madden, M.D., Inspector.

Bloomfield, Essex County; population, 11,668. Members and Officers—Wm. L. Johnson, Secretary.

Boonton, Morris County; population, 3,935. Members and Officers—N. A. Myers, Secretary.

Freehold, Monmouth County; population, 3,064. Members and Officers—Harvey S. Brown, M.D., President; E. D. Clayton, S. L. Bennet, W. A. Barkalow, Alonzo White, W. H. Ingling, Alonzo Brower, Clerk and Inspector.

Guttenberg, Hudson County; population, 4,563. Members and Officers—

Hackettstown, Warren County; population, 2,594. Members and Officers—A. C. Van Syckle, M.D., President; A. E. Martin, M.D., Jos. W. Curtis, T. S. White, Alfred Hoffman, Thos. Nolan, A. G. Boettiger, Clerk; R. G. Clark, Inspector.

Hammonton, Atlantic County; population, 4,334. Members and Officers—J. L. O'Donnell, Clerk and Registrar.

Harrison, Hudson County; population, 12,824. Members and Officers—John T. Malone, President; Henry Allers, M.D., Peter J. Goodman, Nathaniel Comey, John J. Scannel, Clerk; John T. McClure, Inspector.

Irrington, Essex County; population, 7,180. Members and Officers—Joseph K. Clickenger, President; Hugo R. Winkler, Jonah Hardgrove, Charles Bougas, Edwin Berry, Secretary; Ira Meeker, Sanitary Inspector; J. Sonneburgh, Plumbing Inspector.

Kearney, Hudson County; population, 13,601. Members and Officers—H. W. Schmale, President, Arlington; Nevin Kennedy, Kearney; M. W. Clouse, M.D., Kearney; L. Hartung, Kearney; L. F. Phyllyke, Kearney; Chas. Schiller, Kearney; J. B. Thomson, Clerk, Arlington; A. E. Grissler, Inspector; S. G. Hendren, Veterinary Inspector, Kearney; J. F. Crowell, Attorney, Kearney.

Keyport, Monmouth County; population, 3,385. Members and Officers—Gustave Maurer, President; Frank Mason, Abram Huylar, Charles Tuthill, Rufuo O. Walling, Clerk; Wm. C. Smith, Registrar; James M. Walling, Inspector.

Red Bank, Monmouth County; population, 6,263. Members and Officers—C. D. Warner, President; John Sheehan, Franklin P. Stryker, James H. Sickles, B. H. Garrison, M.D., Secretary; Elwood Mimg, Inspector.

Somerville, Somerset County; population, 4,782. Members and Officers—Aaron L. Stillwell, M.D., President; John B. Osbourn, Thomas H. Flynn, M.D., John C. Wehrly, William R. Sutphen, Secretary; George D. Totten, Inspector.

Town of Union, Hudson County; population, 17,005. Members and Officers—Wm. Menger, M.D., Inspector.

Westfield, Union County; population, 5,265. Members and Officers—Joseph B. Harrison, M.D., President; Sherman Cooper, M.D., Geo. L. Delatour, H. H. Butler, C. W. Harden, Clerk and Inspector.

West Hoboken, Hudson County; population, 29,082. Members and Officers—A. J. Stanton, Secretary.

West New York, Hudson County; population, 7,196. Members and Offi-

cers—James J. Benson, M.D., President; Rudolph Kunze, George Theobald, George J. Yhlen, John H. Everly, Clerk.

West Orange, Essex County; population, 7,872. Members and Officers—Joseph B. F. Grady, President; H. J. Fiendt, David Quiglan, John B. Lander, Joseph Fleming, B. L. Williams, Secretary; James M. Maghee, M.D., Inspector; R. W. Kinney, Inspector.

VILLAGES.

Ridgefield Park, Bergen County; population, —. Members and Officers—John H. Freken, President; George Muller, B. F. Hanfield, C. Muenchhoffe, Frank P. Vrooman, Clerk; C. A. Knox, Registrar; L. A. Olsen, Inspector.

Ridgewood, Bergen County; population, 3,980. Members and Officers—Fred'k W. Gardner, President; H. S. Willard, M.D., Wm. H. Moore, John T. Hanks, M.D., Secretary; J. B. Hopper, Registrar; C. A. De Mund, M.D., Health Inspector; H. G. Soult, Plumbing Inspector.

South Orange Village, Essex County; population, 4,932. Members and Officers—Mefford Runyon, M.D., President; R. D. Freeman, M.D., Henry A. Pulsford, M.D., Francis Speir, Jr., John P. Kerman, Edwin S. Allen, Secretary; A. C. Benedict, M.D., Registrar and Inspector; Herman C. Hoskier, Dairy Inspector.

TOWNSHIPS.

Acquackanonk, Passaic County; population, 7,187. Members and Officers—Frederick W. Wusterbarth, President, Lake View; Henry Frederick, Delawanna; Eugene F. Piaget, Great Notch; William Lemke, Clifton; Henry M. Ponton, Clifton; Richard Berry, Clerk, Clifton; James F. Sutton, Inspector, Lake View.

Alexandria, Hunterdon County; population, 1,007. Members and Officers—T. C. Cronce, President, Everittstown; Joseph Hoff, Everittstown; Wm. V. Bloom, Little York; Wm. B. Wean, Clerk, Mount Pleasant; W. R. Carpenter, M.D., Inspector, Milford.

Allamuchy, Warren County; population, 571. Members and Officers—Chas. W. Puffer, President, Allamuchy; Geo. W. Guest, Allamuchy; J. R. McMurtrie, Great Meadows; Benjamin A. Hendershot, Clerk, Allamuchy; Richard E. Martin, Registrar, Hackettstown; L. C. Osmun, M.D., Inspector, Hackettstown.

Alloway, Salem County; population, 1,562. Members and Officers—Jeremiah S. Watson, President, Yorketown, R. F. D. No. 1; Joseph Garton, Cohansey; Chas. Timberman, Alloway; William E. Simkins, Clerk, Elmer, R. F. D. No. 3; Warren L. Ewen, M.D., Inspector, Alloway.

Andover, Sussex County; population, 478. Members and Officers—C. C. Fox, President, Lafayette; C. F. Rose, Newton; Joseph Longcor, Andover; Shepard Voorhees, M.D., Newton; Wm. Hiff, Clerk, Lafayette.

Atlantic, Monmouth County; population, 1,355. Members and Officers—H. W. Buck, President, Bradevelt; J. H. Polhemus, Phalanx; S. T. Smock, Colts Neck; J. H. Johnes, Clerk, Vanderburg; Chas. V. Scobey, Registrar, Scobeyville.

Bass River, Burlington County; population, 728. Members and Officers—A. P. Ackerman, M.D., President, New Gretna; B. Frank Hendey, New

Gretna; Wm. S. Cramer, New Gretna; John Bowers, New Gretna; Jos. B. Lamson, Clerk, New Gretna.

Bedminster, Somerset County; population, 2,246. Members and Officers—Chas. Hoffman, President, Pottersville; R. B. Duyckinck, Lamington; Chas. H. Tiger, Peapack; M. C. Smalley, M.D., Gladstone; J. B. Beekman, M.D., Bedminster; W. D. Vanderbeek, Secretary and Registrar, Gladstone.

Belleville, Essex County; population, 7,632. Members and Officers—Henry W. Underwood, Registrar, Belleville.

Berkley, Ocean County; population, 558. Members and Officers—Devine Butler, Registrar, Bayville.

Bernards, Somerset County; population, 4,514. Members and Officers—Frank P. Bowman, President, Bernardsville; Thomas Douglass, Bernardsville; John Cross, Lyons; David Buist, Bernardsville; Frederick Schweikhardt, Bernardsville; S. S. Baldwin, Clerk, Liberty Corner; L. E. Tuttle, Bernardsville.

Bethlehem, Hunterdon County; population, 1,594. Members and Officers—Joseph H. Painter, William Crevling, Pattenburg; John C. Dalrymple, Valley; G. C. Lott, Secretary, Pattenburg; J. S. Lindabury, M.D., Inspector, Bloomsbury.

Beverly, Burlington County; population, 2,181. Members and Officers—William T. Baggs, President, Beverly; Alfred Heal, Beverly; Frank H. Story, Delanco; H. K. Weiler, M.D., Delanco; Jos. B. Carter, Secretary and Registrar, Delanco.

Blairstown, Warren County; population, 1,537. Members and Officers—Chas. Heldemore, President, Blairstown; Theo. B. Dawes, Blairstown; H. P. Lindaberry, Walnut Valley; Wm. S. Perry, Clerk, Delaware; Henry O. Carhart, M.D., Inspector, Blairstown.

Boonton, Morris County; population, 343. Members and Officers—James E. Sims, President, Boonton; Eben C. Lyon, Boonton; Cornelius Burns, Boonton; N. A. Meyers, Boonton; Geo. W. Blanchard, Clerk, Boonton; W. R. Bally, Registrar, Boonton; A. E. Estler, Inspector, Boonton.

Bordentown, Burlington County; population, 534. Members and Officers—John B. Burtis, President, Bordentown; C. Mendenhall, M.D., Bordentown; C. C. Hance, Bordentown; C. F. Neesé, Bordentown; Hugh Le Jambre, M.D., Clerk and Inspector, Bordentown.

Branchburg, Somerset County; population, 979. Members and Officers—Wm. V. D. Jelliffe, President, Readington; John C. Stryker, Readington; Alex. B. Brokaw, Neshanic Station; Peter Q. Brokaw, Clerk, Centreville; Henry V. Davis, M.D., Inspector, North Branch.

Brick, Ocean County; population, 2,112. Members and Officers—J. H. Harvey, Secretary and Registrar, Point Pleasant.

Bridgewater, Somerset County; population, 962. Members and Officers—Christopher A. Ehn, President, Raritan; William Harris, Somerville; Jacob K. Brokaw, Somerville; Jacob Huff, Somerville; E. Stevens, Somerville; Jno. G. Codington, North Branch; F. T. Ross, Secretary and Registrar, Somerville; L. M. Lanning, M.D., Inspector, Somerville; John Thum, Inspector, Bound Brook.

Buena Vista, Atlantic County; population, 2,624. Members and Officers—Alfred Pennock, Sr., President, Vineland; Harry Brown, Newtonville; Edward J. Smith, Richland; Frank Barsuglia, Vineland; Douglas Reed, Clerk, Newfield.

Burlington, Burlington County; population, 1,012. Members and Officers—Wm. B. Shedaker, President, Burlington; Edward B. Deacon, Burlington; Ellis C. Parker, Burlington; Thomas B. Gandy, Clerk and Inspector, Burlington.

Byram, Sussex County; population, 426. Members and Officers—Hon. Peter D. Smith, Waterloo; Hiram A. Stone, Andover; Jesse L. Roleson, Sparta; Samuel McMickle, Clerk, Sparta.

Caldwell, Essex County; population, 644. Members and Officers—Theo. Vincent, Registrar, Caldwell.

Centre, Camden County; population, 2,651. Members and Officers—Wm. F. Miller, President, Mount Ephraim; H. M. Haines, Magnolia; S. H. Hodges, Magnolia; John H. Jackson, Clerk, Magnolia; L. C. Lyon, Inspector, Magnolia.

Chatham, Morris County; population, 629. Members and Officers—J. H. Bebout, Registrar, New Providence.

Chester, Burlington County; population, 4,849. Members and Officers—Morris Linton, President, Moorestown; George Brock, Moorestown; Samuel C. Roberts, Moorestown; George W. Heaton, Clerk, Moorestown; Frank G. Stroud, M.D., Inspector, Moorestown.

Chester, Morris County; population, 1,378. Members and Officers—Nelson C. Vannata, President, Chester; Wm. S. Howell, Chester; Elias Wack, Chester; H. M. Rarick, Clerk, Chester.

Chesterfield, Burlington County; population, 1,141. Members and Officers—Charles E. Wallace, President, Chesterfield; Edward M. Ridgway, Crosswicks; Chas. M. Binetong, Bordentown; N. H. Chaffee, M.D., Chesterfield; William Wallace, Clerk, Crosswicks.

Cinnaminson, Burlington County; population, 1,064. Members and Officers—Clayton Conrow, President, Cinnaminson; Thos. E. Steele, Secretary and Registrar, Palmyra; J. D. Janney, M.D., Inspector, Cinnaminson.

Clark, Union County; population, 387. Members and Officers—Wm. J. Thompson, President, Rahway; Benjamin King, Rahway; Edmond Mays, Rahway; Wm. J. Thompson, Clerk, Rahway.

Clementon, Camden County; population, 2,257. Members and Officers—Jacob C. Lippincott, President, Kirkwood; Geo. Summerfield, Clementon; F. B. Tomlinson, Laurel Springs; Geo. W. Evans, Clerk, Lindenwood; Edgar Sharp, Inspector, Berlin.

Clinton, Hunterdon County; population, 2,026. Members and Officers—Willard E. Berkaw, M.D., President and Inspector, Annandale; M. T. Wiggins, Annandale; John Shurts, Lebanon; John W. Apgar, Lebanon; Bergen B. Berkaw, Secretary and Registrar, Annandale.

Commercial, Cumberland County; population, 2,476. Members and Officers—C. W. Hand, President, Port Norris; Clarence Robbins, Port Norris; Reuben Sharp, Halesville; E. B. Bradford, M.D., Port Norris; John McConnell, Secretary, Port Norris.

Cranbury, Middlesex County; population, 1,465. Members and Officers—Joseph C. Chamberlain, President, Cranbury; W. I. Stults, Cranbury; John A. Wyckoff, Cranbury; A. M. Davison, Secretary and Registrar, Cranbury.

Cranford, Union County; population, 3,600. Members and Officers—E. B. Horton, President, Cranford; E. G. Woodling, Cranford; J. C. W. Rankin, Cranford; J. K. MacConnell, M.D., Cranford; Alfred H. Miller, Secretary, Cranford; E. S. Crane, Registrar, Cranford.

Deerfield, Cumberland County; population, 3,212. Members and Officers—Elijah Parvin, President, Deerfield; John Loper, Woodruff; Wm. Sharper, Rosenhayn; James McNabb, Deerfield; Herbert L. Cooper, M.D., Secretary, Deerfield.

Delaware, Camden County; population, 1,470. Members and Officers—Wm. Graff, President and Registrar, Haddonfield; J. W. Matlack, Haddonfield; Jas. Hinckman, Jr., Merchantsville; Wm. T. Coles, Moorestown; Wm. B. Jennings, M.D., Secretary, Haddonfield.

Delaware, Hunterdon County; population, 1,926. Members and Officers—Nelson Lambert, President, Sergeantsville; Alton Lake, Flemington; Erwin Johnson, Raven Rock; J. M. Hoppock, Clerk, Sergeantsville; Geo. N. Best, M.D., Inspector, Rosemont.

Delran, Burlington County; population, 1,340. Members and Officers—Charles W. Baty, President, Bridgeboro; Alex. P. Bright, Bridgeboro; Joseph F. Dennier, Riverside; George Friday, Clerk, Riverside, R. F. D.

Dennis, Cape May County; population, 1,777. Members and Officers—Charles E. Foster, President, South Seaville; Samuel Bishop, Eldora; James G. Stiles, Dennisville; I. S. Townsend, Clerk, Clermont; Eugene Way, M.D., Inspector, Dennisville.

Deptford, Gloucester County; population, 2,233. Members and Officers—Thomas Goldy, President, Westville; Wm. Allen, Westville; Benjamin Hains, Westville; Carroll C. Headley, Clerk, Westville; H. H. Clark, M.D., Inspector, Woodbury.

Dover, Ocean County; population, 2,869. Members and Officers—R. R. Jones, M.D., Toms River; T. I. Grant, Toms River; W. S. Jackson, Toms River; Bartine Clayton, Silvertown; U. S. Grant, Clerk, Toms River; Thos. B. Irons, Assessor, Toms River.

Downe, Cumberland County; population, 1,664. Members and Officers—John Gaskill, President, Newport; Luther Bateman, Newport; L. Marshall, M.D., Newport; Nathaniel Lore, Dividing Creek; Sheppard Campbell, Clerk, Newport.

Eagleswood, Ocean County; population, 534. Members and Officers—Howard G. Shinn, President, West Creek; John W. Holman, West Creek; Jonathan Cox, West Creek; C. H. Conover, M.D., Tuckerton; E. F. Cranmer, Clerk, West Creek.

Eastampton, Burlington County; population, 587. Members and Officers—Daniel Ewan, President, Smithville; S. McFarlain, Mount Holly; Geo. W. Craig, Smithville; H. E. Lippincott, Inspector, Smithville.

East Amwell, Hunterdon County; population, 1,256. Members and Officers—Geo. Strimple, President, Ringoes; George Bateman, Clover Hill; Edward H. Wilson, Ringoes; Edgar Higgins, Clerk, Ringoes; Peter C. Young, M.D., Ringoes.

East Brunswick, Middlesex County; population, 2,025. Members and Officers—Henry Warnsdorfer, Secretary and Registrar, New Brunswick, R. F. D. No. 3.

East Greenwich, Gloucester County; population, 1,299. Members and Officers—William Borden, President, Swedesboro; John C. Heritage, Mickleton; Daniel Packer, Mount Royal; James C. Danson, Clerk, Mickleton; Chas. Haines, M.D., Inspector, Mickleton.

East Windsor, Mercer County; population, 863. Members and Officers—S. L. Mount, Secretary and Registrar, Etra.

Eatontown, Monmouth County; population, 2,874. Members and Officers—S. S. Stout, President, Eatontown; Benj. Eldridge, Oceanport; A. F. Golden, West Long Branch; J. C. Rush, M.D., Eatontown; D. S. Morris, Clerk, Eatontown; Douglass Riddle, Registrar, Oceanport; J. E. Snyder, Inspector, Eatontown.

Egg Harbor, Atlantic County; population, 1,468. Members and Officers—John J. Blackmon, President, Steelmanville; Allen J. Tallmon, Scullville; Geo. W. Adams, Idlewood; George S. Winner, Clerk, Scullville.

Elk, Gloucester County; population, 938. Members and Officers—Rulof Knisell, President, Aura; Franklin Homan, Glassboro; Thomas Hann. Ewan; Samuel L. Seran, Clerk, Aura.

Elisiboro, Salem County; population, 398. Members and Officers—James B. Nicholson, President, Salem; Chas. Petterson, Salem; A. S. Reeves, Salem; Wm. D. Griscom, Clerk, Salem; Chas. P. Farnkopf, Registrar and Inspector, Salem.

Evesham, Burlington County; population, 1,356. Members and Officers—W. J. Evans, President, Marlton; H. D. Lippincott, Marlton; John Mitchell, Marlton; B. K. Brick, M.D., Secretary, Marlton; W. F. Powell, Registrar, Marlton.

Ewing, Mercer County; population, 1,560. Members and Officers—James F. Herbert, President, Trenton Junction; Lewis E. Anderson, Trenton; Hodoram M. Fine, Trenton; W. H. Cadwallader, Clerk, Trenton, R. F. D. No. 1; E. B. Allen, M.D., Inspector, Trenton.

Fairfield, Cumberland County; population, 1,625. Members and Officers—Wm. H. Thompson, President, Fairton; Edward Bowe, Fairton; Edwin W. Trenchard, Fairton; Charles Taylor, Fairton; Harry E. Lore, M.D., Fairton; E. H. Whiticar, Clerk, Fairton.

Fanwood, Union County; population, 1,341. Members and Officers—Thos. J. Nicholl, President, South Plains; Theo. R. Bruchmann, South Plains; W. S. Terry, Plainfield; Chas. H. French, Clerk, Westfield; F. W. Westcott, M.D., Inspector, Fanwood; W. R. Codington, Counsel, Plainfield.

Florence, Burlington County; population, 1,967. Members and Officers—George Strick, President, Florence; Harry Aikins, Florence; Byron Carty, Clerk, Florence; David Baird, Jr., M.D., Inspector, Florence.

Frankford, Sussex County; population, 998. Members and Officers—Daniel Dalrymple, Registrar, Papakating.

Franklin, Bergen County; population, 1,566. Members and Officers—H. P. Winters, President, Wyckoff; Wm. J. Packer, Wyckoff; A. E. Voorhis, Oakland; Daniel Snyder, Clerk, Midland Park; E. W. Hamilton, M.D., Inspector, Oakland.

Franklin, Gloucester County; population, 2,197. Members and Officers—A. B. Kichman, President, Malaga; Samuel Lowder, Newfield; Wilson T. Jones, Franklinville; Chas. Trimnel, Newfield; Harry C. Richman, Secretary and Registrar, Malaga; A. A. Smith, M.D., Inspector, Malaga.

Franklin, Hunterdon County; population, 1,105. Members and Officers—H. D. Young, M.D., President, Quakertown; J. E. Anderson, Pittstown; J. K. Trout, Elwood Nixon, Secretary, Quakertown.

Franklin, Somerset County; population, 3,577. Members and Officers—Elias Baker, President, New Brunswick; Wm. A. Cortelyou, Princeton; Nathaniel Wilson, Bound Brook; L. J. Sydam, Secretary and Registrar, New Brunswick, R. F. D. No. 5; J. H. Cooper, M.D., Inspector, East Millstone.

Franklin, Warren County; population, 1,309. Members and Officers—A. S. Hixon, President, Broadway; Harvey F. Cole, Broadway; Wm. M. Simantin, Asbury; E. H. Moore, M.D., Asbury; P. B. Butterwick, Clerk, Asbury.

Fredon, Sussex County; population, 462. Members and Officers—Geo. W. Van Horn, President, Newton; D. R. Warbasse, Newton; John Roy, Stillwater; Jos. E. Huff, Clerk, Newton, R. F. D. No. 1; E. W. Landes, M.D., Inspector, Stillwater.

Freehold, Monmouth County; population, 2,474. Members and Officers—Peter F. Conover, President, Freehold; Millard F. Conover, Freehold; Harry Campbell, Freehold; Robert N. Seuter, Freehold; John H. Shepherd, Freehold; Rulif V. Lawrence, Clerk, Freehold; Harry Neafie, M.D., Inspector, Freehold.

Frelinghuysen, Warren County; population, 728. Members and Officers—George Hibler, President, Johnsonsburg; David Ryman, Marksboro; Elwood Vashinder, Johnsonsburg; W. H. Ackerson, Clerk, Blairstown, R. F. D.; F. Rorback, M.D., Johnsonsburg.

Galloway, Atlantic County; population, 1,876. Members and Officers—Edward Ertell, President, Pomerania; C. B. Somers, Oceanville; William Krebs, Port Republic; Joseph Nehr, Clerk, Egg Harbor City; C. C. Allen, M.D., Inspector, Absecon.

Glassboro, Gloucester County; population, 2,607. Members and Officers—C. S. Heritage, M.D., President, Glassboro; W. H. Yenny, Glassboro; Josiah H. Shute, Glassboro; J. T. Abbott, Clerk, Glassboro; William Martin, Inspector, Glassboro.

Gloucester, Camden County; population, 2,300. Members and Officers—J. Frank Brewer, Secretary and Registrar, Blackwood.

Green, Sussex County; population, 500. Members and Officers—C. F. Ayres, President, Huntsville; A. Hull, Huntsville; E. Decker, Andover; I. L. Labar, Secretary, Tranquility; J. C. Clark, M.D., Inspector, Andover.

Greenwich, Cumberland County; population, 1,122. Members and Officers—George L. Watson, President, Greenwich; Wm. H. Glaspey, Greenwich; Isaac D. Brown, Greenwich; S. M. Snyder, M.D., Greenwich; J. W. Butler, Secretary, Othello.

Greenwich, Gloucester County; population, 754. Members and Officers—Joseph Bramell, Registrar, Paulsboro.

Greenwich, Warren County; population, 854. Members and Officers—Geo. E. Hamlen, President, Stewartsville; B. F. Strader, Stewartsville; John H. Cyphers, Stewartsville; F. W. Curtis, M.D., Stewartsville; Wm. Sherrer, Secretary, Bloomsbury.

Haddon, Camden County; population, 1,009. Members and Officers—Henry I. Wright, President, Westmont; Alfred M. Matthews, Westmont; Albert J. Clime, Westmont; James Williams, Secretary and Registrar, Westmont; E. B. Rogers, M.D., Inspector, Collingswood.

Hamilton, Atlantic County; population, 2,021. Members and Officers—Lucien B. Corson, President, Mays Landing; Daniel McClure, Mays Landing; Joseph Bauer, Cologne; Harry Jenkins, Mays Landing; Edward Fitch, Clerk, Mays Landing; Henry C. James, Inspector, Mays Landing.

Hamilton, Mercer County; population, 5,150. Members and Officers—E. B. Woodward, M.D., President, Yardville; Isaac Robbins, Trenton; William E. Ford, Crosswicks; Joel A. Cranmer, Trenton; Wm. T. Rob-

bins, Secretary, Hamilton Square; Azariah Cubberly, Registrar, Hamilton Square; James N. Reed, Inspector, Trenton.

Hampton, Sussex County; population, 623. Members and Officers—A. J. Williams, President, Baleville; M. H. Northrup, Baleville; John Siglee, Halsey; J. W. Thompson, Secretary and Registrar, Blair.

Hanover, Morris County; population, 5,294. Members and Officers—Edwin C. Quinby, President and Assessor, Whippany; Alec Webb, Hanover; E. J. Connelly, Whippany; Thos. J. Davis, Morris Plains; Chas. W. Dennis, Troy Hills; Phineas Farrand, Boonton.

Hardwick, Warren County; population, 370. Members and Officers—Henry Kice, President; D. R. Newman, Wm. C. Wildrich, Marcus C. Hill, Clerk, Blairstown; H. O. Carhart, M.D., Inspector.

Hardyston, Sussex County; population, 3,434. Members and Officers—J. Stevens, President, Franklin Furnace; W. Little, Franklin Furnace; C. Farber, Hamburg; J. G. Coleman, M.D., Registrar, Hamburg.

Harmony, Warren County; population, 1,086. Members and Officers—H. B. Bossard, President and Inspector, Phillipsburg; J. M. Rush, Stewartsville; Elmer Cruts, Phillipsburg; Freman Schuler, Secretary, Phillipsburg, R. F. D. No. 2.

Harrington, Bergen County; population, 521. Members and Officers—Emil Kober, Registrar, Northvale.

Harrison, Gloucester County; population, 1,624. Members and Officers—S. T. Stratton, President, Ewan; W. S. Lloyd, Mullica Hill; Albert Murphy, Richwood; S. F. Ashcraft, M.D., Mullica Hill; Eli Heritage, Clerk, Richwood.

Hillsboro, Somerset County; population, 2,247. Members and Officers—J. V. M. Sulphers, President, Three Bridges; Wm. M. Staats, Millstone; J. V. D. Brokaw, Belle Mead; Wm. Merrill, M.D., Clerk, South Branch; J. H. Sauts, Registrar and Inspector, Somerville, R. F. D. No. 1.

Hillsdale, Bergen County; population, 945. Members and Officers—Eugene E. Rich, President, Hillsdale; George W. Saul, Hillsdale; John W. Banta, Hillsdale; John W. Kinmouth, Clerk and Registrar, Hillsdale.

Hohokus, Bergen County; population, 3,107. Members and Officers—Peter Z. May, President, Ramsey; John J. May, Ramsey; Theo. Shnit, Ramsey; John Ackerman, Secretary, Ramsey; R. A. Keefler, M.D., Inspector, Ramsey.

Holland, Hunterdon County; population, 1,528. Members and Officers—Herbert Quick, President, Milford; Wm. R. Sailer, Milford; C. R. Stull, Milford; Alonzo Sinclair, Clerk, Milford; Wm. C. Williams, M.D., Registrar and Inspector.

Holmdel, Monmouth County; population, 1,221. Members and Officers—V. D. Kenney, Secretary and Registrar, Holmdel.

Hope, Warren County; population, 1,025. Members and Officers—George A. Henry, President, Great Meadows; George Stone, Delaware; E. J. Winters, Hope; Lewis C. Fleming, Clerk, Townsburly; Walter Storm, M.D., Inspector, Hope.

Hopewell, Cumberland County; population, 1,840. Members and Officers—D. D. Davis, President, Shiloh; E. G. Ayars, Bridgeton; E. D. Perry, Bridgeton; Walter L. Minch, Assessor and Clerk, Shiloh.

Hopewell, Mercer County; population, 3,209. Members and Officers—Chas. H. Hart, Secretary and Registrar, Titusville.

Howell, Monmouth County; population, 2,585. Members and Officers—B. M. Cooper, President, Lakewood; Robert H. Morris, Adelphia; Chas.

E. Farry, Farmingdale; James H. Butcher, Clerk, Ardena; W. P. Havens, Inspector, Farmingdale.

Hudson County, Hudson County; population, 449,879. Members and Officers—C. J. Rooney, Clerk, Jersey City.

Independence, Warren County; population, 835. Members and Officers—W. H. McCormick, President, Hackettstown; Aaron B. Leigh, Great Meadows; Charles Rusling, Townsbury; F. W. Haggerty, M.D., Clerk, Vienna; Wm. K. Teel, Registrar, Vienna.

Jackson, Ocean County, population, 1,534. Members and Officers—Thomas Harker, President and Inspector, Cassville; A. C. Emley, Cassville; Albert Pearce, Jacksons Mills; George C. Hankins, Vanhiseville; W. S. Hendrickson, Clerk, Jacksons Mills; Otto Thompson, M.D., Inspector, Cassville.

Jefferson, Morris County; population, 1,259. Members and Officers—Joseph Riggs, President, Milton; U. Coil, Milton; John Tierney, Woodport; Charles Chamberlain, Clerk, Woodport; John Walters, Wharton.

Kingwood, Hunterdon County; population, 1,188. Members and Officers—George Leonard, President, Baptistown; Joseph Hann, Barbertown; Frank Fisher, Barbertown; Samuel J. Snyder, Secretary and Registrar, Flemington, R. F. D. No. 2; Frank S. Grim, Inspector, Baptistown.

Knowlton, Warren County; population, 1,222. Members and Officers—Theo. A. Beck, President, Columbia; Frease Eyere, Delaware; Charles Harris, Knowlton; Wm. B. Moore, Secretary, Columbia.

Lacey, Ocean County; population, 653. Members and Officers—G. E. Wallace, M.D., President, Forked River; J. B. Wilbert, Forked River; Geo. Frazee, Forked River; B. F. Holmes, Forked River; B. F. Mathews, Secretary and Registrar, Forked River.

Lafayette, Sussex County; population, 619. Members and Officers—Fred. M. Pellet, President, Lafayette; John D. Ackerman, Lafayette; Richard D. Snook, Lafayette; Frank A. Mabie, Lafayette; J. C. Strader, M.D., Registrar and Clerk, Lafayette.

Lakewood, Ocean County; population, 4,265. Members and Officers—Jacob Skidmore, President, Lakewood; John Shearman, Lakewood; Luke Johnson, Lakewood; G. W. MacMillan, M.D., Lakewood; E. E. Le Compte, Clerk, Lakewood; Richard B. Robbins, Registrar and Inspector, Lakewood.

Landis, Cumberland County; population, 5,351. Members and Officers—Waldo F. Sawyer, M.D., President, Vineland; Wallace I. Frost, Vineland; Edwin Kyte, Vineland; Edwin R. Bolles, Vineland; Alfred Crossman, Vineland; Jos. W. Holt, Vineland; Henry Taylor, Clerk, Vineland.

Lawrence, Cumberland County; population, 1,730. Members and Officers—Ernest L. Mulford, President, Cedarville; Peter Johnson, Fairton; David W. Sheppard, Cedarville; Furman E. Sheppard, Cedarville; F. M. Bateman, M.D., Cedarville; H. S. Long, Clerk, Cedarville.

Lawrence, Mercer County; population, 2,043. Members and Officers—John E. Gordon, President, Port Mercer; John C. Applegate, Princeton; A. D. Binder, Lawrenceville; Edmund Dewitt, M.D., Lawrenceville; Frank Pierson, Secretary and Registrar, Lawrenceville.

Lebanon, Hunterdon County; population, 1,983. Members and Officers—A. S. Banghart, Secretary and Registrar, Glen Gardner.

Linden, Union County; population, 1,096. Members and Officers—Walter E. Mitchell, President, Linden; John P. Winans, Linden; John

E. Tucker, Elizabeth; Frank B. Stinson, Clerk, Linden; William T. Day, Inspector, Roselle.

Little Egg Harbor, Ocean County; population, 517. Members and Officers—Wm. Speck, Registrar, Tuckerton.

Little Falls, Passaic County; population, 3,079. Members and Officers—F. C. Hennie, President, Little Falls; W. H. Van Ness, Little Falls; R. C. Van Ness, Little Falls; W. W. Wilson, Clerk, Little Falls; W. H. Young, Inspector, Little Falls.

Livingston, Essex County; population, 1,407. Members and Officers—Bern. W. Dickinson, President, Chatham; Wm. H. Harrison, Roseland; George H. Parkhurst, Livingston; George E. De Camp, Clerk, Roseland.

Lodi, Bergen County; population, 1,061. Members and Officers—Charles Foose, President, Wood Ridge; Peter Strunck, Wood Ridge; Frank Switz, Little Ferry; Julius Pries, Clerk, Wood Ridge.

Logan, Gloucester County; population, 1,528. Members and Officers—Hugh McGlincy, President, Swedesboro; Wm. F. Justice, Bridgeport; John Shoemaker, Repaupo; S. B. Platt, Clerk, Bridgeport; P. E. Stillwagon, M.D., Bridgeport.

Long Beach, Ocean County; population, 73. Members and Officers—A. H. T. Rider, Registrar, Beach Haven.

Lopatcong, Warren County; population, 695. Members and Officers—E. Frank Cline, Registrar, Shimers.

Lower, Cape May County; population, 1,336. Members and Officers—George Dickinson, President, Erma; James H. Thomas, Erma; Aaron Woolson, Erma; W. A. Lake, M.D., Erma; J. P. Mackissic, Secretary, Cape May City.

Lower Alloways Creek, Salem County; population, 1,220. Members and Officers—Frank H. G. Shimp, President, Canton; John M. Pancoast, Hancock's Bridge; Albert M. Carl, Harmersville; Frank B. Harris, M.D., Canton; Edward Hancock, Secretary and Registrar, Hancock's Bridge.

Lower Penns Neck, Salem County; population, 1,327. Members and Officers—David Dixon, Salem; John Prinsen, Pennsville; Samuel Lecroy, Pennsville; Ellsworth L. Ireland, Secretary and Registrar, Pennsville.

Lumberton, Burlington County; population, 1,683. Members and Officers—H. D. Culin, Registrar, Hainesport.

Madison, Middlesex County; population, 1,582. Members and Officers—C. Burlew, President, Matawan; Ambrose Green, Old Bridge; James Fountain, Old Bridge; I. C. Crandall, M.D., Old Bridge; D. H. Brown, Clerk, Old Bridge, R. F. D.; Edward Barker, Inspector, Cliffwood.

Manalapan, Monmouth County; population, 1,392. Members and Officers—Edward Hendrickson, President, Englishtown; J. C. Sutphen, Tennent; W. C. Hartshorne, Milhurst; A. T. Applegate, M.D., Englishtown; G. B. Conover, Clerk, Englishtown; S. C. Bowne, Registrar, Tennent.

Manchester, Ocean County; population, 785. Members and Officers—A. B. Phillips, President, Lakehurst; Ed. Crawford, Lakehurst; Chas. Stultz, Lakehurst; Amos Bozarth, Registrar, Lakehurst; Harold Pittis, M.D., Secretary and Inspector, Lakehurst.

Manchester, Passaic County; population, 2,277. Members and Officers—Chas. Erving, President, Haledon; Samuel Rogers, Haledon; A. Van Riper, Haledon; George V. Spangemacher, Clerk, Haledon; Dr. Lydecker, Inspector, Haledon.

Mannington, Salem County; population, 1,652. Members and Officers

Hon. John Tyler, President, Salem; Joseph R. Maekett, Salem; Aaron E. Fogg, Salem; Jonathan B. Grier, Clerk, Salem.

Mansfield, Burlington County; population, 1,493. Members and Officers—A. H. Patterson, M.D., President, Georgetown; C. C. Bryan, Georgetown; G. F. Harvey, Columbus; C. G. Kinsley, Columbus; Jos. H. Armstrong, Clerk, Columbus.

Mansfield, Warren County; population, 1,234. Members and Officers—John Vannatta, Port Murray; J. V. Leigh, Port Murray; J. R. Drimple, Port Murray; Jacob Beaty, Clerk, Port Murray.

Mantua, Gloucester County; population, 1,471. Members and Officers—Benj. Sharp, President, Sewell; John S. Kincard, Sewell; Benj. Sparks, Mantua; Wm. S. Hurff, Clerk and Registrar, Sewell; E. Z. Hillegass, Inspector, Mantua.

Marlboro, Monmouth County; population, 1,664. Members and Officers—G. A. Quackenbush, President, Englishtown; David A. Baird, Marlboro; H. P. Hayward, Marlboro; J. Ely, Clerk; W. C. McElwaine, Registrar, Englishtown.

Matawan, Monmouth County; population, 1,365. Members and Officers—Richard Heuser, Registrar, Matawan.

Maurice River, Cumberland County; population, 2,133. Members and Officers—Charles Grassman, President, Port Elizabeth; Charles William, Heislerville; Charles Champion, Dorchester; Henry Reeves, Jr., Clerk, Leesburg.

Medford, Burlington County; population, 2,030. Members and Officers—Joseph H. Haines, President; L. L. Sharp, M.D., R. S. Braddock, M.D., Wm. M. Potts, Secretary, Medford.

Mendham, Morris County; population, 1,724. Members and Officers—M. M. Connett, President, Brookside; J. H. Quimby, Mendham; E. L. Garabrant, Mendham; G. S. DeGroot, M.D., Mendham; J. S. Gunther, Clerk, Mendham; John B. Dolan, Registrar, Mendham.

Middle, Cape May County; population, 2,584. Members and Officers—L. T. Garretson, President, Cape May C. H.; V. N. Erricson, Dias Creek; L. M. Swain, Swainton; Joseph Camp, Clerk and Inspector, Pierces.

Middletown, Monmouth County; population, 5,600. Members and Officers—C. F. Grossinger, President, Middletown; D. W. Van Note, Belford; W. B. Conover, Middletown; Frank Osborn, Middletown; J. N. Johnson, Jr., Belford; Henry D. Smith, Clerk, Middletown; Omar Sickles, Registrar, Navesink; O. W. Budlong, M.D., Inspector, Belford.

Midland, Bergen County; population, 1,465. Members and Officers—John G. Zabriskie, President, Rochelle Park; J. H. Blauvelt, Ridgewood; George E. Van Orden, Ridgewood; John D. Bogert, Clerk, Ridgewood; Frank Freeland, M.D., Inspector, Maywood; Clarence Mable, Counsel, Hackensack.

Millburn, Essex County; population, 3,182. Members and Officers—John M. Drake, Registrar, Millburn.

Millstone, Monmouth County; population, 1,432. Members and Officers—W. S. Chambers, President, Perrineville; S. P. Dey, Perrineville; Abijah B. Chamberlin, Perrineville; Geo. J. Ely, Clerk, Cranbury; Wm. T. McMellen, M.D., Inspector, Hightstown.

Monroe, Gloucester County; population, 2,519. Members and Officers—John W. McClure, Secretary and Registrar, Williamstown.

Monroe, Middlesex County; population, 2,023. Members and Officers—Charles A. Morse, President, Cranbury; Willard Forman, Jamesburg;

John D. Butcher, Cranbury; Robt. R. Vandenbergh, Secretary, Prospect Plains.

Montague, Sussex County; population, 661. Members and Officers—Timothy Shay, President, Port Jervis, N. Y.; Sanford Nearpass, Port Jervis, N. Y.; Cora J. Bell, Port Jervis, N. Y.; Geo. McCarty, Clerk, Port Jervis, N. Y., R. F. D. No. 1.

Montgomery, Somerset County; population, 1,504. Members and Officers—Wm. I. Robinson, President, Belle Mead; H. De Witte Terhune, Belle Mead; A. B. Mosher, Griggstown; H. A. Duryee, Secretary, Blawenburg; C. B. Allshouse, Registrar, Belle Mead.

Montville, Morris County; population, 1,650. Members and Officers—John Husk, President, Montville; Jesse Baldwin, Towaco; John Tice, Montville; Aug. W. Berger, Secretary and Registrar, Pine Brook.

Morris, Morris County; population, 2,660. Members and Officers—J. Paul Jamieson, Secretary, Morristown.

Mount Laurel, Burlington County; population, 1,671. Members and Officers—John Dugan, President, Moorestown; J. Harvey Darnell, Moorestown; Budd M. Horner, Masonville; Benj. M. Haines, Clerk, Moorestown; J. B. Wintersteen, M.D., Inspector, Moorestown.

Mount Olive, Morris County; population, 1,098. Members and Officers—George N. Salmon, President, Flanders; Wm. R. McPeak, Mount Olive; Whitfield Sharp, Flanders; S. W. Salmon, Secretary and Registrar, Mount Olive; L. Ely, M.D., Inspector, Flanders.

Mullica, Atlantic County; population, 794. Members and Officers—W. W. Phillips, President and Registrar, Elwood; A. J. McKeone, Pleasant Mills; Chas. Saalmann, Egg Harbor City; John Mick, Elwood; John T. Irving, Clerk, Elwood; J. C. Bitler, M.D., Inspector, Hammonton.

Neptune, Monmouth County; population, 9,357. Members and Officers—Wm. R. O'Brien, Secretary and Registrar, Asbury Park.

New Hanover, Burlington County; population, 960. Members and Officers—S. T. Horner, Registrar, Pointville.

New Providence, Union County; population, 456. Members and Officers—Henry S. Fullerton, President, Scotch Plains; Victor Mercier, Scotch Plains; Geo. Wahl, Berkley Heights; P. G. Johnson, Clerk, New Providence; A. M. Cory, M.D., Inspector, New Providence.

Newton, Sussex County; population, 4,422. Members and Officers—Geo. N. Harris, President, Newton; L. J. Martin, Newton; V. Vanhorn, Newton; W. H. Smith, M.D., Newton; Geo. B. Case, Secretary, Newton; I. L. Hallock, Inspector, Newton.

Northampton, Burlington County; population, 5,509. Members and Officers—J. F. Hunter, President, Mount Holly; T. L. Akins, Mount Holly; F. B. Drill, Mount Holly; Richard Dickerson, Mount Holly; T. W. Nippins, Mount Holly; M. H. Girven, Clerk, Mount Holly; R. H. Parsons, M.D., Inspector, Mount Holly.

North Bergen, Hudson County; population, 11,134. Members and Officers—Chas. Dietz, President, West Hoboken; Henry Andes, Weehawken; A. Markert, Woodcliff; James Nolan, New Durham; Fred. Sternkopf; West Hoboken; Chas. J. Morris, Clerk, Weehawken; Jos. Kennel, Assessor, West Hoboken; August Frenner, Inspector, West Hoboken.

North Brunswick, Middlesex County; population, 929. Members and Officers—A. A. Voorhees, President, New Brunswick; Wm. L. Vansickle, New Brunswick; William Vincent, New Brunswick; I. D. Cozzens, Clerk,

New Brunswick, R. F. D. No. 4; J. D. Teneyck, M.D., Inspector, Franklin Park.

North Hanover, Burlington County; population, 747. Members and Officers—Charles P. Chalender, President, Jacobstown; Ira Morris, Jacobstown; Richard Rahilly, Wrightstown; Pearson Taylor, Clerk and Registrar, Wrightstown.

North Plainfield, Somerset County; population, 693. Members and Officers—Wm. Titus, President, Watchung; Benj. Clark, Scotch Plains; Albert Brokaw, Bound Brook; A. P. Voorhies, Secretary and Registrar, Plainfield; Emil Clementz, Inspector, Watchung.

Ocean, Monmouth County; population, 1,574. Members and Officers—Richard West, Secretary and Registrar, North Long Branch.

Ocean, Ocean County; population, 409. Members and Officers—J. R. Stokes, President, Waretown; Irvie Camburn, Waretown; W. B. Wilkins, Waretown; O. D. Brown, Clerk, Waretown.

Oldmans, Salem County; population, 1,374. Members and Officers—R. Lee Sailor, President, Pedricktown; Frank J. Gaventa, Pedricktown; Jacob J. Hunt, Pedricktown; Harry T. Johnson, M.D., Pedricktown; Levi C. Justice, Clerk, Pedricktown.

Orvil, Bergen County; population, 752. Members and Officers—L. M. Terhune, Jr., President, Waldwick; H. G. Ackerman, Waldwick; Wm. A. Sharp, Waldwick; Chas. Pfitzner, Clerk, Waldwick; S. E. Robinson, M.D., Inspector, Waldwick.

Overpeck, Bergen County; population, 2,850. Members and Officers—S. A. Wilcox, Registrar, Ridgefield Park.

Oxford, Warren County; population, 2,964. Members and Officers—L. B. Hoagland, M.D., President, Oxford; John H. Hildebrandt, Belvidere; Hanlon Gardner, Oxford; Isaac Snyder, Belvidere; Michael Mountain, Clerk, Oxford.

Pahaquarry, Warren County; population, 257. Members and Officers—Elias F. Garriss, Millbrook; Josen G. Spangenburg, Millbrook; Oliver Courtright, Dunnfield; Hiram Zimmerman, Clerk, Millbrook.

Palisade, Bergen County; population, 1,042. Members and Officers—L. Ely Collins, President, New Bridge; I. H. Vanderbeck, Dumont; H. Uphle, Peetzburg; Chas. N. De Forest, Clerk, New Milford; William Ely, Registrar, New Bridge; J. E. Pratt, M.D., Inspector, Dumont.

Palmyra, Burlington County; population, 2,643. Members and Officers—F. Blackburn, Registrar, Palmyra.

Passaic, Morris County; population, 2,163. Members and Officers—J. A. Harvey, Secretary and Registrar, Stirling.

Pemberton, Burlington County; population, 1,706. Members and Officers—Charles Kinsley, President, Browns Mills; Victor Bush, Pemberton; Walter E. Woolston, Mount Holly; Barclay Seeds, Secretary and Registrar, Pemberton.

Pensauken, Camden County; population, 3,957. Members and Officers—Harry E. Horner, Registrar, Merchantville.

Pequanock, Morris County; population, 1,674. Members and Officers—Alfred Gilland, Secretary and Registrar, Pompton Plains.

Pilesgrove, Salem County; population, 1,726. Members and Officers—S. A. Ridgway, President, Woodstown; Edgar C. Moore, Woodstown; Clement McAllister, Sharptown; D. F. Davis, Clerk and Registrar, Woodstown.

Piscataway, Middlesex County; population, 2,767. Members and Officers—Nelson M. Giles, President, Bound Brook; Thos. H. Brantingham, Plainfield; Arthur R. Tappan, New Brunswick; M. J. Whitford, M.D., Clerk and Registrar, New Market.

Pittsgrove, Salem County; population, 2,514. Members and Officers—Frank Parvin, President, Vineland; John U. Miller, Palatine; J. R. Kandle, Centreton; Geo. Schallick, Secretary, Centreton.

Plumsted, Ocean County; population, 1,241. Members and Officers—Wardell Horker, President, New Egypt; Dayton Hopkins, Hornerstown; James Lorken, New Egypt; Benj. P. Beessom, Clerk, New Egypt; George F. Compton, Registrar, New Egypt; H. Allen, M.D., Inspector.

Pohatcong, Warren County; population, 3,408. Members and Officers—Johnson H. Hummer, President, Alpha; Peter M. Winter, Alpha; J. H. Sherrer, Finesville; Isaac Borts, M.D., Alpha; Harry E. Boyer, Clerk, Carpentersville.

Pompton, Passaic County; population, 2,981. Members and Officers—James E. Sloat, President, Midvale; Edward J. Brown, Midvale; W. C. White, Butler; David Beam, Clerk, Midvale; D. N. Shippee, M.D., Inspector, Wanaque.

Princeton, Mercer County; population, 1,144. Members and Officers—E. H. Bergen, M.D., President and Inspector, Princeton; M. T. Pyne, Princeton; B. L. Gulick, Kingston; R. M. Terhune, Princeton; Chas. P. Gulick, Clerk, Kingston.

Quinton, Salem County; population, 1,135. Members and Officers—Frank B. Husted, M.D., President, Quinton; Andrew Harris, Quinton; Wm. Hood, Qupton; Levi Hoener, Cohansey; Josiah T. Harris, Clerk, Quinton.

Randolph, Morris County; population, 2,327. Members and Officers—J. F. C. Bryant, President, Mount Freedom; John L. Connelly, Minehill; I. G. Bryant, Secretary and Registrar, Dover; D. H. Dairymple, Inspector, Dover.

Raritan, Hunterdon County; population, 3,361. Members and Officers—Lafayette Jorday, President, Flemington; Joseph Alvater, Flemington; John Kunsman, Flemington; W. S. Buchanan, Secretary, Flemington; John H. Ewing, M.D., Inspector, Flemington.

Raritan, Middlesex County; population, 2,612. Members and Officers—John J. Cogswell, President, New Brunswick; Edward Pfeiffer, Fords; Peter Lott, Metuchen; Wm. T. Woerner, Clerk, New Brunswick, R. F. D. No. 1.

Raritan, Monmouth County; population, 1,473. Members and Officers—W. C. Smith, Registrar, Keyport.

Readington, Hunterdon County; population, 2,423. Members and Officers—G. G. Conover, President, White House Station; Geo. R. Probasco, Three Bridges; P. D. Reed, White House; F. L. Johnson, M.D., Stanton; J. C. Voorhees, Clerk, White House Station.

Ridgefield, Bergen County; population, 745. Members and Officers—Thos. F. Mallon, Registrar, Coytesville.

Riverside, Burlington County; population, 3,301. Members and Officers—Henry Taubel, President, Riverside; William Mathias, Riverside; Alias Hemmelic, Riverside; Chas. Heiss, Clerk, Riverside; C. B. Lambert, M.D., Inspector.

Rivervale, Bergen County; population, —. Members and Officers—C. H. DeVoe, Rivervale.

Rockaway, Morris County; population, 5,153. Members and Officers—Thos. Grant, Registrar, Hibernia.

Roxbury, Morris County; population, 2,323. Members and Officers—Theo. F. King, President, Ledgewood; Daniel B. Jardine, Kenvil; John M. Todd, Landing; N. H. Adsit, M.D., Succasunna; Thos. K. Wilkison, Clerk, Ledgewood.

Saddle River, Bergen County; population, 2,048. Members and Officers—John Ochs, President, Rochelle Park; P. D. Henderson, Paterson; Tunis W. Vreeland, Arcola; Isaac A. Hopper, Secretary, Fair Lawn.

Sandyston, Sussex County; population, 872. Members and Officers—Warren Vansickle, President and Registrar, Bevans; E. Snook, Layton; John Jagger, Hainesville; Dennis Aber, Hainesville; M. D. Hughes, M.D., Clerk, Layton.

Sayreville, Middlesex County; population, 4,779. Members and Officers—B. F. Samsel, Secretary and Registrar, Sayreville.

Shamong, Burlington County; population, 508. Members and Officers—Mahlon Prickett, Registrar, Indian Mills.

Shrewsbury, Monmouth County; population, 5,502. Members and Officers—Albert L. Ivins, President and Registrar, Red Bank; Wm. T. Parker, Little Silver; William H. Houston, Fair Haven; F. R. Smith, Red Bank; Wm. A. Van Schoick, Red Bank; Victor A. Liger, Oceanic; A. C. Harrison, Clerk, Red Bank; Wm. Curchin, Inspector, Fair Haven.

Southampton, Burlington County; population, 1,860. Members and Officers—Lewis S. Brown, Registrar, Vincentown.

South Brunswick, Middlesex County; population, 2,489. Members and Officers—W. H. Gulick, President, Kingston; J. H. Stults, Cranbury; J. H. Rowland, Monmouth Junction; Wm. Perkins, Secretary, Princeton, R. F. D.

South Harrison, Gloucester County; population, 680. Members and Officers—Richard D. Ridgway, President, Mullica Hill; Mathew Allen, Harrisonville; George F. Wilkinson, Bassett; D. C. Lippincott, Clerk, Harrisonville; S. F. Starger, M.D., Inspector, Harrisonville.

South Orange, Essex County; population, 1,946. Members and Officers—Wm. H. Kemp, President, Maplewood; H. S. Smith, Maplewood; Charles A. Cross, Maplewood; W. W. Heberton, M.D., South Orange; E. R. Arcularius, Clerk, Hilton; T. C. Baker, Registrar, Maplewood.

Sparta, Sussex County; population, 1,613. Members and Officers—Robt. H. Earl, President, Sparta; L. Burd, M.D., Ogdensburg; J. W. Maseker, Clerk, Sparta; Wm. Vanblarcom, Inspector, Sparta.

Springfield, Burlington County; population, 1,323. Members and Officers—Philip N. Haines, President, Burlington; G. J. Harker, Jobstown; John A. Hancock, Columbus; John B. Tilton, Secretary, Wrightstown; Dr. Dubell, Columbus.

Springfield, Union County; population, 1,123. Members and Officers—Robert Marrison, President, Springfield; Richard Trivet, Springfield; George Parcel, Springfield; Lewis T. Terry, Secretary, Springfield; Wm. Baines, M.D., Inspector, Springfield.

Stafford, Ocean County; population, 994. Members and Officers—Joshua Hilliard, M.D., President, Manahawkin; Benj. Oliphant, Manahawkin; E. E. Predmore, Manahawkin; Jas. H. Aker, Mayetta; John B. Courtney, Clerk, Manahawkin.

Stillwater, Sussex County; population, 815. Members and Officers—Alvin Ray, President, Stillwater; Chas. A. Lewis, Stillwater; John R.

Kice, Stillwater; E. W. Landes, Stillwater; O. Van Horn, Clerk, Stillwater.

Stow Creek, Cumberland County; population, 855. Members and Officers—Asa Bitters, President, Roadstown; Chas. D. Fogg, Bridgeton; Lewis Willis, Bridgeton; R. A. Fogg, Clerk, Shiloh.

Tabernacle, Burlington County; population, 462. Members and Officers—J. C. Haines, Vincentown; A. C. Taylor, Vincentown; Wesley Taylor, Vincentown; Geo. H. Wisham, Assessor, Vincentown.

Teaneck, Bergen County; population, 1,222. Members and Officers—Peter I. Ackerman, Secretary and Registrar, Hackensack.

Tewksbury, Hunterdon County; population, 1,815. Members and Officers—L. M. Hoffman, Califon; L. L. Apgar, Mountainville; J. J. Neff, New Germantown; Hezekiah Philhower, Clerk, Califon; Theodore Miller, M.D., Inspector, Califon.

Union, Bergen County; population, 2,188. Members and Officers—Thos. E. Buckley, Registrar, Lyndhurst.

Union, Hunterdon County; population, 923. Members and Officers—Geo. B. Smith, President, Clinton; J. J. Tharp, Pattenburg; Godfrey R. Emery, Jutland; Morris Stockton, Clerk, Pattenburg; Edgar Allen, M.D., Inspector, Pattenburg.

Union, Ocean County; population, 913. Members and Officers—Wm. H. Cranmer, President, Barnegat; Edward W. Exel, Barnegat; Charles H. Reeve, Barnegat; E. R. Wills, Clerk, Barnegat; Howard Conover, M.D., Inspector, Barnegat.

Union, Union County; population, 2,614. Members and Officers—D. Hobart Sayre, Secretary and Registrar, Union.

Upper Cape May County; population, 1,350. Members and Officers—Harry Young, President, Beesley's Point; W. Van Gilder, Petersburg; James G. Stille, Tuckahoe; J. T. Young, Clerk, Beesley's Point; R. F. Smith, Registrar, Marmora; Randolph Marshall, M.D., Inspector, Tuckahoe.

Upper Freehold, Monmouth County; population, 2,002. Members and Officers—I. S. Dawes, President, Imlaystown; Elmer E. Polhemus, Cream Ridge; Joseph Johnston, Allentown; Wm. Quicksell, Hornerstown; F. C. Price, M.D., Clerk, Imlaystown.

Upper Penns Neck, Salem County; population, 793. Members and Officers—Joseph E. Clerk, President, Pennsgrove; Wilbert Sailor, Pennsgrove; Joseph Lloyd, Pennsgrove; Geo. W. Hewitt, Secretary, Pennsgrove; John M. Summerill, M.D., Inspector, Pennsgrove.

Upper Pittsgrove, Salem County; population, 1,722. Members and Officers—Wm. Mayhew, President, Elmer; Henry Coombs, Elmer; John Hitchner, Daretown; R. A. Robinson, Secretary, Monroeville; Geo. W. Fitch, Inspector, Daretown.

Vernon, Sussex County; population, 1,649. Members and Officers—A. P. Shaw, Secretary and Registrar, Vernon.

Verona, Essex County; population, 2,576. Members and Officers—Chas. H. Ougheltree, President, Verona; Carl Man, Verona; Lewis G. Bowden, Cedar Grove; H. B. Whitehorne, M.D., Secretary, Verona; C. S. Simonson, Registrar, Verona.

Voorhees, Camden County; population, 1,009. Members and Officers—E. C. Gardner, President, Kirkwood; John H. McCulley, Kirkwood; Chas. H. Hammel, Marlton; Wm. A. Wescott, M.D., Berlin; S. H. Gardiner, Clerk, Ashland.

Wall, Monmouth County; population, 3,518. Members and Officers—Geo. C. C. Wilson, President, Belmar; Edgar C. White, Belmar; S. B. Pearce, Brielle; W. W. Trout, M.D., Spring Lake; Geo. E. Rogers, Clerk and Inspector, Belmar.

Walpack, Sussex County; population, 325. Members and Officers—Nicholas Tillman, President, Walpack Centre; Samuel Cole, Walpack Centre; Benjamin E. Hull, Flatbrookville; J. W. Bunnell, Clerk, Bevans.

Wantage, Sussex County; population, 2,080. Members and Officers—Irving Brink, President, Sussex; Jason House, Sussex; Frank Coe, Sussex; S. M. Parcell, Clerk, Sussex; H. D. Vangaasbeck, M.D., Inspector, Sussex.

Warren, Somerset County; population, 974. Members and Officers—H. P. Williams, President, Warrentown; John Gunten, Warrentown; Frank Allette, Warrentown; E. E. Sage, Clerk and Inspector, Gillette.

Washington, Bergen County; population, 382. Members and Officers—M. J. Ford, President, Westwood; August Ramish, Westwood; George Beck, Westwood; Lucas C. Blauvelt, Clerk and Inspector, Westwood.

Washington, Burlington County; population, 568. Members and Officers—Albert Sooy, President, Green Bank; Thos. K. Sooy, Green Bank; J. M. Birdsall, Green Bank; J. R. Koster, Clerk, Green Bank; John E. Cary, Inspector, Lower Bank.

Washington, Gloucester County; population, 1,336. Members and Officers—Harry Evans, President, Sewell; S. C. Locke, Sewell; G. R. Hurff, Turnersville; Jos. E. Hurff, M.D., Blackwood; C. D. Nicholson, Clerk, Turnersville.

Washington, Mercer County; population, 1,173. Members and Officers—E. K. Cole, President and Clerk, Windsor; D. H. Taylor, Allentown; Chas. Tindale, Windsor; Chas. Conever, Windsor.

Washington, Morris County; population, 2,021. Members and Officers—John A. Parker, President, Schooley's Mountain; Fred. Apgar, Parker; Edward Sutton, M.D., German Valley; Geo. H. Sliker, Clerk, Pleasant Grove; M. Van Nest, Inspector, German Valley.

Washington, Warren County; population, 1,689. Members and Officers—Robert Bours, President, Washington; Oren Perry, Washington; Wm. H. Apgar, Port Colden; Chas. B. Smith, M.D., Washington; Samuel Rinehart, Secretary, Washington.

Waterford, Camden County; population, 2,713. Members and Officers—C. D. Heath, President and Registrar, Berlin; H. F. Ottiger, Berlin; C. O. Perry, Waterford; F. O. Stem, M.D., Inspector, Berlin.

Wayne, Passaic County; population, 2,017. Members and Officers—Thos. D. Ryerson, Secretary and Registrar, Wayne.

Weehawken, Hudson County; population, 8,027. Members and Officers—A. E. Fendrich, M.D., President, Weehawken; Thos. Aldcorn, Weehawken; George McDonald, Weehawken; Patrick McGann, Weehawken; J. M. Kannan, Weehawken; T. C. Minshull, Weehawken; F. J. Bergmann, Jr., Secretary, Weehawken; John B. Faistl, Inspector, Weehawken.

Westampton, Burlington County; population, 542. Members and Officers—Firman Dubell, President, Mount Holly; Clarence Loveland, Mount Holly; William Austin, Mount Holly; Hudson B. Haines, Clerk, Mount Holly; Elmer D. Prickett, M.D., Inspector, Mount Holly.

West Amwell, Hunterdon County; population, 858. Members and Officers—Chas. A. Slack, President, Lambertville; Wm. J. Cane, Lambert-

ville; Chas. E. Holcombe, Mount Airy; Geo. H. Carr, Clerk, Lambertville; F. W. Larison, M.D., Inspector, Lambertville.

West Deptford, Gloucester County; population, 2,227. Members and Officers—R. M. Plum, President, Thorofare; E. E. Clement, Thorofare; Wm. R. Gibbs, Thorofare; James Hunter, M.D., Westville; James Carter, Clerk, Thorofare.

West Milford, Passaic County; population, 2,002. Members and Officers—Chilleon Laroe, President, Newfoundland; Samuel E. Cotter, Echo Lake; Wm. Eckhart, Newfoundland; D. E. Drake, M.D., Newfoundland; Celestine Sehulster, Clerk, Echo Lake.

West Windsor, Mercer County; population, 1,320. Members and Officers—C. W. Hutchinson, Registrar, Dutch Neck.

Weymouth, Atlantic County; population, 900. Members and Officers—A. Campbell, President, Tuckahoe; Richard P. Sheppard, Tuckahoe; Thos. Baily, F. R. McKeague, Clerk, Tuckahoe; R. Marshall, M.D., Inspector, Tuckahoe.

Willingboro, Burlington County; population, 658. Members and Officers—Jerome Wills, Secretary and Registrar, Burlington.

Winslow, Camden County; population, 2,856. Members and Officers—Joseph G. Strock, President, Cedar Brook; William Brimfield, Cedar Brook; Joseph R. Imhoff, Winslow; Michael G. Burdsall, Clerk, Tansboro.

Woodbridge, Middlesex County; population, 10,221. Members and Officers—Chas. S. Farrell, Secretary; John S. Leisen, Registrar.

Woodland, Burlington County; population, 413. Members and Officers—Victor Ritzendollar, President, Chatsworth; Charles Grant, Chatsworth; Elmer Dunfee, Chatsworth; W. J. Buzby, Clerk, Chatsworth; Andrew Bozarth, Registrar, Chatsworth.

Woolwich, Gloucester County; population, 1,138. Members and Officers—Benj. Shoemaker, President, Swedesboro; H. C. Howey, Swedesboro; N. Lippincott, Swedesboro; H. Crispin, Swedesboro; W. G. Simmons, M.D., Secretary and Inspector, Swedesboro.

List of Licensed Health Officers and Sanitary Inspectors.

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Following is a list of the persons who have successfully passed the examinations provided for in the act approved April 8th, 1903.

Health Officers.

*Budd H. Obert.....	Asbury Park, N. J.
*Hiram Williams, M.D.....	Passaic, N. J.
*Alex. Marcy, Jr., M.D.....	Riverton, N. J.
*Wm. S. Green, M.D.....	Paterson, N. J.
Walter Taylor, M.D.....	Jersey City, N. J.
Maria M. Vinton, M.D.....	East Orange, N. J.
Edward Guion, M.D.....	Atlantic City, N. J.
*Fred. W. Sell, M.D.....	Rahway, N. J.
Howard L. Baumgartner.....	Asbury Park, N. J.
Lewis L. Sharp, M.D.....	Palmyra, N. J.
*Ferdinand N. Sauer, M.D.....	Jersey City, N. J.
George T. Tracy, M.D.....	Beverly, N. J.
*Chester H. Wells.....	Montclair, N. J.
*Duncan W. Blake, Jr., M.D.....	Gloucester City, N. J.
Samuel D. Mayhew, M.D.....	Bridgeton, N. J.
John O'Brien, Jr.....	Montclair, N. J.
James A. Exton, M.D.....	Arlington, N. J.
Frank H. Streightoff.....	Montclair, N. J.
*G. W. Fithian, M.D.....	Perth Amboy, N. J.
*Henry MacDonald.....	Newark, N. J.
*Leon R. Thurlow.....	Plainfield, N. J.
*Edward B. Rogers, M.D.....	Collingswood, N. J.
*J. I. Hoverder, M.D.....	Atco, N. J.
W. U. Kurtz, M.D.....	Asbury Park, N. J.
John K. Adams, M.D.....	Orange, N. J.
William W. Brooke, M.D.....	Bayonne, N. J.
*Thomas J. Duffield.....	Asbury Park, N. J.
Henry D. Abbott, M.D.....	Bayonne, N. J.
Eugene H. Sullivan.....	Orange, N. J.
*J. Alex. Browne, M.D.....	Paterson, N. J.
Perkins Boynton.....	Little Falls, N. J.
*Ellsmore Stites, M.D.....	Bridgeton, N. J.

*In the service of the local board of health.

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Plumbing Inspectors.

*Henry B. Francis.....	Camden, N. J.
Joseph Sonnenberg.....	Irvington, N. J.
Conrad Dauchler.....	Newark, N. J.
Charles M. Whelan.....	Trenton, N. J.
*William F. Brode.....	Atlantic City, N. J.
Thomas D. Clark.....	Woodbury, N. J.
Edward J. Kelly.....	Jersey City, N. J.
Thomas F. Harris.....	Orange, N. J.

Sanitary Inspectors of First Class.

*Fred. W. Hering.....	Jersey City, N. J.
George W. Gilmore.....	Newark, N. J.
*Fred. C. Robertson, M.D.....	Jersey City, N. J.
*John T. McClure.....	Harrison, N. J.
*John G. Taylor.....	Dover, N. J.
Charles E. Bellows.....	Bridgeton, N. J.
*Albert E. Geissler.....	Kearny, N. J.
Thomas Ainge.....	Lansing, Mich.
Charles S. Voorhis.....	Palmyra, N. J.
Lewis E. Boutillier.....	Newark, N. J.
*Joseph C. Saile.....	Bloomfield, N. J.
Casper Benz.....	Newark, N. J.
*Robert W. Meeker.....	Plainfield, N. J.
John K. Bennett, M.D.....	Gloucester City, N. J.
William H. Addis.....	Plainfield, N. J.
William W. Heherton, M.D.....	South Orange, N. J.
Eric Ordell.....	Newark, N. J.
John Greaves.....	Jersey City, N. J.
*John E. Rowe, D.V.S.....	Summit, N. J.
George N. Smith.....	Newark, N. J.
*Frank Dencklan.....	Plainfield, N. J.
J. H. C. Hunter.....	Dover, N. J.
Chauncey V. Bunnell.....	Jersey City, N. J.
Charles F. Conrad.....	Newark, N. J.
Percy W. Sipp.....	Newark, N. J.
*H. S. Winterhalter.....	Bayonne, N. J.
Jay E. Kilpatrick.....	Montclair, N. J.
W. J. E. Seder.....	Newark, N. J.
*Alonzo Brower.....	Freehold, N. J.
Frederick E. Wilson.....	Bayonne, N. J.
David R. Thompson.....	Delaware City, Del.
Jay G. Foose.....	Montclair, N. J.
William H. Lowe, D.V.S.....	Paterson, N. J.
Charles W. Harreys, M.D.....	Ridgewood, N. J.
Joseph C. Bitler, M.D.....	Hammonton, N. J.

*In the service of the local board of health.

Sanitary Inspector of Second Class.

*Charles Cunningham, M.D.....	Hammonton, N. J.
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Sanitary Inspector of Third Class.

David Jamieson.....	Gloucester City, N. J.
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Meat Inspectors.

*G. F. Harker, D.V.S.....	Trenton, N. J.
*Richard W. Hewitt, D.V.S.....	Camden, N. J.
Willet H. Cooper, D.V.S.....	Trenton, N. J.

*In the service of the local board of health.

Inspection of Public Water-Supplies in New Jersey.

BY A. CLARK HUNT, M.D., STATE MEDICAL INSPECTOR.

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

GENTLEMEN—Following is a detailed statement showing the nature of the pollutions observed during the past year in the regular inspections of the streams from which waters are taken for public supplies, and also showing the improvements which have been secured.

JUMPING BROOK.

Jumping brook is located about two and one-half miles west of Asbury Park, and empties into Shark river. Water for domestic uses is supplied from this brook to the following localities: Avon, Bradley Beach, Bradley Park, West Grove, West Asbury Park, Loch Arbour and in part to Asbury Park.

No. 229. Reinspection of premises located near the pumping station showed that a heap of garbage, which was formerly located within forty feet of the pond from which the supply was taken, had been removed, and also that the privy, which was near the stream, had been placed in such a position as to avoid any further danger of contamination.

No. 230. Reinspection of premises located about one mile above the intake showed that the practice of throwing wash water upon the ground near one of the tributaries of the main brook had been discontinued.

No. 231. Reinspection of premises located on the road leading from Springfield avenue to Hamilton showed that the privy, which was formerly located near the stream and from which foul liquids were discharged down the steep bank into the stream, had been removed and that the contamination no longer existed.

PEQUANNOCK RIVER.

From this stream the water-supply for the city of Newark is obtained. No reinspection of the watershed has been made during the past year as it is almost free from direct contaminations. An arrangement has been made with the board of health of the city of Newark by which the inspector of the watershed reports to the State Board of Health any cases of contamination which are discovered, and immediate action is taken to discontinue any such contamination. In the three cases, which were started last year by the State Board of Health against property owners

on the Pequannock watershed for an injunction to restrain them from continued contamination of the stream, the decision of the court was against the owners, and as a result the contaminations have ceased.

RANCOCAS CREEK.

From this stream is taken the public water-supply of Mount Holly. The attention of the State Board of Health was directed to the contamination of this stream at a point near Browns-Mills-in-the-Pines. The record of this case is as follows:

No. 232. An inspection of the premises located at Browns-Mills-in-the-Pines showed that waste liquids from the hotel and several cottages was conducted by a terra-cotta pipe directly into the waters of Rancocas creek. A notice was served upon the owners requiring the immediate discontinuance of the contamination. The owners of the property agreed to introduce some form of filtration as soon as the winter season was past.

RARITAN RIVER.

An inspection was made of one of the tributaries of the north branch of the Raritan river. From this river the public water-supply of the towns of Raritan and Somerville is obtained. The record of the inspection is as follows:

No. 309. An inspection of premises located in the rear of West street, Bernardsville, showed that an open privy vault was placed near the brook which is one of the tributaries of the Raritan river, and that foul liquids from the vault were discharged directly into the stream. Notice was served upon the owner to discontinue the contamination, and a reinspection of the premises showed that the privy had been moved to a point well away from the stream.

No. 310. An inspection of premises located in Bernardsville showed that sewage from a cesspool leaked through a wall into Mine brook, which is one of the tributaries of the Raritan river. Notice was served upon the owner requiring the immediate discontinuance of the contamination. A reinspection of the premises showed that the owner had dug away the wall and cemented it, and there was no evidence of direct contamination.

No. 311. An inspection of premises located at Bernardsville indicated that the overflow from two cesspools was discharged into a raceway on Mill street, and that the waters of Mine brook were contaminated thereby. A notice was served upon the owner to discontinue the contamination of the waters of the stream at this point.

No. 312. An inspection of premises located on Mill street, Bernardsville, indicated that waste liquids from a kitchen sink and bath were discharged into the raceway which connects with Mine brook. The raceway at this point is covered over, and it is difficult to trace the sewage to its source. A notice was served upon the owners to discontinue the further discharge of sewage into the raceway.

No. 313. An inspection of premises located in Bernardsville showed that a privy vault was placed on the banks of the stream, and that the house drain was connected directly with the vault. Notice was served upon the owner to discontinue the contamination of the stream at this point, and a reinspection showed that the notice had been complied with.

No. 314. An inspection of premises located near Pluckamin, Somerset county,

showed that dye stuffs and washings from wool were discharged into a stream which is one of the tributaries of the Raritan river, and that the waters of said stream were contaminated thereby. A notice was served upon the owners to discontinue the contamination of the stream at this point, and a reinspection showed that preparations were being made for the introduction of a filter system which would avoid further contamination.

TINTURN MANOR WATER COMPANY.

This company obtains a supply of water for domestic purposes from Cranbury or Whale Pond brook. The principal streams of this watershed are Yellow brook, Hop brook and Willow brook. The company supplies water to the following localities: Deal, Long Branch, Monmouth Beach, Seabright, part of Ocean township, part of Eatontown township, including Eatontown, part of Shrewsbury township, including Shrewsbury, Fair Haven and Oceanic. The records of the inspections of this stream are as follows:

No. 233. An inspection of premises located on the Colts Neck road, near Scobeyville, showed that a hog pen and barnyard were located within thirty feet of a branch of Yellow brook, and that during storms washings from the pen and yard would be carried directly into the stream. A notice was served upon the owner to discontinue the contamination of the stream, and a reinspection showed that the notice had been complied with.

No. 234. An inspection of premises located near Scobeyville showed that large quantities of apple pulp had been dumped upon the banks of a branch of Yellow brook, but the inspection failed to show that the waters of the stream were contaminated.

No. 235. An inspection of premises located near Scobeyville showed that a hog pen was placed within twenty feet of a branch of Yellow brook, and that human excrement was deposited near the brook. A notice was served upon the owner requiring the discontinuance of the contamination of the waters of the stream at this point, and a reinspection of the premises showed that the hog pen had been cleaned and that the notice had been complied with.

No. 236. An inspection of premises located along the public road near Scobeyville showed that human excrement was placed on the surface of the ground beneath a privy building located within eight feet of the waters of the stream, and that an open drain from the stable led directly into a branch of Yellow brook. Notice was served upon the owner to discontinue the contamination of the stream at this point, and a reinspection of the premises showed that the privy had been removed and that the notice had been complied with.

No. 237. An inspection of premises located at Scobeyville showed that a privy was located near a branch of Yellow brook, and that the waters of the stream were liable to contamination thereby. A notice was served upon the owner to discontinue the contamination of the stream at this point, and a reinspection showed that the privy had been moved.

No. 238. An inspection of premises located on the Freehold road, between Colts Neck and Scobeyville, showed that human excrement was placed upon the ground beneath a privy building located fifteen feet from Yellow brook, and also that a chicken yard was so constructed that the brook flowed along one side of the yard. A notice was served upon the owner to discontinue the contamination of the stream

at this point, and a reinspection showed that the privy had been moved and that the chicken yard had been cleaned.

No. 239. An inspection of premises located on the Vanderburg road showed that human excrement was placed upon the ground beneath a privy building located fifteen feet from a branch of Yellow brook. A notice was served upon the owner to discontinue the contamination of the stream at this point, and a reinspection of the premises showed that the privy had been moved.

No. 240. An inspection of premises located on the Vanderburg road showed that human excrement was placed upon the ground beneath a privy building which was located within thirty feet of Yellow brook. A notice was served upon the owner to discontinue the contamination of the stream at this point, and a reinspection of the premises showed that the house was untenanted and that the excrement had been removed.

No. 241. An inspection of premises located on the Red Bank road, between Colts Neck and Scobeyville, showed that human excrement flowed over the surface of the ground from beneath a privy building which was located within ten feet of a branch of Yellow brook. A notice was served upon the owner to discontinue the contamination of the stream at this point, and a reinspection of the premises showed that the old privy vault had been thoroughly cleaned.

No. 242. An inspection of premises located on the Red Bank road, between Colts Neck and Scobeyville, showed that human excrement was placed upon the surface of the ground beneath a privy building within twenty-one feet of a branch of Yellow brook, and also that waste liquids from the dwellings were placed upon the surface of the ground so that the waters of the stream were contaminated. A notice was served upon the owner to discontinue the contamination of the stream at this point, and a reinspection of the premises showed that the privy vault had been removed to a point distant from the stream.

No. 243. An inspection of premises located at Colts Neck showed that a hog pen was constructed over a portion of Yellow brook. A notice was served upon the owner to discontinue the contamination of the stream at this point, and a reinspection showed that the hog pen had been cleaned, and that an arrangement was made by which the animals were not permitted to go within thirty feet of the stream.

No. 244. An inspection of the premises located near Colts Neck showed that a sink drain discharged into an open gutter and thence directly into Yellow brook, and also that barnyard manure was placed upon the surface of the ground so that the waters of the stream were contaminated thereby. A notice was served upon the owner to discontinue the contamination of the stream at this point, and a reinspection of the premises showed that the manure had been removed and the notice complied with.

No. 245. An inspection of premises located at Colts Neck showed that a hog pen was placed within forty-eight feet of Yellow brook, and also that a drain from a hotel discharged upon the surface of the ground 100 feet distant from the brook. Notice was served upon the owner to discontinue the contamination of the stream, and a reinspection showed that the hog pen had been removed.

No. 246. An inspection of premises located near Colts Neck showed that stable manure was placed within five feet of a branch of Yellow brook, and also that a privy building was located within 105 feet of the stream. A notice was served upon the owner to discontinue the contamination of the stream at this point, and a reinspection

showed that the manure had been removed and that the notice had been complied with.

No. 247. An inspection of premises located on the Edingburg road showed that human excrement was placed upon the surface of the ground beneath a privy building twenty-five feet from a branch of Yellow brook. A notice was served upon the owner to discontinue the contamination of the stream at this point, and a reinspection of the premises showed that the privy had been removed to a point distant from the stream.

No. 248. An inspection of premises located near Marlboro showed that a hog pen was placed within five feet of Hop brook, but there was no evidence of direct contamination of the waters of the stream and therefore no action was taken.

No. 249. An inspection of premises located near Hillsdale showed that a hog-yard and barnyard were located along the banks of a branch of Willow brook, but the evidence of direct contamination was not sufficient to warrant action.

No. 250. An inspection of premises located near Holmdel showed that drainage from a barnyard was carried through three six-inch tile drains into a ditch, which in turn discharges into a branch of Willow brook. No action was taken in this case as the owner promised to remedy existing conditions.

No. 251. An inspection of premises located near Holmdel showed that human excrement was placed upon the surface of the ground beneath a privy building within forty-five feet of Willow brook, and also that a small pile of garbage and rubbish was placed within three feet of the stream. A notice was served upon the owner to discontinue the contamination of the stream at this point, and the notice was complied with.

No. 252. An inspection of the premises located near Holmdel showed that waste liquids from a sink at a dwelling were conveyed through a wooden drain directly into a raceway which is connected with Willow brook, and that human excrement was flowing over the surface of the ground from beneath a privy building twelve feet from the stream. In this case the evidence of direct contamination was not satisfactory, and therefore no action was taken.

No. 253. Inspection of premises located near Holmdel showed that a hog pen was placed within twelve feet of a branch of Willow brook, but there was no evidence of direct contamination of the stream.

No. 254. Inspection of premises located near Holmdel showed that human excrement was placed upon the surface of the ground beneath a privy building located twelve feet from Willow brook, and that a hog pen was situated within nine feet of the stream. Notice was served upon the owner to discontinue the contamination of the stream at this point, and a reinspection of the premises showed that the notice had been complied with.

No. 255. An inspection of premises located near Holmdel showed that human excrement was placed upon the surface of the ground beneath a privy building twelve feet from Willow brook, and that a hog pen was also located within eight feet of the stream. A notice was served upon the owner to discontinue the contamination of the stream at this point, and as the notice was not complied with the matter will be referred to the Attorney-General for such action as the law provides.

No. 256. Inspection of premises located near Holmdel showed that stable manure was placed on the surface of the ground fifteen feet from a branch of Willow brook, and also that a drain pipe from the kitchen sink in a dwelling discharges into the stream. A notice was served upon the owner to discontinue the

contamination of the stream at this point, and a reinspection of the premises showed that the notice had been partially complied with.

No. 257. An inspection of premises located near Holmdel showed that a privy building was placed within six feet of a branch of Willow brook, and that waste liquids from the kitchen were placed upon the surface of the ground within fifteen feet of the stream. A notice was served upon the owner to discontinue the contamination of the stream at this point, and a reinspection of the premises showed that the contents of the privy had been removed, and also that a tight receptacle would be placed in the building.

No. 258. An inspection of premises located at Holmdel showed that stable manure was placed near a branch of Willow brook, and also that a hog pen was located within a few feet of the stream. A notice was served upon the owner to discontinue the contamination of the stream, and a reinspection showed that the manure had been removed but that the privy on the premises was so located that the waters of the stream were liable to contamination at any time. If improvement is not secured this case will be referred to the Attorney-General for such action as the law provides.

No. 259. An inspection of premises located near Holmdel showed that garbage and rubbish were placed upon the ground within twelve feet of a branch of Willow brook, and also that human excrement was placed upon the surface of the ground beneath a privy building seventy feet from the stream. A reinspection of the premises showed that the contamination was not direct, and therefore no action was taken.

No. 260. An inspection of premises located near Holmdel showed that human excrement was placed upon the surface of the ground beneath a privy building within fifty feet of a branch of Willow brook, and that the waters of said stream were liable to contamination thereby. A notice was served upon the owner to discontinue the contamination, and a reinspection of the premises showed that the privy contents had been removed and that a tight receptacle would be constructed.

No. 261. An inspection of premises located near Holmdel showed that excrement was placed upon the ground beneath a privy building located on a side hill sloping down to a branch of Willow brook. A notice was served upon the owner to discontinue the contamination of the stream at this point, and a reinspection showed that no action had been taken but that it was the intention of the owner to construct a tight receptacle.

No. 262. An inspection of premises located near Holmdel showed that waste liquids and garbage were placed on a sloping bank a short distance from a branch of Willow brook, and also that excrement was flowing from a privy building down a sharp incline toward the stream sixty feet distant. A notice was served upon the owner to discontinue the contamination of the stream, and upon reinspection of the premises it was found that the garbage had been removed and we were informed that the owner would construct a tight receptacle for the reception of excrement.

No. 263. An inspection of premises located in Holmdel township showed that excrement was placed upon the surface of the ground beneath a privy building twenty-five feet from Willow brook, and also that a large accumulation of stable manure was located within thirty feet of the stream. The overflow from a cesspool was also discharged directly into the stream. A notice was served upon the owner to discontinue the contamination of the stream at this point, and a reinspection of the premises showed that the notice had been complied with.

No. 264. An inspection of premises located near Holmdel showed that human excrement was flowing directly into a branch of Willow brook from beneath a privy building located within eight feet of the stream, and also that a hog pen located twelve feet from the stream was in a filthy condition. The house drain on the premises was connected directly with the stream. A notice was served upon the owner to discontinue the contamination of the stream, and a reinspection of the premises showed that the notice had been fully complied with.

No. 265. An inspection of premises located in Atlantic township showed that excrement was placed upon the surface of the ground beneath a privy building located nine feet from Hop brook. A notice was served upon the owner to discontinue the contamination, and a reinspection of the premises showed that the contents of the privy had been removed.

No. 266. An inspection of premises located near Vanderburg showed that excrement was placed on the surface of the ground beneath a privy building within five feet of a branch of Hop brook, and that stable manure was placed upon the surface of the ground within sixty-six feet of the stream. A notice was served upon the owner to discontinue the contamination of the stream at this point, and a reinspection showed that the contents of the privy had been removed and that the notice had been complied with.

No. 267. An inspection of premises located in Atlantic township showed that waste liquids were placed upon the surface of the ground within thirty-five feet of Willow brook, and also that human excrement was placed upon the surface of the ground beneath a privy building thirty-two feet distant from the stream. A notice was served upon the owner to discontinue the contamination of the stream, and a reinspection of the premises showed that no action had been taken but we were informed that a tight vault would be constructed and the other sources of contamination removed.

No. 268. An inspection of premises located near Holmdel showed that a privy building was located within forty-five feet of a branch of Willow brook and also that a hog pen was located forty-five feet from the stream. Upon reinspection the decision was reached that the contamination was not direct and that the premises should be reinspected from time to time.

No. 269. An inspection of premises located near Holmdel showed that excrement was placed upon the surface of the ground beneath a privy building within seventy feet of a branch of Willow brook, and also that a large quantity of manure was located within seventy feet of the stream. A notice was served upon the owner to discontinue the contamination of the stream, and a reinspection of the premises showed that the contents of the privy had been removed and the owner promised to remove the manure at an early day.

No. 270. An inspection of premises located near Holmdel showed that a hog pen was located within thirty-five feet of a branch of Willow brook, and that a large accumulation of rubbish had been placed on the banks of the stream. A notice was served upon the owner to discontinue the contamination of the stream, and upon reinspection of the premises it was found that no action had been taken, but there was no evidence at that time of direct contamination of the waters of the stream.

No. 271. An inspection of premises located near Holmdel showed that rubbish was placed on the banks of a branch of Willow brook, and that large quantities of stable manure were placed upon the surface of the ground within twenty-seven feet

of the stream. No action was taken in this case, but reinspections will be made from time to time.

No. 272. An inspection of premises located near Holmdel showed that a six-inch house drain discharged directly into a branch of Willow brook. A notice was served upon the owner to discontinue the contamination of the stream, and upon reinspection the owner stated that the use of the drain would be discontinued.

No. 273. An inspection of premises located near Holmdel showed waste liquids from the sink and wash trays in the dwelling were connected by a tile drain with a branch of Willow brook. A notice was served upon the owner to discontinue the contamination of the stream, and as a reinspection showed that the notice had not been complied with, the case will be referred to the Attorney-General for such action as the law provides.

No. 274. An inspection of premises located near Holmdel showed that rubbish was placed on the banks of Willow brook, and also that a chicken yard was located along the border of the stream. A notice to discontinue the contamination was served upon the owner, and a reinspection of the premises showed that the notice had been complied with.

No. 275. An inspection of premises located near Holmdel showed that excrement was placed upon the surface of the ground beneath a privy building within ten feet of a branch of Willow brook, and also that rubbish was placed on the edge of the stream. A notice was served upon the owner to discontinue the contamination of the stream at this point, and a reinspection showed that the notice had not been complied with. This case will be referred to the Attorney-General for such action as the law provides.

No. 276. An inspection of premises located near Holmdel showed that a tile drain conducted house sewage directly into a branch of Willow brook. A notice was served upon the owner to discontinue the contamination, and information has been received that the owner will comply with the notice.

No. 277. An inspection of premises located near Holmdel showed that excrement was flowing over the ground from beneath a privy vault directly into a branch of Willow brook, and also that a large quantity of stable manure was placed within fifteen feet of the stream. A notice was served upon the owner to discontinue the contamination of the stream at this point, but a reinspection showed that the notice had not been complied with. This case will be referred to the Attorney-General for such action as the law provides.

No. 278. An inspection of premises located near Holmdel showed that a six-inch tile drain conducted house drainage directly into a branch of Willow brook. A notice was served upon the owner to discontinue the contamination of the stream, and a reinspection of the premises showed that the notice had not been complied with. This case will be referred to the Attorney-General for such action as the law provides.

No. 279. An inspection of premises located in Holmdel township showed that hogs were kept in a field through which a branch of Willow brook has its course. No action was taken in this case, as the evidence of direct contamination was not satisfactory.

No. 280. An inspection of premises located in Holmdel township showed that excrement was placed upon the surface of the ground beneath a privy building within sixteen feet of a branch of Yellow brook. At the time of the inspection, however, the house on the premises was vacant, and therefore no action was taken.

No. 281. An inspection of premises located near Holmdel showed that a drain from a kitchen sink discharged into a roadside ditch and thence into a branch of Willow brook. A notice was served upon the owner to discontinue the contamination of the stream, and a reinspection of the premises showed no evidence of direct contamination.

No. 282. An inspection of premises located in Atlantic township showed that sewage from a six-inch tile drain was discharged upon a steep bank within twenty-five feet of Hop brook. A notice was served upon the owner to discontinue the contamination of the stream, but no further action has been taken.

No. 283. An inspection of premises located in Holmdel township showed that rubbish, garbage and carcasses of fowls were placed near a branch of Hop brook. A notice was served upon the owner to discontinue the contamination, and upon reinspection it was found that the contamination had ceased.

No. 284. An inspection of premises located near Holmdel showed that excrement was placed upon the surface of the ground beneath a privy building within ninety feet of a branch of Willow brook. A notice was served upon the owner to discontinue the contamination of the stream, and a reinspection showed that the notice had been complied with.

No. 285. An inspection of premises located in Holmdel township showed that a privy building was placed within six feet of one of the tributaries of Willow brook. A notice was served upon the owner to discontinue the contamination of the stream, and a reinspection showed that direct contamination of the waters of the stream had ceased.

No. 286. An inspection of premises located at Crawford's Corner showed that excrement was placed upon the surface of the ground beneath a privy building within twenty-three feet of a branch of Willow brook. A notice was served upon the owner to discontinue the contamination, and a reinspection of the premises showed that the privy had been moved to a point distant from the stream.

No. 287. An inspection of premises located at Crawford's Corner showed that rubbish was placed near a branch of Willow brook, and also that excrement was placed upon the surface of the ground beneath a privy building within forty feet of the stream. A notice was served upon the owner to discontinue the contamination of the stream at this point, and a reinspection showed that the privy had been placed sixty feet from the stream.

No. 288. An inspection of premises located at Crawford's Corner showed that manure was placed within five feet of a branch of Willow brook. A notice was served upon the owner to discontinue the contamination, and a reinspection showed that the manure had been removed.

No. 289. An inspection of premises located at Crawford's Corner showed that hogs were kept in a field through which a branch of Willow brook has its course. A notice was served upon the owner to discontinue the contamination of the stream, and the results of a reinspection were satisfactory.

No. 290. An inspection of premises located in Holmdel township showed that hogs were kept in an enclosure through which a branch of Willow brook has its course. A notice was served upon the owner to discontinue the contamination, and upon reinspection it was found that there was no evidence of direct contamination.

No. 291. An inspection of premises located near Everett showed that a chicken yard was located within five feet of a branch of Willow brook. The evidence of contamination in this case was not sufficient to warrant action.

No. 292. An inspection of premises located near Everett showed that rubbish, garbage and slops were thrown upon the banks of a branch of Willow brook. There was no privy on the premises. A notice was served upon the owner to discontinue the contamination of the stream at this point, and a reinspection showed that no action had been taken; however the matter will be taken up by the water company and an effort made to secure improvement.

No. 293. An inspection of premises located near Everett showed that waste liquids were thrown into a roadside ditch which is one of the branches of Willow brook. A notice was served upon the owner to discontinue the contamination of the stream, and a reinspection showed that direct contamination had ceased.

No. 299. An inspection of premises located at Phalanx showed that a large amount of barnyard manure was placed within thirty feet of a branch of Hop brook. No action was taken in this case as the evidence of contamination of the waters of the stream was not conclusive.

No. 300. An inspection of premises located in Atlantic township showed that hogs were kept in a field through which one of the branches of Yellow brook has its course. The evidence of direct contamination was not sufficient in this case to warrant action.

No. 301. An inspection of premises located near Colts Neck showed that waste liquids from a creamery were discharged directly into a raceway which connects with Yellow brook, and that excrement was placed upon the surface of the ground beneath a privy building fifty feet from the stream. A notice was served upon the owners to discontinue the contamination of the stream at this point, and the water company has taken up the adjustment of this case with the owners.

No. 302. An inspection of premises located near Colts Neck showed that excrement was placed upon the surface of the ground beneath a privy building within sixty feet of Yellow brook, and also that a house drain discharged upon a bank sloping sharply down to the stream. A notice was served upon the owner to discontinue the contamination of the stream, and information has been received that a tight privy vault will be constructed and the use of the sink drain discontinued.

No. 303. An inspection of premises located near Colts Neck showed that excrement was placed upon the surface of the ground beneath a privy building within thirty-five feet of Yellow brook. A notice was served upon the owner to discontinue the contamination, and upon reinspection it was found that evidence of the direct contamination of the waters of the stream was not sufficient warrant to action.

No. 304. An inspection of premises located near Colts Neck showed that excrement was placed upon the surface of the ground beneath a privy building within thirty-five feet of Yellow brook. A notice was served upon the owner to discontinue the contamination of the stream, and a reinspection of the premises showed that no action had been taken. This case will be referred to the Attorney-General for such action as the law provides.

No. 305. An inspection of premises located near Colts Neck showed that a pile of rubbish was placed near a branch of Yellow brook, and also that excrement was placed upon the surface of the ground beneath a privy building within five feet of a small ditch which connects with a branch of Yellow brook. A notice was served upon the owner to discontinue the contamination of the stream, and a reinspection showed that the privy had been placed seventy-five feet from running water.

No. 306. An inspection of premises located near Colts Neck showed that a water closet was located near a raceway which discharges into Yellow brook, and also that

large quantities of rubbish were placed within fifteen feet of the stream. No action has been taken in this case as the water company will confer with the owner.

No. 307. An inspection of premises located near Colts Neck showed that a small amount of excrement was placed upon the ground beneath a privy building within five feet of Yellow brook. A notice was served upon the owner to discontinue the contamination of the stream, and a reinspection of the premises showed that the house was unoccupied.

No. 308. An inspection of premises located in Atlantic township near Marlboro showed that a hog pen was located within fifty-five feet of a branch of Hop brook. No action was taken in this case as the evidence of direct contamination was not conclusive.

Report on Infectious Diseases of Animals.

BY A. CLARK HUNT, M.D., STATE MEDICAL INSPECTOR.

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

GENTLEMEN—During the year ending October 31st, 1906, seventy-six cases of anthrax were reported. On March 7th, 1906, Whitfield Gray, D.V.S., of Newton, reported that there were cases of a suspicious nature upon a farm located near that town. Specimens from the diseased animals were forwarded to the State laboratory of hygiene, and it was proven that the animals were suffering from anthrax. Seven of the animals died and one recovered. Dr. Gray administered protective vaccination to twenty-five animals. The investigation as to the cause of the epidemic led to the conclusion that in all probability the disease was introduced upon the premises by meat scrap which had been purchased as food for chickens. It was first noticed that the chickens that had been fed meat scrap were dying, and very shortly after the animals in the barn were affected with the disease. The disease did not extend beyond the farm upon which it first appeared, and no further cases have been reported in Sussex county.

On May 18th, 1906, S. C. Tremaine, D.V.S., of Bridgeton, reported the death of an animal in Cumberland county from anthrax. The total number of deaths from anthrax in Cumberland county from May 18th to August 23th, 1906, was fifty, and in addition to this five deaths of animals in which no diagnosis was made, but which were undoubtedly caused by anthrax, were reported.

On July 17th, 1906, W. B. Kille, D.V.S., reported two deaths from anthrax in the vicinity of Salem, and from the above date until July 31st, 1906, thirteen deaths of animals in Salem county were caused by this disease. For the prevention of the spread of anthrax in Cumberland county Dr. Tremaine vaccinated nine hundred animals, and in Salem county, under the supervision of T. B. Rogers, D.V.S., eleven hundred animals were vaccinated. The history of the outbreaks of anthrax occurring in Cumberland and Salem counties indicates that the owners of animals in this section should each year, prior to turning the animals out upon the meadows, have protective inoculations applied to each animal. If this is not done it may be expected that from year to year recurring outbreaks of the disease will appear.

The total number of cases of glanders which have been reported during the year is one hundred and forty-seven as compared with sixty-nine reported during the previous year. The most serious outbreak which occurred was in Middlesex county. During the month of July, 1906, twenty-four animals having glanders were destroyed in Perth Amboy and vicinity. The investigation of the outbreak showed that the disease had been introduced by animals which were purchased at sale stables. During the month of August, 1906, in South River, Middlesex county, fourteen animals having glanders were destroyed. These animals were used in the clay banks and brick factories, and in all probability the disease was introduced by animals purchased at sale stables.

During the year ending October 31st, 1906, six cases of rabies were reported, and four cases of tuberculosis in cattle reported to this board were referred to the State tuberculosis commission.

The following is a list of the cases of glanders which occurred in New Jersey during the year ending October 31st, 1906:

Name of sanitary district.	Date and number of cases reported.	Name of person making report.	Disposal of each case.
Jersey City.....	Nov. 1, 1905, 1.....	E. Mathews, D.V.S.....	Animal destroyed.
Newark.....	" 1, " 1.....	D. D. Chandler, H.O.....	" " " "
".....	" 2, " 1.....	" " " " " " " "	" " " "
".....	" 3, " 1.....	" " " " " " " "	" " " "
".....	" 4, " 1.....	" " " " " " " "	" " " "
Jersey City.....	" 22, " 1.....	A. F. Mount, D.V.S.....	" " " "
".....	" 22, " 1.....	Henry Smellie, H.O.....	" " " "
Newark.....	" 25, " 1.....	D. D. Chandler, H.O.....	" " " "
".....	" 26, " 1.....	" " " " " " " "	" " " "
".....	Dec. 7, " 1.....	" " " " " " " "	" " " "
".....	" 18, " 1.....	" " " " " " " "	" " " "
Jersey City.....	" 20, " 1.....	E. Mathews, D.V.S.....	" " " "
Hamilton, Monmouth Co.....	" 20, " 1.....	P. A. Davison, D.V.S.....	" " " "
Plainfield.....	Jan. 10, 1906, 1.....	L. R. Thurlow, H.O.....	" " " "
Newark.....	" 19, " 1.....	D. D. Chandler, H.O.....	" " " "
Jersey City.....	" 30, " 1.....	E. Mathews, D.V.S.....	" " " "
".....	" 31, " 1.....	R. F. Meiners, D.V.S.....	" " " "
Newark.....	Feb. 1, " 1.....	D. D. Chandler, H.O.....	" " " "
".....	" 8, " 2.....	" " " " " " " "	" " " "
Hoboken.....	" 23, " 6.....	R. F. Meiners, D.V.S.....	" " " "
Jersey City.....	Mar. 2, " 1.....	A. F. Mount, D.V.S.....	" " " "
Bayonne.....	" 3, " 1.....	R. J. Halliday, D.V.S.....	" " " "
".....	" 7, " 1.....	" " " " " " " "	" " " "
Colts Neck.....	" 12, " 1.....	H. W. Read, D.V.S.....	" " " "
Newark.....	" 14, " 1.....	D. D. Chandler, H.O.....	" " " "
".....	" 16, " 1.....	" " " " " " " "	" " " "
".....	" 19, " 1.....	" " " " " " " "	" " " "
Jersey City.....	" 22, " 1.....	E. Mathews, D.V.S.....	" " " "
".....	" 27, " 1.....	R. W. English, D.V.S.....	" " " "
Passaic.....	April 4, " 1.....	J. P. Lowe, D.V.S.....	" " " "
Ridgewood.....	" 9, " 1.....	B. Hopper, D.V.S.....	" " " "
Englishtown.....	" 9, " 1.....	H. W. Read, D.V.S.....	" " " "
Newark.....	May 15, " 2.....	D. D. Chandler, H.O.....	" " " "
Hamilton Twp., Mercer Co.....	" 20, " 2.....	G. F. Harker, D.V.S.....	" " " "
Newark.....	" 25, " 1.....	D. D. Chandler, H.O.....	" " " "
Kearny.....	" 25, " 1.....	A. E. Geissler, Ins.....	" " " "
Jersey City.....	" 31, " 1.....	E. Mathews, D.V.S.....	" " " "
South Orange.....	June 1, " 2.....	W. W. Heberton, M.D.....	" " " "
Hoboken.....	" 11, " 1.....	W. F. Harrison, D.V.S.....	" " " "
Caldwell.....	" 22, " 1.....	" " " " " " " "	" " " "
South Orange.....	" 22, " 1.....	" " " " " " " "	" " " "
Newark.....	" 24, " 1.....	D. D. Chandler, H.O.....	" " " "
Passaic.....	July 14, " 1.....	J. P. Lowe, D.V.S.....	" " " "
Perth Amboy.....	" 15, " 10.....	W. H. Lowe, D.V.S.....	" " " "
Belleville.....	" 16, " 1.....	J. P. Lowe, D.V.S.....	" " " "
Perth Amboy.....	" 17, " 3.....	W. H. Lowe, D.V.S.....	" " " "
".....	" 17, " 3.....	" " " " " " " "	" " " "
South River.....	" 19, " 3.....	L. J. Belloff, " " " "	" " " "
Perth Amboy.....	" 19, " 4.....	W. H. Lowe, " " " "	" " " "
".....	" 21, " 2.....	" " " " " " " "	" " " "
".....	" 22, " 2.....	" " " " " " " "	" " " "

Name of sanitary district.	Date and number of cases reported.	Name of person making report.	Disposal of each case.
Belleville.....	July 22, 1906, 1.....	J. W. Little, D.V.S.....	Animal destroyed.
Newark.....	" 24, " 3.....	D. D. Chandler, H.O.....	" " " "
South River.....	" 24, " 2.....	W. H. Lowe, D.V.S.....	" " " "
East Rahway.....	" 26, " 2.....	" " " " " " " "	" " " "
Newark.....	" 28, " 1.....	D. D. Chandler, H.O.....	" " " "
Fanwood.....	" 29, " 1.....	W. H. Lowe, D.V.S.....	" " " "
South River.....	" 30, " 8.....	" " " " " " " "	" " " "
Rahway.....	" 31, " 1.....	" " " " " " " "	" " " "
Montclair.....	Aug. 6, " 1.....	R. B. Smith, D.V.S.....	" " " "
Newark.....	" 6, " 2.....	D. D. Chandler, H.O.....	" " " "
Elizabeth.....	" 8, " 1.....	F. Zucker, D.V.S.....	" " " "
South River.....	" 11, " 1.....	W. H. Lowe, D.V.S.....	" " " "
Newark.....	" 15, " 1.....	D. D. Chandler, H.O.....	" " " "
".....	" 18, " 1.....	" " " " " " " "	" " " "
".....	" 19, " 1.....	J. W. Little, D.V.S.....	" " " "
".....	" 21, " 1.....	D. D. Chandler, H.O.....	" " " "
South Amboy.....	" 31, " 1.....	W. H. Lowe, D.V.S.....	" " " "
Newark.....	" 31, " 1.....	J. W. Little, D.V.S.....	" " " "
".....	Sept. 1, " 1.....	D. D. Chandler, H.O.....	" " " "
Plainfield.....	" 1, " 1.....	L. R. Thurlow, H.O.....	" " " "
Newark.....	" 5, " 1.....	D. D. Chandler, H.O.....	" " " "
West Orange.....	" 5, " 1.....	B. L. Williams, Ins.....	" " " "
Morristown.....	" 8, " 1.....	J. M. Broadwell, D.V.S.....	" " " "
Atlantic City.....	" 10, " 1.....	H. C. Beck, San. Ins.....	" " " "
Newark.....	" 11, " 1.....	J. W. Little, D.V.S.....	" " " "
".....	" 12, " 1.....	D. D. Chandler, H.O.....	" " " "
".....	" 14, " 1.....	" " " " " " " "	" " " "
".....	" 17, " 1.....	" " " " " " " "	" " " "
Elberon.....	" 22, " 1.....	C. C. Cattinack, D.V.S.....	" " " "
Newark.....	" 24, " 1.....	D. D. Chandler, H.O.....	" " " "
New Brunswick.....	" 27, " 1.....	W. H. Lowe, D.V.S.....	" " " "
Bloomfield.....	" 29, " 1.....	Jos. Salle, San. Ins.....	" " " "
Orange.....	Oct. 3, " 3.....	W. F. Harrison, D.V.S.....	" " " "
Camden.....	" 6, " 1.....	A. T. Sellers, D.V.S.....	" " " "
Bayonne.....	" 8, " 1.....	R. J. Halliday, D.V.S.....	" " " "
Camden.....	" 9, " 4.....	W. H. Lowe, D.V.S.....	" " " "
".....	" 8, " 1.....	C. T. Rogers, D.V.S.....	" " " "
".....	" 10, " 2.....	A. T. Sellers, D.V.S.....	" " " "
Harrison.....	" 13, " 3.....	J. W. Little, D.V.S.....	" " " "
Jersey City.....	" 17, " 1.....	A. F. Mount, D.V.S.....	" " " "
Bayonne.....	" 17, " 1.....	R. J. Halliday, D.V.S.....	" " " "
Montclair.....	" 25, " 1.....	W. F. Harrison, D.V.S.....	" " " "
West Orange.....	" 25, " 1.....	" " " " " " " "	" " " "
Orange.....	" 25, " 2.....	" " " " " " " "	" " " "
Newark.....	" 25, " 1.....	" " " " " " " "	" " " "
Harrison.....	" 30, " 1.....	J. T. McClure, H.O.....	" " " "

The total number of cases of glanders reported was 147. Of this number thirty-eight cases occurred in Newark, twenty-four in Perth Amboy, fourteen in South River and ten in Jersey City.

SUMMARY.

Losses of animals from anthrax.....	76
Vaccinations to prevent the spread of anthrax.....	2,000
Animals destroyed on account of glanders.....	147
Cases of rabies reported.....	6
Cases of tuberculosis reported.....	4

Report on State Laboratory of Hygiene.

BY R. B. FITZ-RANDOLPH, DIRECTOR.

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, 1906:

The examinations made in the laboratory fall in three classes: the examination for diagnosis of specimens sent by physicians from suspected cases of communicable diseases, both human and animal; chemical analyses of foods and drugs, the authority to perform such analyses being contained in chapter 86 of the laws of 1901, its amendments and supplements; and the chemical and bacteriological examination of specimens of water from public and private supplies.

The work done in the laboratory has been, in the main, a continuation of lines of work begun in previous years. The number of specimens examined in each department is greater than for any previous year, and it is believed that this increase will steadily continue. An examination of Table III. (page 147) will show that the number of specimens examined for diagnosis during the year is 8,033, an increase over the preceding thirteen months of 985, or approximately 14 per cent. The number of samples of food and drugs examined, including water, is 4,256, an increase of 608, or approximately 17 per cent.

The equipment of the laboratory is now sufficient to enable routine examinations of specimens from suspected cases of diphtheria, pulmonary tuberculosis, typhoid fever, malaria and gonorrhoea to be made with accuracy and speed. Tests for anthrax, rabies and glanders are made with difficulty, and the results obtained are more or less uncertain because the laboratory is so situated that it is impossible to keep on hand a supply of animals for experimental purposes. Owing to the difficulty of obtaining suitable animals at short notice, the results of examinations requiring the use of such animals cannot have the same degree of certainty, nor can reports be made with the same promptness as if suitable animals were always available. During the year an attempt has been made to begin the examination of selected samples of milk for pus, streptococci and dirt. These substances occur frequently in milk and indicate that milk which contains any or all of them is unfit for use as food. The laboratory is possessed of the necessary equipment to make such examinations, but it has been found impossible to regularly examine the specimens received because of lack of time. During the coming year, if it is possible to somewhat increase the laboratory staff, such examinations will be made a part of the regular routine.

Owing to the passage of chapter 313 of the laws of 1906, which imposes a heavier penalty for watered milk than for milk which is only deficient in milk solids, it has been necessary to spend much additional time in analytical work on milk samples.

The method of detecting added water and the results obtained will be described later in this report.

The number of prosecutions ordered by the State board of health for violations of the food law has been much larger than in previous years. This increase interferes seriously with the prosecution of analytical work because the attendance of at least one chemist, and frequently of two or three, is required in court in each case. It is estimated that each chemist in the laboratory has been compelled to spend more than one-third of the working days of the year in court.

The number of samples of water examined this year is 384, an increase of 93 per cent. It was hoped that during the year a systematic examination of the public water-supplies in the State could be commenced. A few examinations of public supplies have been made, but it was quickly discovered that, with the present laboratory staff, it was impossible to continue the work. The State is already thickly settled, and is rapidly increasing in population. The danger of pollution in many of our public water-supplies is increasing, and systematic periodic examinations of them are greatly needed. If a beginning is to be made in this direction, it will be necessary to employ an additional chemist, and also an inspector qualified to make sanitary surveys.

BACTERIOLOGICAL DEPARTMENT.

The bacteriological laboratory is open for the reception of specimens from 7:45 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. 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, malaria and gonorrhoea. Besides this regular work, the laboratory is prepared to undertake, when practicable, the investigation of other communicable diseases. For the regular work the laboratory provides mailing cases conforming to the requirements of United States Postal Order No. 176*, which cases are distributed to repositories located throughout the State.

* Order No. 176.

March 2d, 1900.

That the order of the Postmaster-General of December 27th, 1897 (Order No. 677), prescribing the conditions under which specimens of diseased tissues may be admitted to the mails, is modified as follows:

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 unmailable. 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

and can be obtained from them or from the laboratory, on request. A list of these repositories will be found on pages 147 to 156 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. 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, &c., 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 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 the physicians be called on the telephone for the purpose of reporting results to them. 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 with 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 prepaid 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 tinplate, and shall have flush or countersunk bottom and soldered joints and not be smaller than one and 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 of 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.

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 over night at 37° 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 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 two years, 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 by physicians 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 post-master 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.

Persons having the bacillus of diphtheria in their throats or noses and presenting symptoms of the specific toxemia 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. 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 bacillus

of diphtheria, it occasionally happens that a second specimen will show typical diphtheria bacilli.

The outfit for collecting a specimen of sputum from a case of suspected tuberculosis consists of a circular, screw-capped, pasteboard-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. 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° C., in carbol fuchsin. After thorough washing the slide is immersed in a solution of three per cent. hydrochloric acid in methyl alcohol until decolorized, then stained for one minute in Loeffler's methylene blue, washed, dried and examined.

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.

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, on one side, directions for collecting the specimen, and on the other a blank form to be filled in by the physician, is inclosed 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. 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.

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.

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 for a specimen to be examined for malaria consists of a small, screw-capped fibre box containing two glass slides and a card bearing on one side directions for collecting the specimen, and on the other a blank form to be filled in by the physician. Inasmuch as success in finding the malarial parasite is dependent on the character of the preparation made by the physician, it is of the utmost importance that great care be used in making a very thin and even film of blood.

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.

Besides the examinations classed as regular work, a variety of other specimens are frequently examined, the most important being those from animals suspected of having anthrax, rabies or glanders, and the bacterial examination of samples of water from public supplies, dairy premises and certain other localities.

In case an animal is suspected of having died of anthrax, either a small amount of blood (preferably from the heart or one of the larger vessels), or a portion of the liver or spleen, 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 examinations cannot be sent through the mails unless enclosed in containers made in conformity with postal order No 176 (see page 136, 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 twenty-four to seventy-two hours after the receipt of the specimen.

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.

A diagnosis in a case of rabies can usually be made with a considerable degree of certainty by the histological method within forty-eight hours after the specimens are received. Occasionally it is necessary to resort to animal inoculation, in which case a period of two weeks or even longer may elapse before a report can be made.

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.

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.

Table I. shows the number of specimens examined during the year arranged by weeks. Table II. is a summary of the examinations, arranged by towns. Table III. shows the number of specimens examined each year since the laboratory has been in operation. Table IV. is a list of repositories where mailing cases for sending specimens from suspected cases of communicable diseases can be obtained.

TABLE II.—SHOWING THE NUMBER OF SPECIMENS EXAMINED DURING THE YEAR, ARRANGED BY CITIES AND TOWNS—Continued.

TOWN.	DIPH-THERIA.			TUBERCU-LOSIS.			TYPHOID FEVER.			MALARIA.			MISCELLA-NEOUS.			Total.
	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.	
Panwood.....	2	2	4	1	1	2										5
Farmingdale.....				1	1	2										3
Flemington.....	2	2	4	1	1	2										6
Florence.....	1	1	2	1	1	2										4
Fort Lee.....	4	3	7	1	1	2										9
Franklin Furnace.....	1	1	2	1	1	2										4
Freehold.....	4	1	5	9	2	11	8		9							20
Frenchtown.....	1	1	2	1	1	2			2							4
Garfield.....	1	1	2	1	1	2			2							4
Gilgite.....	1	1	2	1	1	2			2							4
Glaston.....	5	1	6	1	1	2			2							8
Glassboro.....	1	1	2	1	1	2			2							4
Glen Ridge.....	1	1	2	1	1	2			2							4
Gloucester City.....	26	19	45	5	1	10	1		1							56
Grantwood.....	7	7	14	1	1	2			1							16
Greenwich.....	2	1	3	2	2	4			4							7
Hackensack.....	2	2	4	38	4	42	4		43							92
Hackettstown.....	2	2	4	2	2	4			4							8
Haddonfield.....	18	15	33	1	1	2	5		4							51
Haddon Heights.....	3	3	6	1	1	2			1							8
Hainesport.....	2	2	4	1	1	2			1							6
Haledon.....	4	2	6	1	1	2			1							8
Hamburg.....	2	2	4	2	2	4			1							7
Hartung Squares.....	2	2	4	3	3	6			1							7
Hammonton.....	1	1	2	1	1	2			1							4
Harlingen.....	2	2	4	6	6	12			1							19
Harrison.....	1	1	2	1	1	2			1							4
Harrisonville.....	1	1	2	1	1	2			1							4
Highbrook Heights.....	1	1	2	3	3	6			2							8
Highlands.....	1	1	2	1	1	2			1							4
Hightstown.....	25	13	38	2	2	4	31		3							72
Hoboken.....	2	2	4	3	3	6			3							12
Holly Beach.....	1	1	2	1	1	2			1							4
Holmdel.....	4	4	8	2	2	4			4							16
Hopewell.....	6	1	7	1	1	2			1							9
Hudson Heights.....	6	1	7	1	1	2			1							9
Hunterdon.....	1	1	2	1	1	2			1							4
Irrington.....	1	1	2	4	4	8			3							11
Jersey City.....	21	4	25	118	7	125	31		4							189
Jersey City Heights.....	1	1	2	1	1	2			4							6
Junction.....	1	1	2	1	1	2			4							6
Keypoint.....	7	7	14	3	3	6			8							22
Lakewood.....	18	27	45	20	3	23	7		7							52
Lambertville.....	1	1	2	3	3	6			1							7
Lawrenceville.....	10	10	20	5	5	10			1							26
Layton.....	4	4	8	1	1	2			1							13
Laysburg.....	2	2	4	1	1	2			1							6
Little Falls.....	3	1	4	2	2	4			2							8
Lodi.....	1	1	2	1	1	2			2							5
Long Branch.....	1	1	2	14	14	28	6		69							88
Madison.....	58	3	61	9	9	18	3		3							74
Madisonville.....	1	1	2	1	1	2			1							4
Magnolia.....	1	1	2	1	1	2			1							4
Mantua.....	1	1	2	1	1	2			1							4
Maplewood.....	4	4	8	2	2	4			1							11
Malawan.....	1	1	2	1	1	2			1							4
Mauricetown.....	1	1	2	1	1	2			1							4
Mays Landing.....	4	4	8	1	1	2			2							10
Maywood.....	10	1	11	1	1	2			3							14
Medford.....	1	1	2	1	1	2			2							5
Mendham.....	1	1	2	1	1	2			2							5
Merchantville.....	1	1	2	10	10	20			3							23
Metuchen.....	58	22	80	10	10	20			3							93
Middle Valley.....	1	1	2	1	1	2			1							4
Midland Park.....	1	1	2	1	1	2			1							4

TABLE II.—SHOWING THE NUMBER OF SPECIMENS EXAMINED DURING THE YEAR, ARRANGED BY CITIES AND TOWNS—Continued.

TOWN.	DIPH-THERIA.			TUBERCU-LOSIS.			TYPHOID FEVER.			MALARIA.			MISCELLA-NEOUS.			Total.
	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.	
Millburn.....	13	5	18	2	2	4			2							20
Milltown.....	1	1	2	1	1	2			1							4
Millville.....	3	11	14	3	3	6			4							17
Montclair.....	1	1	2	28	17	45			28							73
Moorestown.....	1	1	2	1	1	2			4							6
Morris Plains.....	1	1	2	1	1	2			1							4
Morristown.....	9	1	10	4	4	8			37							51
Mount Holly.....	14	3	17	9	2	11			15							33
Mullica Hill.....	1	1	2	1	1	2			2							5
Netcong.....	1	1	2	1	1	2			1							4
Newark.....	2	2	4	14	2	16			16							32
New Brunswick.....	6	6	12	74	8	82			13							103
Newfoundland.....	1	1	2	6	1	7			3							10
New Market.....	1	1	2	1	1	2			1							4
Newton.....	34	41	75	26	4	30			90							165
Nutley.....	1	1	2	6	1	7			1							10
Ocean City.....	2	2	4	3	3	6			3							9
Ocean Grove.....	2	2	4	3	3	6			1							9
Old Bridge.....	2	2	4	1	1	2			1							5
Oradell.....	20	6	26	2	2	4			2							28
Orange.....	6	2	8	82	20	102	38		3							163
Oxford.....	1	1	2	1	1	2			4							6
Palmyra.....	1	1	2	3	3	6			1							9
Park Ridge.....	4	2	6	2	2	4			3							13
Parsippany.....	1	1	2	1	1	2			1							4
Passaic.....	36	7	43	73	15	88			46							139
Paterson.....	10	2	12	122	11	133			18							166
Paulsboro.....	1	1	2	1	1	2			1							4
Pemberton.....	1	1	2	1	1	2			1							4
Penna Grove.....	1	1	2	3	3	6			3							9
Pennsville.....	1	1	2	2	2	4			2							6
Pensauken.....	1	1	2	1	1	2			1							4
Perth Amboy.....	1	1	2	26	2	28			3							33
Phillipsburg.....	3	3	6	16	2	18			1							19
Pitman.....	1	1	2	1	1	2			1							4
Pitman Grove.....	1	1	2	1	1	2			1							4
Plainfield.....	69	28	97	102	19	121	25		8							254
Pleasantville.....	1	1	2	5	1	6			1							7
Point Pleasant.....	1	1	2	1	1	2			2							5
Pompton Lakes.....	1	1	2	1	1	2			2							5
Port Norris.....	2	2	4	1	1	2			3							7
Princeton.....	94	28	122	117	21	138			6							149
Rahway.....	59	12	71	19	2	21			90							196
Ramsey.....	16	16	32	38	16	54			10							60
Raritan.....	1	1	2	1	1	2			1							4
Red Bank.....	1	1	2	1	1	2			3							5
Ridgefield.....	1	1	2	1	1	2			1							4
Ridgefield Park.....	1	1	2	2	2	4			2							6
Ridgewood.....	4	1	5	5	1	6			5							11
Ringoes.....	4	4	8	1	1	2			1							13
Riverside.....	1	1	2	1	1	2			1							4
Riverton.....	1	1	2	6	1	7			6							13
Rockaway.....	8	8	16	9	1	10			4							22
Rocky Hill.....	1	1	2	1	1	2			1							4
Roselle.....	7	7	14	7	7	14			3							17
Roselle Park.....	4	5	9	4	4	8			4							13
Rosmont.....	1	1	2	1	1	2			1							4
Rutherford.....	12	5	1													

TABLE II.—SHOWING THE NUMBER OF SPECIMENS EXAMINED DURING THE YEAR, ARRANGED BY CITIES AND TOWNS—Continued.

TOWN.	DIPH- THERIA.			TUBERCU- LOSIS.			TYPHOID FEVER.			MALARIA.			MISCELLA- NEOUS.			Total.
	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.	
South Orange.....	9	2	11	77	12	89	36	9	45							145
South River.....				3		3	3		3							8
Spotswood.....				3		3										3
Springfield.....	13	9	21	5		5	6	2	8							34
Spring Lake.....	3	4	7	11	1	12										19
Stanhope.....	2		2	1		1	3		3							4
Stanton.....				1		1										1
Stillwater.....	1		1													1
Stirling.....	4	1	5													5
Succasunna.....	3	1	4	2		2										5
Summit.....	10	1	11	13		13	21	4	25							49
Sussex.....	5	2	7													7
Swedesboro.....				1		1										1
Tenafly.....	1		1				2		2							2
Three Bridges.....				1		1										1
Toms River.....				1		1										1
Town of Union.....																2
Trenton.....	101	36	137	329	50	388	243	35	278	17	1	18	56	32	90	911
Tuckahoe.....	8	2	10	4	1	5	2		2							17
Union Hill.....				9	1	10	4	1	5							9
Upper Montclair.....				1		1										6
Verona.....	1	1	2	5	1	6	2	1	3						1	9
Vineland.....	1		1	64	4	68	62	15	77				1		1	147
Waldwick.....				7	1	8										9
Wanaque.....				1		1										1
Washington.....	11	1	12	8		8	5	1	6							26
Weehawken.....				1		1										2
Wenonah.....				2		2										2
West Asbury Park.....	2		2													2
West Cranford.....	1	1	2	1		1										3
Westfield.....	10	9	19	12	1	13	4		4	1		1				37
West Hoboken.....	1		1	59	10	69	1		1							71
West New York.....				6		6										6
West Orange.....	2		2	14		14	11	1	12	1		1				29
Westville.....	5	5	10	11	1	12	2	1	3							9
Westwood.....	2		2	4		4	3		3							6
Whippany.....	1		1	3	1	4				1		1				3
White House Station.....				1		1										1
Williamstown.....				1		1										1
Windsor.....				3		3										3
Woodbridge.....	16	9	25	25	1	26	2		2				1		1	54
Woodbury.....	1	1	2	3		3										7
Woodstown.....	3		3	4		4										7
Yardville.....	1		1	1		1	1		1							5
Blank.....	3		3	2		2										7
Totals.....	2108	1169	3277	2617	331	2943	1370	186	1556	112	14	126	90	36	126	8033

TABLE III.—SHOWING THE NUMBER OF SPECIMENS OF EACH KIND EXAMINED SINCE THE LABORATORY WAS ORGANIZED.

	1896-97.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.†	1906.
Diphtheria.....	627	600	577	974	1,864	1,487	2,090	2,949	2,896	3,277
Tuberculosis.....	233	516	766	892	1,211	1,467	1,833	2,344	2,691	2,948
Typhoid fever.....	27	175	339	431	739	884	1,333	1,272	1,238	1,556
Malaria.....			4	53	113	196	151	98	109	126
Miscellaneous.....	7	15	*	30	28	55	132	67	84	126
Totals.....	914	1,313	1,682	2,380	3,965	4,039	5,559	6,730	7,045	8,033

*The number of these specimens has not been recorded.
†Thirteen months.

TABLE IV.—LIST OF REPOSITORIES FOR MAILING CASES.

TOWN.	Repository.	Mail Leaves.
Allentown.....	Carlslake's Pharmacy.....	4:00 P. M.
Alloway.....	Dr. W. L. Ewen.....	
Andover.....	Dr. J. C. Clark.....	
Annandale.....	Dr. Willard E. Berkaw.....	
Arlington.....	Dr. A. A. Strasser.....	
".....	J. B. Thompson, druggist.....	
Asbury.....	Dr. F. J. La Riew.....	
Asbury Park.....	Board of Health.....	3:00 P. M.
Atlantic City.....	Board of Health.....	
".....	City Hospital.....	
".....	A. D. Cuskaden, druggist.....	
".....	H. H. Deakne, druggist.....	
".....	W. C. Wescott, druggist.....	
".....	Wm. F. Ridgway, druggist.....	
".....	P. G. Clark, druggist.....	
Atlantic Highlands.....	R. S. Mathews, druggist.....	
Bakersville.....	A. B. Vickers, druggist.....	
Basking Ridge.....	Dr. F. C. Jones.....	3:00 P. M.
Bay Head.....	Dr. W. H. Katzenbach.....	
Bayonne.....	Bayonne Hospital.....	2:00 P. M.
".....	Frank N. L'Estrange, druggist.....	" "
".....	J. A. Balinsky & Sons, druggists.....	" "
".....	Chas. H. Landell, druggist.....	" "
Belleville.....	A. H. Osborne, druggist.....	
Belmar.....	Board of Health.....	4:00 P. M.
".....	Seaside Pharmacy.....	" "
Belvidere.....	Faust Bros., druggists.....	
".....	Dr. Wm. J. Burd.....	

TABLE IV.—LIST OF REPOSITORIES FOR MAILING CASES—Continued.

Town.	Repository.	Mail Leaves.
Berlin.....	Board of Health.....	.....
Bernardsville.....	Dr. J. Meigh.....	1:00 P. M.
Beverly.....	Dr. J. V. Roberts.....	.....
".....	Warren Street Pharmacy.....	.....
Blairstown.....	Geo. A. Branigan, druggist.....	.....
".....	Dr. W. C. Allen.....	.....
Bloomfield.....	Geo. M. Wood, druggist.....	.....
".....	Wm. W. Keyler, druggist.....	.....
Bloomsbury.....	Dr. E. L. Reigle.....	1:00 P. M.
Boonton.....	Dr. Jno. S. Taylor.....	.....
".....	Dr. Cuthbert Wigg.....	.....
".....	Dr. C. L. Decker.....	.....
".....	Dr. A. E. Carpenter.....	.....
Bordentown.....	Dr. Wm. H. Shipp.....	5:00 P. M.
".....	Wooley & Fitzgerald, druggists.....	" "
Bound Brook.....	Lloyd & McNabb, druggists.....	.....
Bradley Beach.....	Dr. W. K. Bradner.....	.....
Branchville.....	Dr. E. S. Dalrymple.....	.....
".....	Dr. J. C. Price.....	.....
Bridgeton.....	Board of Health.....	.....
".....	Bridgeton Hospital.....	.....
".....	Albert S. Elwell, druggist.....	.....
".....	Chas. F. Dare & Sons, druggists.....	.....
".....	Dr. John H. Moore.....	.....
Burlington.....	Jno. W. Davis, druggist.....	.....
".....	H. B. Weaver, druggist.....	.....
Butler.....	S. E. Estler, druggist.....	.....
".....	McCue's Drug Store.....	.....
Caldwell.....	Dr. Edwin E. Bond.....	.....
".....	Wm. N. Hasler, druggist.....	.....
Califon.....	T. Miller, druggist.....	.....
Camden.....	Board of Health.....	3:00 P. M.
".....	Cooper Hospital.....	" "
".....	L. B. Hirst, druggist.....	" "
".....	Barrett Bros, druggists.....	" "
".....	Geo. M. Beringer, druggist.....	" "
".....	Geo. J. Pechin, druggist.....	" "
".....	Dr. R. I. Haines.....	" "
".....	F. S. Macpherson Co., Pharmaceu- tical Laboratory.....	" "
".....	Wm. P. Weiser, druggist.....	" "
".....	Mahaffey's Pharmacy.....	" "
".....	L. H. Wilson, druggist.....	" "
Cape May.....	Dr. James Mecray.....	.....
".....	Dr. Anna M. Hand.....	.....

TABLE IV.—LIST OF REPOSITORIES FOR MAILING CASES—Continued.

Town.	Repository.	Mail Leaves.
Cape May Court House.....	Willets Conson, druggist.....	.....
Carlstadt.....	Board of Health.....	.....
".....	Albert Neiderer, druggist.....	.....
Carteret.....	Dr. J. J. Reason.....	.....
Cedarville.....	Dr. W. P. Glendon.....	.....
Chatham.....	Dr. Wm. J. Wolfe.....	3:00 P. M.
".....	Dr. Joseph E. Pollard.....	" "
Chester.....	Dr. Harris Day.....	1:00 P. M.
".....	W. A. Green's Pharmacy.....	" "
Clayton.....	Dr. C. F. Fisler.....	.....
Clinton.....	Wm. H. Baker, druggist.....	1:00 P. M.
Closter.....	Dr. L. B. Parsall.....	.....
Collingswood.....	Wm A. Chamberlain, druggist.....	.....
Columbus.....	Dr. J. E. Dubell.....	.....
Cranford.....	John Marien, druggist.....	.....
".....	Jno. R. Reay, druggist.....	.....
Crosswicks.....	Dr. Chas. L. Dey.....	.....
Dayton.....	Dr. Edgar Carroll.....	.....
Deckertown.....	W. J. Rinkel, druggist.....	.....
Deerfield.....	Dr. H. L. Cooper.....	.....
".....	Dr. L. B. Phillips.....	.....
Delanco.....	Dr. H. K. Weiler.....	.....
Dennisville.....	Dr. Eugene Way.....	.....
Dover.....	Killgore & White, druggists.....	11:00 A. M.
Dumont.....	Dr. J. E. Pratt.....	.....
Dunellen.....	P. W. Brakeley, druggist.....	10:00 A. M.
East Millstone.....	J. C. Thatcher, druggist.....	.....
East Orange.....	Gillbard's Drug Stores.....	3:00 P. M.
".....	Garrett Byrnes, druggist.....	" "
".....	Frank L. Fieger, druggist.....	" "
East Rutherford.....	Board of Health.....	.....
Eatontown.....	Edward Van Buskirk, druggist.....	.....
Egg Harbor City.....	V. P. Hoffman, city clerk.....	.....
Elizabeth.....	Board of Health.....	4:00 P. M.
".....	Henry J. Schmidt, druggist.....	" "
".....	E. W. Parsons, druggist.....	" "
".....	Richard Frohwein, druggist.....	" "
".....	Henry Schmidt, druggist.....	" "
".....	Walter I. McCann, druggist.....	" "
".....	David Strauss, druggist.....	" "
".....	Oliver & Drake, druggists.....	" "
".....	Geo. J. Martin, druggist.....	" "
".....	Wm. Rufus Richart, druggist.....	" "
".....	Fred. M. Egger, druggist.....	" "
".....	Wm. H. Reibel, druggist.....	" "

TABLE IV.—LIST OF REPOSITORIES FOR MAILING CASES—Continued.

Town.	Repository.	Mail Leaves
Elizabeth.....	Elizabeth General Hospital.....	4:00 P. M.
Elmer.....	Board of Health.....	12:00 M.
Englewood.....	L. Rockefeller Co., druggists.....	2:00 P. M.
".....	Wm. E. H. Schneider, druggist.....	" "
".....	Lewis W. Brown, druggist.....	" "
".....	Englewood Pharmacy.....	" "
".....	Englewood Hospital.....	" "
Englishtown.....	Dr. Wm. Edgar Anderson.....	5:00 "
Fairton.....	Dr. Irwin W. Kirk.....	" "
".....	Dr. H. E. Lore.....	" "
Fanwood.....	Dr. F. W. Wescott.....	" "
Farmingdale.....	Dr. W. R. Kinmouth.....	3:00 P. M.
".....	Dr. C. A. Palmer.....	" "
Flemington.....	Franklin C. Burk, druggist.....	4:00 P. M.
Forked River.....	Board of Health.....	" "
Fort Lee.....	Dr. Max Wyler.....	" "
".....	Carl L. Richter, druggist.....	" "
Franklin Furnace.....	Dr. C. M. Dunning.....	" "
Freehold.....	W. B. Duryea, druggist.....	3:30 P. M.
Frenchtown.....	Dr. F. H. Decker.....	" "
German Valley.....	Dr. Chas. N. Miller.....	" "
Gladstone.....	Dr. M. C. Smalley.....	" "
Glassboro.....	F. G. Thomann, druggist.....	" "
".....	Dr. E. Mortimer Duffield.....	" "
Gloucester City.....	Atlantic Pharmacy.....	" "
".....	W. S. Hilliard, druggist.....	" "
Grantwood.....	Dr. Margaret P. Brewster.....	" "
Guttenberg.....	Henry J. Gordon, druggist.....	" "
Hackensack.....	Hackensack Hospital.....	11:30 A. M.
".....	Eugene A. McFadden, druggist.....	" "
".....	Alex. Denig, druggist.....	" "
".....	T. E. Van Stone, druggist.....	" "
".....	R. G. Bredin, druggist.....	" "
Hackettstown.....	C. V. S. Rea, druggist.....	12:30 P. M.
".....	Dr. L. Farrow.....	" "
Haddonfield.....	R. Willard, druggist.....	11:00 A. M.
Haddon Heights.....	Shillet's drug store.....	" "
Hainesport.....	Dr. W. C. Parry.....	" "
Hamburg.....	Dr. Joseph G. Coleman.....	" "
Hammonton.....	Dr. Charles Cunningham.....	12:00 M.
Harrison.....	Board of Health.....	1:00 P. M.
".....	Dr. E. S. Goudy.....	" "
".....	Squier's Pharmacy.....	" "
Harrisonville.....	Dr. Samuel F. Stanger.....	" "
Hasbrouck Heights.....	J. A. Powelson, druggist.....	" "

TABLE IV.—LIST OF REPOSITORIES FOR MAILING CASES—Continued.

Town.	Repository.	Mail Leaves.
Hibernia.....	Dr. R. C. Lumsden.....	" "
High Bridge.....	Dr. W. C. Alpaugh.....	1:00 P. M.
Highlands.....	Grandin V. Johnson, druggist.....	" "
Hightstown.....	D. Hart Cunningham, druggist.....	" "
Hoboken.....	Board of Health.....	2:30 P. M.
".....	Dr. H. B. Rue.....	" "
".....	Chas. H. Schmidt, druggist.....	" "
".....	Adolph Schmidt, druggist.....	" "
".....	Victor Schmidt & Co., druggists.....	" "
".....	Wm. Kamlah, druggist.....	" "
".....	Gustav Brandt, druggist.....	" "
".....	Chas. Sunkle, druggist.....	" "
".....	Morris Jonion, druggist.....	" "
Holmdel.....	Dr. F. M. Wood.....	" "
Hopewell.....	George E. Pierson, druggist.....	" "
Imlaystown.....	Dr. Franklin C. Price.....	" "
Irvington.....	Dr. A. C. Christian.....	" "
".....	Harry McDavitt, druggist.....	" "
Jamesburg.....	State Home for Boys.....	5:00 P. M.
Jersey City.....	Board of Health.....	" "
".....	L. E. Carpenter, druggist.....	" "
".....	Frederick W. Frey, druggist.....	" "
".....	John C. Gallagher, druggist.....	" "
".....	A. Tod, druggist.....	" "
".....	Stein & Company, druggists.....	" "
".....	Frank O. Cole, druggist.....	" "
".....	Herman J. Lohmann, druggist.....	" "
".....	Wm. Buchbinder, druggist.....	" "
".....	Lyons & Ziegler, druggists.....	" "
".....	Benjamin F. Bache, druggist.....	" "
".....	R. E. Wilhelm, druggist.....	" "
".....	Herman A. Brückner, druggist.....	" "
".....	Charles H. Rogers, druggist.....	" "
".....	Herman Roder, druggist.....	" "
".....	Herman W. Mayer, druggist.....	" "
".....	Chas. Zoeller, druggist.....	" "
".....	James Foulke, druggist.....	" "
".....	Geo. H. White, druggist.....	" "
".....	Lischke Bros. druggists.....	" "
Junction.....	Dr. Hooper.....	3:00 "
Keport.....	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.....	" "

TABLE IV.—LIST OF REPOSITORIES FOR MAILING CASES—Continued.

Town.	Repository.	Mail Leaves.
Leesburg	Dr. S. E. Ewing	
Little Falls	S. Austin Reilly, druggist	
Lodi	David A. Himadi, druggist	
Long Branch	Board of Health	3:00 P. M.
"	Monmouth Memorial Hospital	" "
"	Smythe's Drug Store	" "
"	L. Rothenberg & Co., druggists	" "
"	Jno. T. Britton, druggist	" "
Lumberton	J. H. Stermer, druggist	
Madison	Wm. F. Brown, druggist	3:00 P. M.
"	W. H. Larison, druggist	" "
"	Dr. F. H. Seward	" "
"	Harvey De Hart, druggist	" "
Maplewood	Dr. B. B. Ransom	
Marlton	W. H. Zelle, druggist	
Matawan	Board of Health	
"	Dr. Nathan Ervin	
"	Dr. C. C. Straughan	
Mauricetown	Dr. Geo. E. Spence	
Mays Landing	Board of Health	
"	Dr. H. C. James	
Maywood	Dr. Frank Freeland	10:00 A. M.
Medford	Henry P. Thorn, druggist	
Mendham	Leo Robinson, druggist	
Merchantville	J. W. Kohlerman, druggist	
Metuchen	Board of Health	4:00 P. M.
"	Dr. W. V. McKenzie	" "
"	Geo. H. Hahn, druggist	" "
"	C. A. Prickett, druggist	" "
Middle Valley	Dr. Maxwell S. Simpson	
Midland Park	W. J. Benjamin, druggist	
Milford	C. H. Darmon, druggist	
Millburn	Geo. S. Campbell, druggist	
Millville	Jno. T. Doughty, druggist	
"	Geo. W. Weber, druggist	
"	Smith & Reeves, druggists	
Montclair	Board of Health	12:00 M.
"	David H. Baldwin, bacteriologist	" "
"	Loeser's Pharmacies	" "
"	Wm. L. Johnson, druggist	" "
Moorestown	Dr. F. G. Stroud	1:00 P. M.
Morris Plains	State Hospital	3:00
Morristown	H. M. Smith, druggist	" "
"	Brown & O'Connell, druggists	" "
"	All Souls Hospital	" "

TABLE IV.—LIST OF REPOSITORIES FOR MAILING CASES—Continued.

Town.	Repository.	Mail Leaves.
Mount Holly	Edward B. Jones, druggist	2:00 P. M.
Mullica Hill	Dr. S. F. Ashcraft	
Newark	Dr. Theodore W. Corwin	4:30 P. M.
"	Dr. Wm. R. Ward	" "
New Brunswick	Van Deursen Pharmacy	5:00
"	Skillman & Van Pelt, druggists	" "
"	Wm. Rust & Sons, druggists	" "
Newport	Dr. S. E. Robinson	
Newton	Board of Health	1:30 P. M.
"	H. O. Ryerson, druggist	" "
Norma	Dr. David M. Rappaport	
North Plainfield	Rev. W. E. Honeyman	
Nutley	Henry T. Leferts, druggist	
Oakland	Dr. E. W. Hamilton	
Ocean City	Bourse Pharmacy	
Ogdensburg	Dr. L. C. Burd	
Old Bridge	Dr. I. C. Crandall	
Oradell	Dr. F. O. Bleckstone	
Orange	Memorial Hospital	3:30 P. M.
"	Sumpter L. Beegle, druggist	" "
"	Abram Mosler, druggist	" "
"	J. F. Behrens, druggist	" "
"	Dr. C. E. Dowling, druggist	" "
Oxford	James A. Allen, druggist	
Palmyra	Dr. L. L. Sharp	
Park Ridge	Dr. Henry C. Neer	
Parsippany	Dr. E. P. Cooper	
Passaic	Berger & Richter, druggists	
"	Carroll Drug Company	
"	Van Riper & Co., druggists	
"	General Hospital	
"	St. Mary's Hospital	
"	Otto Laue, druggist	
"	Post & Friedrich Co., druggists	
"	Dr. H. C. Reynolds	
Paterson	Board of Health	12:00 M.
"	Dr. W. H. Lowe	" "
"	Gurdon E. Pellett, druggist	" "
"	Dr. H. S. Willard	" "
"	Keller's Totowa Pharmacy	" "
Paulsboro	C. E. Donnelly, druggist	
Pemberton	C. B. Sitgreaves, druggist	
Penns Grove	Board of Health	
"	Robbin's Pharmacy	
Perth Amboy	Board of Health	

TABLE IV.—LIST OF REPOSITORIES FOR MAILING CASES—Continued.

Town.	Repository.	Mail Leaves.
Perth Amboy	F. A. Seaman, druggist	
Phillipsburg	C. E. Griffin, druggist	
"	Jno. D. Hornby, druggist	
Pitman	Dr. L. N. Slaughter	10:00 A. M.
Pitman Grove	Dr. C. B. Phillips	
Plainfield	Board of Health	2:00 P. M.
"	Hodge's Pharmacy	" "
"	Dr. W. H. Murray	" "
"	A. H. Dundon, druggist	" "
Pleasantville	J. H. North, Jr., druggist	
Point Pleasant	A. B. Johnson, druggist	
Pompton Lakes	Dr. J. C. Morgan	
Port Norris	Dr. S. T. Day	
Princeton	W. L. Briner, druggist	5:00 P. M.
"	Marsh & Burke, druggists	" "
Rahway	Dr. W. E. Cladek	4:00 "
"	Geo. F. Brown, druggist	" "
"	New Jersey Reformatory	" "
"	Joseph G. Smith, druggist	" "
Ramsey	Vanderbeek Drug Co.	
"	J. B. Harvey	
Raritan	Board of Health	2:00 P. M.
Red Bank	Chas. A. Minton, druggist	2:30 "
Ridgefield Park	Dr. H. C. Elsing	
Ridgewood	Dr. Wm. L. Vroom	
"	H. A. Tice, druggist	
Ringoes	Dr. P. C. Young	
Riverside	Warren C. Pine, druggist	4:00 P. M.
Riverton	Dr. Alex. Marcy, Jr.	
Rockaway	Dr. Geo. H. Foster	2:30 P. M.
"	Dr. F. W. Flagee	" "
Rocky Hill	Board of Health	
Roselle	Jay W. Rewalt, druggist	
Rutherford	Board of Health	
Salem	Board of Health	12:00 M.
"	Salem Pharmacy	" "
"	John E. Davis, druggist	" "
"	W. H. Andrews Company, druggists	" "
Sea Bright	Sea Bright Pharmacy	
Shiloh	Dr. E. G. Hummell	
Somerville	John D. 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	
"	Wm. C. Brown, druggist	

TABLE IV.—LIST OF REPOSITORIES FOR MAILING CASES—Continued.

Town.	Repository.	Mail Leaves.
South River	Dr. S. E. Selover	
"	Dr. F. W. Bisett	
Spotswood	Dr. S. G. Denelsbeck	
Springfield	Dr. J. A. Stites, druggist	
Spring Lake	Ann May Memorial Hospital	
"	D. H. Hills & Co., druggists	
"	Dr. Wm. M. Trout	
Stanhope	Nelden's Pharmacy	
Stewartville	Dr. F. W. Curtis	
Stillwater	Dr. E. W. Landes	
Succasunna	Dr. N. H. Adsit	
Summit	W. T. Green, druggist	12:00 M.
"	Wm. H. Rogers, druggist	" "
Sussex	Wm. J. Pinkel, druggist	
Swedesboro	Guest & Guest, druggists	12:00 M.
Toms River	Dr. Ralph R. Jones	
"	Dr. Frank Brouwer	
Town of Union (Weehawken)	August Frank	
Trenton	State Laboratory of Hygiene	
"	Board of Health	
"	H. N. Richards, druggist	
"	Mercer Hospital	
"	Oliver Twist, druggist	
"	Jno. J. Strasser, druggist	
"	James L. Mathis, druggist	
"	Stuckert Pharmacy	
"	Lewis W. Long, druggist	
"	D. Wiley Baker, druggist	
"	C. S. Thatcher, druggist	
"	G. D. Laird, druggist	
"	Holcombe Bros., druggists	
"	David E. Stretch, druggist	
"	Oscar Davison, druggist	
"	Tidd's Pharmacies	
"	Charles Young, druggist	
"	Chas. D. Scott druggist	
"	New Jersey State Prison	
Tuckahoe	Marshall's drug store	
"	Dr. J. S. Douglass	
Tuckerton	Reeve's Pharmacy	
Union Hill	Weismann & Kost, druggists	
Upper Montclair	J. H. Laubenheimer, druggist	
Verona	Verona Pharmacy	1:00 P. M.
Vincetown	Frank S. Hillard	
Vineland	Alfred M. Pierson, druggist	11:00 A. M.

TABLE IV.—LIST OF REPOSITORIES FOR MAILING CASES—*Continued.*

Town.	Repository.	Mail Leaves.
Vineland.....	West Side Pharmacy.....	11:00 A. M.
Waldwick.....	Dr. B. A. Ver Nooy.....	
Wanaque.....	Dr. D. N. Shippee.....	
Washington.....	Dr. Chas. M. Williams.....	1:00 P. M.
Weehawken.....	Wm. Kyvitz, druggist.....	2:30 P. M.
Westfield.....	Bayard Pharmacy.....	2:30 P. M.
".....	Geo. W. Frutchey, druggist.....	" "
West Hoboken.....	A. Giray, druggist.....	" "
".....	Joseph Parentini, druggist.....	" "
".....	Frank H. Eckert, druggist.....	" "
West Nutley.....	James Crammond, druggist.....	" "
Westville.....	C. E. Davis, druggist.....	" "
Westwood.....	Dr. Theodore E. Townsend.....	" "
Wharton.....	Dr. H. W. Kice.....	" "
Whippany.....	Dr. Harry S. Wheeler.....	" "
White House Station.....	Dr. W. W. Pursell.....	" "
Wildwood.....	Cohn Bros., druggists.....	" "
Windsor.....	Dr. Geo. A. Silver.....	" "
Woodbine.....	Dr. E. J. Asnis.....	" "
Woodbridge.....	Board of Health.....	12:30 P. M.
".....	Dr. Ira T. Spencer.....	" "
".....	Dr. B. W. Hoagland.....	" "
Woodbury.....	J. W. Merritt, druggist.....	" "
Woodstown.....	Busby's Pharmacy.....	" "
".....	Harry Guest, druggist.....	" "

The list of repositories in Table IV. has been recently revised, and it is believed that outfits can always be obtained at any of these places. The number of repositories is now 411, an increase of forty-nine over the number of last year, and we believe that almost every locality of the State is satisfactorily supplied with outfits. The figures in the last column of Table IV. refer to the hours when mails close at the post-office. To insure transportation by these mails, it is advisable that specimens be left at the post-office at least fifteen minutes before the mail closes. In order to insure speedy transportation, persons mailing containers should call the attention of postmasters to the fact that postage on these packages is prepaid at letter rates, and therefore they should be forwarded with first-class mail.

During the year 384 samples of water have been examined from sources shown in the following table:

TABLE V.—EXAMINATION OF WATER SAMPLES.

Public supplies.....	64
Dairies.....	220
Private supplies other than dairies.....	80
Public institutions.....	6
Railroad stations.....	8
Miscellaneous.....	6
Total.....	384

EXAMINATION OF WATER FROM PUBLIC SUPPLIES.

It has been found impossible to make systematic examinations of public water supplies this year. The results of the analyses made will be found in Table VI. which follows:

TABLE VI.—RESULTS OF ANALYSES OF SAMPLES OF WATER FROM CERTAIN CITY SUPPLIES—PARTS PER MILLION.

NO.	DATE.	LOCALITY.	Color.	Odor, cold.	Odor, hot.	Turbidity.	Total solids.	Loss on ignition.	Mineral residue.	NITROGEN.				Chlorine.	Alkalinity.	Hardness.	Iron.	Bacteria per cem.	B. coli counts present in.	Appearance on ignition.
										As ammonia.	By alkalimetric.	As nitrites.	As nitrates.							
F 860	March 22, 1906.	Asbury Park.	0	0	0	9	57	72	1,000	0.02	0.01	0.00	1.10	1.40	9.5	0.3	10	None	No darkening.	
F 1262	Nov. 24, 1905.	"	2.0	0	1	11	131	101	1,022	0.08	0.00	0.00	3.20	54.0	0.7	0	None	No darkening.		
F 1263	Nov. 24, 1905.	"	0	0	0	12	133	102	1,028	0.08	0.00	0.00	2.60	64.0	0.7	0	None	Did not darken.		
F 854	June 27, 1906.	"	0	0	0	12	134	103	1,032	0.02	0.00	0.00	2.60	65.0	0.3	0	None	Very slight darkening.		
F 868	July 27, 1906.	"	0	0	0	13	135	104	1,036	0.02	0.00	0.00	3.20	65.0	0.2	0	None	Slight darkening.		
D 1028	Aug. 17, 1905.	Belmar.	0	0	0	13	136	105	1,042	0.02	0.00	0.00	1.60	75.0	0.4	0	None	No darkening.		
F 1295	May 12, 1906.	Bloomfield.	0	0	0	20	170	124	1,024	0.02	0.00	0.00	6.28	46.0	5.0	124	None	No darkening.		
F 1296	May 12, 1906.	Bloomfield.	0	0	0	20	170	124	1,024	0.02	0.00	0.00	6.28	46.0	5.0	124	None	No darkening.		
F 1297	May 12, 1906.	Bloomfield.	0	0	0	20	170	124	1,024	0.02	0.00	0.00	6.28	46.0	5.0	124	None	No darkening.		
F 1405	Feb. 27, 1906.	Bordentown.	0	0	0	30	201	136	1,016	0.20	0.00	0.00	3.20	2.0	0.8	0	None	Darkening.		
F 1406	Feb. 27, 1906.	Bordentown.	0	0	0	30	201	136	1,016	0.20	0.00	0.00	3.20	2.0	0.8	0	None	Darkening.		
F 1271	Dec. 1, 1905.	Branchville.	0	0	0	7	84	32	1,030	0.16	0.02	0.00	9.72	13.0	18.2	0.7	0	None	No darkening.	
F 1272	Dec. 1, 1905.	Branchville.	0	0	0	7	84	32	1,030	0.16	0.02	0.00	9.72	13.0	18.2	0.7	0	None	No darkening.	
F 1273	Dec. 1, 1905.	Branchville.	0	0	0	7	84	32	1,030	0.16	0.02	0.00	9.72	13.0	18.2	0.7	0	None	No darkening.	
F 1274	Dec. 1, 1905.	Branchville.	0	0	0	7	84	32	1,030	0.16	0.02	0.00	9.72	13.0	18.2	0.7	0	None	No darkening.	
F 1275	June 16, 1906.	East Orange.	0	0	0	7	127	36	1,000	0.01	0.00	0.00	6.20	5.5	0.3	0	None	No darkening.		
F 1276	June 16, 1906.	East Orange.	0	0	0	7	127	36	1,000	0.01	0.00	0.00	6.20	5.5	0.3	0	None	No darkening.		
F 1277	Dec. 1, 1905.	East Orange.	0	0	0	7	127	36	1,000	0.01	0.00	0.00	6.20	5.5	0.3	0	None	No darkening.		
F 1278	Dec. 1, 1905.	East Orange.	0	0	0	7	127	36	1,000	0.01	0.00	0.00	6.20	5.5	0.3	0	None	No darkening.		
F 1279	Dec. 1, 1905.	East Orange.	0	0	0	7	127	36	1,000	0.01	0.00	0.00	6.20	5.5	0.3	0	None	No darkening.		
F 1280	Dec. 1, 1905.	East Orange.	0	0	0	7	127	36	1,000	0.01	0.00	0.00	6.20	5.5	0.3	0	None	No darkening.		
F 1281	Dec. 1, 1905.	East Orange.	0	0	0	7	127	36	1,000	0.01	0.00	0.00	6.20	5.5	0.3	0	None	No darkening.		
F 1282	Dec. 1, 1905.	East Orange.	0	0	0	7	127	36	1,000	0.01	0.00	0.00	6.20	5.5	0.3	0	None	No darkening.		
F 1283	Dec. 1, 1905.	East Orange.	0	0	0	7	127	36	1,000	0.01	0.00	0.00	6.20	5.5	0.3	0	None	No darkening.		
F 1284	Dec. 1, 1905.	East Orange.	0	0	0	7	127	36	1,000	0.01	0.00	0.00	6.20	5.5	0.3	0	None	No darkening.		
F 1285	Dec. 1, 1905.	East Orange.	0	0	0	7	127	36	1,000	0.01	0.00	0.00	6.20	5.5	0.3	0	None	No darkening.		
F 1286	Dec. 1, 1905.	East Orange.	0	0	0	7	127	36	1,000	0.01	0.00	0.00	6.20	5.5	0.3	0	None	No darkening.		
F 1287	Dec. 1, 1905.	East Orange.	0	0	0	7	127	36	1,000	0.01	0.00	0.00	6.20	5.5	0.3	0	None	No darkening.		
F 1288	Dec. 1, 1905.	East Orange.	0	0	0	7	127	36	1,000	0.01	0.00	0.00	6.20	5.5	0.3	0	None	No darkening.		
F 1289	Dec. 1, 1905.	East Orange.	0	0	0	7	127	36	1,000	0.01	0.00	0.00	6.20	5.5	0.3	0	None	No darkening.		
F 1290	Dec. 1, 1905.	East Orange.	0	0	0	7	127	36	1,000	0.01	0.00	0.00	6.20	5.5	0.3	0	None	No darkening.		
F 1291	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1292	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1293	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1294	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1295	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1296	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1297	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1298	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1299	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1300	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1301	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1302	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1303	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1304	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1305	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1306	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1307	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1308	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1309	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1310	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1311	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1312	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1313	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1314	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1315	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1316	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1317	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1318	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1319	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1320	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1321	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1322	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1323	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266	0.00	0.00	0.00	4.00	121.0	118.0	0.6	0	None	No darkening.	
F 1324	Mar. 6, 1906.	Metuchen.	0	0	0	9	129	39	266											

EXAMINATION OF WATER USED ON DAIRY PREMISES.

During the year 220 samples have been examined from sources of water-supply located on premises where milk is produced for sale. The results of these examinations are much the same as those of last year. Out of the 220 samples, forty-four appeared to be free from pollution, eighty showed decided evidences of having received polluting material, but the results of analyses did not warrant the condemnation of the waters as unsafe for domestic use, and ninety-six were found to be so badly polluted that it seemed certain that, if a case of typhoid fever or other water-borne disease occurred on the premises where they were located, they would probably become infected, and must therefore be regarded as unsafe for domestic use. The results of these analyses, arranged by counties, is given in Table VII.

TABLE VII.—RESULTS OF ANALYSES OF SAMPLES OF WATER USED ON DAIRY PREMISES—PARTS PER MILLION.

NO.	DATE.	LOCALITY.	Odor, cold.	Odor, hot.	NITROGEN.					B. coli communis present in.
					As ammonia.	By alkaline permanganate.	As nitrites.	As nitrates.	Chlorine.	
ATLANTIC CO.—										
D 6661	June 13, 1906.	Atlantic Township.....	2-w	2-w	.000		.007	6.000	21.8	None.
E 6660	" 13, "	"	2-e	2-e	.000	.024	.002	2.400	9.2	None.
E 1064	Mar. 2, "	Hammonton	0	0	.000	.0015	4.800	19.0	None.	10 ccs.
E 1065	" 5, "	"	0	0	.000	too high to read	.060	6.400	59.4	10 ccs.
BERGEN CO.—										
D 7225	Aug. 27, 1906.	Dulford	0	0	.018	.100	.050	12.000	42.6	0.1 ccs.
E 1206	Nov. 23, 1905.	Glen Rock	2-w	2-w	.040	.016	.013	1.000	55.0	None.
BURLINGTON CO.—										
C 7124	May 7, 1906.	Bordentown	0	0	.000	.030	.0015	8.000	17.0	0.1 ccs.
D 6142	Nov. 1, 1905.	Hanover Township.....	0	0	.004	.046	.006	3.200	11.0	1 ccs.
D 8063	Oct. 17, 1906.	Mansfield	0	0	.006	.048	.001	2.400	108.0	0.1 ccs.
C 6564	Dec. 12, 1905.	Marlton	2-m	2-m	.016	.030	.003	4.800	17.0	1 ccs.
C 6566	" 12, "	"	0	0	.000	.080	.001	4.800	34.5	None.
D 6888	May 11, 1906.	North Hanover Twp.....	2-o	2-o	.052	.068	.006	4.000	25.0	1 ccs.
D 6882	" 11, "	"	0	0	too high to read	.126	.005	20.000	51.8	None.
D 6879	" 12, "	"	0	0	.002	.046	.002	9.600	21.3	None.
D 7297	Sept. 26, "	"	0	0	.008	.030	.006	8.000	36.5	Absent.
D 7295	" 26, "	"	0	0	.000	.050	.010	10.000	38.0	Absent.
D 7296	" 26, "	"	0	0	too high to read	.212	.009	12.000	27.0	Absent.
C 7125	May 8, "	Pemberton.....	0	0	.004	.130	.003	6.000	77.7	None.
C 7346	June 28, "	"	0	0	.002	.128	.002	6.300	89.4	1.0 ccs.
C 7170	July 29, "	"	1-w	1-w	.004	.128	.003	12.000	80.7	0.1 ccs.
C 7242	Oct. 29, "	Smithville	0	0	.502	.106	.100	44.000	93.0	Doubtful.
C 7243	May 8, "	Vincetown	2-o	2-o	1.282	.088	.200	8.000	78.0	10 ccs.
C 7247	June 28, "	"	1-m	0	.002	.116	.012	16.000	151.3	Absent.
C 7241	Oct. 2, "	"	0	0	.005	.122	.030	24.000	81.2	0.1 ccs.
E 1636	Sept. 13, "	West Hampton Twp.....	0	0	1.685	.168	.200	80.000	434.3	0.1 ccs.
E 1635	" 13, "	"	0	0	1.485	.170	.140	12.000	183.4	0.1 ccs.
CAMDEN CO.—										
C 6570	Dec. 18, 1905.	Blackwood	0	0	.000	.022	.001	3.600	66.5	1 ccs.

TABLE VII.—RESULTS OF ANALYSES OF SAMPLES OF WATER USED ON DAIRY PREMISES—PARTS PER MILLION—Continued.

NO.	DATE.	LOCALITY.	Odor, cold.	Odor, hot.	NITROGEN.				Chlorine.	B. coli communis present in.
					As ammonia.	By alkaline permanganate.	As nitrites.	As nitrates.		
CUMBERLAND CO.—										
E 1252	Dec. 6, 1905.	Bridgeton.....	0	0			.040	.200	13.0	1 ccs.
C 6748	Feb. 5, 1906.	"	2-w	2-w	.000	.014	.002	4.000	10.0	None.
C 6742	" 5, "	"	0	0	.000	.036	.001	12.000	48.5	1 ccs.
C 6838	" 21, "	"	0	0	.012	.062	.002	16.000	43.5	1 ccs.
C 6837	" 21, "	"	0	0	.012	.022	.000	5.600	10.5	None.
C 6884	Mar. 2, "	"	0	0	.002	.074	.002	15.200	23.5	None.
C 6940	" 23, "	"	0	0	.000	.064	.001	2.400	15.8	10 ccs.
C 7056	Apr. 19, "	"	0	0	.000	.018	.002	6.000	9.2	None.
C 7057	" 19, "	"	0	0	.000	.082	.002	16.000	45.1	1.0 ccs.
C 6576	Dec. 25, 1905.	North Vineland.....	0	0	.022	.160	.002	3.200	12.0	None.
C 6839	Feb. 21, 1906.	Roadstown	0	0	.038	.042	.040	11.200	37.0	None.
C 6938	Mar. 23, "	"	0	0	.012	.024	.003	11.200	94.5	10 ccs.
C 6939	" 23, "	"	3-w	3-w	.000	.130	.006	6.000	16.3	None.
C 6886	" 2, "	Shiloh	0	0	.000	.040	.003	40.000	67.0	None.
C 6885	" 3, "	"	0	0	.398	.022	.200	6.800	28.5	None.
C 6567	Dec. 14, 1905.	Vineland	1-m	1-m	.012	.090	.004	9.600	16.5	(?)
C 6568	" 14, "	"	0	0	.054	.082	.008	12.000	13.5	0.1 ccs.
C 6566	" 14, "	"	0	2-o	.174	.003	.003	2.000	3.5	0.1 ccs.
C 6569	" 14, "	"	0	0	.016	.136	.005	4.800	39.5	10 ccs.
C 6573	" 22, "	"	2-y	2-y	.008	.054	.007	20.000	24.5	(?)
C 6572	" 22, "	"	0	0	.000	.054	.001	6.000	12.5	0.1 ccs.
C 7228	June 7, 1906.	"	0	0	.032	.012	.002	4.000	8.2	None.
C 7239	" 7, "	"	0	0	.056	.058	.040	12.000	17.0	10 ccs.
C 7240	" 7, "	"	0	0	.038	.012	.005	1.400	5.0	None.
C 7241	" 7, "	"	3-o	3-o	.020	.050	.003	5.500	12.3	0.1 ccs.
C 7242	" 7, "	"	1-e	1-e	.030	.084	.003	5.200	14.2	None.
C 7243	" 7, "	"	0	0	.010	.030	.003	10.000	77.1	10 ccs.
C 7245	" 7, "	"	0	0	.008	.002	.004	2.800	5.5	None.
C 7247	" 8, "	"	2-e	2-e	.016	.072	.005	32.000	28.5	0.1 ccs.
ESSEX CO.—										
D 6141	Nov. 1, 1905.	Livingston Township.....	0	0	.036	.060	.010	.600	6.5	None.
D 6208	Dec. 12, "	Maplewood	0	0	.000	.024	.000	2.800	7.50	None.
D 6249	Sept. 3, 1906.	Nutley	0	0	.004	.008	.000	0.200	7.4	Absent.
D 6211	May 19, "	"	0	2-o	.020	.000	.000	8.800	12.6	1 ccs.
D 7860	Sept. 3, "	South Orange	2-o	2-o	.016	.068	.003	4.000	50.8	1.0 ccs.
GLOUCESTER CO.—										
E 1424	Sept. 13, 1906.	Clarton	0	0	.006	.030	.001	0.600	3.2	Absent.
C 6477	Nov. 21, 1905.	Mullica Hill	0	0	1.460	1.234	.199	2.000	86.0	None.
C 6475	" 21, "	"	2-e	1-e	.000	.064	.001	14.000	53.0	None.
C 6476	" 21, "	"	0	0	.218	.054	.030	2.800	26.0	1 ccs.
C 6478	" 21, "	"	2-e	2-e	.062	.082	.005	6.000	44.0	(?)
C 6501	" 24, "	"	1-e	1-e	.000	.028	.003	8.000	20.0	None.
C 6502	" 24, "	"	0	0	.000	.030	.000	.032	8.5	10 ccs.
C 6508	" 24, "	"	1-w	1-w	.006	.028	.002	20.000	26.0	0.1 ccs.
HUNTERDON CO.—										
E 1214	Dec. 13, 1905.	Harbourton	0	0	.004	.054	.003	9.600	49.5	1.0 ccs.
E 1348	July 9, 1906.	Oak Summit	2-o	2-o	.000	.003	.003	4.800	9.7	0.1 ccs.
MERCER CO.—										
E 1890	Sept. 12, 1906.	Ewing Township.....	0	0	.000	.026	.001	9.600	19.2	None.
E 1823	Sept. 19, "	Hamilton Township.....	0	0	.006	.040	.004	16.000	36.0	1.0 ccs.
E 1630	" 19, "	"	2-t	2-t	.028	.062	.005	24.000	48.0	0.1 ccs.
E 1261	Nov. 15, 1905.	Hopewell	1-e	1-e	.026	.020	.140	4.000	17.6	1 ccs.
C 1252	" 15, "	"	0	0	.036	.030	.000	1.600	3.00	10 ccs.
E 1256	" 15, "	"	0	0	.000	.010	.003	.280	None.	
E 1257	" 15, "	"	0	0	.000	.024	.000	1.200	2.80	None.
E 1674	Sept. 20, 1906.	"	0	0	.014	.062	.060	12.000	46.0	1.0 ccs.

TABLE VII.—RESULTS OF ANALYSES OF SAMPLES OF WATER USED ON DAIRY PREMISES—PARTS PER MILLION—Continued.

NO.	DATE.	LOCALITY.	Odo. cod.	Odo. hot.	NITROGEN.					Chlorine.	B. coli communi present in.
					As ammonia.	By alkaline permanganate.	As nitrates.	As nitrites.	As nitrites.		
MERCER CO. (Con.)—											
E 1434	Oct. 11, 1906.	Hopewell	0	0	.582	.070	.010	.000	6.5	Absent.	
E 1435	" 11, "	"	1-y	0	.120	.126	.008	0.400	3.5	1 cc.	
E 1436	" 11, "	"	0	0	1.75	.216	.070	4.000	4.5	0.1 cc.	
E 1437	" 11, "	"	3-0	2-0	.220	.126	.000	.000	32.0	0.1 cc.	
E 1344	" 7, "	Hopewell Township	0	0	.130	.010	.000	2.200	3.2	0.1 cc.	
E 1438	" 11, "	"	0	0	.006	.022	.000	1.300	6.5	0.1 cc.	
D 3691	June 12, "	Lawrence	1-0	1-0	.010	.026	.005	2.400	14.0	1 cc.	
E 1658	Aug. 10, "	"	0	0	.030	.074	.006	9.600	22.8	0.1 cc.	
E 1659	" 13, "	"	0	0	.018	.022	.005	4.000	9.2	0.1 cc.	
E 1664	" 21, "	"	0	0	.010	.068	.060	8.000	24.8	0.1 cc.	
E 1663	" 21, "	"	0	0	.000	.018	.001	4.800	9.0	Absent.	
D 6231	Jan. 5, "	Princeton	0	0	.000	.044	.000	4.400	17.5	1 cc.	
D 6262	" 5, "	"	0	0	.002	.024	.000	6.400	17.0	1 cc.	
D 6263	" 5, "	"	0	0	.002	.050	.000	8.000	19.0	3 cc.	
D 6196	Nov. 23, 1905.	Princeton Township	0	0	.008	.028	.000	2.000	7.50	10 cc.	
D 6248	Jan. 5, 1906.	"	0	0	.050	.094	.006	.560	3.0	Doubtful.	
D 6260	" 5, "	"	0	0	.010	.042	.020	.800	3.0	1 cc.	
E 1648	Oct. 30, "	West Windsor Twp.	2-e	2-e	.022	.068	.001	10.000	12.2	0.1 cc.	
E 1649	" 30, "	"	0	0	.054	.026	.004	5.600	15.1	0.1 cc.	
MIDDLESEX CO.—											
E 1299	June 4, 1906.	Martinville	0	0	.006	.026	.002	2.000	5.0	0.1 cc.	
D 6598	May 17, "	New Durham	0	0	.010	.030	.002	6.000	21.8	1.0 cc.	
E 1378	Jan. 22, "	New Markt.	0	0	.006	.060	.015	13.40	31.0	1 cc.	
E 1379	" 22, "	"	0	0	.076	.074	.004	28.000	57.5	None.	
E 1380	" 22, "	"	0	0	.008	.088	.040	12.00	49.0	1 cc.	
E 1385	" 23, "	Oak Tree	0	0	.004	.066	.002	5.600	36.0	1 cc.	
E 1384	" 23, "	"	0	0	.016	.002	.002	1.700	6.5	None.	
D 6594	May 17, "	"	0	0	.000	.014	.001	2.800	7.6	10 cc.	
D 6197	Nov. 23, 1905.	South Brunswick Twp.	0	0	.030	.054	.008	1.600	38.0	0.1 cc.	
D 9083	Oct. 26, 1906.	"	2-e	2-e	.006	.040	.000	.080	8.2	0.1 cc.	
E 1347	Apr. 11, "	South Plainfield	1-y	1-y	.010	.060	.001	4.000	12.2	1.0 cc.	
MONMOUTH CO.—											
D 6654	June 12, 1906.	Colt's Neck	2-w	2-w	.002	.010	.002	7.200	34.0	None.	
D 6656	" 12, "	"	0	0	.000	.010	.004	4.000	15.5	None.	
D 6659	" 13, "	"	0	0	.010	.016	.002	8.300	10.0	0 cc.	
D 6568	Apr. 10, "	Cream Ridge	0	0	very high	.004	.000	20.000	60.9	None.	
D 6224	Dec. 19, 1905.	Deal Beach	0	0	.000	.040	20.5	.000	.040	20.5	None.
D 6225	" 19, "	"	0	0	.000	.001	.800	18.0	.000	.800	None.
E 1447	Oct. 29, 1906.	Englishtown	0	0	.014	.054	.003	.080	8.0	10 cc.	
D 6306	Jan. 18, "	Freehold	0	0	.000	.014	.002	6.400	61.2	None.	
D 6355	Feb. 5, "	Freehold Township	0	0	.000	.001	.001	2.800	44.5	None.	
D 6224	Dec. 27, 1905.	Glendola	0	0	.002	.280	.265	.000	.280	26.5	None.
D 6298	Jan. 12, 1906.	"	0	0	.020	.000	.002	5.600	11.5	None.	
D 6292	Dec. 27, 1905.	Hamilton	0	0	.000	.000	.000	3.000	108.0	None.	
D 6555	Apr. 11, 1906.	Imlaystown	0	0	.000	.007	.000	8.000	64.4	None.	
D 6536	" 11, "	"	0	0	.000	.001	.000	1.200	24.3	None.	
D 6557	" 11, "	"	0	0	.002	.160	.001	1.600	3.1	1 cc.	
D 6352	Feb. 2, "	Manalapan Township	0	0	.000	.000	.000	24.0	108.0	None.	
D 6353	" 2, "	"	1-e	1-e	high	.002	.002	9.600	138.5	None.	
D 6354	" 5, "	"	0	0	.002	.002	.002	5.600	75.0	10 cc.	
D 6231	Dec. 27, 1905.	Neptune Township	2-m	2-m	.000	.000	.000	.000	10.5	None.	
E 1892	June 1, 1906.	"	2-y	2-y	.138	.040	.001	.000	18.5	None.	
D 6223	" 12, "	New Belford	1-e	1-e	.000	.005	.000	4.000	9.0	None.	
D 6226	Dec. 19, 1905.	Poplar	0	0	.004	.054	.002	2.400	16.5	0.1 cc.	
D 6938	July 20, 1906.	Sea Girt	0	0	.004	.016	.002	1.400	15.7	10 cc.	
D 7294	Sept. 25, "	"	0	0	.014	.026	.002	1.600	32.0	10 cc.	
D 6238	Dec. 27, 1905.	Shrewsbury Township	0	0	.000	.003	.000	.080	17.0	None.	

TABLE VII.—RESULTS OF ANALYSES OF SAMPLES OF WATER USED ON DAIRY PREMISES—PARTS PER MILLION—Continued.

NO.	DATE.	LOCALITY.	Odo. cod.	Odo. hot.	NITROGEN.					Chlorine.	B. coli communi present in.
					As ammonia.	By alkaline permanganate.	As nitrates.	As nitrites.	As nitrites.		
MORRIS CO.—											
E 1516	Apr. 9, 1906.	Flanders	1-e	1-e	.008	.050	.008	2.000	5.1	10 cc.	
E 1518	" 9, "	"	1-y	0	.042	.020	.000	3.800	12.1	None.	
E 1519	" 9, "	"	0	0	.000	.016	.0015	.000	2.6	None.	
E 1530	" 10, "	"	0	0	.002	.062	.100	40.000	118.3	10 cc.	
E 1521	" 9, "	"	0	0	.054	.018	.015	.040	1.60	10 cc.	
E 1522	" 9, "	"	0	0	.002	.026	.002	2.000	5.1	None.	
E 1377	Jan. 22, "	Lincoln	0	0	.068	.042	.100	6.400	31.5	None.	
OCEAN CO.—											
D 6732	July 2, 1906.	Wanamassa	1-w	1-w	.000	.001	0.040	12.5	Absent.		
PASSAIC CO.—											
E 1640	Oct. 15, 1906.	Little Falls	0	0	.010	.022	.001	7.200	16.0	Doubtful.	
SALEM CO.—											
C 6823	Feb. 19, 1906.	Aldine	2-m	2-m	.010	.038	.0015	36.000	32.5	None.	
C 6436	Nov. 3, 1905.	Alloway	0	0	.000	.028	.002	41.000	87.5	1 cc.	
C 6438	" 1, "	Elmer	1-e	1-e	.000	.040	.002	8.000	8.5	10 cc.	
C 6432	" 1, "	"	0	0	.008	.028	.003	5.600	9.5	0.1 cc.	
C 6127	May 10, 1906.	"	2-w	2-w	.000	.034	.002	2.900	15.7	1.0 cc.	
C 7330	June 25, "	"	0	0	.002	.016	.002	4.000	12.7	1.0 cc.	
E 1299	Dec. 1, 1905.	Monroeville	1-e	0	.010	.040	.002	6.400	25.0	10 cc.	
C 6822	Mar. 21, 1906.	Palatine	0	1-e	.000	.058	.002	24.000	59.4	None.	
C 6930	" 21, "	"	0	0	.000	.022	.002	14.000	9.6	None.	
C 6928	" 21, "	"	0	0	.000	.024	.002	4.000	6.2	None.	
C 6504	Nov. 27, 1905.	Quinton	1-w	1-w	.000	.022	.002	2.400	11.0	None.	
C 6503	" 27, "	"	0	0	.000	.056	.004	8.000	147.5	0.1 cc.	
C 6506	" 27, "	"	0	0	.000	.024	.001	8.000	51.0	0 cc.	
C 6621	Dec. 4, "	"	0	0	.002	.056	.002	5.600	57.0	0 cc.	
C 6522	" 4, "	"	0	0	.522	.036	.000	.000	12.0	None.	
C 6548	" 4, "	"	0	0	.006	.076	.001	2.800	212.0	(?)	
C 6549	" 8, "	"	2-e	2-e	.008	.056	.002	12.000	62.5	1 cc.	
C 6550	" 8, "	"	0	0	.008	.028	.000	.080	37.0	10 cc.	
C 6851	Feb. 26, 1906.	"	0	0	.000	.122	.006	16.400	350.0	10 cc.	
C 6483	Nov. 3, 1905.	Salem	0	0	.036	.044	.050	12.000	91.5	10 cc.	
C 6484	" 3, "	"	0	0	.046	.040	.003	40.000	84.5	1 cc.	
C 6443	" 9, "	"	2-m	2-m	.000	.004	.002	20.000	86.5	None.	
C 6442	" 9, "	Sharptown	0	0	.098	.020	.040	8.000	36.5	0 cc.	
C 7000	Apr. 4, 1906.	Woodstown	2-v	2-v	.001	.026	.002	20.000	30.0	None.	
C 7002	" 4, "	"	0	0	.000	.046	.002	12.000	166.	10 cc.	
C 7022	" 9, "	"	0	0	.000	.044	.0015	9.000	8.6	None.	
C 7031	" 15, "	"	2-v	2-v	.032	.102	.001	130	2.10	None.	
C 7032	" 15, "	"	0	0	.002	.032	.0015	3.200	3.0	None.	
C 6978	Mar. 30, "	Yorktown	0	0	.004	.058	.003	14.000	60.4	Doubtful.	
C 6979	" 30, "	"	0	0	.002	.032	.003	21.000	88.4	0.1 cc.	
C 7023	Apr. 9, "	"	0	0	.004	.004	.000	17.600	213.3	10 cc.	
SOMERSET CO.—											
E 1509	Apr. 8, 1906.	Finderne	0	0	.000	.014	.000	2.400	3.70	None.	
E 1508	" 8, "	"	0	0	.000	.036	.001	2.800	17.3	None.	
E 1341	May 15, "	Franklin Township	0	0	.000	.006	.002	12.000	35.3	10 cc.	
D 6228	Dec. 21, 1905.	Griggstown	0	0	.022	.056	.001	3.800	2.5	0.1 cc.	
D 6290	" 21, "	"	0	0	.010	.031	.001	0.320	8.5	Absent.	
E 1506	Apr. 2, 1906.	Hillsboro	0	0	.020	.060	.003	24.000	18.8	10 cc.	
D 6198	Nov. 25, 1905.	Kingston	0	0	.000	.020	.001	.800	4.0		

TABLE VII.—RESULTS OF ANALYSES OF SAMPLES OF WATER USED ON DAIRY PREMISES—PARTS PER MILLION—Continued.

NO.	DATE.	LOCALITY.	Oder, cold.	Oder, hot.	NITROGEN.				Chlorine.	B. coli organisms present in.
					As ammonia.	By alkaline permanganate.	As nitrates.	As nitrites.		
SOMERSET CO. (Con.)—										
E 1272	Jan. 9, 1906.	North Plainfield.....	0	0	.110	.080	.040	4.800	10.0	10 ccs.
E 1273	" 8, " "	" " " " " " " " " "	0	0	.040	.024	.000	.560	9.0	None.
E 1326	" 22, " "	" " " " " " " " " "	0	0	.015	.026	.000	2.400	4.5	None.
D 6229	Dec. 27, 1905.	Rocky Hill.....	0	0	.000	.080	.000	1.250	4.0	None.
D 6264	Jan. 6, 1906.	" " " " " " " " " "	0	0	.006	.682	.002	4.800	26.0	1 ccs.
E 1349	Apr. 2, " "	Somerville.....	0	0	.004	.022	.000	3.600	3.70	None.
SUSSEX CO.—										
E 1572	Nov. 22, 1905.	Augusta.....	0	0			.003	2.400	3.0	10 ccs.
A 5571	May 2, 1906.	Beemerville.....	0	0	.000	.680	.001	8.000	5.20	1 ccs.
UNION CO.—										
E 1215	Dec. 19, 1905.	Alton.....	0	0	.024	.142	.000	1.200	17.5	10 ccs.
E 1219	" 18, " "	Fairwood.....	0	0	.000	.022	.002	4.000	7.5	None.
E 1220	" 18, " "	" " " " " " " " " "	0	0	.048	.024	.003	.120	20.0	None.
E 1221	" 18, " "	" " " " " " " " " "	0	0	.000	.018	.000	6.000	6.0	None.
E 1301	Apr. 18, 1906.	Plainfield.....	0	0	.016	.072	.002	2.800	2.0	1 ccs.
E 1303	" 15, " "	" " " " " " " " " "	0	0	.024	.050	.003	11.200	27.0	1 ccs.
E 1305	" 18, " "	" " " " " " " " " "	0	0	.004	.070	.001	4.800	66.0	10 ccs.
E 1306	" 18, " "	" " " " " " " " " "	0	0	.018	.070	.002	2.800	39.0	None.
E 1517	" 18, " "	" " " " " " " " " "	0	0	.060	.086	.080	1.000	8.701	ccs.
E 1387	Jan. 29, 1906.	" " " " " " " " " "	0	0	.004	.028	.005	9.600	29.5	None.
E 1384	June 5, " "	" " " " " " " " " "	2-0	2-0	.394	.114	.002	0.000	6.0	None.
E 1298	" 12, " "	" " " " " " " " " "	2-0	2-0	1.500	.066	.120	16.000	22.0	None.
E 1286	" 12, " "	" " " " " " " " " "	0	0	.624	.028	1.000	20.000	24.3	None.
E 1287	" 12, " "	" " " " " " " " " "	0	0	.096	.016	.100	4.000	7.7	None.
E 1213	Dec. 18, 1905.	Potter's Station.....	0	0	.015	.086	.000	4.000	34.5	1.0 ccs.
E 1381	Jan. 29, 1906.	" " " " " " " " " "	0	0	.014	.028	.001	1.000	6.5	None.
E 1382	" 29, " "	" " " " " " " " " "	0	0	.002	.022	.000	1.200	6.0	None.
E 1383	" 29, " "	" " " " " " " " " "	0	0	.006	.026	.000	1.320	6.0	None.
E 1386	" 29, " "	" " " " " " " " " "	0	0	.024	.042	.004	4.000	4.0	None.
E 1329	May 18, " "	Rahway.....	1-e	1-e	.014	.060	.004	16.000	15.2	0.1 ccs.
D 8066	Oct. 17, " "	Springfield.....	0	0	.006	.062	.010	10.400	76.7	1.0 ccs.
E 1342	Aug. 30, " "	" " " " " " " " " "	0	0	.040	.050	.040	31.0		Absent.

TABLE VIII.—RESULTS OF ANALYSES OF SAMPLES OF WATER TAKEN FROM PRIVATE SUPPLIES—PARTS PER MILLION.

NO.	DATE.	LOCALITY.	Oder, cold.	Oder, hot.	NITROGEN.				Chlorine.	B. coli organisms present in.
					As ammonia.	By alkaline permanganate.	As nitrates.	As nitrites.		
E 1414	Aug. 22, 1906.	Alpha.....	0	0	.000	.012	.002	0.600	7.7	None.
E 1415	" 22, " "	" " " " " " " " " "	0	0	.000	.016	.002	4.000	12.2	None.
E 1416	" 22, " "	" " " " " " " " " "	0	0	.028	.016	.004	8.000	8.2	10 ccs.
E 1213	Dec. 8, 1905.	Andover.....	0	0	.058	.066	.005	3.800	1.0	10 ccs.
D 6504	Mar. 16, 1906.	Asbury Park.....	0	0	.104	.050	.005	4.000	87.0	None.
E 1385	" 23, " "	" " " " " " " " " "	0	0	.000	.026	.001	2.400	7.3	None.
E 1608	June 8, " "	" " " " " " " " " "			very high					
E 1602	" 8, " "	" " " " " " " " " "	0	0	.073	.016	.002	0.000	30.5	10 ccs.
E 1048	Jan. 11, " "	Bordentown.....	0	0	.012	.046	.0015	3.000	6.0	10 ccs.
E 1675	Sept. 24, " "	" " " " " " " " " "	0	2-0	.046	.100	.004	0.120	5.0	10 ccs.
E 1676	" 24, " "	" " " " " " " " " "	0	0	.000	.016	.001	0.200	6.5	10 ccs.
E 1677	" 24, " "	" " " " " " " " " "	0	0	.000	.022	.001	0.200	6.5	10 ccs.
E 1644	Oct. 24, " "	" " " " " " " " " "	3-0	1-0	.028	.066	.050	82.000	155.0	0.1 ccs.
D 6792	July 6, " "	Bradley Beach.....	0	0	.020	.000	.002	1.000	14.0	None.
E 1623	" 13, " "	Burlington.....	0	0	.002	.040	.002	6.000	55.2	0.1 ccs.
E 1345	Mar. 26, " "	Caldwell.....	0	0	.000	.008	.001	.020	8.2	None.
E 1420	Sept. 17, " "	Clayton.....	0	0	1.130	.120	.140	20.000	41.6	1.0 ccs.
E 1425	" 17, " "	" " " " " " " " " "	0	0	.022	.072	.040	12.000	75.1	1.0 ccs.
E 1423	" 17, " "	" " " " " " " " " "	0	0	.014	.032	.014	0.800	3.7	None.
E 1660	Aug. 17, " "	Clover Hill.....	0	0	.002	.014	.003	16.000	30.0	0.1 ccs.
E 1411	July 27, " "	Colonia.....	0	0	.002	.014	.007	2.000	5.6	None.
E 1665	Aug. 30, " "	Cookstown.....	0	0	.016	0.112	.009	6.000	41.0	1.0 ccs.
E 1380	May 4, " "	Freehold.....	0	0	.004	.022	.002	2.800	44.1	None.
E 1382	" 11, " "	" " " " " " " " " "	0	0	.002	.034	.008	16.000	38.4	None.
E 1396	Apr. 11, " "	" " " " " " " " " "	2-W	2-W	.004	.026	.002	12.000	114.3	None.
E 1285	July 5, " "	" " " " " " " " " "	0	0	.002	.026	.003	20.000	60.9	0.1 ccs.
E 1639	Oct. 19, " "	" " " " " " " " " "	0	0	.042	.056	.001	16.000	77.0	0.1 ccs.
E 1638	" 25, " "	" " " " " " " " " "	5-0	5-0	high to read		.000	11.000	80.7	0.1 ccs.
C 690	Mar. 7, " "	Gloucester City.....	0	0	.122	.034	.003	11.200	16.1	None.
C 628	" 15, " "	" " " " " " " " " "	0	0	.126	.036	.003	12.000	16.1	None.
E 1606	June 6, " "	" " " " " " " " " "	0	0	.080	.110	.004	4.000	19.5	10 ccs.
E 1407	July 24, " "	" " " " " " " " " "	0	0	5.330	.060	.050	28.000	55.4	0.1 ccs.
C 7722	Oct. 1, " "	" " " " " " " " " "	0	0	2.940	.034	.050	16.000	53.3	Absent.
E 1394	June 5, " "	Irrington.....	0	0	.066	.044	.005	5.000	10.0	ccs.
E 1311	Apr. 24, " "	Jamestown.....	0	0	.008	.040	.000	.320	3.4	ccs.
E 1290	May 20, " "	Lakewood.....	1-W	1-W	.026	.032	.001	.000	9.1	None.
E 1292	July 28, " "	Lambertville.....	0	0	.174	.074	.002	.000	11.7	ccs.
E 1404	July 16, " "	" " " " " " " " " "	0	0	.040	.202	.070	4.000	30.0	1 ccs.
E 1437	Oct. 4, " "	" " " " " " " " " "	0	2-m	0.000	.000	.000	0.000	0.0	ccs.
E 1654	Aug. 14, " "	Long Branch.....	0	0	.080	.028	.001	9.200	18.0	0.1 ccs.
E 1653	" 14, " "	" " " " " " " " " "	0	0	.080	.112	.005	.120	18.0	0.1 ccs.
E 1527	" 2, " "	Manasquan.....	0	0	.008	.158	.007	.000	9.7	1.0 ccs.
E 1389	Mar. 12, " "	Metuchen.....	0	0	.018	.100	.003	8.000	54.3	None.
E 1370	June 12, " "	Moorestown.....	0	1-e	.000	.008	.000	4.000	32.0	0.0 ccs.
E 1099	Apr. 18, " "	Mount Holly.....	0	0	.006	.048	.001	12.000	45.1	None.
E 1280	May 9, " "	" " " " " " " " " "	0	0	.006	.084	.003	18.000	39.1	None.
E 1281	" 9, " "	" " " " " " " " " "	0	0	1.280	.110	.050	21.000	73.1	10 ccs.
E 1282	" 9, " "	" " " " " " " " " "	0	0	.114	.046	.003	4.000	22.8	10 ccs.
E 1284	" 9, " "	" " " " " " " " " "	1-V	?	.000	.012	.0015	4.000	9.7	None.
E 1897	June 3, " "	" " " " " " " " " "	2-e	2-e	.008	.052	.030	8.000	51.3	None.
E 1261	Nov. 24, 1905.	Nephtun Township.....	0	0	.044	.023	.000	.000	14.0	None.
E 1283	" 24, " "	" " " " " " " " " "	0	0	.084	.008	.000	.000	25.0	None.
E 1284	" 24, " "	" " " " " " " " " "	0	0	.322	.050	.000	.000	36.5	None.
E 1261	" 24, " "	" " " " " " " " " "	0	0	.214	.040	.002	.000	29.5	None.
E 1259	" 25, " "	" " " " " " " " " "	0	0	.078	.036	.000	.000	37.0	None.
E 1389	Feb. 14, 1906.	Orange.....	0	0	.088	.202	.080	16.000	76.0	ccs.

Table VIII. gives the results of analyses made of water from private supplies, and Table IX. those from railroad stations, the latter being samples of the water supplied by railroad companies for the use of passengers and employes.

TABLE VIII.—RESULTS OF ANALYSES OF SAMPLES OF WATER TAKEN FROM PRIVATE SUPPLIES—PARTS PER MILLION—Continued.

NO.	DATE.	LOCALITY.	Odor, cold.	Odor, hot.	NITROGEN.				Chlorine.	B. coli organisms present in.
					As ammonia.	By alkaline permanganate.	As nitrites.	As nitrates.		
E 1392	Mar. 8, 1906.	Orange	0	0	.006	.028	.020	12.800	21.8	None.
E 1881	May 10, "	Fennington	0	0	.068	.062	.002	5.600	25.3	None.
E 1532	Aug. 15, "	Phillipsburg	0	0	.042	.046	.004	0.530	4.0	1.0 ccs.
E 1210	Dec. 4, 1905.	Point Pleasant	0	0	.046	.056	.050	8.000	58.5	None.
E 1212	" 4, "	"	0	0	.382	.040	.000	.000	3.0	None.
E 1667	Sept. 8, 1906.	Pompton Lakes	1-e	0	.004	.022	.002	.000	3.0	10.0 ccs.
E 1663	Oct. 4, "	Pompton Township	0	0	.002	.066	.000	0.123	4.0	0.1 ccs.
E 1425	Aug. 14, "	Prakness Mountain	0	0	.002	.009	.001	.000	4.4	1.0 ccs.
E 1288	May 17, "	Rahway	0	0	.026	.042	.003	28.000	81.5	10 ccs.
E 1297	June 14, "	"	3-0	3-m	.006	.066	.001	0.800	14.0	Absent.
E 1402	July 2, "	"	1-e	0	.002	.056	.002	6.400	17.0	1.0 ccs.
E 1617	" 8, "	Red Bank	0	0	.030	.018	.032	8.000	49.8	1.0 ccs.
E 1097	Apr. 24, "	West Asbury Park	3-e	3-e	.104	.100	.100	20.000	83.2	10 ccs.
E 1673	Sept. 14, "	Wharton	2-e	2-e	.174	.040	.001	.000	3.0	Absent.
E 1375	Jan. 11, "	"	0	0	.134	.128	.002	3.600	23.5	0.1 ccs.
E 1340	Mar. 1, "	"	0	1-y	.029	.083	.032	8.000	16.3	None.
E 1186	" 6, "	"	0	0	.018	.158	.080	2.800	22.8	None.
E 1392	" 8, "	"	0	0	.006	.028	.020	12.800	21.8	None.
E 1522	Apr. 18, "	"	0	0	.008	.104	.005	6.000	38.1	None.

TABLE IX.—RESULTS OF ANALYSES OF SAMPLES OF WATER TAKEN FROM RAILROAD STATIONS—PARTS PER MILLION.

NO.	DATE.	LOCALITY.	Odor, cold.	Odor, hot.	NITROGEN.				Chlorine.	B. coli organisms present in.
					As ammonia.	By alkaline permanganate.	As nitrites.	As nitrates.		
D 6207	Dec. 11, 1905.	Dunellen	0	0	.....	.....	.000	.600	7.0	None.
C 7293	June 19, 1906.	Haddon Heights	2-e	2-e	.....	.....	.002	4.000	8.2	10 ccs.
D 7286	Sept. 25, "	Hightstown	0	0	.002	.080	.003	12.000	33.0	Absent.
D 8084	Oct. 26, "	Lower Jamesburg	0	0	.....	.060	.000	.072	11.2	Absent.
D 6729	July 2, "	Lyons Farms	0	0	0	.....	.005	2.900	21.0	Absent.
D 6837	" 20, "	Manasquan	0	0	.002	.018	.002	2.800	43.5	10 ccs.
E 1300	Dec. 15, 1905.	Trenton	0	0	.160	.044	.000	5.600	11.5	0.1 ccs.
D 6544	Apr. 10, 1906.	Yardville	0	0	.....	.....	.010	2.400	35.0	None.

During the coming year it is hoped that the laboratory may be able to examine a much larger number of water samples. Heretofore it has been possible to comply with but few of the requests made for such examinations. This work, even to the examination of the waters from private supplies, is of great sanitary importance, as any polluted well may be the means of causing an outbreak of typhoid fever. Regulations governing the collection and examination of water samples will be found in Circular 113 of the State board of health.

EXAMINATION OF FOODS AND DRUGS.

These examinations have been conducted along lines laid down in previous reports. Owing to the necessity of examining a much larger number of samples of milk this year, the number of samples of foods, other than milk, and drugs has decreased. Table X. which follows shows the number of specimens of each class examined.

TABLE X.—SHOWING THE NUMBER OF SPECIMENS EXAMINED DURING THE YEAR ENDING OCTOBER 31, 1906.

ARTICLE.	Above standard.	Below standard.	Total.
Milk	1,762	578	2,340
Cream	94	7	101
Foods	731	295	1,026
Drugs	138	267	405
Water	.....	.....	384
Totals	2,725	1,147	4,256

Table XI. shows the kind and number of samples of foods other than milk examined, and Table XII. the kind and number of drugs.

TABLE XI.—FOODS OTHER THAN MILK.

ARTICLE.	Above standard.	Below standard.	Total.	Percentage of adulteration.
Ale, Scotch hop	.....	1	1	100.0
Butter	43	36	79	45.5
Cocoa	42	2	44	4.5
Codfish	18	9	27	33.3
Coffee	3	.....	3	0.0
Condensed milk	1	.....	1	0.0
Extract of lemon	1	.....	1	0.0
Extract of vanilla	44	22	66	33.3
Honey	21	1	22	4.5
Lard	.....	1	1	0.0
Lard	2	.....	2	18
Maple syrup	.....	16	16	88.8
Molasses	164	39	203	19.2
Molasses, compound	6	.....	6	0.0
Mustard	29	20	49	40.8
Oleomargarine	15	11	26	42.3
Olive oil	55	2	57	3.5
Pepper, ground black	54	5	59	8.4
Raspberry jam	1	1	2	50.0
Strawberries, preserved	1	.....	1	0.0
Syrup	2	1	3	33.3
Vinegar	3	.....	3	0.0
" cider	194	96	290	33.1
" compound	1	.....	1	0.0
" distilled	9	.....	9	0.0
" malt	2	4	6	66.6
" syrup	4	3	7	42.8
" tarragon	1	.....	1	0.0
" white	12	5	17	29.4
" white wine	2	21	23	91.3
Totals	731	295	1,026	28.7

TABLE XII.—DRUGS.

ARTICLE.	Above standard.	Below standard.	Total.	Percentage of adulteration.
Æther.....	8	1	9	11.1
Aqua hamamelidis.....	1	.....	1	0.0
Aqua hydrogenii dioxidi.....	1	.....	1	0.0
Linimentum camphoræ.....	37	69	106	65.0
Liquor formaldehydi.....	1	.....	1	0.0
Oleum olivæ.....	17	.....	17	0.0
Potassii bitartras.....	8	3	11	27.2
Potassii bromodidum.....	2	.....	2	0.0
Potassii iodidum.....	1	.....	1	0.0
Saccharum lactis.....	1	.....	1	0.0
Sodii boras.....	31	4	35	11.4
Spiritus ætheris nitrosi.....	.....	1	1	100.0
Tinctura aconiti.....	5	13	18	72.2
Tinctura iodi.....	14	123	142	90.1
Tinctura opii.....	9	46	55	83.6
Tinctura opii camphoræ.....	2	.....	2	0.0
Tinctura zingiberis.....	.....	2	2	100.0
Totals.....	188	267	405	65.9

Table XV. shows the number of samples of milk which have been found to vary from the legal standard by reason of deficiency of solids or fraudulent adulteration. It will be seen that out of 528 samples which contained less than 12 per cent. total solids, ninety have been shown to be watered. In reality, the number of samples to which water has been added is probably much greater, as added water cannot usually be certainly detected if much less than 10 per cent. is present. The determination of added water in milk is done by means of the immersion refractometer, using the method devised by Leach.* This method has now been in use in this laboratory for nearly two years, and a large number of samples of milk have been examined by it. The results of analyses of numerous samples of milk of known purity made in this laboratory, and also by Leach and others, show that herd milk will not go below 39° on the refractometer, and usually reads from 40° to 44° The method is the most reliable for the detection of added water that has yet been discovered.

*Food Inspection and Analysis, by Albert E. Leach, page 765.

Table XIII. shows the percentage of milk solids and the immersion refractometer reading at 20° C. of the ninety samples of milk found to be watered. In many of these cases it would have been impossible to allege added water without the use of the refractometer.

TABLE XIII.—SHOWING PERCENTAGE OF MILK SOLIDS AND IMMERSION REFRACTOMETER READING AT 20° C. OF MILK SAMPLES FOUND TO BE WATERED.

Total solids.	Immersion refractometer.	Total solids.	Immersion refractometer.	Total solids.	Immersion refractometer.
11.61	38.30	10.99	38.27	10.47	36.60
11.60	38.80	10.96	37.95	10.42	37.70
11.59	38.75	10.95	37.65	10.40	37.40
11.59	38.05	10.89	37.40	10.40	36.90
11.58	38.40	10.88	35.10	10.39	37.36
11.56	38.54	10.88	37.32	10.32	37.90
11.55	38.80	10.87	38.70	10.30	36.02
11.50	38.14	10.84	38.04	10.26	37.50
11.40	38.39	10.83	37.55	10.21	36.50
11.40	38.30	10.82	37.90	10.11	37.21
11.40	37.60	10.80	38.40	10.10	37.41
11.40	37.58	10.80	38.00	10.10	36.68
11.31	38.25	10.79	36.80	10.10	35.39
11.30	38.10	10.78	37.65	10.03	35.25
11.30	36.51	10.76	37.00	10.02	37.51
11.27	38.80	10.74	36.10	9.94	37.00
11.24	37.70	10.73	36.50	9.90	36.70
11.21	38.10	10.70	38.82	9.85	37.68
11.21	38.85	10.65	37.40	9.82	36.70
11.20	38.30	10.64	38.62	9.80	37.40
11.20	37.58	10.63	36.40	9.80	36.56
11.19	37.30	10.62	36.40	9.79	36.52
11.17	37.40	10.60	37.00	9.66	36.72
11.16	36.63	10.59	37.90	9.61	35.55
11.14	38.02	10.59	36.20	9.60	36.90
11.11	38.30	10.58	36.30	9.22	36.25
11.10	37.09	10.58	38.70	8.91	32.70
11.05	37.25	10.55	38.55	8.82	34.90
11.00	38.60	10.53	37.95	7.40	31.22
11.00	37.56	10.51	37.50	6.41	32.20

Table XIV. shows the composition and refractometer reading of nine samples of milk, having less than 12 per cent. of milk solids. These samples are of known purity, and are from individual cows. It will be seen that the refractometer reading is well above 39° in each case.

TABLE XIV.—TABLE SHOWING COMPOSITION AND IMMERSION REFRACTOMETER READING OF MILK FROM SINGLE COWS GIVING MILK BELOW 12 PER CENT. TOTAL SOLIDS.

Total solids.	Fat.	Solids not fat.	Immersion refractometer.
11.98	3.90	8.08	41.00
11.96	3.80	8.16	41.10
11.92	3.10	8.82	43.40
11.82	3.60	8.22	40.95
11.60	3.15	8.45	41.30
11.49	3.10	8.39	41.65
11.41	3.65	7.76	39.85
11.09	3.00	8.09	40.10
10.98	2.85	8.14	42.05

The passage of chapter 313 of the laws of 1906 made it imperative for the laboratory to be able to allege added water in milk when this form of adulteration had been practiced, inasmuch as that act fixes so low a penalty for the sale or possession of milk below the legal standard with regard to solids that it is not sufficient to deter the unscrupulous dealer from adulterating his product. That the act has actually caused a deterioration in the quality of the market milk is plainly seen from the great increase in the number of adulterated samples obtained this year, and the amount of adulteration will undoubtedly increase still more when dealers become better informed regarding its provisions.

The number of samples of milk found to contain preservatives is somewhat greater than was found last year.

TABLE XV.—SAMPLES OF MILK AND CREAM NOT CONFORMING TO LEGAL STANDARD.

Below 12 per cent. total solids.....	528
Watered (refractometer reading below 39° at 20° C).....	90
Containing formaldehyd.....	38
Containing boric acid or borax.....	15
Containing aniline dye.....	2
Containing sodium bicarbonate.....	1
Below 12 per cent. and containing formaldehyd.....	5
Below 12 per cent. and containing boric acid or borax.....	7
Below 12 per cent. and containing both formaldehyd and boric acid.....	3
Watered and containing formaldehyd.....	9
Watered and containing both formaldehyd and boric acid.....	2

Report on the Inspection of Creameries.

BY GEORGE W. M'GUIRE, CHIEF INSPECTOR OF FOOD AND DRUGS.

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

GENTLEMEN—I have the honor to submit the following report on the inspection of creameries for the year ending October 31, 1906.

One hundred and thirty-three creameries were operated in the state last year, as shown by the annexed list. All of these establishments have been visited several times during the year, and a detailed report of their condition and management has been submitted to the Board. In addition to the above, sixty-two wholesale milk depots were inspected and reported upon. These are, undoubtedly, included in the term "creamery" as defined by the act of 1906, which reads as follows: "Any establishment where milk is received or stored for sale or distribution by wholesale, or for the manufacture of the same into butter, cheese, condensed milk or other food for human beings." These wholesale depots are located in cities and are repositories for milk and cream, from whence it is distributed to retail dealers, usually in the original package, although in some cases the vessels are opened and the contents divided. The milk handled in city depots would undoubtedly be safer if distributed in the original sealed vessels unexposed to the dangers which surround it in many of these unsanitary places.

The risk to which milk is subjected in creameries occupied by families, has been largely eliminated by the operation of the law, of which the following clause is a part, "No portion of any creamery building shall be used for a dwelling nor as a laundry or as a kitchen." At the time of the approval of the act there were fifteen creameries in the state in which dwelt their managers' families. Their apartments in most instances opened directly into the milk rooms where the children played and where the family washing, cooking and other domestic work was done. Cases of scarlet fever and typhoid have been traced to the milk from creameries that housed families afflicted with these diseases, leaving no doubt of the source and spread of this infection. Some of the owners of these creameries were at first disposed to resist the enforcement of this feature of the law, but later were convinced of the justice of the act and the reasonable consideration of the Board, in its enforcement. As a result ten of these creamery premises have been vacated and three of the five families remaining in them are preparing to leave.

Twenty-one creameries are equipped with apparatus for pasteurizing milk. These machines are of different mechanical design, some being of simple construction and easily cleaned, while others, where milk is conducted through funnels and pipes, are

hard to clean, the interior of the pipes are never reached by cleansing agents and whatever alleged advantage is gained by the pasteurizing process is offset by the danger of re-infecting the milk by its passage through the unclean discharge pipes that finally deposit it in unsterilized vessels. This treatment of market milk is on the increase but practical observation of the work, as generally done, has convinced me that pasteurized milk does not meet the hygienic standard, as advertised.

There are but seven creameries in the state which are equipped with suitably constructed sterilizing outfits. Four of these are in the shape of rooms, built for the purpose, into which bottles and cans are conveyed on trucks. The rooms are connected with steam pipes. In three creameries the sterilizers consist of heavy iron trucks into which bottles only are placed and the steam turned on. When ready for bottling, the trucks are moved close to the bottling machine and the bottles placed on the table without rehandling. The owners of these establishments are to be commended for their enterprise but they have not gone far enough in their efforts toward perfect sterilization since they have made no provision for sterilizing cans, strainers and other utensils which come in contact with the milk. A large number of creameries treat the cans to a bath of live steam, after washing, by inverting them over a jet through which steam is injected. The washing of cans is done in about the following manner: After rinsing, they are placed in a washing machine, filled with warm water charged with washing powder, and fitted with brushes operated by steam power; both the inside and outside of the cans are washed in the same water. From this they go into a rinsing tank, but in most cases the cans are all rinsed in the same water. Bottles are washed in about the same way with the exception of the steam treatment. This method of washing milk vessels is unreliable especially when they are not finally sterilized.

The prevailing system of refrigeration in New Jersey creameries is the ice water vat. Eighty of these are constructed of wood and eighteen of concrete, and of the balance five have mechanical or brine system; nine use springs; eight use box refrigerators; three use cellars; five pack the vessels in ice and five have no system whatever. In the last annual report the cooling vat system was commented upon as being unsanitary and the conditions this year are no exception to those mentioned then. In my opinion, the only hygienic method for this part of creamery work is mechanical refrigeration for by this method the operator has complete control of temperature. It is a clean method and eliminates the danger of contaminating the milk with the dirty water usually found in the cooling vats.

It is a common occurrence for an inspector to enter a creamery in the fly season and find countless numbers of flies floating in the milk contained in vats and other receptacles. These flies have access to all sources of filth including the human excreta deposited in privy vaults and other places near creamery buildings, and the germs brought on the feet of flies increase many times if deposited in the milk. There are but two creameries where any effective effort is made to prevent the entrance of flies into the buildings. In one of these establishments, where the product is made into butter, a visit made in the summer time failed to show the presence of a single fly in the working rooms, so carefully were they screened. I was informed by the manager that he considered their exclusion from the milk and butter rooms one of the essential safeguards to the product. If effective sanitary measures are to be maintained in these establishments, strict regulations must be made and enforced to compel the proper screening of all creameries

defects in creamery management and construction have been reported to the

Board during the year. Where existing conditions warranted it, operators were requested to make improvements that would meet the requirements of the law. It has not been difficult to enforce the provisions of the act with regard to needed improvements in creamery construction. The owners of these establishments have been appreciative of the work which the Board is doing under the law and in most cases have responded promptly to their requests for the betterment of their plants. It is much more difficult to secure good creamery management for few of the owners have personal oversight of their plants and frequently do not visit them for months at a time. This leaves the work in the hands of employes some of whom are unfitted, by every requisite, to handle and care for milk through its various stages of manipulation from the time it is placed in their charge until it is ready for shipment.

Another feature in creamery management which should receive the serious consideration of the Board is the use of the same rooms for the manufacture of ice cream and the preparation of market milk. There are seven such establishments among the one hundred and thirty-three reported. This work requires considerable manipulation of the product and more or less machinery. The cans and other apparatus, and in some cases, plates and spoons, are washed in the trays used for washing milk vessels and utensils. The same men handle both products. Work of this character is incompatible with the hygienic standards which should govern in good creamery management. If substantial progress is to be made in creamery management there must be some distinction between those operators who conduct their plants on proper hygienic principles and those who do not. It is unjust to issue the same form of license to a creamery where the milk is handled in a careless manner, however perfect it may be in construction and equipment, which is issued to one where every safeguard is taken to preserve the purity of the product.

If creameries be graded and licensed according to their care and management the competition will serve as a fine incentive for careless operators to bring themselves up to the first class. This is a suggestion I would strongly recommend. I would also respectfully suggest the adoption of a scoring card for judging conditions in creamery construction and management, showing in figures the degree of perfection in each detail.

The following table will show the specific betterments which have been made as a result of this year's inspection of New Jersey creameries:

New buildings	3	Drains repaired.....	4
New bottling room.....	1	Floors repaired.....	5
New wells	4	Ceiling repaired	1
New cesspools	2	Doors and windows screened	1
New concrete floors	7	Interior surfaces cleaned	6
New wood floors	9	Interiors painted	13
New drainage system.....	3	Creameries abandoned.....	3
New ventilating system.....	1	Dwelling rooms vacated	10
New milk vat covers.....	2	Pig pens removed	2
New management	1	Buildings reconstructed.....	3

The map, on page 180, prepared by T. G. Kitchen, shows the location of the creameries in New Jersey.

List of Creameries in New Jersey by Counties, Showing Management During

LOCATION.	PROPRIETOR.	Cold Storage System.	Pasteurizing Apparatus?
BURLINGTON CO.			
Columbus	C. H. & W. C. Supplee	Wood Ice Water Pools	Yes.
Hartford	Thos. O. Platt	Ice Box	No.
Pemberton	Montgomery & Smith	Wood Ice Water Pools	
CAMDEN CO.			
Camden	Harry H. Reed & Co. Clemens & Moore	Brine System	Yes.
CUMBERLAND CO.			
Bridgeton	Bridgeton Condensed Milk Co.	Brine System	Yes.
Fairton	Geo. O. Gravenstein	Wood Ice Water Pools	No.
	J. P. Wetherill	Brine System	Yes.
ESSEX CO.			
Caldwell	H. F. Backus	Wood Ice Water Pools	No.
Irvinton	W. L. Beardsley		Yes.
Newark	Seiler Bros.	Concrete Ice Water Pools	No.
Pine Brook	Halprin Bros.	Wood Ice Water Pools	
HUNTERDON CO.			
Amwell	C. H. Cook	Wood Ice Water Pools	No.
Annandale	Marchant Bros.	" " " "	Yes.
Barbertown	Wm. Strouse	No facilities	No.
Baptistown	Geo. Scott	Ice Box	"
Bloomsbury	C. W. Vannata	Wood Pools	"
Calton	C. C. Demarest	" " " "	Yes.
	H. Hoffman	" " " "	"
Cherryville	C. R. Peterman	Ice Box	No.
Clinton	Jas. Wyckoff	Wood Ice Water Pools	"
Clover Hill	A. C. Durling	" " " "	Yes.
Frenchtown	Thos. E. Harbison	" " " "	No.
Flemington	Seiler Bros.	" " " "	"
Everettstown	Geo. Scott	" " " "	Yes.
Glen Gardiner	T. N. Force	Spring	No.
Hoffman's	T. H. Hoffman	Wood Ice Water Pools	"
Idell	Wm. Strouse	Cellar	"
Jutland	Geo. N. Robinson	Wood Pools	Yes.
Lebanon	Geo. Clark	Spring Water	No.
Little York	Howard Van Sickle	Wood Vats	"
Locktown	S. W. Eckel & Son	Cellar	"
	{ Locktown Association Cream- ery, Cyrus Rister, President }	Cool Room	"
Ludlow	H. F. Backus	Wood Vats	"
Milford	C. E. Hurley	Ice Box	"
Mount Pleasant	Geo. Scott	Wood Pool	Yes.
New Germantown	A. C. Durling	Wood Ice Water Pools	No.
Oak Grove	C. R. Peterman	No provision	"
Oak Summit	Harry Sessaman	Wood Ice Water Pools	"
Pattensburg	Geo. N. Robinson	" " " "	"
Pittstown	Empire State Dairy Co.	" " " "	"
Reaville	C. H. Cook	" " " "	Yes.
Ringoes	Wm. Strouse	Cool Room	No.
Rosemont	" " " "	No refrigeration	"
Readington	C. H. Cook	Wood Vats	"
Ringoes	Thos. O. Harbison	" " " "	"
West Portal	C. W. Vannata	" " " "	"
Wertsville	Hernig & Northrup	Wood Ice Water Pools	No.
White House	A. C. Durling	" " " "	Yes.
Three Bridges	C. H. Cook	" " " "	"
Sergeantsville	Wm. Strouse	Spring House	No.
Sunny Side	Jas. Wyckoff	Wood Ice Water Pools	"
Spring Mills	Theo. Moyer	In Cans—No Ice	"
Stockton	Horace Allen	Dry Ice Box	"

Equipment and Nature of Improvements in Condition or the Year 1906.

Sanitizing Plant?	Doors and Windows Screened?	Nature of Improvements in Management and Conditions.	Disposal of Product.
None.	No.	New well	Shipped to Philadelphia.
"	"	None	Butter sold locally.
"	"	Improvement in management only	Shipped to Philadelphia.
None.	No.	None	Sold in Camden.
Yes.	"	Interior surfaces have not been cleaned	" " "
None.	No.	{ New building for receiving and Pasteuriz- ing milk	{ Shipped and made into ice cream and condensed.
"	"	No improvement in new management	Shipped to Philadelphia.
"	Yes.	Equipment and management good	Butter sold in Philadelphia.
None.	No.	Interior painted	Shipped to Newark.
"	"	Creamery abandoned	Sold in Irvington formerly.
"	"	New plant not completed	Sold in Newark.
"	"	Improvement advised	" " "
None.	No.	New cesspool	Butter.
"	"	No improvements	Shipped to Plainfield.
"	"	Same conditions	{ Milk skimmed and cream ship- ped to Idell daily.
"	"	Family in creamery, bad sanitary conditions	Butter.
"	"	Floor and drain repaired	Milk carted to West Portal.
"	"	No change in management	Shipped to Staten Island, N. Y.
"	"	" " " "	" " " " New York.
"	"	Family moved from creamery	Butter.
"	"	No improvement in management	Shipped to points on L. V. R. R.
"	"	New cement floor and drain, painted inside	" " " " New York.
"	"	Slight improvement in management	" " " " Philadelphia.
"	"	New plank floor and drain to city sewer	" " " " Newark.
"	"	Conditions bad	Cream shipped.
"	"	No change in conditions	Creamery abandoned.
"	"	Floor repaired	Shipped to New York City.
"	"	No change in conditions	Butter.
"	"	" " " "	Shipped to Jersey City.
"	"	Creamery abandoned	" " " " points C. R. R. N. J.
"	"	Walls and drain cleaned, room painted	Butter.
"	"	Walls cleaned, family occupy rooms	" " " "
"	"	" " " "	Milk shipped to Newark.
"	"	No change in management	Butter.
"	"	No change in conditions	Ship cream.
"	"	" " " "	Shipped to New York.
"	"	{ Walls and ceilings cleaned and painted, cellar drained	Cream shipped.
"	"	Family apartment vacated	Butter.
"	"	No change in conditions	Milk shipped.
"	"	{ New floor and drainage, family occupy creamery	Ship to Brooklyn.
"	Yes.	Windows and doors screened	Butter.
"	No.	Walls cleaned, floors repaired	" " " "
"	"	No change	Cream shipped daily.
"	"	" " " "	Cream shipped and butter made.
None.	No.	New building in course of construction	Shipped to Philadelphia.
"	"	Poor bottling apparatus	" " " " points L. V. R. R.
"	"	Improvements requested	" " " " Philadelphia.
"	"	{ Interior cleaned and painted, new cement floors	Milk shipped to New York.
"	"	Fig pen removed from premises	Ship to points L. V. R. R.
"	"	New floors	Butter.
"	"	Well condemned, cement floors, more { Creamery remodeled, cement floors, more light and ventilation, new vats, interior painted	Ship to points L. V. R. R.
"	"	Careless management	Cream shipped to Pennsylvania.
"	"	" " " "	Butter.

List of Creameries in New Jersey by Counties, Showing Management During

LOCATION.	PROPRIETOR.	Cold Storage System.	Pasteurizing Apparatus?
MERCER CO.			
Hopewell	Sam'l Burns	Cellar	No.
Pennington	D. A. Northrup	Wood Pools	Yes.
Robbinsville	J. A. Kunkle	Cement Vats	No.
	B. F. Hulse	Ice Box	
MIDDLESEX CO.			
Cranbury	J. K. Jones	Wood Ice Box	No.
Hyland Park	W. W. Ten Eycke	Cement Vats	Yes.
New Brunswick	Alfred Jordan	Wood Vats	
MONMOUTH CO.			
Allentown	Allentown Dairy Co.	Cement Vats	No.
Colt's Neck	Colt's Neck Creamery Co.	Wood Vats	
MORRIS CO.			
Chester	F. D. Jackson Milk Co.	Wood Vats	No.
Flanders	Henry Quell	Cement Vats	Yes.
German Valley	Willwood Farm Dairy Co.	Spring	No.
Naughtright	J. W. Welch	Wood Vats	Yes.
Troy Hills	Henry Quell	Spring	No.
Middle Valley	H. F. Backus	Wood Vats	Yes.
	Geo. Clark	Spring	No.
SALEM CO.			
Alloway	F. A. Shivelor	Cement Vats	No.
Daretown	I. S. Champion	Spring	Yes.
Elmer	C. H. Oliphant	Concrete Vats	No.
	Isaac G. Reeves	Cooling Room	
Monroeville	Monroeville Ice Cream Co.	Cooling Room—Brine System	
Salem	J. Q. Davis	Concrete Vats	Yes.
	Wm. Richman	Wood Vats	No.
Sharptown	"	"	"
Woodstown	C. F. Moore	"	"
	Busbey & Miller	"	"
Harmerstown	J. Q. Davis	None	"
SOMERSET CO.			
Belle Mead	C. H. Cook	Cement Vats	Yes.
Blackwell's Mills	Hamilton Dairy Co.	"	No.
Flagtown	Henry Quell	Wood Vats	"
Montgomery	C. H. Cook	"	"
Neshauc	O. E. Dennis	"	"
Pottersville	W. L. Beardsley	"	"
Skillman	A. C. Durling	"	"
South Branch	J. E. Longshore	"	"
North Branch	C. H. Cook	"	"
	Geo. W. Fields	"	"
SUSSEX CO.			
Andover	Fulboam Dairy Co.	Cement Vats	No.
Augusta	T. O. Smith & Sons	Wood Vats	"
Baleville	A. Campbell Milk Co.	Cement Vats	"
Bevans	Seller Bros.	Wood Vats	"
Beemerville	Borden Condensed Milk Co.	Cement Vats	"
Branchville	"	Ice packed	Yes.
Clove	Chris. Haines	Spring	No.
Glenwood	Brown & Bailey	Ice packed	"
Hamburg	Diamond Dairy Co.	Wood Vats	"

Equipment and Nature of Improvements in Condition or the Year 1906—Cont.

Sanitizing Plant?	Doors and Windows Sereened?	Nature of Improvements in Management and Conditions.	Disposal of Product.
None.	No.	Skim vats removed, drainage reconstructed.	Butter.
"	"	In process of reconstruction.	Milk and cream shipped.
"	"	No change.	Milk shipped and butter made.
"	"	No change, improvement requested.	Butter made.
None.	No.	New cement floor, first floor and cellar.	Cream shipped, butter made.
"	"	No change.	Milk sold in New Brunswick.
"	"	No change, improvement requested.	"
None.	No.	No change.	Milk shipped, butter.
"	"	"	Milk shipped to Asbury Park.
None.	No.	No change.	"
"	"	New floors and drain, interior lime washed.	Milk shipped to Hoboken.
Yes.	Yes.	New ventilation system.	" " " Long Island City.
None.	None.	No change.	" " " Plainfield.
"	"	New bottling room.	" " " Long Island City.
"	"	No change.	" " " Caldwell.
"	"	New floor, interior painted, drain repaired.	" " " Bayonne.
None.	No.	No change.	{ Milk shipped and made into ice cream.
"	"	"	{ Milk shipped to Phila. and Ocean City.
"	"	Reconstructed, concrete floor, smooth wall.	Milk shipped and ice cream.
"	"	No change.	Butter made.
"	"	{ Slaughter house drain and pig pen moved.	{ Milk shipped and ice cream made.
"	"	{ 1 no admittance signs posted.	{ Milk shipped and ice cream made.
"	"	No change.	{ Milk shipped and ice cream made.
"	"	No change, improvements requested.	{ Milk shipped and ice cream made.
"	"	No improvements.	Milk shipped, butter and ice cream.
"	"	No change.	Milk shipped to Philadelphia.
"	"	Radical improvement advised.	Cream carted to Salem.
None.	No.	No improvements.	Cream and butter.
"	"	No improvements, creamery abandoned.	{ Milk and cream shipped and butter made.
"	"	Improvements requested.	{ Cream shipped to Long Island.
"	"	No improvements.	Cream shipped.
"	"	New well.	Milk shipped to Newark.
"	"	New floor.	"
"	"	No improvement.	" " " Bayonne.
"	"	"	" " " Philadelphia.
"	"	New floor.	" " " Bayonne.
None.	No.	No improvements.	Milk shipped to Paterson.
"	"	{ Space beneath creamery cemented, new well, interior painted.	" " " Brooklyn.
"	"	No change.	" " " "
"	"	Ceilings repaired.	" " " Newark.
"	"	No change.	" " " Branchville.
"	"	"	{ Milk shipped to Jersey City and New York.
"	"	"	Milk shipped to Unionville, N. Y.
"	"	"	Milk condensed.
"	"	{ New cement floor, interior painted, dwelling rooms vacated.	Milk shipped to New York.

List of Creameries in New Jersey by Counties, Showing Management During

LOCATION.	PROPRIETOR.	Cold Storage System.	Pasteurizing Apparatus?
SUSSEX CO.—Con.			
Hamburg.....	Warwick Valley Milk Association.	Spring Water.....	No.
Huntsville.....	Borden Condensed Milk Co.....	Wood Vats.....	"
Lafayette.....	Newark Milk and Cream Co.....	Ice packed.....	Yes.
Monroe.....	Fulboam Dairy Co.....	Wood Vats.....	No.
"	"	"	"
Mulford.....	Sandford Dairy Co.....	"	"
Macafee.....	H. F. Chardavoyne.....	"	"
Newton.....	Dairy Products Co.....	Brine System.....	"
Papakating.....	Borden Condensed Milk Co.....	Ice packed.....	Yes.
Price's Crossing.....	Orange County Milk Association.....	Cement Vats.....	"
Roy's Crossing.....	Fulboam Dairy Co.....	Wood Vats.....	None.
"	"	"	"
Sparta.....	Geo. Ihnken.....	"	"
Stillwater.....	McDermott Dairy Co.....	Cement Vats.....	"
Stockholm.....	Geo. Ihnken.....	Wood Vats.....	"
Swartswood.....	"	"	"
Sussex.....	Beaks Dairy Co.....	"	"
"	Horton Ice Cream Co.....	Ice plant.....	"
"	"	"	"
Vernon.....	Dennis Reardon.....	Cement Vats.....	"
Woodruff's Gap.....	Robinson & Hawkins.....	Wood Vats.....	"
Warbase.....	H. S. Chardavoyne.....	"	"
Tranquility.....	Henry Tepperwin.....	"	"
"	Sugar Loaf Dairy Co.....	"	"
WARREN CO.			
Blairstown.....	Empire State Dairy Co.....	Cement Vat.....	No.
Bridgeville.....	Henry Rauch.....	Wood Vat.....	"
Broadway.....	H. F. Beckus.....	"	"
Changewater.....	Taylor Plate Milk Co.....	Ice packed.....	"
Delaware.....	T. W. Jansen.....	Wood Vat.....	"
Great Meadows.....	Sanford Dairy Co.....	Cement Vats.....	"
Hackettstown.....	Alex. Campbell Milk Co.....	"	Yes.
Hainesburg.....	Howell Demarest & Co.....	"	No.
Long Bridge.....	Mutual Milk and Cream Co.....	Wood Vats.....	"
Markboro.....	"	"	"
Rocksburg.....	Elmer Worthington.....	Cement.....	"
Vails.....	Fulboam Dairy Co.....	Wood Vats.....	"

Equipment and Nature of Improvements in Condition or the Year 1906—Cont.

Sterilizing Plant?	Doors and Windows Screened?	Nature of Improvements in Management and Conditions.	Disposal of Product.
None.	No.	New wood floors, new side walls.....	Milk shipped to New York.
"	"	New wood floors.....	" " " "
"	"	New well.....	" " " Newark.
"	"	{ New floor and drains, interior painted, new waste disposal.....	" " " New York.
"	"	No change.....	" " " "
Yes.	"	New smooth side walls, interior painted white.....	" " " Brooklyn.
"	"	No change.....	" " " New York.
None.	"	"	" " " "
"	"	{ Drainage disposal changed, family vacated rooms.....	" " " Paterson.
"	"	{ Drainage disposal changed, family still in creamery.....	" " " New York.
"	"	No change.....	" " " "
"	"	New cesspool.....	" " " "
"	"	Family still in creamery.....	" " " "
"	"	Family removed.....	" " " "
"	"	Condensed.....	" " " "
"	"	{ New cement floors and drainage, interior painted, family removed.....	" " " Jersey City.
"	"	Family removed.....	" " " Brooklyn.
"	"	Floor repaired.....	" " " "
"	"	Family in creamery.....	" " " "
"	"	Improvements under way.....	" " " New York.
None.	No.	{ Family removed, floors repaired, interior painted.....	Milk shipped to Brooklyn.
"	"	New drain system.....	" " " "
"	"	Interior painted white.....	" " " Newark.
"	"	New covers for milk vats.....	" " " Brooklyn.
"	"	Family washing prohibited.....	" " " Hoboken.
Yes.	"	New concrete building.....	" " " New York.
"	"	No change.....	" " " "
None.	"	{ Creamery burned, milk now handled in freight car.....	" " " "
"	"	Floor and drainage repaired, family removed.....	" " " "
"	"	Family removed, new drainage.....	" " " "
"	"	No change.....	" " " Pennsylvania.
"	"	{ New cement floors, interior painted, family moved.....	" " " Newark.

Report of the State Board of Sanitary Examiners.

BY A. C. HUNT, M.D.

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

GENTLEMEN—The law which inaugurated the licensing of health officers and sanitary inspectors was passed in 1903, and became operative January 1st, 1905. The act is found in chapter 215 of the laws of 1903. At a meeting of the Board of Health of the State of New Jersey, held December 18th, 1903, the following persons were appointed to serve as a board of examiners: William H. Murray, M.D.; M. N. Baker, C.E.; A. C. Hunt, M.D.; Mr. D. D. Chandler and Mr. D. C. Bowen. The board of examiners met for organization in Princeton, March 16th, 1904. At this meeting William H. Murray, M.D., was elected chairman and A. C. Hunt, M.D., secretary and treasurer. Topics were assigned to the various members of the board in order that each member might bear his full share in the preparation of questions to be presented to applicants for license at the examinations. The dates for the examinations were fixed for the first Wednesday of June and December in each year. At the meeting of the board of examiners held in Newark on May 4th, 1904, it was decided that a grade of seventy-five per cent. should be required of successful applicants, and the office of the board of health of the city of Newark was selected as the place in which the first examination should be held, on June 1st, 1904. Upon the above-mentioned date the examination was held, and ten applicants presented themselves. As a result of the examination the board presented to the State Board of Health the names of five persons as eligible to receive licenses as health officers, two as sanitary inspectors of the first class and one as sanitary inspector of the second class. Two of the applicants were rejected. The next examination was held by the board December 7th, 1904, and there were twenty-five applicants for license. Of this number seven were recommended for licenses as health officers and ten as sanitary inspectors of the first class. Eight applicants failed to pass the examination. At the examination held June 7th, 1905, forty-one applications were received and thirty-six individuals presented themselves for examination. Of this number six were recommended for licenses as health officers, twelve as sanitary inspectors of the first class, and one as sanitary inspector of the third class. Of those who were recommended to the State Board of Health as inspectors of the first class it was suggested that in one instance a special license be issued as to the qualifications of one of the inspectors for house to house inspection only, and in another instance the license was limited to proficiency in plumbing and drainage. Seventeen of the applicants failed to pass a

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Map showing location of Creameries in New Jersey, 1906.

satisfactory examination. At the examination held December 6th, 1905, twenty-nine applicants were examined. Of this number six were recommended for licenses as health officer, and nine for sanitary inspectors of the first class. It was also recommended that a special license be issued to one of the applicants for meat inspection only. Thirteen of the applicants failed to pass the examination. A special examination of applicants for license to serve as meat inspector was held at the State House, March 20th, 1906. Three applicants presented themselves, and of this number it was recommended that two should receive licenses as meat inspectors. At a special examination held May 2d, 1906, two applicants presented themselves for examination, and after examining the papers presented the board recommended that one license as health officer should be issued and also one as sanitary inspector. At the examination held June 6th, 1906, thirty-one applicants presented themselves. Of this number seven were recommended for licenses as health officers, five for licenses as sanitary inspectors of the first class, and eight for licenses limited to plumbing inspection only. Eleven of the applicants failed to pass a satisfactory examination.

The recommendations which have been made to the State Board of Health by the sanitary examiners have been concurred in by the State Board of Health, and up to the present time thirty-two licenses have been issued to health officers, thirty-nine to sanitary inspectors of the first class, one to sanitary inspectors of the second class, one to sanitary inspectors of the third class, three to meat inspectors, eight as plumbing inspectors, and one of the licenses was limited to house to house inspection. At the examinations thus far held a number of persons have presented themselves who were, on account of the lack of preliminary education, totally unfit to fill the positions for which they were applicants. It is evident from the experience thus far gained that in future some method of instruction must be provided if the class of men who are desiring positions of this character is to be further improved.

First Annual Conference of State and Local Boards of Health.

HELD IN THE STATE HOUSE, TRENTON, OCTOBER 19TH AND 20TH, 1906.

In the program for the meeting the following announcement was made:

"The activity of local boards of health in New Jersey in the enforcement of laws and ordinances for the protection of the public health varies from zero to a high degree of efficiency, and but little uniformity exists in the measures which are employed in the different sanitary districts. This great contrast in the operations of the different health boards is partly due to the lack of opportunity which has heretofore existed for comparison of views concerning common problems with the officials of other districts. The act approved April 8th, 1903, which provides that future appointees of local boards of health shall be qualified for the duties which they are expected to perform, promises to effect valuable improvements in the service, and annual meetings of these officers and other delegates from local boards of health, for the discussion of questions relating to their work, will tend to prevent the repetition of errors in administration and give to each individual the advantages which attend the experience of fellow-officials. Every municipality and every township should be represented in these annual gatherings by at least one delegate, for doubtless the most useful directions in which sanitary procedures can be applied will be pointed out, and suggestions from the most capable and progressive local officers will indicate the methods by which the highest degree of efficiency can be attained in promoting the public health."

The following act authorizing the conference was approved April 19th, 1906:

"1. The board of health of the State of New Jersey is hereby authorized to appoint a time and place for a conference, once in each year, between the members of said board and delegates from the various local boards of health in this State, for the consideration of questions relating to the prevention of the spread of dangerous communicable diseases and the promotion of the public health.

"2. Each local board of health is hereby authorized to appoint one of its members or officers or employes as a delegate from such board to attend every such annual conference, and the actual traveling and hotel expenses of each delegate so appointed shall be paid by the treasurer or other disbursing officer of the township or municipality within which such local board has jurisdiction, upon presentation by the delegate of a certificate of his appointment and a bill of his expenses duly verified by affidavit.

"3 This act shall take effect immediately."

The conference convened at ten o'clock on Friday, October 19th, 1906, about 150 persons being present. C. F. Brackett, M.D., President of the State board of health, called the meeting to order and addressed the members of the conference in part as follows:

The warrant under which we are met is a recent legislative act, approved by the Governor. It is found in sections 1, 2 and 3, of the announcement which has been placed in your hands.

Some of the advantages which it may be hoped will result from this meeting are set forth in the announcement and they need not be recapitulated here.

In order to make the best use of our time it will be advisable to adhere to the common practice which governs bodies of men when met together for the conduct of public discussion of any business matters in which they have a common interest. By pursuing this course it is believed that all who have any real contribution to make will have an opportunity. The discussions should be as brief as is consistent with clearness and should be strictly confined to the points at issue. Adherence to these principles will enable us to take up all the matters of our program and will give all an opportunity to be heard.

The chairman then exhibited charts showing the diminution of mortality in New Jersey during the last twenty-seven years, since the establishment of State and local boards of health, and also particularly showing the improvement in the death-rate from preventable diseases.

The roll of sanitary districts in New Jersey was then called (see pages 83-113), and a record was made showing those which were represented by delegates.

The chairman announced that the Conference was now ready for business and would proceed to listen to the remarks of Mr. L. R. Thurlow, Health Officer of Plainfield, in support of the following resolution:

Resolved, That every sanitary district should be provided with the facilities which are afforded by an isolation hospital, for the care of persons who are affected with diphtheria or scarlet fever, and who cannot be securely isolated in their own homes.

Resolved, That in the case of the smaller municipalities and townships it is advisable that two or more districts shall unite in the erection and maintenance of one of these institutions."

Mr. Thurlow spoke in part as follows:

"I think the resolution which has just been read will appeal to every one who has attempted to quarantine a case of diphtheria or scarlet fever in a boarding-house or in many private homes where there are few available rooms and many children. A great many arguments may be put forth in favor of municipal isolation hospitals,

but I think the one which appeals most to health officers and inspectors is that only by the aid of such hospitals can they secure complete isolation. Municipal hospitals are primarily for the use of the poor and people of moderate means, and it is in this class of homes that you have difficulty in getting complete isolation. You may quarantine a house, and still have one person taking care of the patient, attending to the household duties, and at the same time caring for two or three other children. In tenement-houses it is difficult to obtain even proper quarantine of apartments, and in boarding-houses it is practically impossible to properly treat scarlet fever and diphtheria. Is there any better way for sanitary officials to do their duty in preventing the spread of contagious disease than by removing the patient, the one source of trouble, to a place where the patient may be properly cared for, and where other people can be kept away from the patient? It is not in larger cities alone that isolation hospitals are needed, but until recently the cost of erecting and maintaining such institutions has made them prohibitive to small municipalities and townships. The laws of 1902, however, provided that two or more municipalities may join together in providing for the erection and maintenance of an isolation hospital. In Plainfield, I am sorry to say, we have not, at the present time, an isolation hospital, but there is a contagious disease ward in the course of erection in connection with the local hospital, and I am sure we will be able to handle our cases a great deal better."

The subject was further discussed by the following delegates: R. S. Van Dyke, Morristown; W. T. Bowman, East Orange; C. H. Wells, Montclair; Alonzo Brower, Freehold; A. J. Rider, Ham-monton; W. E. Berkaw, Annandale; F. Blackburn, Palmyra; J. M. Algor, Seabright; Dr. H. H. Davis, Camden; Dr. Chevanne, Salem, and Dr. F. W. Sell, Rahway.

A motion to adopt the resolution having been seconded a vote was taken and the resolution was adopted.

The chairman then announced that the Conference would listen to remarks by J. E. Rowe, D.V.S., Health Officer of Summit, in support of the following resolution:

Resolved, That abandoned wells should not be used as receptacles for house sewage or other waste liquids."

Dr. Rowe in the course of his remarks spoke in part as follows:

"This is certainly a question of vast importance to sanitarians throughout the State, not only in large municipalities which have public water-supplies, but also to the smaller townships. A well that has been abandoned has generally been abandoned for one or two reasons: either it has gone dry or has become contaminated by reason of sewage of some sort. Wells that are used as receptacles for sewage are in the majority of cases those that have gone dry. A well to be of any service must penetrate in the water-bearing strata of the earth. I might cite an instance which will show the way in which waste liquids can be conveyed from a well

to a public supply. On a watershed comprising about 150 to 200 acres there was situated a pumping station and a well. On the outskirts of that watershed, and probably three-quarters of a mile away from the well were two abandoned wells which had been used as cesspools. One had been dug to a depth of ninety feet and the other to a depth of about seventy-five feet. Near the one having a depth of seventy-five feet the old homestead had been removed and a new house built, and this well was used as a receptacle for waste from bath rooms and kitchen sinks unknown to the health officials of the town. I had reason to make a test of the water-supply of that town and colon bacilli were found to be present in the water. It was quite a problem to find out the way in which they had gotten into the water. After making many inquiries it was found that this well was being used as a cesspool. After flushing the closet in the bath room a number of times in quick succession it was found that the water was rapidly absorbed into the surrounding strata of soil. It is a well known fact that when deep wells have been driven for a public or private supply that the wells previously existing in the neighborhood have been practically made dry by these deeper wells. This shows that there must be some force to draw the water away from these wells. It is a generally accepted fact that germs gaining access to the water-bearing strata will live for a long time, and be carried for a long distance. Those who have been relying upon wells for their water-supply should see that abandoned wells are not used as cesspools in their locality, for in that way many wells can be contaminated. This is a very important subject, and I am heartily in favor of the adoption of this resolution."

This resolution was further discussed by A. J. Rider, of Ham-
 monton, and upon motion it was adopted.

The afternoon session was called to order by the chairman at two
 o'clock, and remarks were made by Mr. D. C. Bowen, State Sanitary
 Inspector, in support of the following resolution:

"Resolved, That the disinfection of infected apartments may be effectually secured
 by the employment of the following methods:

- "1. Spraying of infected surfaces of floors, woodwork and furniture with a solution
 (1-1000) of bichloride of mercury.
- "2. Destruction by fire of infected articles which have little or no value.
- "3. Treatment of all infected wash goods by boiling for not less than thirty minutes
- "4. Treatment of woolen garments, &c., by placing them in layers in a tight con-
 tainer, with towels wet with a 40 per cent. solution of formaldehyde between each
 layer, and permitting them to be thus exposed for twelve hours."

Mr. Bowen spoke in part as follows:

"It seems to me that the methods recommended in this resolution are applicable
 to the work. Each one of them can be applied to the disinfecting of buildings be-
 cause their efficiency is known, and you can apply each disinfectant to the articles
 which are liable to be infected. It seems that they have been selected in a manner
 which is suitable to the different articles in the room, instead of disengaging some
 aerial disinfectant which might kill some bacteria if they were exposed on the sur-
 face and not covered up with any articles."

This resolution was freely discussed, the following delegates taking
 part: Dr. Jones, Toms River; F. B. Kilmer, New Brunswick; J.
 M. Algor, Seabright; J. L. Phillips, High Bridge; Dr. White,
 South Amboy, and R. A. Herner, Woodbridge.

A motion having been made and seconded in favor of this resolu-
 tion a vote was taken and the resolution was adopted.

Mr. B. H. Obert, Health Officer of Asbury Park, spoke in favor
 of the following resolution:

"Resolved, That it is essential to the public safety that every case of certain dan-
 gerous infectious diseases shall be reported to the local board of health as required
 by chapter 260 of the laws of 1895.

"Resolved, That when a case of small-pox, varioloid, diphtheria, membranous
 croup, or scarlet fever is reported the patient should be isolated, together with the
 necessary nurses and attendants. Isolation may be established in the house of the
 patient if practicable, but if the dwelling does not admit of effectual isolation of the
 infected persons, the patient should be removed to an isolation hospital, as provided
 for in chapter 225 of the Laws of 1902."

The following remarks were made by Mr. Obert:

"The necessity of boards of health being informed of the existence of infectious
 diseases occurring in their respective sanitary districts must be apparent to every
 one, for it is the signal for action if a board hopes to control and prevent the spread-
 ing of these affections, and they must have reliable information of the existence of
 such diseases before any action can be taken. The physician is usually the person
 who first recognizes the disease, and upon him falls the duty of reporting. It some-
 times happens that no physician is in attendance, or a case of infectious disease has
 not been reported to the board of health, then it is the duty of any person knowing
 of such a case to so inform the board. It is a deplorable fact that some unprincipled
 physicians, which I am glad to state are exceptions to the rule, do not report cases
 of infectious diseases professionally attended by them to the board of health for the
 reason they do not care to antagonize their patient, who may desire no interference
 by the board of health. Experience has shown that when infectious cases are re-
 ported and the parties affected are shown the necessity for the enforcement of the
 health laws in preventing the spread of a disease, it is rarely found that anyone
 objects to the safeguarding of the board of health. It seems to me the many meth-
 ods of handling infectious diseases by boards of health, the methods varying with
 the number of boards of health which exist, places a board of health in an unfavor-
 able light, and I believe that if a uniform method could be adopted by boards of health
 in handling infectious diseases it would place the boards of health of the State in
 a better relation to the public and they would receive co-operation where now their
 preventive measures are sometimes resented. When a case of small-pox, varioloid,
 diphtheria, membranous croup or scarlet fever is reported, the patient should be
 isolated, together with the necessary nurse and attendants. Isolation may be estab-
 lished in the house of the patient if practicable, but if the dwelling does not admit
 of effectual isolation, the patient should be removed to an isolation hospital, as pro-

vided by the laws of 1902. The said act gives boards of health the power to remove from any hotel, boarding-house, boarding-school or other building of like character, tenement or apartment-house, to a proper place to be designated by the board, persons sick with any contagious, infectious or pestilential disease. The problem of isolation is one which every board of health must have given considerable thought and is the principal point in the control of infectious diseases above named, for when a case of infectious disease has been reported to the local board of health the duty of the board is to at once prevent the spread of the disease from the infected person. To do this it is necessary to cause the patient to be prevented from infecting others, and the infection is mainly or entirely from the patient, and the patient should be regarded as liable at all times during the prevalence of the disease to infect whatever it may come in contact with. Then, too, the nurse or attendant, caring for such a case, being in constant contact with the patient, must be viewed as a possible source of danger and should therefore be guarded as carefully as the patient. To secure this isolation where it is possible it should be done in the home of the patient, for no one should be deprived of the comforts of home where conditions are such that isolation can be maintained. The old theory that the infection of the diseases above named is air borne for any considerable distance is no longer believed, and necessity of close contact in order to convey the infection from one person to another is now recognized, so that quarantine in a portion of the dwelling where it can be done securely should be sufficient. When a case of infectious disease occurs in a crowded hotel or boarding-house, or in a family having only a few rooms, so that quarantine cannot be sufficiently maintained, then it becomes necessary to remove the case to a place of safety. This can best be done by the municipality having a hospital which is ready at any time to receive such cases. It is necessary to have a separate place to take persons affected with the different diseases, for if a health board removed a case of scarlet fever, for instance, into a building in which a case of diphtheria was being treated, even though the building had been disinfected, this act would invite a suit for damages should such a patient contract the other disease, even though not contracted in said building. At Asbury Park the city owns a municipal pavilion for the reception of cases of diphtheria, which is modern in all its appointments. It is constructed of brick, contains two wards, nurses' room, bath-room and kitchen, is furnished complete and is ready for use at any time. The value of such a building has been demonstrated a number of times since this structure was placed in use, and the question of erecting another pavilion in addition to the one above described for scarlet fever is being seriously considered and it is hoped that it will be erected at an early date. The plan originally adopted was for the erection of separate pavilions for diphtheria, scarlet fever and small-pox, and it is expected the plan will be ultimately carried out.

This resolution was further discussed by the following delegates: John R. Towle, Edgewater; Dr. Hiram Williams, Passaic, and C. E. Wells, Montclair. This resolution was adopted.

Mr. C. H. Wells, health officer of Montclair, then spoke in favor of the following resolution:

"Resolved, That local boards of health can render highly valuable service by preventing the sale of unwholesome milk under authority contained in chapter 152 of the laws of 1897."

I am glad to have the opportunity to speak a few words in regard to milk-supplies, as this is a very important subject, and one which should take up a good share of our attention. Milk may become unwholesome from a number of causes; it may come from diseased cattle or it may become infected by exposure to emanations from diseased persons. All cows from which milk is produced for sale should be examined by a veterinarian at least twice a year, and all cattle should be tested with tuberculin. Many experiments have been made both in this country and abroad, which point very strongly to the fact that tuberculosis in cattle may be communicated to man through the use of milk from such cattle. It has never been proven that this is *not* the case, and as long as there is any doubt I think the milk should be excluded from use. In regard to the contamination of milk after it has been drawn from the cows, we are all familiar with the different ways, such as dirt dropping into the milk from the cow, dirty pails, dusty atmosphere, methods commonly adopted in the bottling of milk, and we need not discuss these.

Disease bacteria may gain access to the milk in many ways. Water for washing utensils may be taken from infected wells; a mild case of sore throat on a dairy premise, which is proved to be diphtheria, may infect the milk; a mild ambulating case of scarlet fever may cause that disease, or there may be direct intercourse between the sick room and the dairy. Boards of health should pass ordinances requiring that as soon as there is any communicable disease upon a dairy farm the sale of milk from that farm should be stopped.

Milk which is produced under hygienic conditions contains very few bacteria. Many experiments have been made to show that milk containing large numbers of bacteria is very harmful to infants, and I think this fact will justify us in taking all possible precautions to exclude milk which has been contaminated in any way. The act of 1897 gives local boards of health the power to prohibit the sale of any unwholesome milk, and it seems to me this law covers all phases of the subject which local boards of health have to consider. The laws are ample and it is the duty of boards of health and health officers to see that the proper ordinances are enforced.

After discussion by a number of the delegates this resolution was adopted.

The chairman then stated that Hon. Edward D. Duffield, Assistant Attorney-General, would discuss the following resolution:

"Resolved, That in legal actions for the abatement of nuisances under the provisions of the health laws only those nuisances should be attacked which have caused or may cause sickness, or which are explicitly prohibited in said laws.

"Resolved, That noise nuisances and smoke nuisances have not been proven to directly affect the public health injuriously, and therefore action should not be under the health laws for their abatement."

It was explained by Dr. Mitchell that Mr. Duffield who was to speak in support of this resolution was unavoidably absent. The discussion of the subject then became general, the following delegates participating in the discussion: John R. Towle, Edgewater; Alonzo

Brower, Freehold; F. B. Kilmer, New Brunswick, and J. M. Algor, Seabright.

It was by motion determined that a vote should be taken upon each of the two paragraphs in the resolution separately. The first paragraph was adopted and the second paragraph was defeated.

The evening session opened promptly at 7:30, and Mr. L. J. Richards, health officer of Elizabeth, was invited to discuss the following resolution:

Resolved, That it is advisable that adjoining municipalities, having small populations, shall join in the employment of a health officer, as provided for in chapter 129 of the laws of 1906."

The following remarks were made by Mr. Richards:

At no time as now has so much attention been directed to sanitary matters and investigations. In national and international, State and inter-state, urban and suburban affairs, we find ideas are becoming more keenly concentrated upon the laws enacted to conserve the health and welfare of the nation and community.

Among the States, through its board of health, New Jersey has proved herself one of the leaders in legislation for the improvement of the sanitary inspection service, and in passing the act (chapter 129, laws of 1906), it has made it legally possible for small communities to proceed unhampered by local restrictions both of ways and means.

Let us take up the question.

Resolved, That it is advisable that adjoining municipalities having small populations, shall join in the employment of a health officer, as provided for in chapter 129 of the laws of 1906."

In considering the resolution, the following facts occur to me which I shall present for your discussion, although it is not my purpose to attempt to exhaust the question, as I realize that no one mind can grasp the whole of any subject, but may be instrumental in bringing out by a brief outline some more valuable points from a subsequent speaker:

First. That the legislation incorporated therein was necessary to carry out the provisions of the Amendatory act of April 18th, 1903, to the Public Health act, with respect to small townships and municipalities. In other words, not every township or small municipality would, judging from the past, be at all likely to devise the means to command the services of a health officer or sanitary inspector trained as the law now demands.

Second. It suggests and legalizes a way for adjacent small communities to exert in health matters the same idea of united economic effort which is the universal practice in progressive and successful business methods.

Third. The advisability. Under this heading we must bear in mind that contagion is no respecter of persons, and will persist in a country town with a smaller amount of pabulum, it is true, but with the same virulence and attendant loss of life as in the city. Consequently it should have the highest technical and practical means of its treatment in regard to effective prohibitive measures in the way of in-

telligent isolation of persons and disinfection after illness. The State is so intersected with lines of easy communication that the infection of contagious disease may easily be conveyed to sparsely settled places and a proper conception of the economic importance of the best knowledge is apparent. This might be carried on along the whole line of action, upon general prophylactic measures, upon the efficient and active grasp of a nuisance and the means of its proper removal, and in short in every branch of suitable executive and administrative health work.

Finally. From the above it would appear that the advisability of adjacent municipalities under the provisions of this act joining in the employment of a competent and registered health officer is unquestioned. It may be mentioned in closing that one point which will have to be regarded is the natural conservatism of many small places which may, if not overcome, prove their own undoing.

This subject was discussed briefly by F. B. Kilmer, of New Brunswick, and the resolution was adopted.

Edward Guion, M.D., of Atlantic City, then spoke in favor of the following resolution:

Resolved, That one of the important duties of boards of health is to cause periodical inspections of every building and premises within their respective jurisdictions to be made for the purpose of detecting unsanitary conditions. Such inspections should particularly relate to the following items: (1) the water supply, (2) the disposal of excreta and waste fluids, (3) the disposal of rubbish, (4) the location and condition of outbuildings, (5) the existence of any nuisance in the vicinity which is injurious to health, (6) the condition of the cellar, (7) the condition of the plumbing."

In the course of his remarks, Dr. Guion made the following statements:

House to house inspection is one of the important duties of the local board of health. By house to house inspection, I do not mean the mere ringing of the front door bell and putting the stereotyped question, "Is your plumbing all right?"; but rather the thorough inspection of the building and the premises, having in mind all the subdivisions referred to in the resolution offered for discussion. Unless the inspection is made in a systematic manner, it is apt to be a farce. How can it be otherwise if an inspector rings your door bell and accepts the assurance from the maid of the house that everything is all right, and then goes to the next house, calling this an inspection, noting at the same time on his blank form that this particular house is in good sanitary condition? I do not say that this is a sample of the house to house inspection as made in New Jersey. Inspectors making these inspections should be supplied with proper blanks for making a concise report of each building and the premises connected thereto. These blanks should not be cumbersome and if supplied in leaf or card form, care should be taken to prevent them from being soiled either by rain or handling. The inspector should also be careful in locating buildings properly. The matter of ownership should always be verified from the office of the board of health, before serving notice for the abatement of a nuisance, as in a great number of cases the tenants are in error in giving the name of the owner. Periodical inspections should be made once a year, preferably during or just prior to the

summer season. If made during the winter unsanitary conditions are apt to remain undetected because of probable absence of odors, the presence of snow and ice, &c. The inspector should not be hurried in his work. He should be instructed to get a thorough report of each and every premises assigned to him, and to make a conscientious report to his superior officer. Notices for the abatement of a nuisance should be served promptly by the executive officer of the board, and a system should be inaugurated at the office whereby every notice thus served could be followed up, as the non-enforcement of the order for abatement tends to belittle the board of health in the eyes of the public. It is not expected of the sanitary inspector to examine minutely into the water-supply, but he should determine whether the water-supply is polluted, and if so determine the source. In buildings not connected with the sewerage system, especially, should careful notice be taken of the manner of disposal of excreta and waste fluids. If excreta from typhoid fever patients are thrown upon the ground, the germs of the disease are liable to infect the water-supply. The disposal of rubbish and the location and condition of outbuildings are items that should not escape the scrutiny of the inspector. While the accumulation of rubbish in the strict meaning of the term is not prejudicial to health, its presence not infrequently indicates the presence of unsanitary conditions. Every outbuilding on the premises should be inspected. The existence of any nuisance in the vicinity, such as cemeteries, slaughter houses, overflowing privy vaults, stagnant water (either in pools or receptacles which breed mosquitoes), should be carefully noted. The cellar so often neglected by the tenant, should be carefully examined. The inspector should be supplied with a pocket electric flash light and all dark corners examined. The inspection of the plumbing should not be omitted by the inspector.

This subject was further discussed by Alonzo Brower, Freehold; F. B. Kilmer, New Brunswick; Dr. J. E. Rowe, Summit, and B. H. Obert, Asbury Park. Motion was then made and carried that this resolution be adopted.

The chairman then announced that Mr. D. D. Chandler, health officer of Newark, would speak in favor of the following resolution:

"Resolved, That ordinances to prevent spitting upon the floors of public buildings, public conveyances and upon sidewalks and street crossings should be adopted and enforced in every sanitary district."

In the absence of Mr. Chandler, Dr. E. E. Worl, of Newark, addressed the Conference in support of the above resolution. In the course of his address, Dr. Worl spoke as follows:

The resolution as here presented seems to me a rather limited one. It reads "ordinances to prevent spitting upon the floors of public buildings and public conveyances." Those who have had experience in the enforcement of this ordinance know that the public do not always receive it graciously, *e. g.*, a man was told he should not spit upon the floor, and he promptly spit upon the wall. Therefore I call your attention to the fact that we should prohibit spitting upon the floors of buildings or conveyances or upon any part of the interior, or our ordinance will be vio-

lated and the judges will uphold the man. We have not until recently had any ordinance on this subject. The first ordinance was passed in New York City, I believe, in 1896. The Newark ordinance bearing on this subject was only passed as recently as 1899, and then only after two years of contention because we had members on the board who believed in expectoration, or saw no way of preventing it. There are certainly good reasons for the passing of such an ordinance. I might mention "personal decency." Every secretion of one individual is certainly offensive to another individual. While I am speaking I want to call particular attention to the fact that I always say "spit" and not "expectoration," for a man who spits will understand the word "spit" every time, but he will not always understand "expectoration." The second consideration in an ordinance of this kind is that we shall prevent thereby the "spreading of disease." There is possibly no means to-day for preventing tuberculosis unless you have an ordinance of this kind and enforce it. This is a scientific question and admits of no doubt. In a sanatorium where they made analyses they found in the rooms where spitting was prohibited no germs of tuberculosis, but where spitting was allowed they found tuberculosis germs. It is impossible to prevent tuberculosis without enforcing this ordinance. They would tell us about the sanatorium for consumptives, but a person has to be in New Jersey for a year before they will be taken in, and they will not receive "advanced cases," and those "advanced cases" can spit out in two or three hours millions of germs. Again a man may have in his lungs tubercular tissue not yet liquified or broken down. Some individual once made an examination of the dirt on the train of a lady's dress, and found many disease-bearing bacteria. A man will tell you perhaps that he has got to spit, but if he is a normal man he has no more moisture than he needs. If he is a chronic spitter he must be provided against. In the examination of our school children, which we ought to make and do not make as we should, many of those children will show chronically enlarged glands and many other catarrhal conditions, and there is your field, and if the fellow who spits on the sidewalk has the germ your chain is complete. These facts are borne out by Mr. Chapin in his book, showing that disinfection does not do away with the danger. He calls attention to what he calls "carrier cases." These carrier cases may show no symptoms of diphtheria and yet harbor the germs in the throat. We have no means of detecting these cases. A man would deny being ill, yet we know of a large number of carrier cases in a community, and if these persons spit there is a chance of communicating the disease. It seems to me that we have in the State law of New Jersey, particularly in the School law, a means of educating our children. We need more attention to the physical education of children. It is for these reasons, gentlemen, that I think an ordinance of this kind is feasible in any community. It is feasible because we have a penalty clause in it. I don't believe in large fines; I would rather see a small fine of five or ten dollars and see it enforced. You must educate your people first and then they will back you. I believe thoroughly in the education of our people, and there are some diseases I do not believe you will ever do away with by law or ordinance. You must educate your community.

This resolution was heartily endorsed by other members of the conference, and a vote being taken it was adopted.

Dr. A. C. Hunt, State Medical Inspector, then spoke in favor of the following resolution:

"Resolved, That measures for preventing the spread of infectious diseases should not, except in very rare instances, include the closing of schools, churches and other public buildings."

Dr. Hunt spoke as follows:

Before considering the resolution I would like to call attention to an error which local boards of health have made many times in the past in thinking they have power to close schools on account of contagious diseases. There is nothing in the law which gives local boards of health that power. The laws under which boards of education operate give those boards full power to close schools on account of the existence of contagious disease. If, however, the board of health deems it necessary to secure the closing of schools the method to be adopted is for them to pass a resolution addressed to the board of education, stating that for various reasons given, in the opinion of the local board of health, it is advisable to close the schools. It is then left with the board of education to take the necessary action. I speak of this because of many controversies between local boards of health and boards of education. In recent years I believe there are but three instances where the State board of health has advised closing of schools. In Paterson a number of cases of small-pox had occurred, and there were children from infected houses in attendance upon schools. The school-house had not been properly disinfected, and only about three-quarters of the number of children in attendance had been vaccinated. Under these circumstances it was thought best to close the school for a few days until the children had been vaccinated and the school-house disinfected. I believe when a school is closed it generally shows inefficiency on the part of the local board of health. Local boards of health should see that all cases are promptly reported, and no child allowed to go to school from an infected house. The premises should be properly cleaned after removal of the patient. There is a great amount of neglect in regard to the proper cleansing of school-houses. I have a circular on this subject, and will read a few words in regard to the cleansing of school buildings as follows:

"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 may be 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 airtight 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, and the windows should be kept open to admit great floods of sunlight and pure air. Finally scrub with clean water."

I would like to ask the gentlemen present from the various sanitary districts how many school-houses do you know of where this is done? I have found it a rare thing to find anything of this kind. In addition to this a school board should appoint medical inspectors of schools. I admit in country districts this is hardly possible, yet in the presence of an epidemic I think some arrangement should be made for inspection. If these methods are carried out I think the closing of schools is very seldom necessary on account of contagious disease. I trust the resolution will be adopted as presented.

Motion was made and carried that this resolution be adopted. The Conference then adjourned to meet the next morning at ten A. M. At the end of each session the questions which had been placed in the question box were read and replies were given.

Because of an accident at the Trenton city garbage crematory, resulting in the destruction of the smokestack, the operations of the furnaces were interrupted, and the proposed visit to the crematory was not made, but a session of the Conference was held in the State House on Saturday morning, October 20th, at which a demonstration in disinfection was given by D. C. Bowen, one of the assistant State sanitary inspectors, who exhibited a pump for the spraying of a disinfecting solution. In the course of his remarks Mr. Bowen made the following statements:

The first step in the disinfection of a building is to know what you are going to disinfect, and there must be some consideration of each individual case. For instance you go out to disinfect a building and you must first learn the details of the case, you must get into contact with the people of the house and learn from them the facts of the case. It has been my practice in the work to prepare for entering the house by selecting some place where I can take off my clothes, lay them aside and put on some garments in which I can do the work. I find such a suit as painters wear very convenient. An abundance of cheese cloth is also very necessary to have along to cover the head and hair, so you are very well protected. When you enter the house you must learn the facts in regard to the case; possibly the isolation has been narrowed down to one room in the house. The bath room should be wiped off with a solution of bichloride, and persons who have been infected can then take a disinfecting bath and step out. If proper steps are taken by the health officer when a case is first discovered there will not be much to disinfect, as he will have all unnecessary articles taken out of the room. In the case of closets or trunks of clothing, if they have not been opened, I do not think you need trouble them. If you find a book case which has not been opened I don't think you are interested in the interior of the book case. In a case of diphtheria, if books have been taken out and put back, I should learn what books have been taken out and replaced. If I find some books have been handled by the patient I should put them in the pile to be treated. If the clothing in the closet has been taken out and put in again I should take that clothing out to be disinfected. By this inquiry I would learn what has really been infected, and in this way I would take proper action to disinfect each article. I would put

mattresses and bedding, garments and clothing in one pile, things to be boiled in another pile, and clothing such as could not be boiled in a box with a tight cover. By spraying with a pump similar to the one I show you, you can spray the room. I would treat the articles in the box by spraying each layer with a formalin solution. It has been shown by testing, placing specific organisms in the garments and examining the same in the laboratory, that these organisms are destroyed. It does not hurt the garments, but it may wrinkle them up somewhat. The clothing to be boiled should be put in a wash boiler and boiled for half an hour. A forty per cent. solution of formalin should be used on the garments. To work this pump requires two persons, but it does good work. I am not sure that this is the easiest method of disinfecting, but I believe it to be the best one.

The subject of disinfection was then discussed very fully by the delegates present, and the Conference then adjourned. In the afternoon many of the delegates visited the State laboratory of hygiene.

Report on Inspection of Ice Cream Factories.

BY GEORGE W. M'GUIRE, CHIEF INSPECTOR OF FOOD.

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

GENTLEMEN—In pursuance with the request contained in the letter of instructions dated June 20th, 1906, I have the honor to submit a report embracing twenty-two inspections made by me of premises where ice cream is manufactured in this State, located as follows:

Trenton	5 establishments.
Camden.....	3 "
Atlantic City.....	4 "
Vineland	2 "
Jersey City.....	5 "
Asbury Park.....	2 "
Lawrence township, Mercer county.....	1 establishment.

These examinations were made during July and August at such times as were convenient when other business of the department called me to the localities noted above, and probably are not a fair representation of all the plants conducting the ice cream business throughout the State. It will be seen that but few of the establishments visited are beyond criticism, and that the most of them are kept in a very unsanitary condition. The report herewith submitted also shows that the facilities for protecting the raw materials against defilement, and for washing cans and utensils are very inadequate. In a number of them there is little or no ventilation and the air confined in the rooms is very offensive. The investigation has shown the necessity for greater watchfulness over these establishments and the need of State or municipal legislation governing them.

Van Dyke Ice Cream Company, Wm. D. Auman, Prop., Harrison Alley near Chambers Street, Trenton.—This is a two-story frame building, 33 x 45 feet, formerly used as a stable. The first floor is divided into five rooms with wood partitions. One room, 16 x 16 feet, is used as an ice cream saloon; it is provided with several tables, chairs, counter, floor oil cloth, &c. The dishes and spoons are washed in a pan under the counter. Soap is said to be used for washing dishes. There were two cans of ice cream behind the counter, one of which had no lid and was exposed to the air and dust of the room. The adjoining room, 10 x 15 feet, is used as a storeroom for supplies used in the manufacture of ice cream. A large quantity of canned fruits

were stored on the shelves. These cans were indented, and had the appearance of being old stock. There were also stored in this room: One barrel of gelatine, bottles containing "Strawberry Color," "Egg Color," "Cremonola," Wilbur's Cocoa, &c. The ice cream batch is mixed in this room and heated over a gas stove before freezing. The main work room is 33 x 45 feet. The side walls of this room are made of rough hemlock boards, the ceiling of same material laid on rafters and all lime washed. The floor is brick laid in sand, graded to a point over a cesspool into which all waste fluids are discharged. The cans and utensils are washed on the floor and rinsed in a wood wash tray fitted with a cold water faucet. At the time of this inspection, this tray contained filthy water, and the sides of the tray above the water line were thick with grease. This room contained an ice water vat for storing milk and cream (said to be emptied every two days), and all other machinery for making ice cream. Cans were examined and some of them were rusty on the inside. This room opens onto Harrison alley, and the floor is on a level with the ground surface. This alley is unpaved, and the ground was muddy on the date of the inspection. The rooms are unscreened, permitting free access of flies from the alley and back yards of adjoining properties.

Angelo Camera, #05 South Broad Street, Trenton.—This dealer manufactures from forty to one hundred quarts of ice cream dally, selling it by the plate in his saloon at the above address, and occasionally furnishes lodges with ice cream for banquets. Cream and milk are purchased from the Castanea Dairy Company at Trenton. The articles used in manufacture are: Cream, milk, granulated sugar, German gelatine, flavoring extracts. The factory is located in a frame room in the rear, and attached to his saloon. The room is 15 x 15 feet, has a wood floor, smooth board side walls with timbers exposed. The ceiling is formed by the hemlock roof boards on rafters. The side walls, ledges and the rafters were littered with cob webs and dust. The lowest portion of the floor was water soaked and very dirty, apparently never scrubbed. There is an ice box in the room for storing milk and cream. The melted ice from this box escapes through an iron pipe to an open brick gutter in the side yard, and enters a catch basin over the sewer pipe. The floor is broken in places, and the waste fluids deposited on the floor escape to the ground underneath, which could not be seen. This room contains an iron sink in corner, a wood sink, gasolene stove, washing machine for family laundry, wash board, empty cans, boxes, tubs, five sacks of salt, &c. The plates and spoons are washed in the iron sink. A very dirty towel was found hanging along the side of sink for drying plates and spoons.

Manning & Brink, 419 and 433 North Montgomery Street, Trenton.—This is a two-story brick building, 40 x 86 feet. The main work room is 40 x 70 feet, has lime-washed brick side walls; the ceiling is formed by the double floor of second story, which has a layer of felt paper between the wood. The joists are exposed and are lime washed. The floor of the milk room is made of brick laid in cement and graded to the center to a sewer outlet. The following articles are used in the manufacture of ice cream: Twenty per cent. cream, condensed milk, granulated sugar, fresh and canned fruits, flavoring extracts. Cream and condensed milk are received daily, and placed in close cans in a dry storage refrigerator and kept till used. The ingredients are mixed in large mixing cans holding 160 gallons; the mixture is drawn off into steel tin-lined freezing cans and agitated by machinery. The room con-

tains two ice cream machines, ice crusher and other machinery. All cans and utensils are washed in this room in a wood wash tray, first in boiling water, then rinsed in cold. An examination of a number of the steel tin-lined cans showed rust on the inside.

J. F. Hancock & Son, corner Broad and Hanover Streets, Trenton.—This factory is located in the rear of an ice cream and confectionery store at the above address. It consists of one room occupying 328 feet of floor space, in which an average of 100 quarts of ice-cream are manufactured daily. The room is L shaped, the side walls are brick, lime-washed, one portion of the ceiling is made of smooth boards, and the balance rough roof boards on rafters. The latter are lime-washed. There is a glass skylight in this portion of the roof. The room contains a boiler and engine, ice crusher and other machinery. The room was full of cans, tubs and paraphernalia used in the business. The floor of this room is made of cement, and covered with wood slats which are seldom taken up, and which make it impossible to properly clean the floor. The floor is daily flooded with water by means of a hose. The waste fluids enter into a sewer outlet in the cement floor under the slats. The floor cannot be scrubbed without removing the slats, and the numerous cans, boxes, tubs, &c. In an entry, 3 x 33 feet, leading to Hanover street, is a coal bin and a number of cans and tubs. This entry is used to bring supplies into the factory. The door has no screen, and permits free entrance of flies from the street. There is a half barrel fitted with hot and cold water pipes in which cans are washed. There were two eighty-quart cans, partially filled with cream exposed in this room, unprotected from a large number of flies present in the room. The room also contained a refrigerator in which cans of cream are stored. The articles used in the manufacture of ice cream are: Twenty per cent. cream, granulated sugar and fresh and canned fruit. Cream is received daily and said to be placed in refrigerator until used. Plates and spoons are washed in the store in a porcelain sink under the counter by neatly dressed women. The towels in use were clean, and this work carefully attended to. The cans used in the factory are made of tin, and few of them showed signs of rust on the inside.

Sugar Bowl Company, Peter Skitokos, 14 North Broad Street, Trenton.—Ice cream is manufactured in this establishment in the basement, under a confectionery and ice cream store. The room is very dark and poorly ventilated. There is a water closet in one end of the room enclosed by a board partition. The articles used in the manufacture of ice cream are: Condensed milk, cream, gelatine, and fruits, both fresh and canned. The spoons and plates in the saloon on the first floor are washed under the counter in two small sinks; the water of one is charged with soap powder. The dishes and spoons are washed and rinsed in cold water.

Albert G. Thompson, Spruce Street, Lawrence Township, Mercer County.—This factory is a dilapidated one-story building, made of rough hemlock boards, 30 x 15 feet, with an unused dilapidated ice house annexed. One-half of the floor space is laid with un-jointed boards, and a boiler is located on the ground on the other half. The floor space was filled with old butter tubs filled with ice cream plates, empty butter tubs, ice cream tubs, cans, coarse salt, junk, ropes, men's clothing, milk cans and rubbish of many descriptions. At the time of this inspection, one man was stirring ice cream and another was engaged in washing spoons. He sat on a box on the filthy floor with

a tub of dirty water in front of him. There were perhaps a hundred spoons in the tub. He rubbed each one with a dirty rag and then threw them into the rinse water contained in a similar tub. This rinse water was indescribably filthy. After the bath, the spoons were placed in a box to drain and dry. Sixty quarts of cream had been received during the day, and it was in a can on the floor. All the waste fluids from the floor fall through the cracks to the ground two feet below. The ground underneath the floor is covered with a mass of wet decomposing matter. Water is supplied from a dug well located twenty feet in front of the dwelling on the premises, and is carried about one hundred feet in pails for all uses in the factory.

George Odling, 561 Ferry Avenue, Camden.—The following materials are used in the manufacture of ice cream in this establishment: Milk, granulated sugar, fresh fruit and flavoring extracts. About ten cans of milk are, at present, supplied daily to this dealer by the Harry R. Read Milk Co. The milk is stored in a box located in an alley. This box is kept full of brine by means of a pump. The brine solution flows in and out while the pump is running. It is never emptied and cleaned. At the time of the inspection there were several cans of milk besides a can of stewed strawberries in the box. Ice cream is manufactured in an open shed, with a corrugated iron roof, in the rear of the dwelling adjoining the kitchen. The ground is covered with bricks and at the time of this inspection was in a filthy condition. A can of milk setting on the floor was uncovered and exposed to the innumerable flies which infested the place. The air of the place was foul. Rubbish and garbage were piled near the ice cream machine. The whole place was filthy and totally unfit to conduct the ice cream business. The stable, a few feet from this shed, drew swarms of flies.

Adam Mueser, 1633 Broadway, Camden.—The materials used in the manufacture of ice cream in this establishment are: Condensed milk, whole milk, cream, granulated sugar, fresh and canned fruit. The ice cream is manufactured in an open shed in the rear of the kitchen. At the time of the inspection three cans of milk were setting within one foot of the privy door. The space where the ice cream is made is covered with wooden slats, underneath which is the ground, which is saturated with waste fluids. Cans filled with garbage, and rubbish in boxes, occupy considerable space in the shed. The privy is located back of a kitchen adjoining the shed where the manufacturing is done. The cans are washed in a laundry tub. The appearance of the place was repulsive, and it is unfit for the manufacture of ice cream.

Excelsior Ice Cream Company, J. W. Ingham, James S. Caskey, Sarah A. Ingham, 323-324 Taylor Avenue, Camden.—This is a two-story building, 20 x 45 feet, with an enclosed driveway on the side and a stable in the rear of the factory. This firm manufactures ice cream for wholesale. All the work is performed in one room on the first floor. Cans are washed in a wooden wash tray, with soap and hot water. The following raw materials are used in the manufacture of ice cream: Cream, milk, gelatine, granulated sugar, flavoring extracts and canned fruits. The wood floor is broken, and the cellar underneath is flooded with waste fluids from the ice cream factory. This accumulation renders the air of the whole establishment offensive.

C. C. Youst, 600 North Tennessee Avenue, Atlantic City.—This is a two-story frame building, 25 x 100 feet. A space thirty feet in front of the ice cream room is used as a

stable for horses; there are four stalls. The floor of the factory is constructed of planks unjointed. All cans are first washed in warm water, then rinsed in cold water. There is no protection from flies which swarm in the side alley. The articles used in the manufacture of the ice cream are: Cream, condensed milk, gelatine, eggs, fresh and canned fruits and flavoring extracts. Two hundred quarts of ice cream is the daily output at present.

The Brady Ice Cream Company, 14 South Georgia Avenue, Atlantic City, Atlantic County, Robert Brady, Proprietor.—This is a two-story frame building. There is a cement floor in the work room graded to a sewer outlet. Six hundred quarts of cream are received daily, which are manufactured into ice cream. The milk and cream room is located in a building in the rear of the ice cream factory. It has a brick floor, the second story of the building being used for living room for driver and family. There are four ice water vats in this room. The following articles are used in the manufacture of ice cream: Cream, milk, gelatine, granulated sugar, color, fresh and canned fruits, flavoring extracts. While making this inspection a workman was engaged in filling orders for ice cream. He dug both hands into a partially full can of ice cream, then pushed it down into smaller cans, packing it with his hands.

Dimmock & Reardon, 127 North Chalfonte Avenue, Atlantic City.—This is a two-story frame building, 20 x 50 feet. Six hundred quarts of ice cream are manufactured daily at the present time. The articles used are: Cream, milk, condensed milk, gelatine, granulated sugar, color, flavors, canned fruits. The product is all sold at wholesale in Atlantic City. The floors are wood, and the side walls rough boards. The ceiling is formed by floor of room above on joists which are lime-washed. There are ten employees. Sewer connections. The work-room opens into stable yard, and there is no protection from flies which were abundant in the work-room. Cans and utensils washed in wood trays and on floor.

E. C. Sharp, 527 Landis Avenue, Vineland.—This establishment includes two bake-shops, one in the cellar and one in the rear of the store. The ice cream is manufactured in a shed, 8 by 16 feet, located in the yard in the rear of the bakery. This shed is made of rough boards, the floor boards are unjointed and broken. The space beneath the floor is extremely foul, caused by accumulations of decomposed materials. The owner stated that a sewer connection was located under the floor. If this statement is correct, the pipe was stopped up, causing a mass of filth to be exposed. Garbage and ashes were piled all around the building. A privy is located two feet in the rear of the building and horse manure was piled between it and the stable. The cans are said to be washed on the ground in this filthy place. The utensils and the interior of the building were filthy in the extreme and the place was infested with flies.

William G. Marshall, 403 Landis Avenue, Vineland.—About 20¹ quarts of ice cream per week are made in this establishment. At the time of this inspection, the owner was churning the ice cream in an open churn on the porch in the rear of his kitchen. The wooden floor is made of unjointed boards, and was saturated with waste fluids. The leakage escaping underneath caused a nuisance. The earth near the porch was saturated with the liquid waste and the place was infested with flies.

William Hannaker, 230 Newark Avenue, Jersey City.—From sixty to seventy gallons of ice cream per day are manufactured in this establishment. The articles used in the manufacture are: Cream, milk, condensed milk, granulated sugar, granulated gelatine, fresh and canned fruits, Burnett's coloring matter, and chocolate. The manufacturing is done in a cellar under a confectionery store. It has a brick floor, brick lime-washed side walls, and the floor of the story above forms the ceiling, on exposed joists. Cans are washed on the cellar floor, with hot and cold water, which is provided through pipes from the floor above. The room is dark and the ventilation poor.

Charles Bosesch, 423 Grove Street, Jersey City.—Ice cream is manufactured in the basement of this establishment, and the following articles are used in its manufacture: Cream, milk, condensed milk, gelatine, powdered sugar, fresh and canned fruits. The room has a cement floor, side walls are brick, ceilings are plastered, and the floor is connected with the sewer. Cold water only is used for washing cans, and this is done on the cellar floor.

Smith & Spillane, 200 Pavonia Avenue, Jersey City.—This factory is in a poorly-ventilated basement. The articles used in the manufacture of ice cream are: Cream, condensed milk, gelatine, powdered sugar, fresh and canned fruits. The fruits are canned by the owner for use in the winter season. The floor of the basement is made of cement, the brick side walls are lime-washed. The room contains an electric motor. The ventilation of this room is very bad. Cans are washed on the floor, the water for the purpose being heated over a small gas stove. The waste fluids enter a sewer pipe from the floor surface.

Columbia Ice Cream Company, 365 Seventh Street, Jersey City.—This is a two story brick building, constructed especially for the business. The manufacturing is done upon the first floor, which has a floor space of 25 x 100 feet. The side walls are brick, lime-washed, and the ceiling is formed by the floor of the story above laid on exposed joists, which are also lime-washed. The floor is graded so that the waste fluids enter the three sewer outlets on the surface. There is a cold-storage system, and the freezing of the ice cream is done by the same Brine system. The following are the articles used in the manufacture of the ice cream: Cream, milk, condensed milk, granulated sugar, gelatine, eggs, egg powder (manufactured in Wilmington, Delaware) "red color," fresh and canned fruits, flavoring extract. The dry storage refrigerator has two apartments—one for ice cream and the other for raw materials. There is also a room for freezing the bricks of ice cream. This firm do not retail any of their product, but wholesale it to storekeepers throughout Jersey City.

Paradise Ice Cream Company, 108 Newark Avenue, Jersey City.—This establishment is located in the rear of the basement on the above premises. The work is done in a shed in the back yard, 24 x 18 feet. The roof is made of rough hemlock boards, with rafters exposed. The side walls are in part brick, rough boards and smooth boards. The floor is cement, and has a sewer connection. Cans are washed on the floor in cold water. An enclosed water closet for the use of employes is located in the yard adjoining the ice cream shed. Confectionery is manufactured in the basement room adjoining this shed, and there is no protection from the swarm of flies that were found both in the confectionery room and in the ice cream room. The

articles used in the manufacture of ice cream are: Condensed milk, cream, milk, eggs, gelatine, granulated sugar, fresh and canned fruits. The product is retailed in the store on these premises.

Thomas Spier, 8 Newark Avenue, Jersey City.—This establishment is located in a very dark, poorly ventilated cellar on the above premises. A large portion of the floor is made of wood. There is one space, 10 x 15 feet, made of brick, in which there is a sewer outlet. The room was littered with dirt, rubbish, cans, cases, men's and women's clothing, &c. The cans are washed in cold water. The foreman stated that sometimes he uses hot water, which he heats over a gas stove. There is an electric motor also located in this room. The general appearance of the whole establishment indicated gross carelessness in the manufacture and in cleansing methods.

Read Ice Cream Company, 900 Monroe Avenue, Asbury Park.—This is a two-story frame building, 30 x 30 feet. Partitioned off from this room is a room containing an engine and boiler. The side walls are unpainted and very dirty. The ceiling is made of unjointed boards laid on joists, and has a liberal supply of cobwebs. The floor is made of unjointed plank, under which there is said to be a cement floor. All waste fluids leak through the cracks in the floor, and fall upon the floor below, from which I was told, it enters the sewer. It was impossible to get a view of the space below the wood floor. All cans and utensils are washed in the room in which the manufacturing is done, first in hot water and soap powder, and then rinsed in cold water. The articles used in the manufacture of the ice cream are: Cream, condensed milk, granulated sugar, gelatine, fresh and canned fruits. A half barrel of preserved strawberries was observed, which were used as a fruit flavor. Two colored men have charge of the manufacture of ice cream in this establishment. During the inspection, one colored man drew the dasher from the can of semi-liquid ice cream, and used his hands to scrape and mop off the ice cream which had adhered to it. He informed me that this was his usual custom during the day. I also saw one of the colored men filling orders for distribution to customers, by dipping with a scoop the semi-liquid ice cream, and with every scoopful, his hands became partially covered with the ice cream which was scraped off on the edges of can. The ice cream manufactured in this establishment is sold to storekeepers and dealers in Asbury Park and vicinity.

Frederick Kurvus, 925 Monroe Avenue, Asbury Park.—This is a two-story building, 40 x 20 feet, the upper floor being used as a storeroom, and the cellar floor for the manufacture of ice cream. The floor is of wood, and the side walls and ceiling also. All the floor drainage from this factory drops through a hole in the floor, to a trough some twenty feet long, and thence to a drain and to the vault in the yard. At the time of this inspection, this trough was filled to overflowing, the outlet being stopped. The articles used in the manufacture of ice cream are: Cream, condensed milk, gelatine, milk, eggs, A sugar, fruits, both fresh and preserved. The ice cream from this establishment is sold to dealers in Asbury Park and vicinity.

Reports of Inspections of Railroad Passenger Stations and Car Cleaning.

BY D. C. BOWEN, ASSISTANT SANITARY INSPECTOR.

CAR CLEANING IN HOBOKEN.

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

GENTLEMEN—In compliance with instructions to make inspections at the terminal stations of railroads in New Jersey and to report upon the frequency, method and efficiency of cleaning day coaches, I herewith report my observations made during an inspection in the car yards of the Delaware, Lackawanna and Western Railroad, Hoboken. No opportunity was had at the time of this inspection to observe the cleaning, from beginning to finish, of the coaches on any particular train, owing to the way in which the workers shifted from coach to coach on various trains, performing only that particular branch of the work to which they are regularly assigned. Inspections were principally made in coaches used on short trip trains, in which no carpets are used in the aisles. The floors after sweeping were mopped and the method of the mopper was to finish the floor on one side of a car, wring out his mop in a pail of water, mop the opposite side, again wring out the mop and, after mopping the floors in two cars in this way, to throw out the unclean water and procure a pail of fresh water. Markings left after drying of the unclean water used in mopping were plainly traceable over the painted surface of the coach floors. Water-closets were cleaned with a scraper on a metal handle, a pail of water and a sponge. In transferring the sponge back and forth from the pail to the closet bowl in washing its soiled walls, more or less of the unclean water was dropped upon the floor of the closet apartment and upon the upper rim of the bowl. The cleaner of closets was seen to leave his work and step to the tank in which drinking water is carried in the car, remove the tank cover, grasp the upper rim and peer into the tank, after which he withdrew from his pocket a bit of soap and proceeded to wash his dirt-soiled hands beneath the tank faucet, permitting the droppings from his hands to fall upon the shelf upon which the tumbler sits and to dribble down the face of the woodwork and upon the coach floor. This person was afterward seen to lift the covers from the tanks in two other coaches and in one instance to thrust his hand into the tank as if to learn the depth of the water which it contained. Plush covered seats and backs are dusted during the daily cleaning which all coaches are said to receive, and at intervals the seats are removed from the coaches and whipped or they are subjected to the "blowing" process which consists of cleaning by the use of compressed air. I witnessed the operation of cleaning the tanks in which drinking water is carried in the coaches and which, I was informed by the workman, is per-

formed about twice each week, particularly during the period in which considerable ice is used, when tanks are found to become dirty much sooner than when little or no ice is carried in them. The tank was removed from its fastenings to the coach platform and the ice remaining in the tank was removed and placed upon the rubber mat on the floor in a vestibule coach, which, in this case, contained the dirt swept from the coach floor; the water remaining in the tank was dumped upon the platform beside the car; a few quarts of cold water were poured from a pail into the tank and the inner walls were washed with a sponge. After washing, the water, which was now quite discolored was dumped from the tank and it was rinsed with a few quarts of clean water, and the ice was lifted from the floor and replaced in the tank, without washing. The tank was then put in place in the coach and subsequently filled from a hose attached to a hydrant said to be supplied with water from the public supply in Hoboken. The ice is said to come from a lake in Mount Pocono. Mr. James Fritts, who is superintendent of car cleaning in the yards above referred to, informed me that the work herein described is supplemented by a more thorough cleansing of coaches at frequent intervals, such as is applied to the coaches used on through, or long trip trains, at the termination of each trip. At the time of such cleansing scrubbing is said to take the place of mopping coach floors. Mr. Fritts also states that when the new yard, which is now under construction, is completed the vacuum sweeping system will be used in the work of car cleaning in these yards, and better facilities will be had for the conduct of the work.

CAR CLEANING IN JERSEY CITY.

In compliance with instructions I respectfully submit the following report of the methods employed for the cleaning of passenger cars at the Jersey City terminal of the Central Railroad of New Jersey. Observations upon which this report is based were made during the cleaning of coaches used on train No. 308, which runs between Jersey City and Point Pleasant. The work was performed by specialists, each person or group of persons performing some one branch of the work in the order herein named. The carpets were removed from the aisles to the car platforms and the car floors swept with a floor broom, the sweepings being brushed from the platform to the ground. The interior walls of the water-closet bowls and their outlets were scrubbed with a long-handled brush and water contained in a metal pail. This water was highly discolored, and gave off an offensive odor imparted to it by use in cleaning a number of bowls without change of water in the pail. There was considerable spattering of the polluted water, upon the floor and woodwork in the apartment, by the rather careless manner in which the work was performed. The car floors, including the water-closet apartment, were mopped over, an entire car being finished without cleaning or rewetting the mop, and many spots on the floor were not touched by it. The mop was wrung out in a pail of water once between mopping the floor of each car, and the same pail of water was used for cleaning at least four cars. An employe with a pail of water for replenishing drinking water in the tanks removed the covers and thrust a stick into the tank to measure the depth of water. The stick used for this purpose was roughly whittled from a piece of pine, was about two feet in length, and one end of the stick was grimy from long contact with soiled hands, while the other end was quite bright from much swishing about in tank water. The tank inspector informed me that the use of a stick for this purpose is a device substituted by himself as preferable to the practice employed when he took charge

of the work of plunging the hand and arm into the tanks to measure the depth of water therein contained. The inspector states that the tanks are taken down and washed out at frequent intervals. Water for filling the tanks is drawn from a hydrant in the car yard, and is said to be supplied from the public supply in Jersey City. The glass in the windows was wiped with cotton waste and a cloth, preliminary to a more thorough cleaning which followed. The carpets were dragged from the car platforms and spread in the aisles. That they had not been cleaned was plainly visible from bits of paste board, cut from tickets by the conductor's punch, and several pieces of candy which had been crushed and were clinging to the nap of the carpet. It was stated that the carpets are removed from the cars to the racks and cleaned by the vacuum air system about twice each week. This method of removing dust from carpets is very effectual. The finishing work to the cleansing of the coaches used on this train was performed by two women, all other work above referred to having been done by male employes. These women first dusted the surfaces of the interior of the coach, including plush covered seats and backs, with feather dusters, the windows in the coach being closed during the work. The seats and covers on the water-closet bowls were then wiped with a sponge, wrung from a pail of water, followed by wiping the surface of the woodwork in the closet apartment, also the doors, knobs and the entrance from the car platform, using the same sponge, without change of water in the pail, for all the coaches on this train. The work was finished by wiping the woodwork about the windows, and the glass, with dry cloths. Mr. Samuel Clement, yard superintendent, informed me that, in addition to the cleaning above described, the coaches used on the train referred to receive some daily cleaning at Point Pleasant, and a more thorough cleansing in the Jersey City yards about twice each month. I visited Point Pleasant and learned by observation that the cleaning which the cars receive there consists in a very hurried sweeping of the floors, but not of the carpets. The dust on the seats is brushed off with feather dusters, and any spots seen upon the floor are mopped over. The car windows were closed during the performance of the work, and when the work was completed the doors were locked for the night. A further inspection will be made of the more thorough semi-monthly cleansing which the coaches used on this train are said to receive.

INSPECTION OF PASSENGER STATION IN SOUTH AMBOY.

In accordance with instructions I herewith submit the following report of inspection of the railroad station of the New York and Long Branch Railroad in South Amboy. The water supplied for drinking purposes in the waiting rooms is from the public water-supply in the borough of South Amboy. The water-closet apartments are located in the north end of the building. The men's apartment has a floor space of about six feet by eight feet, and it contains one window and a door opening to the outer air. The floor and side walls are of wood, and the side walls or wainscoting is covered with sanded paint. The one water-closet is of the washout pattern, the bowl of which is stained and unclean, and a frayed cord has been substituted for the usual chain and pull for flushing the closet. The urinal is constructed of sheet copper tacked to the side wall over a space of about four feet square, and extending over the floor about sixteen inches in which a gutter is formed and connected to a drain. A perforated wrought-iron pipe, fitted with a stop cock which was closed and key removed, serves for flushing. The women's apartment has a

floor space of about eight feet by eight feet, and it has two windows opening to the outer air. It contains two washout water-closet bowls, which are stained and unclean. On one of the closet cisterns a rough cord has been substituted for the usual chain and pull. The side walls and ledges in the room are dust covered. The board floors in the waiting rooms are rough and worn and contain large seams, and in one of the rooms numerous auger holes have been bored through the floor. The shelves over which tickets are sold and the floors gave evidence of recent scrubbing. The wooden wainscoting about the rooms, and the plaster side walls and ceiling, from which several large patches have been broken, apparently contain the accumulated dirt and fly specks of past years. The doors and door-jamb, notwithstanding the recent cleaning they are said to have had, show plainly the marks of unclean hands. I was informed by the employes at the station that this station had received its regular quarterly cleansing three days prior to this inspection by a gang of cleaners who pass over the road for this purpose. The baggage master informed me that he performs the daily sweeping which the waiting rooms and platform receive; that he occasionally scrubs the floors in the waiting rooms; that he has received no instructions to prohibit spitting upon the floors of the waiting rooms and platforms, and that he does not wash the shelf over which tickets are sold. The ticket agent stated that he does not know that the ticket shelf is cleaned except when the corps of cleaners above referred to pay a visit to the station, at which times they are scrubbed. That spitting upon the station floors and platforms is permitted is plainly visible.

Excerpts from the Annual Reports of Local Boards of Health for the Year Ending October 31st, 1906.

Atlantic City.—The Chief Medical Inspector of Schools, Dr. Edward Guion, furnishes the following copy of his report to the city board of education:

Your board of medical school inspectors would respectfully submit the following report of work done during the last school session (1905-1906). The history of 4,432 scholars was taken. This history is noted on a card, and gives the pupil's name, age, school room number, color, address, parent's occupation, number and ages of the brothers and sisters, condition of vision (tested by Snellen's test cards), hearing (both as to voice and watch), presence or absence of headaches, catarrhal diseases, whether vaccinated or not and date of last successful vaccination, presence or absence of skin diseases and deformities, and the teacher's signature with date of examination. There is also a space on reverse side of card for additional facts as noted by teacher and attitude toward school work. The procuring of this data was a task of considerable magnitude and too much praise cannot be given to your teachers for their zeal in the matter. The medical inspectors were assigned as follows: W. F. Ridgway, Madison avenue; T. G. Dunlap, New Jersey avenue; Edward Guion, Pennsylvania avenue; V. W. Metzler, High School; D. A. Berner, Illinois avenue; A. E. Ewens, Indiana avenue; Clara Bartlett, Ohio avenue; C. E. Filbert, Texas avenue; I. E. Leonard, Chelsea avenue; M. S. Ireland, Monterey avenue; W. M. Pollard, at large. The teachers were instructed to send all suspicious cases, *i. e.*, sore throat, skin or scalp diseases, defective vision or hearing, &c., to the office of the principal every morning before 10 o'clock. The principal at 10 o'clock called the physician having charge of that particular school by phone, acquainting him of the fact that his services were needed. It was understood that the physician of each school should be in his office or within call every school day at 10 o'clock A. M. It was also understood that the physician of each school should visit each school room at least once a week.

The following blanks were used according to the nature of the case :

Atlantic City, N. J.,190.....
 , residence.....
 attending school
 room No.....was examined on.....
 190..... and found to be affected with.....

Please consult your family physician and have the trouble treated at once. Cases of defective eyesight and hearing must receive immediate attention.

.....MEDICAL INSPECTOR.

Atlantic City, N. J.,190.....
 Name.....Age.....
 Address.....
 is ordered to discontinue attendance at.....
 school, room No.....
 Reason

NOTICE TO PARENTS :

The disease above mentioned is a contagious affection and liable to be transmitted to other children. The child should receive prompt treatment by any physician, and must not return to school until given a permit by the board of health.

.....MEDICAL INSPECTOR.

Examination of the 4,432 cards is summarized as follows :

Eight hundred and sixty-nine never vaccinated ; 248 not vaccinated subsequent to 1899 ; 175 with defective vision of a severe degree, some being totally blind in one eye, others reading letters at two feet that should be read at 200 feet ; 250 with defective vision of a lesser degree averaging 20-30 ; eighty-two defective hearing of a severe degree, some being totally deaf in one ear ; 102 with catarrhal and skin diseases ; and about twenty with deformities, such as spinal trouble, hip joint disease, &c. There were also about twelve classed as mentally deficient. Last year the cards were kept on file at the High School building. This year, unless instructed to the contrary by your honorable body, the cards will be filed at the office of the respective schools.

October 16th, 1906.

Asbury Park—Mr. B. H. Obert, health officer, writes as follows :

On May 15th, 1906, a portion of Neptune township, adjoining Asbury Park on the west, comprising about 450 acres and containing a population of approximately five thousand two hundred and eighty-four, was annexed to Asbury Park, thereby making a city containing an area of about nine hundred and fifty acres, or about one and five-tenths square miles, with a population of approximately nine thousand eight

hundred and ten. About two and three-fourths miles of sewers have been laid in this annexed district, leaving about twelve and one-fourth miles yet to be laid. The district without sewers is in a primitive sanitary state, about fifty acres of which is in an exceedingly unsanitary condition and is thickly settled. Among its population are twelve hundred negroes, three hundred and seventy-five Italians, and one hundred Hebrews. At a meeting of the board of health, held May 22d, 1906, the following preamble and resolution were adopted : Whereas, As a beginning step for the purpose of bringing the sanitary conditions in the annexed district up to the standard which prevails in Asbury Park it is essential that information in regard to existing conditions shall be learned and reported to this board as follows : 1st. To learn the sources of the water-supply on each premises and if the supply is taken from wells or other sources liable to pollution ; the record of the inspection to show the surroundings of the well and also show any additional facts which will assist in a judgment as to the safety of the water. 2d To learn the methods for the disposal of waste fluids on each premises and to note if a nuisance is caused by the method which is employed. 3d. To learn where accumulations of decaying, organic substances are located, and to make a record of any such accumulations which, in the opinion of the inspector, constitute a nuisance. 4th. To report any mosquito breeding localities. 5th. To report any gutters or ditches in the streets which receive waste liquids from adjoining dwellings. Therefore, be it

Resolved, That the health officer of this city is hereby directed to cause inspections to be made of all the premises in the annexed district, with as little delay as possible, to learn the facts above set forth.

Inspections were at once started in the annexed district in conformity with the foregoing resolutions and the work was carried out as far as practicable, resulting in the closing of a number of polluted wells, the cleaning of a great number of privy vaults and cesspools, which had overflowed for years, and the general cleaning up of stable premises, back yards, streets, &c. There being no sewers in about eighty-one and two-thirds per cent. of this district, it was impossible to compel the connection of premises with the sewers for the abatement of the nuisances caused by privy vaults, cesspools, or the pollution of the ground by waste liquids. The city is now arranging to place a sewer system in the entire annexed district, which, when completed, will enable the board of health to compel the abatement of the nuisances above referred to. On June 15th, 1906, the collection of garbage, rubbish and ashes was extended to the new district, the work being performed under similar specifications as those which have existed in Asbury Park for several years. A very poor garbage service had been rendered by the township and no public collection of rubbish or ashes had ever been performed in said district. The work of the health department was materially increased by said annexation and the force was increased by adding one inspector and an office assistant.

The total number of deaths in Asbury Park for the year ending October 1st, 1906, was 113, seventy-six among the resident and thirty-seven among the non-resident population. This does not include the deaths which occurred in the annexed district preceding the date of annexation. By excluding the deaths occurring in the annexed district, the resident population being estimated at 4,602, there being in this district forty-six deaths in the resident and twenty-six among the non-resident population, it would give a death-rate of ten per 1,000 population.

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-SEVEN YEARS.

YEAR.	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.....	3,880	40	21	61	11.86
1895.....	3,761	39	17	56	10.36
1896.....	3,838	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.....	4,223	37	21	58	8.76
1902.....	4,298	32	19	51	7.44
1903.....	4,374	36	13	49	8.22
1904.....	4,450	47	12	59	10.55
1905.....	4,526	26	25	51	5.75
1906.....	†4,602	†46	†25	†71	†10.00

* Resident population estimated except for years 1880, 1895, 1900 and 1905.
 † Does not include newly-annexed district.

Fifty-nine cases of infectious diseases have been reported to the board of health during the year as follows: Diphtheria, 16; scarlet fever, 6; typhoid fever, 6; measles, 31.

TABLE SHOWING THE NUMBER OF REPORTED CASES OF INFECTIOUS DISEASES IN ASBURY PARK AND DEATHS THEREFROM, DURING THE PAST TWENTY-TWO YEARS.

YEARS.	Resident population (estimated except for census years).	NUMBER OF CASES REPORTED.						DEATHS.					
		Measles.	Scarlet Fever.	Diphtheria.	Typhoid Fever.	Consumption.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Typhoid Fever.	Consumption.	Small-pox.
1885.....	2,000	14	3	1	.....	.....	.....	2	1	.....	.....	.....	.....
1886.....	2,125	4	2	9	.....	.....	.....	4	4	.....	.....	.....	.....
1887.....	2,250	82	7	7	.....	.....	.....	1	7	.....	.....	.....	.....
1888.....	2,375	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1889.....	2,500	10	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1890.....	2,625	16	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1891.....	2,750	1	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1892.....	2,875	36	4	7	.....	.....	.....	.....	.....	.....	.....	.....	.....
1893.....	3,000	7	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1894.....	3,880	7	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1895.....	3,761	6	5	5	.....	.....	.....	.....	.....	.....	.....	.....	.....
1896.....	3,838	39	3	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
1897.....	3,916	5	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1898.....	3,993	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1899.....	4,071	4	6	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
1900.....	4,148	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1901.....	4,223	6	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1902.....	4,302	17	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1903.....	4,379	30	1	5	.....	.....	.....	.....	.....	.....	.....	.....	.....
1904.....	4,456	120	3	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
1905.....	4,526	9	10	7	.....	.....	.....	.....	.....	.....	.....	.....	.....
1906.....	9,810	31	6	16	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals.....	.....	446	157	100	42	5	11	1	9	28	7	89	1

Two hundred and ninety-three specimens of diseased tissue have been sent during the year through this department to the State bacteriological laboratory for diagnosis, as follows: Suspected diphtheria, 221; suspected tuberculosis, 61; suspected malaria, 5; suspected typhoid fever, 6.

The municipal hospital for infectious diseases has been used during the year on several occasions, four cases having been cared for therein. The necessity for a new pavilion to receive cases of scarlet fever was demonstrated during the year and the ladies of the Present Day Club, an organization of Asbury Park, have been working to secure funds for such a building, plans for which have been approved and it is hoped a pavilion will be erected at an early date. The board of health has continued its efforts to prevent the breeding of mosquitoes in Asbury Park during the past year. In the annexed district during the continued and prolonged rainfall the ditches along the streets, which are poorly drained, contained water which made a very favorable place for depositing mosquito eggs, also a number of premises were found in the city on which mosquito larvæ were breeding in miscellaneous receptacles containing water, such as rain water barrels, pails, tubs, tin cans, &c., &c. It is hoped before another season the street in the annexed district will be so graded that no favorable breeding places for mosquitoes will be found.

The board of health believing an ordinance with a penalty and the enforcement thereof, would be more effectual in abating the mosquito nuisance than acting under chapter 119, laws of 1904, adopted the following ordinance: "A Supplement to an Ordinance entitled the Sanitary Code of the City of Asbury Park, N. J., adopted August 3d, 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 retaining of water in which mosquito larvae breed on private premises, in public places, streets or alleys, shall constitute, and it is hereby declared to be a nuisance; and the maintenance thereof is hereby prohibited. Section 2. Any person, persons or corporation violating any of the provisions of this ordinance, shall, on conviction thereof, forfeit and pay a penalty of twenty-five dollars. Adopted September 14th, 1906."

At a meeting of the board of health, held October 24th, 1905, the following preamble and resolution were by motion unanimously adopted: "Whereas, This Board has information that a portion of the water for domestic use in Asbury Park was procured from Kiser's pond, which is supplied by Jumping brook and its tributaries, during the summer of 1905, through the East Jersey Coast Water Co.; and Whereas, This board has received from the board of health of the State of New Jersey a copy of a report of an inspection of Kiser's pond, Jumping brook and its tributaries, made by an inspector of the board of health of the State of New Jersey, which shows numerous sources of pollution located on the borders of said Kiser's pond, Jumping brook and its tributaries; therefore be it Resolved, That this Board advise against the further use of water from Kiser's pond, Jumping brook and its tributaries and strongly urge that no more water be taken from the said sources for use in this city." The water-supply for the old district of Asbury Park, was, for the second time, supplemented by from forty-five thousand to two hundred and fifty thousand gallons daily from the East Jersey Coast Water Company. A pumping plant and distributing pipes have been constructed with a capacity of seven hundred and fifty thousand gallons per twenty-four hours, and was in operation during the latter part of the summer, supplying water from Deal lake for street sprinkling purposes only. Heretofore water for street sprinkling was largely taken from the artesian supply, from two hundred and fifty thousand to three hundred thousand gallons daily being used. With the street sprinkling system now in operation it will be seen that the city should now be able to supply all water used for domestic and street sprinkling purposes in the old district of Asbury Park from its own systems without relying on private parties for aid. In the annexed district seventy-five dwellings are supplied with water from the city's supply, the balance of said district, with the exception of a small portion where the dwellings are scattered, is supplied with water from the East Jersey Coast Water Co.

Five additional steel-body garbage carts and four wooden-body rubbish carts, similar to those owned by the city, and in use since 1898, were purchased by the city during the year. The manner of collecting and removing the garbage and rubbish from Asbury Park during the year was very unsatisfactory and far below the standard of preceding years. The contractors who received the contract June 15th, 1905, gave a poor and inadequate service; the price for the removal of these waste products was \$500 per year less than paid in preceding years; the board of health voted to be lenient in enforcing the specifications; the service continued to deteriorate, the work was done in a careless manner, many places were skipped, and the complaints from citizens of failure on the part of the contractor to remove the gar-

bage and rubbish, and of the slovenly manner in which the work was performed, were far in excess of any former year, until at a meeting of the board of health, held July 10th, 1906, it was voted that the health officer represent the board in all matters relating to the collection and removal of refuse materials in the city of Asbury Park. The contractors were at once notified to conform to the specifications in the collection and removal of garbage and rubbish, and the conduct of the work was considerably improved until Saturday, July 21st, the contractor failed to remove any of these waste products. The board of health at once assumed control and succeeded in relieving the hotel district that day and did the work from said date until August 14th, when the work was given over to a new contractor. The board of health had considerable difficulty in securing teams to do this work, the owners of horses refusing to attach them to the garbage and rubbish carts owned by the city, claiming their horses were not accustomed to being worked to carts, and it would, therefore, be very hard and trying work for them. The board of health was, therefore, compelled to permit the use of wooden-bodied wagons, owned by farmers, which was attended with all the objections known to this class of vehicles, and demonstrated the superior construction of the steel-bodied dumping carts owned by the city. Wooden-bodied wagons had not previously been used in Asbury Park for the removal of garbage since June, 1898. In the removal of rubbish unsightly and unsuitable wagons had to be pressed into service resulting in littering the streets. The removal of rubbish from the city during the entire term of the old contract and during the period from July 21st to August 14th, when unsuited wagons were used in the service, was performed in a manner that littered the streets with unsightly materials, and the streets of Asbury Park presented a more unsightly and untidy appearance than for many years. On July 27th, the common council annulled the old contract on the ground that the contractors had failed to execute the same, and advertised for bids to complete the contract, one year and ten months. A new contract was awarded on August 8th, 1906, for the unexpired term of the contract, to start work August 14th, 1906, for the sum of \$14,500, which is nearly one hundred per cent. above that paid the former contractor. The new contractor assumed control of the work August 14th, 1906, the common council and the board of health directing leniency in the enforcement of the contract during the rush season. The manner in which the work was executed is set forth in the following report: "I respectfully submit the following report on the manner in which the removal of garbage and rubbish is being performed by Mr. James Griffin, the present garbage and rubbish contractor: He failed to completely collect and remove either garbage or rubbish any day from August 14th to August 23d, and on August 25th, 27th, 28th, 29th, and September 3d, garbage was left on entire blocks for as many as three days, and rubbish was left on entire streets for as many as four days. In the manner of conducting the said work, the contractor has failed to comply with the contract and specifications as follows: No information has been furnished by him that he had permission from the proper authorities to convey and dispose of said waste products in their districts, nor has he given any information as to the places and manner of disposal of said waste products. His employes do not wear brown suits and caps, nor badges, when engaged in the performance of their work, and a number of boys, about ten years of age, are employed in the work. Five only of the thirteen garbage carts owned by the city are used in the work, leaky, unsightly, wooden-bodied wagons being substituted. None of the vehicles are thoroughly washed, in accordance with the requirements of the specifications, nor are covers provided

or used on more than three or four of the vehicles in use. Three of the eight rubbish carts owned by the city are used in the work, unsuitable wagons being substituted. In loading these vehicles rubbish is unnecessarily scattered about the streets. No covers are provided for any of the vehicles used in transporting rubbish, thereby further littering the streets with unsightly material. The provisions of the specifications require that daily reports shall be filed by the contractor showing the number of full loads and parts of loads of garbage and rubbish removed and other valuable information, which information has not been furnished since the present contractor began the work, August 14th, 1906. This information has been furnished and is on file since the contract made in June, 1898, to August 14th, 1906. Per instructions of your board, no inspections have been made to learn the places and manner of disposal of these waste products, but I have been informed that garbage is being disposed of by feeding to hogs, spreading over ground and plowing under, and by dumping in heaps on the ground, there to decompose, on the farms of Stephen McTague and Theodore Robinson, near Wanamassa, in Ocean township; that it is being spread upon the ground and plowed under on Fleischman's place, near Whitesville, in Neptune township; that grease is rendered therefrom at the plant of Arthur Redfern, Corlies avenue, Neptune township; and by feeding to hogs on Dr. H. S. Kimmouth's farm, in Wall township. Various farmers have also been permitted to take loads of garbage from Asbury Park whenever they chose to come for it. I have also been informed that rubbish is being disposed of by filling in, without burning, on the public road adjoining the farm of Stephen McTague, near Wanamassa, Ocean township, and also at the place of Arthur Redfern, formerly used by Redfern & Koenemund, Corlies avenue, Neptune township. In view of the unsatisfactory manner, above referred to, in which the work has been performed by the present contractor, it is fair to presume that the service will continue to prove inadequate and unsatisfactory under the present management, and I, therefore, recommend that action be taken by your board at this time to secure a proper enforcement of the contract and specifications in order that the service may, at least, be restored to its efficiency prevailing prior to the time of changing the contract to Messrs. Redfern & Koenemund, June 15th, 1905.*

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 EIGHT YEARS.

Garbage and Dead Animals.

YEAR.	Contract price.	Number 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	3,634 61	0.7841
1903.....	2,850 00	3,481 97	0.8185
1904.....	2,850 00	3,849 58	0.7403
1905.....	2,166 66	5,567 97	0.3891
1906.....	4,903 85	*3,339 05	1.4686

* Approximated from August 14th to Sept. 14th, 1906.

Rubbish.

YEAR.	Contract price.	Number 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.....	2,600 00	10,509 4	0.1903
1904.....	2,000 00	10,437 4	0.1916
1905.....	2,166 66	13,253 8	0.1635
1906.....	4,408 28	*:3,146.0	0.3353

* Approximated from August 14th to Sept. 14th, 1906.

It will be seen by the foregoing table that the cost of the removal and disposal of garbage was one dollar and forty-six cents per cubic yard, an increase of one dollar and eight cents over that of the preceding year and about double that for six years preceding 1905. The increase in cost for the service is due to the removal by private parties of all garbage from eleven of the largest hotels, of which no record was filed and no estimate was made, and the cost for this service was twenty-eight hundred dollars higher than for the preceding year. The price per cubic yard for the removal of rubbish, thirty-three cents, is about double that of the preceding year, due to the increase in the price paid for this service, twenty-three hundred dollars over that of the preceding year.

The garbage contractor's daily reports for the past seven 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.	1905.	1906.
Premises with leaky receptacles.....	21	44	8	38	36	6	26
Premises on which garbage was stored in wooden receptacles.....	29	42	49	35	22	9	5
Garbage receptacles containing an excessive amount of fluids.....	3	3	3	4	14	.....	.....
Premises on which garbage receptacles were inadequate.....	22	49	57	20	1	.....	12
Premises on which garbage was stored in inaccessible places.....	.....	1	1	.....	.....	.....	2
Premises on which garbage receptacles were too large to be conveniently handled.....	8	1	2	15	5	.....	2
Premises on which ashes were mixed with garbage.....	1	.....	.....	1	3	.....	1
Premises on which rubbish was mixed with garbage.....	5	1	.....	7	4	.....	3
Premises on which rubbish contained prohibited substances.....	8	3	1	7	16	2	1
Totals.....	97	144	121	127	101	17	52

Of the four hundred and six citizens' complaints received, not including those against the garbage service, just cause for complaint was found to exist in three hundred and twenty-seven. Of the citizens' complaints against the garbage service, seven hundred and forty-four, just cause for complaint was found to exist in all but twenty-three. As will be seen by the table, the great number of complaints against the garbage service were in the months of July and August, the great bulk of which were preceding July 21st, that day, July 23d, and after August 14th.

OFFICE AND INSPECTION WORK.

Number of violations of health ordinances reported by inspectors during the year, 1,300; number of reinspections of premises after notice to abate nuisances had been sent, 1,040; number of citizens' complaints investigated, 1,152; number of written orders sent to abate nuisances, 862; number of cases in which notice to abate nuisances were known to have been complied with without further action, 393; number of cases referred to the Board with request for instruction, 50; number of written communications sent from the office, 1,411; number of inspections made of plumbing work under construction, 564; number of air pressure tests applied to plumbing work under construction, 153; number of smoke tests applied to plumbing work, 132; number of notices for minor alterations and repairs in plumbing work, filed by plumbers, and inspections made, 55; number of plumbing plans approved, 170; number of special inspections of plumbing fixtures in dwellings and records made of same, 148; number of specimens sent to State Bacteriological Laboratory and replies received through this office, 293; number of disinfections performed in dwellings, 27.

Following is a report of an inspection, made July 17th, 1906, by D. C. Bowen, State Sanitary Inspector, of the reduction works for disposing of the garbage of Asbury Park:

Board of Health, State of New Jersey:

GENTLEMEN—Inspection of the plant conducted by Mr. Arthur Redfern for the disposal of garbage and rubbish from the city of Asbury Park shows that said disposal works are located in Neptune township, about two miles west of the city from which the refuse is removed, on a tract of land bordering on the north side of Corlies avenue. Upon arrival at the plant garbage is dumped from the carts directly into open wooden vats. These vats are about sixteen and one-half feet long, four and one-half feet wide, and three feet deep. In these vats garbage is cooked by steam liberated from perforated steam pipes fitted in the bottoms of the vats. The grease which is thus floated, is skimmed off, placed in barrels and subsequently sold. There are eight rendering vats in all, two of which were out of service at the time of this inspection. It was stated that about eight hours' cooking is required to float the grease on a vat of garbage. It will therefore be seen that if no time is allowed for cooling the contents of the vat before the removal of grease, the six vats in use at time of this inspection would give a rendering capacity of about one hundred and eighteen cubic yards in twenty-four hours. The rendering vats are located beneath a rough shed-like structure situated about forty feet from a brook which empties into Musquash cove, Shark river, in which "Musquash Oysters" of local fame are grown. The cooked garbage, after the fat has been removed, is loaded directly into wagons of farmers, who buy the material for hog food, or it is drawn off into

four vats, of the same dimensions as those above described, and which are placed at a lower level for convenience in filling, where it is temporarily stored until removed from the premises. The vats are constructed of one-inch boards and they are not water tight. Liquids slopped over in handling the cooked garbage and those which escape from the leaky vats at the time of this inspection, were flowing in a stream over the surface of the ground into an overflow vat sunk beneath the ground surface about eight feet from the water in the brook and of the same dimensions and construction as those already described. This overflow vat was full and its contents, in a high state of decomposition, was overflowing directly into the brook. About eight or ten cubic yards of uncooked garbage was strewn upon the ground near the rendering plant. Two loaded garbage carts, and one rubbish cart, with no animals attached and with shafts resting upon the ground, stood on the premises. The cooked garbage, from which the grease has been removed, is disposed of, as above stated, for hog food. Some farmers come long distances for the material, and I was informed that on some farms, located near by the plant, several hundred hogs are kept and fed exclusively upon refuse from the Redfern plant. I was informed by one purchaser that the price paid for the cooked garbage ranges, according to supply and demand, from a few pennies to twenty-five cents a barrel; and at this season of the year there is a ready sale for all produced. This person also stated, that the cooked garbage, particularly when loaded into barrels, hot from the cooking vats, keeps a remarkably long time, even in warm weather, without noticeable decomposition and that it gave rise to less odor than when uncooked garbage is fed to hogs. He also stated that while the hogs did not appear to grow and fatten so well when fed upon cooked garbage they appeared to be less subject to diseases than when fed raw garbage. There were but two persons employed about the plant at time of this inspection. The foreman, who had been there but two days, could give no information as to the amount of fat obtained from a vat of garbage nor of its value. There was very little objectionable odor about the plant considering the indifferent manner in which the place is conducted. The odor given off from the cooking garbage was but slightly offensive and appeared to have no attraction for flies. Dry ashes had been liberally spread about the place, absorbing moisture and diminishing odors. Rubbish is dumped in from the edge of a knoll upon a low ground, on the south side of Corlies avenue, and within one hundred feet of the brook above referred to. Attempts which have been made at irregular intervals to burn this material have not proven successful owing to the wet condition of the accumulation. I was informed by an Italian laborer employed in culling bottles and other articles of value from the dump, that no burning had been attempted for at least four weeks. There was evidently several hundred cubic yards of the unburned rubbish, giving rise to considerable odor, the washings from which drain into the brook, stored on the ground at the time of this inspection.

Montclair.—The health officer writes as follows:

During the past year the work of this board has been conducted along lines similar to those followed in previous years with the following exceptions: (1) A more strenuous endeavor has been made to provide the public with a pure milk-supply. In addition to the regular dairy inspection, the board has engaged a veterinarian to make a physical examination of each cow from which milk is produced for sale in Montclair. As a result over 2,000 cows were thus examined and fifteen were found to be affected with tuberculosis to such an extent that the disease was detected without the tuberculin test. These cattle were excluded from the herds, together with

about as many more which were suffering with cow-pox to such an extent that pus would readily drip into the pails during the process of milking. Two of the worst herds were tuberculin tested by the State Tuberculosis Commission, and nine cattle out of fifteen reacted in addition to those excluded as tuberculous on a physical examination only. Of course it is not to be assumed that this ratio would hold if all the herds had been tuberculin tested, for these particular herds were decidedly suspicious, but, at the same time, these figures do show that there is urgent need of a thorough inspection of the cattle from which milk is produced, and that no municipality can feel that it has a safe milk-supply until such an inspection is made the basis of its milk inspection work. It is undoubtedly true that many other cattle would have reacted had they been tested, and, in the present state of knowledge regarding the intercommunicability of tuberculosis between cattle and human beings, it is highly desirable that the tuberculin test be resorted to more frequently. About 240 samples of milk have been analyzed during the year. Three of our dealers were found to be delivering watered milk, and samples were subsequently collected in the manner provided by law, forwarded to the State Laboratory of Hygiene at Trenton for analysis, and fines of \$50 collected in each case. Two of these dealers have given up the milk trade in Montclair, while the third has shown marked improvement in the quality of the product which he is delivering. All samples of milk have been tested for formalin and borax. A trace of formalin was found in one sample. Samples of cream have been collected from the various dealers from time to time and examined for percentage of fats, thickeners, formalin and borax. One sample was found to contain formalin in considerable quantities. (2) A house-to-house inspection and canvass of the Fourth ward has been made to ascertain the following facts in addition to those generally noted in such an inspection: (a) Whether birth certificates for all children under five years of age had been filed. (b) Housing condition; that is, the percentage of the population living in one, two or three rooms, &c. (c) Population; colored, Italian and others. The Fourth ward contains a large majority of the Italians in town, and the population is largely made up of the laboring class. Although the work of checking the birth returns has not been entirely completed so that we can definitely say what percentage of the births have never been reported, enough has been done to show that we are more than justified in the expense and time that the work has required. A few of the physicians have failed to report a small number of births, persons acting as midwives have failed to report a larger number, and parents have neglected to make returns when there has been no professional attendant. We anticipate much more complete returns in the future as the result of this inspection, for the physicians and midwives know that we are checking over their records and the parents know that their children must be registered. If delinquent returns are made in the future prosecution will follow. (3) The testing of gas piping is now being done by our own force of inspectors. This work is under municipal supervision in many places, and the character of the work done by some of the gas fitters demands close supervision. During the year there were 113 cases of scarlet fever, 51 cases of diphtheria and 18 cases of typhoid fever. This is an unusually large number of scarlet fever cases and the epidemic was due to the extreme mildness of the attack, our medical inspectors finding no less than thirteen children in the class-rooms in varying stages of the disease. It is very evident that one desquamating child might, through his presence in school, infect many others, and that nothing could bring a sudden termination to an epidemic of this character. The schools were not closed at any time on account of the scarlet fever, but the children from the infected portion of the town were examined daily either by the medi-

cal inspector or by the teacher, and excluded at the first suspicious symptom. The children belonging to the poorer class, twenty-three in number, were cared for at the expense of the board of health, as proper quarantine could not be maintained in their homes. As we had no contagious disease hospital we hired two tenements, fitted them up with cots, placed nurses in charge and cared for the patients in these temporary hospitals. At one time during the epidemic the board engaged physicians to visit every Italian house in the infected district in an effort to discover any concealed or unrecognized cases. Strict quarantine was maintained in all cases, watchmen being secured in several instances. In fact, none of our cases were due to the neglect of any known precaution, but to the wide-spread infection from ambulating cases. We have had two cases of small-pox, and both patients arrived from the South about two weeks before coming down with the disease. They were cared for by the town at an expense of \$730. In one instance the patient traveled in the trolley cars on the day she was pronounced infected with small-pox, and while badly broken out with the disease. It was evident that there had been wide exposure and that drastic measures should be taken. All of the cars in which there was the least chance that the patient might have traveled were ordered out of service and disinfected and their crews vaccinated. Fifty notices were posted in conspicuous places about Montclair warning all who used the street cars between stated hours that they might have been exposed to small-pox and that the board of health would furnish free vaccination to all who applied. No further cases resulted. Two cases of rabies and one case of glanders are all the communicable diseases of animals that have been reported. Medical inspection of the schools has been established now for about a year and a half and the results obtained more than justify the expense and labor involved in carrying out this branch of our work. While the board of health has charge of this work, the expense is met by a separate appropriation from the town council for this particular purpose. Until June 1st, the collection of garbage and ashes was in the hands of individuals who were licensed by the board of health. On that date a municipal system of collection was inaugurated which has given satisfaction. Under the terms of the contract, garbage is to be collected three times a week during the summer months, and twice per week during the remainder of the year. The ashes are to be collected once each week during the summer and twice each week through the winter months. During the year ending October 1st, there was a total of 263 deaths, corresponding to a death-rate of 15.72, figured on an estimated mid-year population of 16,732. Of these, fifty-four deaths were non-residents who died in the Mountainside Hospital at the St. Vincent Foundling Asylum. If these deaths are excluded we have a corrected death-rate of 12.49 for the year. 37.2 per cent. of the total number of deaths were under five years of age, and 29.6 per cent. of the resident deaths were under five years of age. In the last annual report of the State board of health, Montclair is credited with having the second highest infant mortality rate in the state, and no explanation is made. As a matter of fact the infant mortality rate was brought up to the abnormal figures given in that report by the deaths at the Foundling Asylum. Foundlings are brought to this institution from all parts of northern New Jersey and from New York, and an erroneous impression is given if the resulting deaths are credited to Montclair with no word of explanation. In the same way the gross death-rate is greatly increased by deaths at the Mountainside Hospital, as patients are taken there from all parts of the county. The following are the deaths from communicable diseases during the year: Tuberculosis of the lungs, 27; pneumonia, 23; scarlet fever, 5; whooping cough, 4; diphtheria, 3; typhoid fever, 2; measles, 2; erysipelas, 1.

Legal Decisions and Opinions.

LODGING-HOUSE KEEPERS AND INFECTIOUS DISEASES.¹

A claim brought by a young lady musician against a lodging-house keeper at Scarborough to recover her luggage was met recently by a counter-claim of a very unreasonable character, which fortunately was not allowed to succeed. The plaintiff took rooms with a view to occupy them during an engagement at a local place of entertainment and three days afterwards learnt that there was a case of measles in the house, when she naturally left at once. The landlady, however, refused to give up her lodger's boxes, and when the latter brought her action to recover them counter-claimed for payment for the lodgings in lieu of notice. His Honor Judge Raikes, made short work of the landlady's case, pointing out that a common misfortune had put an end to the contract, a misfortune of which lodging-house keepers must run the risk and of which they must take the consequences when it occurred. In other words, an event beyond the control of the parties had made it impossible for the lodging-house keeper to carry out her bargain by supplying a lodging of such a character as the plaintiff must be taken to have bargained for and the plaintiff could not be made to pay for one which might render her liable to the infection of measles. The judgment was for £4, to be reduced to 1s. on the return of the box, and for 8s. 8d. due in respect of the accommodation which the plaintiff actually enjoyed, the costs in each instance to follow the judgment.

AUTHORITY TO LICENSE MILK DEALERS.

Judge Charles B. Storrs, in the Orange district court, handed down a decision in favor of the board of health, upholding its contention that it had legal authority to require milkmen to take out a permit before doing business in the city. The board brought suit against Charles J. Hamilton and Walter Laracy, who had failed to take out permits or licenses. The facts in the case were admitted, but it was maintained by Daniel A. Dugan, who appeared for the dealers, that the board had no legal authority for requiring milkmen to take out licenses, but that the licensing power rested with the common council. Arthur E. Seymour, as counsel for the board, took the opposite view and decision was reserved in order to afford the counsel opportunity to file briefs. Judge Storrs decided that the board had ample powers in the matter and gave a judgment of \$10 against each dealer for failing to take out his license.

¹London Lancet, June 30th, 1906.

NUISANCE—POLLUTION OF OYSTER-BED BY SEWAGE—RIGHT OF LOCAL AUTHORITY TO DISCHARGE SEWAGE INTO THE SEA.¹

A local authority have no right at common law or by statute to discharge sewage into the sea in such a way as to cause a nuisance to oyster-beds forming part of an ancient fishery, and if pollution is so caused the authority will be liable to pay damages for the injury caused and to be restrained by injunction.

This was an action for an injunction and damages in respect of an alleged pollution of the plaintiff's oyster-beds in Hadleigh Ray, near Southend, by sewage coming from the outfalls of the defendant corporation's sewage system. The case lasted nine days, and on February 21st, 1906, Buckley, J., delivered a considered judgment in which the facts are set out.

Buckley, J., in the course of his judgment, said: The plaintiff is lessee in occupation of a certain part of an ancient several fishery, being oyster-beds situate in the creek or gut called Hadleigh Ray, in the estuary of the Thames, some three miles and a half above Southend Pier. The defendants are the Corporation of Southend. They discharge the sewage of Southend in a crude state, without any treatment, into the estuary at several outfalls, of which the main outfall lies some 500 or 600 yards east of Southend Pier, and the others lie in various positions, principally on the west side. The plaintiff's action is for an injunction to restrain the Corporation from so discharging sewage as to create a nuisance to him by the pollution of his oyster-beds, and for damages. The question which I have to try is the issue of fact, whether the discharge from the defendants' sewers does or does not create a legal nuisance to the plaintiff's oyster-beds. The defendants have raised a certain other defense as matter of law. With that I will deal separately. That there is pollution at the site of the plaintiff's oyster-beds is not denied. The question is whether it is due to the defendants' sewers. * * * The plaintiff is entitled to the enjoyment of a several fishery; he has the right to enjoy the land for the purpose of laying oysters there. That right of his in the land is interfered with by nuisance caused by the discharge by the defendants from their pipes of offensive matter in such a way as that it reaches the plaintiff's land. Upon the principle of "Fletcher v. Rylands" (L. R., 1 Ex. 265; L. R., 3 H. L. 330), and the decisions upon which that case was founded, the defendants must keep their noxious matter from trespassing upon their neighbor's land. "Tenant v. Goldwin" (1 Salk. 21, 360; 2 Ld. Raymond 1,089) is an express authority upon this point. They have, I think, no common law right. But, if there be no right at law, there is a right say the defendants, by statute. For that purpose they refer to section 49 of 11 & 12 Vict., c. 63 (the Public Health act, 1848), and argue that, inasmuch as if the sea be within 100 feet of the site of a house the owner might under that act have been called upon to construct a drain into the sea, there must be a right to drain into the sea. The act of 1848, however, was repealed by the Public Health act of 1875, and section 23 of the latter act, in reproducing the substance of section 49 of the former, omits all provision as to draining into the sea, while section 27 of the act of 1875 provides that, for the purpose of disposing of sewage, the local authority may do certain things, but with this proviso, that no nuisance be created in the exercise of any of those powers. Any argument based upon the repealed act of

¹ Public Health, London, May, 1906.

1848 seems to me, therefore, to be displaced. But the matter does not rest there. By the Sea Fisheries act, 1868 (31 & 32 Vict., c. 45), the property in oysters and mussels is, by section 51, in the owner of the fishery, and by section 53 it is not lawful for any person, other than the grantee, within the limits of a fishery, knowingly to disturb or injure in any manner any oyster-bed, and a penalty is imposed for doing the forbidden act. Further, by the Sea Fisheries act, 1888 (50 & 51 Vict., c. 54), provision is made for the creation by the board of trade of sea fishery districts, and for local fishery committees for the regulation of sea fisheries carried on within the district. It is provided by section 2 that a local fisheries committee may, with the confirmation of the board of trade, make by-laws, amongst other things prohibiting or regulating the deposit or discharge of any solid or liquid substance detrimental to sea fish or sea fishing. The plaintiff's fishery lies in the Kent and Essex Sea Fisheries District, and within the jurisdiction of the Kent and Essex Sea Fisheries Committee, being a district and a committee constituted under that Act of parliament. They have made by-laws which have been properly confirmed by the board of trade, and by-law 15 provides as follows: "The deposit or discharge of any solid or liquid substance detrimental to sea fish or sea fishing is hereby prohibited." Not only, therefore, have the defendants no common law or statutory right to discharge the sewage so as to cause a nuisance—they are, in my opinion, forbidden to do so by a by-law properly made under a statute. This by-law is binding upon the defendants. They have no power to discharge sewage given them by a general or local Act of parliament or by a provisional order confirmed by parliament. In my judgment the plaintiff has proved a nuisance against which he is entitled to an injunction, and I grant an injunction to restrain the defendants as asked in the claim, limiting it in point of time to the duration of the plaintiff's lease. The plaintiff also claims damages. I assess them at £1,500. I give judgment, therefore, for £1,500 damages, an injunction in the terms I have stated, and for the costs of the action, the costs being on the higher scale.

In commenting upon the foregoing case a writer in the *Sanitary Record* (May 31st, 1906) says:

"Oyster-beds and their pollution by sewage are matters which must have exercised the minds of local authorities in more places than Southend-on-Sea. Nevertheless, the case of *Hebont v. Southend Corporation* (reported *Law Journal*, March 3d, 1906, page 141) raised issues which will dispel their doubts on many points of law. The plaintiff was the lessee of oyster-beds which were part of an ancient several fishery. The defendants raised an issue of fact, namely, that the pollution did not arise from their sewage. They also raised certain legal defenses: (1) Their common law right to discharge sewage into the sea; (2) they claimed a statutory right, since section 49 of the Public Health act, 1848 (11 & 12 Vict., c. 63, sec. 49) requires that a house within one hundred yards of the sea should be drained into it, if the local authority directs, the section impliedly admitting the right to drain into the sea. Mr. Justice Buckley, however, granted an injunction against the corporation limited to the duration of the plaintiff's lease, and assessed the damages at £1,500. In the course of his judgment he held that on the evidence it had been established that the pollution of the oyster-beds had arisen from the corporation sewage; that the defendants had no common law rights to discharge their sewage

upon the oyster-beds belonging to the plaintiff, nor had they any such statutory rights as had been claimed, since section 49 of the Public Health act had been repealed, no mention being made in section 23 of the Public Health act, 1875 (38 & 39 Vict., c. 55), section 27 expressly enacting that no nuisance shall be created in the disposal of sewage. On other grounds the learned judge also decided against the corporation. For many reasons the judgment of Mr. Justice Buckley will be welcomed, but possibly most by the eaters of the oyster. Typhoid in the future, if proper measures are taken to prevent the contamination of the oyster by sewage matter, is likely to be forgotten as associated with oysters."

LIABILITY OF MUNICIPALITIES FOR NEGLIGENCE OF HEALTH OFFICERS

The Supreme Court of Iowa says, in the case of *Beeks v. Dickinson County* and others, an action for damages, where a farmer and his family were quarantined by the local board of health of the township on the mistaken supposition that there was a case of small-pox in the family, that it is the settled law of Iowa, as well as the general rule, that municipal corporations are not liable for the negligence of their officers or agents in executing health regulations adopted for the purpose of preventing the spread of contagious diseases. In so far as a municipality undertakes the duty of making and enforcing quarantine regulations and other laws for the promotion of the public health, it is performing governmental functions, and its officers are not agents for whose action or inaction it is liable unless such liability is imposed by its charter, or by the laws of the State under which it exists. Furthermore, it was probably true that the officers in question were not strictly municipal officers or agents so as to render the county liable for their acts in any event. They became health officers by virtue of the statute which fixed the tenure of office also. While such officers are elected in townships, they are elected in obedience to the statute, to perform a public service not peculiarly local or corporate, but as State officers with such powers and duties as the statute confers on them.

The plaintiff, in addition to claiming that the county was liable generally for the alleged negligence of the local board of health, contended that the local officers had promised that the county would provide him with the necessary help for taking care of his crops, as well as that, because the statute made the county liable in the first instance for the care of infected and quarantined persons, it was liable for the value of his crops which had been lost. The court replies that section 2568 of the Iowa code creates local boards of health, and makes it the duty of such boards to make such regulations as are necessary for the protection of the public health, and to proclaim and establish quarantine against all infectious or contagious diseases dangerous to the public, and section 2570 provides for the care of infected persons and for the payment of the expenses incurred on account thereof. The statute neither expressly nor by implication provides for anything more, and the court is not at liberty to read into it an enlarged liability. It is also very clear that the members of the local board of health had no power to create a liability not imposed by law, even if they had acted under the direction of the board of supervisors. The liability that may be incurred by such boards is fixed by law and beyond this neither can go.

Taking up the question of whether the members of the local board of health were individually liable for the loss of the plaintiff's crops, the court says that the statute makes it the duty of health officers to quarantine against "all infectious or contagious diseases dangerous to the public," and it cannot well be questioned that

the defendants were acting within the scope of their duty as such officers, and that in establishing the quarantine they were acting in a quasi (as it were) judicial character. They were vested with the power to determine whether an infectious or contagious disease existed in the plaintiff's family, and if found to exist, their duty under the statute required them to take the proper steps to prevent its spread, and had they neglected to do so they would have been culpable in a high degree. They were, therefore, acting judicially, and it is the general rule that officers so acting are not liable for injuries which may result from such acts performed in the honest exercise of their judgment, however erroneous or mistaken the action may be, provided there be no malice or wrong motive present.

In some cases an exception to this general rule has been recognized, and the individual officers have been held liable because of the maxim that where there is a wrong there is a remedy. This court is of the opinion, however, that where the public health is involved this rule should not be applied, notwithstanding the fact that courts of great ability have so held. It is the modern tendency of judicial opinion to hold that the public health is the highest law of the land and "whenever a police regulation is reasonably demonstrated to be a promoter of public health all constitutionally guaranteed rights must give way to be sacrificed without compensation to the owner."

Nor does this doctrine necessarily conflict with the maxim referred to. As already stated, this board of health was a creation of the statute, and its paramount duty was to protect the public health; its duty, then, was to the public and not to any individual member thereof, except to act honestly and without design to injure him. If a health officer fails to do his duty no individual may complain, for the duty is public and the officer is not charged with any individual duty to any particular person. If there be no liability for an omission of public duty, it would seem to follow without question that an erroneous performance should not subject the officer to personal liability. It may, it is true, cause an injury to the individual, but it is not a wrong because the officers owe the individual no duty beyond that already stated. This rule should not be so extended as to protect health officers who act without the scope of their authority, or who act with gross negligence amounting to malice.

It is unfortunate that any individual should suffer loss because of a mistake as to the existence of a dangerous contagious disease, and yet the welfare of the public is of such paramount importance that a rule should not be established which will have the necessary effect of increasing the public danger. If health officers, acting in perfect good faith and as their judgment dictates, are held liable for a mistake in judgment, the effect on the public health cannot be doubted. For instance, many competent physicians have never been brought into actual contact with small-pox, and many mistakes have been made in diagnosing diseases which later prove to be highly contagious. Whole communities have been exposed and suffered because of mistakes in judgment and overcaution for the liberty of the individual. If a civil liability is to be imposed because of a quarantine which is later proved unnecessary, the danger to the public will be greatly enhanced, and the effectiveness of the statute greatly impaired. This court does not feel like announcing such a rule, nor does it believe justice to the individual requires it.¹

¹ Jour. A. M. A., Oct. 13th, 1905.

THE ABATEMENT OF SMOKE, NOISE AND STENCH NUISANCES.¹

Nuisances, in legal phraseology, belong to that class of wrongs that arise from the unreasonable, unwarrantable or unlawful use by a person of his own property, either real or personal, or from his own improper, indecent or unlawful personal conduct working an injury to the right of another, or of the public, and producing such material annoyance, inconvenience or discomfort that the law will presume a consequent injury. There are two classes of nuisances known to the law: Public or common nuisances, affecting the community or some considerable portion of it, and private nuisances, being something done on one's premises or elsewhere whereby an individual, or a determinate number of individuals, are specially injured, as distinguished from injuries affecting the public—the redress sought for being at the instance of the party injured. Public nuisances are punished by indictment, but may, under our laws, be also the subject of a suit in chancery for their abatement. Illustrations of what constitutes an indictable public nuisance, as distinguished from private nuisances, are obstructing public highways, navigable rivers, the carrying on, in populous localities or near a public highway, of trades which render the air either unwholesome or disagreeable to the sense; the making of great noises at unreasonable times or to the disquiet of the neighborhood; the keeping of large quantities of gunpowder or other high explosive to the danger of the public safety, as well as the keeping of houses where people of ill-repute continually assemble and where loud and disturbing noises or other illegal practices are habitually carried on. Illustrations of what constitute a private nuisance are the building of a house so close to another that the roof overhangs the latter's property and throws the water upon the under structure; keeping hogs or other noisome or noxious animals so near another's house that the noise or odors therefrom incommode him or make the air on his premises unwholesome; the maintenance of livery-stables in such a manner as to affect the comfort or health of an adjacent property owner or tenant. Having thus distinguished between public and private nuisances, we come to consider the question of their abatement, as applied to smoke, noise and odors. It has been held that every man possesses a natural and inherent right to abate a nuisance that is injuriously affecting him or his family or property. This legal proposition was laid down by Blackstone, and has been sustained with the qualification, however, that the summary destruction of a nuisance should be approached only after due notice of the contemplated action has been given to the person maintaining it, and with great discretion and prudence and without any riot or unnecessary injury to property. And it is conceived that such summary redress should never be resorted to except in great and serious emergencies, and then only in strict conformity to the provisions of section 14 of the Health act of 1887, for whenever it is possible appeal should be made in a court of equity, which in New Jersey has full jurisdiction of the subject, and can afford a speedy, effective and permanent relief against the maintenance of these nuisances, or any of them, by its writ of injunction, and without subjecting the moving party to any damage suit, in case of failure to establish the existence of the alleged nuisance. For the purpose of remedying defects existing under the law prior to 1887, both as to the control and procedure for the suppression of nuisances, the legis-

¹ Paper read by S. A. Patterson, Esq., of Asbury Park, before the New Jersey Sanitary Association, Nov. 16th, 1906.

lature of this State in that year enacted a general act, 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." Under this act the public health has been made the subject of unceasing vigilance by the State board of health and various local boards, and in many instances the latter have accomplished much public good, in conjunction with the State board, toward the abatement of nuisances; in fact, most comprehensive codes of sanitary laws dealing with the subject of odors and other causes of physical discomfort can now be found in full and effective force in many small municipalities. These sanitary codes have for their authority the act of 1887, which confers ample power for the abatement of this class of nuisances, leaving to the health board the determination of whether existing local conditions of smoke, noise and odors constitute a nuisance of a private or public character, and, if the latter, whether of such importance as to warrant or require the interposition of a health board for the abatement of the same. Subsection 2 of section 12 of the act of 1887 expressly declares that local boards of health have the power to define what shall constitute nuisances in any public or private place, and the authority of the legislature to place the suppression or control of nuisances under the jurisdiction of local authority cannot be questioned. Chancellor Kent held that the lawmaker had the right to prescribe the mode and manner of the use of property, so far as it may be necessary to prevent an abuse of the law to the injury or annoyance of others or of the public, and that the State could prohibit the uses of property in such a manner as to create nuisances; to prohibit unwholesome trades, slaughter-houses or operations offensive to the senses, when conducted in the midst of dense masses of population or adjacent to private dwelling-houses. Proceedings under the act of 1887 against persons maintaining a nuisance are of a twofold character: First, the adoption of an ordinance under section 18 for the punishment by fine, not exceeding one hundred dollars; and, secondly, for the suppression of the nuisances, under section 28, by an action in the name of the local board of health, and in some instances in the name of the State board of health, or a summary abatement of the nuisance under section 14. The method to be pursued for the abatement of smoke, noise or odor nuisances, by suit, is prescribed by the act of 1887, in section 28, which declares that any local board of health, instead of proceeding in a summary way to abate a nuisance, hazardous to the public health, may file a bill in the court of chancery, in the name of the State, for an injunction to prohibit the continuance of such a nuisance, but it will be observed that such a bill can only be filed by a local board, where a nuisance is hazardous to the public health. For the suppression of the above nuisances, or either of them, at the instance of an individual, a bill in chancery may also be filed by such individual, or by a number of individuals, who may be injured, joining in one suit. In Asbury Park, two livery-stables have been suppressed permanently, by the court of chancery, at the suit of a number of private individuals who lived adjacent to the stables, the court holding in each instance that the noise of the stamping of the horses, as well as the odors from the stables, were of such a character as to warrant the permanent closing of the stables. These two cases have not been reported in the equity books of this State, but the records and proceedings in the same may be obtained from the office of the clerk in chancery of New Jersey by anyone desiring to use the cases as a precedent, the cases being *McCray et al. v. Combs et al.* and *Trusting et al. v. Haviland et al.* The usual procedure in such suits is to set up in the bill of complaint the various acts of the defendant, showing specifically the alleged nuisances, and then, after the defendant has answered, a speedy day is fixed by the court for

the hearing of the cause. The complainants then produce the evidence of the existence of the smoke, noise or odors and, if the court determines that the complainants are entitled to the relief asked for, a final decree is made by the court of chancery directing the abatement of the nuisance forthwith or within such a time as the court shall prescribe. If the decree is not complied with, an attachment issues against the defendant's body, and he may be either then committed to jail or fined for his disobedience of the court's order. It is important to consider and determine the respective duties of local boards of health and the State board of health in regard to the taking of legal proceedings for the abatement of nuisances as distinguished from an action taken by an individual. We have seen that, by section 28 of the 1887 act, in order for a local board of health to maintain a suit for an injunction to suppress a nuisance, it must appear that such a nuisance is hazardous to the public health. Under an act found in the laws of 1894, page 495, the State board of health can intervene, by bill in chancery, for the abatement of a nuisance within the territorial jurisdiction of a local board of health, in case a local board refuses to act after notice from the State board of health, provided the State board of health determines that the alleged nuisance is hazardous to the health of persons within such local territory. The legislature, therefore, has withheld power from local boards and the State board to file a bill in chancery to suppress a nuisance unless the nuisance is of such a character as to jeopardize health. Neither board can take cognizance indiscriminately of nuisances affecting the comfort or convenience of individuals as distinguished from their health. Baseball games, occasioning great noises, have been suppressed by the court of chancery in certain localities as a nuisance, in a suit brought by private individuals (Seastream et al. v N. J. Exhibition Company, 67 N. J. Equity, page 178), but such a suit for obvious reasons ought not be instituted by a board of health. An Atlantic City case is reported in 18 Dickinson, page 619, which was an action brought by private individuals who owned the hotel known as Haddon Hall v. The Bohemian Art Glass Works, for an injunction restraining the defendant from creating repellant and excessive noises in, and the throwing off of smoke and soot upon the complainants' property. The court issued the injunction. This case manifestly could not have been successfully maintained by either a State or local board of health unless it appeared clearly that the operation of the glass works was hazardous to health. In the two livery-stable cases above referred to many persons testified to the prevalence of disagreeable odors and noises, but it did not appear that anyone had been made ill or that the stables were a menace to health, and, in my judgment, if the suits against the stables had been instituted by a board of health, they would have failed to accomplish the suppression of the stables unless it was shown that the stables were hazardous to the public health. However, where it appears that odors and gases from fat-rendering establishments produce headache, nausea, vomiting and sickness a board of health may intervene by a bill in chancery for an injunction. It was so held in the case of The Board of Health of the Township of North Brunswick v. Lederer, reported in 7 Dickinson, page 675; but in this case there was strong testimony from physicians and others that the odors and gases from the fat-rendering establishment did actually tend to destroy health, so the case was held to be properly brought by the board of health. In this last-mentioned case the court held that carrying on an offensive trade for twenty years in the same place remote from buildings and public roads did not entitle the owner to continue to do so in the same place after houses had been built and roads laid out, and that no length of time could authorize the continuance of a

nuisance under such conditions, nor was it any justification that the party complaining came voluntarily within the reach of the nuisance. Perhaps a fair test as to the obligation imposed on health boards to institute legal proceedings for the abatement of the nuisance is the question whether such a nuisance is a public or a purely private one. We have already seen the distinction between these two classes of nuisances. It is important to consider further whether the odors are of such a dangerous character as to affect or menace the health of the public or of some considerable portion of it; and this, I think, was the design and is the true interpretation of the statute of 1887 and the statute of 1894. Private nuisances which can and should be suppressed at the instance of an individual are unnumberable. Nuisances requiring or justifying interposition of health boards for their abatement by suit in chancery are rare in our State courts, so far as our chancery records indicate. A suit brought by a private individual accomplishes the same results as a suit brought by a health board for the abatement of nuisances. Perhaps the only difference between the two suits is that of expense. In the suit brought by the health board the entire community is compelled to pay the costs of the litigation, while in a suit brought by an individual he is required to sustain the expense himself. It is to be observed that the paramount duty of suppressing local nuisances of a serious and dangerous character to health rests upon local boards of health, and if local boards refuse to act then, under the act of 1894 above referred to, the State board can file a bill in chancery after a local board has failed, upon written notice from the State board, to take action. It is, perhaps, natural for an individual who conceives himself aggrieved by a nuisance of whatever character to desire that the expense of abating it be sustained by the public, upon the theory that whatever affects, annoys or disturbs one man may also affect, annoy or disturb another. But the true and legal test, as above indicated, for the interference of health boards by suit in chancery, is that of the public health, and not of mere private inconvenience, annoyance or discomfort.

ISOLATION HOSPITAL NOT A NUISANCE.

The court of chancery in the case of the State on relation of the Board of Health of Hamilton Township v. The Inhabitants of the City of Trenton, says that a building used as a hospital for the reception and care of infectious diseases is not necessarily a nuisance, and the erection and use of such a building should not be prevented merely because of an apprehension that a nuisance may result from its use.

NUISANCE CAUSED BY OFFENSIVE GASES AND NOISES.

Error to Circuit Court, Middlesex county.

Action by John Doyle against the Roessler & Hasslacher Chemical Company. Judgment for plaintiff, and defendant brings error. Affirmed.

Argued February term, 1906, before Fort, Pitney and Reed, JJ.

Charles C. Hommann and W. P. Veorhees, for plaintiff in error. George S. Silzer, for defendant in error.

REED, J. This writ brings up a judgment obtained in the Circuit Court of Middlesex county. The defendant operated in Perth Amboy a manufactory of cyanide of sodium. The process is conducted by the introduction of sodium metal into large kettles or pots, where it is heated into a molten state. Then a certain amount of charcoal is put into the molten mass, and into this mixture is passed ammonia gas,

which is decomposed into nitrogen and hydrogen. The nitrogen is taken up by the sodium, and the hydrogen is liberated and burned at the top of a pipe which is attached to the cover of the pot. The plaintiff lived on the opposite side of the street from this factory. His complaint was that he was annoyed by foul odors issuing from the defendant's plant, by explosions and by brilliant lights kept burning in the factory. It was admitted by defendant's witnesses that when the charcoal was introduced into the pot sometimes the hydrogen gas would ignite and cause an explosion. How loud and how frequent those explosions were was a question about which there was a difference of opinion among the witnesses. There was a conflict, also, between the witnesses of the plaintiff and those of the defendant as to the prevalence of odors and as to their offensive character. An examination of the testimony exhibits sufficient evidence of the existence of disagreeable odors and noises emanating from defendant's plant to justify the jury in its findings that the factory was a nuisance from which the plaintiff suffered. The plaintiff in error, however, insists that, if a nuisance existed, it was a public nuisance, from which the plaintiff below received no special and peculiar injury distinct from that suffered by the public. It is therefore contended that no actionable injury was proved. The doctrine asserted, namely, that there must be some special and particular damage to the plaintiff in case of a public nuisance, is entirely settled. The difficulty lies in the application of the rule to the facts of the particular case. But a public nuisance may arise in two classes of cases. Where the right invaded by the offender is a common and public right—one which belongs to every citizen, such, for instance, as the right to use a highway or park or navigable waters—the plaintiff must show that he had received an injury distinct in kind from that received by the rest of the public. The private injury in this class of cases is said to be merged in the common nuisance and injury to all citizens and the right is to be vindicated and the wrong punished by a public prosecution. What can be said to be a special injury in this class of cases has given rise to a great diversity of opinion. But the principle underlying these cases has never, (in the language of Bigelow, C. J., in *Wesson v. Washburn Iron Co.*, 13 Allen (Mass.) 95-101, 90 Am. Dec. 181), been extended to cases where the alleged wrong is due to private property, or the health of individuals is injured or their peace and comfort in their dwellings is impaired by carrying on of offensive trades, which create noisome smells or disturbing noises, or causes other annoyances and injuries to persons and property, however numerous or extensive, may be the instances of discomfort, inconvenience, or injury to persons and property thereby occasioned. The distinction in this respect between nuisances which consist in the disturbance of a common or public right, and nuisances which constitute a private wrong by injuring property, health or comfort, is lucidly, and I think correctly expounded, in the opinion just mentioned of the learned Chief Justice of Massachusetts. The same doctrine was recognized by the New York Court of Appeals in the case of *Francis v. Schoellkopf*, 53 N. Y. 152. It was an action for damages resulting to plaintiff's rented property from the offensive smells arising from defendant's tannery, which made plaintiff's houses unfit for habitation. There was a motion to nonsuit on the ground that the stench injured a large number of houses, and so was common, and the only remedy was by an indictment. The court, by Judge Grover, however, said: "It is no defense, when a wrong doer is called upon to compensate for the damages sustained by his wrongful act, to show that he by the same act inflicted a like injury upon numerous other persons." This was following the opinion expressed by Chancellor Wolworth, speaking for the old Court of Errors

in *Lansing v. Smith*, 4 Wend. (N. Y.) 9-15, 21 Am. Dec. 89. He said: "The punishment of the wrong doer by a criminal prosecution will not compensate for the individual injury; and a party who has done a criminal act cannot defend himself against a private suit by alleging that he has injured many others in the same way, and that he will be ruined if he is compelled to make compensation to all." To the same purport are the cases of *Wylie v. Elwood*, 134 Ill. 281, 25 N. E. 570, 9 L. R. A. 726, 23 Am. St. Rep. 673, and *Seifried v. Hays*, 81 Ky. 377, 50 Am. Rep. 167. Says Mr. Wood: "This class of wrong, of whatever nature or effect, that invades private rights as well as public, always has been and always can be redressed by suits in favor of those whose private rights are invaded even though it opens the door for a multitude of actions for the same wrongful act. The distinction is this: Where a private personal right is invaded the very fact of its invasion imports a consequent damage. A man cannot stand by and suffer another to corrupt the air in the neighborhood of his dwelling. * * * If he does, his natural rights are lost and become modified by and burdened with this unlawful use by another. Therefore, any injury to such private rights, even though its effects are so general as to bring it within the rule as to public nuisances, are such special and particular damage as brings the party within the beneficial operation of the rule in reference to suits for injury arising from public nuisances." *Wood on Nuisances*, § 689. The injury suffered by the plaintiff was special, although others may have suffered from the same cause. The refusal of the trial justice to charge several requests, all of a similar character, the principal one being the eleventh request, is assigned for error. This request was that the jury should be charged that the undisputed proof being that the plaintiff's residence is in a manufacturing locality, that the alleged nuisance consists of odors and noises merely affecting the air, and that the same affects the plaintiff's personal comfort only, such odors arising as incident to the proper conduct of the defendant's business, the plaintiff has not made out an actionable nuisance and cannot recover. The cases cited as an illustration of the principle supposed to be embodied in this request are *Hale v. Barlow*, 4 C. B. (N. S.) 334, decided in 1858 by the Court of Common Pleas, and *St. Helen's Smelting Company v. Tipping*, 11 H. L. Cas. 642, decided in 1865 by the House of Lords. The first was an action against the owner of a brick kiln for rendering plaintiff's house unfit for habitation by reason of the noxious vapors arising from the brick kiln. The trial justice charged that, if the brick kiln was in a proper place, then, although plaintiff's enjoyment of his property may have been rendered uncomfortable, he cannot maintain an action. This charge was held to be correct. In the second case, an action was brought to recover damages for an injury to plaintiff's trees, caused by the fumes created by the smelting works of the defendant. Justice Mellor, who tried the case, asked the jury whether the enjoyment of the plaintiff's property was sensibly diminished, to which the jury answered, "yes." He then asked the jury whether the business carried on was an ordinary business of smelting copper, and the answer was that it was, and was conducted in a proper manner—in as good a manner as possible. To the third question, whether the jury thought it was carried on in a proper place, the answer was, "We do not." Verdict was entered for the plaintiff. It appeared that the whole neighborhood was studded with factories and chimneys; that there was some alkali works close by, the smoke from which was as injurious as that of the defendant's and sometimes united with it. The fact that the defendant's works existed before plaintiff bought his property was relied upon. The trial justice told the jury that every man was bound to use his property so as not to

injure the property of his neighbors; that the law did not regard trifling inconveniences; that in an action for nuisance to property arising from noxious vapors the injury, to be actionable, must be such as visibly to diminish the value of the property and the comfort and enjoyment of it. He charged that all the circumstances, including those of time and locality, ought to be considered; and that with respect to the latter it was clear that, in countries where great works had been erected and carried on, persons must not stand on their extreme right and bring actions in respect to every matter of annoyance, for, if so, the business of the whole country would be seriously interfered with. The cause was carried to the Exchequer Chamber, where the judgment was affirmed; then to the House of Lords, where, after receiving the approval of six judges, who were summoned, the decision of the Exchequer Chamber was affirmed and the charge of Justice Mellor approved. In the opinions delivered in the House of Lords, the meaning of the words "proper," "convenient," or "suitable," as applied to the place, were defined as meaning a place where no actionable injury was caused to the property of another. Lord Westbury, said: "The only ground upon which your lordships are asked to set aside the verdict is that the whole neighborhood is more or less devoted to manufacturing purposes of a similar kind, and therefore, as this copper smelting is carried on in what the appellants contend a fit place, it may be carried on with impunity, although the result may be utter destruction or the very considerable diminution of the value of plaintiff's property. I apprehend that this is not the meaning of the words 'suitable' or 'convenient' which have been used as applicable to the subject. The word 'suitable' unquestionably cannot carry with it this consequence that a trade may be carried on in a particular locality, the consequence of which trade may be injury and destruction to the neighboring property." Lord Cranworth remarked that Justice Mellor's language was this, namely: "It must be plain that persons using a limekiln, or other works which evict noxious vapors, may not do an actionable injury to another, and that any place where such an operation is carried on so that it does occasion an actionable injury to another is not, in the meaning of the law, a convenient place." He proceeded to say: "It is extremely difficult to lay down any actual definition of what constitutes an injury, because it is always a question of compound facts, which must be looked to to see whether or not the mode of carrying on a business did, or did not, occasion so serious an injury as to interfere with the comforts of life and enjoyment of property." Lord Wensleydale, after concurring in these opinions, observed that "everything must be looked at from a reasonable point of view. Therefore the law does not regard trifling and small inconveniences, but only regards sensible inconveniences as injuries which sensibly diminish the comfort, enjoyment or value of the property which is affected." The expression of these judges, referring to the charge of Mr. Justice Mellor and approving his language, are obscure, if the report of the case in 11 H. L. Cas. 642, is alone consulted. The charge is there only meagerly stated. In the report of the case in 35 Law Journal Rep. (N. S.) Common Law 66, the charge is exhibited *in extenso*, and to the language of Justice Mellor as there reported the remarks of the lords in the House of Lords are referable. In the observations of Lord Westbury he drew a distinction between nuisances which caused an injury to property and nuisances which are only productive of sensible personal discomfort. He expressed his opinion that whether a cause which only affected one's quiet or senses or nerves was a nuisance depended upon the place where the thing complained of occurred, but that, when a cause produced a sensible injury to property, such a consideration

did not apply. This distinction was not the subject of remark by the other judges. These observations of Lord Westbury seem to have suggested the form of the request on the trial of the present case. The court was asked to charge that the undisputed evidence was that the odors and noises merely affected the air and plaintiff's personal comfort, that the plaintiff's residence is not in a manufacturing locality, and that the odors were incident to the proper conduct of defendant's business. Therefore the plaintiff could not recover. But it is apparent that, if the odors and noises existed as testified to by the plaintiff and his witnesses, they diminished the enjoyment, habitableness, and value of his dwelling, and so injured his property. The request was properly refused. All the requests to charge which are grounded upon a distinction between personal discomfort and injury to plaintiff's habitation were based upon a difference which, in this case, did not exist. Indeed, no judge has ever suggested that personal discomfort received by an owner of property while residing therein would not afford a ground of action. It may depend upon the degree of personal discomfort, and in measuring the degree it may well be that, in the language of the charge of Justice Mellor and of the Lord Justice, all the surrounding circumstances must be taken into account in judging whether the degree is of sufficient importance to confer a right of action. All this was left to the jury in the present case by the trial judge. He could not tell the jury that as a legal conclusion the degree of annoyance in this case was not such as to support a recovery. We can perceive no error in failing to charge any requests. It is also assigned for error that the court charged that if, as plaintiff testified, the defendant's works emitted light and fumes that came across the plaintiff's house and surcharged the air with a smarting substance, which burnt his eyes and was exceedingly offensive to the smell and to the taste, and caused him headache, and if they caused loud reports to be made, detonations at night, disturbing him in his sleep, and at times in the night there would suddenly be cast out a vivid light, which would awake him, then defendant had no right to do that, and it amounted practically to a confiscation of plaintiff's property. There was no error in this. If the defendant did these acts with the stated result, there was a clear case of actionable injury to plaintiff—a case where, in the language of the declaration, the plaintiff was annoyed in the use, occupation, and enjoyment of his dwelling-house and premises.

The judgment is affirmed.

VIOLATION OF ACT REQUIRING PREMISES TO BE CONNECTED WITH SEWER.

Certiorari by Emma B. Cattell against the board of health of the city of Woodbury. Judgment affirmed. Argued February term 1906, before Fort, Pitney and Reed, JJ. Ernest S. Redfield for plaintiff in certiorari. Alexander L. Rogers for defendant.

Reed, J. This writ brings up a judgment for \$100 as a penalty incurred by Emma B. Cattell for violating section 36 of the rules of the board of health of the city of Woodbury. The proceeding was begun by a complaint made by the secretary of the board of health, that he had mailed a notice to Mrs. Cattell requiring her to connect her property in Woodbury with the city sewer, and that she had failed to do so. This complaint was dated August 14th, 1905, and was lodged with a justice of the peace, who thereupon issued his warrant, requiring the constable to bring Mrs. Cattell before said justice to answer said complaint. On August 16th a trial was had and judgment entered against the prosecutrix. The first question is whether this is a summary proceeding before a justice of the peace, or is a suit in the court

for the trial of small causes. The statute (Gen. St., p. 1633, § 18) empowers any board of health to prescribe a penalty for the violation of any of its ordinances, not exceeding \$100 or less than \$10; and provides that every district court in any city, and every justice of the peace, police justice, or recorder is empowered upon complaint of the violation of any ordinance to issue process in the nature of summons or warrant; and on the return of 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 filing any pleadings. The question respecting the character of the proceeding seems to be put at rest in this court by the case of *White v. Neptune City*, 27 N. J. Law 222, 28 Atl. Rep. 378. That was a proceeding before a justice of the peace to recover a penalty for the violation of an ordinance passed under "An act respecting licenses in incorporated boroughs." P. L. 1892, p. 293. The proceeding prescribed by that act is almost a transcript of the section of the board of health act just set out. The only difference is that the board of health act provides for a summons or warrant, and the license act for a summons only. Both proceedings are summary. The proceeding before a justice under the license act was determined, in the case just mentioned, to be a civil suit in the court for the trial of small causes. It was therefore further held that the only ground for reversal of the judgment of the justice was absence of jurisdiction over the person or subject-matter. In the present case jurisdiction over the person is clear, and it seems equally clear that the justice had jurisdiction over the subject matter, over the matter of the violation of an ordinance of the board of health. Want of notice to connect prosecutrix's property with the sewer is not a jurisdictional defect, nor was failure to prove the ordinance jurisdictional. They were both (if such defects existed, which is not admitted) defects in proof of the merits of the case. Advantage could be taken of them only by an appeal to the court of common pleas. Judgment affirmed.

CONTROL OF REMOVAL OF REFUSE.

Certiorari by the State, on the prosecution of William M. Abbott, to review a conviction for the violation of an ordinance of Atlantic City. Affirmed. Argued November term, 1905, before Dixon, Garrison, and Swayze, JJ. Harry Wootton for Atlantic City. Bourgeois & Sooy for the prosecutor.

Swayze, J. The prosecutor was convicted of the violation of an ordinance of Atlantic City which prohibited anyone except the duly authorized contractor of Atlantic City from using the streets for the purpose of collecting or disposition of offal, garbage or refuse matter that might become dangerous to the public health. The ordinance contained regulations as to the time of removal of garbage, and its conveyance to the disposal plant of the contractor, or such other place within the city limits as might be designated by the sanitary committee. It prescribed the character of the conveyance to be used, and provided that no garbage should be spilled or left upon the ground, and that the conveyances should not be filled above a certain level, and should be kept covered, cleansed, and disinfected so that they might not become dangerous to the public health. The prosecutor was not the duly authorized contractor of the city, and the evidence justified his conviction of a violation of the ordinance. The city is authorized by section 14 of the act of 1902 (P. L. 1902, p. 284) to provide for the collection and disposal of offal, garbage, wastes, and all refuse matter which may become dangerous to the public health. The ordinance in question is clearly an attempt to exercise this power, and the question discussed

at the argument and in the briefs is whether it is a reasonable exercise of power in view of the provisions of our State and Federal Constitutions. It is said to be unreasonable because it limits the right of removal to the duly authorized contractor, and the place of disposition to the city limits, and to be in violation of the constitution because it deprives the owner of the garbage of his property without compensation. The disposition of garbage is a matter of prime importance to the public health, and justifies careful inspection and regulation on the part of the public authorities, in order to secure its prompt removal and disposition at reasonable hours, and under such conditions that the danger of scattering offensive matter in the streets may be reduced to a minimum. These objects can be more readily secured if the matter is under the exclusive control of the city. The time and frequency of collection, the method of conveyance, and the method and place of final disposition of the refuse, are all important, and proper control can only be secured by close and careful inspection, which becomes more and more difficult as the number of places and persons to be watched increases. It is not sufficient that the method of collecting and carting should be harmless, and involve no menace to health by the use of the streets. It is necessary, also, that the refuse should be finally disposed of in such a way that the public authorities may be assured that it will be innocuous. To accomplish that purpose, they may adopt any reasonable plan of disposition, provided they act in good faith for the protection of the public health, and not in an arbitrary manner. We see no reason in the present case to doubt that the ordinance was passed in good faith, and, although it creates an exclusive right, we cannot say that this is not the result of an attempt to safeguard the public health by means which are reasonable and bear a real and substantial relation to the end to be accomplished—the final disposition of the refuse matter. In *Nicoulin v. Lowery* 49 N. J. Law 391, 8 Atl. Rep. 513, the charge was that the defendant in the nighttime carted, carried, and took into and within the limits of the township a load of night soil. It was said that the complaint, although it used the words of the ordinance, was defective in not charging facts to show an offense within the spirit and meaning of the law; but all that the case really decided was that the defendant ought to have taken an appeal to the court of common pleas, and that for his failure to do so the certiorari ought to be dismissed. The remark that the ordinance would be held unreasonable if its penalties were sought to be enforced against anyone making a use of the public streets which was harmless in fact was obiter, and was accompanied by the statement that it might be adjudged reasonable when applied to another state of facts; citing *Pennsylvania R. R. Co. v. Jersey City*, 47 N. J. Law 286. In the present case the defendant was in the employ of one Steelman, who resided at Bargaintown and raised hogs. The inference is, and it is so said in the prosecutor's brief, that he was collecting garbage and conveying it to Bargaintown to feed his hogs. In view of the importance to public health of a populous city like Atlantic City attending to the final disposition of garbage, we think this ordinance cannot be held unreasonable for limiting the final disposition to the territorial limits of the municipality, at least as applied to the state of facts presented by the case. It is argued, further, that the ordinance takes private property without compensation, because it deprives the owners of the garbage of the privilege of selling it and the purchasers of the privilege of using it. The defendant is neither owner nor purchaser, but only an employe of the purchaser. Whether he is in a position to raise this objection need not be considered, since we think the ordinance is not objectionable as taking private property without compensation. In *City of Passaic v. Patterson Bill Posting Co.*, 71 N. J. Law 75; 58 Atl. Rep. 343, Mr. Justice Van Syckle said:

"The true rule to be extracted from the cases, and the one abundantly supported by them, is that, when statutes are obviously intended to provide for the public safety and the ordinances prescribed under them are reasonable and in compliance with their purposes, both the statutes and the ordinances are lawful and must be given due effect." This statement of the law was approved by the Court of Errors and Appeals. 62 Atl. Rep. 268. We have already stated our reasons for holding the regulation now in question reasonably necessary. This view is supported by the authorities. *Weller v. Snover*, 42 N. J. Law 341; *Shivers v. Newton*, 45 N. J. Law 469. Newark and South Orange Horse Car Railway Co. v. Hunt, 50 N. J. Law 308, 12 Atl. Rep. 697, are cases in which the taking of private property was sustained as an exercise of the police power. More immediately in point are two cases decided since the argument in the present case by the Supreme Court of the United States. *California Reduction Co. v. Sanitary Reduction Works of San Francisco* (November 27th, 1905), 199 U. S. 306, 26 Sup. Ct. 100, 50 L. Ed —; *Gardner v. Michigan* (November 27th, 1905), 199 U. S. 325, 26 Sup. Ct. 106, 50 L. Ed —. In the first case the city ordinances gave the contractor an exclusive right to cremate the garbage, and required that it should be delivered at the crematory at the expense of the person conveying it. In the second case the court considered the validity of an ordinance of Detroit very similar to the ordinance of Atlantic City now in question. In both cases, the ordinances were sustained as a valid exercise of the police power. The conviction should be affirmed with costs.

BARBER SHOPS MAY BE LICENSED BY LOCAL BOARDS OF HEALTH.

On certiorari, before Justices Van Syckel, Fort and Garretson. For the prosecutor, Leon Abbott. For the defendant, Edwin A. S. Lewis. The opinion of the court was delivered by 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 fee of two dollars 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. Stat., p. 1644, § 49; Gen. Stat., p. 1642, § 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*, 32 Vroom 386; *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*, 4 Vroom 280; *Muhlenbrink v. Long Branch*, 13 Id. 364; *Blanke v. Board of Health*, 35 Id. 42. 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. Stat., p. 1638, § 16. It was adopted on the 23d of December, 1903, and by its terms was to take effect on the first day of January, 1904. Gen. Stat., p. 1638, § 16, was amended by section 49 (Gen. Stat., p. 1644), which provides that the ordinance shall be published at least one week prior to the final passage. By the agreed state of the case it is admitted that the ordinance was adopted on December 23d, 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 not supported by proofs. The writ of certiorari should be dismissed, with costs.

New Jersey Sanitary Association.

The following program has been issued for the meeting of the New Jersey Sanitary Association which is to be held in the Laurel-in-the-Pines, Lakewood, November 16th and 17th, 1906:

- I. INTRODUCTORY REMARKS AND ANNOUNCEMENTS,
Rudolph Hering, Chairman Executive Council.
- II. REPORTS OF THE CHAIRMEN OF COMMITTEES ON—
 - MEMBERSHIP AND REGISTRATION, Edward Guion, M.D.
 - THE TRANSMISSION OF DISEASE BY FLIES; ITS CONTROL AND PREVENTION, Gordon K. Dickinson, M.D.
 - ORGANIZATION OF ANTI-TUBERCULOSIS SOCIETIES IN NEW JERSEY, Thomas W. Harvey, M.D.
 - EDUCATION AND TRAINING OF HEALTH OFFICERS, John L. Leal, M.D.
 - MEDICAL INSPECTION OF SCHOOLS, Joseph Tomlinson, M.D.
- III. SMOKE, NOISE AND STENCH NUISANCES.
 1. HOW AND WHY THESE THINGS ARE BAD FOR THE PUBLIC,
Dr. B. D. Evans.
 2. WHAT HAS BEEN DONE IN NEW YORK CITY, AND HOW,
Com'r Thomas Darlington, M.D.
 3. THE METHOD TO BE PURSUED IN THE ABATEMENT OF THE NUISANCE,
Mr. S. A. Patterson.
DISCUSSION, Dr. Henry Mitchell.
- IV. FOREIGN MUNICIPAL OWNERSHIP OF ABATTOIRS AND THE NECESSITY OF PROPER MEAT INSPECTION, W. M. Gill, V.S., New York City.
- V. MISCELLANEOUS BUSINESS.
- VI. PRAYER,
Rev. C. P. Butler, Lakewood, N. J.
- VII. PRESIDENT'S ADDRESS,
H. M. Herbert, C.E., Bound Brook.
- VIII. THE PRESENT STATUS OF SEWAGE DISPOSAL IN THE UNITED STATES AND GREAT BRITAIN,
Mr. Henry Hewat, Paterson, N. J.
DISCUSSION, Geo. C. Whipple, C.E.; Rudolph Hering, C.E.
- IX. SECRET NOSTRUMS AND PROPRIETARY MEDICINES.
- X. FLOOD, CONTROL AND CONSERVATION OF WATER, APPLIED TO PASSAIC RIVER,
Morris R. Sherrerd, C.E.
DISCUSSION, James Owen, C.E.
- XI. THE PROGRESS OF SEWAGE DISPOSAL IN NEW JERSEY,
Mr. Boyd McLean, Secretary of State Sewerage Commission.
DISCUSSION, Clyde Potts, C.E.

XII. SCHOOL ARCHITECTURE FROM A SANITARY STANDPOINT,

Mr. Nathan Myers, B.S.A., Newark, N. J.

DISCUSSION,

Mr. Francis Bent.

XIII. SUGGESTIONS FOR OBTAINING A MORE COMPLETE RETURN OF BIRTHS,

Mr. David S. South, Registrar of Vital Statistics, N. J.

XIV. ELECTION OF OFFICERS.

XV. MISCELLANEOUS BUSINESS.

XVI. ADJOURNMENT.

MEMBERSHIP AND OBJECTS OF THE ASSOCIATION.

The New Jersey Sanitary Association is composed of professors and teachers in our colleges and schools, municipal officers, health officers, lawyers, physicians, veterinarians, clergymen, civil engineers, sanitary engineers, architects, plumbers, and other citizens of our State interested in Sanitation as related to our homes, our schools and our municipalities. Any citizen may become a member of the State Association on application to the Secretary or any member of the Executive Council, on the day of meeting. The membership fee is two dollars per year, payable in advance.

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Legislative Committee—George P. Olcott, C.E., Chairman; Henry Mitchell, M.D.; H. Brewster Willis, Joseph Tomlinson, M.D.

Circulars and Laws.

The following legislative bills relating to the public health were introduced during the legislative session of 1906 :

ASSEMBLY BILLS.

No. 23, Mr. Thompson, H. T. Provides for licensing plumbers in cities. (Miscellaneous Business.)

* No. 52, Mr. Miller. Amends the city drainage and sewerage act of 1897. (Municipal Corporations.)

No. 96, Mr. Heck. Amends the act relative to the health of boys or girls. (Public Health.)

* No. 99, Mr. Scovel (by request). Authorizes the Governor to appoint five persons to be known as the board of undertakers and embalmers. (Public Health.)

No. 147, Mr. Walsh. Authorizes two or more municipalities to jointly construct and maintain outlet or trunk sewers. (Municipal Corporations.)

No. 165, Mr. Crowther. Amends the act authorizing townships to construct and maintain sewers. (Towns and Townships.)

* No. 224, Mr. Hoagland. Fixes penalty of \$10 for first offense and \$20 for each subsequent offense of selling milk containing less than 12 per cent., but more than 10 per cent. of solids. (Public Health.)

No. 237, Mr. Martin. Passaic pollution bill as prepared by authorities of Newark. (Public Health.)

* No. 240, Mr. Roeber. Provides that pupils not vaccinated or revaccinated may be expelled from schools, and that pupils exposed to any contagious or infectious diseases shall not attend until proper certificate is given by medical authority. (Education.)

* No. 243, Mr. Wakelee. Supplement to Pond Drainage Act of March 31st, 1903. Provides for petition to court by ten or more citizens when governing body of a municipality fails to do necessary cleaning or dredging. (Revision of Laws.)

No. 262, Mr. Walsh. Authorizes cities having a water supply derived from sources beyond the city limits to protect the same from pollution by providing a system of sewers or drainage to protect the watershed from which such water is secured. (Public Health.)

No. 295, Mr. Bierck. Authorizes local boards of health in cities to pass, alter and amend ordinances establishing bureaus of vital statistics. (Public Health.)

* These bills became laws.

No. 296, Mr. Bierck. Provides that boards of health in first class cities may designate three trained nurses to be assigned for duty at the dispensaries in such cities; salaries not to exceed \$75 per month each. (Public Health)

No. 297, Mr. Bierck. Places all city physicians in first class cities under the supervision, direction and control of the city board of health, who shall fix number of physicians, salaries and term of office. (Public Health.)

* No. 311, Mr. Prince. Provides that State board of health appoint time and place once a year for conference with local boards of health to consider prevention of spread of dangerous communicable diseases. (Public Health.)

No. 312, Mr. Prince. Regulates the sale of proprietary medicines or other medicinal preparations containing alcohol, opium or any of its preparations. (Public Health.)

* No. 324, Mr. Crowther. Fixes salary of the health officer of port of Perth Amboy at salary of \$1,000; of the deputy health officer at \$250. (Public Health.)

No. 433, Mr. Wright. Amends act creating local boards of health relative to publication of ordinances. (Public Health.)

No. 321, Mr. Everett. Amends rural cemetery act. (Miscellaneous Business.)

* No. 438, Mr. Barber. Amends pure food act by requiring persons selling food or drugs to let inspectors have samples of such articles for examination. (Public Health.)

No. 491, Mr. Miller. Requires all health officers or sanitary inspectors to hold a license when appointed. (Public Health.)

No. 518, Mr. Wise. Authorizes cities to appoint a registrar of vital statistics for a term not exceeding three years. (Municipal Corporations.)

No. 520, Mr. Morris. Provides for payment by the State for farm and garden products destroyed to prevent the spread of contagion.

SENATE BILLS.

No. 23, Mr. Jackson. Providing for a State laboratory to prepare diphtheria antitoxin and empowering the State board of health to distribute the same free. (Public Health.)

No. 44, Mr. Hutchinson. Provides for the appointment of inspectors by boards of health; no municipality of 2,000 or more population shall be without one or more inspectors. (Public Health.)

No. 77, Mr. Hutchinson (by request). Provides for appointment by boards of health in cities of commissioners to examine master plumbers desiring to do plumbing and drainage work of buildings in cities and to issue certificates to be presented to said boards for issuance of licenses for term of one year at fee of \$10. (Public Health.)

No. 80, Mr. Cornish. Requiring that all packages or bottles of medicines of any kind other than those compounded upon physicians' prescriptions, shall contain complete schedule of ingredients plainly printed on the outside, and additional labels setting forth the quantities of alcohol and various drugs when used in excess of prescribed limits, the limit for alcohol being eight per cent. (Public Health.)

No. 82, Mr. Brown. Appropriates \$350,000, of which not more than \$70,000 shall be used annually, for abolishing mosquito breeding areas, and designates the direc-

* These bills became laws.

tor of the State Experiment Station as the person to direct its expenditure. (Miscellaneous Business.)

No. 83. Fixes time for reporting births, deaths and marriages at five days, instead of thirty, as now provided

* No. 134, Mr. Hillery. Permitting the State board of health to expend \$20,000 annually under the pure food act of March 21st, 1901. (Public Health.)

No. 174, Mr. Wakelee. Act to provide for the proper labeling of proprietary or other medicinal prescriptions containing alcohol, narcotics or other potent drugs. Requires label to contain a statement of the percentage of alcohol or said drugs conspicuously printed. Does not apply to external remedies. The State board of health shall appoint public analysts, chemists and inspectors to secure analysis of medicines as deemed necessary from time to time and to provide for the enforcement of this act. Violation of these provisions shall constitute a misdemeanor, punishable by a fine of from \$50 to \$250 or imprisonment from 10 to 100 days or both. (Public Health.)

No. 183, Mr. Hutchinson. Amends act concerning report of births, deaths and marriages. Fixes time for sending report to proper official at five days and provides a penalty of \$50. (Public Health.)

* No. 194, Mr. Hutchinson. Supplement to pure food act of March 21st, 1901. Provides for cleanliness of vessels in which milk and milk products are kept, either in the dairy or in stores. No portion of the creamery shall be used as a dwelling, laundry or kitchen. Creameries must be licensed by the State board of health, and licenses shall be forfeited for violation of rules of cleanliness. The penalty of operating a creamery or receiving station without license shall be a fine of \$200. (Public Health.)

* Senate No. 134. Governs expenditures of State board of health under pure food act.

No. 231, Mr. Hillery. Requiring local health officers to be holder of health officer's license under act of March 31st, 1887; sanitary inspectors must have sanitary inspector's license, but bill does not apply to municipalities of less than 8,000 inhabitants. (Public Health.)

* No. 232, Mr. Hillery. Authorizing adjacent townships or municipalities to join in employing a health officer and one or more sanitary inspectors. (Public Health.)

No. 237, Mr. McKee. For the appointment of a board for the examination and licensing of plumbers. Provides for board of four members in cities, one to be the chief health officer, one a journeyman plumber, one the plumbing inspector and one a master plumber, the local board of health to appoint. All plumbers must be licensed, the fee for a journeyman being \$1, and for a master plumber \$5, license to hold for one year. The two plumbers serving on board shall receive \$5 per day of actual service, but not to exceed \$200 in a year. (Miscellaneous Business.)

* No. 269, Mr. McKee. Supplement to act for the incorporation of rival cemetery associations. (Public Health.)

* No. 311, Mr. Horner. Provides that chief inspector of the board of health of the State shall hereafter perform the duties of State dairy commissioner; to take effect immediately. (Public Health.)

No. 338, Mr. McKee. Validating certain proceedings taken by cemetery associations for the location of cemeteries. (Public Health.)

* These bills became laws.

THE FEDERAL FOOD ACT.

Following is the text of the national food law, passed by Congress June 29th, 1906 :

AN ACT FOR PREVENTING THE MANUFACTURE, SALE, OR TRANSPORTATION OF ADULTERATED OR MISBRANDED OR POISONOUS OR DELETERIOUS FOODS, DRUGS, MEDICINES, AND LIQUORS, AND FOR REGULATING TRAFFIC THEREIN, AND FOR OTHER PURPOSES.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That it shall be unlawful for any person to manufacture within any Territory or the District of Columbia, any article of food or drug, which is adulterated or misbranded within the meaning of this Act; and any person who shall violate any of the provisions of this section shall be guilty of a misdemeanor, and for each offense shall, upon conviction thereof, be fined not to exceed five hundred dollars or shall be sentenced to one year's imprisonment, or both such fine and imprisonment, in the discretion of the court, and for each subsequent offense and conviction thereof shall be fined not less than one thousand dollars or sentenced to one year's imprisonment, or both such fine and imprisonment, in the discretion of the court.

Sec. 2. That the introduction into any State or Territory or the District of Columbia from any other State or Territory or the District of Columbia, or from any foreign country, or shipment to any foreign country of any article of food or drugs which is adulterated or misbranded, within the meaning of this Act, is hereby prohibited; and any person who shall ship or deliver for shipment from any State or Territory or the District of Columbia to any other State or Territory or the District of Columbia, or to a foreign country, or who shall receive in any State or Territory or the District of Columbia from any other State or Territory or the District of Columbia, or foreign country, and having so received, shall deliver, in original unbroken packages, for pay or otherwise, or offer to deliver to any other person, any such article so adulterated or misbranded within the meaning of this Act, or any person who shall sell or offer for sale in the District of Columbia or the Territories of the United States any such adulterated or misbranded foods or drugs, or export or offer to export the same to any foreign country, shall be guilty of a misdemeanor, and for such offense be fined not exceeding two hundred dollars for the first offense, and upon conviction for each subsequent offense not exceeding three hundred dollars or be imprisoned not exceeding one year, or both, in the discretion of the court: Provided, That no article shall be deemed misbranded or adulterated within the provisions of this Act when intended for export to any foreign country and prepared or packed according to the specifications or directions of the foreign purchaser when no substance is used in the preparation or packing thereof in conflict with the laws of the foreign country to which said article is intended to be shipped; but if said article shall be in fact sold or offered for sale for domestic use or consumption, then this proviso shall not exempt said article from the operation of any of the other provisions of this Act.

Sec. 3. That the Secretary of the Treasury, the Secretary of Agriculture, and the Secretary of Commerce and Labor shall make uniform rules and regulations for carrying out the provisions of this Act, including the collection and examination of

specimens of foods and drugs manufactured or offered for sale in the District of Columbia, or in any Territory of the United States, or which shall be offered for sale in unbroken packages in any State other than that in which they shall have been respectively manufactured or produced, or which shall be received from any foreign country, or intended for shipment to any foreign country, or which may be submitted for examination by the chief health, food or drug officer of any State, Territory, or the District of Columbia, or at any domestic or foreign port through which such product is offered for interstate commerce, or for export or import between the United States and any foreign port or country.

Sec. 4. That the examinations of specimens of foods and drugs shall be made in the Bureau of Chemistry of the Department of Agriculture, or under the direction and supervision of such Bureau, for the purpose of determining from such examinations whether such articles are adulterated or misbranded within the meaning of this Act; and if it shall appear from any such examination that any of such specimens is adulterated or misbranded within the meaning of this Act, the Secretary of Agriculture shall cause notice thereof to be given to the party from whom such sample was obtained. Any party so notified shall be given an opportunity to be heard, under such rules and regulations as may be prescribed as aforesaid, and if it appears that any of the provisions of this Act have been violated by such party, then the Secretary of Agriculture shall at once certify the facts to the proper United States district attorney, with a copy of the results of the analysis or the examination of such article duly authenticated by the analyst or officer making such examination, under the oath of such officer. After judgment of the court, notice shall be given by publication in such manner as may be prescribed by the rules and regulations aforesaid.

Sec. 5. That it shall be the duty of each district attorney to whom the Secretary of Agriculture shall report any violation of this Act, or to whom any health or food or drug officer or agent of any State, Territory, or the District of Columbia shall present satisfactory evidence of any such violation, to cause appropriate proceedings to be commenced and prosecuted in the proper courts of the United States, without delay, for the enforcement of the penalties as in such case herein provided.

Sec. 6. That the term "drug," as used in this Act, shall include all medicines and preparations recognized in the United States Pharmacopoeia or National Formulary for internal or external use, and any substance or mixture of substances intended to be used for the cure, mitigation, or prevention of disease of either man or other animals. The term "food," as used herein, shall include all articles used for food, drink, confectionery, or condiment by man or other animals, whether simple, mixed, or compound.

Sec. 7. That for the purposes of this Act an article shall be deemed to be adulterated:

In case of drugs:

First. If, when a drug is sold under or by a name recognized in the United States Pharmacopoeia or National Formulary, it differs from the standard of strength, quality, or purity, as determined by the test laid down in the United States Pharmacopoeia or National Formulary official at the time of investigation: Provided, That no drug defined in the United States Pharmacopoeia or National Formulary shall be deemed to be adulterated under this provision if the standard of strength, quality, or purity be plainly stated upon the bottle, box or other container thereof although the standard may differ from that determined by the test laid down in the United States Pharmacopoeia or National Formulary.

Second. If its strength or purity fall below the professed standard or quality under which it is sold.

In the case of confectionery :

If it contain terra alba, barytes, talc, chrome yellow, or other mineral substance or poisonous color or flavor, or other ingredient deleterious or detrimental to health, or any vinous, malt or spirituous liquor or compound or narcotic drug.

In the case of food :

First. If any substance has been mixed and packed with it so as to reduce or lower or injuriously affect its quality or strength.

Second. If any substance has been substituted wholly or in part for the article.

Third. If any valuable constituent of the article has been wholly or in part abstracted.

Fourth. If it be mixed, colored, powdered, coated, or stained in a manner whereby damage or inferiority is concealed.

Fifth. If it contain any added poisonous or other added deleterious ingredient which may render such article injurious to health: Provided, That when in the preparation of food products for shipment they are preserved by an external application applied in such manner that the preservative is necessarily removed mechanically, or by maceration in water, or otherwise, and directions for the removal of said preservative shall be printed on the covering or the package, the provisions of this Act shall be construed as applying only when said products are ready for consumption.

Sixth. If it consists in whole or in part of a filthy, decomposed, or putrid animal or vegetable substance, or any portion of an animal unfit for food, whether manufactured or not, or if it is the product of a diseased animal, or one that has died otherwise than by slaughter.

Sec. 8. That the term "misbranded," as used herein, shall apply to all drugs, or articles of food, or articles which enter into the composition of food, the package or label of which shall bear any statement, design, or device regarding such article, or the ingredients or substances contained therein which shall be false or misleading in any particular, and to any food or drug product which is falsely branded as to the State, Territory or country in which it is manufactured or produced.

That for the purposes of this Act an article shall also be deemed to be misbranded: In case of drugs:

First. If it be an imitation of or offered for sale under the name of another article.

Second. If the contents of the package as originally put up shall have been removed, in whole or in part, and other contents shall have been placed in such package, or if the package fail to bear a statement on the label of the quantity or proportion of any alcohol, morphine, opium, cocaine, heroin, alpha or beta eucaine, chloroform, cannabis indica, chloral hydrate, or acetanilide, or any derivative or preparation of any such substances contained therein.

In the case of food:

First. If it be an imitation of or offered for sale under the distinctive name of another article.

Second. If it be labeled or branded so as to deceive or mislead the purchaser, or purport to be a foreign product when not so, or if the contents of the package as originally put up shall have been removed in whole or in part, and other contents shall have been placed in such package, or if it fail to bear a statement on the

label of the quantity or proportion of any morphine, opium, cocaine, heroin, alpha or beta eucaine, chloroform, cannabis indica, chloral hydrate, or acetanilide, or any derivative or preparation of any of such substances contained therein.

Third. If in package form, and the contents are stated in terms of weight or measure, they are not plainly and correctly stated on the outside of the package.

Fourth. If the package containing it or its label shall bear any statement, design, or device regarding the ingredients or the substances contained therein, which statement, design or device shall be false or misleading in any particular: Provided, That an article of food which does not contain any added poisonous or deleterious ingredients shall not be deemed to be adulterated or misbranded in the following cases:

First. In the case of mixtures or compounds which may be now or from time to time hereafter known as articles of food, under their own distinctive names, and not an imitation of or offered for sale under the distinctive name of another article, if the name be accompanied on the same label or brand with a statement of the place where said article has been manufactured or produced.

Second. In the case of articles labeled, branded, or tagged so as to plainly indicate that they are compounds, imitations or blends, and the word "compound," "imitation," or "blend," as the case may be, is plainly stated on the package in which it is offered for sale: Provided, That the term blend as used herein shall be construed to mean a mixture of like substances, not excluding harmless coloring or flavoring ingredients used for the purpose of coloring and flavoring only: And provided further, That nothing in this Act shall be construed as requiring or compelling proprietors or manufacturers of proprietary foods which contain no unwholesome added ingredient to disclose their trade formulas, except in so far as the provisions of this Act may require to secure freedom from adulteration or misbranding.

Sec. 9. That no dealer shall be prosecuted under the provisions of this Act when he can establish a guaranty signed by the wholesaler, jobber, manufacturer, or other party residing in the United States, from whom he purchases such articles, to the effect that the same is not adulterated or misbranded within the meaning of this Act, designating it. Said guaranty, to afford protection, shall contain the name and address of the party or parties making the sale of such articles to such dealer, and in such case said party or parties shall be a menable to the prosecutions, fines, and other penalties which would attach, in due course, to the dealer under the provisions of this Act.

Sec. 10. That any article of food, drug or liquor that is adulterated or misbranded within the meaning of this Act, and is being transported from one State, Territory, District, or insular possession to another for sale, or, having been transported, remains unloaded, unsold, or in original unbroken packages, or if it be sold or offered for sale in the District of Columbia or the Territories, or insular possessions of the United States, or if it be imported from a foreign country for sale, or if it is intended for export to a foreign country, shall be liable to be proceeded against in any district court of the United States within the district where the same is found, and seized for confiscation by a process of libel for condemnation. And if such article is condemned as being adulterated or misbranded, or of a poisonous or deleterious character, within the meaning of this Act, the same shall be disposed of by destruction or sale, as the said court may direct, and the proceeds thereof, if sold, less the legal costs and charges, shall be paid into the Treasury of the United States, but such goods shall not be sold in any jurisdiction contrary to the provisions of this Act or

the laws of that jurisdiction: Provided, however, That upon the payment of the costs of such libel proceedings and the execution and delivery of a good and sufficient bond to the effect that such articles shall not be sold or otherwise disposed of contrary to the provisions of this Act, or the laws of any State, Territory, District, or insular possession, the court may by order direct that such articles be delivered to the owner thereof. The proceedings of such libel cases shall conform, as near as may be, to the proceedings in admiralty, except that either party may demand trial by jury of any issue of fact joined in any such case, and all such proceedings shall be at the suit of and in the name of the United States.

Sec. 11. The Secretary of the Treasury shall deliver to the Secretary of Agriculture, upon his request from time to time, samples of foods and drugs which are being imported into the United States or offered for import, giving notice thereof to the owner or consignee, who may appear before the Secretary of Agriculture, and have the right to introduce testimony, and if it appear from the examination of such samples that any article of food or drug offered to be imported into the United States is adulterated or misbranded within the meaning of this Act, or is otherwise dangerous to the health of the people of the United States, or is of a kind forbidden entry into, or forbidden to be sold or restricted in sale in the country in which it is made or from which it is exported, or is otherwise falsely labeled in any respect, the said article shall be refused admission, and the Secretary of the Treasury shall refuse delivery to the consignee and shall cause the destruction of any goods refused delivery which shall not be exported by the consignee within three months from the date of notice of such refusal under such regulations as the Secretary of the Treasury may prescribe: Provided, That the Secretary of the Treasury may deliver to the consignee such goods pending examination and decision in the matter on execution of a penal bond for the amount of the full invoice value of such goods, together with the duty thereon, and on refusal to return such goods for any cause to the custody of the Secretary of the Treasury, when demanded, for the purpose of excluding them from the country, or for any other purpose, said consignee shall forfeit the full amount of the bond: And provided further, That all charges for storage, cartage, and labor on goods which are refused admission or delivery shall be paid by the owner or consignee, and in default of such payment shall constitute a lien against any future importation made by such owner or consignee.

Sec. 12. That the term "Territory" as used in this Act shall include the insular possessions of the United States. The word "person" as used in this Act shall be construed to import both the plural and the singular, as the case demands, and shall include corporations, companies, societies, and associations. When construing and enforcing the provisions of this Act, the act, omission, or failure of any officer, agent, or other person acting for or employed by any corporation, company, society, or association, within the scope of his employment or office, shall in every case be also deemed to be the act, omission, or failure of such corporation, company, society, or association, as well as that of the person.

Sec. 13. That this Act shall be in force and effect from and after the first day of January, nineteen hundred and seven.

CIRCULARS.

Two new circulars have been issued during the year, as follows: No. 115, entitled, "Prevention of Tuberculosis," and No. 116, entitled, "Clean Milk." Circular 98 on the "Restriction of the Spread of Infectious Diseases" was revised and reprinted under date of May, 1906, and Circular 110 on the "Sanitary Inspection Service" was also revised and reprinted, the former editions of both of these circulars having been exhausted. A leaflet on anthrax (Circular 114) was also published.

CIRCULAR 114. APRIL, 1905.

Prevention of Anthrax.

In New Jersey anthrax has appeared from time to time in limited areas in the counties which border on Delaware bay, cattle, sheep and horses being the animals most commonly attacked.

On the first appearance of any sickness among these animals in districts known to be liable to outbreaks of anthrax, the affected animals should be at once isolated, and a veterinary physician should be sent for.

Carcasses of animals dead of anthrax should be burned or buried immediately. If buried, the grave should be at least six feet deep. Eight or ten inches of unslaked lime should be placed upon the bottom of the grave and another similar layer of unslaked lime should be put on top of the carcass before the earth is filled in. The site for burial should be distant from any water-course, and a strong fence should be erected to enclose it.

If carcasses are removed for cremation or burial they should be conveyed upon a sled made of rough boards. The boards should afterwards be burned.

Stables and all objects with which the dead animal has come in contact should be disinfected. (See page 47 of Circular 94.) Pastures once infected remain so for a number of years.

All healthy animals liable to exposure to the infection of anthrax should be protected by inoculation with immunizing serum. In districts known to be especially liable to outbreaks of anthrax, owners of cattle should cause them to be inoculated every spring before they are turned into suspected pastures.

Curative treatment of anthrax is of no avail.

During outbreaks of anthrax, dead animals should not be skinned without the approval of a veterinary physician.

Owners of cattle should not visit infected farms

Circular 94, on communicable diseases of animals, will be sent upon request.

CIRCULAR No. 115.

Prevention of Tuberculosis.

Tuberculosis is an infectious disease; it is preventable, and in its early stages it is curable. No individual nor any portion of the body is exempt from its ravages, and the mortality caused by it exceeds that of any other ailment. It spares no nation, no class, no vocation, no age, but every person is liable to become infected and reinfected from time to time, and all should therefore be prepared for battle with this destroyer.

It is so rarely transmitted at birth that this source of the disease can be disregarded, but it is acquired at all ages and the infection is always derived from a preceding case.

1. **Causation.**—The disease is caused by a micro-organism, the tubercle bacillus, and the lungs are the most common seat of the affection. Many cases of the disease are never recognized, especially when the tuberculous lesion is situated in other parts of the body than the lungs, but early diagnosis, in the incipient stages, is essential if curative and preventive measures are to be successfully applied, and in pulmonary cases laboratory examinations of sputa leave no chance for error if the tubercle bacilli are found to be present.

The committee on nomenclature of the National Association for the Study and Prevention of Tuberculosis has provided this definition of incipency:

“(Slight initial lesion in the form of infiltration limited to the apex or to a small part of one lobe; no tuberculous complications; slight or no constitutional symptoms (particularly including gastric or intestinal disturbances or rapid loss in weight); slight or no elevation of temperature or acceleration of pulse at any time during the twenty-four hours, especially after rest; expectoration usually small in amount or absent; tubercle bacilli may be present or absent.” Since most patients first consult the family physician, he ought to be a specialist in tuberculosis, and if a practitioner who assumes the important role of family physician does not feel proficient he should realize his responsibility and take steps to render himself thoroughly familiar with the symptomatology, diagnosis and treatment of this disease. In few other diseases will good and timely action bear so much beneficial fruit. In no other disease will the mournful results of unskillfulness and conscienceless neglect be visited so disastrously on the physician. It is not intended to set forth here the many factors to be considered. We would but emphasize the fact that conclusions must be reached only after the consideration of many details. One among these would mean nothing; several taken together would be suggestive; a number combined would be conclusive. There is no telling to what a slight hint may lead. The faculty of judgment, of basing correct conclusions after having grasped essential features, the discriminative temperament, the scent for diagnosis, must here be called into play; and when it exists the physician can and will, without doubt, diagnose most cases of tuberculosis while the disease is in its incipency.”¹

2. **Tuberculosis is a Household Disease**, and it is not often communicated from person to person out of doors. Crowded, unventilated and unclean apartments favor the spread of tuberculosis, and its prevalence among the poor can with certainty be lessened if their dwellings can be provided with an abundance of

fresh air and sunlight. One of the most useful purposes of the sanatoria which are being established in many localities is to teach the value of pure air and cleanliness, and the inmates of these institutions are in many instances, ready to be discharged as soon as they learn and fully comprehend the beneficial effects of right living, particularly with reference to air, sunlight and suitable food, for in cases where the patient can control conditions in his own home and there carry out the instructions received in the sanatorium, he becomes a sanitary missionary, and not only promotes his own recovery, but also induces his family and friends to take the necessary measures to avoid infection. The consumptive who has been trained in modern methods of prophylaxis, and who is conscientious and considerate of the welfare of others, is a harmless occupant of dwelling, factory or shop, and the anxiety felt by residents in rural districts, where sanatoria are situated, lest infection be spread from these establishments, is unwarranted, for, instead of being sources of danger, they are in fact educational centres from which protective influences emanate.

3. **Immunity.**—Persons who are in good health and who dwell under favorable sanitary conditions have little to fear from tuberculosis, but where the individual is debilitated from any cause he becomes liable to contract the disease. Precautionary measures should therefore be uniformly applied without waiting until infection has occurred. Individual resistance to this disease is increased by residence in the country, or in localities where the atmosphere is free from dust and smoke; by avoiding excessive fatigue; by being out of doors; by avoiding all forms of dissipation; by the exercise of moderation and regularity in eating and drinking, and by obeying the laws of nature in all things. The natural immunity is weak in the children of consumptive parents, and they are more liable to contract tuberculosis than are children born of strong and healthy individuals. The use of alcohol does not prevent nor cure tuberculosis, but, on the contrary, its habitual use renders the individual more susceptible to the inroads of disease. Indeed it is a matter of common observation that barkeepers rarely recover from pneumonia and typhoid fever, apparently because the enfeebled heart is unable to withstand the tax which is placed upon it by attacks of these affections.

4. **Tuberculosis in New Jersey.**—In New Jersey the mortality from tuberculosis has been steadily diminishing during the past seventeen years, and this fact is believed to be mainly due to the hygienic revolution which has occurred within that period. The establishment in 1880 of boards of health throughout the State drew the attention of the more intelligent classes to the value of personal and public hygiene, and throughout the entire United States a similar interest was aroused, resulting in the adoption by many individuals and families of voluntary efforts to improve sanitary conditions; to admit fresh air and light into sleeping rooms and living rooms; to substitute rugs for carpets; to prevent overcrowding; to provide running water, with bathing facilities and water carriage for excreta; to dispose of waste substances more promptly; to select and prepare food with greater care concerning its nutritiousness and digestibility; to adopt the habit of indulgence in out-of-door sports; to regularly take annual vacations; to shorten the hours of business, and to choose appropriate clothing. These signs of improvement in personal hygiene have been supplemented by great activity in the introduction of public water supplies and sewerage systems; in the widening, straightening, paving, lighting and cleaning of public streets; in providing for the isolation of persons affected with any of the dangerous communicable diseases; in preventing the spread of infectious diseases in the public schools and in teaching the value of public hygiene by the daily press.

¹ Journal A. M. A., February 24th, 1906.

These measures have been reflected in the progressive improvement in the general death-rate of the State, as well as the lower mortality from tuberculosis.

5. Modes of Transmission—Consumption (phthisis, pulmonary tuberculosis), which is the most common form of tuberculosis, comprising about ninety-five per cent. of all cases of this disease, is communicated through the medium of floating droplets which are discharged by infected persons in the acts of coughing, sneezing, speaking, laughing &c.; by dust which is infected by the presence of dried sputa; by contact between the mouth and infected hands, pins, money, &c.; by infected drinking cups; by flies which carry the infected sputa upon their feet and deposit it upon food and also by other agencies which are capable of planting the tubercle bacilli upon the mucous surfaces. A consumptive who disregards the welfare of other persons may, by careless and heedless disposal of his sputa, keep the air of the apartment which he occupies constantly loaded with virulent bacilli, rendering his presence a source of danger to every susceptible person who enters within the radius infected by the floating particles which he discharges. One important factor in the transmission of tuberculosis is the habit of mouth breathing. The nose is the natural channel for breathing, and it is so constituted that it prevents to a considerable degree the inhalation of dust.

6. Sputum Should be Destroyed.—The following act of the legislature is designed to prevent spitting in railroad cars:

"1. Any person who shall expectorate or spit on the floor, side, seat or platform of any railroad or railway passenger car in this State shall be deemed and adjudged to be a disorderly person; *provided*, that nothing herein contained shall apply to smoking-cars or compartments of cars where smoking is permitted when said smoking-cars or smoking compartments are not provided with cuspidors."¹

The sputum of consumptives should be destroyed before it becomes dry and is converted into dust. It may be deposited in a paper spit-cup and be cast into the fire, or it may be received in a suitable dish containing water or some other liquid, and be emptied into the water-closet or buried. When out of doors a pocket spit-cup or soft paper or small pieces of cheese-cloth may be used to receive the sputum, and after use these articles should be carried in a water-tight receptacle (tobacco pouch) and be burned as soon as possible. The consumptive should not spit upon the sidewalk or pavement, nor should he spit into a handkerchief. The consumptive conveys the disease to other persons only through the medium of the infectious matter which is coughed up, and it is not dangerous to live in a house occupied by a consumptive if he will so dispose of the sputum that it will not reach the mouth or nose of his associates. He should not spit upon the floor, carpet, door-mat, stove or wall, and always be prepared to protect his own hands, face and clothing from becoming soiled with the matter coughed up. Men who are affected with consumption should not wear beards. The handkerchiefs used by a consumptive should be boiled for at least thirty minutes. A consumptive should have his own room and bed. The room should have abundance of light and fresh air, and the windows should be kept open day and night. The soiled garments and bedding should be handled as little as possible when dry, and should be immersed in water until ready for washing.

7. Purification of Apartments.—Sleeping-rooms and living-rooms occupied by consumptives should be kept scrupulously clean. If the advice given in paragraph 6 is faithfully followed, there will be little risk of depositing infectious matter about the apartments, but, as a precautionary measure, all towels, night-clothes,

sheets, pillow-cases and other wash-goods which are liable to be soiled by the infectious discharges from the lungs should be boiled for not less than half an hour. The floors should be in good repair and without open cracks and crevices. They should not be swept, but should be cleaned by scrubbing or by wiping with damp cloths. The woodwork and furniture should be frequently scrubbed with soap and water and wiped dry. Rugs (there should be no carpets) should be exposed to the sun and air daily when practicable. Garments and all other articles which are injured by prolonged boiling may be disinfected by placing them, one by one, in a closely covered receptacle, with as little folding as possible, and applying to each layer of the goods, by the use of a sprinkling-pot, a forty-per-cent. solution of formaldehyde. The articles thus treated should be removed after twelve hours and dried. Mattress-ticking and the ticking of pillows may be disinfected by spraying with the solution of formaldehyde and enveloping the articles quickly with wet sheets or rubber blankets, and allowing them to remain covered for twelve hours. When death is caused by pulmonary tuberculosis the health officer should cause the sick-room to be treated as de cribed in circular 98.

8. Notification of Pulmonary Tuberculosis.—Under authority contained in section 1 of the act approved March 22d, 1895 (General Statutes, page 1677), the State board of health adopted the following resolution October 11th, 1904:

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."

The penalty for failure to report to the local board of health the occurrence of any one of the notifiable diseases is punishable by a fine of \$50, and the local board should take prompt action to collect the penalty in cases where the law is violated. Following is a copy of sections 1 and 2 of the act requiring reports of certain dangerous communicable diseases:

"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 specially 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

¹ Chapter 260 of the Laws of 1903.

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 the 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 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."

Upon receipt of notice that a case of pulmonary tuberculosis has appeared, the local health officer should be prepared to take such action to prevent the spread of the disease as the conditions in each case may demand. Where the attending physician has fully informed the patient concerning the measures which are necessary to protect others from becoming infected, and where the patient is so situated that he can follow the instructions which have been given by his medical adviser, the duty of the health officer may properly be limited to periodical inquiries to learn from the physician if the patient is attentive to the destruction of his sputum and considerate of the health of other persons with whom he comes in contact. When, in the judgment of the health officer, additional advice is required, he may place in the hands of the patient and of the householder a leaflet or circular giving information concerning the measures which should be employed to prevent the spread of the disease. If the patient is neglectful, or if he refuses to conform to the necessary requirements, his case should be reported to the board of health for such action as may, in the judgment of the board, be necessary. Inasmuch as 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 pulmonary tuberculosis, it has be-

come desirable to learn the number and location of cases needing such treatment, and a record should therefore be kept of all reported cases for the information of those whose duty it may be to study the facts relating to the subject. Reports of cases of tuberculosis should not be open to public inspection.

CIRCULAR No. 116.

Clean Milk.

This circular has been prepared for the purpose of placing before farmers, dairymen, creamerymen, retail dealers and others interested in the production and sale of milk on a commercial scale a brief description of the proper methods of milk production, storage and handling, from the time it leaves the cow until it reaches the consumer. No attempt has been made to cover the ground in an exhaustive manner, or to include all possible conditions which may arise. Little of the material is original, it having been gathered from what are believed to be trustworthy sources.

1. INTRODUCTION.

The decrease in recent years of deaths from the diarrhoeal diseases of children has commanded the attention of parents and statesmen as well as sanitarians, and there is no dissent from the opinion that the most important element in the enormous saving of child life, which is now occurring, consists in a better understanding of the dangers attending the use of unclean milk. It is reasonable to believe that still more gratifying results are to follow, for thus far the protective measures against infected milk have been almost entirely applied to this article of food after it is delivered to the consumer, but when producers shall intelligently and faithfully adhere to the laws of asepsis in the collection, cooling, storage, transportation and delivery of milk, then will we be able to learn the true value of hygiene, so far as it affects the food of infants. It is encouraging to observe that the hygienic control of milk-supplies has assumed a better working basis in numerous localities in the State, and that a popular demand for clean milk has been created, and is beginning to meet with responsive efforts from a few of the more progressive dairymen.

The dilution of milk by the addition of water is attracting less attention from sanitary officers than this form of adulteration at one time commanded, but greater interest attaches to the sources of the water with which the producer or dealer dilutes the milk. By aid of the lactometer the dealer is able to "water" and "skim" with a high degree of skill, and the consumer has the satisfaction of receiving a product having almost unvarying uniformity as far as specific gravity is concerned, and if the water is taken from an uncontaminated source the vendor and the buyer may adjust the dilution question by an adjustment of the price. But cleanliness of the milk and its freedom from pathogenic bacteria constitute another and a very much more important line of inquiry for the sanitary officer, and he recognizes the demand which consumers are making for milk which is produced on clean premises, by clean persons, and which is collected and sold under conditions which effectually protect it against contamination. Pure water, and no other; ice from water which is fit to drink; healthy cattle; clean, well-lighted and well-ventilated stables; exclusion of flies; clean utensils; freedom from infectious diseases on the part of the persons

engaged in handling the milk—at least all of these features are imperatively required in conducting the modern dairy. The spread of typhoid fever by means of milk which has become contaminated by the use on dairy premises of water from polluted wells or springs is so frequent in its occurrence that a revolution in the milk business has long been demanded by sanitary authorities, but few producers and dealers yet realize their responsibility for the hundreds of premature deaths which are directly due to the door-yard well. The attention of the legislature has been drawn to the importance of providing pure water on dairy premises, and the following requirement has been enacted:

"1. No person shall knowingly distribute or sell, or offer to distribute or sell, or have in his possession with intent to distribute or sell, any milk which has been produced by cows that have not been daily supplied with pure and wholesome water; and no person shall wash or attempt to cleanse any can or utensil used for handling or transporting milk, in water which he shall have reason to believe is polluted, contaminated or impure. 2. Every person who shall violate any of the provisions of the first section of this act shall be liable to a penalty of fifty dollars, which shall be recoverable in the same manner and in any court or before any magistrate that any penalty is recoverable under the provisions of the act to which this act is a supplement."

The following table shows that powerful influences have been exerted during the past nine years for the reduction of the mortality rate in New Jersey among infants.

DEATHS AMONG CHILDREN UNDER FIVE YEARS OF AGE IN NEW JERSEY, PER 100,000 POPULATION, FOR TWENTY-SEVEN YEARS, 1878-1905.

Years.	Deaths per 100,000 Population.	Years.	Deaths per 100,000 Population.	Years.	Deaths per 100,000 Population.	Years.	Deaths per 100,000 Population.
1879.....	774.9	1886.....	657.4	1893.....	735.4	1900.....	551.1
1880.....	654.9	1887.....	638.4	1894.....	586.9	1901.....	495.9
1881.....	656.4	1888.....	764.0	1895.....	542.3	1902.....	498.1
1882.....	893.6	1889.....	735.5	1896.....	561.1	1903.....	443.8
1883.....	724.0	1890.....	745.8	1897.....	482.1	1904.....	530.0
1884.....	638.5	1891.....	722.5	1898.....	402.3	1905.....	460.0
1885.....	713.5	1892.....	818.2	1899.....	563.0		

It is seen that a very marked decrease in deaths among children occurred in the year ending June 30th, 1894, and from that time until the close of the last statistical year the decrease in deaths in this class of the population has continued.

Doubtless these results are to be credited chiefly to the treatment which the milk has received after it has been received by the customer, but in a small proportion of cases the milk producer and dealer deserve a share of the praise. Dairy men should, of course, lead in the effort to prevent the pollution of milk, and the financial interests of milk producers and dealers will be served by supplying the market with milk which is produced, transported and handled with aseptic precautions. From many points of view there would be great advantage to the consumer in receiving his supply in the condition in which it was secreted by the cow, and he would be glad to substitute clean milk, at a high price, for the artificial purifying process which he now depends upon to protect himself from the polluting additions which

the milk receives in the course of careless treatment in the hands of the average dairyman and dealer.

2. Source and Composition of Milk. Milk is the secretion of the mammary glands of female mammals. The only variety of milk which is commercially of importance in this country, is that of the cow. This is a white, opaque emulsion containing water, fat, casein, albumen, lactose, mineral salts, and small quantities of various other nitrogenous and non-nitrogenous substances. As drawn from the cow, the emulsion is nearly homogeneous, a little more fat being contained in that portion obtained when the udder is nearly empty. When allowed to stand quietly for some hours, most of the fat rises to the surface, forming the cream. This separation is never complete the skimmed milk obtained, when skimming is done by hand, containing from 0.5 per cent. to 1.0 per cent. of fat; that obtained when a separator is used containing from 0.1 per cent. to 0.5 per cent. The fat is the only element of the milk which tends to separate, the other constituents remaining either in solution or in permanent suspension.

The composition of milk from different sources varies considerably. The following table gives the average calculated by Babcock from American data, and the maximum, minimum and average figures compiled by Leach from Koehnig's tables:

No. of Analyses.	Specific Gravity.	Water.	Casein.	Albumen.	Total Proteid.	Fat.	Sugar.	Ash.
Babcock.....	1.0320	87.3	3.00	0.60	3.80	3.6	4.5	.70
Koehnig 800—								
Minimum.....	1.0264	79.32	1.79	0.25	2.07	1.67	2.11	0.35
Maximum ...	1.0370	90.69	6.29	1.44	6.40	6.47	6.12	1.21
Mean.....	1.0315	87.17	3.02	0.53	3.55	3.64	4.88	.71

The maximum and minimum figures given in the above table cannot be regarded as having much significance, as they probably represent milk from unhealthy or abnormal animals. A large number of examinations of milk offered for sale in this State show that the average composition approximates:

Milk solids.....	13.00 %
Fat	4.00
Solids not fat	9.00
Ash .....	.70

As is well known, different breeds of cows give milk of different qualities. The following results, obtained from various sources, indicate the average composition which may be expected from representative herds of some of the different breeds:

	Milk Solids.	Fat.	Solids not fat.
Ayrshire	12.70	3.68	9.02
Guernsey	14.43	5.02	9.36
Holstein	12.30	3.50	8.80
Kerry	13.70	4.72	8.98
Jersey	14.34	4.78	9.56
Shorthorn	12.45	3.65	8.80
Dutch.....	12.40	3.75	8.65

The milk from different herds of the same breed differs quite widely, however, and the figures given are therefore only approximate. Milk from individual cows shows much greater variations in composition than the mixed milk of herds. It occasionally happens that a cow will be found to give milk containing considerably less milk solids than is required by law. Leach (Massachusetts state board of health report, 1904) reports a Holstein cow which gave milk containing but 10.45 per cent. solids and 2.60 per cent. fat. Such an animal is not suitable for the production of market milk, and should be discarded.

There is a slight seasonal variation in the composition of milk, that produced during the months of November, December and January being the richest, and that in May, June and July the poorest. Milk from the same herd may vary as much as 0.5 per total solids at different seasons. If cows are milked at intervals of twelve hours variations between the compositions of morning's and evening's milk exist, but are not great. If the intervals between milkings is not uniform, the variations in composition may be considerable. There is a widely-disseminated belief among milk producers that the quality of milk can be materially changed by altering quantity or quality of feed given to the cows. Careful investigations by numerous observers fail to confirm this belief, but, on the contrary, prove that while small variations can be temporarily produced by changing feed, yet the effect of such change is evanescent, and the milk within a short period returns to its normal condition. It may be stated with considerable certainty that the quality of milk given by a cow depends almost entirely on her breed and individual characteristics, and not on the way she is fed, provided that the amount of food given is not greatly below that needed to keep her from losing weight.

3. Bacterial Content of Milk.—Bacteria get into milk whenever it is exposed to the atmosphere or comes in contact with vessels containing them. By far the most serious and important exposure occurs in the cow stable at the time of milking. When taken to a creamery a second exposure occurs, due to mixing and to transferring into other cans or bottles. If bottled, no more bacteria can gain entrance until the milk reaches the consumer. If sold in bulk, still further opportunities are offered for their entrance during distribution. Exposure at the time of milking is the most important, because usually more bacteria get into the milk at this time than at any other, and also because more time elapses before the milk reaches the consumer, and therefore those organisms which gain entrance have more opportunity to multiply. It is impossible to avoid altogether the introduction of bacteria during milking, but if proper precautions are taken, the number introduced may be kept relatively small. In the stable bacteria get into the milk (1) from the teat, udder and body of the cow, (2) from the hands and clothing of the milker, (3) with dust which may be floating in the atmosphere, (4) with particles of excrement or litter which fall into the milker's pail, and (5) from the vessels used to receive the milk. These are the principal channels of infection. The number of bacteria derived from the teat, udder and body of the cow can be greatly reduced, if not entirely eliminated, by the simple expedient of keeping the cow clean. Just before milking, the cow should be thoroughly groomed, the udder washed with slightly warmed water and dried with a clean cloth. The flanks and entire under surface of the animal should be slightly moistened just before milking. This prevents material from dropping into the milk. It seems almost superfluous to state that the milker should have clean hands, yet experience has shown that this caution is very necessary.

Milking should always be done with the hands dry. The filthy habit of moisten-

ing the hands with milk at the beginning of the operation and allowing all the dirt loosened from the hands and teats to run into the milk pail is a fruitful source of contamination. It is very desirable that the milker should wear clean (bacterially clean) clothing, and especially a clean cap. The heads of most milkers come in contact with the flanks of the cow when milking. This should be avoided, as the friction inevitably causes particles, both from the cow and the milker, to drop into the milk pail. Dust may be avoided (a proper stable construction being presupposed) by keeping dry feed and litter out of the barn at milking time, by milking in a small building kept for the purpose (a commendable plan), and by dampening the walls and floor before milking. Inasmuch as the amount of dust and extraneous matter getting into the milk depends upon the surface exposed, its amount can be much reduced by reducing the diameter of the aperture through which the milk enters. There are several satisfactory milk pails on the market having small openings, the best of them being provided with cloth or metal strainers, through which the milk must pass. As ordinarily cleaned by farmers, the pails and cans which receive the milk are far from being sterile. A marked diminution in the number of bacteria invariably occurs when the vessels are sterilized instead of being simply washed and hung on the nearest fence to dry, and incidentally to collect a considerable amount of dust on windy days. Satisfactory sterilization can hardly be accomplished by the ordinary farmer, as a rather expensive equipment is required. He can, however, boil these utensils thoroughly in weak soda solution, rinse them with boiled water and store them in a place free from dust. It is especially necessary that the water used for rinsing be pure. When possible boiled water should always be used. The results of numerous analyses made during the past two years show that a great many farm wells in New Jersey are polluted, the water from them being quite unfit for potable uses by reason of the house or barn drainage, which contaminates them. Such wells are constantly exposed to infection by some of the specific organisms of the water-borne diseases, especially typhoid, and numerous epidemics of this disease have been due to water of this character finding its way into the milk.

4. Action of Bacteria on Milk.—*Lactic Fermentation.*—Milk being a food, and therefore capable of digestion, has the property possessed by most foods of being readily altered in composition by the effects of bacterial action. Inasmuch as milk contains all the elements necessary for nutrition, a large amount of water, and is approximately neutral in reaction, it forms an excellent abulum for almost all bacteria. Many of these grow in it with extraordinary rapidity, and, as a result of such growth, produce changes in its composition. These changes may be of various kinds, depending on the preponderating varieties of bacteria present. The commonest is the so-called "lactic fermentation." This is the ordinary fermentation which takes place when milk is exposed to the air and kept at not too low a temperature. Lactic bacteria decompose the sugar normally present in milk, forming therefrom lactic acid and other products. This causes the milk to become "sour." When the lactic acid reaches a certain concentration, the milk curdles and separates into a more or less firmly clotted curd, and a thin, watery, almost transparent whey. The curd contains the casein and fat, the whey the remainder of the milk sugar—small amounts of albuminous substances and mineral matter. Lactic fermentation goes on best in the presence of oxygen and at temperatures between 50° F. and 100° F. It may be produced by a great number of different species of bacteria, over one hundred varieties having been found to cause it.

Butyric Fermentation.—If milk is kept in full, tightly closed vessels at a somewhat

elevated temperature, another type of fermentation sometimes follows the lactic, producing butyric acid. This fermentation is due to a group of bacteria which grow best at temperatures near that of the human body, and in the absence of oxygen. These produce spores which are capable of resisting the temperature of boiling water for a short time; they may, therefore, multiply and produce the characteristic changes due to their growth in milk that has been heated to boiling.

Putrefactive Fermentation.—Occasionally milk instead of becoming sour acquires an alkaline reaction, and either clots into a gelatinous mass which afterwards dissolves to an approximately clear liquid, or else gradually loses its whiteness and opacity without clotting. These changes are attended by the production of nauseous tastes and odors which render the milk entirely unfit for food and sometimes extremely dangerous if ingested.

These are the most important types of fermentation in milk due to bacterial action. Others occasionally occur, resulting in the production of alcohol, or ropy milk, slimy milk, soapy milk, bitter milk, etc. While these may cause considerable trouble at times in isolated cases, they are by no means of such universal occurrence as the first three kinds.

Bacteria do not occur in milk at the moment of its secretion in the udder of the healthy cow and are found only in small numbers in the milk cistern. These bacteria occurring in the cistern are not usually those which produce changes in the milk after it leaves the body of the cow. If the milk could be taken from the cow without exposure to air directly into vessels which contained no bacteria, it would keep for long periods of time. This is quite impossible on a commercial scale; as has been previously shown, bacteria, in considerable numbers, inevitably gain entrance during the ordinary process of milking and grow and produce the characteristic changes due to such growth. The numbers of bacteria present in freshly drawn milk vary very widely, depending on the care taken during milking, the condition of the cows and stable, and the bacterial content of the milk cistern of the cow itself. Occasionally milk may be obtained which contains no bacteria at all, although such an occurrence is extremely infrequent. If conditions are bad, the initial content of the milk may amount to several hundred thousand bacteria per cubic centimeter. Under ordinarily favorable conditions the number in freshly drawn milk will vary between five hundred and twenty thousand per cubic centimeter. The length of time during which milk will keep (that is, the length of time which must elapse before sufficient number of bacteria will grow to produce perceptible changes) is a function of two factors, temperature and the initial number of bacteria present. It has been repeatedly shown that milk can be regularly produced by commercial methods, which will contain less than five thousand bacteria per cubic centimeter when drawn. On the other hand, milk carelessly produced in improper surroundings may contain a hundred times this number. It is obvious that milk of this latter sort will change much more rapidly than if the minimum number of bacteria were present. But no matter how few bacteria are present in milk, there are always more than enough to start fermentation if favorable conditions exist. As has already been stated, the bacteria which cause milk to sour grow best at somewhat elevated temperatures; if, therefore, milked is cooled immediately after being drawn, and kept cool, the bacteria present will multiply but slowly and fermentation will be delayed. If it is allowed to remain warm, the bacteria will grow rapidly and souring will quickly ensue. The great difference in rapidity of growth of bacteria in milk at different temperatures is well shown by an experiment made by Park, the results of which are set forth in the following table:

TABLE SHOWING GROWTH OF BACTERIA IN CLEAN AND UNCLEAN MILK.¹

Temperature.	Time which elapsed before making the test.			
	24 hours.	48 hours.	96 hours.	168 hours.
32° F.....	2,400	2,100	1,850	1,400
	30,000	27,000	24,000	19,000
39° F.....	2,500	3,600	218,000	4,200,000
	38,000	56,000	4,300,000	38,000,000
42° F.....	2,600	3,600	500,000	
	43,000	210,000	5,760,000	
46° F.....	3,100	12,000	1,480,000	
	42,000	360,000	12,200,000	
50° F.....	11,600	540,000		
	89,000	1,940,000		
55° F.....	18,800	3,400,000		
	187,000	38,000,000		
60° F.....	180,000	28,000,000		
	900,000	168,000,000		
68° F.....	450,000	25,000,000,000		
	4,000,000	25,000,000,000		
86° F.....	1,400,000,000			
	14,000,000,000			
94° F.....	25,000,000,000			
	25,000,000,000			

An inspection of the table will show that in the specimens kept at 32° F. there was an actual diminution in the number of bacteria, the samples at the end of 168 hours containing fewer bacteria than at the beginning of the test. The rate of increase became very rapid as the temperature approached 60° F., and was enormous at 94° F., the numbers reaching 25,000,000,000 in one day. It is well known that milk kept at this temperature will usually curdle within twenty-four hours. The fundamental importance of refrigerating milk as soon as drawn is clearly shown. No matter how satisfactory in other respects the conditions under which it is produced may be, no good results will be obtained unless cooling is immediate and thorough and the milk is kept cold until it is consumed. When milk must be kept for from twenty-four to forty-eight hours, as is frequently the case when it is shipped from a distance to large cities, it should be cooled to a temperature below 40° F. and kept at that temperature until delivered.

5. Relation Between Temperature and the Growth of Bacteria. Many people find it difficult to realize the extraordinary difference which exists as regards keeping quality between clean milk, properly cooled, and dirty milk, badly cooled, or not cooled at all. The latter kind will often sour within twenty-four hours from the time it was drawn, sometimes even in a shorter time if the weather is warm; the other kind has been known to keep sweet for six weeks or more. Such a result as this latter can, however, be obtained only by the exercise of an amount of care and skill that would be impracticable to demand in places where milk is produced on a commercial scale.

¹ The first of these samples was drawn and cared for in the best possible manner (results in ordinary type), the second was ordinary market milk (results in heavy-face type). When received the first specimen contained 3,000 bacteria per cubic centimeter, the second 30,000.

The use of low temperatures and cleanliness have been briefly discussed with relation to their effect on the keeping qualities of milk. It now remains to consider two other methods for enhancing this quality which are in more or less general use. One is by the use of chemical preservatives, such as boric acid, formaldehyde, &c., which, by their poisonous action on the bacteria present, prevent or delay fermentation. The use of these materials must be unqualifiedly condemned. It is illegal, unscientific and entirely unnecessary, and the only thing which recommends it is its cheapness. Ice is much more costly than formaldehyde. While the evidence as to the actual harmfulness of preservatives is somewhat conflicting, the weight of opinion inclines to the belief that they are harmful, especially to the sick and to infants, to whom they are most likely to be given. The use of a preservative in milk is a confession on the part of the user that he is too ignorant, too lazy or too penurious to take proper care of his milk.

6. Pasteurization. The practice of pasteurizing milk to delay souring is on the increase. This consists in heating milk to a temperature sufficient to kill most of the non-sporulating bacteria, but not high enough to noticeably affect its taste or odor. It is a useful and sometimes necessary operation when performed on milk intended for infant feeding *if the milk is used within twenty-four hours thereafter*. It is also useful in the preparation of cream for butter-making. It is neither necessary nor desirable for market milk. No pasteurization, sterilization or any other process can restore milk which has deteriorated as the result of bacterial action to its original condition of purity and wholesomeness. The bacteria may indeed be killed, but their products remain. By no means all of the bacteria in milk are killed by pasteurization. Those which form spores resist the highest temperatures which can safely be used. The complete sterilization of milk is attended with great difficulty, and milk so sterilized is so changed in taste, odor and appearance as to be unpalatable. Pasteurization merely kills those bacteria which do not sporulate, and therefore cannot resist a temperature much over 140° F. In this group are included the lactic acid bacteria which cause milk to sour. These bacteria, acting as they do, are in a sense really beneficial. Conn and others have found that in milk which undergoes the normal lactic fermentation the bacteria present other than lactic acid bacteria quickly diminished in number and practically disappear in a short time, being overgrown and for the most part ultimately destroyed by the lactic bacteria. By the time this has occurred the milk is sour and curdled, but not, as a rule, unhealthful, being eaten in this condition constantly by many people, with no ill effects. If, however, the lactic organisms are destroyed by pasteurization, the sporulating bacteria which produce alkaline fermentations, not hampered by the increasing acidity as in raw milk, develop, slowly at first, then more rapidly, and as a result the milk, instead of souring, putrefies and becomes entirely unfit for human consumption. It may even become extremely poisonous. Pasteurized milk should therefore be used within a short time after heating. The pasteurization of milk at creameries cannot be commended. It is never necessary when milk is properly drawn and handled, and is therefore good evidence that the milk so treated was not clean milk in the beginning. It is also objectionable, as a deception is practiced on the customer who thinks he is getting the clean raw milk which he is paying for.

7. The Water-Supply of Dairies. No water which is obtained from surface wells located in the immediate vicinity of dwellings, outbuildings, or other known sources of pollution, should be used on dairy premises, and every such well should be filled with clean earth and its use should be abandoned. No well which

has become contaminated because of the pollution of the soil of the locality can be made safe by cleaning. The removal of the water by rapid pumping and the excavation of a quantity of sand and gravel from the bottom of the well only permits the more ready entrance of water from the surrounding polluted soil. A well once contaminated by receiving its supply of water through soil which has been defiled by a leaky drain, a cesspool or a privy vault, or by waste liquids cast upon the ground surface, cannot be made safe by any process of cleaning, and the use of water from such a well may at any time be followed by an outbreak of typhoid fever, diarrhoea or one of the other water-borne diseases. The sources from which the water-supply of springs is drawn should be most carefully studied before they are depended upon for supplying the dairy, and a chemical and bacteriological analysis of the water of the spring should show that no traces of hidden sources of pollution exist. In many parts of the dairying sections of New Jersey spring water of undoubted purity is available and abundant, and the dairyman can provide no better security against disastrous interruptions to his business, nor any more effectual defence of the health of the consumers of the milk sold by him, than by conducting pure water, by aid of a wind mill or other power if necessary, from spring, artesian well or surface well safely located, to convenient points in and about his milk-room, cattle barns, dwelling, &c. In portions of the State where springs do not abound, good water may often be obtained by the drilling of artesian well (wells in which the water rises to the surface of the ground and overflows). If surface wells (those which are dug or driven) are used, they should be located at least three hundred feet from any known or apparent source of soil pollution, and if possible they should be located on elevated ground.

8. Cow Stables. Cow stables should be well lighted and well ventilated. The ceilings and side walls should be smooth and dust-tight, and be free from ledges and projections upon which dust may lodge. The air space allowed for each animal should not be less than eight hundred cubic feet. The floor should be water-tight and the floor of the stalls should be graded to permit fluids to flow away from the animals. Mudholes in the barnyard and pastures should be filled. Excreta should be removed from the stable building at least as often as once in each day, and it should not be deposited near the building nor in the enclosed yard in which the cows are allowed to take exercise, sun and air. The interior of the stable should be kept clean and free from all accumulations.

Facilities should be provided to enable the milkers to wash their hands and put on clean outer garments.

9. Care of the Cows. The health of the cows should be carefully guarded, and they should be curried and brushed daily to prevent hair, dust and dried excreta from falling into the milk. The udders and teats should be made clean before milking.

10. Cooling the Milk. Immediately after the milk is drawn from the cow it should be transferred to the containers in which it is to be sent to market, and be cooled to 50° F. or below. The cooling process should be conducted in a manner which will not expose the milk to contamination. Observation has shown that when uncovered forty-quart cans, containing milk, are placed in ice-water vats, the vat water frequently splatters or slops over into the milk cans, and as the vat water is invariably unclean, often filthy, this source of contamination is capable of rendering the milk unsafe for consumption. If the milk is cooled by passing it over pipes or surfaces containing ice water, this operation should only be performed in a tightly

closed apartment which is kept scrupulously clean and which is used for no other purpose. The floor of such rooms should be kept wet when the milk is being cooled and no persons except the necessary employes should be permitted to enter it.

11. **Milk Tickets.** The use of milk tickets is objectionable, because they are often deposited in the pitcher or pail belonging to the customer, and as they are sold repeatedly, and are therefore passed through many hands, they become germ-laden vehicles for the transmission of such diseases as they may chance to carry.

12. **Infected Milk Bottles.** Milk bottles which are delivered to families where scarlet fever, typhoid fever or any other disease which may be transmitted through the medium of milk prevails, should not be returned directly to the milk dealer, but they should be delivered to the local health officer, and he should cause them to be effectually cleansed before they are again used for distributing milk.

13. **Protection of the Milk.** The outer garments of the persons who do the milking should be clean, preferably white; the milker's hands should be clean; the milk should be received in a clean pail through a cloth strainer, over a small opening in the cover of the pail; care should be taken to avoid stirring up dust before milking; the containers into which the milk is placed for storage or transportation should be tightly covered to prevent the admission of dust; the pail, strainers and all utensils and containers should be sterilized before use by being immersed in boiling water for at least thirty minutes, or by exposure to a temperature of not less than 240° F. for not less than thirty minutes in a suitable steam sterilizer; the milk should be transferred at once after milking to the bottles or cans in which it is to be sent to market, and the cooling process (see paragraph 10) should be rapid; the occurrence of a case of typhoid fever, scarlet fever or diphtheria on the dairy premises should be at once reported to the local health board, and the patient and all infected persons should be removed from any possible contact with the milk.

14. **Creameries.** Creameries, as they are generally conducted in New Jersey, are buildings in which milk is received from producers who have herds in the vicinity of the establishments, for distribution to dealers and retailers in distant localities. In some instances the milk is manufactured into butter, and in nearly all of these establishments some portions of the milk is passed through a separator. It is essential to the safety of the consumers of the milk and cream that every step in the manipulations of the milk shall be conducted in a manner which will prevent its defilement by dust and by contact with unclean surfaces.

The conditions on creamery premises should at least meet the following minimum requirements:

I. The site of the creamery building should be dry, and the surroundings should be clean and free from all refuse accumulations. Creamery buildings should not be located near any stable, chicken yard, hog pen or slaughter-house, and no open privy vault, or other receptacle for filth should be allowed near said buildings. If cesspools are necessary, they should be screened to prevent the entrance and exit of flies. Waste fluids from creamery premises should be conducted through sub-surface drains, and finally disposed of in a manner which will create no nuisance.

II. No portion of a creamery building should be used as a dwelling.

III. If the creamery is provided with a cellar, this apartment should be well lighted and ventilated, and it should be kept scrupulously clean and dry.

IV. The floors of all rooms in which the milk is handled should be covered with asphalt or other material impervious to water, and the surfaces should be graded to permit quick escape of waste fluids into a properly-constructed drain.

V. The surfaces of the side walls and the ceiling of all rooms in which milk is handled should be smooth and be free from ledges, projections or crevices which will afford lodgment for cobwebs and dust.

VI. The milk should, when practicable, be elevated when it is received, and before it is transferred from the dairyman's cans to receptacles provided by the creamery, to a sufficient height to permit it to flow by gravity through open channels to the separator, cooling apparatus, cans or bottles, &c. If pumps and closed pipes are used in conveying milk, they should be so constructed that every portion of their interior surfaces will be accessible for cleaning. All pipes used for this purpose should be at least two inches in internal diameter, and they should be in short lengths and be placed in the sterilizing chamber for thirty minutes before use.

VII. Every creamery should be equipped with a steam sterilizing chamber large enough to receive all cans, bottles and utensils used in handling the milk, and all such containers and utensils, after thorough washing, should be exposed to live steam at a temperature of at least 240° for not less than thirty minutes before use.

VIII. No measuring rod or other instrument should be put into the milk unless such rod or instrument has been sterilized before use.

IX. The water used in creameries should be pure and wholesome.

X. Every portion of the creamery building and premises should be kept clean and free from dust, cobwebs and accumulations.

XI. The employes should be neat in their habits; their outside garments should be white and clean, and warm water, soap and clean towels should be provided to permit convenient washing of hands.

XII. The temperature of milk held for sale or shipment should not be above 50°.

XIII. No cats, dogs, fowls or other domestic animals should be kept or allowed in or about creamery buildings.

15. STATUTES GOVERNING THE SALE OF MILK.

An Act to provide for the licensing and regulating of milk dealers and their agents in cities, incorporated boroughs, or police, sanitary and improvement commissions, and incorporated camp-meeting associations or seaside resorts.

(Approved March 10th, 1882—Gen. Stat., p. 2235)

1. That it shall be lawful for the common council, board of aldermen or other governing body of any city, incorporated borough, police, sanitary or improvement commission, incorporated camp-meeting association or seaside resort, to provide for the appointing of a milk inspector or of milk inspectors for their respective municipal corporations, to prescribe their duties and to fix their salaries, and further to provide for the licensing and regulating of all persons engaged, either as principals or as agents, in the sale of milk within their respective corporate limits, and to require as a prerequisite to engaging in such business a yearly license fee, to be paid by the person, firm or corporation conducting said business.

2. That each license shall allow the person, firm or corporation licensed, or his or their agent or agents named in such license, to sell milk within the corporate limits of the municipal corporation granting the license from one store or stand, from one cart or wagon, or from one pail or other receptacle carried in the hand; *provided*,

that nothing herein contained shall limit the number of licenses which may be granted to any person, firm or corporation.

3. That the aforesaid municipal corporations shall have power to fix and establish fines and penalties, not exceeding fifty dollars for each offense, for the selling of milk without a license, and for the violation of any rule, regulation or ordinance established for the regulating of the sale of milk within their respective corporate limits; and that such fines and penalties shall be recovered as other fines and penalties are or may be recovered in the respective municipal corporations.

4. That at least two-thirds of the sum collected in any municipal corporation in one year from milk license fees shall in that year be expended in paying the salaries and expenses of a competent inspector or competent inspectors of milk for said municipal corporation.

5. That it shall be the duty of each inspector, in addition to the duties imposed upon him by the municipal corporation appointing him, to keep a complete record of all his daily doings and proceedings as inspector, giving a full account of each inspection or examination of milk made by him, including the name of the person, firm or corporation owning or claiming to own the milk inspected, the names of the agents in charge, the place and manner in which the said milk was offered for sale, together with the results of each test and analysis; that said records shall be the property of the respective municipal corporations and shall at all times be subject to their control.

6. That it shall be the duty of each inspector to make complaint against all persons discovered by him in the violation of any rule, regulation or ordinance which may be passed in conformity to the provisions of this act.

7. That each inspector appointed by a municipal corporation shall have the same power, authority, rights and privileges, and shall perform the same duties within the corporate limits of the municipal corporation for which he is appointed as are now or may hereafter be possessed and performed by the state inspector of milk; *provided* that all penalties collected in any suit instituted by him under the laws of this state governing and regulating the adulteration of milk and the sale of milk, shall be paid into the treasury of the municipal corporation for which he acts, and the expense of such suits shall be borne by said municipal corporation.

8. That no person twice convicted of knowingly violating the state law governing the sale of milk or the adulterating of milk, shall, for the space of two years, be allowed to conduct or be engaged in the business of selling milk within any municipal corporation in this state; that his license, if he have one, shall be void, and no new license shall be granted to him for the space of two years.

9. That all other acts and parts of acts authorizing the imposition of a license fee upon any person engaged in the milk business, and all acts and parts of acts inconsistent with this act, be and the same are hereby repealed.

An act to prohibit the sale of adulterated and skimmed milk in cities of this state.

(Approved March 23d, 1883—Gen. Stat., p. 1174.)

1. That no milk which has been watered, adulterated, or changed in any respect by the addition of water, or other substance, or by removal of cream, or any part thereof, shall be kept or offered for sale in any city of the first class in this state.

2. That any person who shall violate any of the provisions of this act shall be

liable to a penalty of fifty dollars for the first offense and one hundred dollars for a second or subsequent offense, and that such penalties shall be recovered upon like evidence by like procedure, and in the same method now provided for the collection of fines and penalties, under the act entitled "An act to prevent the adulteration and to regulate the sale of milk," approved March fourteenth, one thousand eight hundred and eighty-two.

Supplement to 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 April 23d, 1897—P. L. 1897, p. 270.)

1. Any local board of health organized or created under the provisions of the act to which this is a supplement, in addition to the powers already possessed, shall have power to adopt and alter ordinances prohibiting the sale of or having in possession for sale, any milk containing any unhealthy ingredient, constituent or substance, or which has been transported or stored in an unclean manner or place, or which is produced from cows which are diseased or which are kept or stabled under unhealthy conditions.

2. Said local boards of health are further empowered to adopt and alter ordinances requiring any person or persons engaged in the sale of milk within the municipalities in which such boards of health are organized, to furnish forthwith when so requested by said boards of health, or any inspector or officer thereof, a true statement in writing, upon blanks to be supplied by said boards of health, setting forth the locality from which said milk was procured, and also a full and complete lists of the names of persons from whom said milk was purchased, and the names and addresses of all customers or persons to whom he or they may sell or deliver milk in any city, borough or other municipality in which said board of health may be organized, and said blanks, when filled in as aforesaid, shall be signed by the person selling said milk to whom the said blank shall be tendered; and said ordinance may require the person or persons engaged in the sale of milk as aforesaid, to notify, in writing, said board of health immediately upon changing the source of supply of said milk of such change, and said notice shall also state the name or names of persons supplying said milk and the locality from which such milk is procured.

3. Said boards of health are further empowered to prescribe a penalty for the violation of the ordinances aforesaid of not less than ten dollars nor more than one hundred dollars, which shall be collected in the same manner as provided for by the act to which this is a supplement.

Supplement to 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 April 21st, 1898—P. L. 1898, p. 428.)

1. When the state board of health, or any officer thereof duly authorized in writing by such board to act for or on its behalf, shall have reason to believe that any milk has been contaminated by the emanations, exhalations or discharges of any persons sick with communicable disease, it shall be lawful for the said state board of health, or the officer so authorized to act in the premises, to issue an order in writing,

signed by any officer of the state board of health, or by the officer authorized to act in the premises as aforesaid, prohibiting the transportation or sale of any milk suspected to be contaminated as aforesaid, and also prohibiting the transportation or sale of any milk which may be produced, stored, kept or found upon any premises infected by such disease; every person upon whom any such order may be served shall be bound by such prohibition, and the prohibition shall continue until the state board of health, or the officer authorized to act in the premises as aforesaid, shall have had opportunity to examine into the matter of suspected contamination and shall have removed the prohibition by another order in writing, signed by any officer of the state board of health, or by the officer authorized to act in the premises as aforesaid; any person or persons who shall knowingly transport or sell any milk, the sale and transportation of which has been prohibited as aforesaid, shall be liable to a penalty of one hundred dollars, to be recovered by the state board of health in an action upon contract in any court of record within this state, the money so recovered to be applied by the state board of health to any purpose for which it may be legally authorized to expend money.

Supplement.

(Approved May 16th, 1893—Gen. Stat., p. 53.)

1. That the local board of health of any city of this state shall by ordinance require, from time to time, a registry of all cattle kept within the limits of said city, which registry shall state the place of keeping, the number in each case kept, and the number of these intended, or used, as milch cows; and it shall be the duty of the owner of any such cattle to make registry thereof at the time, place and in the manner that the board of health of said city may direct, under a penalty not exceeding fifty dollars for any neglect of the same; *provided*, that no such registry shall be made by any board of health until after the examination of the stables and place in which said cattle are kept, and until it is known to the satisfaction of said board that they are in good sanitary condition.

2. That whenever any local board of health of any city shall have reason to suspect the existence of any contagious disease among cattle, or such as may be a risk or danger to the food or milk-supply, or whenever they may deem it necessary, in order to prevent the occurrence of such risk or danger, they shall order the inspection of all cattle that are kept or intended for meat or milk production, by a competent veterinarian chosen by them, and may for such inspection require so much payment for such service as may be necessary for the expenses attending such inspection; *it being, however, provided*, that in no case shall the amount charged exceed fifty cents a head per year for dairies of ten cows or under, and for all dairies above ten cows, twenty-five cents per head per year; *provided further*, that no charge shall be made against anyone keeping a single cow for family use.

3. That whenever any local board of health, or any veterinary inspector appointed by said board shall find or suspect any disease in any cow, or in any herd of milk-producing cattle, which may prove harmful to the meat or milk-supply, the state board of health and the state dairy commissioner shall be notified, and it shall be the duty of the dairy commissioner to investigate the same, and he shall prohibit the sale or use of the milk from any such milch cow, but he, or the owner of said milch cow may ask, through the state board of health, a report from some veterinarian appointed by the state board of health as to whether, or how long, it will be neces-

sary to continue the prohibition of the use of said milk, and the dairy commissioner or the state board of health may prohibit the use of said milk or of meat of any animal declared by a veterinarian of the state board to be unfit for use.

An act to secure the purity of foods, beverages, confectionery, condiments, drugs and medicines, and to prevent deception in the distribution and sales thereof.

(Approved March 21st, 1901.)

BE IT ENACTED by the Senate and General Assembly of the State of New Jersey:

* * * * *
 3. (As amended April 12th, 1905.) The following foods shall be deemed to be impure within the meaning of this act: (1) any food which is rendered poisonous or injurious to health, or whose quality, strength or degree of purity is injuriously reduced, lowered or affected by adding thereto or mixing therewith any other substance or substances; (2) any food for any of whose constituents there have been substituted any substance or substances inferior to or cheaper than the constituents naturally or customarily composing such food or any part thereof; (3) any food from which has been wholly or partially abstracted any valuable or necessary constituent; (4) any food which consists wholly or in part of diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance, whether manufactured or not, and (5) in the case of milk, if it contains more than eighty-eight per centum of watery fluids or less than twelve per centum of milk solids, or if any water, drug, chemical, preservative or other substance be added thereto or mixed therewith, and (6) in the case of cream, if it contain less than sixteen per centum of butter fat, or if any package containing cream having less than sixteen per centum of butter fat is not plainly and legibly so marked, or if any water, drug, chemical, preservative or other substance be added thereto or mixed therewith; no person shall kill or aid in killing for human food any calf less than three weeks old, or sell or offer for sale, or have in possession with intent to sell, for human food, any such calf or any of the meat thereof.

* * * * *
 7. No person shall keep cows for the production of milk in a crowded or unhealthy place or condition, or feed any cow kept for the production of milk on swill, or any substance in a state of putrefaction or rotteness, or on any substance of an unwholesome nature, or on any food or substance that may produce diseased or unwholesome milk; and no person shall distribute or sell, or offer to distribute or sell, or have in his possession with intent to distribute or sell, any milk which is the produce of cows so kept or fed.

8. No person having the possession or care of any milk shall permit it to be exposed to, or contaminated by, the emanations, discharges or exhalations from any person or persons sick with any contagious disease; and no person shall distribute or sell, or offer to distribute or sell, or have in his possession with intent to distribute or sell, any milk which has been so exposed or contaminated.

9. No person shall sell, or offer or expose for sale, or have in his possession for the purpose of sale, any milk from which the cream or any part thereof has been removed, unless every can, vessel or package containing such milk shall have a metal label or tag of metal distinctly, durably and permanently soldered in a conspicuous place upon the outside and not more than six inches from the top thereof, with the words "skimmed milk" stamped, indented or engraved on the label or tag in letters not

less than two inches in height, and the several lines of which shall be not less than three-eighths of an inch in width; *provided, however,* that every glass bottle, in lieu of such label or tag, may have blown in it the words "skimmed milk" in letters which shall not be less than one inch in height, and the several lines of which shall be not less than one-eighth of an inch in width; such milk shall only be sold or shipped in or retailed out of a can, bottle, vessel or package so marked.

* * * * *

A further supplement to an act 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 thirty-first, one thousand eight hundred and eighty-seven.

(Approved March 28th, 1904.)

BE IT ENACTED by the Senate and General Assembly of the State of New Jersey:

1. Whenever any person shall keep cows for the production of milk in a crowded or unhealthy place or condition, or feed any cows kept for the production of milk on swill or any substance in a state of putrefaction or rottenness, or on any substance of an unwholesome nature, or on any substance that may produce disease or unwholesome milk; or who shall sell or distribute, or offer to sell or distribute, or have in possession with intent to sell or distribute any milk which is the produce of cows so kept or fed, then it shall be lawful for the state board of health to file a bill in the court of chancery in the name of the state, on the relation of such board, for an injunction to prohibit the keeping of cows for the production of milk in such crowded or unhealthy place or condition, or the feeding of cows on swill or any substance in a state of putrefaction or rottenness, or any substance of an unwholesome nature, or on any food or substance that may produce disease or unwholesome milk, or the continuance of the sale, distribution or transportation of such milk, as the case may be, and for such other or further relief in the premises as the court of chancery shall deem proper.

2. This act shall take effect immediately.

A supplement to an act entitled "An act to secure the purity of foods, beverages, confectionery, condiments, drugs and medicines, and to prevent deception in the distribution and sales thereof," approved March twenty-first, one thousand nine hundred and one.

(Approved March 30th, 1904.)

BE IT ENACTED by the Senate and General Assembly of the State of New Jersey:

1. It shall be the duty of any person, persons or corporation to whom milk is shipped by any person in this state, before returning to such shipper the can or vessel used for transporting such milk, to remove all milk from such can or vessel and to thoroughly rinse such can or vessel with pure water or to cause the same to be done; and it shall be the duty of any person, persons or corporation shipping milk to any point or points within or without this state to thoroughly cleanse, or cause to be cleansed, the can or vessel used for transporting such milk before the milk is placed therein.

2. Whenever any person, persons or corporation shall violate any of the provisions of the first section of this act, such person, persons or corporation shall be

liable to a penalty of twenty-five dollars, which shall be recovered in the same manner and in any court or before any magistrate that any penalty is recoverable under the provisions of the act to which this is a supplement.

3. This act shall take effect immediately.

A further supplement to an act entitled "An act to secure the purity of foods, beverages, confectionery, condiments, drugs and medicines, and to prevent deception in the distribution and sales thereof," approved March twenty-first, one thousand nine hundred and one.

(Approved April 20th, 1906.)

BE IT ENACTED by the Senate and General Assembly of the State of New Jersey:

1. No person or persons, firm or corporation, buying or receiving milk or cream for the purpose of selling the same as such, or for manufacturing the same into butter, cheese, condensed milk or other food for human beings, shall place, keep or store the same in any vat, tank, can, bottle, vessel, utensil or other receptacle which is unclean, and every building or structure in which milk or cream is received, and which milk or cream is intended for sale, shall be provided with an abundant supply of pure and wholesome water, and shall be provided with adequate facilities for the cleansing of all receptacles and utensils employed in handling milk or cream. The interior surfaces of the walls and ceilings of all such buildings and structures shall be smooth and be kept free from dust. The floors of all rooms in such buildings in which milk is received or kept or handled shall be impervious to water, and the surfaces shall be so graded that waste fluids will flow into a water-tight drain, and be finally disposed of in a manner which will not create a nuisance. No portion of any creamery building shall be used as a dwelling nor as a laundry or kitchen.

2. No person or persons, firm or corporation shall operate or conduct any creamery for the reception from dairymen, farmers or producers, of any milk or cream intended for sale, or for the manufacture of the same into butter, cheese, condensed milk or other food for human beings, unless a license shall first have been granted by the board of health of the State of New Jersey to the owner or owners or manager or operator of said creamery or establishment, authorizing said owner or owners or manager or operator to engage in said business of receiving, storing, handling, selling and distributing milk or cream, and said license shall be granted by the said board under such rules and regulations as the said board may from time to time adopt.

3. If any such persons, so licensed, shall violate any of the provisions of this act, or any of the rules and regulations provided for in section two of this act, he or they shall forfeit his or their license, and no new license shall be granted to the said party or parties until the requirements of this act and of the said rules and regulations shall have been complied with.

4. It shall be the duty of the state board of health to notify, in writing, the local board of health of every sanitary district in which milk or cream is sold, and which milk or cream is found to be collected, stored, transported or distributed under unclean or unwholesome conditions.

5. Any person or persons who shall operate or conduct a creamery or establishment for receiving milk or cream from dairymen or producers for distribution and sale, or for manufacturing the same into butter, cheese, condensed milk or other food for human beings, without holding a license as provided for in section two of

this act, shall be liable to a penalty of two hundred dollars, said penalty to be recovered in the same way and manner as similar penalties are recovered under the provisions of the act to which this act is a further supplement.

6. The word "creamery" as used in this act shall be construed to mean any establishment where milk is received or stored for sale or distribution by wholesale, or for the manufacture of the same into butter, cheese, condensed milk or other food for human beings.

An act to amend an act entitled "A supplement to the act entitled 'An act to secure the purity of foods, beverages, confectionery, condiments, drugs and medicines, and to prevent deception in the distribution and sales thereof,' approved March twenty-first, anno domini one thousand nine hundred and one," which said supplement was approved April fourth, one thousand nine hundred and two.

(Approved May 3d, 1906.)

BE IT ENACTED by the Senate and General Assembly of the State of New Jersey:

1. The first section of the act to which this act is an amendment is hereby amended to read as follows:

1. The twelfth section of the act to which this act is a supplement is hereby amended to read as follows:

12. Every person who shall distribute or sell, or offer for distribution or sale, or have in his possession with intent to distribute or sell, any article of food or drug, shall, on the request thereof and the tender of the value thereof by any chief or other inspector appointed under the authority of this act, deliver to such chief or other inspector so much of any such article of food or drug as said chief or other inspector may request; if such request shall not be immediately granted said chief or other inspector shall thereupon have the power to demand and take so much of any such article of food or drug as such chief or other inspector may think proper, he, at the time of said demand and taking, tendering to the person in charge of such article of food or drug what he may deem to be the reasonable value thereof; said chief or other inspector shall, at the time of the delivery to him of such article of food or drug, or of his demanding and taking the same, divide the sample so delivered or demanded and taken, in the presence of a witness, into two or more parts, and shall duly seal two of said parts each in a suitable can, vessel or package, and, at the time of taking such sample, shall tender and if accepted shall deliver one part to the person of whom the request or demand was made, with a statement in writing, signed by said chief or other inspector, that such sample is taken for the purpose of analysis; and in any prosecution of any person for the violation of any provision of this act no proof of any analysis thereof shall be given in evidence by the prosecutor unless a part of the sample shall have been sealed up and tendered, with such writing as aforesaid, to the person on whom the request or demand was made; *provided, however*, that in any prosecution for the sale of any food or drug in violation of this act, proof of the analysis of the article so sold may be given in evidence on the part of the prosecutor, notwithstanding the fact that the purchase of such article may have been made by some person other than the chief or other inspector appointed under the authority of this act, if such article so sold in violation of this act shall immediately after such sale be delivered by the person so purchasing said article to the chief or any other inspector appointed under the authority of this

act, and said chief or other inspector shall, upon such delivery to him, in the presence of a witness, which witness may be the person who made the said purchase, divide the said article into two or more parts and shall duly seal two of said parts, each in a suitable can, vessel or package and shall tender, and if accepted shall deliver to the person who sold the said article one part of such sample, with a statement in writing, signed by said chief or other inspector, that such sample is taken for the purpose of analysis; the chief and every other inspector appointed under the authority of this act, whenever he has reason to believe that any of the provisions of this act concerning the sale or distribution of milk or cream, or the offering or exposing of milk or cream for sale, or the having of milk or cream in possession for the purpose of sale, is being violated, shall have power to open any can, vessel or package containing such suspected milk or cream, whether the can, vessel or package be sealed or locked or not, and whether it be in transit or not; and if, upon inspection, he shall believe that such milk or cream is being distributed or sold, or had in possession with intent to distribute or sell, or offered or exposed for sale, contrary to any of the provisions of this act, he may, in the presence of one or more witnesses, take a sample thereof and seal it in a can, vessel or package, and send the sample thus inclosed and sealed for analysis to any chemist appointed under the authority of this act; he may also, in any such case, condemn such milk or cream and pour it upon the ground.

2. This act shall take effect immediately.

16. **Ordinances.**—Under authority contained in the act approved April 23d, 1897, local boards of health in some districts have adopted ordinances to prevent the sale of unwholesome milk. The following is one of the forms employed:

Sec. 1. No person shall sell or deliver or have in possession for sale any milk which has been watered or adulterated, or which contains any unhealthy ingredient, constituent or substance, or which has been transported or stored in an unclean manner, or which is produced from cows which are kept or stabled under unhealthy conditions, or which may be diseased.

Sec. 2. Any person engaged in the sale of milk shall furnish forthwith, when requested so to do by the board of health, 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 shall supply or deliver the same. Said written statement shall be signed by the person or persons selling said milk.

Sec. 3. It shall be the duty of any person or persons engaged in the sale of milk to notify the board of health 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.

Sec. 4. No milk shall be transferred from any can or other vessel to any bottle or other container in the streets or any other public place, except when said transfer shall be made to the vessels of purchasers at the time of delivery. Containers in which milk is kept for sale shall be kept covered in a manner which will exclude

dust and other impurities. No milk shall be kept for sale in a room which is used as a bedroom or as a living-room or kitchen, nor in any room adjoining the same. Before filling bottles with milk which is to be sold, said bottles shall be washed and made clean, and bottled milk shall be sold only when the bottles are filled on the dairy premises where the milk is produced or in a licensed creamery. Any person or persons or corporation who shall violate any of the provisions of sections 1, 2, 3 or 4 of this ordinance shall forfeit and pay a penalty of fifty dollars.

REPORT
OF THE
Bureau of Vital Statistics
OF THE
STATE OF NEW JERSEY
FOR THE
Year Ending December 31st, 1905.

Introduction.

In the larger municipalities it is advisable to transcribe from the original certificates of births, marriages and deaths the principal facts relating to each of these events. The following forms for these local records have been found convenient:

Record of Still-Births Occurring in....., N. J., in the Year.....

No.	Date.		Period of Utero Gestation.	Sex.	Name of Father.	Maiden Name of Mother.	Age of Mother.		Cause of Death.	How Many Previous Children.	How Many Living.	Name of Professional Attendant.	Undertaker.	Place of Burial.
	Mo.	Day.					Yr.	Mo.						

Record of Births Occurring in....., N. J., in the Year.....

No.	Date.		Name of Child.	Sex.	Name of Father.	Occupation.	Age of Father.		Mother's Maiden Name.	Age of Mother.		Number of Children.	Number Living.	Nativity of Parents.		Medical Attendant.
	Mo.	Day.					Yr.	Mo.		Yr.	Mo.			Fa.	Mo.	

Record of Marriages Occurring in....., N. J., in the Year.....

No.	Date.		HUSBAND.					WIFE.					Person Officiating.			
			Name.	Age.		Occupation.	Nativity.	Number of Marriages.	Name.	Age.		Occupation.		Nativity.	Number of Marriages.	
				Yr.	Mo.					Yr.	Mo.					

Record of Deaths Occurring in....., N. J., in the Year.....

No.	Date.		Name of Decedent.	Sex.	Age.		Place of Death (Street and Number).	Cause of Death.	Place of Burial.	Medical Attendant.	Undertaker.
	Mo.	Day.			Yr.	Mo.					

At the time this bureau was established (1878) the Secretary of State turned over from his department a number of old records of births, marriages and deaths, dating from 1848 to 1878. The records in question were in a dilapidated condition with no alphabetical arrangement and, with the exception of a few cities, were arranged by counties only. Within the past few years these records have been rebound and the deaths have been indexed from 1848 to 1867. During the coming year the indexing will be continued. From June 1st, 1878, to December 31st, 1900, the records are separated by counties and cities, and the names of decedents are indexed in alphabetical order. Beginning with the year 1901 a complete index has been made of the births, marriages and deaths in the State, and any name can be found without information as to the county or city where the event took place. The present system of arranging the certificates in alphabetical order for the entire State and binding them in books of about 500 each for convenient reference is found to be satisfactory. By this method of filing all transcribing is avoided, and searching is rendered much more rapid than by the handling of loose sheets.

The following blanks are furnished for the use of persons who desire to obtain certified copies of the records on file in the Bureau of Vital Statistics:

BOARD OF HEALTH OF THE STATE OF NEW JERSEY.
BUREAU OF VITAL STATISTICS.

Application for Certified Copy of a Certificate of Birth.

.....190

A fee of ninety cents should accompany this application, and the blank spaces below should be properly filled out.

Name of child in full.....
 Name of father.....
 Maiden name of mother.....
 Place of birth.....
 Date of birth.....
 For what purpose is certificate desired {

Name and P. O. address of applicant in full {

Make checks or postal money orders payable to the Bureau of Vital Statistics. Postage stamps will not be accepted.

BOARD OF HEALTH OF THE STATE OF NEW JERSEY.
BUREAU OF VITAL STATISTICS.

Application for Certified Copy of a Certificate of Marriage.

.....190

A fee of ninety cents should accompany this application, and the blank spaces below should be properly filled out.

Name of husband.....
 Maiden name of wife.....
 Place of marriage.....
 Date of marriage.....
 By whom solemnized.....

For what purpose is certificate desired {

Name and P. O. address of applicant in full {

Make checks or postal money orders payable to the Bureau of Vital Statistics. Postage stamps will not be accepted.

BOARD OF HEALTH OF THE STATE OF NEW JERSEY.
BUREAU OF VITAL STATISTICS.

Application for Certified Copy of a Certificate of Death.

.....190

A fee of ninety cents should accompany this application, and the blank spaces below should be properly filled out.

Name of deceased.....
 Place of death.....
 Date of death.....

For what purpose is certificate desired {

Name and P. O. address of applicant in full {

Make checks or postal money orders payable to the Bureau of Vital Statistics. Postage stamps will not be accepted.

CAUSES OF DEATH.

Following is a copy of the International nomenclature of diseases for the classification of deaths, as adopted by the Bureau of Vital Statistics of the State of New Jersey, arranged alphabetically:

Abdominal tuberculosis.....	22 C
Abdominal tumor.....	158
Abdominal typhus.....	160
Abdominal typhus.....	1
Abortion.....	116
Abscess.....	128
Abscess, acute.....	128
Abscess, cold.....	131
Abscess of frontal sinus.....	132
Abscess of the iliac fossa.....	95
Abscess of the lung.....	77 B
Abscess of the nasal fossae.....	67
Abscess, ossifluent.....	131
Abscess, retropharyngeal.....	79 A
Abscess, symptomatic.....	131
Absinthism.....	34
Absorption of purulent matter.....	14
Absorption of venom.....	131
Accidental asphyxia.....	150
Accidental asphyxia by illuminating gas.....	150
Accidental injury.....	145
Acholia.....	92
Acrodynia.....	13
Acromegaly.....	33
Acute ergotism.....	151
Acute galloping or miliary tuberculosis or phthisis.....	22 A
Acute laryngitis.....	68
Addison's disease.....	30
Adeno-phlegmon.....	128
Adenoid vegetations.....	67
Adenoma.....	64
Adynamia.....	153
Adynamic fever.....	1
Albuminuria.....	97
Alcoholic cirrhosis.....	90
Alcoholic dementia.....	34
Alcoholic hepatitis.....	90
Alcoholic intoxication.....	34
Alcoholism, acute or chronic.....	34
Algid fever.....	154 B
Amenorrhœa.....	112
Amnesia.....	52 C
Amputation.....	135
Amydalitis.....	79 A
Amyloid or fatty degeneration of the kidneys.....	97
Amyloid or fatty degeneration of the liver.....	90
Amyotrophic paralysis.....	41
Amyotrophy.....	41
Anal fissure.....	87 B
Anasarca.....	155
Anasphadias.....	137
Andromania.....	46
Anemia chlorosis.....	32
Anencephalus.....	137
Anesthesia.....	52 C
Aneurism, disease of.....	59
Aneurismal tumor.....	59
Angiectasis.....	66
Angiectopia.....	66
Angina pectoris.....	58
Anginas of every nature (except diph- theria).....	70 A
Angio-cholitis.....	92
Angioleucitis.....	63
Angioma.....	66
Ankylosis.....	134 B
Ankylostoma.....	85
Anorexia.....	154 A
Anthrax.....	16
Antimonial cholera.....	151
Anuria.....	100
Anus, abscess of the.....	87 B
Anus, artificial.....	86
Anus, fissure of the.....	87 B
Aortic disease.....	57
Aortic ectasis.....	59
Aortitis.....	59
Apepsia.....	81
Aphasia.....	52 C
Aphonia.....	68
Aphoria.....	114 C
Apoplectic dementia.....	42
Apoplexy.....	42
Appendicitis.....	95
Arrested development.....	137
Arsenal poisoning of occupations.....	36
Arteries, disease of.....	59
Arterio sclerosis.....	59
Arteritis.....	59
Articular fungosity.....	133
Arthralgia.....	134 B
Arthritis.....	28
Arthrocele.....	134 B
Arthrodnia.....	134 B
Arthropodiasis.....	134 A
Arthropodiasis.....	134 B
Ascariis lumbricoides.....	85
Ascites, Addison's disease.....	30
Ascites, dropsy.....	165
Asiatic cholera.....	11
Asphyxia, cyanosis.....	156
Asphyxia by stove.....	150
Assassination.....	152
Asthenia of adults.....	133
Asthenia of infants.....	138
Asthenic fever.....	153
Asthma.....	76
Asystole.....	57
Ataxa-dynamia.....	153
Atelectasis.....	138
Atelectasis of the lungs in adults.....	74
Atheroma.....	59
Atheroma of the lungs in adults.....	51
Athetosis.....	82
Athropsia.....	82
Atrophic muscular paralysis.....	41
Atrophic paralysis.....	41
Atrophy (infantile).....	138
Auto-intoxication.....	33
Autumnal fever.....	154 B

Bacillary abscess.....	22 E
Bacillary peritonitis.....	22 C
Bacillary tuberculosis.....	22 B
Balanitis.....	103 A
Balanoposthitis.....	103 A
Balanorrhagia.....	103 A
Basedew's disease.....	29
Bergeron's disease.....	51
Biliary calculi.....	91
Biliarylithiasis.....	91
Bite (not venomous or virulent).....	145
Bilious fever.....	154 B
Biskra's boil or button.....	127
Bladder, disease of the.....	102
Bladder, foreign body in the.....	102
Bladder, paralysis of the.....	102
Blenorrhagia (female).....	114 A
Blenorrhagia (males).....	103 A
Bones, other diseases of.....	132
Bony tumor.....	132
Brain, affections of.....	52 C
Brain, diseases caused by lead.....	35
Brain, diseases of.....	52 C
Brain fever.....	38
Brain, inflammation of.....	42
Brain, softening of.....	43
Breast, abscess of the.....	115
Breast, amputation of the.....	115
Breast, non-puerperal diseases of the (cancer excepted).....	115
Bright's disease.....	97
Bronchi, dilatation of the.....	70
Bronchial catarrh.....	70
Bronchiectasis.....	70
Bronchitis, acute.....	69
Bronchitis, capillary.....	69
Bronchitis, chronic.....	70
Bronchitis due to influenza.....	9
Broncho-alveolitis.....	69
Broncho-pneumonia.....	71
Bronchorrhagia.....	77 B
Bronchorrhea.....	70
Bubo.....	128
Bubo from absorption.....	129 A
Bubo from soft chanere.....	129 A
Bulbar paralysis.....	52 C
Bullia.....	52 C
Burning by corrosive substances.....	146 B
Burning by fire.....	146 A
Burning by vitriol.....	146 B
Cachexia of Addison's disease.....	30
Cachexia (of the aged).....	141
Cachexia of dropsy.....	153
Cæsarian section.....	118
Cancer of the anus.....	25 C
Cancer of bone.....	25 G
Cancer of the breast.....	25 E
Cancer of the cardiac portion of the stomach.....	25 B
Cancer of the colon.....	25 C
Cancer of the esophagus.....	25 B
Cancer of the face.....	25 F
Cancer of the female genital organs.....	25 D
Cancer of the intestines.....	25 C
Cancer of the jaw.....	25 A
Cancer of the kidney, bladder or pros- tate.....	25 G
Cancer of the larynx.....	25 A
Cancer of the lips, tongue, roof of the mouth or of the velum palati.....	25 A
Cancer of the liver.....	25 B
Cancer of the mouth.....	25 A
Cancer of other organs.....	25 G
Cancer of the ovary.....	25 D
Cancer of the peritoneum.....	25 G
Cancer of the pylorus.....	25 B
Cancer of rectum.....	25 C
Cancer of the skin.....	25 F
Cancer of the stomach.....	25 B
Cancer of the vagina.....	25 D
Cancer of the vulva.....	25 D
Cancer of the womb.....	25 D
Cancerous goltre.....	25 G
Cancerous peritonitis.....	25 G
Cancerous tumor or sarcoma of the neck.....	25 G
Cancerous ulcer.....	25 G
Canceroid.....	25 F
Carbuncle.....	127
Cardiac adhesion.....	55
Cardiac asthma.....	57
Cardiac cachexia.....	57
Cardiac disease.....	57
Cardialgia.....	58
Cardiectasis.....	57
Cardiomalacia.....	57
Cardiopathy.....	57
Cardio-pericarditis.....	55
Cardio-sclerosis.....	57
Cardiovascular sclerosis.....	57
Caries.....	132
Caries of the petrous portion of the tem- poral bone.....	54
Caries of the vertebrae.....	130
Carpholia.....	154 B
Caseous pneumonia.....	22 A
Castration (of females).....	113
Castration (of males).....	105
Catalepsy.....	52 C
Catalepsy.....	42
Catarrh.....	70
Catarrh of the ear.....	54
Catarrh, pituitary.....	70
Catarrh, pulmonary.....	70
Catarrh, suffocative.....	70
Catarrhal bronchitis.....	70
Catarrhal fever.....	154 B
Cellulitis.....	129 F
Cephalotripsy or embryotomy (adult female).....	118
Cerebral anemia.....	52 C
Cerebral apoplexy.....	42

Cerebral atheroma.....	42	Cutaneous hemorrhage.....	65	Emphysema.....	77 A	Funiculitis.....	105
Cerebral compression.....	52 C	Cyst of the mamma.....	115	Empyema.....	73	Furuncle.....	127
Cerebral effusion.....	42	Cystitis, acute or chronic.....	102	Encephalocele.....	137	Gall-stones.....	102
Cerebral hemorrhage.....	42	Cystocele.....	102	Encephalitis.....	38	Gangrene.....	126
Cerebral tumor.....	52 C	Cystopsis.....	102	Endocarditis.....	56	Gangrene of the lungs.....	75
Cerebro spinal meningitis.....	161	Cystorrhagia.....	102	Endopericarditis.....	56	Gangrenous erysipelas.....	125
Chancere of the mouth or face.....	24	Cystotomy.....	102	Enteritis of adults.....	83	Gastralgia.....	81
Chancere, hard or infectious.....	24	Cystotomy, tumor.....	159	Enteritosis.....	87 A	Gastric disorder.....	154 A
Chancroid.....	129 A	Cysts and other ovarian tumors.....	113	Enterotomy.....	87 A	Gastric fever.....	154 B
Charcot's disease.....	52 C	Deaf-mutism.....	54	Enterorrhagia.....	87 A	Gastritis.....	81
Chicken-pox.....	13 D	Debility (adults).....	153	Ephithelioma or epithelial tumor.....	25 F	Gastro-carcinoma.....	25 B
Childbearing, accidents of.....	123	Degeneration of the heart.....	57	Epidemic cholera.....	11	Gastro-colitis of adults.....	83
Childbirth.....	116	Delirium tremens.....	84	Epididymitis.....	105	Gastro-colitis of infants.....	82
Childbirth, accidents of.....	118	Delirium.....	160	Epilepsy.....	47	Gastro enteritis of adults.....	38
Chloroform.....	150	Dementia.....	46	Epileptiform convulsions (of adults).....	48	Gastro enteritis of infants.....	82
Chlorosis.....	32	Dentition.....	154 B	Epileptiform convulsions in pregnancy.....	121	Gastro hepatitis.....	81
Cholecystitis.....	92	Dermatitis.....	129 F	Epiplotitis.....	95	Gastrorrhagia.....	81
Cholemia.....	92	Diabetes.....	28	Epiptaxis.....	63	Gastrorrhea.....	81
Cholera infantum.....	82	Diarrhoea.....	83	Epithelioma.....	25 E	Gastrostomy.....	81
Cholera morbus.....	11	Diarrhoea of adults.....	83	Epulis.....	78	General edema.....	155
Cholera nostras.....	12	Diffuse meningo-encephalitis.....	45	Erectile tumor.....	66	General fatty or amyloid degeneration.....	33
Cholera, Asiatic.....	11	Diffuse periencephalitis.....	45	Eruptive or exanthematic fever.....	13	General paralysis.....	45
Cholerae.....	12	Diffuse phlegmon.....	123	Erysipelas.....	125	General paralysis of the insane.....	45
Choluria.....	92	Digestive system, disease of.....	94	Erythema.....	125 F	General tuberculosis.....	22 F
Chorea.....	51	Dilatation of the heart.....	57	Esophagitis.....	79 B	Genu valgum.....	134 B
Choreic dementia.....	51	Dilatation of the stomach.....	81	Esophagotomy.....	79 A	German measles.....	13
Chronic ergotism.....	37	Diphtheria and croup.....	8	Esophagus, diseases of the.....	79 B	Gingivitis.....	78
Circulatory system, other diseases of.....	66	Diphtheretic paralysis.....	8	Esophagus, foreign body in the.....	79 A	Glands.....	15
Cirrhosis of the liver.....	90	Dipsomania.....	34	Esophagus, lesion of the.....	79 B	Glottis, spasm of.....	68
Cirrhosis of the lung.....	72	Disarticulation.....	136	Esophagus, spasm of the.....	79 B	Glycosuria.....	28
Clubfoot.....	137	Dislocations.....	144 B	Esophagus, stenosis of the (cancer ex- cepted).....	79 B	Gout.....	29
Cocainism.....	37	Dissection wound.....	14	Exanthematic typhus.....	2	Gonorrhea.....	103 A
Cœnurus.....	85	Distension of ligaments.....	144 A	Execution.....	152	Gonorrheal arthritis.....	103 A
Colitis.....	83	Dothinerteritis.....	1	Exhaustion.....	153	Gonorrheal bubo.....	103 A
Collapse.....	160	Dropsy.....	155	Exomphalus.....	137	Gonorrheal cystitis.....	103 A
Colliquative fever.....	153	Drowning, accidental.....	143	Exophthalmic goitre.....	29	Gonorrheal rheumatism (males).....	103 A
Colloid tumor.....	25 B	Drunkenness.....	84	Exostosis.....	132	Gonorrheal rheumatism (females).....	114 A
Coma.....	160	Duchennes disease.....	40	Facial paralysis.....	44	Gout.....	27
Compression of the cord.....	52 C	Dupuytren's disease.....	136	Fall, accidental.....	145	Granulations (of the lungs).....	22 A
Concussion of the brain.....	145	Dysentery.....	84	Farcy.....	16	Gravel.....	101
Conflagration.....	150	Dysmenorrhœa.....	112	Fatigue.....	149 A	Grave's disease.....	29
Congenital debility.....	138	Dyspepsia.....	81	Fatty degeneration of the arteries.....	59	Great vessels, diseases of the.....	66
Congestion of the brain.....	42	Dyspnea.....	156	Fatty or amyloid degeneration of the cord.....	52 C	Grip.....	9
Congestion of the lungs.....	74	Dystocia.....	113	Fatty degeneration of the muscles.....	41	Gums, bleeding from the.....	78
Congestion of the medulla.....	52 C	Dysuria.....	102	Fecal fistulas.....	87 B	Gums, diseases of the.....	78
Conjunctivitis, gonorrhœal.....	53	Ears, diseases of.....	54	Female genital organs, diseases of.....	114 C	Hæmorrhage of the spinal cord.....	42
Constipation.....	87 A	Echinococci.....	89	Fetid bronchitis.....	75	Hæmorrhoids.....	46
Consumption.....	22 A	Eclampsia gravidarum.....	121	Firearms, wounds by.....	145	Hæmiplegia.....	137
Contracture.....	52 C	Eclampsia of infants.....	49	Flatulent colic.....	84	Hæmiplegia.....	137
Contusion.....	145	Eclampsia (non-puerperal).....	48	Foreign body in the auditory canal.....	84	Hæmiplegia.....	137
Convulsions of infants.....	49	Ecthyma.....	129 F	Foreign body in the eye.....	53	Hæmiplegia.....	137
Corrigan's disease.....	57	Ectopia.....	137	Foreign body in the frontal or other sinuses.....	48	Hæmiplegia.....	137
Coxalgia.....	133	Eczema.....	129 F	Foreign body in joint.....	134 B	Hæmiplegia.....	137
Cretinism.....	52 C	Edema of the brain.....	42	Foreign body in larynx.....	152	Hæmiplegia.....	137
Croup.....	8	Edema of the extremities.....	155	Foreign body in trachea.....	152	Hæmiplegia.....	137
Croup, false.....	68	Edema of the glottis.....	68	Fractures.....	143	Hæmiplegia.....	137
Croup, spasmodic.....	68	Edema of the lungs.....	77 B	Freezing.....	147	Hæmiplegia.....	137
Croup, stridulous.....	68	Edema of newly-born.....	138	Friedrich's disease.....	52 C	Hæmiplegia.....	137
Crushing.....	145	Elephantiasis.....	129 F			Hæmiplegia.....	137
Cryptorchidism.....	137	Elongation of the uvala.....	79 A			Hæmiplegia.....	137
		Embolism.....	60			Hæmiplegia.....	137

Hemoptysis.....	77 B	Inanition of adults.....	148 B	Leukemia.....	31	Mitral disease.....	57
Hemorrhage from the stomach.....	81	Inanition of infants.....	139	Leukocythemia.....	31	Monomania.....	46
Hemorrhages.....	65	Indian cholera.....	11	Leukemic adenitis.....	31	Monstrosity.....	137
Hemorrhoids.....	61	Indigestion.....	81	Lichen.....	129 F	Morbus cordis.....	57
Hemothorax.....	73	Infantile diarrhea.....	82	Lientery.....	83	Morphinism.....	37
Hepatic calculi.....	91	Infantile enteritis.....	82	Lightning.....	152	Mortification.....	126
Hepatic colic.....	91	Infantile paralysis.....	52 C	Lipoma.....	159	Mouth, diseases of the.....	78
Hepatic congestion.....	92	Infantile spasms.....	49	Lithoclasty.....	101	Morvan's disease.....	83
Hepatitis.....	92	Infectious fever.....	33	Lithotomy.....	102	Mucus plaques.....	24
Hepatitis, chronic.....	90	Inflammatory colic.....	83	Lithotrity.....	101	Multiple sclerosis.....	52 C
Hepatitis of newly-born.....	138	Inflammatory fever.....	154 B	Liver, organic disease of the.....	92	Mumps.....	13 C
Hepatocystitis.....	92	Influenza.....	9	Lordosis.....	132	Murder.....	152
Hercules' disease.....	47	Inhalation of noxious gases.....	150	Ludwig's disease.....	79 A	Muscular diastasis.....	136
Hernia.....	86	Insufficient food.....	149 B	Lumbago.....	136	Mycosis fungoides.....	129 F
Hernial cholera.....	86	Insanity.....	46	Lupus.....	22 D	Myelitis.....	52 C
Hernial gangrene.....	86	Insufficiency of heart.....	57	Luxation.....	144 B	Myocarditis.....	56
Herpes.....	129 F	Intermittent fever.....	19	Lycantrophy.....	46	Myodastasis.....	136
Herpes zoster.....	129 F	Internal hemorrhage.....	63	Lymphocele.....	64	Myxedema.....	33
Hodgkins' disease.....	31	Interstitial cirrhosis.....	90	Lypemania.....	46	Nasal fosse, disease of.....	67
Hodgson's disease.....	59	Interstitial hepatitis.....	90	Lymphadenoma.....	64	Nasal or nasopharyngeal polypus.....	67
Homesickness.....	46	Interstitial nephritis.....	97	Lymphangitis.....	63	Necrosis.....	132
Homicide.....	152	Interstitial pneumonia.....	72	Lymphatism.....	23	Necrosis of maxillary bone.....	132
Hugulier's disease.....	110	Intestinal calculi.....	87 A	Lymphoma.....	64	Nephritis, acute.....	96
Hunger.....	149 B	Intestinal colic.....	83	Malaria.....	19	Nephritis, albuminous.....	97
Hydatid cyst.....	89	Intestinal hemorrhage.....	87 A	Malarial cachexia.....	20	Nephritis, chronic.....	97
Hydatid tumors of the liver.....	89	Intestinal invagination.....	86	Malassez's disease.....	105	Nephrolithiasis.....	99
Hydatids.....	89	Intestinal obstruction.....	86	Malignant laryngitis.....	8	Nephroposis.....	100
Hydatids of the lung.....	77 B	Intestinal occlusion.....	86	Mammitis.....	115	Nephrorrhagia.....	96
Hydrarthrosis.....	134 B	Intestinal paralysis.....	87 A	Mania.....	46	Nephrorrhagia.....	100
Hydrocele.....	105	Intestinal parasites.....	85	Marasmus.....	138	Neuralgia.....	52 B
Hydrocephalus.....	137	Intestinal perforation.....	87 A	Marsh anemia.....	20	Neurasthenia.....	52 C
Hydronephrosis.....	100	Intestinal strangulation.....	86	Marsh or pernicious cachexia.....	20	Neuroma.....	52 C
Hydro-pericardium.....	55	Intestinal tumor.....	158	Mastoiditis.....	132	Neurosis.....	52 C
Hydrophobia.....	17	Intestinal ulcerations.....	88	Maxillary sinus, &c.....	132	Newly-born.....	137
Hydro-pneumatocele.....	86	Intestine, foreign body in the.....	87 A	Measles.....	5	Nitrogen protoxide.....	150
Hydro-pneumo-pericardium.....	55	Intussusception.....	86	Mediastinal abscess.....	128	Nodular rheumatism.....	136
Hydro-pneumo-thorax.....	73	Jacksonian epilepsy.....	52 C	Megaloccephalus.....	137	Noma.....	126
Hydrorrhachis.....	137	Jaundice.....	92	Melancholia.....	46	Nosomania.....	46
Hydrotritis.....	54	Keloid.....	129 F	Melena.....	46	Nosophobia.....	46
Hygroma.....	136	Kelotomy.....	86	Meningeal disease.....	87 A	Nostalgalia.....	46
Hypertrophy of the cervix.....	112	Kidney, floating or movable.....	100	Meningeal apoplexy.....	42	Nymphomania.....	46
Hypertrophy of the heart.....	57	Kidneys, organic disease of.....	100	Meningeal hemorrhage.....	42	Obstruction of the auditory canal.....	46
Hypertrophy of the liver.....	92	Kyphosis.....	132	Meningeal tuberculosis.....	22 B	Odontalgia.....	78
Hypochondria.....	46	Labio-glosso-laryngeal paralysis.....	52 C	Meningitis.....	39	Old age.....	141
Hypopadias.....	137	Lachrymal canal or gland, diseases of.....	53	Meningo-encephalitis.....	39	Omphalocele.....	137
Hysterectomy.....	112	Landry's paralysis.....	52 C	Meningorhagia.....	110	Ophthalmia.....	53
Hysteria.....	52 A	Laparotomy.....	158	Mental disease.....	46	Opisthotonos.....	50
Hysterical anorexia.....	52 A	Laryngeal phthisis.....	22 E	Mercurial poisoning (hydrargyism).....	36	Organic diseases of the heart.....	57
Hysterical colic.....	52 A	Laryngitis, edematous.....	68	Merocele.....	86	Organic disease (not defined).....	155
Hystero-myoma.....	111	Laryngitis, erysipelatosus.....	68	Metricitis.....	109	Organic lesion of the lung.....	77 B
Hysterotomy.....	112	Laryngotomy.....	68	Metroperitonitis.....	93	Orchitis.....	105
Icterus.....	92	Larynx, disease of.....	68	Metrorrhagia.....	100	Ostitis.....	132
Icterus of newly-born.....	138	Larynx, polypus of.....	68	Metrorrhexia.....	118	Osteoma.....	132
Icterus gravis.....	88	Larynx, stricture of the.....	68	Metrosalpingitis.....	114 C	Osteomalacia.....	132
Idiocy.....	52 C	Lateral sclerosis.....	52 C	Metrotomy.....	112	Osteo-myelitis.....	132
Ileus.....	86	Lead, all diseases caused by.....	35	Migraine.....	52 C	Osteo-periostitis.....	132
Illiac phlegmon or abscess.....	95	Lead colic.....	35	Miliary fever.....	10	Osteo-sarcoma.....	25 G
Ill-treatment (of an infant).....	152	Lead paralysis.....	35	Miliary tuberculosis.....	22 B	Osteoscopic pains.....	24
Imbecillity.....	52 C	Lead poisoning.....	35	Miscarriage.....	116	Otitis.....	54
Imperforate anus.....	137	Leprosy.....	33			Otorrhea.....	54
Impetigo.....	129 F	Leucorrhea.....	114 B			Ovariotomy.....	113

Ovaritis.....	114 C	Pernicious attack.....	19
Overwork.....	149 A	Pernicious fever.....	19
Oxide of carbon.....	150	Persistent foramen ovale.....	57
Oxyures.....	85	Pertussis.....	7
Ozena.....	67	Pest.....	13 B
Pachydermia.....	129 F	Petechial fever.....	2
Pachydermic cachexia.....	33	Phagedenic bubo.....	129 A
Pachymeningitis.....	39	Phagedenic chancre.....	129 A
Painters' colic.....	35	Pharyngitis.....	79 A
Palpitation of the heart.....	57	Pharynx, abscess of the.....	79 A
Paludal fever.....	19	Pharynx, diseases of the.....	79 A
Paludism.....	20	Phimosiis.....	106
Panaris.....	128	Phlebitis.....	62
Pancreas, diseases of (cancer excepted).....	94	Phlegmasia alba dolens (non- peral).....	62
Paralysis.....	45 C	Phlegmon.....	128
Paralysis agitans.....	52 C	Phlegmonous erysipelas.....	125
Paralysis, ascending.....	52 C	Phlegmonous laryngitis.....	68
Paralysis of insane.....	45	Phlegmonous tumor.....	128
Paralysis (without indicated cause).....	44	Phosphorus necrosis.....	36
Paralysis of the velum palati.....	79 A	Phosphorus of occupations.....	36
Paralytic cachexia.....	45	Phthisiis.....	129 F
Paralytic dementia.....	45	Phthisis (without epithet).....	22 A
Paralytic insanity.....	45	Phymatosis.....	22 A
Paralytic marasmus.....	45	Pityriasis.....	129 F
Paramnesia.....	52 C	Placenta, apoplexy of the.....	118
Paramyoclonus multiplex.....	52 C	Placenta previa.....	118
Paraphimosis.....	106	Placenta, retention or detachment of the.....	118
Paraplegia.....	44	Pleural abscess.....	73
Parenchymatous hepatitis.....	88	Pleurisy.....	73
Parenchymatous nephritis.....	97	Pleuritic effusion.....	73
Paresis.....	44	Pleurodynia.....	77 B
Parkinson's disease.....	52 C	Pleuro pericarditis.....	73
Parodontitis.....	78	Pleuro pneumonia.....	73
Paronchia.....	128	Pleurotho-tonos.....	50
Parotid tumor.....	78	Pneumonia.....	72
Pelada.....	129 D	Pneumonia of the apex.....	72
Pellagra.....	21	Pneumonia due to influenza.....	9
Pelvic cancer.....	25 G	Pneumopathy.....	77 B
Pelvic peritonitis.....	93	Pneumopericarditis.....	72
Pelvic suppuration.....	107	Pneumophlebitis.....	62
Pelvis, abscess of the.....	107	Pneumo-pleurisy.....	73
Penis, amputation of.....	106	Pneumo-pyothorax.....	73
Perforation of abdomen or chest.....	145	Pneumorrhagia.....	77 B
Perforation of palatine arch.....	132	Pneumothorax.....	77 B
Perforation of the skull.....	145	Pedencephalus.....	137
Pericarditis.....	55	Poisoning, cause unknown.....	151
Perichondritis.....	136	Poisoning, criminal.....	151
Perineorrhaphy.....	118	Poisoning, other accidental.....	151
Perinephritic abscess.....	98	Poisonings, other chronic.....	37
Perinephritis.....	98	Poisonings of occupations.....	36
Perineum, laceration or rupture of the.....	118	Pollakiuria.....	160
Periostitis.....	132	Polyarthritiis.....	134 A
Peripneumonia.....	72	Polydactylism.....	137
Periproctitis.....	87 B	Polydipsia.....	54
Peritoneal tuberculosis.....	22 C	Polypus of the ear.....	129 F
Peritonitis, inflammatory.....	93	Polysarcia.....	130
Perityphlitiis.....	95	Polypuria.....	130
Periuterine abscess.....	107	Potts' disease.....	130
Periuterine hematocoele.....	108	Pox.....	24
Permanent slow pulse.....	66		
Pernicious anemia.....	32		

Pregnancy.....	116	Pyelo-nephritis.....	96
Pregnancy, accidents of.....	116	Pyema.....	14
Pregnancy, hemorrhage during.....	116	Pyosalpinx.....	114 C
Pregnancy, nephritis of.....	121	Pyothorax.....	73
Pregnancy, rupture of tubal.....	116	Quincy.....	79 A
Pregnancy, uncontrollable vomiting during.....	116	Rabies.....	17
Premature birth.....	138	Rachitis.....	132
Priapism.....	106	Railroad accident.....	145
Proctoposis.....	87 B	Ranula.....	78
Proctitis.....	87 B	Raynaud's disease.....	126
Proctocoele.....	87 B	Recto-vesical fistula.....	87 B
Progressive locomotor ataxia.....	40	Rectitis.....	87 A
Progressive muscular atrophy.....	41	Rectum, prolapse of the.....	87 A
Prostate, abscess of the.....	104	Rectum, stricture of the.....	87 A
Prostate, diseases of the.....	104	Recurrent fever.....	33
Prostate, hypertrophy of the.....	104	Rheumatism.....	26
Prostatic calculus.....	104	Rheumatism, abdominal or cerebral.....	26
Prostatitis.....	104	Rheumatismal arthritis.....	26
Prurigo.....	129 F	Rheumatismal endocarditis.....	26
Pseudo-hypertrophic paralysis.....	41	Rheumatismal meningitis.....	26
Pseudo-membranous anginas.....	8	Rheumatismal pericarditis.....	26
Pseudo-membranous bronchitis.....	8	Rheumatismal peritonitis.....	26
Pseudo-membranous laryngitis.....	8	Rheumatismal pleurisy.....	26
Psora.....	129 E	Rheumatismal vertigo.....	26
Psoriasis.....	129 F	Relapsing fever.....	13
Puerperal albuminuria.....	121	Remittent fever.....	19
Puerperal eclampsia.....	121	Renal calculus.....	99
Puerperal diseases of breast.....	124	Renal colic.....	99
Puerperal embolism.....	123	Renal congestion.....	109
Puerperal fever.....	119 A	Renal cysts of the kidney.....	109
Puerperal hemorrhage.....	117	Renal sclerosis.....	97
Puerperal infection.....	119 A	Respiratory system, disease of.....	77 B
Puerperal lymphangitis.....	119 B	Retracted digits.....	136
Puerperal metrorrhagitis.....	120	Retrouterine abscess.....	107
Puerperal metrorrhagia.....	117	Retrouterine hematocoele.....	108
Puerperal peritonitis.....	120	Rickets.....	132
Puerperal plebitis.....	119 B	Rubella.....	13
Puerperal phlegmasia alba dolens.....	122	Rubeolaw.....	5
Puerperal scarlatina.....	6	Rupture of muscle.....	136
Puerperal septicemia.....	119 A	Rupture of tendon.....	136
Puerperal tetanus.....	121	Salivary fistula.....	78
Puerperal thrombosis.....	123	Salpingitis.....	114 C
Puerperal uremia.....	121	Salpinx.....	114 C
Pulmonary adhesion.....	77 B	Sarcoepioplomphalus.....	86
Pulmonary affection.....	77 B	Sarcoepioplece.....	86
Pulmonary anthracosis.....	22 A	Satyriasis.....	46
Pulmonary apoplexy.....	72 A	Scapulalgia.....	133
Pulmonary calculus.....	77 B	Scarlatinal angina.....	6
Pulmonary catarrh, acute.....	72	Scarlet fever.....	6
Pulmonary cavities.....	22 A	Sciatica.....	52 B
Pulmonary emphysema.....	77 A	Sclerema.....	138
Pulmonary hemorrhage.....	77 B	Sclerosis.....	52 C
Pulmonary phthisis.....	22 A	Scoliosis.....	132
Pulmonary tuberculosis.....	72	Scrofula.....	23
Pulmonary tuberculosis.....	22 A	Scrofulide.....	23
Purpura hemorrhagica.....	3	Scurvy.....	3
Purulent infection and septicemia.....	14	Sebaceous tumor.....	139
Putrid fever.....	14	Seborrhoea.....	129 F
Putrid infection.....	14	Senile debility.....	141
Pyelitis.....	100	Senile dementia.....	141
		Senile exhaustion.....	141

Senile gangrene.....	126	Suicide by strangulation.....	142 C	Trepanning.....	160	Urinemia.....	103 B
Senility.....	141	Suicide by taking of sulphuric acid or other corrosive substance.....	142 I	Trichocephalus.....	85	Urticaria.....	129 F
Septicæmia.....	14	Suicide by vapor of charcoal.....	142 B	Trichophytosis.....	129 C	Uterine or vaginal catarrh.....	112
Sequestra.....	132	Sulphuric acid, accidental taking of.....	146 B	Tricuspid disease.....	57	Uterine fibroma.....	111
Serous apoplexy.....	42	Sunstroke.....	147	Trismus neonatorum.....	49	Uterine hemorrhage (non-puerperal).....	110
Shaking palsy.....	52 C	Suppurating bubo.....	128	Trophonuroses.....	129 F	Uterine polypus.....	110
Simple chancre.....	129 A	Suppuration.....	160	Tubercle of the lungs.....	22 A	Uterine tumor (non-cancerous).....	111
Simple meningitis.....	39	Suppurative adenitis.....	128	Tubercular bronchitis.....	22 A	Uterus, ablation of the.....	112
Sitiophobia.....	46	Summer bronchitis.....	76	Tubercular enteritis.....	22 E	Uterus, ante-flexion of the.....	112
Skin and adnexa, other diseases of.....	129 F	Summer catarrh.....	76	Tubercular hemoptysis.....	22 A	Uterus, deviation of the.....	112
Small-pox.....	4	Symmetrical sclerosis.....	52 C	Tubercular laryngitis.....	22 E	Uterus, elongation of the.....	112
Smoker's cancer.....	25 A	Symphysiotomy.....	118	Tubercular meningitis.....	22 B	Uterus, fibrous tumor or fibrous body of.....	111
Snake bite.....	151	Symptomatic epilepsy.....	52 C	Tubercular nephritis.....	22 E	Uterus, fungus or fungosity of the.....	111
Soft chancre.....	129 A	Syncope.....	157	Tubercular peritonitis.....	22 C	Uterus, organic diseases of the.....	112
Softening of bones.....	132	Syndactylism.....	137	Tubercular pleurisy.....	22 A	Uterus, prolapse of the.....	112
Somnambulism.....	52 C	Synochal fever.....	153	Tubercular pneumonia.....	22 A	Uterus, retroversion of the.....	112
Spermatorrhea.....	106	Syphilis.....	24	Tubercular ulcer.....	22 E	Uterus, rupture of the.....	113
Sphacelus.....	128	Syringo myelitis.....	33	Tuberculosis of the bowels.....	22 E	Uterus, tamponnement of the.....	110
Spina bifida.....	137	Tabes dorsalis, spasmodica.....	52 C	Tuberculosis of the lungs.....	22 A	Uterus, ulceration of the.....	109
Spinal cord, diseases of.....	52 C	Tabes mesenterica.....	22 C	Tuberculosis of the meninges.....	22 B	Vagina, prolapse of the.....	112
Spinal paralysis.....	44	Talipes varus.....	137	Tuberculosis of other organs.....	22 E	Vagina, tamponnement of the.....	110
Spine disease.....	130	Tamponment of nasal fossæ.....	65	Tuberculosis of the peritoneum.....	22 C	Vaginal discharge.....	114 B
Spitting of blood.....	77 B	Tarsalgia.....	136	Tuberculosis of the skin.....	22 D	Vaginal glands, abscess or cysts of.....	114 C
Spleen, enlargement of.....	66	Teeth, diseases of the.....	78	Tumor of the bladder.....	102	Vaginitis.....	108
Splenitis.....	66	Tendons, diseases of the.....	136	Tumor of the breast.....	115	Vaginal tumor.....	114 C
Splenocœle and other affections of the spleen.....	66	Tenia.....	85	Tumor of the eye.....	53	Vaginismus.....	114 C
Spleno-pneumonia.....	72	Tenia solium.....	85	Tumor of the female genital organs.....	25 D	Vaginitis (in females).....	114 A
Sporadic cholera.....	12	Tenophyte.....	136	Tumor of the liver.....	92	Valgus or equinus.....	137
Sprains.....	144 A	Tenorrhaphy.....	136	Tumors, other.....	159	Valvular affections.....	157
Staphyilitis.....	78	Tenotomy.....	136	Tumor of skull.....	132	Varices.....	61
Staphyloplasty.....	78	Tenosynovitis.....	136	Tumor of the stomach.....	25 B	Variocœle.....	61
Staphylorrhaphy.....	78	Tentomy.....	136	Tympanites.....	160	Variocose ulcers.....	61
Steatosis of the heart.....	57	Testicle, diseases of the.....	105	Typhilitis.....	95	Variola.....	4
Steatosis of the kidneys.....	97	Tetanus.....	50	Typhlo-dioiditis.....	95	Varioloid.....	4
Steatosis of the liver.....	90	Thermic fever.....	147	Typhoid fever.....	1	Vascular nevus.....	137
Stenosis.....	57	Thoracentesis.....	73	Typhoid pneumonia.....	72	Vascular tumor.....	159
Stenosis of the pulmonary artery.....	59	Thoracic effusion.....	73	Typhus.....	2	Veins, other diseases of.....	62
Stercoral.....	87 B	Thrombosis (non-puerperal).....	60	Ulcer of the cervix.....	109	Veneral bubo.....	129 A
Stercoral fever.....	87 A	Thrush.....	78	Ulcer of the stomach.....	80	Vertebral polyarthritis.....	130
Stercoral tumor.....	86	Thyrocœle.....	68	Ulcers rotundum.....	80	Vertigo.....	52 C
Stercoral vomiting.....	86	Thyroid body, disease of.....	68	Umbilical hemorrhage.....	140	Vesical calculi.....	101
Sterility.....	114 C	Tic.....	52 C	Unknown diseases.....	160	Vesical or urethral catarrh.....	102
Sternalgia.....	38	Tic douloureux.....	52 B	Uremia.....	97	Vesical inertia.....	102
Stomach, catarrh of the.....	81	Tinea.....	129 C	Uremic convulsions.....	97	Vesical tenesmus.....	102
Stomach, foreign body in the.....	81	Tinea favosa.....	129 B	Uremic delirium.....	97	Violence, other external.....	152
Stomach, organic lesion of.....	81	Tinea tonsurans.....	129 C	Urethra, foreign body in the.....	103 B	Virulent bubo.....	129 A
Stomach, other diseases of (cancer ex- cepted).....	81	Tongue, diseases of the (cancer ex- cepted).....	78	Urethra, other diseases of the.....	103 B	Virulent disease.....	83
Stomatitis.....	78	Tonsillitis.....	79 A	Urethra, stricture of the.....	103 B	Visceral steatosis.....	83
Stomatorrhagia.....	65	Torticollis.....	136	Urethralgia.....	103 B	Volvulus.....	86
Stridulous laryngitis.....	68	Toxic anginæ.....	8	Urethritis.....	103 A	Want.....	149 B
Subluxation.....	144 B	Tracheo-bronchitis.....	69	Urethroplasty.....	103 B	Want of care.....	139
Suicide by asphyxia.....	142 B	Tracheostenosis.....	77 B	Urethrorrhaphy.....	103 B	Wardrop's disease.....	129 F
Suicide by cutting instruments.....	142 E	Tracheotomy.....	77 B	Urethrotomy.....	103 B	Whites.....	114 B
Suicide by crushing.....	142 H	Trachitis.....	69	Urethrrhagia.....	103 B	White swellings.....	133
Suicide by drowning.....	142 F	Transfusion of blood.....	160	Urinary abscess.....	103 B	Well's disease.....	88
Suicide by firearms.....	142 D	Traumatic eversion.....	145	Urinary calculus.....	101	Wen.....	159
Suicide by firing.....	142 C	Traumatic fever.....	145	Urinary fistula.....	103 B	Werthoff's disease.....	3
Suicide by poison.....	142 A	Traumatic hemorrhage.....	145	Urinary infiltration.....	103 B	Whooping cough.....	7
Suicide by precipitation from height.....	142 G	Trematoda.....	85	Urinary lithiasis.....	101	Worm colic.....	85
				Urine, incontinence of.....	102	Yellow atrophy of the liver, acute.....	88
				Urine, retention of.....	102	Yellow fever.....	13 A
						Zymotic disease.....	13 B

REPORT OF THE BOARD OF HEALTH.

	Atlantic	Bergen	Burlington	Camden	Cape May	Cumberland	Essex	Gloucester	Hudson	Hunterdon	Merer.	Middlesex	Monmouth	Morris	Ocean	Passaic	Salem	Somerset	Sussex	Tinton	Warren	Totals		
Other Diseases of the Intestines.....	1	3																					16	
Disease of Anus Fecal Fistulas.....																								4
Acute Yellow Atrophy of the Liver.....																								4
Scyrral Tumor of the Liver.....																								2
Biliary Calculi.....	13	7	4	10	3	2	64	3	106	2	12	5	8	0	1	12	4	1	17	6			30	
Other Diseases of the Liver.....	93	8	5	18	4	4	56	3	86	3	6	3	7	4	1	15	12	1	7	6			111	
Inflammatory Peritonitis (Non-Puerperal).....	93	7	9	12	4	25	2	59	3	17	9	12	2	3	32	4	1	1	8	9			257	
Other Diseases of Digestive System (Cancer and Appendicitis).....	95	3	3	4	1	2	42	1	39	5	13	4	8	2	1	19	5	4	9	3			163	
Acute Nephritis.....	66	10	15	10	24	5	67	6	115	5	14	6	8	1	34	5	4	3	13	1			187	
Bright's Disease.....	97	85	59	61	146	11	44	300	26	42	28	82	71	65	19	121	18	23	12	87	26		1840	
Renal Calculi and Pterineptic Abscess.....	66																						1	
Other Diseases of the Kidneys and Adnexa.....	100	2	3	1	3	6	1	6	4	1	1	1	1	1	1	1	1	1	1	1			33	
Disease of the Bladder.....	101																							6
Disease of the Uterus.....	102	4	8	7	7	6	32	3	19	3	8	7	15	10	2	13	9	2	8	5			105	
The Uterus (Ovary Struck, Abscess, &c.).....	103	4																						3
Disease of the Prostate.....	104																							14
Other Diseases of the Testicle and Its Envelopes, Orchitis.....	105																							3
Other Diseases of the Male Genital Organs.....	106																							2
Other Diseases of the Female.....	107	1	2	1	1	1	1	1	6	1	3	1	1	1	1	1	1	1	1	1				27
Non-Puerperal Diseases of Breast (Cancer excepted).....	115	3	2	1	4	7	8	9	1	1	2	1	1	1	1	3	1	1	1	1				30
Puerperal Hemorrhage.....	117	2	1	1	4																			31

TABLE 44.—SHOWING NUMBER OF DEATHS IN NEW JERSEY FROM EACH OF THE CLASSIFIED CAUSES, BY COUNTIES, FOR THE YEAR ENDING DECEMBER 31, 1905.—Continued.

	Atlantic	Bergen	Burlington	Camden	Cape May	Cumberland	Essex	Gloucester	Hudson	Hunterdon	Merer.	Middlesex	Monmouth	Morris	Ocean	Passaic	Salem	Somerset	Sussex	Tinton	Warren	Totals		
Other Accidents of Labor.....	118	4	1	3																			16	
Puerperal Septicemia.....	119																						96	
Puerperal Metritis.....	120																						24	
Puerperal Albuminuria and Eclampsia.....	121	1																					96	
Puerperal Phlegmona Alba dolens.....	122																						32	
Other Accidents of Pregnancy Sudden Death.....	123																						1	
Other Diseases of the Placenta.....	124	1	3	5	1	1	3	2	1	1	2	4	3	2	1	5	1	1	1	1			1	
Erysipelas.....	125	2	3	2	1	1	12	1	16	2	2	4	2	2	1	6	1	1	1	1			10	
Gangrene.....	126	1	1	4	1	1	3	6	3	13	3	2	3	3	1	7	1	1	1	1			57	
Anthrax Carbuncle.....	127	1	1	4	1	1	3	6	3	13	3	2	3	3	1	7	1	1	1	1			64	
Phlegmon Acute.....	128																							1
Soft Chancre.....	129																							1
Tinea Favosa.....	130																							45
Tinea Trichomycosis.....	131																							1
Other Diseases of the Skin and Its Appendages (Cancer excepted).....	132																							30
Other Diseases of the Skin and Its Appendages (Cancer excepted).....	133																							1
Other Diseases of the Skin and Its Appendages (Cancer excepted).....	134																							10
Other Diseases of the Skin and Its Appendages (Cancer excepted).....	135																							4
Other Diseases of the Skin and Its Appendages (Cancer excepted).....	136																							1
Other Diseases of the Skin and Its Appendages (Cancer excepted).....	137																							17
Other Diseases of the Organs of Locomotion.....	138	7	5	3	3	6	21	49	2	49	2	4	4	6	1	13	2	2	2	11			167	
Malformations.....	139	77	73	63	120	9	38	381	81	511	15	99	79	69	43	9	211	27	23	103	27		294	
Wounds.....	140	6	11	7	31	1	52	3	76	2	13	14	5	6	1	10	3	2	2	2			10	
Other Diseases Peculiar to Infancy.....	141	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			10	
Senile Debility.....	142	1	19	21	20	3	64	14	105	20	47	18	30	20	8	45	8	18	5	39			615	

BERGEN COUNTY.

BURLINGTON COUNTY.

NAME OF PLACE	BIRTHS.		MARRIAGES.		DEATHS.	
	Number in 1905.	Variation from 1904.	Number in 1905.	Variation from 1904.	Number in 1905.	Variation from 1904.
		Increase.		Decrease.		Increase.	Decrease.
Allendale.....	8	1	7	4	12	4
Alpine Borough.....	12	5	2	2	4	4
Bohemia.....	17	5	2	2	16	9
Bogota.....	14	4	4	4	37	8
Carlstadt.....	70	3	23	6	37	5
Cliffside Park.....	48	15	9	5	28	5
Closter Borough.....	12	6	1	2	7	1
Creakkill.....	6	6	1	7	21	5
Delford.....	16	10	7	4	1	5
Demarest Borough.....	5	6	1	1	1	5
Dumont.....	21	5	1	1	18	4
East Rutherford.....	69	25	16	6	38	1
Edgewater.....	123	5	17	17	33	16
Englewood City.....	18	7	7	2	11	15
Englewood Cliffs.....	28	12	1	1	10	2
Etna.....	30	10	2	1	25	11
Fairview.....	27	7	2	2	13	7
Fort Lee.....	22	14	3	7	18	3
Franklin.....	123	14	31	19	68	3
Garfield.....	15	5	1	10	10	10
Glen Rock.....	306	57	121	5	194	40
Hackensack.....	21	57	3	3	15	9
Harrington.....	4	2	3	3	2	1
Harrington Park Borough.....	36	6	1	1	5	4
Hasbrouck Heights.....	6	6	13	8	7	10
Haworth Borough.....	10	1	19	3	28	20
Hillside.....	5	9	1	1	10	5
Hoboken.....	42	2	2	2	13	7
Little Ferry.....	27	2	16	2	33	7
Lodi Borough.....	22	12	8	2	5	10
Lodi Township.....	12	4	1	1	41	4
Maywood.....	23	4	7	2	22	5
Midland Park.....	37	2	19	3	2	3
Montvale.....	10	1	1	1	1	2
North Arlington.....	18	2	1	3	7	4
Norwood Borough.....	2	1	1	1	1	1
Oakland.....	3	3	1	1	12	1
Old Tappan.....	37	3	8	1	43	16
Orvil Township.....	15	7	4	3	16	16
Pallanza.....	24	8	7	1	14	2
Park Ridge.....	10	7	12	2	24	11
Ridgefield Borough.....	7	1	1	3	1	5
Ridgefield Township.....	65	5	24	4	83	15
Ridgewood.....	11	8	8	8	7	7
Riverside.....	91	10	30	6	38	12
Rutherford.....	6	8	2	1	1	5
Saddle River Borough.....	29	12	1	1	4	28
Saddle River Township.....	8	2	1	1	10	7
Tenack.....	32	5	10	1	18	9
Tenafly.....	24	5	4	1	30	4
Union.....	2	5	1	1	4	3
Upper Saddle River Borough.....	5	1	1	1	1	1
Washington.....	14	2	1	1	5	1
Westwood.....	12	7	11	5	13	6
Woodcliff.....	21	2	7	7	7	3
Wood Ridge.....	1743	215	169	522	111	67
					1281	196
						145

NAME OF PLACE	BIRTHS.		MARRIAGES.		DEATHS.	
	Number in 1905.	Variation from 1904.	Number in 1905.	Variation from 1904.	Number in 1905.	Variation from 1904.
		Increase.		Decrease.		Increase.	Decrease.
Bas River.....	11	1	8	4	10	
Beverly City.....	84	11	23	6	60	17
Beverly Township.....	33	3	15	3	24	24
Bordentown City.....	67	3	37	1	54	27
Bordentown Township.....	7	3	1	1	6	2
Burlington City.....	74	3	40	62	134	31
Burlington Township.....	8	4	49	22	13	6
Chester.....	10	12	4	7	54	13
Chesterfield.....	10	4	7	3	14	3
Cinnaminson.....	14	12	8	3	16	4
Delran.....	36	4	1	4	22	6
Eastampton.....	5	1	6	2	27	3
Evesham.....	31	7	6	3	10	7
Fieldsboro.....	12	3	3	2	8	8
Florence.....	56	16	16	5	27	3
Lamberton.....	15	6	4	6	22	10
Mansfield.....	19	6	7	7	14	7
Medford.....	25	2	15	5	33	9
Mount Laurel.....	35	6	6	1	23	3
New Hanover.....	19	4	9	24	34	12
Northampton.....	83	19	71	20	103	29
North Hanover Township.....	2	2	1	1		
Palmyra.....	21	41	20	4	25	13
Pemberton Borough.....	12	2	20	1	14	14
Pemberton Township.....	6	2	2	3	60	11
Riverside.....	83	2	30	14	45	6
Riverton Borough.....	32	3	1	2	12	14
Shamong.....	1	2	1	1	1	4
Southampton.....	9	3	2	2	13	1
Springfield.....	3	2	2	1	5	4
Tabernacle.....	2	1	1	2	5	5
Washington.....	10	1	1	1	5	3
Westampton.....	10	7	1	1	11	1
Willingboro.....	3	1	1	3	1	1
Woodland.....		2	3	3	1	1
	850	114	134	78	86	895
					89	174

* Marriage certificate received from County Clerk in which the place where the marriage was performed is not stated.

CAMDEN COUNTY.

NAME OF PLACE.	BIRTHS.		MARRIAGES.		DEATHS.		
	Number in 1905.	Variation from 1904.	Number in 1905.	Variation from 1904.	Number in 1905.	Variation from 1904.	
		Increase.		Decrease.		Increase.	Decrease.
Audubon Borough.....	6	6	1	1	1	1	
Camden City.....	1525	119	2462	489	1347	199	
Centr.....	4	14	5	1	49	7	
Chesthurst.....	1	1	1	1	1	1	
Clementon.....	47	2	9	23	23	1	
Collingswood.....	41	4	7	30	22	4	
Delaware.....	17	4	3	4	22	4	
Gloucester City.....	128	35	89	23	148	21	
Gloucester Township.....	37	5	17	3	88	11	
Haddon.....	27	7	1	2	15	5	
Haddonfield.....	27	23	38	10	27	2	
Haddon Heights Borough.....	9	6	2	1	3	3	
Merchamville Borough.....	3	1	2	18	5	12	
Oaklyn Borough.....	5	5	1	5	3	3	
Pennsauken.....	35	4	9	9	36	2	
Voorhees.....	14	5	5	1	8	1	
Waterford.....	14	9	1	5	5	5	
Winslow.....	43	14	5	1	33	3	
Wood Lynne Borough.....	9	6	6	5	2	2	
	2109	168	98	529	31	1920	66
			93			66	210

* 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 1905.	Variation from 1904.	Number in 1905.	Variation from 1904.	Number in 1905.	Variation from 1904.
		Increase.		Decrease.		Increase.	Decrease.	Increase.	Decrease.
Anglesea Borough.....	11	5		2	11	2
Avalon.....	2	2		2	2	1
** Cape May City.....	25	18	23	4	46	3
Cape May Point.....						
Dennis.....	22	5	16	6	11	5
Holly Beach Borough.....	30	8	1	2	24	1
Lower.....	16	4	14	3	5	5
Middle.....	50	4	28	12	35	7
Ocean City.....	41	14	16	6	31	1
Sea Isle City.....	3	5	3	3	12	1
Upper.....	19	5	1	3	14	1
West Cape May.....	7	9		3	7	3
Wildwood.....	1	6	3	1	5	3
Woodbine.....	53	11	14	9	10	5
	287	49	38	34	14	198
				14		9

** The death-rate in summer resorts is calculated on the basis of the resident population, whereas the actual population is often several times larger, and on account of this floating population and the large number of invalids included in it, the death-rate is not a criterion of health conditions.

COMBERLAND COUNTY.

NAME OF PLACE.	BIRTHS.		MARRIAGES.		DEATHS.	
	Number in 1905.	Variation from 1904.	Number in 1905.	Variation from 1904.	Number in 1905.	Variation from 1904.
		Increase.		Decrease.		Increase.	Decrease.	Increase.	Decrease.
Bridgeton.....	217	27	117	12	1913	48
Commo cial.....	49	1	13	5	25	5
Deerfield.....	53	5	16	4	21	3
Downe.....	31	2	17	10	32	1
Fairfield.....	21	11	5	3	16	1
Greenwich.....	30	10	8	1	14	6
Hopewell.....	27	2	10	1	23	7
Landis.....	61	13	15	5	77	5
Lawrence.....	25	4	17	2	28	10
Maurice River.....	15	20	15	1	23	14
Millville.....	139	65	115	7	163	15
Stow Creek.....	18	1	2	2	9	5
Vineand.....	100	6	74	17	80	80
	936	88	89	420	33	36
				725	49	119

ESSEX COUNTY.

NAME OF PLACE.	BIRTHS.		MARRIAGES.		DEATHS.	
	Number in 1905.	Variation from 1904.	Number in 1905.	Variation from 1904.	Number in 1905.	Variation from 1904.
		Increase.		Decrease.		Increase.	Decrease.	Increase.	Decrease.
Belleville.....	116	7	40	8	110	6
Bloomfield City.....	203	11	58	22	133	27
Caldwell Borough.....	29	4	10	3	27	8
Caldwell Township.....	13	4	2		12	3
Clinton.....	275	159	159	12	270	25
Essex Falls.....	6	1	1		6	5
Glen Ridge.....	28	2	4	5	16	5
Irvington.....	202	79	84	23	90	18
Livingston.....	26	23	13	10	21	14
Millburn.....	58	7	9	1	23	12
Montclair City.....	336	12	138	25	233	24
Newark City.....	6957	159	3129	417	4943	358
North Caldwell Borough.....	1	4	18	7	4	6
Nutley Borough.....	22	2	15	1	12	4
Orange City.....	743	8	184	1	534	17
South Orange Borough.....	80	16	84	16	53	15
South Orange Township.....	23	4	8	1	25	3
Valhamburg.....	24	8	9	12	6	37
Verona.....	24	1	9	6	45	3
West Caldwell Borough.....	7	1	1	5	5	1
West Orange City.....	187	14	42	23	107	22
	9387	390	24	3396	501	94
				6790	87	326

GLOUCESTER COUNTY.

NAME OF PLACE.	BIRTHS.		MARRIAGES.		DEATHS.				
	Number in 1905.	Variation from 1904.		Number in 1905.	Variation from 1904.		Number in 1905.	Variation from 1904.	
		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.
Clayton.....	31		17	9		9	29		2
Deptford.....	43	17		2		4	31	17	7
East Greenwich.....	23	3		15	2		12		3
Elk.....	10	1							
Franklin.....	54	2	5	11			27		5
Glassboro.....	60	2	1	31		1	56		1
Greenwich.....	44	2	14	6		6	19		8
Harrison.....	29	14		4			19		8
Logan.....	31	2		7			20		7
Mantua.....	31	4	10	10		12	23		9
Monroe.....	26			26	15		21		16
National Park Borough.....	37	1							
Paulsboro Borough.....	37	14		15	4		40	20	
Pitman Grove Borough.....	13								
South Harrison.....	9	2		2		2	7		2
Swedesboro.....	32	3	2	13			30	7	5
Washington.....	28	3	4	4		3	14		5
Wenonah.....	44	5	4	5		9	21		3
West Deptford.....	78	5	62	7		1	55	16	6
Woodbury.....	23	6		1		1	11		6
Woolwich.....									
Total	508	82	54	243	52	35	439	64	76

HUDSON COUNTY.

NAME OF PLACE.	BIRTHS.		MARRIAGES.		DEATHS.				
	Number in 1905.	Variation from 1904.		Number in 1905.	Variation from 1904.		Number in 1905.	Variation from 1904.	
		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.
Bayonne.....	1324	2		396	40		668		48
East Newark.....	27	6		3		6	48		2
Guttenburg.....	183	7		29	5		67		22
Harrison.....	238	18		103	23		242	46	
Hoboken.....	1614	32		686	63		1332		58
Jersey City.....	4472	280		2279	31		4394		205
Kearny.....	252	39		68			234		32
North Bergen.....	234	21		68	17		171		5
Secaucus.....	33	4		1			227		12
Town of Union.....	498	41		232	25		220		76
West New York.....	149	27		26	7		38		5
West Hoboken.....	727	22		232	27		416	23	
West New York.....	175	22		31	17		111		26
Total	9999	393	128	4359	211	69	8278	100	548

HUNTERDON COUNTY.

NAME OF PLACE.	BIRTHS.		MARRIAGES.		DEATHS.				
	Number in 1905.	Variation from 1904.		Number in 1905.	Variation from 1904.		Number in 1905.	Variation from 1904.	
		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.
Alexandria.....	8		4	2			13		1
Bethlehem.....	14		15	4			6		5
Bloomsbury Borough.....	13	13		15			22		
Clinton Borough.....	3		4	9			16		4
Clinton Township.....	25			15	9		32		1
Delaware.....	27	8		12		6	14		5
East Amwell.....	13	1		14	2		14		5
Franklin.....	11		1	11	4		11	1	1
Frenchtown.....	10			3			10		
High Bridge.....	17			4		5	11	1	1
Holland.....	14	4		10	1		21	4	
Junction.....	22	9		1			17		
Kingwood.....	104	7		7			72	4	
Lambertville.....	32			47		9	73		
Lebanon.....	42	5		2			25		5
Matamoras.....	45		3	23		10	25		24
Readington.....	17			16			10		10
Stockton.....	9	3		1			8		7
Tewksbury.....	33	3		3		4	16		5
Union.....	17		3	1			18	7	
West Amwell.....	9	2		4			6		1
Total	459	50	69	196	21	67	433	35	68

MERCER COUNTY.

NAME OF PLACE.	BIRTHS.		MARRIAGES.		DEATHS.				
	Number in 1905.	Variation from 1904.		Number in 1905.	Variation from 1904.		Number in 1905.	Variation from 1904.	
		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.
East Windsor.....	20	5		4	4		12		3
Ewing.....	11			4		3	10		1
Farmington.....	17	1		24		4	37		4
Highstown.....	38	18		24	4		25		6
Hopewell Borough.....	21	15		13	7		5		2
Hopewell Township.....	15		7	3	4		24		5
Lawrence.....	24	7		8		1	9		1
Fennington Borough.....	3	3		6		6	6		6
Princeton Borough.....	76	17		30		1	72		2
Princeton Township.....	35	14		42		4	48		6
Trenton.....	952	65		564	6		1484		2
Washington.....	8	1		3		5	5		8
West Windsor.....	12	2		6		5	15		2
Total	1240	96	73	1008	46	20	1739	15	33

MIDDLESEX COUNTY.

NAME OF PLACE.	BIRTHS.			MARRIAGES.			DEATHS.		
	Number in 1905.	Variation from 1904.		Number in 1905.	Variation from 1904.		Number in 1905.	Variation from 1904.	
		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.
Cranbury.....	24	5		9		9	23		
Dunellen.....	35	12		6		6	24		1
East Brunswick.....	6		18	6		2	14		4
Holmdels.....	11		3	1		1	6		2
Highland Park Borough.....	1			1		1	5		5
Jamesburg.....	13		2	3		7	9		5
Madison.....	14		9	2		2	11		1
Milltown.....	20		17	19		7	24		4
Monroe.....	19		2	7		4	23		12
New Brunswick.....	9		2	5		2	7		15
North Brunswick.....	11		6	37		264	71		454
Perth Amboy.....	308		13	326		15	316		22
Piscataway.....	54		12	4		5	31		5
Raritan.....	22			4		4	30		
Sayreville.....	129		3	14		5	68		24
South Amboy.....	79		10	72		35	125		13
South Amboy Township.....									1
South Brunswick.....	35		1			9	1		34
South River.....	37		6	65		30	47		6
Woodbridge.....	98		28	51		7	169		7
	1333	28	167	867	155	57	1427	98	57

MONMOUTH COUNTY.

NAME OF PLACE.	BIRTHS.			MARRIAGES.			DEATHS.			
	Number in 1905.	Variation from 1904.		Number in 1905.	Variation from 1904.		Number in 1905.	Variation from 1904.		
		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.	
Allenhurst.....	10	7		3		1	4		3	
Allentown.....	9	5		11		2	11		9	
Asbury Park.....	36	11		47		31	61		15	
Atlantic.....	12	1		3			15		8	
Atlantic Highlands.....	22	5		6		2	8		10	
Avon.....	4			1		2	2		2	
Belmar.....	12		5	19		4	29		6	
Bradley Beach Borough.....	11		5	10		4	12			
Deal.....	1		7	3		3				
Easton.....	32	2		1		3	4		1	
Eastontown.....	3		1	5		3	1		2	
Englishtown.....	8		9	9		24	3		1	
Farmingdale.....	80	7		38		1	21		1	
Freehold.....	15	1	6	7		4	17		1	
Highlands Borough.....	15		4	4		5	15		4	
Holmdel.....	43	15		26		5	29		7	
Howell.....	160	10		55		47	252		26	
** Long Branch.....	13		3	4		9	9		4	
Manalapan.....	6		20	12		7	21		4	
Manasquan.....	10		2	6		3	20		4	
Marlboro.....	36	6	18	3		3	33		9	
Matawan Borough.....	17	4		1		3	14		4	
Matawan Township.....	82	16		23		3	8		5	
Middletown.....	14	2		5		3	10		2	
Millstone.....	140	1	16	58		4	181		3	
Neptune Township.....	8	1		2			4		10	
Neptune City Borough.....	14		3	2		2	2		13	
North Spring Lake.....	99	1		20		4	72		10	
Ocean.....	38		1	38		38	100		7	
Raritan.....	15	7		2		2	12		4	
Sea Bright.....	73	7		22		5	35		19	
Shrewsbury.....	7		1	2		3	19		9	
Spring Lake Borough.....	43	7		8		5	33		1	
Upper Freehold.....	35		2	24		5	41		3	
Wall.....										
	1162	117	83	605	94	103	115	1272	92	146

* Marriage certificates received from County Clerk in which the places where the marriages were performed are not stated.

** The death-rate in summer resorts is calculated on the basis of the resident population, whereas the actual population is often several times larger, and on account of this floating population and the large number of invalids included in it, the death-rate is not a criterion of health conditions.

MORRIS COUNTY.

OCEAN COUNTY.

NAME OF PLACE.	BIRTHS.		MARRIAGES.		DEATHS.				
	Number in 1906.	Variation from 1904.		Number in 1906.	Variation from 1904.		Number in 1906.	Variation from 1904.	
		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.
Boonton City	61	2	40	5	75	12			
Boonton Township	1				4				
Butler	34	24	8	1	18	1			
Chatham Borough	28	7	20	7	20	2			
Chatham Township		4			3	1			
Chester	21	8	6	1	21	1			
Dover City	143	23	62	19	90	5			
Florham Park Borough	6		2	1	13	1			
Hanover	33	1	20	1	176	40			
Jefferson	5		7	1	15	7			
Madison	33	12	25	5	58				
Mendham	31	6	11	2	21	2			
Montvale	10	1	3	1	15	3			
Morris Township	11	8			17				
Morristown City	173	2	102	8	248	21			
Mount Arlington	1				3	1			
Mount Olive	15		9		13	5			
Netcong	9	9	3	1	15	7			
Passaic	40	7	10	4	29	6			
Peguanock	28	3	5	1	18	6			
Randolph	6		8	2	27	10			
Rockaway Borough	27	1	22	6	20	3			
Rockaway Township	37	15	14	12	69	8			
Roxbury	32	4	37	5	31	2			
Washington	17	13	6	4	15	5			
Warren Borough	7	31	23	12	23	6			
TOTAL	855	69	140	436	79	1063	77	82	

NAME OF PLACE.	BIRTHS.		MARRIAGES.		DEATHS.				
	Number in 1906.	Variation from 1904.		Number in 1906.	Variation from 1904.		Number in 1906.	Variation from 1904.	
		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.
Barnegat City	7	2	4	2	1	3			
Bay Head					1	5			
Beach Haven		1			2	1			
Berkeley	24	18	10		15	2			
Brick	43	10	33	12	33	7			
Dover	1		4	3	3	5			
Eagleswood		1	5	1	6				
Island Heights			6	4	18	6			
Jackson	10	4	3	2	6	4			
Lacey	5		2	16	64	5			
Lakewood	80	29	4	16	64	2			
Lavalette	3		1	1	9	1			
Little Egg Harbor	4		10	4	9	2			
Long Beach		4			5	5			
Manchester	3	4	3	1	10	8			
Ocean	13	3	8	1	12	8			
Flintsted	16	13	10	4	1	1			
Point Pleasant Beach	1	1	1	1	1	7			
Sea Side Park Borough	11	1	9	5	11	7			
Stafford	22	5	1	2	16	10			
Tuckerton		1	10	6	10	7			
Union									
TOTAL	275	54	42	30	248	25	52		

* Marriage certificates received from County Clerk in which the places where the marriages were performed are not stated.

PASSAIC COUNTY.

NAME OF PLACE.	BIRTHS.		MARRIAGES.		DEATHS.				
	Number in 1906.	Variation from 1904.		Number in 1906.	Variation from 1904.		Number in 1906.	Variation from 1904.	
		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.
Acquanackonk	125	2	17	5	65	24			
Hawthorne	10		20		16	6			
Little Falls	44	5	12		54				
Manchester	35	1	10		25	2			
North Haledon	5		2	1	7	4			
Passaic City	1335	23	864	99	691	21			
Pateron	228	22	79	29	184	147			
Pompton	58	19	29	19	81	23			
Pompton Lake Borough	16		6	3	4	7			
Prospect Park Borough	7		10	1	2	15			
Totowa	26		2	1	8	2			
Wayne	16		11		81	11			
West Milford	2	12	11		30	8			
TOTAL	3968	745	37	203	201	24	2307	60	225

SALEM COUNTY.

NAME OF PLACE.	BIRTHS.			MARRIAGES.			DEATHS.		
	Number in 1905.	Variation from 1904.		Number in 1905.	Variation from 1904.		Number in 1905.	Variation from 1904.	
		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.
Alloway	25	3		6		7	21	5	
Elmer Borough	24		7	30	15	7	17		3
Elinboro	4	1		2			3		1
Lower Alloways Creek	19	2	4	12	8		18		1
Lower Penns Neck	15			15	8		29		4
Mannington	23	10		20			29		9
Oldmans	18	7		7			30	5	
Penns Grove Borough	23	7		20			19		12
Pilesgrove	23	10		3			3		
Pittsgrove	43	17		6			19	1	
Quinton	23	6		1	15	109	9		13
Salem City	24	25		55			17		10
Upper Penns Neck	15	1					1		8
Upper Pittsgrove	8	11	4				16		11
Woodstown	12	6	17				42	15	
	384	46	63	193	36	32	367	26	81

SOMERSET COUNTY.

NAME OF PLACE.	BIRTHS.			MARRIAGES.			DEATHS.		
	Number in 1905.	Variation from 1904.		Number in 1905.	Variation from 1904.		Number in 1905.	Variation from 1904.	
		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.
Bedminster	18	2	12	6		21		8	
Bernards	67	38		31	24		56	12	
Bound Brook Borough	27	23		36		51	11		
Branchburg	7	7		2		12	2		
Bridgewater	12	9		3		18	4		
Franklin	29	12	9	5		48	1		
Hillsborough	16	1	10			33	7		
Millstone	10					25	13		
Montgomery	10	1	9	3		97	82		4
North Plainfield City	126	16	9	32	7		7		
North Plainfield Township	4	9	2	1					
Raritan	31	15	9	23	24		70	27	
Rocky Hill	8	7		1		2			3
Somerville	44	32	41	3		86	14		
Warren	10	4		3		12			
	419	97	93	225	69	16	540	133	21

SUSSEX COUNTY.

NAME OF PLACE.	BIRTHS.			MARRIAGES.			DEATHS.		
	Number in 1905.	Variation from 1904.		Number in 1905.	Variation from 1904.		Number in 1905.	Variation from 1904.	
		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.
Andover Borough	9			2		6		4	
Andover Township	4	4		4		1			
Branchville	11	4		7	2	5		2	
Brooklyn						1		1	
Byram						2			
Frankford	11	8		5		1		7	
Fredon Borough	3	2		5		1		1	
Green	13	2		3		11		11	
Hampton	6	3		3		4		1	
Hardyston	30	5		29	2	49		2	
Hopatcong	5			4		2		2	
Lafayette	3	5		2		2		2	
Montague	2	3		1		1		8	
Newton	28	6		39	5	15		40	9
Sandyston	9	5		1		8			
Sparta	15	17	10	5	1	23		1	
Stanhope Borough	21	11	21	3	21	11		2	
Stillwater	10	8		11	3	13		3	
Sussex Borough	13	2		12	11	12		16	
Vernon	6	1		6		11			
Walpack	6	2		3		2		4	
Wantage	7	8		10	2	9		9	
	269	48	64	182	43	35	252	24	64

UNION COUNTY.

NAME OF PLACE.	BIRTHS.			MARRIAGES.			DEATHS.		
	Number in 1905.	Variation from 1904.		Number in 1905.	Variation from 1904.		Number in 1905.	Variation from 1904.	
		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.
Clark	1	6	2	2		5		2	
Cranford	38	8	24	1		46	7		
Elizabeth	1132	81	431	30		946		154	
Fauwood Borough	7	4				4			
Fauwood Township	7	5	7	5		23	6		
Fauwood Borough	14	4	4	2		3		2	
Linden Borough	1	4	2			3			
Linden Township	7	16	1	1		11		1	
Mountainside	2	1		2	1	2		3	
New Providence Borough	17	5				4		4	
New Providence Township	17	6		1		1		1	
Plainfield	274	28	148	20		289		7	
Rahway	84	76	89	16		116		6	
Roselle Borough	17	18	13			13		7	
Roselle Park	27	6	15	6		32	18		
Springfield	19	5	7	1		25	12		
Summit City	73	55	3			34	6		
Union	19	6	3			31	2		
Westfield	95	2	24	2		51		2	
	1912	134	191	821	94	12	1705	68	174

WARREN COUNTY.

SUMMARY.

NAME OF PLACE.	BIRTHS.			MARRIAGES.			DEATHS.		
	Number in 1905.	Variation from 1904.		Number in 1905.	Variation from 1904.		Number in 1905.	Variation from 1904.	
		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.
Allamuchy.....	11	2				3		6	
Belvidere.....	22	7		24		36	6		
Blairtown.....	21	5		2		18		5	
Franklin.....	24	5		6	1	19		5	
Freelights.....	3	2		6	6	7		5	
Greenwich.....	13			10	2	12	3		
Hackettstown.....	51	15		19	9	38		11	
Hardwick.....	5	5		2	1	5	3		
Harmony.....	24	2		3		19	10		
Hope.....	13	5		3	5	17	3	7	
Independence.....	9	1		3	1	15		7	
Knowlton.....	18		3	13	1	19		8	
Lopatcong.....	5		6			6		3	
Mansfield.....	14		10	8	1	24	6	9	
Oxford.....	22	15		16		32	6		
Pahsiquary.....	2		5	1		4	2		
Phillipsburg.....	105	54		216	52	134		34	
Pohatcong.....	64	34		40	20	47	5		
Washington Borough.....	54		1	33		41		8	
Washington Township.....	16		1	4		17		2	
	542	82	87	414	94	20	530	38	99

* Marriages certificates received from County Clerk in which the places where the marriages were performed are not stated.

NAME OF PLACE.	BIRTHS.			MARRIAGES.			DEATHS.		
	Number in 1905.	Variation from 1904.		Number in 1905.	Variation from 1904.		Number in 1905.	Variation from 1904.	
		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.
Atlantic County.....	963	61		630	117	975	195		
Bergen County.....	1742	56		882	43	1261	33		
Burlington County.....	850		9	439	9	395		73	
Camden County.....	2109	75		2706	497	1920		143	
Cape May County.....	287	21		119	20	198		17	
Cumberland County.....	826		1	420	3	725		70	
Essex County.....	9387	36		3396	407	6790		439	
Gloucester County.....	583	28		243	16	489		43	
Hudson County.....	9999	247		4359	183	5773		455	
Hunterdon County.....	459		19	198	40	433		32	
Mercer County.....	1240	28		1008	27	1733		15	
Middlesex County.....	1133	123		367	90	1427	34		
Monmouth County.....	1162	4		606	66	1272		42	
Morris County.....	855		92	458	59	1063		6	
Ocean County.....	373	11		132	13	248		26	
Passaic County.....	3968	708		2063	177	2907		166	
Salem County.....	334		18	198	1	367		56	
Somerset County.....	419		48	223	58	540	112		
Sussex County.....	269		13	182	9	252		39	
Union County.....	1912		57	821	80	1705		106	
Warren County.....	542		5	417	68	530		48	
	39689	1459	265	20672	1362	441	33864	374	1784

TABLE 48.—SHOWING AGES AT DEATH AND OCCUPATIONS OF DECEDENTS IN
DECEMBER 31,

	Occupations																									
	Janitors and watchmen.	Jewelers and watchmakers.	Laborers.	Landdressers.	Laundrymen.	Lawyers.	Leatherworkers.	Letter carriers.	Linemen.	Locksmiths.	Machinists.	Managers and superintendents.	Manufacturers.	Masons.	Merchants.	Milkmen.	Miners.	Millers.	Musicians.	Nurses.	Painters.					
Consumption.	10 to 15.			17						3																
	15 to 20.			17		1																				
	20 to 30.		6	30																						
	30 to 40.	2	1	10																						
	40 to 50.			44																						
	50 to 60.			24																						
	60 to 70.	1					1																			
	70 to 80.	1																								
	80 to 90.																									
	Over 90.																									
Totals.	10	12	410	2	1	2	20	4		37	12	6	23	27	2	2	2	8	5	40						
Cancer.	10 to 15.																									
	15 to 20.		1																							
	20 to 30.										1															
	30 to 40.		1								1															
	40 to 50.			2							1															
	50 to 60.	1		17							1															
	60 to 70.	1		18							3															
	70 to 80.	2	1	7							3															
	80 to 90.			3																						
	Over 90.																									
Totals.	4	8	57	4		3	2			11		1	6	17	1		1	2	3	7						
Suicide.	10 to 15.																									
	15 to 20.																									
	20 to 30.	1		6																						
	30 to 40.			9																						
	40 to 50.			15																						
	50 to 60.			6																						
	60 to 70.			3																						
	70 to 80.			4																						
	80 to 90.	1		1																						
	Over 90.																									
Totals.	1		43			1				3		3	1	9	1		1	4	1	6						
Diseases of the brain and of the organs of sense.	10 to 15.			7																						
	15 to 20.			1																						
	20 to 30.	1		21																						
	30 to 40.			20																						
	40 to 50.	1		27																						
	50 to 60.	1		23																						
	60 to 70.	3		19																						
	70 to 80.	4		33																						
	80 to 90.			6																						
	Over 90.																									
Totals.	18	12	224	1	4	7	16	2	1	18	10	20	27	57	3	1	1	1	1	6	35					
Diseases of the circulatory system.	10 to 15.																									
	15 to 20.																									
	20 to 30.		1	13																						
	30 to 40.	1		26																						
	40 to 50.	1	1	40																						
	50 to 60.	3	3	43																						
	60 to 70.	3	3	33																						
	70 to 80.	1	1	8																						
	80 to 90.	1		8																						
	Over 90.	1																								
Totals.	10	13	217	3	1	8	38			25	9	14	21	45	1	1	1	3	5	19						

NEW JERSEY FROM CERTAIN SELECTED DISEASES FOR THE YEAR ENDING
1905—Continued.

	Occupations																										
	Physicians.	Photographers.	Physicians.	Plumbers.	Porters.	Printers.	Railroad employes.	Rubberworkers.	Sailors.	Salesmen.	Shoemakers.	Silkworkers and silkweavers.	Stonecutters.	Tailors.	Tanners.	Teachers.	Telegraphers.	Thermistis.	Undertakers.	Upholsterers.	Waiters.	Weavers.	Wheelwrights.	Wireworkers.	All other occupations.	All other professions.	
10 to 15.	1																										
15 to 20.	1																										
20 to 30.	3	1	1																								
30 to 40.	1																										
40 to 50.	1																										
50 to 60.	1																										
60 to 70.	1																										
70 to 80.	1																										
80 to 90.	1																										
Over 90.	1																										
Totals.	13	6	2	3	7	6	26	3	4	33	15	10	3	16	4	4		2	5	1	4	17	1	1	33	5	11

TABLE 50.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES, THE YEAR ENDING

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY, FOR DECEMBER 31, 1905.

DEATHS IN BAYONNE.

	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										1
Measles.....	5										
Scarlet Fever.....	6										
Whooping Cough.....	7										
Diphtheria and Croup.....	7										
Pneumonia.....	14										
Pyemia and Septicemia.....	14										1
Rabies.....	17										
Malarial Cachexia.....	20										
Tuberculosis.....	20										
Of the Lungs.....	A										
Of the Meninges.....	B										
Of Other Organs.....	E	22									
Of the Stomach and Liver.....	B										
Cancer.....	C										
Of the Intestines and Rectum.....	C	25									
Of the Breast.....	D										
Others.....	G										
Rheumatism.....	26										
Diabetes.....	28										
Exophthalmic Goitre.....	28										
Furunculosis.....	32										
Alcoholism (Acute or Chronic).....	34										
Simple Meningitis.....	39										
Cerebral Hemorrhage and Congestion.....	42										4
Paralysis Without Indicated Cause.....	44										
General Paralysis.....	45										
Epilepsy.....	47										
Non-Puerperal Eclampsia.....	48										
Convulsions of Infants.....	48	4	1								
Diseases of the Ears.....	54										
Pericarditis.....	55										
Endocarditis.....	56										3
Organic Diseases of the Heart.....	57										3
Angina Pectoris.....	57										1
Diseases of Arteries, Aneurism, &c.....	59										
Embolism.....	60										
Varices, Varicose Ulcers, Hemorrhoids.....	61										
Diseases of the Larynx and Thyroid Body.....	68										
Acute Bronchitis.....	69										
Chronic Bronchitis.....	70										
Broncho-Pneumonia.....	71										
Pneumonia.....	72										
Fleuriety.....	73										
Congestion and Apoplexy of Lungs.....	74										
Asthma.....	76										
Ulcer of Stomach.....	80										
Other Diseases of Stomach (Cancer excepted).....	81										
Infantile Diarrhea, Atheria.....	85	5	5	20							
Diarrhea and Enteritis.....	83										
Dysentery.....	84	1	6	5							
Hernia and Intestinal Obstructions.....	86										
Cirrhosis of the Liver.....	90										
Other Diseases of the Liver.....	92										
Inflammatory Peritonitis (Non-Puerperal).....	93										
Acute Nephritis.....	96										
Bright's Disease.....	97										
Other Diseases of the Kidneys and Adnexa.....	100										
Accidents of Pregnancy.....	116										
Erysipelas.....	125										
Gangrene.....	126										
Malformations.....	137										
Congenital Debility, Icterus and Sclerema.....	138	29	13	2							

	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 chestnut while on desk, nutten by mark.)	United States.	England.	France.	Germany.	Germany, retained.	Italy.	Scotland.	Hungary.	Isweden.	Other foreign.	Not stated.	Married.	Single.	Widowed.	Not stated.
Typhoid Fever.....								4	1												2		2	1		
Measles.....								1	1												1		1			
Scarlet Fever.....								1	1												1		1			
Whooping Cough.....								1	1												1		1			
Diphtheria and Croup.....								8	8				13								1		14	1		
Pneumonia.....								1	1												1		1			
Pyemia and Septicemia.....								1	1												1		1			
Rabies.....								1	1												1		1			
Malarial Cachexia.....								1	1												1		1			
Tuberculosis.....	6							3	3			3								10	1	3	27	7		
Of the Lungs.....								3	3			3								10	1	3	27	7		
Of the Meninges.....								1	1			1								1		1	1			
Of Other Organs.....								1	1			1								1		1	1			
Of the Stomach and Liver.....								1	1			1								1		1	1			
Cancer.....	1							1	1			1								3		3	2	1		
Of the Intestines and Rectum.....								1	1			1								3		3	2	1		
Of the Breast.....								1	1			1								3		3	2	1		
Others.....								1	1			1								3		3	2	1		
Rheumatism.....								1	1			1								1		1				
Diabetes.....								1	1			1								1		1				
Exophthalmic Goitre.....								1	1			1								1		1				
Furunculosis.....								1	1			1								1		1				
Alcoholism (Acute or Chronic).....								1	1			1								1		1				
Simple Meningitis.....								1	1			1								1		1				
Cerebral Hemorrhage and Congestion.....								1	1			1								1		1				
Paralysis Without Indicated Cause.....								1	1			1								1		1				
General Paralysis.....								1	1			1								1		1				
Epilepsy.....								1	1			1								1		1				
Non-Puerperal Eclampsia.....								1	1			1								1		1				
Convulsions of Infants.....								1	1			1								1		1				
Diseases of the Ears.....								1	1			1								1		1				
Pericarditis.....								1	1			1								1		1				
Endocarditis.....								1	1			1								1		1				
Organic Diseases of the Heart.....								1	1			1								1		1				
Angina Pectoris.....								1	1			1								1		1				
Diseases of Arteries, Aneurism, &c.....								1	1			1								1		1				
Embolism.....								1	1			1								1		1				
Varices, Varicose Ulcers, Hemorrhoids.....								1	1			1								1		1				
Diseases of the Larynx and Thyroid Body.....								1	1			1								1		1				
Acute Bronchitis.....								1	1			1								1		1				
Chronic Bronchitis.....								1	1			1								1		1				
Broncho-Pneumonia.....								1	1			1								1		1				
Pneumonia.....								1	1			1								1		1				
Fleuriety.....								1	1			1								1		1				
Congestion and Apoplexy of Lungs.....								1	1			1								1		1				
Asthma.....								1	1			1								1		1				
Ulcer of Stomach.....								1	1			1								1		1				
Other Diseases of Stomach (Cancer excepted).....								1	1			1								1		1				
Infantile Diarrhea, Atheria.....								3	3			4								3		4				
Diarrhea and Enteritis.....								3	3			4								3		4				
Dysentery.....								3	3			4								3		4				
Hernia and Intestinal Obstructions.....								4	4			4								4		4				
Cirrhosis of the Liver.....								4	4			4								4		4				
Other Diseases of the Liver.....								4	4			4								4		4				
Inflammatory Peritonitis (Non-Puerperal).....								4	4			4								4		4				
Acute Nephritis.....								1	1			1								1		1				
Bright's Disease.....								1	1			1								1		1				
Other																										

TABLE 62.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES, THE YEAR ENDING

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY, FOR DECEMBER 31, 1905.

DEATHS IN HARRISON.	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.
Measles.....	5											
Scarlet Fever.....	6											
Whooping Cough.....	7											
Diphtheria and Croup.....	8											
Pyæmia and Septicæmia.....	14											
Intermittent Fever.....	19											
Tuberculosis.....	22	A	1	1	1	5	3	5	5	2	2	
(Of the Lungs.....)		B	1	1	1	5	3	5	5	2	2	
(Of the Mouth.....)		A										
Cancer.....	25	B										
(Of the Stomach and Liver.....)		C										
(Of the Female Genital Organs.....)		D										
Rheumatism.....	26											
Diabetes.....	28											
Leukæmia.....	31											
Anæmia Chlorosis.....	32		1	1	1	1						
Simple Meningitis.....	39		6	1	1	3	1					
Cerebral Hemorrhage and Congestion.....	42		1									
Paralysis Without Indicated Cause.....	44								2	1	1	
Convulsions of Infants.....	49	2	6	3								
Endocarditis.....	56				1						1	
Organic Diseases of the Heart.....	57	1										2
Angina Pectoris.....	58											
Embolism.....	60											
Varices, Varicose Ulcers, Hemorrhoids.....	61											
Diseases of the Larynx and Thyroid Body.....	68											
Acute Bronchitis.....	69			1	1							
Chronic Bronchitis.....	70						1	1				
Broncho-Pneumonia.....	71	5										
Pneumonia.....	72	2	1	1			2	1	2			
Pleurisy.....	73										1	
Congestion and Apoplexy of the Lungs.....	74											
Other Diseases of the Respiratory System.....	77	B									1	
Other Diseases of the Stomach (Cancer excepted).....	81		1									
Infantile Diarrhœa, Athrepsia.....	82		2	3	1							
Diarrhœa and Enteritis.....	83											
Dysentery.....	84											
Hernia and Intestinal Obstructions.....	86											
Cirrhosis of the Liver.....	90											1
Inflammatory Peritonitis (Non-Puerperal).....	93											
Acute Nephritis.....	96											
Bright's Disease.....	97											
Other Diseases of the Kidneys and Adnexa.....	100											
Uterine Tumors (Non-Cancerous).....	111											
Puerperal Albuminuria and Eclampsia.....	121											
Erysipelas.....	125											
Other Diseases of the Skin and Adnexa.....	129	F										
Malformations.....	137											
Congenital Debility, Icterus and Sclerema.....	138		1	1								
Want of Care.....	139		5	1								
Senile Debility.....	141											
Suicide or Attempt (By Poison.....)	142	A					2					
at Suicide.....		B										
By Firearms.....	D											
Other Accidental Injuries.....	145		2		1	1	1					
Burns by Fire.....	146	A										
Sunstroke and Freezing.....	147											
Unknown or Not Specified Diseases.....	160											

Total deaths, 242. Death-rate, 19.87.

AGE PERIODS.	SEX.	COLOR.	NATIVITY.	SOCIAL CONDITION.			
				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.							
Sweden.							
Other foreign.							
Not stated.							

TABLE 63.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES, THE YEAR ENDING

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.
Hernia and Intestinal Obstructions.....	86	1					1				
Other Diseases of the Intestines.....	87	A									
Acute Yellow Atrophy of the Liver.....	88										1
Cirrhosis of the Liver.....	90					1		2	3	3	
Biliary Calculi.....	91										
Other Diseases of the Liver.....	92										
Inflammatory Peritonitis (Non-Puerperal).....	95										
Appendicitis.....	96										
Acute Nephritis.....	96										
Bright's Disease.....	97										
Other Diseases of the Kidneys and Adnexa.....	100										
Diseases of the Bladder.....	102										
Metritis.....	109										
Other Diseases of the Female Genital Organs.....	114	C									
Puerperal Hemorrhage.....	117										
Puerperal Septicemia.....	A										
Puerperal Phlebitis.....	B	119									
Puerperal Metroperitonitis.....	120										
Puerperal Albuminuria and Eclampsia.....	121										
Gangrene.....	123										
Phlegmon, Acute Abscess.....	123	1									
Other Diseases of the Bones.....	132										
Malformations.....	137	6									
Congenital Debility, Icterus and Sclerema.....	138	37	10								
Want of Care.....	139	4									
Senile Debility.....	141	4									
Suicide or Attempt at Suicide.....	142										
By Poison.....	A					1	1	3	1	1	
By Asphyxia.....	B										
By Strangulation.....	C										
By Firearms.....	D										
By Cutting Instruments.....	E										
By Precipitation from Height.....	G										
Fractures.....	143										
Other Accidental Injuries.....	143										
Burns by Fire.....	146	A	1	1	3	3	7	4	4	1	3
Sunstroke and Freezing.....	147	1									1
Accidental Drowning.....	148										
Inhalation of Noxious Gases (Suicide excepted).....	150										
Other Accidental Poisoning.....	151										
Other External Violence.....	152										
Abdominal Tumor.....	158										
Other Tumors.....	159										
Unknown or Not Specified Diseases.....	160	1									

Total deaths, 1,382. Death-rate, 21.11.

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY, FOR DECEMBER 31, 1905—Continued.

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.		
Fifty to fifty-five.	1	6	2																
Fifty-five to sixty.	17	3																	
Sixty to seventy.	6	1																	
Seventy to eighty.	1																		
Eighty to ninety.	1																		
Over ninety.	1																		
Not stated.	3	6	1																
Male.	3	6	2																
Female.	17	3																	
Color of decedent while in this State by mark.																			
United States.			2																
England.			1																
France.			1																
Germany.			1																
Ireland.			2																
Italy.			1																
Scotland.			1																
Hungary.			1																
Sweden.			1																
Other foreign.			1																
Not stated.			1																
Married.			4																
Single.			1																
Widowed.			1																
Not stated.			1																

TABLE 67.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES, THE YEAR ENDING

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.	Forty to forty-five.	Forty-five to fifty.
	A	B	C	D	E	F	G	H	I	J	
Typhoid Fever.....	1										
Malaria.....	5										
Diphtheria and Croup.....	9										
Influenza.....	9										
Pyæmia and Septicæmia.....	14										
Of the Lungs.....	A										
Of the Meninges.....	B										
Of the Peritoneum.....	C										
Of Other Organs.....	E										
Tuberculosis.....	22										
Of the Mouth.....	A										
Of the Stomach and Liver.....	B										
Of the Intestines and Rectum.....	C										
Of the Female Genital Organs.....	D										
Of the Breast.....	E										
Others.....	F										
Cancer.....	25										
Of the Stomach and Liver.....	A										
Of the Intestines and Rectum.....	B										
Of the Female Genital Organs.....	C										
Of the Breast.....	D										
Others.....	E										
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.....	44										
Other Forms of Insanity.....	48										
Tetanus.....	50										
Endocarditis.....	56										
Organic Diseases of the Heart.....	57										
Disease of the Arteries, Atheroma, Aneurism, &c.....	59										
Other Diseases of the Circulatory System.....	68										
Acute Bronchitis.....	69										
Broncho-Pneumonia.....	71										
Pneumonia.....	72										
Asthma.....	76										
Other Diseases of the Respiratory System.....	77										
Ulcer of the Stomach.....	80										
Other Diseases of the Stomach (Cancer excepted).....	81										
Infantile Diarrhœa, Athropsia.....	82										
Diarrhœa and Enteritis.....	83										
Dysentery.....	84										
Hernia and Intestinal Obstructions.....	86										
Cirrhosis of the Liver.....	90										
Biliary Calculi.....	91										
Inflammatory Peritonitis (Non-Puerperal).....	92										
Appendicitis.....	92										
Acute Nephritis.....	95										
Bright's Disease.....	96										
Diseases of the Bladder.....	97										
Metritis.....	102										
Ovarian Cysts and Other Ovarian Tumors.....	109										
Puerperal Albuminuria and Eclampsia.....	113										
Anthrax Carbuncle.....	121										
Plegmon, Acute Abscess.....	123										
Other Diseases of the Bones.....	132										
Malformations.....	137										
Congenital Debility, Icterus and Sclerema.....	138										
Senile Debility.....	144										
Suicide or Attempt at Suicide—By Asphyxia.....	142 B										
Fractures.....	143										
Other Accidental Injuries.....	143 A										
Burns by Fire.....	145										
Accidental Drowning.....	146 A										
Other Accidental Poisoning.....	148										
Other External Violence.....	151										
Dropsy.....	152										
	155										

Total deaths, 262. Death-rate, 21.50.

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY, FOR DECEMBER 31, 1905.

AGE PERIODS.	SEX.	COLOR.	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.																					
Color of decedent (unless classified by mark).																					
Color of decedent (unless classified by mark).																					
Color of decedent (unless classified by mark).																					
Color of decedent (unless classified by mark).																					
Color of decedent (unless classified by mark).																					
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Color of decedent (unless classified by mark).																					
Color of decedent (unless classified by mark).																					
Color of decedent (unless classified by mark).																					
Color of decedent (unless classified by mark).																					
Color of decedent (unless classified by mark).																					
Color of decedent (unless classified by mark).	</																				

TABLE 68.—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.
Typhoid Fever.....	1					1						
Scarlet Fever.....	6											
Diphtheria and Croup.....	8		1									
Influenza.....	9											
Other Epidemic Diseases—Mumps.....	13	C	1									
Tuberculosis—Of the Lungs.....	22	A				4	2	2				
Cancer { Of the Stomach and Liver.....	25	B										
Of the Intestines and Rectum.....		C										
Of the Female Genital Organs.....		D						1				
Of the Breast.....		E										
Diabetes.....	28											
Alcoholism (Acute or Chronic).....	34											
Simple Meningitis.....	39		3					1				
Progressive Locomotor Ataxia.....	40								1			
Cerebral Hemorrhage and Congestion.....	42									1	1	
Paralysis Without Indicated Cause.....	44											
General Paralysis.....	45											
Conjunctivitis of Infants.....	49	2	1									
Endocarditis.....	56									1		
Organic Diseases of the Heart.....	57		1					3				
Diseases of the Arteries, Atheroma, Aneurism, &c.....	59											
Embolism.....	60											
Acute Bronchitis.....	69		1									
Broncho-Pneumonia.....	71		2			1						
Pneumonia.....	72		4			3						
Congestion and Apoplexy of the Lungs.....	74		1									
Other Diseases of the Stomach (Cancer excepted).....	81	2	3	1								
Infantile Diarrhoea, Atresia.....	82	1	2	3								
Diarrhoea and Enteritis.....	83										1	
Dysentery.....	84											
Hernia and Intestinal Obstructions.....	86		1		1							
Cirrhosis of the Liver.....	90											
Other Diseases of the Liver.....	92	1		1								
Acute Nephritis.....	96											
Bright's Disease.....	97											
Puerperal Septicemia.....	119	A				2						
Puerperal Albuminuria and Eclampsia.....	121											
Congenital Debility, Icterus and Sclerema.....	138		7	5								
Senile Debility.....	141											
Suicide or Attempt at Suicide—Others.....	142	I				1						
Other Accidental Injuries.....	145								1			
Burns by Fire.....	146	A										
Accidental Drowning.....	148					1						
Other Accidental Poisoning.....	151											

Total deaths, 163. Death-rate, 13.72.

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY, FOR
DECEMBER 31, 1905.

	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.	White unless designated by mark.	United States.	England.	France.	Germany.	Ireland.	Italy.	Scotland.	Hungary.	Sweden.	Other foreign.	Not stated.	Married.	Single.	Widowed.	Not stated.

TABLE 70.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES, THE YEAR ENDING

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY, FOR DECEMBER 31, 1905.

DEATHS IN MORRISTOWN.	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											
Measles.....	7											
Whooping Cough.....	5											
Diphtheria and Croup.....	8											
Influenza.....	9											
Tuberculosis { Of the Lungs.....	22											
Syphilis { Of the Meninges.....	24											
Cancer { Of the Stomach and Liver.....	25											
Of the Intestines and Rectum.....												
Of the Female Genital Organs.....												
Of the Breast.....												
Anemia Chlorosis.....	32											
Alcoholism (Acute or Chronic).....	34											
Simple Meningitis.....	39											
Progressive Locomotor Ataxia.....	40											
Cerebral Hemorrhage and Congestion.....	42											
Softening of the Brain.....	43											
Other Forms of Insanity.....	46											
Epilepsy.....	47											
Non-Puerperal Eclampsia.....	48											
Convulsions of Infants.....	49											
Other Diseases of the Nervous System.....	52											
Endocarditis.....	56											
Organic Diseases of the Heart.....	57											
Diseases of the Arteries, Atheroma, Aneurism, &c.....	59											
Embolism.....	60											
Hemorrhage.....	65											
Diseases of the Larynx and Thyroid Body.....	68											
Chronic Bronchitis.....	70											
Broncho-Pneumonia.....	71											
Pneumonia.....	72											
Pleurisy.....	73											
Congestion and Apoplexy of the Lungs.....	74											
Asthma.....	76											
Other Diseases of the Respiratory System.....	77											
Other Diseases of the Stomach (Cancer excepted).....	81											
Infantile Diarrhoea, Athrepsia.....	82											
Diarrhoea and Enteritis.....	83											
Hernia and Intestinal Obstructions.....	86											
Cirrhosis of the Liver.....	90											
Other Diseases of the Liver.....	92											
Appendicitis.....	95											
Acute Nephritis.....	96											
Bright's Disease.....	97											
Vesical Calculi.....	101											
Puerperal Septicæmia.....	119											
Gangrene.....	126											
Other Diseases of the Joints—Arthritis.....	134											
Malformations.....	137											
Congenital Debility, Icterus and Sclerema.....	138											
Senile Debility.....	141											
Suicide or Attempt at Suicide—By Poison.....	142											
Fractures.....	143											
Other Accidental Injuries.....	145											
Burns by Fire.....	146											
Stroke and Freezing.....	147											
Other Accidental Poisoning.....	151											
Abdominal Tumor.....	155											
Other Tumors.....	159											
Unknown or Not Specified Diseases.....	160											

Total deaths, 248. Death-rate, 20.42.

AGE PERIODS.	SEX.	COLOR.	NATIVITY.										SOCIAL CONDITION.						
			United States.	England.	France.	Germany.	Ireland.	Italy.	Switzerland.	Hungary.	Sweden.	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.																			
Switzerland.																			
Hungary.																			
Sweden.																			
Other foreign.																			
Not stated.																			
Married.																			
Single.																			
Widowed.																			
Not stated.																			

TABLE 71.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES, THE YEAR ENDING

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY, FOR DECEMBER 31, 1905.—Continued.

DEATHS IN NEWARK.	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	4	1	1	1	1	1	2	3	3
Dysentery.....	84	4	3	2	1	1	1	1	1	1	1	1
Hernia and Intestinal Obstructions.....	86	1	3	1	1	1	1	1	1	1	1	1
Other Diseases of the Intestines.....	37	A										
Diseases of Anus, Fecal Fistulas.....	B											
Acute Yellow Atrophy of the Liver.....	88											
Cirrhosis of the Liver.....	90		1									
Biliary Calculi.....	91											
Other Diseases of the Liver.....	92	2										
Inflammatory Peritonitis (Non-Puerperal).....	93		1									
Appendicitis.....	95											
Acute Nephritis.....	96											
Bright's Disease.....	97	1	1	2	6	1	1	1	1	1	1	1
Perinephritis and Perinephritic Abscess.....	98											
Other Diseases of the Kidneys and Adnexa.....	100											
Vesical Calculi.....	101											
Diseases of the Bladder.....	102	1	1									
Diseases of the Urethra—Others, Stricture, Abscess, &c.—103 B												
Diseases of the Prostate.....	104											
Other Diseases of the Male Genital Organs.....	106											
Abscess of the Pelvis.....	107											
Metritis.....	109											
Uterine Tumors (Non-Cancerous).....	111											
Ovarian Cysts and Other Ovarian Tumors.....	113											
Other Diseases of the Female Genital Organs.....	114 C											
Non-Puerperal Discharge of the Breast (Cancer excepted).....	115 C											
Accidents of Pregnancy.....	116											
Puerperal Hemorrhage.....	117		1									
Other Accidents of Labor.....	118											
Puerperal Septicæmia.....	119 A											
Puerperal Metropelionitis.....	120											
Puerperal Albuminuria and Eclampsia.....	121											
Erysipelas.....	125	4	6									
Gangrene.....	126											
Anthrax Carbuncle.....	127											
Phlegmon, Acute Abscess.....	128											
Other Diseases of the Skin and Adnexa.....	129 F	1	1	1								
Potts' Disease.....	130											
Other Diseases of the Bones.....	132		1									
Amputation.....	135											
Malformations.....	137	6	5	1								
Congenital Debility, Icterus and Sclerema.....	138	140	102	8								
Want of Care.....	139	28	10									
Other Diseases Peculiar to Infancy.....	140	3										
Senile Debility.....	141											
Suicide or Attempt at Suicide.....	142											
By Poison.....	A				5	7	6	6	3	4	4	4
By Asphyxia.....	B				1	1	1	1	1	1	1	1
By Strangulation.....	C				1	2	1	1	1	1	1	1
By Firearms.....	D											
By Cutting Instruments.....	E											
By Drowning.....	F											
Others.....	I											
Fractures.....	143											
Other Accidental Injuries.....	145		2									
Burns by Fire.....	146 A											
Sunstroke and Freezing.....	147	1	2	3								
Accidental Drowning.....	148			4	1	1	1	2	1	1	1	1
Inhalation of Noxious Gases (Suicide excepted).....	150			1	1	1	1	1	1	1	1	1
Other Accidental Poisoning.....	151											
Other External Violence.....	152	1	1	2	1	1	1	1	1	3	1	1
Exhaustion-Cachexia.....	153											
Dropsy.....	155											
Other Tumors.....	159											
Unknown or Not Specified Diseases.....	160	3										

Total deaths, 4,943. Death-rate, 17.45.

AGE PERIODS.	SEX.	COLOR.	NATIVITY.	SOCIAL CONDITION.	
				Married.	Single.
Fifty to fifty-five.	7	1	19	22	33
Fifty-five to sixty.	1	5	14	28	8
Sixty to seventy.	4	9	22	32	12
Seventy to eighty.	1	1	21	23	17
Eighty to ninety.	1	1	1	2	2
Over ninety.	1	1	1	1	1
Not stated.	1	1	1	1	1
Male.	1	1	1	1	1
Female.	2	8	22	33	8
Color of decedent white unless designated by mark.	1	1	1	1	1
United States.	2	8	22	33	8
England.	1	1	1	1	1
France.	1	1	1	1	1
Germany.	1	1	1	1	1
Ireland.	1	1	1	1	1
Italy.	1	1	1	1	1
Scotland.	1	1	1	1	1
Hungary.	1	1	1	1	1
Sweden.	1	1	1	1	1
Other foreign.	1	1	1	1	1
Not stated.	1	1	1	1	1
Married.	1	1	1	1	1
Single.	1	1	1	1	1
Widowed.	1	1	1	1	1
Not stated.	1	1	1	1	1

TABLE 75.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES, THE YEAR ENDING

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY, FOR DECEMBER 31, 1905.

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.
Typhoid Fever.....	1											
Measles.....	6	1	3	3	1							
Scarlet Fever.....	6	1	3	3	1							
Whooping Cough.....	8	1	3	3	1							
Diphtheria and Croup.....	8	1	3	3	1							
Erysipelas and Septicemia.....	14	1	5	5	1							
Intermittent Fever.....	19	1	7	7	1							
Tuberculosis. {												
Of the Lungs.....	22	1	8	8	1							
Of the Meninges.....	A											
Of Other Organs.....	B											
Of the Stomach and Liver.....	E											
Cancer. {												
Of the Intestines and Rectum.....	B	1	1	1	1							
Of the Skin.....	C											
Others.....	G											
Rheumatism.....	26											
Diabetes.....	28											
Exophthalmic Goitre.....	29											
Leukemia.....	31											
Anemia Chlorosis.....	32											
Alcoholism (Acute or Chronic).....	34											
Simple Meningitis.....	42											
Cerebral Hemorrhage and Congestion.....	39	4	9	5	2	4						
Paralysis Without Indicated Cause.....	44											
General Paralysis.....	45											
Epilepsy.....	47											
Convulsions of Infants.....	49											
Tetanus.....	50											
Other Diseases of the Nervous System.....	52	C										
Endocarditis.....	56											
Organic Diseases of the Heart.....	57	4	2	1	1							
Angina Pectoris.....	58											
Diseases of the Arteries, Atheroma, Aneurism, &c.....	59											
Embolism.....	60											
Varices, Varicose Ulcers, Hemorrhoids.....	61											
Other Diseases of the Circulatory System.....	65											
Diseases of the Larynx and Thyroid Body.....	68											
Acute Bronchitis.....	69	3	3	4								
Chronic Bronchitis.....	70	1	3	3	4							
Broncho-Pneumonia.....	71	1	3	3	4							
Pneumonia.....	72	1	1	1	1							
Pleurisy.....	73											
Congestion and Apoplexy of the Lungs.....	74											
Other Diseases of the Respiratory System.....	77	B										
Ulcer of the Stomach.....	80											
Other Diseases of the Stomach (Cancer excepted).....	81	3	4	1	1							
Infantile Diarrhea, Athrepsia.....	82	4	49	21	1							
Diarrhea and Enteritis.....	83											
Dysentery.....	84											
Hernia and Intestinal Obstructions.....	86	1	2									
Cirrhosis of the Liver.....	90											
Biliary Calculi.....	91											
Other Diseases of the Liver.....	92											
Inflammatory Peritonitis (Non-Furbera).....	93											
Appendicitis.....	95											
Acute Nephritis.....	96											
Bright's Disease.....	97											
Perinephritis and Perinephritic Abscess.....	98											
Abscess of the Pelvis.....	107											
Other Diseases of the Female Genital Organs.....	114	C										
Accidents of Pregnancy.....	116											

	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.
Typhoid Fever.....																											
Measles.....																											
Scarlet Fever.....																											
Whooping Cough.....																											
Diphtheria and Croup.....																											
Erysipelas and Septicemia.....																											
Intermittent Fever.....																											
Tuberculosis. {																											
Of the Lungs.....	2	4	3	1				30	28	3	23	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Of the Meninges.....								8	8		8																
Of Other Organs.....								5	5		5																
Cancer. {																											
Of the Intestines and Rectum.....								1	1		1																
Of the Skin.....								3	3		3																
Others.....								1	1		1																
Rheumatism.....								1	1		1																
Diabetes.....								1	1		1																
Exophthalmic Goitre.....								1	1		1																
Leukemia.....								1	1		1																
Anemia Chlorosis.....								2	2		2																
Alcoholism (Acute or Chronic).....								15	18		15																
Simple Meningitis.....								9	7		9																
Cerebral Hemorrhage and Congestion.....	4	9	5	2	4			1	1		1																
Paralysis Without Indicated Cause.....								1	1		1																
General Paralysis.....								1	1		1																
Epilepsy.....								14	11		14																
Convulsions of Infants.....								2	2		2																
Tetanus.....								1	1		1																
Other Diseases of the Nervous System.....								8	8		8																
Endocarditis.....								14	15		14																
Organic Diseases of the Heart.....								1	1		1																
Angina Pectoris.....								2	2		2																
Diseases of the Arteries, Atheroma, Aneurism, &c.....								1	1		1																
Embolism.....								1	1		1																
Varices, Varicose Ulcers, Hemorrhoids.....								1	1		1																
Other Diseases of the Circulatory System.....								2	2		2																
Diseases of the Larynx and Thyroid Body.....								1	1		1																
Acute Bronchitis.....								4	6		4																
Chronic Bronchitis.....								1	1		1																
Broncho-Pneumonia.....								18	14		18																
Pneumonia.....								32	39		32																
Pleurisy.....								2	2		2																
Congestion and Apoplexy of the Lungs.....								4	6		4																
Other Diseases of the Respiratory System.....								1	1		1																
Ulcer of the Stomach.....								1	1		1																
Other Diseases of the Stomach (Cancer excepted).....								6	6		6																
Infantile Diarrhea, Athrepsia.....								47	29		47																
Diarrhea and Enteritis.....								1	1		1																
Dysentery.....								1	1		1																
Hernia and Intestinal Obstructions.....								2	2		2																
Cirrhosis of the Liver.....								1	1		1																
Biliary Calculi.....								3	3		3																
Other Diseases of the Liver.....								1	1		1																
Inflammatory Peritonitis (Non-Furbera).....								4	4		4																
Appendicitis.....								1	1		1																
Acute Nephritis.....																											

TABLE 75.—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.
Puerperal Septicæmia.....	119	A											
Puerperal Albuminuria and Eclampsia.....	121												
Gangrene.....	126												
Phlegmon, Acute Abscess.....	128			1									
Other Diseases of the Bones.....	132												
White Swellings.....	133												
Malformations.....	137		2										
Congenital Debility, Icterus and Sclerema.....	138		63	29									
Want of Care.....	139		3	29									
Senile Debility.....	141												
Suicide or Attempt at Suicide.....	142	A											
{ By Poison.....		B											
{ By Asphyxia.....		D											
{ By Firearms.....				1									
Fractures.....	143												
Other Accidental Injuries.....	145												
Burns by Fire.....	145	A		4	2	1	1			2	1	4	1
Sunstroke and Freezing.....	147												
Accidental Drowning.....	148												
Inhalation of Noxious Gases (Suicide excepted).....	150												
Other External Violence.....	152		1	1									
Exhaustion-Cachexia.....	153												
Abdominal Tumor.....	158												
Other Tumors.....	159												
Unknown or Not Specified Diseases.....	160		1										

Total deaths, 691. Death-rate, 18.26.

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY, FOR
DECEMBER 31, 1905—Continued.

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 descent white unless designated by mark.	United States.	England.	France.	Germany.	Ireland.	Italy.	Scotland.	Hungary.	Sweden.	Other foreign.	Not stated.	Married.	Single.	Widowed.	Not stated.
							1	1													1				
							1	1		1											1				
							1	1		1											1				
							1	1		1											1				
	1						1	1		1											1				
							47	89		1											86				
							3	3		8											3				
							3	3		3											1		4		
	1						1	1		1											1		1		
							1	1		1											1		1		
							2	1		1											1		1		
							16	4		11											7		11		2
							1	4		4											2		3		
							2	1		1											2		2		
							6	3		6											1		3		
							1	1		1											1		3		
							2	1		3											1		1		
							1	1		1											1		1		
	1						1	1		1											1		1		

TABLE 79.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES,
THE YEAR ENDING

DEATHS IN 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.
Fractures.....		143										
Other Accidental Injuries.....		143										
Burns by Fire.....		146			1		1	1	1	1	1	1
Accidental Drowning.....		148										
Inhalation of Noxious Gases (Suicide excepted).....		150										
Other External Violence.....		152										
Exhaustion-Cachexia.....		153										
Unknown or Not Specified Diseases.....		160										

Total deaths, 289. Death-rate, 15.65.

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY, FOR
DECEMBER 31, 1905—Continued.

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.		
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 when first registered by mark.																			

TABLE 86.—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.
Diarrhea and Enteritis.....	83											
Dysentery.....	84	1	1	1								
Hernia and Intestinal Obstructions.....	86											
Cirrhosis of the Liver.....	80											
Other Diseases of the Liver.....	92	1	1	1								
Inflammatory Peritonitis (Non-Puerperal).....	93	1	1	1								
Appendicitis.....	95	1	1	1								
Acute Nephritis.....	96											
Bright's Disease.....	97											
Renal Calculus.....	99											
Other Diseases of the Kidneys and Adnexa.....	100											
Diseases of the Bladder.....	102											
Ovarian Cysts and Other Ovarian Tumors.....	104											
Other Diseases of the Female Genital Organs.....	113											
Puerperal Hemorrhage.....	114 C											
Puerperal Septicæmia.....	117											
Puerperal Metropertitonitis.....	119 A											
Puerperal Albuminuria and Eclampsia.....	120											
Other Accidents of Pregnancy and Eclampsia.....	121											
Erysipelas.....	123											
Gangrene.....	126											
Phlegmon, Acute Abscess.....	128											
Other Diseases of the Skin and Adnexa.....	129 F											
Other Diseases of the Bones.....	132											
Malformations.....	134 B											
Congenital Debility, Icterus and Sclerema.....	137											
Want of Care.....	138											
Senile Debility.....	139											
141												
Suicide or Attempt at Suicide	142											
By Poison.....	A											
By Asphyxia.....	B											
By Strangulation.....	C											
By Firearms.....	D											
By Cutting Instruments.....	E											
By Drowning.....	F											
Fractures.....	143											
Other Accidental Injuries.....	145											
Burns by Fire.....	146 A											
Sunstroke and Freezing.....	147											
Accidental Drowning.....	148											
Inanition.....	149 B											
Inhalation of Noxious Gases (Suicide excepted).....	150											
Other Accidental Poisoning.....	151											
Other External Violence.....	152											
Exhaustion-Cachexia.....	153											
Dropsy.....	155											
Asphyxia-Cyanosis.....	156											
Other Tumors.....	159											
Unknown or Not Specified Diseases.....	160											
Total deaths, 1,484. Death-rate, 17.62.												

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY, FOR DECEMBER 31, 1905—Continued.

AGE PERIODS.	SEX.	COLOR.	NATIVITY.										SOCIAL CONDITION.						
			United States.	England.	France.	Germany.	Ireland.	Italy.	Scandinavian.	Hungary.	Sweeten.	Other foreign.	Not stated.	Married.	Single.	Widowed.	Not stated.		
Fifty to fifty-five e.																			
Fifty-five to sixty.																			
Sixty to seventy.																			
Seventy to eighty.																			
Eighty to ninety.																			
Over ninety.																			
Not stated.																			
Male.																			
Female.																			
Color of Recedent Marked by mark.																			
United States.																			
England.																			
France.																			
Germany.																			
Ireland.																			
Italy.																			
Scandinavian.																			
Hungary.																			
Sweeten.																			
Other foreign.																			
Not stated.																			
Married.																			
Single.																			
Widowed.																			
Not stated.																			

TABLE 89.—TABULATION OF DEATHS FROM THE CLASSIFIED DISEASES,
THE YEAR ENDING

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.
Typhoid Fever.....	1							
Diphtheria and Croup.....	8							
Pyemia and Septicæmia.....		1	1	1				
Tuberculosis.....								
{ Of the Lungs.....	14							
{ Of the Meninges.....	23		1	1	1	1	5	2
{ Of Other Organs.....	1							
Cancer.....								
{ Of the Stomach and Liver.....	25							
{ Of the Female Genital Organs.....	1							
{ Of the Breast.....	1							
Simple Meningitis.....								
Cerebral Hemorrhage and Congestion.....	39							
General Paralysis.....	42							
Endocarditis.....	45							
Organic Diseases of the Heart.....	56							
Other Diseases of the Circulatory System.....	57							
Acute Bronchitis.....	68							
Chronic Bronchitis.....	69							
Broncho-Pneumonia.....	70							
Pneumonia.....	71							
Other Diseases of the Respiratory System.....	72							
Infantile Diarrhœa, Athropsia.....	77							
Diarrhœa and Enteritis.....	82							
Dysentery.....	83							
Cirrhosis of the Liver.....	84							
Other Diseases of the Liver.....	90							
Inflammatory Peritonitis (Non-Puerperal).....	92							
Bright's Disease.....	93							
Puerperal Albuminuria and Eclampsia.....	97							
Malformations.....	121							
Congenital Debility, Icterus and Sclerema.....	137							
Want of Care.....	138							
Suicide or Attempt } By Firearms.....	139							
} By Precipitation from Height.....	142							
Other Accidental Injuries.....	145							
Sunstroke and Freezing.....	147							
Unknown or Not Specified Diseases.....	160							

Total deaths, 107. Death-rate, 13.59.

IN THE STATISTICAL DIVISIONS OF THE STATE OF NEW JERSEY, FOR
DECEMBER 31, 1905.

AGE PERIODS.	SEX.	COLOR.	NATIVITY.	SOCIAL CONDITION.			
				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 to designate by mark.							
United States.							
England.							
France.							
Germany.							
Ireland.							
Italy.							
Scotland.							
Hungary.							
Sweden.							
Other foreign.							
Not stated.							
Married.							
Single.							
Widowed.							
Not stated.							

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