

# PUBLIC HEALTH REPORTS

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VOL. 30

AUGUST 27, 1915

No. 35

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## THE PHARMACY OF USEFUL DRUGS.<sup>1</sup>

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Soon after the organization of the council on pharmacy and chemistry of the American Medical Association in the early spring of 1905, it became evident that much of the then existing misuse of proprietary remedies was due to the fact that by far the greater number of medical practitioners had received but inadequate instruction regarding the possible uses and limitations of official and other widely used medicines. It was also recognized that with the limited amount of time that could be devoted to *materia medica* subjects in the already overcrowded curriculum of medical schools it would be practically impossible to present even a superficial review of the four or five thousand drugs and preparations in everyday use.

As the fundamental object of the council on pharmacy and chemistry is to develop and foster the intelligent use of medicinal preparations in the treatment of disease, it became necessary to consider the practicability of bringing about a change in the then existing condition. At the meeting of the American Medical Association in Boston in 1907 the problems involved were discussed and on the recommendation of the section on pharmacology and therapeutics a subcommittee of the council was later appointed to consider ways and means to bring about more efficient instruction in *materia medica* subjects. This subcommittee, after due consideration, came to the conclusion that teachers in *materia medica* subjects in medical schools felt that it was necessary to impart a smattering of information in regard to a large number of drugs and their preparations because members of State medical examining and licensing boards were likely to ask questions regarding them. Members of State medical examining and licensing boards, on the other hand, thought it desirable to ask questions regarding the many thousands of official and non-official drugs and preparations because teachers of *materia medica* subjects referred to them in their lectures and discussed them in

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<sup>1</sup>Presented at the meeting of the Pennsylvania Pharmaceutical Association, Forest Park, Pa., June 22-24, 1915.

their textbooks. From this conclusion it became evident that if the members of State medical examining and licensing boards could be induced to restrict their examinations in *materia medica* subjects to a more limited list of articles more time could be devoted to their study. Conversely, if instruction in *materia medica* subjects could be restricted to the comprehensive consideration of a reasonably limited number of widely used and thoroughly well established articles, the student could be given a thorough grounding in the properties and uses of the several drugs and preparations, and this would go far toward eliminating many, if not all, of the then existing abuses.

The acceptance of such a list of useful drugs, it was further thought, might serve as an added incentive for the development of international standards for purity and strength of widely used medicaments.

The original list was compiled in cooperation with the council on medical education of the American Medical Association and was subsequently submitted to members of the National Confederation of State Medical Examining and Licensing Boards. It was later submitted to teachers of *materia medica* and therapeutics in medical schools and to members of State medical examining and licensing boards and finally, through the columns of the Journal of the American Medical Association, to medical practitioners generally.

The principles guiding the inclusion of articles in the list of useful drugs were primarily based on the continued extensive use of a drug or preparation, on the reports of clinical experiments as reflected in current literature, and on the reports of experimental work done in pharmacologic laboratories and in hospitals equipped with proper laboratory facilities.

Recognizing the influence of current medical literature, even when evidently of an advertising nature, the council has included in the list of useful drugs a number of articles not now included in the *Pharmacopœia* of the United States or to be included in the revision now in press.

In round numbers, the present list of useful drugs includes 450 titles, of which 231 may be classed as drugs and chemicals, 173 as preparations, 43 as definitions of forms of drugs, and 13 as cross references.

As suggested above, the list is primarily intended to be educational and to reflect as nearly as is practicable the best medical practices of the time. The object is not to restrict teaching in medical schools to this list but to make sure that medical students are given a comprehensive and satisfactory training regarding the properties and uses of the several articles and are duly impressed with their shortcomings and limitations.

It is satisfactory to note in this connection that teachers in medical schools generally have evidenced an appreciation of the need for

devoting an additional amount of time to the consideration of the more important medicaments, and there is now a fair prospect that future graduates in medicine will be given ample instruction to develop an efficient therapeutic armamentarium.

The pharmacy of this list of useful drugs has as yet not received the care and attention that are properly due it. Pharmacists generally do not appear to realize that much, if not all, of the dissatisfaction with established or well-known drugs is due to the fact that as these drugs reach the patient they are frequently not strictly in accord with the requirements of established standards.

The compilation of data from the reports of State boards of health and of State food and drug inspectors, as presented in the several volumes of the "Digest of Comments on the Pharmacopœia of the United States and on the National Formulary," clearly shows that fully 50 per cent of the more widely used preparations do not comply within reasonable limits with official requirements. The chemist of the Maine Agricultural Experiment Station in a recent comment on this shortcoming says in part:

"It is rather startling to find that half of the pharmaceutical preparations examined, which are as simple to make as a batch of biscuit, differ more than 10 per cent from the standard."

The object of pharmacy is to exercise control over the identity and purity of articles used as medicine, and while it is generally admitted that the average pharmacist can not well be expected to systematically examine all of the thousands of articles carried in stock, there is practically no reason why he should not concentrate his efforts and ability on the limited number of articles included in the list of useful drugs, so as to assure physicians and others that the articles included in this list will uniformly comply with the official requirements.

As noted above, the list is intended to include only such drugs and preparations as are in general use or are accepted as having well-established medicinal value or demonstrated superiority. The list at the present time includes practically all of the preparations of the Pharmacopœia of the United States for which standards and assay processes are included and also includes practically all of the widely used household remedies that are frequently examined and reported on by officials intrusted with the enforcement of food and drug laws, and for these reasons alone pharmacists would do well to consider the practicability of devoting additional attention to the systematic examination and control of the several articles.

With the impending revision of the Pharmacopœia and of the National Formulary, the council is about to revise the list, and teachers in medical schools, members of State medical examining and licensing boards, and others are being consulted at the present

time in regard to the practicability or desirability of omitting from and adding to the list of useful drugs.

In this connection it should be remembered that the members of the council fully realize that individually or as a body they are neither omniscient nor infallible. From its very origin the council has sought the cooperation and assistance of not only medical men but also pharmacists.

In the revision of the list under discussion it is particularly important that pharmacists should be given an opportunity to record their criticisms and opinions of the list and its objects and to suggest ways and means for inducing pharmacists generally to prepare and to dispense the preparations included in the list in accord with official requirements.

As has been pointed out before, we in this country are sadly in need of more energetic and more effective control of all drugs and medicines. The only really safe and efficient control involves honesty, knowledge, intelligence, and care on the part of the person dispensing the medicine to the consumer, so that pharmacists as a class must be induced to devote special attention to the systematic examination and control of drugs and preparations widely used in the treatment of disease. In conclusion it may be stated that pharmacists as a class may well endeavor to secure for themselves and for their craft the recognition and respect that are properly their due for services rendered, but it will be practically impossible to do this unless they collectively and individually insist that all members of their craft live up fully to the requirements that may be reasonably made of them.

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## **PUBLIC HEALTH ADMINISTRATION IN CHICAGO, ILL.**

### **A STUDY OF THE ORGANIZATION AND ADMINISTRATION OF THE CITY HEALTH DEPARTMENT.**

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[This is the second installment of this report. The first installment appeared in the Public Health Reports of Aug. 20, 1915, p. 2442.]

#### **BUREAU OF FOOD INSPECTION.**

The bureau is under the supervision of a chief and assistant bureau chief. The office force consists of a chief clerk, seven junior clerks, and one stenographer. A veterinarian, charged with the supervision of inspected farms, divides his time between field and office work. The bureau chief, assistant chief, and veterinarian each have the services of a stenographer. The field force comprises inspectors and supervising inspectors.

*Laws and ordinances.*—The provisions of the ordinances under which the bureau of food inspection operates are briefly summarized as follows:

Every person or corporation selling milk must secure a license, and this applies to every store, booth, and wagon. Vehicles must carry the name and address of place of business on the outside, together with a metal plate showing the words "Chicago" and "Milk" and the number of the license.

All milk, cream, or condensed milk shipped into Chicago must be in cans sealed with the metal seal of the shipper, and no one can sell or dispose of milk shipped in any other way.

Bottled milk must show on the cap the name of the person or corporation that bottled it. Milk sold in stores selling other merchandise must be in tightly closed and capped bottles or some receptacle approved by the commissioner of health.

The cans or bottles must be washed immediately after emptying and sterilized before being refilled. Refrigerators or other places where milk is stored or handled must be kept clean and free from articles that might contaminate the milk.

One ordinance provides that all milk not falling into the class of inspected milk must be pasteurized. To be classed as "inspected" milk must be produced on farms scoring not less than 70 per cent and not contain more than 100,000 bacteria per c. c. from October 1 to May 1, nor more than 150,000 bacteria from May 2 to September 30. Inspected cream may not contain more than 150,000 bacteria per c. c. from October 1 to May 1, nor more than 300,000 bacteria from May 2 to September 30.

Cleanliness in milking must be observed, and the pails, etc., sterilized before use. Milk must immediately be removed from the stable, strained, and cooled to 55° F. or below.

"Inspected milk" must be so labeled, and the cap must, in addition to the name of the bottler, also show the day of the week upon which the milk was bottled. Inspected milk must come from herds inspected and passed by the veterinarian of the department of health or the United States Government.

Milk not conforming to this standard must be pasteurized and come from farms inspected by the department of health. The standard set for pasteurized milk is a bacterial count of 50,000 per c. c. from October 1 to May 1 and 150,000 from May 2 to September 30.

In all continuous pasteurizers the milk and cream must be heated to a temperature to kill 99 per cent of the bacteria and all pathogenic bacteria in the raw product. The temperature must be not less than 140° F. for 20 minutes or not less than 155° F. for 5 minutes.

Pasteurized milk must be so labeled, with the date.

The milk standard requires that milk shall contain not less than 12 per cent total solids, nor less than 3 per cent butter fat, nor more than 88 per cent watery fluid. The standard for cream is fixed at not less than 15 per cent butter fat. Persons offering milk below standard for sale are subject to a fine.

Skimmed milk must be shipped in cans painted red and labeled "Skimmed milk."

Milk and cream transported into the city or delivered from point to point must not be at a temperature higher than 55° F.

Milk can not be sent from dairies or sold from milk depots and stores where a communicable disease exists in an employee or in his family.

Adulteration and addition of coloring or preservative agents are forbidden.

Cows must not be fed on slops or refuse of breweries and vinegar factories; nor may milk be sold from cows 15 days before to one week after parturition.

Ordinances provide for the regulation and supervision of ice manufacture, and prohibit the sale of ice from certain sources; provisions are made for licensing establishments and inspecting sources and plants where ice is stored or manufactured.

Persons engaged in manufacturing or bottling waters, carbonated waters, sirups, or flavoring extracts must have a license. The floors of the establishments must be of proper material and the premises must be kept clean. No such plant can be established in a room where any other business interfering with the sanitary conditions is carried on, or in a room connecting with any stable.

Rooms of bottling plants must be properly ventilated and lighted. Between May 1 and November 1 all windows must be provided with fly and dust screens and all doors with self-closing screen doors.

Persons suffering from consumption, venereal disease, or communicable skin disease may not work in such plants, nor may persons suffering with or convalescent from typhoid, diphtheria, smallpox, chicken-pox, or scarlet fever. Persons living in houses where these diseases prevail are also prohibited until the quarantine is over and disinfection complete.

Licenses must be secured for meat markets, delicatessen stores, restaurants, slaughterhouses, and rendering and packing establishments. Provisions are made for methods of slaughtering, inspection of cattle, game, fish, poultry and meat, time and places where the saluteghting can be done, and a sanitary inspection and control.

Horse flesh for human consumption is prohibited.

Ordinances provide for the packing and handling of fruits, berries, and vegetables, and for the inspection and condemnation of decayed or unwholesome vegetables and fruits.

An ordinance exists providing for the regulation of cold-storage warehouses and the keeping of foodstuffs in cold storage.

Provisions also exist for the inspection of places where malt liquors are bottled and the general sanitary control of such establishments.

Ordinances also provide regulations governing the manufacture of bread, the location and construction of bakeries, and the proper protection of breadstuffs from contamination.

#### Milk Inspection.

On account of the absence of specific ordinances, proper supervision over dairies, milk depots, and pasteurizing plants was handicapped until 1912; and because of insufficient appropriations active inspection of dairies was impossible until July, 1913.

In considering milk inspection, the following subdivisions naturally suggest themselves: (a) dairies; and (b) city milk inspection.

#### COUNTRY DAIRY INSPECTION.

Chicago's daily milk and cream supply of 353,000 gallons is supplied by 14,000 dairies located in Illinois, Wisconsin, Indiana, and Michigan. It is delivered to 81 distributing platforms over four electric interurban railroads and 19 steam railroads. It is estimated that 500,000 cows are maintained for dairy purposes, of which approximately 300,000 are milking. Farms in Illinois and Wisconsin supply the bulk of the milk, with Indiana third and Michigan fourth. Shipments of cream are occasionally received from Ohio and Iowa when there is a shortage in Chicago's regular supply.

The average haul of the milk is 45 miles, and the extreme distance is 130 miles. Eighty per cent of the milk is received from the territory within a radius of 60 miles of Chicago. Many dairies are located only a few miles from the city.

There are 7 small dairies in the suburbs of the city, milking about 200 cows, but as some families keep 1 or 2 cows, there are about 800 of these animals in Chicago. A person must secure a permit to keep a cow in the corporate limits of the city.

This territory is divided into 15 dairy districts, averaging about 933 farms each. To each district is assigned one inspector, whose duty is to inspect and score the farms, creameries, and pasteurizing plants that supply their products to Chicago. The score card of the United States Department of Agriculture is used in estimating and recording the condition of equipment and methods of handling the products.

The inspection of dairies was amplified in 1914. The territory was then mapped out into definite districts and each inspector held responsible for the inspection of all the dairies in his district. He was also instructed to furnish reliable information of the exact location of each dairy, using a spot map for this purpose, so that the exact number of dairies and their location would be known for the entire field. This has been accomplished and a spot map of the entire dairy field is now in course of preparation.

Taking into consideration that there is an average of 933 farms in a district, and estimating that the inspection of 40 farms per week is a proper standard of work, it will be readily seen that the dairy farm inspection service is inadequate. On this basis a dairy would be inspected only twice a year, and the interval between inspections is too long for satisfactory supervision. Bearing in mind that the quality of milk depends largely upon the manner in which it is produced, and that, to a considerable extent, this depends upon instructing the dairyman in cleanly methods in milking and handling the milk products of his dairy, it is apparent that the employment of additional inspectors in this work is needed.

A study was made of the time elapsing between inspections and reinspections of 200 dairy farms during the last two years. Of this number, 60 farms had not been reinspected, the remaining 140 farms being reinspected within an average time of 6.61 months.

TABLE 1.—*Time elapsing between inspections in 200 dairy farms, 1914.*

Number of months elapsing.	Number of dairy farms.	Number of months elapsing.	Number of dairy farms.
1	1	12.	7
2	9	13.	1
3	25	14.	
4	22	15.	2
5	19	16.	2
6	8	17.	1
7	5	21.	1
8	8	26.	1
9	12	Not reinspected.	60
10.	6		
11.	9	Total.....	200

On many farms where orders had been given for improving general conditions and for changes in handling milk no reinspection had been made in months to see if the remedial measures had been carried out. Furthermore, in cases where farm conditions warranted shut-off, dairymen were permitted to continue shipping their products into the city provided they made affidavits that they would at once comply with the requirements. This plan would probably be effective if prompt reinspection was made to see if the changes had been carried out, but with the small number of inspectors that does not seem to have been possible. Unfortunately, the dairyman knows from past experience that reinspections are infrequent and generally does not make the prescribed changes until he thinks the inspector is due back.

Dairy inspection to be effective must be sufficiently frequent to insure proper supervision and especially to enable the inspector to promptly follow up those farms in which changes have been required. There should be ample time to make a careful inspection and to instruct the dairyman in advantageous changes in his stables, milk house, proper cleanliness in milking, cooling of milk, and improved methods in handling the dairy products. A properly qualified inspector can often accomplish more in a half hour's intelligent talk with a dairyman than by a half dozen cursory inspections of the premises. He will soon learn that there are a number of dairies in his district that are clean and properly managed, requiring inspection at only long intervals, whereas others will require frequent inspection to raise them to the proper standard. The average dairy farm should be inspected at least three times a year; some will require inspection every two or three months, whereas those in which changes have been required, or are in bad sanitary condition, should be reinspected at the expiration of the time allowed for such changes. I believe that in order properly and satisfactorily to cover the large number of dairies, the number of inspectors for field dairy work should be increased by 10, one of whom should be a supervisor, making a total of 25.

However, in this connection the advisability of the State executing an inspection service of all dairies in the State of Illinois should be considered. The inspection of dairies by the city department protects only Chicago, whereas that by the State would be operative for all cities in the State. If a scheme of cooperation satisfactory to both departments could be effected, and the work was taken over as outlined above, there would be no need of an increase in the number of inspectors, with the exception of one supervisor for dairy work. It would seem desirable that this consolidation should be made for the inspection of the dairies, but the inspection of the pasteuriz-

ing plants located in the country which supply milk and its products to Chicago should be under the inspection service of that city.

Two grades of farms are recognized by ordinance: Those supplying inspected milk, which shall score 70, and all other dairy farms shipping products to pasteurizing plants that shall score 55. But although a steady improvement has taken place not only in the general sanitary conditions of the farms, but in the quality of the milk as well, many of the farms are below the grades prescribed by ordinance.

The scores of 500 farms reported from 1910 to 1914 were tabulated, and a study of this table shows marked variation between the lowest and highest. The average scores show a rise from 51.18 in 1910 to 56.41 in 1914.

The standard for inspected milk is high and much of the milk furnished does not conform. The real object was to force pasteurization; 18 per cent of the milk consumed in the city falls in this class. The scores of 500 farms supplying this grade are shown in Table 3.

TABLE 2.—*Scores of 500 dairy farms for years 1910-1914.*

Year.	20 to 30 per cent.	31 to 35 per cent.	36 to 40 per cent.	41 to 45 per cent.	46 to 50 per cent.	51 to 55 per cent.	56 to 60 per cent.	61 to 65 per cent.
1910.....	1	4	18	58	97	103	125	70
1911.....	1	3	24	51	80	110	111	86
1912.....		3	25	42	51	103	120	106
1913.....			11	14	40	66	139	124
1914.....			7	7	38	89	115	139

Year.	66 to 70 per cent.	71 to 75 per cent.	76 to 80 per cent.	81 to 85 per cent.	Scores.		Average score, per cent.
					Minim- um.	Maxi- mum.	
1910.....	22	2	.....	.....	29	75	51.18
1911.....	25	7	1	1	20	83	53.85
1912.....	36	10	4	.....	33	79	55.56
1913.....	62	8	5	.....	.....	.....	55.00
1914.....	74	20	2	.....	.....	.....	56.41

TABLE 3.—*Scores of 500 dairy farms supplying inspected milk for year 1914.*

Score.	Number.	Score.	Number.
31 to 40 per cent.....	3	81 to 90 per cent.....	1
41 to 50 per cent.....	44	Total.....	503
51 to 60 per cent.....	155		
61 to 70 per cent.....	271		
71 to 80 per cent.....	26	Average score, per cent.....	62.84

An ordinance requires that reports of herds furnishing inspected milk shall be filed with the department every six months, the certificate showing that the cows have been inspected by a duly authorized veterinarian and found free from tuberculosis. The veterinarian of the bureau staff is charged with the supervision of herd inspection

and general dairy control. He instructs the dairymen as to the necessary changes to be made in order that their dairies may be released.

A study of dairy farm scores shows that there should be more uniformity of standard in scoring, and that inspectors vary much in their methods. Further instructions and practical demonstration in the field should be given the inspectors.

A supervising inspector should be provided who may devote all his time to this field work in connection with dairy farms. At present one supervisor not only has this work, but also that of milk platforms, milk depots, and pasteurizing plants in the city.

The milk at the dairy is not effectively cooled during the summer months. As few dairymen use ice, but rely on well water to take its place, the result is that the night milk is generally cooled, but the morning milk is not, as immediately after milking the cans must go to the railroad platforms for shipment to the city.

*Transportation.*—The transportation of milk by trains to the city during the summer months is faulty in that proper refrigeration of cars is not provided, although an ordinance specifically provides that milk for use in Chicago must be kept at 55° F. or lower. A study shows that there is an increase of two or three degrees in the temperature of the milk in short hauls, even on cool days, with a greater increase in very hot weather.

So far the department has been unable to enforce refrigeration of milk trains. Ten test suits against the carriers have been instituted for violation of the ordinance. This question may be settled at an early date. If the present ordinance is found ineffective, another should be enacted to enforce the provisions.

One fact is certainly established, that much of the milk received at the platforms during the summer months is at a temperature far in excess of that allowed by ordinance. The dairymen maintain that the milk is at the proper temperature when it leaves the farms (which is probably not correct for the morning milk) and that the increase in temperature occurs during transit on the railroads.

#### CITY MILK INSPECTION.

The inspection of milk in the city is carried out at the following places: (a) Milk platforms; (b) milk depots and stores; and (c) pasteurizing plants.

*Milk platform inspection.*—The larger amount of milk is shipped in 8-gallon cans and is received at the platforms between 9 and 10.30 a. m. There are 81 platforms, and the daily shipments vary from 100 to 600 cans at each platform. The inspectors meet the milk trains and do such inspection as their time will permit; but all they can do is to see that the cans are sealed, inspect general cleanliness of cans to be returned, and watch for milk that has been excluded.

With the number of platforms and the amount of milk received it is impossible, in the opinion of the writer, for five inspectors, the number assigned to platform work, to carry out adequate inspection.

In the summer, temperature tests of milk are made and in the winter an occasional sediment test is made. Only a few samples for chemical or bacteriological examination are taken at the platform. If provisions were made for an increase in the number of inspectors, so that a more adequate inspection service could be carried out, a larger number of milk samples should be taken at this point. Thus a more direct check would be had on the milk of farms from which improvement had been required.

In order to execute satisfactory platform inspection and the taking of a requisite number of milk samples for examination, it will be necessary to increase the number of such inspectors to eight. The writer witnessed the inspection at some of the platforms and it was inadequate.

*Milk depot inspection.*—The city is divided into 14 milk districts, to each of which is assigned an inspector, who devotes all his time to the inspection of milk depots, milk wagons, and pasteurizing plants. He inspects and scores the general sanitary conditions of the premises and the equipment and methods of handling milk and milk products.

There are 1,050 milk depots and 246 pasteurizing plants in the city of Chicago. A milk depot is a place where only milk and milk products are sold, and a separate room must be used exclusively for the purpose. I inspected a considerable number of such places in different sections of the city, and the most striking feature noticed in this industry is the very large number of small depots operated by foreigners who sell only a few cans daily. It seems that these foreigners are prone to engage in selling milk as soon as enough money has been saved to enable them to start on a three to five can basis. Many of these operators have to be trained to habits of cleanliness, and until trained their milk rooms and equipment are not in the sanitary condition necessary for handling milk. In some districts at least 30 per cent of the depots should be closed, and not more than 50 per cent meet the minimum of sanitary requirements. Of course, in other districts conditions are better, but on the whole there is need for much improvement, and it will be in the interest of an improved milk supply when many of the small depots are forced out of business by the competition of larger and more sanitary depots. About 50 milk depots supply more than 50 per cent of the total amount of milk consumed.

Some difficulty has been encountered by the department in closing insanitary milk depots, but a number have succumbed to the persistent requirements for improved conditions and methods of handling.

The inspectors cover their district about once a month, although some depots are inspected at more frequent intervals. The minimum work standard for an inspector is 30 original inspections and scorings per week, and the collection of at least 65 chemical milk and cream samples and 7 bacteriological samples per week.

Where chemical analysis of milk and cream samples shows non-compliance with the requirements, the milk dealer is notified to that effect, and in the case of repeated offenses, suit is brought. The same procedure is followed in case of bacteriological examination, except that no suits have been brought on account of high bacterial count alone.

In 1913, 42,503 chemical analyses and 7,131 bacteriological examinations of milk and cream were made, and the number of milk and cream examinations in Chicago during 1914 were as follows:

Chemical.....	50,397
Bacteriological.....	9,114

Tables 4 and 5 show the number of milk and cream samples examined chemically and bacteriologically per 1,000 population in 21 cities:

TABLE 4.—*Number of bacteriological examinations of milk and cream per 1,000 population per annum.*

1. Cincinnati.....	45.03	11. Winnepeg.....	5.00
2. Buffalo.....	15.86	12. New York.....	4.97
3. Baltimore.....	15.37	13. Rochester.....	4.40
4. Detroit.....	14.63	14. Cleveland.....	3.85
5. Toronto.....	13.26	15. Washington.....	3.47
6. Richmond.....	12.01	16. Chicago.....	2.85
7. San Francisco.....	10.53	17. Newark.....	2.76
8. Portland.....	9.58	18. Montreal.....	2.52
9. Boston.....	9.13	19. Milwaukee.....	2.50
10. Seattle.....	8.75	20. Kansas City.....	2.04

TABLE 5.—*Number of chemical analyses of milk and cream per 1,000 population per annum.*

1. Cincinnati.....	143.96	12. St. Louis.....	11.74
2. Buffalo.....	39.24	13. Buffalo.....	11.63
3. Cleveland.....	38.46	14. San Francisco.....	10.53
4. Milwaukee.....	32.50	15. Portland.....	9.58
5. Washington.....	25.46	16. Seattle.....	8.75
6. Richmond.....	19.20	17. Rochester.....	8.00
7. Detroit.....	18.53	18. Newark.....	3.67
8. Boston.....	17.70	19. Montreal.....	3.02
9. Chicago.....	17.00	20. New York.....	1.84
10. Toronto.....	15.92	21. Winnepeg.....	.50
11. Kansas City.....	13.60		

<sup>1</sup>Based on figures for six months.

An examination of the tables shows that the number of bacteriological examinations made of milk and cream in Chicago is low in comparison with many other large cities. The number of these examinations should be increased.

During the summer months 50 per cent, and in the winter 25 per cent, of the chemical samples are required to be taken from milk wagons. This inspection work is done from 3 to 11 a. m.

Each milk depot is scored on the following basis: Location, construction, equipment, and general sanitary condition of the plant, and methods of handling milk products. A minimum score of 70 is required.

The system of scoring by different inspectors, however, is not uniform, and some depots are given scores not justified by actual conditions. There is need for instruction and practical demonstration by supervisors in the field, who should point out to the inspectors the proper standards to be used.

A study of the scores of 500 milk depots during the years 1912, 1913, and 1914 shows average scores of 77, 76.66, and 77.98, respectively. Though these changes are relatively small, the standard of conditions of the entire number of depots shows an appreciable rise.

*Milk stores.*—Although the inspection of milk stores falls under sanitary food inspection and is conducted by the inspectors of that subdivision, the writer deems it best to give them brief consideration in this place.

Milk stores are mostly grocery stores, which also sell milk. Although the ordinance requires that only bottled milk shall be sold, about 2 per cent of the amount of milk sold is handled in bulk; in the latter instance a separate room is required, but in the majority of cases this requirement is not met. A refrigerator must be provided and a separate compartment used for milk exclusively. There are about 5,000 such stores. An inspection was made of several, including some selling milk in bulk. The general sanitary condition noted on the premises does not warrant selling milk except in bottles, and all selling in bulk in these stores should be stopped.

Tables 6 and 7 give the scores of 500 milk depots and stores for the years 1912, 1913, and 1914. I think the average scores are too high and those I inspected certainly were not entitled to such a rating.

TABLE 6.—*Scores of 500 milk depots for years 1912-1914.*

Year.	Under 30 per cent.	31 to 40 per cent.	41 to 50 per cent.	51 to 60 per cent.	61 to 70 per cent.	71 to 80 per cent.	81 to 90 per cent.	91 to 100 per cent.	Total.	Average score (per cent).
1912 .....	1	1	8	23	66	206	177	24	500	77.00
1913 .....	.....	3	10	66	280	125	16	500	76.66	
1914 .....	.....	2	3	25	302	138	20	500	77.98	

TABLE 7.—*Scores of 500 milk stores for years 1912-1914.*

Year.	Under 30 per cent.	31 to 40 per cent.	41 to 50 per cent.	51 to 60 per cent.	61 to 70 per cent.	71 to 80 per cent.	81 to 90 per cent.	91 to 100 per cent.	Total.	Average score (per cent).
1912.....			1	9	22	52	117	299	500	88.95
1913.....	1	4	4	5	16	56	98	316	500	88.75
1914.....			2	2	14	57	113	312	500	89.76

*Pasteurizing plants.*—Eighty-two per cent of the milk and cream consumed in Chicago is pasteurized in 246 pasteurizing plants in the city and 115 in the country. Since the outbreak of foot-and-mouth disease in Illinois, Wisconsin, and other States the pasteurization of all milk from farms within a radius of 5 miles of an infected center is required, and careful watch has been kept over the plants to insure an effective process.

Pasteurization is now required by the holding method and there are several types of apparatus in use operating on this principle. Formerly there were quite a number of flash-type in operation, but all these were required to install holding apparatus in order to secure a license to operate after January, 1915. The required process is not less than 140° F. for 20 minutes, or 155° for 5 minutes, counting from the time this temperature is reached.

Frequent inspections are made of pasteurizing plants while in operation, and the temperature of the milk in different stages of the process and the length of time held are carefully studied, with the feeding apparatus adjusted so that the milk is properly pasteurized. Examination is made as to technique and cleanliness of equipment and insanitary conditions or improper handling of the milk are corrected. By taking samples for bacteriological examination at different stages of the process, the efficiency of the pasteurizer is determined. Before a license is granted to new plants, three specially trained inspectors examine and regulate them. Automatic temperature recording devices must be attached to each pasteurizer.

A special card is used for scoring pasteurizing plants, which takes into consideration three important factors: Location and construction of room, including light, ventilation, floors and walls, where pasteurizing apparatus is installed; the equipment, integral parts of the plant itself, and the methods of handling. The last is given as much weight as the other two combined. This, in my opinion, is correct and should constitute the critical score as to whether a plant conforms to requirements or not.

There are several large pasteurizing plants in the city, well constructed and equipped, yielding good results; there are also many more small plants that are poorly constructed and equipped, and badly managed, yielding poor results. Several of the small plants

have been forced to close by the requirement of holding apparatus, and no doubt many more will succumb to the competition of the larger and more economically conducted plants.

Much that was said regarding the small depots can be applied to these small pasteurizing plants, and the sooner they are forced out of business the better it will be for Chicago's milk supply.

*Certified milk.*—By ordinance this grade of milk falls into the class of inspected milk, but is of a higher grade than the bulk of raw milk on the market. It is secured from farms under regulations as to hygiene prescribed by the milk commission of the Chicago Medical Society. About 12 farms are producing milk which is sold under the name of "Certified milk."

*Improvement in milk.*—The health department has compiled a table showing the average bacteriological count of raw and pasteurized milk examined from 1910 to 1914, inclusive. The ordinance enacted August, 1912, requires that the bacterial count in raw milk shall not exceed 100,000 per c. c. during winter and 150,000 per c. c. during summer, and that in pasteurized milk the count shall not be greater than 50,000 and 100,000 for the respective periods.

TABLE 8.—*Average bacterial counts per c. c.—Samples taken at all seasons.*

Year.	Raw milk.	Market pasteurized milk.	Year.	Raw milk.	Market pasteurized milk.
1910.....	11,500,000	2,000,000	1913.....	2,000,000	500,000
1911.....	5,000,000	2,000,000	1914.....	1,000,000	100,000
1912.....	1,500,000	500,000			

A study of the above figures shows a steady improvement. The standard for raw milk, as already stated, is very high. At the time the ordinance was drafted with the object of practically requiring the pasteurization of all milk much opposition was encountered, and the standard for raw or inspected milk was made so high that no question of purity could be raised if the standard was reached. A percentage of the farms, however, do meet the requirements.

A very noticeable improvement has been effected in pasteurized milk, and no doubt the standard will be reached when most of the small plants have ceased to exist. The supervisor should be able to devote all of his time to the supervision of milk inspection and the work of the inspectors.

#### Sanitary Food Inspection.

There are 23 sanitary food inspection districts, to each of which a food inspector is assigned, and, in addition, 5 extra districts, centrally located, which are inspected in the afternoons by the same inspectors who inspect the milk at platforms in the morning.

The duty of these employees is to inspect all foodstuffs and the establishments in which they are sold, handled, manufactured, or stored.

An exception exists in the case of those bakeries in which structural changes have not been made in accordance with requirements and new bakeries until the commencement of operations. This supervision is vested in the bureau of sanitation.

A minimum of 65 original inspections per week in the regular districts and 20 per week in the extra districts is required of each inspector. This schedule has not only been met but exceeded, so that a greater number of inspections seems possible.

For the purpose of considering the work of this division, the following subdivision seems advisable:

- (a) Slaughterhouses and inspection of meat therein.
- (b) Express platforms inspection.
- (c) Commission markets.
- (d) Freight yard inspection.
- (e) Sanitary food inspection.
- (f) Restaurants.
- (g) Miscellaneous inspection—eggs, canned goods, etc.

*Slaughterhouses.*—All cattle, sheep, and hogs are inspected before slaughter by a United States inspector and a State inspector. No diseased or overheated cattle are allowed to be slaughtered. Cattle infected with actinomycosis are separated from others, sent to one place, and are allowed to be slaughtered under special regulations.

Most of the meat consumed in Chicago is slaughtered at the large houses connected with the stockyards where United States Government inspectors are on duty. In such slaughterhouses the city does not maintain an inspection service, but accepts that of the Government inspectors. There are in the city five other slaughterhouses that supply meat to Chicago, and in them inspectors of the health department are on duty. Two inspectors are assigned to each slaughterhouse, so that one is always on duty during slaughtering. The carcasses are examined, and any diseased meat found is condemned and so tagged, and an inspector follows up the meat on the afternoon of the same day and determines that it has been properly disposed of in the rendering tanks.

All meat from the houses under Government inspection and other slaughterhouses is stamped, inspected, and passed, or condemned; and it is unlawful for any person to offer, expose for sale, or have in his possession any unstamped carcass.

A careful inspection was made of the five slaughterhouses mentioned above. Three of them were found in good condition, well constructed, equipped, and employing proper methods in handling the meat and waste products. One was old, with wooden floors, poorly equipped;

and insanitary; it should be condemned and closed. The fifth needs extensive improvements, especially in floor and ventilation of rendering room, as well as proper flooring in the killing pens. I also visited some of the larger slaughterhouses in the stockyards; these were found in good condition.

The meat inspectors on duty at slaughterhouses do not have control over the general sanitary conditions of the house, as this at present falls under the bureau of sanitary inspection. In my opinion this overlapping of duties serves no useful end, and as there is a food inspector always on duty in the slaughterhouses, he is in better position to look after the sanitary conditions therein and can easily cause the application of remedial measures.

*Express platforms.*—Animals slaughtered in the country, game, domestic fowls, fish, and some vegetables are unloaded at four receiving express platforms. Three inspectors are assigned for the inspection of these articles of food. They also have supervision over the cleanliness of the wagons, railway cars, and general sanitary condition of the platforms. As the wagons are generally awaiting the arrival of the train, this inspection, on account of lack of time, is often superficial when the shipments are large; but as these products are taken to the commission markets, the inspection is supplemented by one at the latter place, and thus all the products are examined. I visited more than 70 stores in the markets and found no carcass of meat that had not been stamped "Inspected and passed" or "Condemned." Many slaughtered hogs and calves are brought to the platforms, and most of the work consists in the inspection of the former for tuberculosis and the latter for immaturity.

I studied two of the largest platforms, and upon examining the method of shipment on the cars found that dressed hogs and carcasses of veal and beef were thrown on the floor in the midst of coops of live fowls and boxes of fish without any protection whatever. The proper method would be to hang such carcasses on hooks, which could be done with little cost of equipment, and thereby transport such meats in a sanitary manner.

The platforms are provided with refrigeration rooms, in which meats not promptly removed are placed.

*Freight yards.*—There are 8 train tracks at the freight yards where 2 inspectors are assigned for the examination of vegetables and fruits. They also look after the proper disposal of such articles when condemned.

*Commission markets.*—It was surprising not to find any large general retail markets in Chicago. Meats, game, fish, poultry, fruits, and vegetables are handled in the wholesale commission markets, which supply the smaller butcher shops, grocery stores, and other retail places located throughout the city.

Three markets exist, two of which are very large, and the stores on both sides of the street for several blocks are devoted exclusively to the manufacture and sale of the food products mentioned above. Four food inspectors are assigned to these markets, and a very satisfactory inspection service is maintained.

I visited two of the large markets and inspected about 70 wholesale establishments, including sausage factories, process butter factory, and several other manufacturing plants. The meat-inspection service is thorough, carefully administered, and satisfactory. The meat supply is good and amply safeguarded by the health department. The inspectors are trained men and under the supervision of a very capable senior.

*Butcher shops, groceries, poulterers, fishmongers, etc.*—For the purpose of sanitary food inspection, the city is divided into 23 regular districts and 5 extra districts, and an inspector is assigned to each district to inspect food establishments, the condition of the food, methods of handling, and general sanitary condition of apparatus, refrigerators, storage, etc. Confectioneries, ice-cream parlors, ice-cream factories, and meat-food products establishments, as well as saloons, are embraced in this inspection work for the purpose of determining the cleanliness of glasses and the protection of food and methods used in serving lunches. Special attention is directed to the method of keeping bread, pastry, and candies. No specific ordinance requires that these products shall be properly protected from contamination by dust, flies, or handling, but an effort is being made to enforce such provisions under authority of a general ordinance.

The greatest problem in this connection is the proper protection of bread. An ordinance requires that it shall be transported in closed boxes, but any benefit accruing is minimized by the driver, who piles the bread in his arms in intimate contact with his soiled outer clothing and equally unclean hands. The only satisfactory manner in which to protect bread is to require by ordinance that it shall be wrapped at the bakery; at present only a small percentage of the bread is so protected.

Inspection of many butcher markets, groceries, and other food-product establishments showed them to be generally in good sanitary condition, although proper protection to bakery products and candies did not exist in several places visited. Screened windows and doors are used in butcher shops in summer to protect against flies.

Stores located in congested districts of the city are inspected once in five or six weeks, but those in outlying localities are not inspected so often.

Frequent inspection and supervision are necessary in the congested districts where the establishments are not in so satisfactory a sanitary condition. Education as to the necessity and importance of

cleanliness in the handling of food products is much needed in some of these districts, and inspectors should impress upon the proprietors the necessity for improvements in their methods.

Although all establishments should be inspected sufficiently often to insure proper supervision, those that are lax in their methods and in which sanitary conditions are not satisfactory should receive attention more often and proper reinspections should be carried out to bring the place up to requirements.

The function of the food bureau is to enforce ordinances regarding wholesomeness and sanitary handling of foodstuffs. There is no well-defined division of duties between the food bureau and the sanitary bureau as to enforcement of sanitary conditions in an establishment, and proper cooperation does not exist. A satisfactory arrangement would seem to be for the food inspectors to have jurisdiction over minor insanitary conditions about the premises, such as would have a direct bearing on the proper care of food products, and that major ones, such as nuisances from fault of construction, broken plumbing, etc., noted by the food inspector, be reported to the sanitary bureau for enforcement of proper remedial measures.

*Restaurants.*—Recently the jurisdiction of restaurants and lunch rooms has been transferred from the bureau of sanitary inspection to the food bureau. In the opinion of the writer this change was wise, as a more competent supervision is effected of the care and handling of foods served.

*Bakeries.*—These establishments were formerly under the bureau of sanitary inspection, and the food inspectors had supervision only over the finished products in the salesrooms. The procedure now in practice is for the bureau of sanitary inspection to have control of the construction and reconstruction of bakeries in accordance with ordinances governing such establishments, and, when completed and operation commences, for the food inspectors to have complete charge of the sanitary condition of the bakery and methods employed, as well as the manner of handling the finished products.

An examination of many bakeries, including the salesrooms, showed that there was no uniformity practiced in protecting bakery products from contamination by dust, flies, and handling. The majority had installed cases that protected from handling and dust, but not from flies, which is essential in the summer months. The fault seems to be due to absence of a specific ordinance on the subject.

*Miscellaneous inspections.*—Although the aim of the bureau is to generalize the inspection work under two grand divisions, milk and sanitary food inspection, there are a few instances of specialized inspection work. Two inspectors are assigned to the inspection of eggs; one to the inspection of canned goods; another has supervision

of plants manufacturing carbonated beverages; and one inspects ice plants and ice sources.

With the possible exception of the inspection of eggs and carbonated beverages, all this special work could be merged into the general sanitary food inspection.

As a whole, the work of the inspectors in the food bureau is commendable. They are intelligent and conversant with their duties and are doing efficient work. The number of supervising inspectors should be increased by providing one for dairy work, and the three now employed should devote all their time to field work.

*Disposal of condemned food products.*—Condemned meats are disposed of to a contractor whose bid has been accepted. No compensation is given the owner for condemned-food products. The office is notified by telephone of the amount, variety, and location of the food and the contractor is notified to remove it.

Meats are rendered for fats in making soaps. Milk is spilled, although in "shut-offs" the first lot is returned to the dairyman. Eggs are rendered for tanners' yolk; some in bad condition are removed with garbage. Vegetables and fruits are removed to an incinerator or the garbage scow by the owner. Canned goods are removed by the owner to garbage-loading stations for reduction. The inspector makes a written report showing the amount of different foods condemned, and a check is kept at the reduction plant to ascertain that such articles have been delivered.

*Cold storage.*—The existing ordinance governing the cold storage of food products was so difficult to enforce, requiring a large number of inspectors and an expenditure of money not commensurate with the benefits obtained, that a new ordinance has been drafted for enactment. The difficulty of inspecting all food products going into and coming out of cold storage was realized, and, furthermore, as a large proportion of goods in storage is not intended for local consumption, it was deemed most feasible thoroughly to inspect all such products at the point of final handling. This necessitates only a limited increase in the number of inspectors and meets all the conditions so far as the city of Chicago is concerned.

#### Office Methods.

The volume of work passing through the office is large and performed by a chief clerk, seven junior clerks, and one stenographer. It consists of preparing and mailing notices to those who violate ordinances governing food and requiring their compliance therewith, keeping records of reports of the food inspectors, and tabulating statistical work done.

The volume of work is indicated by the following table, No. 9:

TABLE 9.—*Notices issued during the year 1914 by months.*

	January.	Febr- uary.	March.	April.	May.	June.
Complaints.....	114	49	12	14	19	66
Milk depots.....	132	104	100	181	269	227
Milk stores.....	299	320	617	556	434	477
Dairies supplying milk for pasteurization.....	1,103	701	853	1,077	1,833	1,841
Dairies supplying inspected milk.....	77	131	146	146	314	307
Pasteurizers.....	42	35	28	44	55	72
Markets and groceries.....	421	521	852	758	748	781
Ice.....	21	2	15	17	102	58
Carbonated beverages.....	4	8	19	22	79	11
Miscellaneous and saloons.....	251	222	404	249	206	244
Restaurants.....						
Total.....	2,464	2,093	3,046	3,064	4,034	4,084

  

	July.	August.	Septem- ber.	October.	Novem- ber.	Decem- ber.	Total.
Complaints.....	78	51	53	40	48	38	582
Milk depots.....	230	183	130	109	69	43	1,768
Milk stores.....	728	728	682	767	248	29	5,885
Dairies supplying milk for pas- teurization.....	1,648	1,553	1,490	1,239	284	1	13,628
Dairies supplying inspected milk.....	177	179	177	267	59	2	1,982
Pasteurizers.....	54	62	50	54	76	26	598
Markets and groceries.....	1,138	1,541	1,187	1,087	394	114	9,542
Ice.....	42	22	65	38	117	35	534
Carbonated beverages.....	12	3	9	10	2	4	183
Miscellaneous and saloons.....	309	293	379	431	96	28	3,112
Restaurants.....					1	172	173
Total.....	4,416	4,615	4,222	4,042	1,394	492	37,987

*Files.*—The large number of cards and records handled in this bureau makes filing one of the important steps in the office procedure. Files are kept as follows: Dairy farms, milk depots, pasteurizers and milk stores, stores handling miscellaneous foodstuffs, and pending action files.

Also separate compartments for the following: Suits, complaints, and "tickler file" for reinspection and miscellaneous.

The filing system seems adequate and if kept up to date furnishes the necessary information for the work of the bureau.

*Suits.*—When persons fail to comply with the ordinances governing food they are warned that immediate compliance is required; then, if they fail to carry out the prescribed remedial measures in the time granted for such work, a commissioner's letter is sent, and if reinspection shows that the violations have not been corrected suit is started under the authority conferred by law.

From January 1 to November 1, 1914, 1,313 suits for noncompliance with food ordinances were instituted. A study of the records of 500 suits brought by the bureau shows that the average time between starting and final disposition was 2 months and 18 days.

**LABORATORY BUREAU.**

The laboratory constitutes a bureau of the department of health, and the ordinances concerning its existence and administration provide:

For the establishment of a division in the department of health, known as health department laboratories.

For the appointment of a director and defining his qualifications. Outlining the duties of the director and the provisions for the appointment of his assistants.

That it shall be the duty of the director and his assistants to make analysis and examination of milk, cream, meat, foods, water, drugs, and such medical diagnosis and other examinations as may be directed by the commissioner of health.

In the study of the laboratory it became pertinent to ascertain the following: (1) If the space allotted for laboratory purposes is adequate and general arrangement satisfactory; (2) if equipment is ample and sufficiently up to date to be satisfactory; (3) functions; (4) the personnel and its efficiency in performing its work; (5) whether the technique in the different divisions is correct in principle and application; whether the work is expeditiously performed; if proper supervision is exercised over subordinates; and if proper records and files are kept.

**Arrangement.**

The space assigned in the city hall for laboratory purposes is sufficient, but such area should be devoted exclusively to laboratory work. The office of the assistant bureau chief of food inspection should be removed, as it should be in connection with the general offices of that bureau, and its location in the laboratory is not deemed advisable.

There is waste space in some of the rooms that could be used to advantage. In the room assigned to the division of chemistry, additional shelving for proper arrangement of bottles of reagents would be advantageous, and changes in the construction of certain cabinets would increase accessibility to apparatus. Changes to the hood in order more readily to carry off the fumes resulting from chemical examinations are also necessary.

The room for inoculated animals is satisfactory, if small, but that for stock animals is entirely unsatisfactory and primitive. A suitable animal room should be provided by dividing the space now used conjointly for this purpose and storage of property. This would provide not only a satisfactory animal room, but also one for safe-keeping of property, both essential and badly needed.

**Equipment.**

The equipment, though not entirely up to date, is satisfactory for the general work carried out. Some additional apparatus is needed.

The garbage and waste from a laboratory are such that their destruction by burning is advisable, and a small crematory should be installed for this purpose. The present method of handling such garbage is not satisfactory.

#### Functions.

The work performed is that appertaining to board of health laboratories generally and embraces chemical analyses and bacteriological examinations of milk, cream, butter, other foods, and water; bacteriological diagnosis in certain communicable diseases; examination of beverages and pathological specimens; testing of fuels, oil, explosives, bureau supplies, and poisons; and any special investigations directed by the commissioner of health.

Four general classes of specimens are accepted for examination:

- (1) Specimens collected by inspectors in the course of regular departmental work.
- (2) Samples of supplies submitted by the chiefs of bureaus of the department of health.
- (3) Samples or specimens submitted by the police or other city departments, subject to the approval of the commissioner of health.
- (4) Specimens submitted by the public under the following classifications:
  - (a) For bacteriological diagnosis: (1) Specimens pertaining to communicable diseases: Diphtheria, tuberculosis, typhoid fever, cerebrospinal fever (cerebrospinal meningitis), malaria, syphilis, and rabies. (2) Other examinations for charity patients only.
  - (b) Specimens of drinking water, city water, including water supplied within a radius of 5 miles outside city limits, and wells within the city.
  - (c) Samples of milk and cream suspected of adulteration or addition of preservatives; also milk for bacteriological examination.
  - (d) General chemical analysis; all specimens in cases where the public health is involved.

#### Personnel.

A study of the personnel of the laboratory shows that the number of employees in the higher grades is sufficient for the present amount of work. The salaries of skilled employees who must possess technical knowledge, however, are small, and as the increase after a year's service from promotion to the next higher grade is slight, the emoluments of the position do not seem sufficient to retain the better trained assistants. Four of the higher positions are filled at the present time by temporary employees and some vacancies exist. A revised schedule of salaries was recommended for 1915.

One year's satisfactory service is a requisite for promotion to the next higher salary in the specific grades.

There are at present too few laboratory assistants, and two of the junior bacteriologists are engaged in work that could be as efficiently performed by lower-salaried employees. The efficiency of the staff would be increased if these bacteriologists could devote their time to the technical work.

**Technique, System, and Methods.**

There are two general divisions in the laboratory, chemistry and bacteriology. These are further subdivided for administration and efficiency into—

- (1) General chemical, in which examinations are made of food, liquors, drugs, wines, poisons, fuels, oils, air, explosives, supplies, abortifacients, and garbage.
- (2) Milk, chemical and bacteriological.
- (3) Water, chemical and bacteriological.
- (4) General bacteriological diagnosis: Diphtheria, typhoid fever, sputum, blood, urine, feces, and cerebrospinal fever (cerebrospinal meningitis).
- (5) Special—Wasserman, pathological specimens, rabies, and special investigations.

*Receiving samples and specimens.*—A daily report of the receipt of samples or specimens is made on proper blank form designed for the purpose. The receiving clerk makes a record on this report upon receipt of all samples and specimens, with the exception of those of milk, sputum, typhoid fever, and diphtheria.

Samples of milk for bacteriological examination are noted on this form each day by the bacteriologist. Entries of the total number of typhoid fever, sputum, diphtheria, and other specimens of similar nature are made on the report the following morning from lists prepared by the stenographer. There is a column on this card for recording the time of completion of the examination or analysis, and this affords the director control information.

Each sample or specimen is accompanied through the laboratory by a card. Special cards are provided for diphtheria, typhoid fever, sputum, rabies, water, and milk (bacteriological). Two other cards are used for all other classes of samples or specimens, one for bacteriological cultures other than mentioned above, and the other for miscellaneous chemical samples.

The necessary data on the cards accompanying diphtheria and typhoid-fever specimens or cultures are given by the physician submitting them. On the other cards the receiving clerk records the necessary data by filling in the blank spaces of the respective cards, so as to insure identification and proper report on the specific sample, specimen, or culture. The date of receipt is stamped on the card, and when distributed to the proper division the employee receiving it initials the card as evidence that it has passed into his hands.

*Chemical analysis.*—The principal chemist assigns the work to his different assistants. None of them conduct special analyses, but work on any or all samples according to the number and varieties received. The principal chemist exercises general supervision and examines poisons and all specimens that may have a medico-legal significance.

*Bacteriological diagnosis.*—The principal bacteriologist assigns the work to the different assistants. The specimens and cultures are

assembled and properly distributed by a senior bacteriologist. The greatest amount of work is the examination of diphtheria cultures, and this is the first work executed in the morning. Five bacteriologists are assigned to it and finish the bulk of it by noon. Laboratory assistants prepare and stain the specimens and number the slides for proper identification, the bacteriologist recording the findings on the card under his initials.

One bacteriologist is assigned to make examinations of sputum. Widals and the making of cultures from urine and feces are performed by one of the senior bacteriologists. Examinations for rabies and those requiring special technique are made either by the director or the principal bacteriologist.

The culture media are prepared under the direction of a junior bacteriologist and in a room set aside for this purpose, and each laboratory assistant employed therein is assigned to a particular part of the work, so that if a shortage in certain media or outfits occurs proper responsibility can be fixed.

*Milk.*—A separate room is used exclusively for the analysis and examination of milk samples. A first and second chemical test of milk is made by different employees, and each initials his work. Both the chemical and bacteriological examinations are carried out in this room, the former by a chemist and laboratory assistant and the latter by two bacteriologists. The samples of milk, when received from the inspector, are immediately placed in the refrigerator, which is kept locked until the examination can be carried out. Reports on chemical milk tests are made on a special blank, and record specific gravity, butter fats, solids not fats, and total solids.

Another bacteriologist of the milk division is engaged in field work. He is an expert in pasteurization and follows up the plants in which the bacteriological counts of milk are high. He plates from samples taken at different stages and at the conclusion of the process, and in that way is able to detect faulty procedure and indicate proper remedial measures.

*Water.*—A separate room is equipped for the examination of water, and both the chemical and bacteriological work is done by a senior chemist, who is skilled in bacteriological technique. When the work is excessive he is assisted by a bacteriologist. An average of about 12 samples of water is examined daily. Examination is made of all samples for presence of colon bacillus.

Samples of water are taken from the cribs three times a week and from the pumping stations daily. Three employees are engaged in taking samples.

*Outfits furnished.*—Numerically the most important outfit furnished is that for diphtheria cultures. This consists of a wooden tongue depressor and cotton swab in a small sealed envelope, a metal box

or tube containing the blood serum media, and card for recording proper data concerning patient from whom the culture is made, all of which is inclosed in a thick manila envelope. The card contains instructions for the proper taking of the culture. These outfits are kept on hand at each of the 44 police stations in the city. They can also be received by direct application to the laboratory and from a certain number of drug stores. The cultures can be delivered direct to the laboratory or the medical inspection bureau at any time during the day or night, an employee always being on duty. They can also be delivered to any of the police stations, as electrically heated incubators are maintained at all stations for the proper care of such cultures. They are taken to the laboratory each morning and afternoon by the messenger service of the station. This service is performed by the police department in return for services rendered by the laboratory in making analyses of various specimens submitted by it. Since the adoption of incubators (1914) at the stations and the provision requiring the officer who receives the culture from the physician to initial the card, this system has proven, in the main, satisfactory.

The outfit for submitting blood for Widals consists of a card for recording the necessary data. To this is attached a piece of aluminum foil, on which the specimen of blood is placed. The card is inclosed in an envelope. These outfits are furnished on request.

*Outfit for collection of bacteriological milk samples.*—A simple and inexpensive outfit has been devised by the laboratory for the collection of milk samples. It consists of a pint tin with depressed cover in which a suitable number of holes are punched to hold the test tubes used in collecting samples; six tubes are carried. The can is used as an ice receptacle, and a rubber cloth, held in place with an ordinary rubber band, is placed over the top of the can to protect the cotton plugs of the tubes. A pipette case of metal, 12 inches long, with a tightly fitting cap 3 inches long, is used for carrying a requisite number of pipettes. A small awl for removing caps and an alcohol lamp of a flat type complete the outfit.

This outfit is simple, compact, easily carried in the inspector's sample case, and is well adapted for the purpose.

No special container for sputum is furnished, and slides are supplied only on application.

No cultural control of disinfection is practiced, but such a procedure seems advisable from time to time for the purpose of checking up the technique of the disinfecter.

*Time required for examinations.*—The time necessary for the completion of an examination naturally depends upon the character of the analysis required. Examinations of major importance, such as

diphtheria, typhoid fever, and sputum, are given precedence and are usually completed in one day.

I submit below a tabulated statement, compiled from the records of the laboratory, giving the time required to examine different specimens and samples:

	Days.
Diphtheria.....	1
Typhoid fever (Widal).....	1
Urine.....	1
Wassermann.....	1 to 5
Rabies.....	1 to 4
Sputum (tuberculosis).....	1
Milk (chemical).....	(2)
Milk (bacteriological).....	2
Water (chemical and bacteriological).....	3 to 7
Beer, whisky.....	2 to 26
Drugs (chemical).....	1 to 20
Food supplies (chemical).....	1 to 4
Soap (chemical).....	1 to 6
Garbage, products.....	1 to 4

*Antitoxins, toxins, and vaccines.*—No products of this nature are made or issued by the laboratory. Antitoxins are supplied by the State board of health. Other products are secured by competitive bid and are distributed throughout the city at designated drug stores, and the health officers secure the requisite amount from the nearest station. A report is made on a blank to the secretary of the State board of health of each package of antitoxin used, giving name, address, and age of patient.

Vaccine is bought under competitive bid by the city department of health and kept on hand at the department and issued whenever required.

*Reports of results.*—Results of examination of diphtheria cultures, typhoid fever, and sputum specimens are immediately telephoned to those interested, and this verbal message is supplemented by report on post card; except in cases of diphtheria only positive cases are so verified.

Results of rabies tests are telephoned to interested parties if the examination proves positive. This is supplemented by letter, but in case of negative result report is made only by letter. A written report of all such examinations is immediately made to the bureau of medical inspection.

The system of reporting results of the important classes of examinations is satisfactory, since the information is furnished promptly to interested parties.

*Records and files.*—Each division has a counter record book into which the data on the card accompanying the specimen is copied,

<sup>1</sup> Average 3 days.

<sup>2</sup> Same day.

<sup>3</sup> Average 4 days.

and the results of each examination are entered under the initials of the examiner.

The cards made out for each sample or specimen are filed according to the class of analysis, and are satisfactory. Diphtheria cards, which form the greater part, are filed in the laboratory under the physician's name, and the report furnished the bureau of medical inspection is under the patient's address, thus constituting a cross-file in this particular class.

*Supervision.*—The director exercises general supervision of all the divisions and their work, and one of his duties is to see that this work is expeditiously performed and that proper reports are immediately sent. The principal bacteriologist and the principal chemist are directly responsible to the director for their respective divisions. They assign the work to their assistants and supervise it. The general supervision of the work in the laboratory seems to be satisfactory.

*Special work.*—Special bacteriological studies in relation to outbreaks of disease or for experimental purposes are conducted by the director. Such subjects are indicated by the commissioner of health when the necessity arises.

#### Statistical.

An examination of the recorded work of the laboratory shows a steady annual increase for the past five years.

The following table presents the data by years:

	1910	1911	1912	1913	1914
Total examinations and analyses.....	112,375	113,429	120,533	145,069	162,266
Bacteriological.....	66,711	66,250	66,027	90,520	104,686
Chemical.....	45,664	47,179	54,506	54,540	57,572
Special investigations.....				9	8

This increased amount of work has necessitated an increase of both technical and nontechnical employees in order to insure prompt and satisfactory examinations and analyses. At the present time one additional chemist, three laboratory assistants, and one clerk are necessary.

*Table showing principal classes of examinations during 1914.*

#### MEDICAL DIAGNOSIS.

Disease.	Total specimens.	Positive.	Negative.	Remarks.
Diphtheria.....	78,736	14,191	60,756	No growth, 1,955; contamination 1,779; streptococci, 92. Atypical, 191.
Widal tests.....	3,567	717	2,659	
Sputum for B. tuberculosis.....	6,558	1,796	4,762	
Rabies.....	231	122	94	Suspicious, 3; unsatisfactory, 12.
Urines.....	896			
Wasserman tests.....	771			
Pus for gonococci.....	276			
Urine and feces for typhoid.....	94			
Miscellaneous.....	409			

*Miscellaneous chemical analyses.*

Foods.....	1,070
Drugs and medicines.....	23
Taxicolgical.....	40
Urinces.....	1,442
Department supplies.....	1,138
Supplies, other city departments.....	71
Police department.....	352
Other tests.....	228
Air, ventilation division.....	1,326
 Total.....	 5,690

*Milk.*

Chemical analyses.....	50,397
Bacteriological examinations.....	9,114
 Total.....	 59,511

*Water.*

Chemical analyses.....	1,485
Bacteriological examinations.....	4,034
 Total.....	 5,519

**Research Division.**

The question of establishing a research division in connection with the laboratory and under the director has been agitated and it was therefore necessary to study the advisability of creating such a division.

Several research laboratories already exist, operating under endowment, in connection with universities and under Federal aid; and the results in such laboratories in studying problems affecting the public health are published for the information of all. These laboratories are devoted to special studies that require a highly trained personnel and expensive equipment, which are beyond a small division in a board of health laboratory with an inadequate or limited appropriation.

It does not seem feasible under present conditions to create a research laboratory in connection with that of the Department of Health; however, it might be advisable to establish an experimental division in which studies of problems directly affecting the regular work of the department could be carried out.

[The third installment of this report will appear in a subsequent issue.]

## PLAQUE-PREVENTION WORK.

## CALIFORNIA.

The following report of plague-prevention work in California for the week ended August 7, 1915, was received from Senior Surg. Pierce, of the United States Public Health Service, in charge of the work:

## SAN FRANCISCO, CAL.

## RAT PROOFING.

## New buildings:

Inspections of work under construction.	63
Basements concreted (16,370 square feet)	41
Floors concreted (850 square feet).....	2
Yards, passageways, etc. (6,705 square feet).....	27
Total area of concrete laid (square feet). 23,925	

## Old buildings:

Inspections made.....	210
Wooden floors removed.....	10
Yards and passageways, planking removed.....	8
Cubic feet new foundation walls installed.....	4,035
Basements concreted (12,775 square feet).....	21
Concrete floors installed (4,977 square feet).....	11
Yards and passageways, etc., concreted (7,257 square feet).....	37
Total area concrete laid (square feet).... 25,009	
Floors rat proofed with wire cloth (3,940 square feet).....	6
Buildings razed.....	3

New garbage cans stamped approved.....	785
Nuisances abated.....	191
<b>OPERATIONS ON THE WATER FRONT.</b>	
Vessels inspected for rat guards.....	25
Reinspections made on vessels.....	26
New rat guards procured.....	4
Defective rat guards repaired.....	4
Rats trapped on wharves and water front....	37
Rats trapped on vessels.....	22
Traps set on wharves and water front.....	177
Vessels trapped on.....	11
Traps set on vessels.....	58
Poisons placed on water front (pieces).....	3,600
Poisons placed within Panama-Pacific International Exposition grounds.....	7,200

## SAN FRANCISCO, CAL.—Continued.

## OPERATIONS ON THE WATER FRONT—continued.

Bait used on water front and vessels, bacon (pounds).....	6
Amount of bread used in poisoning water front (loaves).....	12
Pounds of poison used on water front.....	6

## RATS COLLECTED AND EXAMINED FOR PLAGUE.

San Francisco:	
Collected.....	348
Examined.....	278
Found infected.....	0

## RATS IDENTIFIED.

Mus norvegicus.....	197
Mus alexandrinus.....	40
Mus musculus.....	54
Mus ratus.....	57
Contra Costa County:	
Trapped.....	1
Examined.....	1
Found infected.....	0

## SQUIRRELS COLLECTED AND EXAMINED FOR PLAGUE.

Contra Costa County.....	1,001
San Benito County.....	263
Monterey County.....	169
Alameda County.....	32
Stanislaus County.....	11
Total.....	1,476

## RANCHES INSPECTED AND HUNTED OVER.

Contra Costa County.....	481
San Benito County.....	23
Monterey County.....	13
Alameda County.....	4
Stanislaus County.....	4
Total.....	125

## Record of plague infection.

Places in California.	Date of last case of human plague.	Date of last case of rat plague.	Date of last case of squirrel plague.	Total number rodents found infected since May, 1907.
Cities:				
San Francisco.....	Jan. 30, 1908	Oct. 23, 1908	( <sup>1</sup> )	398 rats.
Oakland.....	Aug. 9, 1911	Dec. 1, 1908	( <sup>1</sup> )	126 rats.
Berkeley.....	Aug. 28, 1907	( <sup>1</sup> )	( <sup>1</sup> )	None.
Los Angeles.....	Aug. 11, 1908	( <sup>1</sup> )	Aug. 21, 1908	1 squirrel.
Counties:				
Alameda (exclusive of Oakland and Berkeley).	Sept. 24, 1909	Oct. 17, 1909 <sup>2</sup>	July 12, 1915	287 squirrels, 1 wood rat.
Contra Costa.....	July 13, 1915	( <sup>1</sup> )	July 19, 1915	1,573 squirrels.
Fresno.....	( <sup>1</sup> )	( <sup>1</sup> )	Oct. 27, 1911	1 squirrel.
Merced.....	( <sup>1</sup> )	( <sup>1</sup> )	July 12, 1911	5 squirrels.
Monterey.....	( <sup>1</sup> )	( <sup>1</sup> )	Apr. 10, 1914	6 squirrels.
San Benito.....	June 4, 1913	( <sup>1</sup> )	July 15, 1915	47 squirrels.
San Joaquin.....	Sept. 18, 1911	( <sup>1</sup> )	Aug. 26, 1911	18 squirrels.
San Luis Obispo.....	( <sup>1</sup> )	( <sup>1</sup> )	Jan. 29, 1910	1 squirrel.
Santa Clara.....	Aug. 31, 1910	( <sup>1</sup> )	July 23, 1913	25 squirrels.
Santa Cruz.....	( <sup>1</sup> )	( <sup>1</sup> )	May 17, 1910	3 squirrels.
Stanislaus.....	( <sup>1</sup> )	( <sup>1</sup> )	June 2, 1911	13 squirrels.

<sup>1</sup> None.<sup>2</sup> Wood rat.

The work is being carried on in the following-named counties: Alameda, Contra Costa, San Francisco, Stanislaus, San Benito, and Monterey.

## LOUISIANA—NEW ORLEANS—PLAQUE ERADICATION.

The following report of plague-eradication work at New Orleans for the week ended August 14, 1915, was received from Passed Asst. Surg. Simpson, of the United States Public Health Service, in temporary charge of the work:

## OUTGOING QUARANTINE.

Vessels fumigated with sulphur.....	13
Vessels fumigated with carbon monoxide...	15
Vessels fumigated with hydrocyanic gas....	1
Pounds of sulphur used.....	2,874
Pounds of coke consumed in carbon monoxide fumigation.....	24,500
Pounds of potassium cyanide used in hydrocyanic-gas fumigation.....	102
Pounds of sodium carbonate used in hydrocyanic-gas fumigation.....	120
Pounds of sulphuric acid used in hydrocyanic-gas fumigation.....	104
Clean bills of health issued.....	40
Foul bills of health issued.....	8

## FIELD OPERATIONS.

Rats trapped.....	5,584
Premises inspected.....	10,144
Notices served.....	3,335
Garbage cans installed.....	240

## BUILDINGS RAT PROOFED.

By elevation.....	97
By marginal concrete wall.....	212

## BUILDINGS RAT PROOFED—continued.

By concrete floor and wall.....	164
By minor repairs.....	284
Total buildings rat proofed.....	757
Square yards of concrete laid.....	9,554
Number of lots and sheds, planking removed .....	160
Number of buildings demolished.....	62
Total buildings rat proofed to date (abated). 93,977	

## LABORATORY OPERATIONS.

## Rodents received by species:

Mus rattus.....	175
Mus norvegicus.....	1,466
Mus alexandrinus.....	85
Mus musculus.....	3,747
Wood rats.....	42
Musk rats.....	39
Putrid (included in enumeration of species).....	101
Total rodents received at laboratory.....	5,554
Rodents examined.....	1,842
Number of suspicious rats.....	2
Plague rats confirmed.....	1

## Rodent case.

Case No.	Address.	Captured.	Diagnosis confirmed.	Treatment of premises.
247	536 South Roman Street.	Aug. 1, 1915	Aug. 8, 1915	Intensive trapping. Destruction of rat harbors. Premises sprayed with pulicide. Rat proofing completed.

Number of human plague cases. None.  
 Last case of human plague, Oct. 4, 1914.  
 Last case of rodent plague, Aug. 8, 1915.  
 Total number of rodents captured to Aug.  
 14 ..... 413,469  
 Total number of rodents examined to Aug.  
 14 ..... 276,993

Total cases of rodent plague to Aug. 14,  
 by species:  
 Mus musculus ..... 4  
 Mus alexandrinus ..... 8  
 Mus rattus ..... 16  
 Mus norvegicus ..... 219

Total rodent cases to Aug. 14,  
 1915 ..... 247

## WASHINGTON—SEATTLE—PLAQUE ERADICATION.

The following report of plague-eradication work at Seattle for the week ended August 7, 1915, was received from Surg. Lloyd, of the United States Public Health Service, in charge of the work:

## RAT PROOFING.

New buildings inspected.....	25
New buildings reinspected.....	9
Basements concreted, new buildings, 18,250 square feet.....	13
Floors concreted, new buildings, 42,750 square feet.....	10
Yards, etc., concreted, new structures, 3,175 square feet.....	5
Sidewalks concreted (square feet).....	15,280
Total concrete laid, new structures (square feet).....	79,455
New buildings elevated.....	3
New premises rat proofed, concrete.....	23
Old buildings inspected.....	2
Premises rat proofed, concrete, old buildings.....	1
Floors concreted, old buildings.....	1
Wooden floors removed, old buildings.....	1
Doors rat proofed, old buildings.....	2
Buildings razed.....	2

## LABORATORY AND RODENT OPERATIONS.

Dead rodents received.....	22
Rodents trapped and killed.....	300
Total.....	322
Rodents examined for plague infection.....	243
Rodents proven plague infected.....	0
Poison distributed, pounds.....	22
Bodies examined for plague infection.....	.1

## CLASSIFICATION OF RODENTS.

Mus rattus.....	17
Mus alexandrinus.....	24
Mus norvegicus.....	231
Mus musculus.....	50

## WATER FRONT.

Vessels inspected and histories recorded....	10
Vessels fumigated.....	0
New rat guards installed.....	6
Defective rat guards repaired.....	8
Port sanitary statements issued.....	55

The usual day and night patrol was maintained to enforce rat guarding and fencing

## MISCELLANEOUS WORK.

Rat-proofing notices sent to contractors, new buildings.....	10
Letters sent in re rat complaints.....	7

## RODENTS EXAMINED IN EVERETT.

Mus norvegicus trapped.....	39
Mus norvegicus found dead.....	2
Mus musculus trapped.....	5

Total.....

46
42
0

Rodents examined for plague infection.....
Rodents proven plague infected.....

## RAT-PROOFING OPERATIONS IN EVERETT.

New buildings inspected.....	6
New buildings, concrete foundations.....	5
New buildings elevated 18 inches.....	1
New buildings, basements concreted, 8,880 square feet.....	2
New buildings, yards concreted, 190 square feet.....	1
New buildings, floors concreted, 16,576 square feet.....	3
Total concrete laid, new buildings (square feet).....	25,646

## HAWAII—PLAQUE PREVENTION.

The following reports of plague-prevention work in Hawaii were received from Passed Asst. Surg. Fauntleroy, of the United States Public Health Service:

## Honolulu.

WEEK ENDED JULY 31, 1915.

Total rats and mongoose taken.....	358	Classification of rats killed by sulphur dioxide:	
Rats trapped.....	327	Mus musculus.....	5
Mongoose trapped.....	16	Mus rattus.....	9
Rats found dead ( <i>Mus alexandrinus</i> ).....	1	Last case rat plague, Aiea, 9 miles from Honolulu, Apr. 12, 1910.	
Examined microscopically.....	289	Last case human plague, Honolulu, July 12, 1910.	
Showing plague infection.....	0	Last case rat plague, Kalopa stable, Paauhau, Hawaii, Aug. 29, 1914.	
Classification of rats trapped:		Last case human plague, Paauhau Landing, Hawaii, Aug. 16, 1914.	
<i>Mus alexandrinus</i> .....	162		
<i>Mus musculus</i> .....	62		
<i>Mus norvegicus</i> .....	94		
<i>Mus rattus</i> .....	9		
Average number of traps set daily.....	984		
Cost per rat destroyed.....cents..	21		

## Hilo.

WEEK ENDED JULY 24, 1915.

Rats and mongoose taken.....	2,477	Classification of rats trapped, etc.—Continued.	
Rats trapped.....	2,448	<i>Mus alexandrinus</i> .....	285
Mongoose taken.....	29	<i>Mus rattus</i> .....	787
Rats and mongoose examined macroscopically.....	2,477	<i>Mus musculus</i> .....	833
Rats and mongoose plague infected.....	0	Last case of rat plague, Paauhau Sugar Co., Aug. 29, 1914.	
Classification of rats trapped and found dead:		Last case of human plague, Paauhau Sugar Co., Aug. 16, 1914.	
<i>Mus norvegicus</i> .....	538		

## PORTO RICO—PLAQUE PREVENTION.

The table given below shows the number of rats, mice, and mongoose examined in Porto Rico for plague infection during the three weeks ended August 6, 1915. No plague infection was found.

Place.	Rats.	Mice.	Mon-goose.
San Juan.....	257	40	.....
Puerta de Tierra.....	143	15	.....
Santurce.....	234	6	1
Total.....	634	61	1

# PREVALENCE OF DISEASE.

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring.

## IN CERTAIN STATES AND CITIES.

### RECIPROCAL NOTIFICATION.

#### Minnesota.

Cases of communicable diseases referred during July, 1915, to other State or Provincial health departments by collaborating epidemiologist Bracken of the Minnesota State board of health.

Disease and locality of notification.	Referred to health authority of—	Why referred.
Smallpox: Minneapolis, Hennepin County.....	Elkton, Brookings County, S. D.	Left Elkton, S. D., July 4. Chicken-pox prevalent there. Eruption present July 23 at Minneapolis.
Do.....	Seattle, King County, Wash., also United States Public Health Service.	Taken ill on Great Northern tourist car en route from Seattle, Wash.
Tuberculosis: Pokegama Sanatorium, Pine County.	Decorah, Winneshiek County, Iowa.	Moderately advanced case. Left sanatorium for home in Iowa.
Mayo Clinic, Rochester, Olmsted County.	Creston, Union County, Iowa. Waucoma, Fayette County, Iowa. Jesup, Buchanan County, Iowa. Des Moines, Polk County, Iowa. Osterdock, Clayton County, Iowa. Hampton, Franklin County, Iowa. Mallard, Palo Alto County, Iowa. Manistique, Schoolcraft County, Mich. Saginaw, Saginaw County, Mich. Tunbridge, Pierce County, N. Dak.	3 actively advanced. 2 moderately advanced. 2 quiescent cases. Left Mayo clinic for homes in Iowa. Do. Do. Do. Advanced case. Left for home in Michigan Taking treatment at Nopeming Sanatorium. Moderately advanced case. Left for home in North Dakota. Admitted to Pokegama for treatment June 14. Admitted to Pokegama June 22. Closed quiescent case. Left for home in Ohio. Open case. Left for home in South Dakota. Quiescent case. Left for home in South Dakota. Closed quiescent case. Left for home in Wisconsin. Left for home in Wisconsin.
Pokegama Sanatorium, Pine County.	Marmon, Williams County, N. Dak.	Do.
Nopeming Sanatorium, St. Louis County.	Hope, Steele County, N. Dak. Cincinnati, Hamilton County, Ohio.	Do.
Pokegama Sanatorium, Pine County	Watertown, Codington County, S. Dak. Elk Point, Union County, S. Dak. Maiden Rock, Pierce County, Wis. Grand Rapids, Wood County, Wis. Oconto, Oconto County, Wis. Wyocena, Columbia County, Wis.	Do.
Mayo Clinic, Rochester, Olmsted County.	Marengo, Ashland County, Wis. Stevens Point, Portage County, Wis. Herbert, Saskatchewan, Canada.	Do.
City and County Sanatorium, St. Paul, Ramsey County. Solem Township, Douglas County...	Yellow Grass, Saskatchewan, Canada. Kathrinal, Saskatchewan, Canada. Winnipeg, Manitoba, Canada..	Active case. Left for home in Wisconsin. Patient died in Solem Township a few days after arrival from Saskatchewan. Closed, quiescent case. Left for home in Saskatchewan. Active, advanced case. Left for home in Saskatchewan. Active, advanced case. Left for home in Winnipeg.
Mayo Clinic, Rochester, Olmsted County.		
Do.....		
Do.....		

## CEREBROSPINAL MENINGITIS.

## State Reports for July, 1915.

Place.	New cases reported.	Place.	New cases reported.
Massachusetts:		Minnesota:	
Bristol County— Fall River.....	2	Isanti County— Oxford Township.....	1
Essex County— Lawrence.....	1	Ohio:	
Hampden County— Lynn.....	1	Belmont County— Martins Ferry.....	2
Middlesex County— Everett.....	1	Gallia County.....	1
Suffolk County— Boston.....	5	Hamilton County— Cincinnati.....	2
Total.....	12	Hancock County.....	1
		Highland County.....	1
		Knox County.....	1
		Total.....	8

## City Reports for Week Ended Aug. 7, 1915.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Chicago, Ill.....	1	1	New York, N. Y.....	2	3
Cincinnati, Ohio.....	1	1	Philadelphia, Pa.....	1	.....
Cleveland, Ohio.....	1	.....	Portland, Oreg.....	.....	1
Dayton, Ohio.....	1	.....	Salt Lake City, Utah.....	1	1
Lynn, Mass.....	.....	1	Schenectady, N. Y.....	1	1
Milwaukee, Wis.....	2	2	Tacoma, Wash.....	1	.....
Muscatine, Iowa.....	1	.....			

## DIPHTHERIA.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 2577.

## ERYSIPelas.

## City Reports for Week Ended Aug. 7, 1915.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Alameda, Cal.....	1	.....	New York, N. Y.....	.....	4
Bridgeport, Conn.....	1	.....	Philadelphia, Pa.....	5	1
Chicago, Ill.....	4	.....	Pittsburgh, Pa.....	5	.....
Cleveland, Ohio.....	1	.....	St. Louis, Mo.....	4	.....
Detroit, Mich.....	4	.....	Salt Lake City, Utah.....	1	.....
Hartford, Conn.....	1	.....	San Francisco, Cal.....	1	.....
Los Angeles, Cal.....	1	.....			

## GONORRHEA.

## State Reports for July, 1915.

During the month of July, 1915, cases of gonorrhea were notified in States as follows: Louisiana, 13; Ohio, 185.

**LEPROSY.****Florida—Key West.**

During the week ended August 7, 1915, 1 death from leprosy was notified in Key West, Fla.

**MALARIA.****State Reports for July, 1915.**

During the month of July, 1915, cases of malaria were notified in States as follows: Louisiana, 2; Massachusetts, 27; New Jersey, 73; Ohio, 2; South Carolina, 130; Washington, 2.

**City Reports for Week Ended Aug. 7, 1915.**

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Baltimore, Md.....	1	.....	Philadelphia, Pa.....	2	.....
Boston, Mass.....	3	.....	Richmond, Va.....	2	.....
Charleston, S. C.....	.....	1	San Francisco, Cal.....	1	.....
Jersey City, N. J.....	1	.....	Trenton, N. J.....	1	.....
Lorain, Ohio.....	1	.....	Waltham, Mass.....	1	.....
Newton, Mass.....	1	.....			

**MEASLES.**

See Diphtheria, measles, scarlet fever, and tuberculosis, page 2577.

**PELLAGRA.****Kansas—Allen County.**

Collaborating Epidemiologist Crumbine reported that during the week ended August 14, 1915, 1 case of pellagra was notified in Allen County, Kans.

**State Reports for July, 1915.**

During the month of July, 1915, cases of pellagra were notified in States as follows: District of Columbia, 2; Louisiana, 425; Massachusetts, 13; South Carolina, 104.

**City Reports for Week Ended Aug. 7, 1915.**

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Baltimore, Md.....	.....	1	Memphis, Tenn.....	8	1
Boston, Mass.....	1	.....	Mobile, Ala.....	.....	1
Charleston, S. C.....	.....	1	Nashville, Tenn.....	7	.....
Little Rock, Ark.....	1	.....	New Orleans, La.....	1	1
Los Angeles, Cal.....	1	1	Northampton, Mass.....	.....	1
Lynchburg, Va.....	1	.....	Richmond, Va.....	.....	1

**PNEUMONIA.****City Reports for Week Ended Aug. 7, 1915.**

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Binghamton, N. Y.....	1	1	Pittsburgh, Pa.....	12	5
Chicago, Ill.....	39	29	Rochester, N. Y.....	1	1
Cleveland, Ohio.....	6	3	Sacramento, Cal.....	1	2
Duluth, Minn.....	2	2	San Diego, Cal.....	1	.....
Los Angeles, Cal.....	3	2	Schenectady, N. Y.....	1	.....
Philadelphia, Pa.....	4	6			

## POLIOMYELITIS (INFANTILE PARALYSIS).

## State Reports for July, 1915.

Place.	New cases reported.	Place.	New cases reported.
Louisiana: Caddo Parish.....	1	Michigan: Jackson County— Jackson.....	1
Massachusetts: Bristol County— North Attleboro (township).....	1	Ohio: Adams County.....	1
Hampshire County— Amherst (township).....	1	Allen County.....	1
Middlesex County— Framingham (township).....	1	Delphos.....	1
Newton.....	2	Ashtabula County.....	1
Plymouth County— East Bridgewater (township).....	1	Hamilton County.....	2
Brockton.....	1	Jefferson County— Steubenville.....	1
Worcester County— Worcester.....	1	Perry County.....	1
Total.....	8	Stark County.....	3
Minnesota: Ramsey County— St. Paul.....	1	Summit County.....	14
		Total.....	24

## City Reports for Week Ended Aug. 7, 1915.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Akron, Ohio.....	2	1	New York, N. Y.....	2	.....
Baltimore, Md.....	5	.....	Perth Amboy, N. J.....	1	.....
Canton, Ohio.....	5	.....	Philadelphia, Pa.....	2	2
Jersey City, N. J.....	1	.....	Rochester, N. Y.....	5	.....
Newton, Mass.....	1	.....	South Bend, Ind.....	1	.....

## RABIES.

## Massachusetts Report for July, 1915.

During the month of July, 1915, 1 case of rabies was notified in the State of Massachusetts.

## City Reports for Week Ended Aug. 7, 1915.

During the week ended August 7, 1915, cases of rabies were notified in cities as follows: Medford, Mass., 1 case, 1 death; New Orleans, La., 1 death.

## ROCKY MOUNTAIN SPOTTED FEVER.

## Summary—Northwestern States—Jan. 1 to Aug. 14, 1915.

August 14, 1915, Surg. L. D. Fricks forwarded the following report of the prevalence of Rocky Mountain spotted fever since January 1, 1915, in so far as he was able to obtain the information through State health authorities.

	Cases.	Deaths.		Cases.	Deaths.
California.....	2		Oregon.....	46	4
Colorado.....	14	1	South Dakota.....	2	
Idaho.....	360	10	Utah.....	31	3
Montana.....	34	7	Washington.....	6	
Nevada.....	8	3	Wyoming.....	59	8

The two California cases were from Lassen County. This is the first report of cases which has been collected from Colorado, although one or two physicians in the State have reported an occasional case of the disease.

The case reported from Cascade County, Mont., was contracted in Idaho. Twenty-two of the Montana cases were from territory previously uninfected, and undoubtedly represent an extension of the disease into the southeastern part of the State.

It is hardly probable that the mortality rate in Nevada and Utah is any higher than it is in Idaho. Figured on this basis it would give approximately 100 cases for each of these States.

The two cases from South Dakota, reported by Dr. J. L. Chassell, Belle Fourche, are the first ever reported from this State. Dr. Chassell also reported five cases from Wyoming and one from Montana, treated by him. This probably represents a part of the same extension of the disease in a northeasterly direction from Wyoming, as previously reported by me from southeastern Montana.

This is the first year that cases have been reported from Wyoming as they occurred.

Three of the cases reported from the Warm Springs Indian Reservation, Oregon, represent an extension of the disease to the northwest in that State.

#### SCARLET FEVER.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 2577.

#### SMALLPOX.

##### Kansas.

Collaborating Epidemiologist Crumbine reported that during the week ended August 14, 1915, cases of smallpox were notified in counties of Kansas as follows: Atchison, 2; Jefferson, 1; Marshall, 6; Osage, 1; Sedgwick, 1.

##### Minnesota.

Collaborating Epidemiologist Bracken reported by telegraph that during the week ended August 21, 1915, several new foci of smallpox infection were reported in Minnesota, cases of the disease having been notified as follows: Faribault County, Blue Earth City Town-

## SMALLPOX—Continued.

ship, 1; Brush Creek Township, 2; Minnesota Lake, 1; Goodhue County, Minneola Township, 4; Lincoln County, Marble Township, 1; Lyon County, Tracy, 1; Redwood County, Morgan, 1; Sibley County, Grafton Township, 1.

## State Reports for July, 1915.

Place.	New cases reported.	Deaths.	Vaccination history of cases.			
			Number vaccinated within 7 years preceding attack.	Number last vaccinated more than 7 years preceding attack.	Number never successfully vaccinated.	Vaccination history not obtained or uncertain.
Massachusetts:						
Bristol County— New Bedford.....	2	1			2	
Minnesota:						
Big Stone County— Clinton.....	1				1	
Chippewa County— Montevideo.....	1				1	
Crow Wing County— Brainerd.....	2				2	
Faribault County— Elmore.....	1				1	
Hennepin County— Minneapolis.....	12		1		10	1
Isanti County— Athens Township. Standord Township.....	4					4
Jackson County— Heron Lake.....	1				1	
Martin County— Ceylon.....	1				1	
Dunnell.....	1				1	
Fairmont.....	1				1	
Sherburne.....	7				7	
Jay.....	1				1	
Manyaska Township.....	2				2	
Olmsted County— Salem Township.....	2		1		1	
Pipestone County— Altona Township. Troy Township.....	1				1	
Ramsey County— St. Paul.....	1		1			
Stearns County— Melrose.....	2		1		1	
St. Paul.....	1					1
Sibley County— Owatonna.....	1				1	
Swift County— Kerkhoven.....	1				1	
Hayes Township.....	1				1	
Todd County— Ward Township.....	1				1	
Washington County— Cottage Grove.....	1				1	
Total.....	48		1	3	38	6
Michigan:						
Delta County— Escanaba.....	3				3	
Eaton County— Grand Ledge.....	1				1	
Kalamazoo County— Kalamazoo.....	1				1	
Kent County— Grand Rapids.....	3				3	
Manistee County— Dickson Township.....	4				4	
Onekama Township.....	3				3	

## SMALLPOX—Continued.

## State Reports for July, 1915—Continued.

Place.	New cases reported.	Deaths.	Vaccination history of cases.			
			Number vaccinated within 7 years preceding attack.	Number last vaccinated more than 7 years preceding attack.	Number never successfully vaccinated.	Vaccination history not obtained or uncertain.
Michigan—Continued.						
Marquette County— Negaunee.....	1					1
Mecosta County— Big Rapids.....	3				3	
Newaygo County— Fremont.....	6				6	
Total.....	25				24	1
Ohio:						
Columbiana County..	6				2	4
Guernsey County.....	1					1
Hamilton County.....	5		3	1	1	
Henry County.....	1				1	
Hocking County.....	10				10	
Huron County.....	3			1	2	
Lorain County.....	24				12	12
Lucas County— Toledo.....	1				1	
Mahoning County.....	11				6	5
Marion County.....	3					3
Medina County.....	1				1	
Mercer County.....	3					3
Paulding County.....	3					3
Perry County.....	16				8	8
Sandusky County.....	1					1
Seneca County— Fostoria.....	16				1	15
Shelby County.....	2				1	1
Stark County— Canton.....	4				4	
Summit County.....	7				6	
Tuscarawas County.....	4					4
Washington County.....	2				2	
Williams County.....	1				1	
Wood County.....	4			1	2	1
Total.....	129		3	3	61	62

## Miscellaneous State Reports.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
District of Columbia (July 1-31).....	4		Washington (July 1-31):		
Louisiana (July 1-31): Parishes— Acadia.....	2		Douglas County.....	1	
Caddo.....	1		Klickitat County.....	1	
Total.....	3		Pierce County.....	3	
South Carolina (July 1-31): Counties— Charleston.....	13		Tacoma.....	2	
Chester.....	1		Spokane County.....	2	
Dorchester.....	1		Spokane.....	1	
Horry.....	2		Total.....	10	
Total.....	17				

## SMALLPOX—Continued.

## City Reports for Week Ended Aug. 7, 1915.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Canton, Ohio.....	1		Ogden, Utah.....	1	
Charleston, S. C.....	2		Plainfield, N. J.....	1	1
Cincinnati, Ohio.....	2		Salt Lake City, Utah.....	8	
Cleveland, Ohio.....	1		Toledo, Ohio.....	2	
Danville, Ill.....	3		Washington, D. C.....	1	

## SYPHILIS.

## State Reports for July, 1915.

During the month of July, 1915, cases of syphilis were notified in States as follows: Louisiana, 2; Ohio, 93.

## TETANUS.

## City Reports for Week Ended Aug. 7, 1915.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Chicago, Ill.....	1		Philadelphia, Pa.....	1	
Cleveland, Ohio.....	1		Reading, Pa.....	1	1
Key West, Fla.....		1	St. Louis, Mo.....	2	2
New Orleans, La.....		1			

## TUBERCULOSIS.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 2577.

## TYPHOID FEVER.

## State Reports for July, 1915.

Place.	New cases reported.	Place.	New cases reported.
District of Columbia.....	27	Massachusetts—Continued.	
Louisiana:		Bristol County—	
Caddo Parish.....	9	Fairhaven Township.....	1
Calcasieu Parish.....	1	Fall River.....	12
De Soto Parish.....	6	New Bedford.....	14
East Baton Rouge Parish.....	3	North Attleboro Township.....	2
Evangeline Parish.....	1	Essex County—	
Grant Parish.....	1	Beverly.....	1
Iberia Parish.....	1	Haverhill.....	2
Iberville Parish.....	3	Lawrence.....	4
Jefferson Davis Parish.....	1	Lynn.....	3
Plaquemines Parish.....	6	Newburyport.....	11
St. Mary Parish.....	2	Rockport Township.....	1
Tensas Parish.....	2	Salem Township.....	3
Total.....	36	Swampscott Township.....	1
Massachusetts:		Hampden County—	
Berkshire County—		Holyoke.....	1
Adams Township.....	7	Springfield.....	6
Lenox Township.....	1	Middlesex County—	
North Adams.....	3	Cambridge.....	4
Pittsfield.....	2	Everett.....	1
		Holliston Township.....	1
		Lowell.....	9
		Malden.....	3

## TYPHOID FEVER—Continued.

## State Reports for July, 1915—Continued.

Place.	New cases reported.	Place.	New cases reported.
<b>Massachusetts—Continued.</b>		<b>Michigan—Continued.</b>	
<b>Middlesex County—Continued.</b>		<b>Mason County—</b>	
Marlborough.....	1	Victory Township.....	1
Maynard Township.....	1	Monroe County—	
Medford.....	2	Exeter Township.....	1
Newton.....	4	Monroe.....	12
Somerville.....	1	<b>Montcalm County—</b>	
<b>Nantucket County—</b>		Day Township.....	1
Nantucket Township.....	2	Edmore.....	
<b>Norfolk County—</b>		<b>Montmorency County—</b>	
Brantree Township.....	2	Briley Township.....	1
Dedham Township.....	1	<b>Oakland County—</b>	
Weymouth Township.....	1	Holly.....	1
<b>Plymouth County—</b>		<b>Ontonagon County—</b>	
Bridgewater Township.....	1	Carp Lake Township.....	1
<b>Suffolk County—</b>		Ontonagon.....	
Boston.....	49	Rockland Township.....	1
Revere.....	1	<b>Ottawa County—</b>	
<b>Worcester County—</b>		Holland Township.....	1
Fitchburg.....	1	Holland.....	2
Gardner Township.....	2	<b>Saginaw County—</b>	
Spencer Township.....	1	Albee Township.....	1
Worcester.....	7	Saginaw.....	5
Total.....	170	<b>St. Claire County—</b>	
<b>Michigan:</b>		Ira Township.....	1
Allegan County—		Port Huron.....	1
Douglas.....	1	<b>Sanilac County—</b>	
Barry County—		Sandusky.....	1
Nashville.....	1	<b>Tuscola County—</b>	
Berrien County—		Wells Township.....	1
Bainbridge Township.....	1	<b>Van Buren County—</b>	
Watervliet Township.....	1	South Haven.....	1
Branch County—		<b>Washtenaw County—</b>	
Coldwater.....	1	Ann Arbor.....	1
Calhoun County—		<b>Wayne County—</b>	
Washington Heights.....	1	Canton Township.....	1
Chippewa County—		Gratiot Township.....	1
Drummond Township.....	1	Hamtramck Township.....	2
Sault Ste Marie.....	2	St. Clair Heights.....	1
Clare County—		Wyandotte.....	4
Grant Township.....	1	<b>Wexford County—</b>	
Clinton County—		Manton Township.....	1
Riley Township.....	1	Total.....	95
Crawford County—		<b>Minnesota:</b>	
Grayling.....	1	Anoka County—	
Delta County—	2	Anoka.....	1
Escanaba.....	1	Blue Earth County—	
Eaton County—	3	Mankato.....	1
Grand Ledge.....	1	Mapleton.....	1
Genesee County—		<b>Brown County—</b>	
Flint Township.....	5	New Ulm.....	2
Davison Township.....	2	Freeborn County—	
Fenton.....	2	Albert Lea.....	1
Ingham County—		Goodhue County—	
Lansing.....	1	Kenyon.....	1
Ionia County—	1	Red Wing.....	2
Ionia.....	1	<b>Hennepin County—</b>	
Isabella County—	1	Edina.....	1
Chippewa Township.....	1	Minneapolis.....	10
Jackson County—	1	<b>Lake County—</b>	
Jackson.....	3	Two Harbors.....	1
Kalamazoo County—		<b>Lyon County—</b>	
Kalamazoo.....	2	Sodus Township.....	1
Kalkaska County—		<b>Mower County—</b>	
Garfield Township.....	1	Austin.....	1
Kent County—		Ramsey County—	
Grand Rapids.....	5	St. Paul.....	3
Lenawee County—		<b>Rice County—</b>	
Hudson.....	1	Faribault.....	5
Macomb County—		<b>St. Louis County—</b>	
Richmond.....	1	Duluth.....	10
Manistee County—		Ely.....	1
Manistee.....	6	Virginia.....	1
Marquette County—		Total.....	43
Negaunee.....			

## TYPHOID FEVER—Continued.

## State Reports for July, 1915—Continued.

Place.	New cases reported.	Place.	New cases reported.
New Jersey:		Ohio—Continued.	
Atlantic County.....	7	Putnam County.....	4
Bergen County.....	7	Richland County—	1
Burlington County.....	4	Mansfield.....	
Camden County.....	6	Ross County—	1
Cape May County.....	1	Chillicothe.....	2
Cumberland County.....	3	Sandusky County.....	
Essex County.....	24	Seneca County—	
Gloucester County.....	9	Fostoria.....	1
Hudson County.....	16	Tiffin.....	1
Hunterdon County.....	2	Stark County.....	5
Mercer County.....	4	Summit County.....	9
Middlesex County.....	3	Trumbull County.....	5
Monmouth County.....	7	Tuscarawas County.....	3
Morris County.....	3	Van Wert County.....	2
Ocean County.....	4	Warren County.....	6
Passaic County.....	7	Washington County.....	3
Salem County.....	1	Wayne County.....	
Somerset County.....	6	Wood County—	
Sussex County.....	6	Bowling Green.....	2
Union County.....	6	Wyandot County.....	1
Warren County.....	2		
	128	Total.....	292
Ohio:		South Carolina:	
Adams County.....	4	Abbeville County.....	13
Allen County.....	3	Aiken County.....	9
Ashland County—		Barnwell County.....	1
Ashland.....	1	Berkeley County.....	4
Ashtabula County.....	3	Charleston County.....	64
Athens County.....	3	Cherokee County.....	0
Belmont County.....	7	Chester County.....	11
Butler County—		Chesterfield County.....	4
Hamilton.....	1	Clarendon County.....	1
Champaign County—		Darlington County.....	2
Urbana.....	1	Dorchester County.....	1
Clark County.....	5	Edgefield County.....	1
Clermont County.....	2	Florence County.....	4
Clinton County.....	1	Greenville County.....	21
Columbiana County—		Greenwood County.....	1
Salem.....	2	Kershaw County.....	2
Wellsville.....	2	Lancaster County.....	3
Crawford County—		Laurens County.....	4
Bucyrus.....	1	Marion County.....	7
Cuyahoga County.....	5	Marlboro County.....	4
Darke County.....	2	Newberry County.....	3
Defiance County.....	1	Oconee County.....	5
Erie County.....	4	Orangeburg County.....	1
Fairfield County.....	2	Pickens County.....	1
Fayette County.....	1	Richland County.....	41
Franklin County.....	22	Spartanburg County.....	5
Gallia County.....	1	Union County.....	2
Geauga County.....	1	York County.....	2
Greene County.....	1		
Guernsey County.....	9	Total.....	217
Hamilton County.....	15	Washington:	
Hardin County.....	1	Chelan County.....	6
Henry County.....	2	Clallam County.....	4
Highland County.....	2	Clarke County.....	1
Hocking County.....	1	Columbia County.....	1
Huron County.....	3	Cowlitz County.....	1
Jackson County.....	10	Garfield County.....	1
Jefferson County.....	7	Greys Harbor County.....	1
Knox County.....	1	Jefferson County.....	1
Lawrence County.....	2	King County—	
Licking County.....	5	Seattle.....	7
Logan County.....	5	Lewis County.....	6
Lucas County.....	59	Okanogan County.....	3
Madison County.....	2	Pierce County—	
Mahoning County—		Tacoma.....	6
Youngstown.....	3	Skagit County.....	2
Marion County.....	8	Snohomish County—	
Mercer County.....	3	Everett.....	1
Miami County.....	3	Spokane County—	
Monroe County.....	5	Spokane.....	8
Montgomery County.....	1	Stevens County.....	3
Muskingum County.....	7	Whatcom County—	
Noble County.....	2	Bellingham.....	6
Paulding County.....	4	Yakima County.....	10
Pickaway County.....	0		
Preble County.....	3	Total.....	69

## TYPHOID FEVER—Continued.

## City Reports for Week Ended Aug. 7, 1915.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Akron, Ohio.....	1		Memphis, Tenn.....	10	2
Altoona, Pa.....	1		Milwaukee, Wis.....	3	
Ann Arbor, Mich.....	1		Mobile, Ala.....	5	1
Baltimore, Md.....	31	1	Nashville, Tenn.....	22	1
Boston, Mass.....	9		New Bedford, Mass.....	2	
Buffalo, N. Y.....	4		New Castle, Pa.....	2	
Cambridge, Mass.....	3		New Haven, Conn.....	2	1
Camden, N. J.....	3		New Orleans, La.....	3	1
Canton, Ohio.....	1	1	Newport, R. I.....	1	
Charleston, S. C.....	8		New York, N. Y.....	111	7
Chelsea, Mass.....	1		North Adams, Mass.....	1	
Chicago, Ill.....	11	1	Northampton, Mass.....	1	
Cincinnati, Ohio.....	4	1	Oakland, Cal.....	1	1
Cleveland, Ohio.....	7	1	Ogden, Utah.....	1	
Coffeyville, Kans.....	1		Pasadena, Cal.....	1	
Columbus, Ohio.....	1		Philadelphia, Pa.....	14	4
Cumberland, Md.....	2		Phoenix, Ariz.....	1	
Danville, Ill.....	2		Pittsburgh, Pa.....	7	1
Dayton, Ohio.....	4		Providence, R. I.....	7	
Detroit, Mich.....	12	1	Reading, Pa.....	1	1
Duluth, Minn.....	4		Richmond, Va.....	1	
East Orange, N. J.....	1		Rochester, N. Y.....	5	
Fall River, Mass.....	6	1	Rock Island, Ill.....	1	
Galesburg, Ill.....	3		Sacramento, Cal.....	6	
Galveston, Tex.....	3		St. Louis, Mo.....	9	1
Grand Rapids, Mich.....	2		Salt Lake City, Utah.....	3	
Harrisburg, Pa.....	5	1	Schenectady, N. Y.....	1	
Hartford, Conn.....	1		Somerville, Mass.....	3	
Haverhill, Mass.....	2		Springfield, Ill.....	5	1
Jersey City, N. J.....	1		Springfield, Mass.....	1	1
Johnstown, Pa.....	1		Steubenville, Ohio.....	4	
Kansas City, Kans.....	1		Tacoma, Wash.....	2	
Key West, Fla.....		1	Taunton, Mass.....	1	
Kokomo, Ind.....	1		Toledo, Ohio.....	10	3
Lawrence, Mass.....	2	1	Trenton, N. J.....	2	
Lincoln, Nebr.....	2	1	Waltham, Mass.....	1	
Little Rock, Ark.....	2		Washington, D. C.....	13	1
Los Angeles, Cal.....	1	1	West Hoboken, N. J.....		1
Lowell, Mass.....	2		Wilkes-Barre, Pa.....		2
Lynchburg, Va.....	5		York, Pa.....	2	2
Lynn, Mass.....	1		Zanesville, Ohio.....	1	
Manchester, N. H.....	1				

## DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

## State Reports for July, 1915.

State.	Cases reported.			State.	Cases reported.		
	Diph- theria.	Measles.	Scarlet fever.		Diph- theria.	Measles.	Scarlet fever.
District of Columbia.....	17	154	32	Minnesota.....	80	186	109
Louisiana.....	5	3	1	New Jersey.....	387	—	193
Massachusetts.....	597	1,932	459	Ohio.....	228	971	183
Michigan.....	192	146	110	South Carolina.....	37	—	8
				Washington.....	33	95	23

## DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Contd.

## City Reports for Week Ended Aug. 7, 1915.

City.	Population as of July 1, 1915. (Esti- mated by United States Census Bureau.)	Total deaths from all causes.	Diph- theria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
<b>Over 500,000 inhabitants:</b>										
Baltimore, Md.	584,605	201	3		10		7	2	34	12
Boston, Mass.	745,139	190	39	5	40	1	26		52	17
Chicago, Ill.	2,447,045	535	74	7	84	3	17		233	68
Cleveland, Ohio	656,975	177	23		30	2	10		42	18
Detroit, Mich.	554,717	180	19	1	10	1	5		35	17
New York, N. Y.	5,468,190	1,451	164	15	215	16	51		281	165
Philadelphia, Pa.	1,683,664	508	19	2	108	2	7		132	53
Pittsburgh, Pa.	571,984	147	11	1	36	2	4		25	15
St. Louis, Mo.	745,988	177	34	3	19		4		27	16
<b>From 300,000 to 500,000 inhabitants:</b>										
Buffalo, N. Y.	461,335	132	7		68	2			37	10
Cincinnati, Ohio	406,706	108	13	1	12		3	1	26	18
Jersey City, N. J.	300,133	104	11		11	1	5		26	9
Los Angeles, Cal.	465,367	80	9	1	9		2		32	11
Milwaukee, Wis.	428,062	72	4		1		1		18	9
New Orleans, La.	366,484	135	23	4					29	18
San Francisco, Cal.	1,416,912	130	13		4		5		28	13
Washington, D. C.	358,679	107			18				23	12
<b>From 200,000 to 300,000 inhabitants:</b>										
Columbus, Ohio	209,722	61	1				2		7	8
Portland, Oreg.	272,833	36	4	1	2				6	
Providence, R. I.	250,025	65	4				4			7
Rochester, N. Y.	250,747	60	2	1	4		5			2
<b>From 100,000 to 200,000 inhabitants:</b>										
Bridgeport, Conn.	118,434	33	6	1			1		9	2
Cambridge, Mass.	111,669	24	3		3		9		10	2
Camden, N. J.	104,349		1						5	
Dayton, Ohio	125,509	22	3				1		2	3
Fall River, Mass.	123,904	47	1		3				2	5
Grand Rapids, Mich.	125,759	27			2		1		4	2
Hartford, Conn.	108,969	38	4		2		4		5	1
Lowell, Mass.	112,124	25	2		1		1		2	2
Lynn, Mass.	100,316	25	2				3		3	5
Memphis, Tenn.	146,113		1				3		12	10
Nashville, Tenn.	115,978	46	1	1			1		11	4
New Bedford, Mass.	114,694	28			8				6	
New Haven, Conn.	147,095						3		6	3
Oakland, Cal.	190,803		1						5	3
Reading, Pa.	105,094	39			13				12	1
Richmond, Va.	154,674	48	1	1			1	1	4	5
Salt Lake City, Utah	113,567	20			1				1	
Springfield, Mass.	103,216	26	1	1	5				1	2
Tacoma, Wash.	108,094								1	
Toledo, Ohio	187,840	37	2		3				2	4
Trenton, N. J.	109,212	49	1		11				10	5
<b>From 50,000 to 100,000 inhabitants:</b>										
Akron, Ohio	82,958		1				1		1	8
Altoona, Pa.	57,606	9	2							1
Atlantic City, N. J.	55,806	11	1		2		1		3	
Bayonne, N. J.	67,582		1		1		1		7	
Berkeley, Cal.	54,879	9	1		1					
Binghamton, N. Y.	53,082	11	1						1	
Brockton, Mass.	65,746	8	4		2				1	
Charleston, S. C.	60,427	37	1							5
Duluth, Minn.	91,913	19	1				3			
Harrisburg, Pa.	70,754	13	1		1		1		3	1
Johnstown, Pa.	66,585	18	2		6		1			1
Kansas City, Kans.	96,854		2		5				3	2
Lancaster, Pa.	50,269		2						3	
Lawrence, Mass.	98,197	20	8		1	1	1		4	1
Littlerock, Ark.	55,158	38	1		1				1	
Malden, Mass.	50,067	6					1			1
Manchester, N. H.	76,859	19			2		1		1	
Mobile, Ala.	56,536	19							3	
New Britain, Conn.	52,203	15			1		1		2	

1 Population Apr. 15, 1910; no estimate made.

## DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Con.

## City Reports for Week Ended Aug. 7, 1915—Continued.

Cities.	Population as of July 1, 1914. (Esti- mated by United States Census Bureau.)	Total deaths from all causes.	Diph- theria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 50,000 to 100,000 inhabitants—Continued.										
Passaic, N. J.	69,010	15	1				1		2	1
Pawtucket, R. I.	58,156	15			1		2			
Rockford, Ill.	53,761	17	2				1			
Sacramento, Cal.	64,806	17	1						1	3
Saginaw, Mich.	54,815	10	2		1					1
San Diego, Cal.	51,115	15	12	1			1		1	1
Schenectady, N. Y.	95,265	18	3		2		1			2
Somerville, Mass.	85,460	17	1	1	2					1
South Bend, Ind.	67,030	4							1	1
Springfield, Ill.	59,468	12	3		1					2
Wilkes-Barre, Pa.	75,218	23	3		2				7	1
York, Pa.	50,543								2	
From 25,000 to 50,000 inhabitants:										
Alameda, Cal.	27,031	4	1						2	
Brookline, Mass.	31,934	4	2							
Chelsea, Mass.	132,452	10	1		3		1		5	
Chicopee, Mass.	28,688	10								
Cumberland, Md.	25,564	2							1	
Danville, Ill.	31,554	5	1							1
Dubuque, Iowa	39,650									
East Orange, N. J.	41,155	4					1			1
Elgin, Ill.	27,844	7					1		3	1
Everett, Mass.	38,307	4					5		1	
Everett, Wash.	33,767	2	1							
Fitchburg, Mass.	41,144	7	1				1		3	1
Galveston, Tex.	41,076	15	1							
Haverhill, Mass.	47,774	6	2						1	1
Kalamazoo, Mich.	47,364	8	1	1						
Kenosha, Wis.	30,319	1	1				1		2	
La Crosse, Wis.	31,522	7	1							
Lexington, Ky.	39,703	17			4				2	
Lima, Ohio	34,644	5								2
Lincoln, Nebr.	46,028	6	1							
Lorain, Ohio	35,662								1	
Lynchburg, Va.	32,385	12							2	
Madison, Wis.	30,034				2				1	
Medford, Mass.	25,737	9	1							2
Montclair, N. J.	25,550	5							1	1
New Castle, Pa.	40,351		4							
Newport, Ky.	31,722	6								
Newport, R. I.	29,631	6	1							1
Newton, Mass.	43,085	10			2		3		1	
Niagara Falls, N. Y.	36,240	14	2		1					1
Norristown, Pa.	30,833	8			3					
Ogden, Utah	30,466	11	1							
Orange, N. J.	32,524	7								
Pasadena, Cal.	43,859	3								
Perth Amboy, N. J.	39,725	2								
Pittsfield, Mass.	37,580	9								2
Racine, Wis.	45,507				2		1		1	1
Roanoke, Va.	41,929	10	4		1					
Rock Island, Ill.	27,961	4								
Steubenville, Ohio	26,631	4					1			
Superior, Wis.	45,285	3	1							
Taunton, Mass.	35,957	10								1
Waltham, Mass.	30,129	9	1		2					1
West Hoboken, N. J.	41,893	9	4		1		2		4	1
Williamsport, Pa.	33,495	9	5							
From 10,000 to 25,000 inhabitants:										
Ann Arbor, Mich.	14,979	3	2				1		6	
Beaver Falls, Pa.	13,316								1	
Braddock, Pa.	21,310								3	
Cairo, Ill.	15,593	7			1		1			1
Clinton, Mass.	13,075	4								2
Concord, N. H.	22,480	12								
Galesburg, Ill.	23,923	7								
Kearny, N. J.	22,753	6			3				2	
Key West, Fla.	21,437	8					11			1
Kokomo, Ind.	20,312	3							3	1

<sup>1</sup> Population Apr. 15, 1910; no estimate made.

## DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Contd.

## City Reports for Week Ended Aug. 7, 1915—Continued.

City.	Population as of July 1, 1914. (Es- timated by United States Cen- sus Bureau.)	Total deaths from all causes.	Diph- theria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
<b>From 10,000 to 25,000 inhabitants—Continued.</b>										
Marinette, Wis.	<sup>1</sup> 14,610	4			2					1
Melrose, Mass.	17,166	1								
Muscatine, Iowa	17,287	6								1
Nanticoke, Pa.	22,441	9								
Newburyport, Mass.	15,195	5								
New London, Conn.	20,771	10			1					
North Adams, Mass.	<sup>1</sup> 22,019	3								
Northampton, Mass.	19,846	9								
Phoenix, Ariz.	17,798	4								
Plainfield, N. J.	23,280	9					1		1	2
Rutland, Vt.	14,624	5	2				1			1
Saratoga Springs, N. Y.	12,842	4								
Steelton, Pa.	15,337	2								
Wilkinsburg, Pa.	22,361	6								2

<sup>1</sup> Population Apr. 15, 1910; no estimate made.

## FOREIGN REPORTS.

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### BRAZIL.

#### Yellow Fever—Bahia.

During the week ended July 17, 1915, one fatal case of yellow fever was reported in Bahia, Brazil.

### CUBA.

#### Communicable Diseases—Habana.

Communicable diseases were notified at Habana during the 10-day period ended July 31, 1915, as follows:

Disease.	New cases.	Deaths.	Remaining July 31, 1915.
Diphtheria.....	9	.....	8
Leprosy.....	2	1	248
Malaria.....	2	.....	4
Measles.....	1	.....	3
Paratyphoid fever.....	2	.....	13
Scarlet fever.....	3	.....	5
Typhoid fever.....	8	2	28
Varicella.....	2	.....	4

### GERMANY.

#### Cholera.

Cholera has been reported in Germany as follows: During the period from July 18 to 31, 1915, 215 cases among Russian soldiers in prison camps; and during the same period 16 cases among German soldiers in 15 localities.

### GREAT BRITAIN AND IRELAND.

#### Typhus Fever—Glasgow.

During the week ended August 4, 1915, one case of typhus fever was reported in Glasgow, Scotland.

## TYPHUS FEVER.

Reports Received During Week Ended Aug. 27, 1915.<sup>1</sup>

Place.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary:				
Hungary—				
Budapest.....	June 28-July 10...	2	2	Among soldiers.
Egypt:				
Alexandria.....	July 9-15.....	15	5	
Great Britain and Ireland:				
Glasgow.....	July 30-Aug. 4....	1	.....	
Greece:				
Athens.....	July 13-19.....	.....	3	
Saloniki.....	July 11-17.....	.....	7	
Russia:				
Moscow.....	June 27-July 3....	10	2	
Petrograd.....	do.....	3	.....	

## Reports Received from June 26 to Aug. 20, 1915.

Austria-Hungary:				
Austria.....	Apr. 25-May 22...	1,212	.....	Mainly among soldiers, prisoners of war, and persons from Galicia; 6 among the civil population, of which 1 in Vienna. Mainly among military.
Bosnia-Herzegovina.....	May 2-15.....	64	.....	
Hungary:				
Budapest.....	May 16-June 12...	12	4	
Azores:				
Terceira.....	May 23-29.....	1	.....	July 24, 1915; present.
Canary Islands:				
Santa Cruz de Tenerife.....	May 16-June 19....	.....	2	
China:				
Antung.....	June 28-July 4....	1	.....	
Hungtaohotze Station.....	Apr. 19-25.....	1	.....	
Mukden.....	June 6-July 3....	.....	.....	
Tientsin.....	do.....	.....	1	
Cuba:				
Santiago.....	July 4-10.....	2	2	
Dutch East Indies:				
Java.....	Apr. 25-May 10...	35	7	
Batavia.....	June 6-19.....	18	4	
Egypt:				
Alexandria.....	May 21-June 17...	119	35	
Cairo.....	May 7-June 3....	70	95	
Port Said.....	do.....	2	3	
France:				
La Rochelle.....	July 11-17.....	1	1	
Germany.....	May 16-22.....	12	.....	In German soldiers and 1 prison, camp employee; among prisoners of war in 14 districts and in Saxony and Hesse. Among military: Present in prison camps. Do.
Do.....	June 6-26.....	33	.....	
Do.....	June 27-July 3....	76	.....	
Aix la Chapelle.....	May 30-June 5....	.....	1	
Bremen.....	May 30-June 12...	1	1	
Breslau.....	May 30-June 5....	5	.....	
Konigsberg.....	June 6-12.....	3	.....	
Leipzig.....	do.....	.....	1	
Great Britain and Ireland:				
Dublin.....	May 23-July 10...	6	.....	
Glasgow.....	May 29.....	1	.....	
Newcastle.....	June 27-July 3....	1	.....	
Greece:				
Athens.....	June 14-25.....	.....	1	
Saloniki.....	May 30-July 10...	.....	14	
Do.....	June 20-July 3....	3	.....	
Italy:				
Florence.....	May 1-31.....	5	1	
Turin.....	May 17-23.....	1	.....	
Japan:				
Tokyo.....	June 7-13.....	2	.....	

<sup>1</sup> From medical officers of the Public Health Service, American consuls, and other sources.

## TYPHUS FEVER—Continued.

## Reports Received from June 26 to Aug. 20, 1915—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Mexico:				
Aguascalientes.....	June 21-27.....		1	
Russia:				
Moscow.....	May 2-June 26.....	203	57	
Petrograd.....	May 9-June 19.....	13	3	
Riga.....	Mar. 1-31.....	1	1	
Do.....	June 6-12.....	1		
Vladivostok.....	June 15-21.....	1	1	
Warsaw.....				Sept. 27-Oct. 31, 1914: Cases, 31. Nov. 1-28, 1914: Cases, 31; deaths, 1. Maximum incidence, Nov. 22-28: Cases, 20; deaths, 1.
Serbia.....	Apr. 27.....			Prevalent.
Spain:				
Madrid.....	June 1-30.....		1	
Switzerland:				
Zurich.....	May 30-July 10.....	2		
Turkey in Asia:				
Adana.....	May 9-15.....			Present.
Beirut.....	May 27-June 2.....	2	1	
Harput.....	Apr. 1-30.....			Do.
Jaffa.....	Apr. 25-June 19.....	15	7	
Mersina.....	May 9-29.....	2	2	
Tarsus.....	do.....			Do.
Trebizond.....				October, 1914-May 22, 1915: 6,000 fatal cases (estimated).
Tripoli.....	May 9-15.....	1	1	

## CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX.

Reports Received During Week Ended Aug. 27, 1915.<sup>1</sup>

## CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary:				
Hungary—				
Budapest.....	June 28-July 10.....	2		
China:				
Hongkong.....	June 28-July 3.....	14	13	
Germany.....	July 24-31.....			Among soldiers; 15 cases, 1 death.
Do.....	July 18-31.....	215	25	In prison camps.
Berlin.....	July 18-24.....	1		Among soldiers.
Berlitz.....	do.....	1		Do.
Breslau.....	July 18-31.....	2		Do.
Bromburg.....	July 25-31.....	1		Do.
Cannstatt.....	do.....	1		Do.
Danzig.....	July 18-24.....	1		Do.
Hanover.....	July 25-31.....	1		Do.
Landsberg.....	do.....	1		Do.
Leipzig.....	do.....	1		Do.
Patschkau.....	July 18-24.....	1		Do.
Posen.....	July 25-31.....	1		Do.
Schneideiuhl.....	do.....	1		Do.
Sommerfeld.....	July 18-24.....	1		Do.
Spandau.....	July 25-31.....	1		Do.
Striegan.....	July 18-24.....	1	1	Do.
India:				
Bombay.....	July 4-10.....	1	1	

## YELLOW FEVER.

Brazil:			
Bahia.....	July 11-17.....	1	1

<sup>1</sup> From medical officers of the Public Health Service, American consuls, and other sources.

## CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.

## Reports Received During Week Ended Aug. 27, 1915—Continued.

## PLAQUE.

Place.	Date.	Cases.	Deaths.	Remarks.
Dutch East Indies:				
Java:				
Kediri residency	June 4-17.....	87	79	
do	do.....	37	32	
Madioen residency	do.....	5	5	
Pasoroean residency	do.....	29	26	
Soerabaya residency	do.....	14	14	
Soerakarta residency	do.....	2	2	
Surabaya	June 13-19.....	3	3	
Greece:				
Zante	Aug. 1-11.....	12	10	
India:				
Bombay	July 4-10.....	24	19	
Karachi	do.....	5	4	
Rangoon	June 20-July 3.....	33	32	
Turkey in Asia:				
Bagdad	June 14-20.....	35	35	

## SMALLPOX.

Australia:				
New South Wales—				
Newcastle district	July 2-8.....	2	.....	
Austria-Hungary:				
Austria—				
Vienna	July 11-17.....	2	.....	
Hungary—				
Budapest	June 28-July 10.....	19	.....	
Brazil:				
Rio de Janeiro	June 13-July 10.....	26	10	
China:				
Hongkong	June 28-July 3.....	1	1	Natives.
Dutch East Indies:				
Java	June 13-19.....	15	2	Mid Java.
Do	June 20-26.....	19	3	West Java.
Egypt:				
Alexandria	July 9-15.....	4	2	
India:				
Bombay	July 4-10.....	12	6	
Madras	do.....	3	3	
Rangoon	June 20-July 3.....	16	5	
Mexico:				
Acapulco	July 14-20.....	1	.....	
Monterey	July 19-Aug. 1.....	3	.....	
Russia:				
Petrograd	June 27-July 3.....	28	19	
Riga	July 11-17.....	6	.....	
Spain:				
Valencia	July 26-Aug. 1.....	7	.....	
Turkey in Asia:				
Beirut	June 20-July 17.....	29	11	
Union of South Africa:				
Johannesburg	June 27-July 3.....	1	.....	

## Reports Received from June 26 to Aug. 20, 1915.

## CHOLERA.

Austria-Hungary:				
Austria	May 2-June 5.....	239	52	
Vienna	May 9-15.....	9	3	July 3-17, 1915: 5 cases in Galicia. Among soldiers and prisoners.
Trieste	June 27-July 3.....	1	.....	
Bosnia-Herzegovina	Apr. 25-May 29.....	128	46	96 cholera carriers in 3 localities.
Croatia-Slavonia	May 3-June 7.....	70	21	14 among soldiers.
Hungary	Apr. 26-June 13.....	510	187	May 16-23: 5 additional cases notified.
Ceylon:				
Colombo	Apr. 25-May 22.....	8	1	
China:				
Hongkong	May 2-8.....	1	1	
Dutch East Indies:				
Java	Apr. 25-June 5....	56	50	
Batavia				

## CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.

## Reports Received from June 26 to Aug. 20, 1915—Continued.

## CHOLERA—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Germany:				
Breslau district—				
Jagerndorf.....	June 13-July 2....	1	.....	
Oppeln—				
Rosenberg.....	..... do .....	1	.....	
Slaventzitz.....	..... do .....	1	.....	
Sachsenhausen.....	June 13-July 2....	1	1	
Silesia.....	July 3-17.....	5	.....	
India:				
Akyab.....	May 16-29.....	2	.....	
Bassein.....	Apr. 18-June 5.....	22	.....	
Bombay.....	June 6-12.....	2	2	
Calcutta.....	Apr. 25-June 5.....	.....	141	
Madras.....	May 2-June 5.....	4	5	
Rangoon.....	Apr. 24-June 12.....	3	4	
Indo-China.....				Jan. 1-31, 1915: Cases, 284; deaths, 178.
Saigon.....	May 2-June 19.....	656	306	
Provinces—				
Anam.....	Jan. 1-31.....	3	2	
Cochin China.....	..... do .....	243	158	
Tonkin.....	..... do .....	38	18	
Italy:				
Leghorn.....	Aug. 11.....	1	.....	
Venice.....	..... do .....	3	.....	
Russia:				
Moscow.....	June 6-12.....	75	14	
Serbia.....	June 25-July 2.....	2	.....	
Siam:				
Bangkok.....	Apr. 19-May 15.....	.....	4	
Straits Settlements:				
Singapore.....	May 9-June 12.....	2	1	

PLAQUE.<sup>1</sup>

Bahrein, island.....	Apr. 1-30.....	.....	.....	Present.
Ceylon:				
Colombo.....	May 9-29.....	3	3	
China:				
Amoy.....	May 2-June 5.....	.....	.....	
Do.....	June 13-19.....	.....	.....	
Do.....	June 20-26.....	.....	.....	
Hongkong.....	May 9-June 26.....	52	46	
Cuba:				
Habana.....	Aug. 15.....	1	.....	
Brazil:				
Bahia.....	June 20-July 10.....	4	3	
Dutch East Indies:				
Java:				
Do.....	Mar. 12-25.....	326	295	
Do.....	Mar. 26-May 20.....	582	521	
Do.....	June 21-July 3.....	62	61	
Surabaya.....	Apr. 18-June 12.....	13	12	
Ecuador:				
Guayaquil.....	May 1-31.....	1	.....	
Egypt:				
Alexandria.....	May 21-27.....	.....	1	
Assiout, province.....	May 14-June 3.....	7	2	
Fayoum, province.....	May 14-July 9.....	49	9	
Galioubéh, province.....	May 14-27.....	1	.....	
Minieh, province.....	May 14-July 11.....	10	5	
Port Said.....	May 28-July 12.....	7	3	
India:				
Bassein.....	Apr. 18-June 12.....	.....	58	
Bombay.....	May 2-July 3.....	121	111	
Calcutta.....	Apr. 25-June 5.....	.....	55	
Henzada.....	May 2-8.....	1	.....	
Karacli.....	May 2-July 3.....	610	527	
Mandalay.....	Apr. 25-June 12.....	.....	3	
Moulmein.....	May 23-June 12.....	.....	5	
Myingyam.....	Apr. 5-17.....	.....	.....	
Pegu.....	Apr. 18-May 1.....	.....	1	

<sup>1</sup> The case reported as plague at Paauhau, Hawaii, June 29, 1915, which has been appearing in this table has since been reported to have been shown by bacteriological examination held post-mortem not to have been plague.

## CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.

## Reports Received from June 26 to Aug. 20, 1915—Continued.

## PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
India—Continued.				
Rangoon.....	Apr. 18-June 19...	95	64	Apr. 1-May 31, 1915: Cases, 94; deaths, 92.
Toungoo.....	Apr. 25-May 1.....	.....	38	
Indo-China:				
Saigon.....	May 9-June 19.....	10	6	Jan. 1-31, 1915: Cases, 73; deaths, 58.
Provinces—				
Anam.....	Jan. 1-31.....	36	33	
Cambodia.....	.....do.....	18	18	
Cochin China.....	.....do.....	19	7	
Japan:				
Taiwan, island—				
Kagi.....	May 30-July 3.....	7	7	
Tokyo.....	May 31-June 13.....	5	5	
Persia:				
Mohammerah.....	Apr. 10-June 1.....	3	.....	
Peru:				
Callao.....	May 3-9.....	1	.....	
Lima (city).....	.....do.....	1	.....	
Mollendo.....	.....do.....	1	.....	
Salaverry.....	Apr. 26-May 27.....	2	.....	
Trujillo.....	May 3-9.....	2	.....	
Straits Settlements:				
Singapore.....	Apr. 25-June 5.....	4	1	
Turkey in Asia:				
Bagdad.....	May 2-June 13.....	704	520	
Union of South Africa:				
Cape Province—				
Tarka, district.....	June 2-16.....	2	1	
Wodehouse, district.....	June 5.....	2	2	At Dordrecht.
Zanzibar:				
Zanzibar.....	Mar. 1-31.....	.....	1	

## SMALLPOX.

Australia:				
New South Wales—				
New Castle District—				
Cessnock.....	June 10-July 1.....	4	.....	
Kurri Kurri.....	May 26-July 1.....	6	.....	
Standford Mortyr.....	June 25-July 24.....	1	.....	
Victoria—				
Melbourne.....	Apr. 20.....	1	.....	At Point Nepean quarantine station, from S. S. Lord Derby from Rangoon.
Western Australia—				
Fremantle.....	Apr. 27.....	1	.....	At Woodmans Point quarantine station, from S. S. City of Baroda from Calcutta via Colombo.
Austria-Hungary:				
Austria.....	May 2-15.....	275	.....	
Dalmatia, Province.....	May 2-8.....	1	.....	
Vienna.....	May 23-July 10.....	29	8	Aug., 1914-May 8, 1915: Cases, 1,487; deaths, 316. May 9-15, 1915: Cases, 28.
Hungary—				
Budapest.....	May 2-June 12.....	265	1	
Brazil:				
Rio de Janeiro.....	Apr. 18-June 15.....	88	24	
Canada:				
Ontario—				
Hamilton.....	June 1-30.....	2	4	
Sarnia.....	June 13-19.....	1	.....	
Toronto.....	June 6-Aug. 7.....	7	.....	
Quebec—				
Montreal.....	June 13-Aug. 7.....	11	.....	
Sherbrooke.....	June 1-30.....	.....	1	
Ceylon:				
Colombo.....	May 2-29.....	21	7	
China:				
Chungking.....	May 23-June 19.....	.....		Present.
Foochow.....	May 9-22.....	.....		Do.
Hongkong.....	May 9-June 12.....	7	4	
Nanking.....	June 20-July 3.....	.....		Do.
Shanghai.....	May 9-June 25.....	4	5	Natives.
Tientsin.....	May 16-22.....	.....	1	

## CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.

Reports Received from June 26 to Aug. 20, 1915—Continued.

## SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Dutch East Indies:				
Java.....	Apr. 18-June 12.....	143	38	Mid Java.
Do.....	Apr. 27-June 19.....	373	97	West Java.
Batavia.....	Apr. 25-June 19.....	.....	29	Natives.
Egypt:				
Alexandria.....	May 21-July 1.....	37	12	
Cairo.....	Apr. 30-June 3.....	10	3	
Germany:				
Hamburg.....	June 6-12.....	1	.....	Total, May 16-July 3, 1915: 9 cases.
Government districts—				
Allenstein.....	June 13-19.....	1	.....	
Arnsberg.....	do.....	1	.....	
Breslau.....	June 20-July 3.....	1	.....	
Danzig.....	June 13-19.....	2	.....	
Gumbinnen.....	May 23-29.....	2	.....	
Marienwerder.....	do.....	2	.....	
Mersburg.....	June 20-July 3.....	1	.....	
Oppeln.....	May 16-July 3.....	7	.....	
Posen.....	May 30-June 5.....	3	.....	
Potsdam.....	June 13-July 3.....	3	.....	
Great Britain:				
Bristol.....	Mar. 21-May 22.....	29	7	1 from vessel from Bombay. Maximum incidence, Apr. 4-17: Cases, 22; deaths, 2.
London.....	May 30-June 12.....	3	.....	
Greece:				
Saloniki.....	May 23-29.....	.....	1	
India:				
Bassein.....	May 2-8.....	.....	1	
Bombay.....	May 2-July 3.....	175	95	
Calcutta.....	Apr. 25-June 5.....	.....	237	
Karachi.....	May 2-June 12.....	23	4	
Madras.....	May 2-June 19.....	11	4	
Moulmein.....	May 23-29.....	.....	1	
Pegu.....	Apr. 18-June 12.....	1	1	
Rangoon.....	Apr. 18-June 19.....	81	34	
Indo-China:				
Anam Province.....	Jan. 1-31.....	.....		
Cambodia Province.....	do.....	23	5	
Cochin China Province.....	do.....	12	.....	
Saigon.....	May 23-29.....	1	1	
Tonkin Province.....	Jan. 1-31.....	56	12	
Italy:				
Milan.....	May 1-31.....	1	.....	
Japan:				
Taiwan, island.....	May 23-29.....	1	.....	
Mexico:				
Aguascalientes.....	June 7-July 4.....	.....	8	
Frontera.....	May 23-July 17.....	98	38	
Mazatlan.....	June 23-July 13.....	.....	3	
Monterey.....	June 14-July 4.....	6	.....	
Progreso.....	June 6-July 24.....	7	1	
Salina Cruz.....	June 1-30.....	4	1	
Vera Cruz.....	June 7-Aug. 1.....	69	42	
Portugal:				
Lisbon.....	May 23-July 17.....	23	.....	
Russia:				
Moscow.....	May 2-15.....	19	5	
Petrograd.....	May 8-June 26.....	246	88	
Riga.....	May 9-July 3.....	55	.....	
Warsaw.....	.....	.....	.....	
Vladivostock.....	May 29-June 4.....	1	.....	
Serbia.....	Apr. 21-May 3.....	356	.....	
Spain:				
Madrid.....	June 1-30.....	.....	3	
Seville.....	May 1-June 30.....	.....	7	
Valencia.....	May 30-July 25.....	67	10	
Straits Settlements:				
Penang.....	Apr. 25-May 15.....	6	2	
Singapore.....	May 23-29.....	1	.....	
Switzerland:				
Basel.....	May 16-July 3.....	18	.....	
Turkey in Asia:				
Bagdad.....	May 2-8.....	.....		
Beirut.....	May 16-June 19.....	35	14	
Haifa.....	May 3-June 20.....	6	.....	
Jaffa.....	May 9-29.....	2	.....	
Mersina.....	May 30-June 5.....	1	.....	
Tripoli.....	May 2-8.....	.....	Do.	

# SANITARY LEGISLATION.

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## COURT DECISIONS.

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### NEW YORK SUPREME COURT, APPELLATE DIVISION, SECOND DEPARTMENT.

#### **Removal of Members of City Board of Health—Notice and Hearing Required.**

**PEOPLE ex rel. LOEVIN et al. v. GRIFFING, Mayor, 152 N. Y. Sup., 113. (Mar. 12, 1915.)**

The charter of the city of New Rochelle, N. Y., provides that the mayor may remove appointive officers after service of written charges, hearing, and the taking of testimony under oath. The court held that the action of the mayor in removing members of the city board of health under this provision of the city charter was reviewable by the courts.

The proper legal remedy under such circumstances is the writ of certiorari.

Under the provisions of the charter of New Rochelle, before members of the board of health can be removed they are entitled to written charges specifically alleging substantial cause for removal, reasonable notice of the hearing, permission to cross-examine witnesses called to sustain the charges, an opportunity to be heard and to produce witnesses in defense, and a just judgment.

**STAPLETON, J.:** The relators were commissioners, members of the Board of Health of the City of New Rochelle. They were appointed by the mayor for fixed terms and served without compensation. (Ch. 559, art. 26, Laws of 1910.) The power of removal from the offices held by them is controlled by section 33 of the law cited. It reads:

Except as otherwise provided in this act for the board of education, the mayor may remove any appointive officer in the following manner: The mayor shall serve written charges upon the officer and shall give him a hearing at which all the testimony in the matter shall be taken under oath and reduced to writing. If in the judgment of the mayor such testimony is sufficient to warrant the removal of the officer, the mayor may remove the officer and shall file all the evidence, together with his written detailed reasons for the removal, signed, by him, in the office of the city clerk.

The relators were removed by his honor, the mayor, purporting to act in obedience to the law. They applied for a writ of certiorari, which was issued. A return was made, and the proceeding is here to be heard.

The primary question presented for determination is whether this is a case where the writ may issue. It is conceded that the right to the writ is not expressly conferred, and that the issuance thereof is not expressly authorized by a statute. The only other assumption upon which it can be issued is if it were issuable at common law; and it is also conceded that, if the right to issue it existed at common law, the power of the court to exercise that right is not expressly taken away by statute. (Code of Civil Procedure, sec. 2120; Matter of Fitch, 147 N. Y., 334; 41 N. E., 699. People ex rel. Mayor v. Nichols, 79 N. Y., 582, 588.)

If, under the statute quoted, the act of removal is solely an executive act, it is unreviewable. (People ex rel. Kennedy v. Brady, 166 N. Y., 44, 47; 59 N. E., 701.) If it is judicial in its character, it "is subject to review by a writ of certiorari issued by the Supreme Court in the exercise of its superintending power over inferior tribunals

and persons exercising judicial functions." (People ex rel. The Mayor *v.* Nichols, *supra*.) Where a statute makes no provision for a hearing, but confers the power of removal, subject to no limitation, except the requirement that the reasons therefor be stated in writing and filed, and an opportunity for explanation given, the act of removal is executive. (People ex rel. Kennedy *v.* Brady, *supra*.) Similar determinations were made where the mayor of a city was authorized to remove a police commissioner "for any cause deemed sufficient to himself," and where no hearing was provided by express language (People ex rel. Gere *v.* Whitlock, 92 N. Y., 191, 198), and in a case where the statute reads:

If a charge be made by any person against any member of the police force that he is incompetent or has been guilty of neglect of duty, misconduct in his office, or of conduct unbecoming a police officer, the charge must be put in writing in the form required by the rules of the police department and a copy thereof must be served upon the accused officer. It is then the duty of the commissioner to hear, try, and determine the charge according to the rules of the police department. \* \* \* If the accused officer shall be found guilty of the charge made against him, the commissioner may \* \* \* dismiss him from the police force. \* \* \* The decision of the commissioner shall be final and conclusive and not subject to review by any court. (People ex rel. Graveline *v.* Ham, 59 App. Div., 314, 69 N. Y. Supp., 683; People ex rel. Miller *v.* Peck, 73 App. Div., 89, 76 N. Y. Supp., 328.)

Where a statute requires, before removal, as it does in this case, written charges, a hearing thereof, sworn testimony reduced to writing, and judgment as to the sufficiency of the testimony to warrant removal, provision is made for a proceeding judicial in character. (People ex rel. Weston *v.* McClave, 123 N. Y., 512; People ex. rel. Mayor *v.* Nichols, *supra*.)

In People ex rel. Hayes *v.* Waldo (212 N. Y., 156, 170, 105; N. E., 961, 966) the court said:

When by statute or by implication of law the power of removal can only be exercised for cause or after a hearing, the proceeding, although an exercise of an administrative power, is judicial in its nature, and as a necessary consequence it is subject to review by certiorari.

Such provision for a hearing imports written charges specifically alleging substantial cause for removal, reasonable notice of the hearing, permission to cross-examine witnesses called to sustain the charges, an opportunity to be heard and to produce witnesses in defense, and a just judgment. (People ex rel. Mayor *v.* Nichols, *supra*; Matter of Reddy, 148 App. Div., 725, 727, 132, N. Y. Supp., 937.)

The defendant asserts that, in the statutes heretofore considered in decisions pronouncing removal proceedings judicial in character, the words "for cause," or some words of similar import, appeared, and that the omission of such words from this statute is significant, and fatal to the contention of the relator. We disagree with him. To agree with him would render meaningless the requirement that written charges be preferred and that a hearing be conducted with prescribed judicial incidents. Some of the citations we have made show that when the legislature intended to provide for a hearing simply to enlighten the judgment and satisfy the conscience of the removing power it clearly manifested its design, and when it wished to leave the power of removal untrammeled by a proceeding for judicial review it was not less happy in lucidity of expression.

The mayor has not unlimited discretion, without the guidance of evidence or law. He can not act capriciously or arbitrarily. He must act in accordance with the established practice in such hearings. His judgment must be based upon sufficient evidence of the existence of some actual and substantial cause for removal from public office. We conclude that the statute accorded the relators the right of a judicial hearing and that the determination of the mayor is subject to review.

The remaining question is: Should the determination be confirmed? The relators were charged with conducting the hearing of charges against the health officer of the city in an inefficient and improper manner, rendering the proceedings a farce and tending to bring ridicule and reproach upon the city government. They were specifically charged with permitting the counsel for the accused to travesty the proceedings

by boisterous and flippant conduct, and to insult during its course one of the commissioners and the mayor himself, who was present as a witness, by addressing them opprobriously.

The relators were authorized to remove the health officer for cause. (Ch. 559, sec. 385, Laws 1910.) They were examining charges against him when the offense with which they were charged was committed. Assuming, without deciding, that a cause for removal from office was stated in the written charges, the relators, nevertheless, were entitled to a reasonable opportunity to be heard and to a reasonable time within which to produce witnesses in their defense.

The written charges were served on the accused on the 11th day of June, 1914, at 8 o'clock p. m. The hearing was fixed for the 12th of June, 1914, at 8 o'clock p. m. The determination to remove was made on the same day, and the written detailed reasons were filed in the city clerk's office the following morning. The relators asked for an adjournment to procure witnesses. They sought subpoenas. The mayor was not in the city during the greater part of the day of June 12, and subpoenas could not be issued. The mayor, misapprehending the nature of the proceeding, proclaiming it to be a matter of good business and good government, and announcing that witnesses could not change matters within his own knowledge, denied the application, proceeded with the hearing, and removed the relators.

We think the accused were entitled to present their defense, and support it by witnesses whose attendance they should have had a reasonable time to produce by compulsory process, if necessary, so that the court, on review, could determine whether substantial cause for removal had been legitimately proved. (See Matter of Reddy, supra.)

The determination is annulled, and a new hearing directed, with \$50 costs to the relators to abide the event.

All concur.

## STATE LAWS AND REGULATIONS PERTAINING TO PUBLIC HEALTH.

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### NEW HAMPSHIRE.

**Communicable Diseases—Notification of Cases—Quarantine—Placarding—Instructions. (Chap. 20, Act. Mar. 2, 1915.)**

SECTION 1. Chapter 16, Laws of 1901, is hereby amended by striking out sections 1, 2, 3, 4, and 5, and inserting in place thereof the following:

“SECTION 1. Any physician or other person called upon to treat smallpox, cholera, diphtheria, scarlet fever, typhoid fever, measles, or any other disease required by the State board of health to be reported, shall report the same immediately to the local board of health of the town in which the disease is found, or to the State board of health, as may be directed by the latter, together with the name, age, and sex of the patient, the head of the family, and the house or place where the said infected person may be found. The attending physician may, if he deems it necessary, quarantine the patient or enforce the regulations of the State board of health pending the reporting of the disease as required.

“SEC. 2. Whenever any person knows or has reason to believe that any member of his family or household has either of the diseases named in section 1, or any other disease required to be reported, he shall, if no physician is in attendance, immediately notify the local board of health of the town or city in which he resides.

“SEC. 3. The board of health, upon being notified of the existence of either of the diseases required to be reported under the provisions of section 1 of this act, shall take such action with respect to quarantine and instructions to the family as may have been promulgated by the State board of health for the control of that particular disease, and it shall be the duty of local boards of health to enforce all rules and regulations established by the State board of health for the restriction and prevention of such disease or diseases.

“SEC. 4. The State board of health shall cause to be printed, for the use of local boards of health, quarantine cards or notices containing such orders or instructions as may be deemed necessary or advisable. No person shall remove, deface, or destroy a quarantine card or notice when posted by the local board of health, and said card shall remain in place until its removal is authorized by the local board of health.

“SEC. 5. Upon the appearance of either of the diseases required by the law or by the State board of health to be reported, the local board of health shall make an immediate report to the State board of health upon blanks furnished for that purpose, and shall thereafter make weekly reports so long as the disease continues, and shall make such additional reports as the State board of health may require.”

**Ophthalmia Neonatorum—Notification of Cases. (Chap. 85, Act Mar. 31, 1915.)**

SECTION 1. Should one or both eyes of an infant become inflamed, swollen, and red, and show an unusual discharge at any time within two weeks after its birth, it shall be the duty of the attending midwife, nurse, relative, or other attendant treating or having charge of such infant to report in writing, within six hours thereafter, to the

board of health of the city or town in which the parents of the infant reside, the fact that such inflammation, swelling, and redness of the eyes and unnatural discharge exist, except that if a legally qualified physician is in attendance, he shall report as required by this section within 24 hours.

SEC. 2. Upon receipt of a report as set forth in section 1 of this act, the board of health, if no physician is in attendance, shall at once direct the parents, or whoever has charge of such infant having such inflammation, swelling, redness, or unnatural discharge of the eyes, immediately to place it in charge of a legally qualified physician, or in charge of the city or town physician if unable to pay for medical services.

SEC. 3. The board of health of every city and town in the State shall make a weekly report to the State board of health, upon blanks furnished for that purpose, of all cases reported under the provisions of section 1 of this act, and the State board of health is authorized to adopt such rules, regulations, and instructions as it may deem necessary to carry out the provisions of this act.

SEC. 4. Any person violating the provisions of this act shall be deemed guilty of a misdemeanor, and shall be fined not exceeding \$25 for each offense.

**Tuberculosis—Treatment of Persons Afflicted With—Appropriation for. (Chap. 225, Act Apr. 21, 1915.)**

That for the treatment of persons afflicted with tuberculosis, particularly in the advanced stages, who are unable to pay the cost of such treatment, and for the encouragement of the establishment and maintenance of sanatoria for the treatment of such persons, the State board of charities and correction be and hereby is authorized to engage free beds in such sanatoria or other places as have been approved by the State board of health for the treatment of such persons as the State board of charities and correction may specify. Indigent consumptives, citizens of the State, who are unable to pay any part of the cost of said treatment, may be admitted to said free beds by the authority of the secretary of the State board of charities and correction in accordance with the ordinary regulations of said sanatoria. Persons in needy circumstances, who by themselves, relatives, or friends are able to pay no more than part of the cost of said treatment, may be admitted to said sanatoria or other places and maintained and treated therein at the expense of the State to that extent that they can not by themselves, relatives, or friends chargeable therefor, pay cash cost of treatment, when the State board of charities and correction so certify; and said board shall stipulate the proportion the State shall assume to pay. This act shall not be construed so as to deprive any person to whom aid is rendered of any right that he may have at the time of his admission to said sanatorium. To pay the expenses of engaging said free beds and assisting persons in needy circumstances to treatment in said sanatoria a sum not exceeding \$17,500 for each of the years 1915 and 1916 is hereby appropriated, and the governor is authorized to draw his warrant for said sum out of any money in the treasury not otherwise appropriated.

**Diphtheria Antitoxin—Free Distribution. (Chap. 101, Act Apr. 7, 1915.)**

SECTION 1. The State board of health is hereby authorized to purchase antitoxin for the treatment of diphtheria and to distribute the same free of charge under such rules and regulations as said board may prescribe; and a sum not exceeding \$2,400 for each of the years ending August 31, 1916 and 1917, is hereby appropriated to pay the expenses thereof, upon vouchers duly approved according to law.

SEC. 2. The antitoxin shall be kept at stations designated by the State board of health and shall be furnished physicians duly registered and licensed under the State law, upon application by prescription of regular form.

SEC. 3. A person selling or disposing of any antitoxin purchased or distributed under the provisions of this act for personal gain shall be fined \$10 for each offense.

SEC. 4. This act shall take effect September 1, 1915.

**Habit-Forming Drugs—Sale and Dispensing. (Chap. 160, Act Apr. 21, 1915.)**

SECTION 1. Section 2 of chapter 162, Laws of 1909, as amended by section 1 of chapter 7, Laws of 1911, is hereby amended by inserting after the word "barroom" in the fifth line the words, pool room, news stand, or other places to which persons are permitted generally to resort, and by inserting after the word "same" in the eighth line the words morphine, heroin, codeine, or any derivatives of the same; so that said section as amended shall read as follows:

"SEC. 2. It shall be unlawful for any person, firm, or corporation to sell, exchange, deliver, expose for sale, give away, or have in his possession or custody with intent to sell, exchange, deliver, or give away, in any street, way, square, park, or other public place, or in any hotel, restaurant, liquor saloon, barroom, pool room, news stand, or other places to which persons are permitted generally to resort, public hall, place of amusement, or public building, any cocaine or any of its salts, or any synthetic substitute for the aforesaid, or any preparation containing any of the same, morphine, herion, codeine, or any derivatives of the same: *Provided, however,* That the foregoing provisions shall not apply to sales to apothecaries, druggists, physicians, veterinaries, and dentists, nor to sales by apothecaries or druggists upon the original prescription of a physician, provided the prescription is retained and kept on file as authority for the sale and not refilled."

**Drugs—Misbranding—Misrepresenting Curative Effects. (Chap. 62, Act Mar. 24, 1915.)**

The pure food and drug law of New Hampshire (chap. 48, act Mar. 7, 1907) was amended by the addition of the following paragraph to section 4:

"Drugs shall be deemed to be misbranded:

\* \* \* \* \*

"Third. If the package or label shall bear or contain any statement, design, or device regarding the curative or therapeutic effects of such article, or any of the ingredients or substance contained therein, which is false or fraudulent."

**Wood Alcohol—Sale of Preparations Containing, Prohibited—Labeling Required. (Chap. 3, Act Feb. 17, 1915.)**

SECTION 1. No person shall sell, offer for sale, deal in, or supply, or have in his possession with intent to sell, offer for sale, give away, deal in, or supply, any article of food or drink, or any medicinal or toilet preparation or perfume intended for human use internally or externally, which contains any wood naphtha, otherwise known as wood alcohol, or methyl alcohol, either crude or refined, under or by whatever name or trade-mark the same may be called or known.

SEC. 2. No person shall sell, offer for sale, give away, deal in, or supply any wood naphtha, otherwise known as wood alcohol or methyl alcohol, either crude or refined, under or by whatever name or trade-mark the same may be called or known, unless the container in which the same is sold, offered for sale, given away, dealt in, or supplied shall bear a notice containing the following conspicuously printed or stenciled thereon, viz:

POISON  
WOOD NAPHTHA  
or WOOD ALCOHOL

WARNING—It is unlawful to use this fluid in any  
article of food, beverage, or medicinal or toilet  
preparation for human use internally or externally.

SEC. 3. No person shall sell or offer for sale any alcohol which has been denatured by the addition of wood or methyl alcohol, unless the container in which the same is sold

or offered for sale shall be conspicuously labeled in red with the words: Poison. Denatured Alcohol.

SEC. 4. Whoever violates any provision of this act shall be punished by a fine not exceeding \$200, or by imprisonment not exceeding 30 days, or both such fine and imprisonment. Chapter 16, Laws of 1911, entitled "An act relating to the labeling of wood alcohol," is hereby repealed.

**Health Officers in Towns—Appointment and Duties. (Chap. 27, Act Mar. 3, 1915.)**

SECTION 1. The State board of health shall appoint as health officer for the towns of the State, respectively, such person as the selectmen of the town recommend, and the secretary of the State board of health shall issue to him a certificate of appointment; but if no recommendation is made within 15 days after notice, the State board of health may appoint a health officer without such recommendation. Said health officer shall be a resident of the town for which he is to act, except that the State board of health may appoint any qualified person to act as health officer in unincorporated localities.

SEC. 2. Said health officer, with the selectmen, shall constitute a local board of health for such town, and shall succeed in office the then existing board of health.

SEC. 3. Said health officer shall be the secretary and executive officer of the local board of health, and shall hold his office for three years or until his successor is appointed. The State board of health may remove a health officer for any cause at any time after due hearing, and fill the vacancy in such office by appointment as provided in section 1 of this act.

SEC. 4. Said health officer shall enforce the public health laws and regulations, and shall make such sanitary investigations as may be directed by the local board of health, or as may be required by the State board of health. He shall receive for his services the same compensation as is allowed by law to local health officers.

SEC. 5. This act shall not apply to the incorporated cities of the State. It shall take effect and be in force on and after June 1, 1915; and all acts and parts of acts inconsistent with this act are hereby repealed.

**Schools—Sanitation of. (Chap. 35, Act Mar. 10, 1915.)**

SECTION 1. The State board of health shall upon complaint of any responsible person investigate the sanitary conditions of any schoolhouse or building used for school purposes.

SEC. 2. If they shall find that such schoolhouse or building is in any respect a menace, or likely to become a menace, to the health or bodily welfare of the pupils or teachers, they shall call the attention of the local board of health to the facts; and if after a reasonable length of time the complaint has not been attended to in a satisfactory way, they shall either order such changes as will in their judgment make the building safe and sanitary for school purposes, or condemn the same and forbid its further use.

SEC. 3. It shall be the duty of the school board of the district forthwith to make the changes ordered, and the cost of the same shall be a charge upon the district. The selectmen shall assess the cost upon the polls and ratable estate of the district in addition to money voted by the district or required by law for the support of schools. In anticipation of such assessment the school board may borrow money on the credit of the district to meet the charges incurred.

**Common Towels—Prohibited in Public Places. (Chap. 84, Act Mar. 31, 1915.)**

SECTION 1. In order to prevent the spread of communicable diseases, the use of the common towel is hereby prohibited in all public places, vehicles, or buildings, and the State board of health is hereby authorized to enforce this act.

SEC. 2. Whoever violates the provisions of this act, or any rule or regulation of the State board of health made under authority hereof, shall be deemed guilty of a misdemeanor and be liable to a fine not exceeding \$25 for each offense.

SEC. 3. This act shall take effect on the first day of June, 1915.

**Water Supplies—Prevention of Pollution of. (Chap. 92, Act Mar. 31, 1915.)**

SECTION 1. Chapter 205 of the Laws of 1913, entitled "An act to control the further pollution of streams, lakes, and rivers and the protection of water supplies," is hereby amended by striking out sections 3 and 4, and inserting in place thereof the following:

"SEC. 3. No person, corporation, or association, supplying water to the public for domestic use, shall have resort to, hold in reserve, or maintain a connection through which water may be received from any auxiliary or emergency source of supply, the quality of which has not been approved by the State board of health and under regular inspection thereby, unless such source shall have been duly declared to and registered by the said board. Every valve, gate, or other device for controlling or preventing the inflow of water of such unapproved character to the public supply-pipe system must be of such construction as to permit of effective sealing or inspection, and such valves, gates, or other devices shall be kept under or subject to the seal and inspection of the State board of health. Whenever it shall become necessary to break such seal or to resort to an unapproved emergency source, notice thereof within 24 hours shall be conveyed to the said board by telephone or telegraph and also by mail. The State board of health shall have full control and oversight of emergency intakes. It may, when feasible and deemed necessary for the protection of public health, upon reasonable notice require the abandonment of any existent emergency source and the adoption of other means of supply; and if in its judgment the circumstances warrant, it may order the permanent installation and continuous maintenance in connection therewith of some approved form of disinfecting apparatus or equipment. In case said board shall require the abandonment of any such emergency source, the person, corporation, or association aggrieved thereby shall have an appeal to the superior court in term time or vacation, said appeal to be taken within 30 days from the receipt of the order from said board, and said court may make such orders thereon as justice may require.

"SEC. 4. Whoever violates any of the provisions of this act, or fails to comply with the lawful orders and requirements of the State board of health duly made and provided herein, or whoever hinders or obstructs any inspector in the pursuit of his lawful duty, shall be punished by a fine of not less than \$100 nor more than \$1,000."

**Domestic Animals—Communicable Diseases—Tuberculin Test. (Chap. 125, Act Apr. 15, 1915.)**

SECTION 1. Amend chapter 113 of the public statutes by striking out the whole of section 18 and substituting the following:

"SEC. 18. Any person who shall sell, offer for sale, trade, or barter any horse infected by the disease known as glanders, or swine infected by the disease known as hog cholera, or expose the same or allow them to be exposed upon any highway or in any public place or pasture, shall be fined a sum not exceeding \$100 or confined 30 days in jail, or both, for each offense."

SEC. 2. The commissioner of agriculture may make an examination of any animal or animals, owned by any person or persons within this State, reported to him as being tubercular; and if in his judgment he deems necessary, he may cause to be made a tuberculin test, provided that the owner or agent shall agree in writing to improve sanitary conditions, to disinfect his premises should diseased cattle be found, to agree to slaughter animals responding to such test or hold them in quarantine pursuant to the directions of the commissioner of agriculture, and to follow instructions designed

to prevent the reinfection of the herd, or to suppress the disease or prevent the spread thereof. Any bovine animal in which tuberculosis is diagnosed by a physical examination or the tuberculin test, or both, which is not immediately slaughtered, shall be marked by inserting in the left ear a metal tag or button upon which is stamped a number and the capital letter T; and a record of each number, with a full and complete description of each animal, shall be kept by the commissioner of agriculture, and he is authorized to make regulations whereby animals reacting to the tuberculin test, which show no marked physical indications of disease, may be retained by the owner and used for breeding purposes, and the dairy products of such animals may be sold under regulations made by the State board of health: *Provided, however,* That any bovine animal slaughtered by order of the commissioner shall not be appraised more than \$100.

SEC. 3. It shall be unlawful for any person to sell, offer for sale, trade, or barter any bovine animal known to have a communicable, infectious, or contagious disease, except for immediate slaughter under the inspection of State or Federal authorities, or by written permit from the commissioner of agriculture under such regulations which may be hereafter made and provided.

**Mental Defectives—Marriage of. (Chap. 161, Act Apr. 21, 1915.)**

SECTION 1. No woman under the age of 45 years, or man of any age—except he marry a woman over the age of 45 years—either of whom is an epileptic, imbecile, feeble-minded, idiot, or insane person, shall hereafter intermarry or marry any other person within this State.

SEC. 2. No clergyman, or other officer authorized by law to solemnize marriages within this State, shall hereafter perform a marriage ceremony uniting persons in marriage, either of whom is an epileptic, imbecile, feeble-minded, idiot, or an insane person, unless the female party to such marriage is over the age of 45 years.

SEC. 3. No city clerk or other authorized officer shall issue a license for the marriage of an epileptic, imbecile, feeble-minded, idiot, or insane person, unless the female party to such marriage is over the age of 45 years. Should any question arise as to whether or not applicant for license to marry is epileptic, imbecile, feeble-minded, idiot, or an insane person, each of the contracting parties shall procure an affidavit from one duly licensed physician, other than the person seeking the license, showing that the contracting parties are not epileptics, imbeciles, feeble-minded, idiots, or insane persons.

SEC. 4. Any person who knowingly violates any of the provisions of this act, or any person knowingly swearing falsely to any of the affidavits mentioned in this act, shall be punished by a fine of not less than \$50 or more than \$500, or by imprisonment in jail not over 30 days, or by both such fine and imprisonment.

# MUNICIPAL ORDINANCES, RULES, AND REGULATIONS PERTAINING TO PUBLIC HEALTH.

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## NEW YORK, N. Y.

### Milk and Milk Products—Production, Care, and Sale. (Reg. Dept. of Health, Mar. 30, 1915.)

Regulations of the department of health of the City of New York, adopted March 30, 1915, effective April 1, 1915, relating to sections 155 and 156 of the Sanitary Code, which provide as follows:

SEC. 155. *Milk, cream, condensed or concentrated milk, condensed skimmed milk, and modified milk; sale regulated; term "modified milk" defined; exception.*—No milk or cream, condensed or concentrated milk, condensed skimmed milk, or modified milk, shall be held, kept, offered for sale, sold, or delivered in the City of New York without a permit therefor issued by the board of health, or otherwise than in accordance with the terms of said permit and with the regulations of said board.

By the term "modified milk" is meant milk of any subdivision of the classification known as "Grade A; for infants and children," which has been changed by the addition of water, sugar, or milk, or other substance intended to render the milk suitable for infant feeding.

The provisions of this section shall not apply to milk or cream sold in hotels and restaurants nor to condensed milk or condensed skimmed milk when contained in hermetically sealed cans.

SEC. 156. *Milk and cream; grades and designations.*—All milk or cream held, kept, offered for sale, sold, or delivered in the City of New York shall be so held, kept, offered for sale, sold, or delivered in accordance with the regulations of the board of health and under any of the following grades or designations and not otherwise:

"Grade A: For infants and children."

- (1) Milk or cream (raw).
- (2) Milk or cream (pasteurized).

"Grade B: For adults."

- (1) Milk or cream (pasteurized).

"Grade C: For cooking and manufacturing purposes only."

(1) Milk or cream not conforming to the requirements of any of the subdivisions of Grade A or Grade B, and which has been pasteurized according to the regulations of the board of health or boiled for at least two minutes.

(2) Condensed skimmed milk.

The provisions of this section shall apply to milk or cream used for the purpose of producing or used in preparation of sour milk, buttermilk, homogenized milk, milk curds, sour cream, Smeteny, Kumyss, Matzoon, Zoolak, and other similar products or preparations, provided that any such product or preparation be held, kept, offered for sale, sold, or delivered in the City of New York.

REGULATION 1. *Milk, cream, and condensed milk not to be stored in stables or other insanitary places.*—Milk, cream, or condensed milk shall not be handled, stored, offered for sale, or sold in any stable, room used for sleeping purposes, or in any room or place which is dark, damp, poorly ventilated, or insanitary.

**REG. 2. Water-closet compartments.**—Every water-closet compartment, except when provided with mechanical means of ventilation, shall have a window at least 1 foot by 3 feet between stop-beads opening to the external air, and the entire window shall be made so as to readily open, or an opening connected with the external air measuring at least 144 square inches for each water-closet or urinal, with an increase of 72 square inches for each additional water-closet or urinal. The door or doors of the water-closet compartment shall be self-closing. Where the water-closet is in direct communication with the room in which food is prepared or stored, if required by the department of health, a suitable and properly lighted vestibule shall be provided. The door of the vestibule shall be self-closing. All water-closet fixtures, water-closet compartments, and vestibules shall be maintained in a clean and sanitary condition and in good repair.

**REG. 3. Rooms, insanitary condition.**—Milk, condensed milk, or cream shall not be sold or stored in any room which is dark, poorly ventilated, or dirty, or in which rubbish or useless material is allowed to accumulate, or in which there are offensive odors.

**REG. 4. Milk vessels to be protected.**—All vessels which contain milk, condensed milk, or cream must be protected by suitable covers. Vessels must be so placed that milk, condensed milk, or cream will not become contaminated by dust, dirt, or flies.

**REG. 5. Milk not to be kept on sidewalk.**—Milk, condensed milk, or cream shall not be allowed to stand on the sidewalk or outside of the store longer than is absolutely necessary for transportation.

**REG. 6. Milk not to be transferred on street.**—Milk, condensed milk, or cream must not be transferred from one container to another on the streets, at ferries, or at railroad depots.

**REG. 7. Ice tub or ice box to be provided.**—Vessels in which milk, condensed milk, or cream is kept for sale shall be kept either in a milk tub, properly iced, or in a clean ice box or refrigerator in which these or similar articles of food are stored.

**REG. 8. Containers to be cleaned and sterilized.**—All containers in which milk, condensed milk, or cream is stored, handled, transported, or sold, must be thoroughly cleaned and sterilized before filling. Such cleaning and sterilizing shall not be done; nor shall any containers be filled in any stable, in any room used for sleeping purposes, or in any room having a direct connection with such stables or rooms or with water-closet compartments, unless such water-closet compartments conform to regulation 2 of these regulations.

**REG. 9. Ice box or ice tub to be kept clean.**—The ice box or ice tub in which milk, condensed milk, or cream is kept must be maintained in a thoroughly clean condition.

**REG. 10. Drainage of ice box.**—The overflow pipe from the ice box in which milk, condensed milk, or cream is kept must not be directly connected with the drain pipe or sewer, but must discharge into a properly trapped, sewer-connected, water-supplied open sink.

**REG. 11. Health of employees.**—No person having an infectious disease, or caring for or coming in contact with any person having an infectious disease, shall handle milk.

**REG. 12. Worn or badly rusted receptacles.**—All cans or receptacles used in the sale or delivery of milk, cream, or condensed milk when found to be in an unfit condition to be so used by reason of being worn out, badly rusted, or with rusted inside surface, or in such condition that they can not be rendered clean and sanitary by washing shall be condemned by inspectors of this department. Every such can or receptacle when so condemned shall be marked by a stamp, impression, or device showing that it had been so condemned and when so condemned shall not thereafter be used by any person for the purpose of selling, delivering, or shipping milk, cream, or condensed milk.

## ADDITIONAL REGULATIONS GOVERNING THE PRODUCTION AND SALE OF MILK WITHIN THE CITY OF NEW YORK.

REG. 16. *Milk produced in violation of the regulations.*—Milk produced in violation of these regulations shall be deemed adulterated as defined in section 156 of the Sanitary Code.

REG. 17. *Water used for washing and cleaning containers.*—All water used for washing and cleaning containers, utensils, or apparatus used in preparing milk for sale in the city of New York shall be clean and wholesome. The water shall be, whenever possible, from a public supply of known purity. No water other than from a public supply shall be used within the city of New York without a permit therefor issued by the board of health.

REG. 18. *Milk house.*—A properly constructed, conveniently located milk house shall be provided. The milk house shall have no direct communication with stable.

REG. 19. *Floors of milk house.*—The floors of milk house shall be constructed of cement and so graded as to discharge all surface drainage from one or more points into properly trapped sewer-connected drains. Where no sewer is provided the drains must discharge into properly constructed cesspools. The floor opening of each drain shall be covered by a suitable iron strainer.

REG. 20. *Walls and ceilings.*—Walls and ceilings of the milk house must be sheathed and finished smooth to prevent the accumulation of dust and dirt.

REG. 21. *Maintenance of milk house.*—The interior of the milk house, unless constructed of cement or similar material, must be painted with some light-colored waterproof paint. The milk house must be maintained at all times in a cleanly condition, free from dust, dirt, rubbish, and cobwebs. No material foreign to the proper care and handling of milk shall be kept or allowed to remain in the milk house.

REG. 22. *Separate rooms shall be provided for the handling and storage of milk.*—Separate rooms must be provided for the handling and storing of milk and the washing of utensils. Bottle caps and tags must not be stored in the milk handling room. A sufficient number for immediate use should be taken to the bottling room immediately preceding the process of bottling.

REG. 23. *Supply of hot and cold water to be provided.*—A convenient and adequate supply of hot and cold water must be provided for washing utensils and cooling milk.

REG. 24. *Cleaning of pails, strainers, bottles, cans, etc.*—All pails, strainers, bottles, cans, and apparatus used in handling or bottling milk must be washed, immediately after using, in hot water and some proper alkaline washing solution, rinsed with clean boiling water, and stored in such a manner as to remain clean until used.

REG. 25. *Tubs for washing purposes to be provided.*—The wash room must have tubs for washing purposes which shall be constructed of some nonabsorbent material. All draining shelves and racks shall also be of nonabsorbent material.

REG. 26. *Lighting of milk house and screen doors to be provided.*—Each room of the milk house shall be provided with sufficient window light, and all doors and windows shall be screened to prevent the access of flies between the 1st day of May and the 1st day of November of each year. The premises shall be kept free from vermin at all times. All doors shall be self-closing.

REG. 27. *Cooling and storage facilities to be provided.*—The milk room shall contain cooling and storage facilities of sufficient capacity to cool and store all milk produced on the premises during 24 hours to a temperature of 50° F. or below. If a pool is used for such purpose it shall be properly drained and trapped. All pools used in the cooling or storage of milk shall be emptied and cleaned at least once in 24 hours.

REG. 28. *Connection between milk room and other rooms.*—Wherever there is direct connection between the milk room and any other room a self-closing door must be provided.

REG. 29. *Milk pails.*—No pail should be used during the process of milking which has a top opening of a diameter greater than 8 inches. The inner surface of all milk pails and utensils shall be smooth and heavily tinned; all seams must be soldered flush.

REG. 30. *Size of milk house.*—The milk house and each room thereof must be of sufficient size to allow plenty of room, and no part of the milk house shall be maintained in an overcrowded condition.

REG. 31. *Milk to be protected.*—The milk shall at no time be exposed to dust and dirt.

REG. 32. *Milk to be conducted in a cleanly manner.*—All milk and milk handling must be conducted in a cleanly manner.

REG. 33. *Health of employees.*—No person having or coming in contact directly or indirectly with any infectious or venereal disease shall be allowed to milk or handle milk or milk utensils.

REG. 34. *Clothing of milkers.*—The outer clothing of milkers and milk handlers must consist of clean overalls and jackets of some light colored material.

REG. 35. *Cows to be groomed daily.*—Cows must be groomed daily and be kept at all times clean and free from accumulation of manure, mud, or filth.

REG. 36. *Cows to be clipped.*—The long hairs upon the flanks, udders, and tails must be clipped and kept short.

REG. 37. *Cleaning of cows prior to milking.*—The udders and teats must be washed clean immediately prior to milking and dried with a clean cloth.

REG. 38. *Throat latch to be used.*—To prevent the cows from lying down between cleaning and milking, a throat latch shall be provided and used.

REG. 39. *Cleanliness of milkers.*—The hands of milkers and milk handlers must be washed clean with soap and water immediately prior to, and kept clean during the milking and handling of milk. Convenient facilities, consisting of water, soap, basin, and clean towels, shall be provided for such purpose.

REG. 40. *Dry milking.*—The hands and teats must be kept dry during milking. The first stream from each teat shall be rejected.

REG. 41. *Health of cows.*—The cows must be healthy and free from disease as determined by a physical examination. Such examination must be made at least once each year by a qualified veterinarian and a certificate certifying thereto filed with the department of health, and no cow shall be admitted to the herd until after such physical examination.

REG. 42. *Feeding of cows.*—Only feed which is of good quality, and only grain and coarse fodder which are free from dirt and mould shall be used. Distillery waste or any substance in an advanced or injurious state of putrefaction must not be fed to cows.

REG. 43. *Hay not to be fed during milking.*—No hay or other dry fodder shall be fed to cows during milking or immediately prior thereto.

REG. 44. *Bedding of cows.*—The cows shall be bedded with some clean material, preferably straw, sawdust, or shavings, and the bedding shall be renewed each day.

REG. 45. *Milk from diseased cows.*—Milk from diseased cows, and milk which has been polluted with fecal matter must be immediately destroyed.

REG. 46. *Milking stools to be used.*—Milking stools shall be constructed of metal having a smooth surface and must be kept clean at all times.

REG. 47. *Milk to be immediately cooled.*—All milk as soon as drawn must be immediately removed to the milk house and strained. All milk must be cooled to at least 50° F. within two hours of its production and maintained at or below such temperature until delivered to the consumer.

ADDITIONAL REGULATIONS GOVERNING THE PRODUCTION OF MILK OUTSIDE THE CITY OF NEW YORK AND SHIPPED FOR SALE TO THE CITY OF NEW YORK.

REG. 50. *Cows to be kept clean.*—The cows shall be kept clean, and manure must not be permitted to collect upon the tail, sides, udder, or belly.

REG. 51. *Cows to be groomed daily.*—The cows shall be groomed daily, and all collections of manure, mud, or other filth must not be allowed to remain upon their flanks, udders, or bellies during milking.

REG. 52. *Clipping of long hairs from udder and flanks required.*—The clipping of long hairs from the udder and flanks of the cows is of assistance in preventing the collection of filth which may drop into the milk. The hair on the tails shall be cut, so that the brush will be well above the ground.

REG. 53. *Udder and teats to be cleaned before milking.*—The udders and teats of the cow shall be thoroughly cleaned before milking; this to be done by thorough brushing and the use of a cloth and warm water.

REG. 54. *Throatlatch to be provided.*—To prevent the cows from lying down and getting dirty between cleaning and milking, a throatlatch of rope or chain shall be fastened across the stanchions under the cow's neck.

REG. 55. *Only feed of good quality to be used.*—Only feed which is of good quality and only grain and coarse fodders which are free from dirt and mold shall be used. Distillery waste or any substance in the state of fermentation or putrefaction must not be fed to cows.

REG. 56. *Cows not in good flesh and condition to be removed from herd.*—Cows which are not in good flesh and condition shall be immediately removed and their milk kept separate until their health has been passed upon by a veterinarian.

REG. 57. *Examination by veterinarian to be made annually.*—An examination by a licensed veterinary surgeon shall be made at least once a year.

REG. 58. *No stagnant water, hogpen, privy, etc., to be located within 100 feet of cow stable.*—No stagnant water, hogpen, privy, or uncovered cesspool or manure pit shall be maintained within 100 feet of the cow stable.

REG. 59. *Adequate ventilation to be provided.*—The cow stable shall be provided with some adequate means of ventilation, either by the construction of sufficient air chutes extending from the room in which the cows are kept to the outside air or by the installation of muslin stretched over the window openings.

REG. 60. *Window light.*—Windows shall be installed in the cow barn to provide sufficient light (2 square feet of window light to each 600 cubic feet of air space the minimum) and the panes be washed and kept clean.

REG. 61. *Air space for each cow.*—There shall be at least 600 cubic feet of air space for each cow.

REG. 62. *Milch cows to be kept in place used for no other purpose.*—Milch cows shall be kept in a place which is used for no other purpose.

REG. 63. *Construction of floors.*—Stable floors shall be made water-tight, be properly graded and well drained, and be of some nonabsorbent material.

REG. 64. *Feeding troughs and platforms to be lighted and kept clean.*—The feeding troughs and platforms shall be well lighted and kept clean at all times.

REG. 65. *Ceiling to be kept free from dirt, cobwebs, and straw.*—The ceiling shall be thoroughly swept down and kept free from hanging straw, dirt, and cobwebs.

REG. 66. *Construction of ceilings.*—The ceiling must be so constructed that dust and dirt therefrom shall not readily fall to the floor or into the milk. If the space over the cows is used for storage of hay, the ceiling shall be made tight to prevent chaff and dust from falling through.

REG. 67. *Walls and ledge to be kept free from dirt, manure, and cobwebs.*—The walls and ledges shall be thoroughly swept down and kept free from dust, dirt, manure, or

cobwebs, and the floors and premises be kept free from dirt, rubbish, and decayed animal or vegetable matter at all times.

REG. 68. *Cow beds to be kept clean.*—The cow beds shall be so graded and kept that they will be clean and sanitary at all times.

REG. 69. *Stable to be whitewashed twice a year.*—Stables shall be whitewashed at least twice a year unless the walls are painted or are of smooth cement.

REG. 70. *Manure to be removed twice daily.*—Manure must be removed from the stalls and gutters at least twice daily. This must not be done during milking, nor within one hour prior thereto.

REG. 71. *Manure not to be stored within 200 feet of stable.*—Manure shall be taken from the barn, preferably drawn to the field. When the weather is such that this can not be done, it should be stored no nearer than 200 feet from the stable, and the manure pile should be so located that the cows can not get at it.

REG. 72. *Disposal of liquid matter.*—The liquid matter shall be absorbed and removed daily and at no time be allowed to overflow or saturate the ground under or around the cow barn.

REG. 73. *Construction of manure gutters.*—Manure gutters shall be from 6 to 8 inches deep, and constructed of concrete, stone, or some nonabsorbent material.

REG. 74. *Use of land plaster or lime recommended.*—The use of land plaster or lime is recommended upon the floors and gutters.

REG. 75. *Character of bedding to be used.*—Only bedding which is clean, dry, and absorbent shall be used, preferably sawdust, shavings, dried leaves, or straw. No horse manure should be used as bedding.

REG. 76. *Construction of flooring.*—The flooring where the cows stand shall be so constructed that all manure may drop into the gutter and not upon the floor itself.

REG. 77. *Floor not to be swept prior to milking cows.*—The floor shall be swept daily. This must be done one hour prior to milking time.

REG. 78. *Drinking basin for cows to be kept clean.*—If individual drinking basins are used for the cows they should be frequently drained and cleaned.

REG. 79. *Live stock other than cows to be excluded from stable where milch cows are kept.*—All live stock other than cows shall be excluded from the room in which milch cows are kept. (Calf or bull pens may be allowed in the same room if kept in the same clean and sanitary manner as the cow beds.)

REG. 80. *Barnyard to be cleaned.*—The barnyard shall be well drained and dry, and should be as much sheltered as possible from the wind and cold. Manure should not be allowed to collect therein.

REG. 81. *Separate quarters to be provided for sick cows.*—A suitable place in some separate building shall be provided for the use of the cows when sick, and separate quarters must be provided for cows when calving.

REG. 82. *Silo or grain pit not to open directly into stable.*—There shall be no direct opening from any silo or grain pit into the room in which the milch cows are kept.

REG. 83. *Milk house to be provided.*—A milk house must be provided which is separated from the stable and dwelling. It shall be located on elevated ground, with no hogpen, privy, or manure pile within 100 feet.

REG. 84. *Milk house to be kept clean.*—Milk house must be kept clean and not used for any purpose except the handling of milk.

REG. 85. *Floor of milk house to be properly graded and water-tight.*—Milk house shall be provided with sufficient light and ventilation, with floors properly graded and made water-tight.

REG. 86. *Milk house to be lighted and ventilated.*—Milk house shall be provided with adjustable sashes to furnish sufficient light and some proper method of ventilation shall be installed.

REG. 87. *Size of milk house.*—The milk house shall be provided with an ample supply of clean water for cooling the milk, and if it is not a running supply, the water should be changed twice daily. Also a supply of clean ice should be provided to be used for cooling the milk to 50 degrees within two hours after milking.

REG. 88. *Storing of empty cans.*—Suitable means shall be provided within the milk house, to expose the milk pails, cans, and utensils to the sun or to live steam.

REG. 89. *Washing facilities for milkers to be provided.*—Facilities consisting of wash basins, soap, and towel shall be provided for the use of milkers before and during milking. During the summer months the milk house should be properly screened to exclude flies.

REG. 90. *Health of employees.*—Any person having any communicable or infectious disease, or one caring for persons having such diseases, must not be allowed to handle the milk or milk utensils.

REG. 91. *Milkers to clean hands before milking.*—The hands of the milkers must be thoroughly washed with soap and water and carefully dried on a clean towel before milking.

REG. 92. *Clothing to be worn during milking.*—Clean overalls and jumpers shall be worn during the milking of cows. They should be used for no other purposes and when not in use should be kept in a clean place protected from dust.

REG. 93. *Milking with wet hands condemned.*—The hands and teats shall be kept dry during milking. The practice of moistening the hands with milk is to be condemned.

REG. 94. *Milking stools to be kept clean.*—The milking stools shall be at all times kept clean, and iron stools are recommended.

REG. 95. *Fore milk to be rejected.*—The first streams from each teat shall be rejected, as this fore milk contains more bacteria than the rest of the milk.

REG. 96. *Milk drawn from cows 15 days before or 5 days after parturition to be rejected.*—All milk drawn from the cows 15 days before or 5 days after parturition shall be rejected.

REG. 97. *Small-mouth milking pail to be used.*—The pails in which the milk is drawn should have as small an opening at the top as can be used in milking; top opening preferably not to exceed 3 inches in diameter. This lessens the contamination by dust and dirt during milking.

REG. 98. *Milking to be done rapidly.*—The milking should be done rapidly and quietly, and the cows should be treated kindly.

REG. 99. *Feeding just prior to milking prohibited.*—Dry fodder should not be fed to the cows during or just before milking, as dust therefrom may fall into the milk.

REG. 100. *Milk utensils to be kept clean and in good repair.*—All milk utensils, including pails, cans, strainers, and dippers, must be kept thoroughly clean and must be washed and scalded after each using, and all seams in these utensils should be cleaned, scraped, and soldered flush.

REG. 101. *Shipment of milk from diseased cows prohibited.*—Milk from diseased cows must not be shipped.

REG. 102. *Adulteration prohibited.*—The milk must not be in any way adulterated.

REG. 103. *Milk to be immediately strained and cooled.*—The milk as soon as drawn shall be removed to the milk house and immediately strained and cooled to the proper temperature.

REG. 104. *Milk to be cooled below 50° F. within two hours after milking.*—All milk must be cooled to a temperature below 50° F. within two hours after being drawn and kept thereafter below that until delivered to the creamery.

REG. 105. *Straining of milk.*—The milk shall be strained into cans which are standing in ice water which reaches the neck of the can. The more rapidly the milk is cooled the safer it is and longer it will keep sweet. Ice should be used in cooling milk, as very few springs are cold enough for the purpose.

REG. 106. *Use of aerators.*—If aerators are used, they shall stand where the air is free from dust or odors, and on no account should they be used in the stable or out of doors.

REG. 107. *Cleaning of milk strainers.*—Milk strainers shall be kept clean, scalded a second time just before using, and if cloth strainers are used, several of them should be provided in order that they may be frequently changed during the straining of the milk.

REG. 108. *Use of preservatives or coloring matter prohibited.*—The use of any preservative or coloring matter is adulteration, and its use by a producer or shipper will be sufficient cause for the exclusion of his product from the city of New York.

REG. 109. *Water.*—The water supply used in the dairy and for washing utensils should be absolutely free from any contamination, sufficiently abundant for all purposes, and easy of access.

REG. 110. *Protection of water supply.*—The water supply shall be protected against flood or surface drainage.

REG. 111. *Location of privy.*—The privy shall be located not nearer than 100 feet of the source of the water supply, or else be provided with a water-tight box that can be readily removed and cleaned, and so constructed that at no time will the contents overflow or saturate the surrounding ground.

REG. 112. *Source of water supply.*—The source of water supply shall be rendered safe against contamination by having no stable, barnyard, pile of manure, or other source of contamination located within 200 feet of it.

#### REGULATIONS GOVERNING THE SALE OF GRADE A MILK OR CREAM (RAW).

*Definition.*—Grade A milk or cream (raw) is milk or cream produced and handled in accordance with the regulations as herein set forth.

REG. 113. *Tuberculin test and physical condition.*—Only such animals shall be admitted to the herd as are in good physical condition, as shown by a thorough physical examination accompanied by a test with the diagnostic injection of tuberculin within a period of one month previous to such admission. The test is to be carried out as prescribed in the regulations of the department of health governing the tuberculin testing of cattle. A chart recording the result of the official test must be in the possession of the department of health before the admission of any animal to the herd.

REG. 114. *Bacterial contents.*—Grade A milk (raw) shall not contain more than 60,000 bacteria per cubic centimeter and cream more than 300,000 bacteria per cubic centimeter when delivered to the consumer or at any time prior to such delivery.

REG. 115. *Scoring of dairies.*—All dairies producing milk of this designation shall score at least 25 points on equipment and 50 points on methods, or a total score of 75 points on an official dairy score card approved by the department of health.

REG. 116. *Time of delivery.*—Milk of this designation shall be delivered to the consumer within 36 hours after production.

REG. 117. *Bottling.*—Milk or cream of this designation shall be delivered to the consumer only in bottles, unless otherwise specified in the permit.

REG. 118. *Labeling.*—The caps of all bottles containing grade A milk or cream (raw) shall be white, with the grade and designation "Grade A (raw)," the name and address of the dealer, and the word "Certified," when authorized by the State law, clearly, legibly, and conspicuously displayed on the outer side thereof. No other word, statement, design, mark, or device shall appear on that part of the outer cap containing the grade and the designations unless authorized and permitted by the department of health. A proof print or sketch of such cap, showing the size and arrangement of the lettering thereon, shall be submitted to and approved by the said department before being attached to any bottle containing milk or cream of the said grade and designation.

**ADDITIONAL REGULATIONS GOVERNING THE SALE OF GRADE A MILK OR CREAM (PASTEURIZED).**

**Definition.**—Grade A milk or cream (pasteurized) is milk or cream handled and sold by dealers holding permits therefor from the board of health and produced and handled in accordance with the regulations as herein set forth.

REG. 119. *Physical examination of cows.*—All cows producing milk or cream of this designation must be healthy, as determined by a physical examination made annually by a duly licensed veterinarian.

REG. 120. *Bacterial content.*—Milk of this designation shall not contain more than 30,000 bacteria per cubic centimeter and cream more than 150,000 bacteria per cubic centimeter when delivered to the consumer or at any time after pasteurization and prior to such delivery. No milk supply averaging more than 200,000 bacteria per cubic centimeter shall be pasteurized to be sold under this designation.

REG. 121. *Scoring of dairies.*—All dairies producing milk or cream of this designation shall score at least 25 points on equipment and 43 points on methods, or a total score of 68 points on an official score card approved by the department of health.

REG. 122. *Times of delivery.*—Milk or cream of this designation shall be delivered within 36 hours after pasteurization.

REG. 123. *Bottling.*—Milk or cream of this designation shall be delivered to the consumer only in bottles unless otherwise specified.

REG. 124. *Bottles only.*—The caps of all bottles containing Grade A milk or cream (pasteurized) shall be white with the grade and designation "Grade A (pasteurized)," the name and address of the dealer, the date and hours between which pasteurization was completed, and the place where pasteurization was performed clearly, legibly, and conspicuously displayed on the outer side thereof. No other word, statement, design, mark, or device shall appear on that part of the outer cap containing the grade and designation, unless authorized and permitted by the department of health. A proof print or sketch of such cap, showing the size and arrangement of the lettering thereon, shall be submitted to and approved by the said department before being attached to the bottles containing milk of the said grade and designation. No other words, statement, design, or device shall appear upon the outer cap unless approved by the department of health. The size and arrangement of lettering on such cap must be approved by the department of health.

REG. 125. *Pasteurization.*—Only such milk or cream shall be regarded as pasteurized as has been subjected to a temperature of from 142° to 145° F. for not less than 30 minutes.

**ADDITIONAL REGULATIONS GOVERNING THE SALE OF GRADE B MILK OR CREAM (PASTEURIZED).**

**Definition.**—Grade B milk or cream (pasteurized) is milk or cream produced and handled in accordance with the minimum requirements of the regulations herein set forth and which has been pasteurized in accordance with the regulations of the department of health for pasteurization.

REG. 128. *Physical examination of cows.*—All cows producing milk or cream of this designation must be healthy as determined by a physical examination made and approved by a duly licensed veterinarian.

REG. 129. *Bacterial contents.*—No milk under this designation shall contain more than 100,000 bacteria per cubic centimeter and no cream shall contain more than 500,000 bacteria per cubic centimeter when delivered to the consumer, or at any time after pasteurization and prior to such delivery. No milk supply averaging more than 1,500,000 bacteria per cubic centimeter shall be pasteurized in this city under this designation. No milk supply averaging more than 300,000 bacteria per cubic centimeter shall be pasteurized outside the city of New York to be sold in said city under this designation.

REG. 130. *Scoring of dairies.*—Dairies producing milk or cream of this designation shall score at least 20 points on equipment and 35 points on methods, or a total score of 55 points on an official score card approved by the department of health.

REG. 131. *Time of delivery.*—Milk of this designation shall be delivered within 36 hours. Cream shall be delivered within 72 hours after pasteurization. Cream intended for manufacturing purposes may be stored in cold storage and held thereat in bulk at a temperature not higher than 32° F. for a period conforming with the laws of the State of New York. Such cream shall be delivered in containers, other than bottles, within 24 hours after removal from cold storage and shall be used only in the manufacture of products in which cooking is required.

REG. 132. *Bottling.*—Milk of this designation may be delivered in cans or bottles.

REG. 133. *Labeling.*—The caps of all bottles containing Grade B milk (pasteurized) and the tags attached to all cans containing Grade B milk or cream (pasteurized) shall be white with the grade and designation "Grade B (pasteurized)," the name and address of the dealer, and the date when and place where pasteurization was performed, clearly, legibly, and conspicuously displayed on the outer side thereof. The caps of all bottles containing Grade B cream (pasteurized) shall be white with the grade and designation "Grade B cream (pasteurized)," the name and address of the dealer, and the date when and the place where bottled, clearly, legibly, and conspicuously displayed on the outer side thereof. No other word, statement, design, mark, or device shall appear on that part of the outer cap or tag containing the grade and designation unless authorized and permitted by the department of health. A proof print or sketch of such cap or tag, showing the size and arrangement of the lettering thereon shall be submitted to and approved by the said department before being attached to any receptacle containing milk or cream of the said grade and designation.

REG. 134. *Pasteurization.*—Only such milk or cream shall be regarded as pasteurized as has been subjected to a temperature of from 142° to 145° F. for not less than 30 minutes.

**ADDITIONAL REGULATIONS GOVERNING THE SALE OF GRADE C MILK OR CREAM (PASTEURIZED) (FOR COOKING AND MANUFACTURING PURPOSES ONLY).**

*Definition.*—Grade C milk or cream is milk or cream not conforming to the requirements of any of the subdivisions of Grade A or Grade B and which has been pasteurized according to the regulations of the board of health or boiled for at least two minutes.

REG. 136. *Physical examination of cows.*—All cows producing milk or cream of this designation must be healthy, as determined by a physical examination made by a duly licensed veterinarian.

REG. 137. *Bacterial content.*—No milk of this designation shall contain more than 300,000 bacteria per cubic centimeter and no cream of this grade shall contain more than 1,500,000 bacteria per cubic centimeter after pasteurization.

REG. 138. *Scoring of dairies.*—Dairies producing milk or cream of this designation must score at least 40 points on an official score card approved by the department of health.

REG. 139. *Time of delivery.*—Milk or cream of this designation shall be delivered within 48 hours after pasteurization.

REG. 140. *Bottling.*—Milk or cream of this designation shall be delivered in cans only.

REG. 141. *Labeling.*—The tags attached to all cans containing Grade C milk (for cooking) shall be white with the grade and designation "Grade C milk (for cooking)," the name and address of the dealer, and the date when and place where pasteurization was performed, clearly, legibly, and conspicuously displayed thereon. No other word, statement, design, mark, or device shall appear on that part of the tag

containing the grade and designation unless authorized and permitted by the department of health. A proof print or sketch of such tag, showing the size and arrangement of the lettering thereon, shall be submitted to and approved by the said department before being attached to the cans containing milk of the said grade and designation. The cans shall have properly sealed metal covers painted red.

REG. 142. *Pasteurization.*—Only such milk or cream shall be regarded as pasteurized as has been subjected to a temperature of 145° for not less than 30 minutes.

**ADDITIONAL REGULATIONS GOVERNING THE SALE OF CONDENSED SKIMMED MILK.**

*Definition.*—Condensed skimmed milk is condensed milk in which the butter fat is less than 25 per cent of the total milk solids.

REG. 145. *Cans to be painted blue.*—The cans containing condensed skimmed milk shall be colored a bright blue and shall bear the words "Condensed skimmed milk" in block letters at least 2 inches high and 2 inches wide, with a space of at least one-half inch between any two letters. The milk shall be delivered to the person to whom sold in can or cans, as required in this regulation, excepting when sold in hermetically sealed cans.

**ADDITIONAL REGULATIONS GOVERNING THE LABELING OF MILK OR CREAM BROUGHT INTO, DELIVERED, OFFERED FOR SALE, AND SOLD IN NEW YORK CITY.**

REG. 146. *Labeling of milk or cream.*—Each container or receptacle used for bringing milk or cream into or delivering it in the city of New York shall bear a tag or label stating, if shipped from a creamery or dairy, the location of the said creamery or dairy, the date of shipment, the name of the dealer, and the grade of the product contained therein, except as elsewhere provided for delivery of cream in bottles.

REG. 147. *Labeling of milk or cream to be pasteurized.*—All milk or cream brought into the city of New York to be pasteurized shall have a tag affixed to each and every can or other receptacle indicating the place of shipment, date of shipment, and the words "to be pasteurized at (stating location of pasteurizing plants)."

REG. 148. *Mislabeling of milk or cream.*—Milk or cream of one grade or designation shall not be held, kept, offered for sale, sold, or labeled as milk or cream of a higher grade or designation.

REG. 149. *Word, statement, design, mark, or device on label.*—No word, statement, design, mark, or device regarding the milk or cream shall appear on any cap or tag attached to any bottle, can, or other receptacle containing milk or cream which words, statement, design, mark, or device is false or misleading in any particular.

REG. 150. *Tags to be saved.*—As soon as the contents of such container or receptacle are sold, or before the said container is returned or otherwise disposed of, or leaves the possession of the dealer, the tag thereon shall be removed and kept on file in the store, where such milk or cream has been sold, for a period of two months thereafter, for inspection by the department of health.

REG. 151. *Record of milk or cream delivered.*—Every wholesale dealer in the city of New York shall keep a record in his main office in the said city, which shall show from which place or places milk or cream, delivered by him daily to retail stores in the city of New York, has been received and to whom delivered, and the said record shall be kept for a period of two months, for inspection by the department of health, and shall be readily accessible to the inspectors of the said department at all times.

**REGULATIONS GOVERNING THE MAINTENANCE AND OPERATION OF CREAMERIES, RECEIVING STATIONS, AND PASTEURIZING PLANTS.**

*Construction.*

1. *Sufficient light and ventilation to be provided.*—All rooms in which milk or cream is pasteurized or otherwise handled, and in which utensils, apparatus, and containers are washed, must be properly lighted and provided with suitable ventilation. Vent pipes extending above the roof should be installed for carrying away excess steam.

2. *Construction of floor.*—Floors of all rooms must be constructed of concrete or some equally nonabsorbent material. They must be water-tight and so graded that all drainage will flow toward one or more points of discharge.

3. *Drainage.*—All drains must be suitably trapped, and drainage when not discharged into city sewers, must be disposed of into cesspools, septic tanks, running brooks or creeks, or conveyed by drains to a point at least 500 feet from the building.

4. *Construction of walls and ceilings.*—Walls and ceilings, unless constructed of concrete, smooth brick or tile, must be sheathed, dust tight, and painted with a light-colored paint.

5. *Doors and windows to be screened.*—All outside doors and windows must be screened against flies from May 1 to October 31.

6. *Doors to be provided with self-closing device.*—All doors must be provided with self-closing devices.

7. *Toilet facilities to be provided—Location of privies.*—Suitable toilet facilities must be provided for the use of employees, but no water-closet shall communicate directly with any room used for handling milk or cream, or with any room in which utensils are washed. Privies or earth closets must be situated at least 100 feet from the building and must have fly-proof vaults. Seat covers must be self-closing.

8. *Rooms to be used in receiving and dumping milk.*—Milk must be received and dumped in rooms used for no other milk handling.

9. *Rooms to be used for washing containers.*—The washing of containers should not be conducted in rooms in which milk or cream is handled. If such washing is done in the same rooms, it must not be carried on during the period of milk handling.

10. *Milk or cream not to be handled in room used for living purposes.*—No stable and no room used for living or domestic purposes shall communicate directly with any room in which milk or cream is handled or in which utensils are washed.

11. *Water supply.*—An adequate supply of pure running water must be provided.

#### *Equipment.*

12. *Construction of apparatus.*—All weigh cans, storage vats, mixing vats, and other apparatus must be constructed of suitable metal, preferably of tinned copper, all angles and joints being smoothly soldered. They must be provided with closely fitting metal covers of similar material.

13. *Construction of pipes and pumps.*—All milk pipes and pumps must be of sanitary construction and so arranged that they may be easily taken apart for cleaning. The use of tightly soldered elbow joints is prohibited.

14. *Arrangement of piping when continuous holder is used.*—If a continuous type of milk or cream pasteurizing holder is provided, which consists of a series of tanks, the piping must be so arranged that the lower tank is filled first.

15. *Automatic temperature-recording devices to be provided.*—At every milk or cream pasteurizing plant automatic temperature-recording devices must be installed which will indicate the temperature to which the milk or cream has been heated, the time at which such heating has been performed, and, if possible, the length of time for which the milk or cream is held at the required temperature.

16. *Location of temperature recorder.*—The temperature recorder must be attached at the highest point of the outlet from a continuous holder. If an absolute holder is used, the recorder must be so attached as to show the temperature and the time of holding.

17. *Washing facilities for cans and bottles to be provided.*—Suitable facilities must be provided for washing, rinsing in cold water, and sterilizing cans and bottles used for pasteurized milk or cream.

18. *Racks or can dryers must be provided.*—Racks, constructed preferably of metal, must be provided for the storage of washed cans in an inverted position until filled, unless dryers are employed during the sterilizing of cans and can covers.

19. *Washed bottles to be inverted.*—All washed bottles must be stored in an inverted position until filled, or must be so protected as to prevent contamination.
20. *Surface coolers to be protected.*—Surface coolers must be provided with suitable metal covers unless located in a room used for no other purpose.
21. *Bottling of milk.*—No milk shall be bottled unless the process be so conducted as to preclude its contamination.

#### *Methods.*

22. *Rooms to be kept clean. Smoking and spitting prohibited.*—All rooms and surrounding premises must be maintained in a cleanly and sanitary condition. Smoking and spitting within the building must be prohibited.
23. *Water and steam pipes to be painted.*—All water and steam pipes must be kept free from rust and dirt and must be painted.
24. *Oil cup or pan to be provided under bearings for shafting.*—All bearings for shafting must be provided with suitable oil cups or pans.
25. *Bottle caps before use to be protected.*—Bottle caps must be protected from contamination until used.
26. *Garments worn by employees.*—Clean, washable outer garments must be worn by employees while handling milk or cream.
27. *Milk or cream to be cooled within 30 minutes after pasteurization.*—All milk or cream must be cooled after pasteurization to a temperature of 50 degrees or less within 30 minutes.
28. *Apparatus to be cleaned and sterilized immediately after use.*—All apparatus used for handling milk or cream must be thoroughly cleaned and sterilized immediately after use. All apparatus used in the pasteurizing of milk and cream must be sterilized immediately before the process is commenced.
29. *Temperature records to be made daily and kept on file.*—Temperature records must be made daily and be kept on file as long as required by the department of health.
30. *Milk or cream to be regarded as pasteurized to be subjected to temperature of 142 to 145 degrees for not less than 30 minutes.*—Only such milk or cream shall be regarded as pasteurized as has been subjected to a temperature of 142 to 145 degrees for not less than 30 minutes.

#### *General.*

31. *Containers to be tagged or labeled.*—All containers in which pasteurized milk or cream is delivered shall be plainly tagged or labeled "Pasteurized" and the said tags or labels shall be marked in accordance with rules set forth for each grade.
32. *Only pasteurized milk or cream conforming to regulations to be sold.*—Milk or cream which has been heated in any degree will not be permitted to be sold in the City of New York unless the heating conforms with the regulations of the department of health for the pasteurization of milk or cream.
33. *Apparatus to be approved.*—Permits will not be granted to pasteurize milk or cream unless all apparatus connected with said pasteurizing has been approved by the department of health.
34. *Permits to pasteurize required.*—No milk or cream shall be sold, held, kept, and offered for sale in the City of New York as "pasteurized" unless said milk or cream has been pasteurized under permit from the board of health in conformity with the rules and regulations thereof.
35. *Milk or cream not to be pasteurized a second time.*—No milk or cream shall be pasteurized a second time.
36. *Pasteurized milk to be bottled at place of pasteurization.*—Pasteurized milk shall not be held, kept, offered for sale, or sold in bottles unless such milk has been bottled at the place of pasteurization.

37. *Room and apparatus used for the pasteurization of Grade A milk.*—Milk or cream shall not be received in any room or apparatus where Grade A pasteurized milk or cream is handled and treated, unless the said milk or cream complies with the regulations for Grade A pasteurized milk.

#### REGULATIONS GOVERNING THE TUBERCULIN TESTING OF CATTLE.

REGULATION 1. *Manner of testing.*—In the case of any herd which is found, when tested in accordance with these regulations, to be free from tuberculosis, the next general test of the herd shall be made within 12 months. Any herd in which one or more reactors shall have been found, shall be retested with tuberculin within six months, and every reacting animal shall be excluded from the herd. Tuberculin tests shall be made as follows:

During the 10 hours before injection, four preinjection temperatures shall be taken at intervals of 3 hours. The first post-injection temperature shall be taken not later than 6 hours after injection; thereafter temperature shall be taken at intervals of 2 hours, continuing for not less than 24 hours after injection.

REG. 2. *Herds to be retested.*—If more than 10 per cent of the herd react to the tuberculin test, the entire herd shall be retested with tuberculin upon the expiration of 90 days and each animal so retested shall receive a double dose of tuberculin at this test.

REG. 3. *Reactions and suspicious reactions.*—A rise of  $2^{\circ}$  over the highest preinjection temperature shall be considered a reaction, provided such rise of temperature can not be shown to be due to some other cause. A rise of  $1\frac{1}{2}^{\circ}$  F. in which there are consecutive temperatures above the normal extending over three or more intervals shall be considered a suspicious reaction, and an animal having so reacted shall be removed from the herd. The interpretation of the "temperature curve" shall be left to the discretion of the veterinarian making the test subject to the approval of the department of health: *Provided, however,* That such veterinarian shall be a legally licensed veterinarian whose tests are acceptable to the department of agriculture of the State of New York. A full report of the test shall be made on a chart approved by the department of health, which chart shall state the kind and quality of tuberculin used in each test, the dates and hours at which temperatures were taken, a description of the animals tested, and the numbers of the tags attached to the same, and said report shall be duly signed by the veterinarian making the test and submitted to the department of health and by the department of health placed on file for inspection and record.

#### REGULATIONS GOVERNING THE USE OF A DIRT TESTER.

REGULATION 1. *Dirt tester.*—A dirt tester approved by the department of health of the City of New York must be used in all creameries shipping milk to the City of New York.

REG. 2. *Milk to be tested.*—All milk received at any creamery shipping milk as aforesaid must be tested thereat by the person having the management and control of such creamery, at least once a week, the results of such test to be posted in a conspicuous place in the creamery and duplicates of such test forwarded to the department of health at the end of each month.

REG. 3. *Standard for test.*—A photograph or gauge established by the board of health of the City of New York must be used as a standard in the creameries herein referred to in determining whether milk contains excessive dirt.

REG. 4. *Milk below standard.*—Where the maximum of dirt, according to the standard is shown to habitually exist in milk officially tested by the department of health, at any creamery, it will constitute sufficient cause to either rate the milk as grade C, or to exclude such milk from sale within the City of New York.

**Barbers and Barber Shops. (Reg. Dept. of Health, Mar. 30, 1915.)**

Regulations of the department of health of the City of New York, adopted March 30, 1915, effective April 1, 1915, relating to section 335 of the Sanitary Code, which provides as follows:

SEC. 335. *Barber shops regulated.*—No barber shop in the City of New York shall be conducted otherwise than in accordance with the regulations of the board of health.

REGULATION 1. *Sharing of persons with skin diseases forbidden.*—No person affected with any disease of the skin of the face shall be shaved in a public barber shop.

REG. 2. *Barbers to wash hands.*—Barbers must wash their hands thoroughly with soap and hot water before attending any person.

REG. 3. *Use of astringents forbidden.*—No alum or other astringent shall be used in stick form. If used at all to stop flow of blood it must be applied in the form of powder.

REG. 4. *Use of powder puffs forbidden.*—The use of powder puffs is prohibited.

REG. 5. *Common towel prohibited.*—No towel shall be used for more than one person without being laundered.

REG. 6. *Use of sponges prohibited.*—The use of sponges is prohibited.

REG. 7. *Mugs, etc., to be washed.*—Mugs and shaving brushes must be thoroughly washed immediately after each use thereof.

REG. 8. *Combs, etc., to be cleaned.*—Combs, razors, clippers, and scissors shall be thoroughly cleansed after every separate use thereof.

REG. 9. *Maintenance.*—Floors must be swept or mopped every day and all furniture and woodwork kept free from dust.

REG. 10. *Hot and cold water.*—Hot and cold running water must be provided.

REG. 11. *Regulations to be posted.*—A copy of these regulations is to be hung in a conspicuous place in each shop.

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