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PLAGUE INFECTION IN NEW ORLEANS.

A detailed list of the 30 cases of human plague recognized and reported in New Orleans from the beginning of the present outbreak in June to date will be found on page 3473 of this issue. It will be noted that the last case of human plague occurred September 30.

A similar statement of the plague-infected rats caught and reported up to December 12 will be found on pages 3474-3475. The first infected rat was caught July 11. Up to November 30, 208 had been caught.

SMALLPOX.

THE PROBLEM IT PRESENTS TO THE HEALTH DEPARTMENT.

The smallpox experience of the United States has for a number of years been unique. Smallpox, as commonly experienced and as described in medical textbooks, is a very serious disease with a high case fatality rate. In most of the countries of Europe and Asia the fatality rate of the disease, as usually recognized, has been generally from 10 to 40 per cent.

For a number of years there has been widely prevalent throughout the United States a type of smallpox which is very mild in its manifestations. Many of the cases are so mild that the patient does not feel ill enough to take to bed, and in many instances no physician is called. The fatality rate from this type of the disease has been, so far as can be ascertained, a fraction of 1 per cent, and probably on the whole not greater than one death in 500 cases.

The widespread prevalence of the disease and its present mildness are constantly perplexing health departments. The conditions with which local health departments in this country are being continually confronted are well shown by the following announcement made recently by the board of health of Sandusky, Ohio.

Resolution Adopted by the Board of Health, Sandusky, Ohio.

NOVEMBER 16, 1914.

Announcement of the board of health to the public:

There have been some 60 cases of smallpox in Sandusky during the past six months. These cases have been of a mild type, so mild in fact that many of those sick have

not called in a physician, thus never came within the knowledge of the board of health. Other cases have closely resembled chicken-pox and have been diagnosed as such.

The board of health has made every effort to quietly stamp out the smallpox and prevent its assuming the proportions of an epidemic.

But largely because of the mild type and more because so large a number of people are not protected by vaccination, the situation is in danger of becoming epidemic. The board of health therefore advises as the most efficient means of preventing this threatened epidemic that every person who has not been successfully vaccinated within the past six years be vaccinated without delay.

The board does not wish to close the public schools, churches, picture shows, etc., but this will be inevitable if smallpox does become epidemic.

We further urge upon the board of education that they require the vaccination of all school children; upon employers of labor, that they require vaccination of their employees; upon those in authority that they require vaccination of the pupils of the parochial schools; upon all citizens who become sick with any thing that resembles an eruptive fever, that they call in a physician without delay.

Without the cooperation of the public in this matter of vaccination, it will not be possible to stop the spread of smallpox, and it is within the power of the public to stop this outbreak by being generally vaccinated.

It is up to you to do your part.

THE BOARD OF HEALTH,
By FAY KILBOURNE, *Clerk.*

IMPOUNDED WATER.

SOME GENERAL CONSIDERATIONS ON ITS EFFECT ON THE PREVALENCE OF MALARIA.

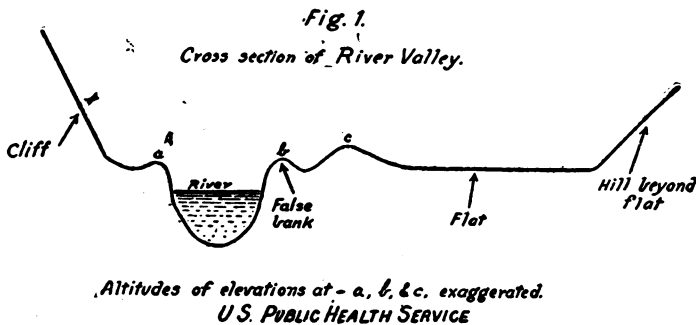
By H. R. CARTER, Senior Surgeon, United States Public Health Service.

A malarial survey of certain impounded waters has been undertaken by the Public Health Service. The object of this survey is to determine (1) the influence such waters exert on the incidence of malaria; (2) what conditions affect this influence for good or for ill; and (3) what measures can be taken to minimize the ill effect of such waters and to increase to a maximum their good effect.

The problem is an important one. It concerns the ponds of many of the large power plants which are utilizing water power. I believe that a conservative estimate of the amount of money invested in such plants in the malarial section of the United States would be over one hundred million dollars, with more than that much in those projected. The single plant at Whitney, N. C., for the manufacture of aluminum, is estimated to cost twenty-three million. The utilization of water power is not like the consumption of coal. It does not lessen a natural resource of the country; it is a true conservation of wasted power and adds to the permanent assets of the country. Also, it is a mighty factor in the development of the country—much in excess of the money cost of the power plant. If the ponds of these power plants are a serious menace to the health of the community, they can not be allowed or, if allowed, they render unhealthful a considerable area adjacent to them. In either case the loss is a serious one.

Nor are the small ponds of the grist-milling, cotton, or other neighborhood industries—important from their number—less involved. The effect of such ponds in producing malaria is a subject of complaint in many communities. Some of these complaints are doubtless well founded and some have less reason for their basis. It is obviously important, then, to determine what effect these ponds have in producing malaria and what measures should be taken to minimize this effect, which is the ultimate practical end of our problem.

Unquestionably, any considerable disturbance of the earth's surface in a country subject to malaria will affect the conditions of mosquito breeding and therefore the prevalence of malaria in its neighborhood. This is true of the construction of dams for impounding water, of railroads, or even of ordinary roads. I think we can say that, as a result of such construction, breeding places will be increased in some places and diminished in others. Since malaria



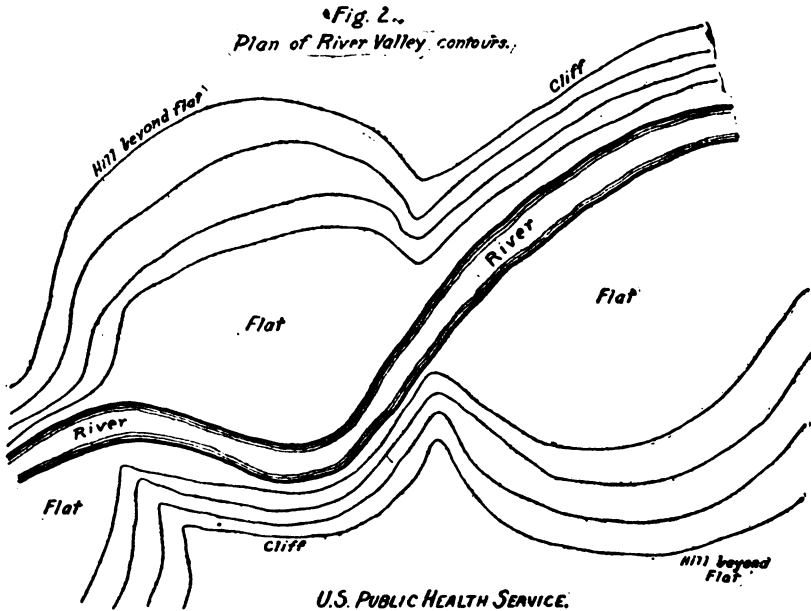
has generally been associated with standing water, bad effects will be more readily ascribed to the construction of dams impounding water than to railroads or other works which may also affect its prevalence. I have often seen breeding places removed by railroad ditches draining them and more often seen breeding places made by borrow pits or by railroad embankments blocking drainage.

The dams of the large power plants which we would consider are situated on the eastern slope of the Appalachians in the uplands between the flat country and the mountains. Below this there is not fall enough to justify a dam. The region above is outside the malarial district.

The Normal River Valley.

The general configuration of a river valley in this section is about as follows: On one side of the river is a cliff and on the other a flat—the "river bottom." The cliffs and flats alternate on the same side of the river, but in general they face each other across the river. Rarely does a cliff face a cliff or a flat another flat for a considerable distance, although, of course, the river does sometimes run in a gorge or between flats.

The cliff comes down steeply to a plateau a few feet or yards wide on the bank of the river. The flat is highest just at the river bank and extends back to the hills. Skirting the base of the hills there is, I may almost say invariably, a marsh or a marshy stream. Sometimes this is quite extensive, sometimes simply a series of small marshes fairly extensive in the aggregate. It is caused by the seepage water from the hills. The flat is usually sandy and does not hold water except (1) where there is continued seepage and (2) where the surface has been scoured off by freshets and has left the more impermeable soil exposed. Quite generally it is crossed by ditches and sluggish streams.



The river flows normally between fairly deep banks, say 4 to 8 feet below them, with occasionally a "false bank" on the side next the flat. This is a shelf scoured out above the normal water level, but below—2 to 4 feet—the level of the true bank of the river. These may be quite wide—10 to 40 yards—and may be covered more or less with vegetation. Into the river empty creeks, branches, and ravines. When a creek or branch comes in between cliffs its entrance and banks are usually clean. When it comes through a flat, or skirting between a flat and a hill, there are generally marshes on its banks, or on one bank, as it crosses the flat.

In such a valley, then, there are places physically suitable for breeding Anopheles, normally existing on every river bottom, especially at the bases of the surrounding hills.

The Normal Pond.

When a dam is built for a power plant it is high enough to cause the waters near the dam to cover the flat and come well up on the hills back of it. The result at this place is a sheet of water filling the valley from the cliff on one side to the hills beyond the flat on the other with deep water against steep banks on both sides. This, obviously, is not suitable for breeding mosquitoes, and the covering up of the marshes and other places physically suitable for breeding mosquitoes on the flats markedly lessens the number of such places near the dam. As we go up the river toward the head of "backwater," there will be, on account of the gradual rise of the normal river bed and valley, some place where the pond just overflows, or nearly overflows, the flats, and produces physical conditions very suitable for breeding mosquitoes. Above this zone the river is confined to its banks, and its effect in breeding mosquitoes is not directly affected by the dam. Up to backwater, however, wherever the elevation of the river is high enough to fill the drains of the flats and thus lessen seepage, the flats will be less well drained. In this section, too, the water will back up into the creeks and branches entering it, giving fish better access to the lower portions of the beds of these creeks and branches.

Similarly, the mouths and lower portions of creeks and branches—which are normally quite frequently marshy—are, near the dam, covered deeply by water standing against the hillsides which form the sides of the valleys of these creeks. The mouths of these creeks, then, and the marshes on their banks, are thus no longer physically suitable for breeding places. Yet, just as with the river, there should be—at least may be—a zone somewhere up the creek where the elevation of the backwater is such as to produce physical conditions well suited for mosquito breeding. This is especially true of large creeks with considerable flats on their banks. Where the valley is narrow and the sides of the valley are steep, this will not occur, or will occur only to a small extent.

Obviously, then, in normal stages of water the dam destroys some potential breeding places, near the dam especially, and makes others higher up the pond and on some of the creeks entering the pond.

Freshets.

The ill effect of a rise in a river, overflowing its banks, is that as it goes down to normal pools will be left on the banks to breed mosquitoes. When the normal river goes down after a freshet, pools of water will be left on the lowlands if the rise has been "out of banks," and these will be more or less persistent according to the permeability of the soil. A much less rise will leave pools on the "false bank" and these, the top soil being scoured off, are more permanent.

For the pond: Near the dam and wherever the waters of the pond rise against hillsides no pools would be left and consequently no ill effects received from a freshet, be it great or small. Above the zone where the pond is normally just out of banks—let us call it the “zone of overflow”—a freshet less than one that would normally cause an overflow would now cause the banks to be flooded, and, on going down, would leave pools. A full freshet would also overflow this part of the pond, but would do no more harm than if there were no pond. In the zone of overflow a freshet would do good; that is, render it less suitable for breeding mosquitoes. Below this, in the pond proper, it would have little effect.

In the creeks entering the pond, the rise, and hence backwater of the freshet, would be extended higher than the same freshet would have gone in the normal creek, and, as the water goes down, whatever effect would have been produced in the normal creek valley will be more or less produced at a higher elevation up the creek.

Obviously, the effect of a freshet is more or less proportioned to the amount of the rise. Now in proportion as the area of the pond exceeds that of the normal river so much will the rise of the pond be less than that of the river; and the rise of the freshet in the creeks entering the pond will also be less, measured from their ordinary backwater, than it would have been, measured from the level of the normal river, had there been no dam. These rises determine the land overflowed by the freshet and consequently left bare by its subsidence, both for creek and for river valley. It would seem then that the effect of the freshet would, on the whole, be lessened, and decidedly lessened, in that part of the valley covered by the pond.

General Effect of Dam.

Whether the whole effect of the dam is to lessen or increase the breeding places is a question which will have to be determined by biological study, and which doubtless will differ for different ponds. *This much is certain: The impounding of water will change the location of places physically suited for breeding.* It will move them away from the dam toward the upper reaches of the pond. It will destroy them in the lower part of the creeks which empty into the pond, possibly to increase them higher up, away from the river. A change of location of actual breeding places, the number of mosquitoes remaining the same, would in general be a disadvantage, because the locations of residences in a long-settled malarial section have been determined to an extent by the healthfulness of the location, the more malarious situations being avoided.

Conditions which Affect the Breeding of Mosquitoes in the Pond.

It is assumed that *Anopheles* mosquitoes do not breed in the deep open water of the pond and that only such conditions as affect the shallow water at the edges need be considered. This needs only stating.

(1) *Change of level of the pond under normal operation of power plant.*—The power in the section considered in this paper is largely used for cotton mills, and on this account the power plant is partly shut down from Saturday noon to Monday morning—about 42 hours—and the water rises in the pond during this time. This rise at Blewetts Falls, N. C., was, I was told, normally about 24 inches; it was more during the two Sundays I was there, and the fall was rapid on Monday. There is also a small rise for each night; 9 to 12 inches should be about the average at the place named above. These changes of elevation within a shorter time than the cycle of development of the mosquito should tend to prevent breeding. As the water falls it should leave some of the larvæ stranded in the grass and behind drift, while the rise would expose them to some extent to fish, from which the shallow water and other conditions at the edges had protected them. Accidental change in the environment of larvæ should work to their disadvantage, because it would be a change from the protective conditions which they themselves had established. Note that a vertical rise of 1 foot would generally cover more than 1 foot of land, measured horizontally. On a gently sloping bank, where there would most likely be breeding, it would cover 10 to 20 feet easily—a movement greater than many larvæ would be able to protect themselves against during the time of rise and fall.

(2) *Winds.*—The effect of wind is to lessen breeding on the pond. The banks will be cut steep and kept bare of growth by wave action wherever the waves can reach them—that is, in the open pond. Up the creeks and ravines the banks may be protected from this erosion by position or by growth. The former is the main factor. Similarly, the gently sloping banks in the zone where the pond is just out of banks will also escape erosion. The waves also—the effect of the wind on the pond—will drown such larvæ as are exposed to this action. Obviously, the effect of the wind is greater on the pond than on the normal river, because it is much wider and more exposed—not down under the banks.

(3) *Driftwood and floatage.*—Drift must be considered under two heads: The large pieces—driftwood—and the very small stuff—floatage—the latter being so small that it makes a covering for the water almost like scum. The effect of the two on breeding *Anopheles* is quite different.

Quantities of drift will be found on some portions of the banks of the pond. Especially is this found up bayous—near their mouths

and some way up. On the banks of the open pond it is less often found, although in places where the bank is protected by the roots of brush or by thick brush it is found. Some of this drift comes from the trees and bushes left in the pond. These die when flooded and their branches, etc., fall in the water. The larger part, however, seems to come from the drift brought down by freshets. The tendency of this drift is to lodge on the bank at high-water mark and be left there as the water recedes. If it can reach the bank, it does not follow the water down. This is especially true if the bank has a gentle slope; far less so against steep banks. The reason for this is obvious. This drift furnishes protection to larvæ, and thus does harm. The driftwood does not seem to furnish much protection against fish—unless, indeed, the sticks carry algæ. The floatage of small stuff, however, does protect against fish, and larvæ are frequently found in floatage when they can not be found elsewhere. No kind of drift seems to furnish much protection against wave action. Quite frequently larvæ are found in drift, evidently washed down, either as eggs or larvæ, from some place higher upstream. The writer has found but one instance in which he thought they were from eggs deposited in situ.

(4) *Bushes growing in the pond.*—These are, of course, found only in shallow water. They die, or the majority of them do, and in time disappear. Until they do disappear they do harm by preventing drift from reaching the bank, especially in deep bays, and thus grounding at high water. They also to some extent protect the shore from wave action. Such species as grow in water, as willow, tupelo gum, and sweet gum, are less apt than other species to die on account of having their roots submerged. Sweet gum was especially persistent about one pond examined.

(5) *Grass and weeds.*—The ordinary land grass dies when covered by water. That it will be replaced in time in shallow water by aquatic plants seems almost certain. This will not take place where the bank is eroded by wave action.

The presence of grass growing in shallow water should furnish protection to the larvæ from fish. In a pond examined the dead land grass was covered by silt, and no mosquitoes were breeding in the water adjacent. It had not yet been replaced by aquatic vegetation, although the pond was nearly 3 years old.

(6) *Algæ.*—The presence of algæ should influence the breeding of mosquitoes, and is therefore to be noted. They are apt to be found on sticks, leaves, etc., in clear water. Their condition as well as their occurrence is to be noted, as *Anopheles* are rarely, if ever, found with dead and decomposing algæ. The conditions which influence the growth of algæ—current, muddiness, sunlight, etc.—should also be noted, that we may form an idea of their permanence.

(7) *Fish and other aquatic enemies.*—The rôle of fish in preventing mosquito breeding is well known. Whether they are efficient in so doing depends on their kind, number, and access to the larvæ. It is the small top minnow that is useful, not large fish. It is of course the number in the places suitable for breeding mosquitoes that is to be considered, not the general number in the pond. Their number and efficiency will be shown by the biological survey. In a recent survey small fish were rarely found at first, the water being very muddy, while a week later, in shallow water at the edges, which had become nearly clear, they were abundant and, from the absence of larvæ, probably efficient.

There are other aquatic enemies of mosquitoes besides fish, and that the pond is a large permanent body of water is a condition favorable to their propagation. In a recent survey a "water flea," or "water boatman," was found in large numbers in water in which we might have expected to find larvæ of mosquitoes. In a large number of places examined no larvæ were found with them. These insects were identified by Mr. Allan Jennings, of the Entomological Bureau, as Hemiptera, belonging to the family *Corisidae*, genus *Corisa*, and stated to be predaceous—feeding on the larvæ of mosquitoes. The presence and efficiency of these and other similar enemies will be determined by the biological—or rather zoological—survey.

Method of Making Survey.

Since we wish to determine the whole effect of the pond on the production of malaria, we must compare the condition which existed before the pond was made with that which exists afterwards. If the malaria which the pond produces be counted a debit, the malaria it prevents must be counted a credit. It is the *change* in conditions we would know.

Obviously, then, a survey should be made of the country to be covered and affected by the pond before the pond is made. There is no other way to ascertain with certainty the normal condition of the country before the pond is made.

Unfortunately for the ponds now existing, this has not been done, and the method adopted at Blewetts Falls to determine this is probably the best that can be devised when the pond is already in existence. A section of the river valley was selected beginning a half mile below the dam and running about a mile down the river, and one beginning a mile above backwater and extending about a mile higher up the river. Both of these were carefully surveyed, physically and biologically.

It seemed fair to consider the submerged valley as being approximately like these sections. In addition, when the bayou formed by the creeks and branches running down into the pond were sur-

veyed, the examination was carried some distance above "backwater" to see what was the normal condition of the country unaffected by the pond. For creeks coming in some miles up the pond this would be the class of country covered by the pond in creek valleys entering nearer the dam. To illustrate: If the dam raised the water 40 feet and the pond was 10 miles long, the valley of a creek entering the pond at the dam would have been flooded 40 feet above the normal river level at the creek's mouth, while the valley of a creek entering 5 miles above the dam would be flooded only 20 feet, more or less, above the level of its creek's mouth as it entered the normal river. Thus the valley of the second creek, from backwater to a contour 20 feet above the pond level, would correspond to a part—the upper part—of the valley of the first creek which was flooded. If the creek were 6 miles above the dam, from backwater to a contour 24 feet above it would be taken.

In this way a pretty fair idea of the original condition of the submerged tract was obtained, but, of course, it was less accurate than that which would have been given by a survey of the tract itself before the dam was built.

The surveys of both normal river valley and the pond are to be made under two heads: Physical and zoological.

The first is to determine if the physical conditions of the places examined are such as would make them suitable breeding places for *Anopheles*—i. e., are they such places as we would expect to breed *Anopheles*, and if so, are they so situated as to produce malaria.

The second is to determine what places actually are breeding malaria-bearing mosquitoes. This survey must be most carefully made of places close enough to residences to produce malaria in men if the places were breeding *Anopheles*.

The physical survey of a place will then take account of the—

- (1) Depth of water.
- (2) Presence of pools and their nature.
- (3) Nature and configuration of the banks, both vertical and horizontal.
- (4) Shade and sunshine.
- (5) Character of water—clear, muddy, or impregnated with iron; silt on the grass and weeds; algæ; scums, etc.
- (6) Protection against (a) wave action which drowns the larvæ; and (b) the fish which eat them, especially what protection is given by aquatic or land vegetation.
- (7) Proximity to source of blood supply for mosquitoes—as human beings or cattle. Breeding is usually much more marked near such places, although it does occur at long distances from any conceivable source of abundant blood supply.

(8) Distances from human residences and obstacles between the place examined and such residences. This, of course, is to determine the effect on producing malaria which such places would have if they bred malaria-bearing mosquitoes.¹

The zoological survey will take account of—

(1) Whether Anopheles are found breeding in any place and to what extent.

(2) The species of Anopheles—whether or no it be a malarial-vector.

(3) The presence of fish and other aquatic enemies.

Under (1) one must note that Anopheles larvæ may be washed by sudden freshets from the place where the eggs were deposited and found where they lodged. The writer has seen such instances, but the larvæ so found were never in sufficient number and permanent enough to constitute a breeding place, except possibly at one place. This survey, too—the determination of the places in which malaria-bearing mosquitoes are actually breeding—may enable us to form a better idea of the physical conditions which determine their breeding.

From the foregoing it does not seem probable that Anopheles will be found breeding to a considerable extent in large ponds, except in that zone in which the banks are just overflowed, or about to be overflowed, and in creeks and branches at places where similar conditions of banks prevail. In the bayous and creeks where larvæ may be sheltered by drift and protected by the conformation of the shore from wave action some breeding will also be found.

For practical purposes—to determine what production of malaria is caused by the pond—it would be necessary to examine only such of these probable breeding places as are close enough to residences to produce malaria if these places do breed Anopheles. Roughly, a half mile would be about far enough.

The surveys at present, however, had best be made more general than this, and other places also examined, because their examination may throw light on the general problem, which is absolutely a new one. After the general problem of impounded water has been studied awhile, doubtless the work necessary to arrive at the determination of the effect of any particular pond in causing malaria will be much simplified. These surveys should be made more than once; indeed they must be made during different conditions of the water, as when muddy and clear, and at different stages of the water, naturally also, at different times of the year. Whether or no the water be muddy affects the growth of algæ, which, again, affects breeding.

¹Possibly (7) and (8) should be considered as part of the zoological survey, but since distance is the prime factor considered they are placed here.

Obviously, too, the pond will undergo much change within the first few years of its existence. The trees and brush the roots of which are submerged will die, fall, be cast up—some of them—on the bank, and rot. I think the drift adjacent to the banks will be most abundant the first year or two. As soon as the small brush in the water next to the bank is gone, the drift will go ashore at high-water mark, lodge as the water falls, and cease to be a shelter for larvæ. The grass and weeds proper to the land will disappear and aquatic growth take its place. The banks, where exposed to wave action, will become steeper and cleaner. Small fish should, I think, greatly increase if the water is suitable, as the shallow water on the gently sloping banks of the upper parts of the pond and of the creeks should furnish them ideal breeding places. Predaceous insects should also increase in a permanent body of water. On the whole, the pond will, I think, become less suitable for breeding mosquitoes as it gets older, all factors working to this end except the growth of aquatic grasses and algæ. Upon the extent of this—the growth of aquatic vegetation and the protection it gives the larvæ from fish—will largely depend the rôle of the pond in permanently breeding mosquitoes.

AN EPIDEMIOLOGICAL STUDY OF A PLAGUE FOCUS.

By CHARLES V. AKIN, Assistant Surgeon, United States Public Health Service.

On September 25, 1914, two plague-infected female rats (*Mus norvegicus*) were taken in snap traps in New Orleans at 1013 Magazine Street, the building in which they were found being a combined stable and junk warehouse. Both rats were determined positive on the day of finding. The fact that the building is situated just across the street from 1006 Magazine Street, a previous focus in which plague-infected rodents were found on August 27, 1914, is evidence of the continuation of infection in the neighborhood, though it had been stamped out at 1006 Magazine Street. Both localities are in the heart of a belt which was heavily infected. It is believed that the infection at 1013 Magazine Street followed that at 1006 Magazine Street on account of a large number of infected rats which survived.

Notation of the architectural peculiarities of this building will perhaps be of value in determining relationship between "cause and effect" as evidenced in mice plague later found there.

The premises at 1013 Magazine Street occupy a very large lot, which is inclosed on all sides by a brick wall running to the full height of two stories. Within the inclosure were found many interesting features. This building is in the form of a great double L (L-L), the bar and wings being 22 feet wide, encircling on three sides an interior court, the playground of pigeons, chickens, and

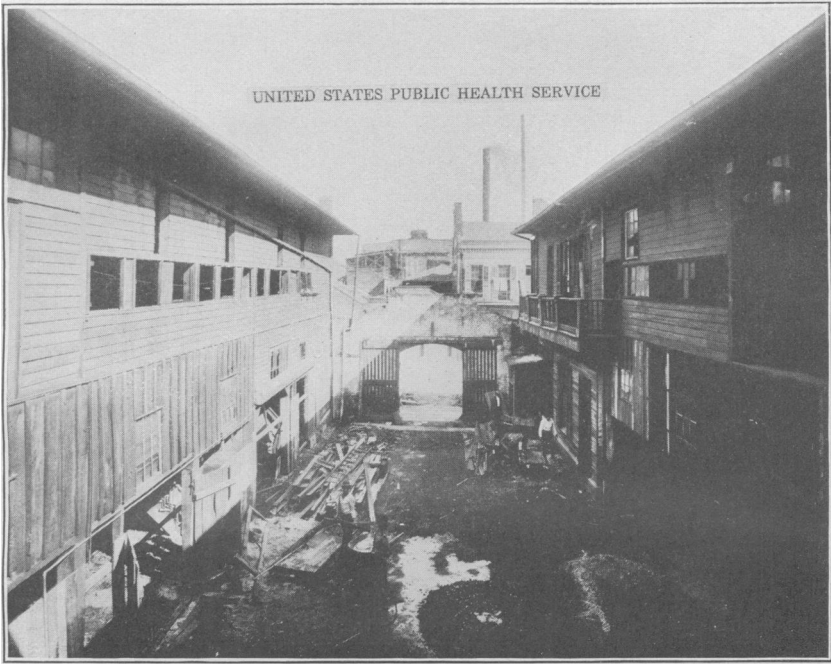


FIG. 1.—GENERAL VIEW OF PREMISES FROM SECOND FLOOR. BLOCK IN WHICH PLAGUE RATS WERE PREVIOUSLY FOUND.

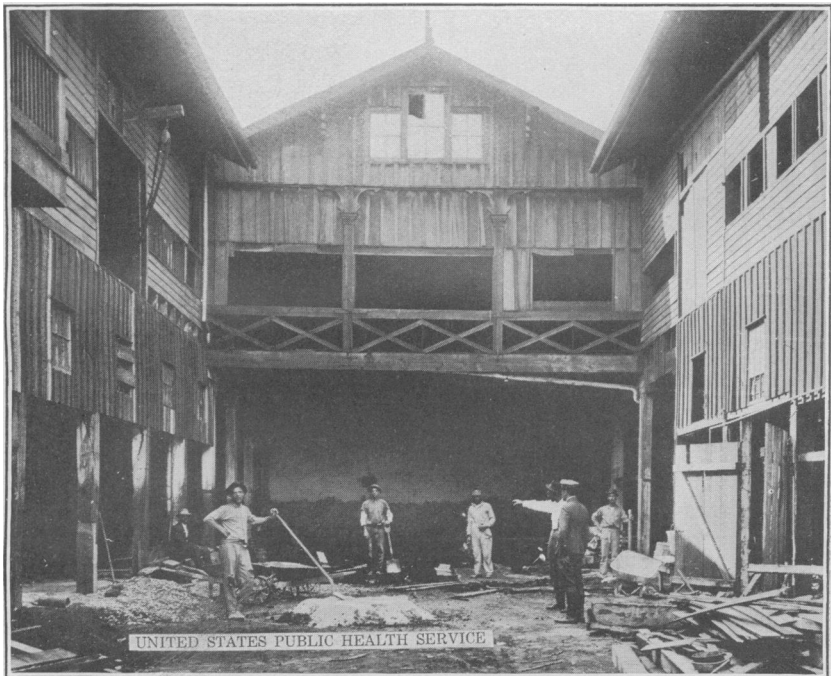


FIG. 2.—VIEW OF REAR AT 1013 MAGAZINE STREET, SHOWING PORTION OF STABLE AND JUNK WAREHOUSE WITH FEED ROOM IN CENTER ON SECOND FLOOR.

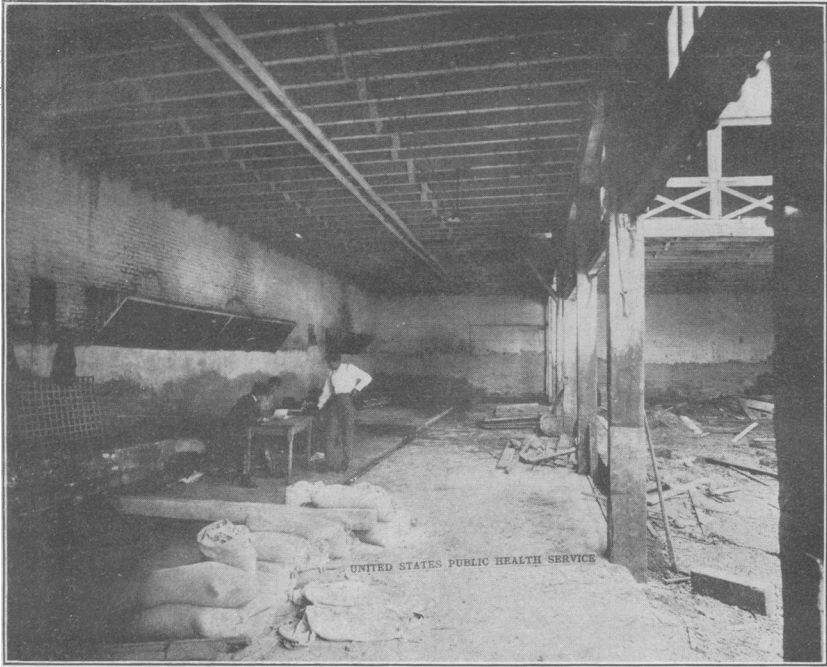


FIG. 3.—GROUND AREA OF STABLE, SHOWING CONCRETE FLOOR AND CEMENTING OF BRICK WALLS.

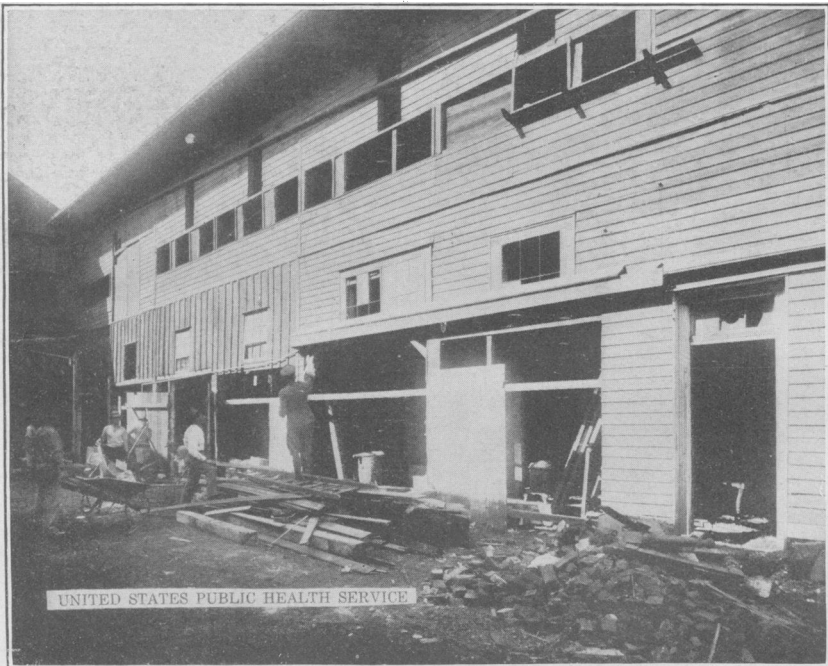


FIG. 4.—JUNK WAREHOUSE IN RIGHT WING; LATER TORN OUT.



FIG. 5.—SHOWING DEMOLITION ON SECOND FLOOR OVER RESIDENTIAL PORTION.

three unusually good rat dogs. These dogs, while not effective under the ordinary conditions of everyday life, were responsible for a very gratifying catch when the wrecking gang began operations the next day.

To the left on entering was the house occupied by the stableman, a two-story plaster-wall structure, continuous with the stable on the ground floor and the feed and plunder room above. When the floor of this house, which was not more than 6 inches from the ground, was removed, 54 of the total of 86 rats were killed; of these, 20 were plague infected. The stable occupied the remainder of the left wing and bar, connecting with the right wing. The right wing, both up stairs and down, was filled with a collection of miscellaneous junk and débris. The front of this wing was a duplicate of the stableman's house and on demolition yielded 18 rats, of which 7 were plague infected. The floor on this side was of rotten planking laid flat on the ground, which afforded concealment for many rat and mouse nests.

The premises were vacated and closed pending the completion of rat proofing. Immediately following this the residential portion was thoroughly fumigated with sulphur and the entire building from roof to ground was disinfected by spraying with a 2 per cent solution of kerosene emulsion. About 6,000 poison baits were placed, every possible nook and cranny being gone into.

The work of demolition of floor and interior structure was begun on September 26, 1914, attention being first given to the stableman's residence. The plank flooring of the entire ground area was removed, great care being taken not to scatter rats. The men were ably assisted by three dogs belonging to the stableman, and only a few rats escaped through a hole in the brick wall. These walls were about 60 years old, being constructed of soft brick laid in most inferior mortar of river mud and oyster-shell lime. At one point the rats, being assisted by the natural cracking of these walls and their extremely poor construction, had excavated to a point about 8 feet above the floor. Six rats were taken from this cavity. Double plaster walls were removed up and down stairs, exposing countless rat cuts, nests, and bones of every description. It is interesting to note just here that in spite of the burning of 80 pounds of sulphur to not more than 4,200 cubic feet of room space (giving 16 per cent sulphur dioxide gas), no rats had been compelled to leave their hiding place beneath the wooden floor, owing to its imperviousness to the diffusion of gas. A nest of live young rats was found when the floor was removed.

The plank flooring of the stable and warehouse was removed, taken into the street, and as rapidly as possible carted away.

All rats taken at this time were female *Mus norvegicus*, with the exception of three male *Mus norvegicus* and one *Mus rattus*, which was

killed while trying to return to his home on the second floor. Mice were rarely seen, and not until several days later were any caught.

The work of concreting the ground area of both house and stable had been going along steadily. No more rats were trapped until October 12, 1914, when two infected rats were caught in snap traps. One was a female *rattus* taken on the second floor. Careful observation made it plain that thorough precaution had not been taken to destroy all harborage. On questioning the workmen it developed that each afternoon about 5 o'clock small black rats were seen running along joists just below the second floor and down a water pipe to a watering trough below.

A wooden ceiling had been left over a small single-walled room on the second floor, and there were found two dead *Mus rattus*. On subsequent days other *Mus rattus* were found dead on the upper floor behind piles of unused materials, which had been taken up from below. Much of this had been piled 2 feet from the floor, but at that time it was against the wall, and it was thought it might afford hiding places. Racks were built 2 feet high in middle of floor, and every article was placed on them. A second disinfection and poisoning followed. Mice were becoming more evident each day, and a nest was discovered in a cavity in the wall left by the removal of a brick. On discovery of this the plastering of the brick wall to a height of 5 feet from the floor, entirely around the building, was ordered. The discovery referred to demonstrates very clearly the necessity of careful search for even the most minute crevices in all places in which plague infection has been shown to exist and the complete closing of these crevices with cement mortar. This will eliminate the possibility of mouse harborage.

On October 16, 1914, a female mouse was caught in a snap trap and determined plague infected the same day. This most unusual and interesting occurrence can be accounted for by considering the sequence of species infection.

At first only *Mus norvegicus* were seen. Their natural strength and cunning gave them a clear field, and it was not until they were all killed that the more timid *Mus rattus* and *Mus musculus* approached. The death of the ground rats liberated a large number of fleas, a certain percentage of which were plague infected. Following their instinctive craving, they sought other rodent hosts, and the advance of the *Mus rattus* gave them just what they needed. It was only after the complete destruction of the Norwegian army that plague-infected *Mus rattus* were found. The mouse infection was the natural outcome of the mice being always cooped up in close proximity to these rats. Still, they were, to a certain degree, safe from the rat itself because of excellent protection afforded by breaks in the soft brick wall. These openings were small enough to bar the pursuing rat, but not small enough to exclude the hungry flea.

Points of interest in this study are:

First. Absence of human plague, though people were living over a hotbed of infection. This is explained by the great number of rats which afforded ready and convenient hosts for all fleas leaving dead rats. Human blood, at all times less attractive to them, was not necessary for food.

Second. The relation between concentration of rodent infection and type of architecture. This building was ideal for rodent infestation of all species. The harborage for the *Mus norvegicus* was beneath the wooden flooring of the residence and other planking was flat on the ground.

Safe homes for the *Mus rattus* were afforded by inclosed spaces on the second floor.

Soft brick walls, honeycombed with breaks and small cavities, afforded unusually good lodging places for mice (*Mus musculus*). A plentiful supply of small grain, scattered broadcast up stairs and down, fed them all lavishly.

That this infection was recent is proven conclusively by its slight radius of extension. Recognized early and almost completely destroyed by radical, effective measures, it was limited before sick rats could carry the infection to adjoining territory. The scarcity of rats found dead would further go to show the importance and success of early recognition and stamping out of a rodent plague focus.

As a final point of interest, too much attention can not be given to the thorough destruction of rat harboring and rat hiding places. No innocent-looking, dark "hole in the corner" should be overlooked, for hunted rats in their wild efforts to escape destruction will take advantage of it.

The careful search for and thorough plastering of all breaks and holes in brick walls on premises where plague has been found will preclude the possibility of a subsequent mouse infection.

PLAGUE-ERADICATIVE WORK.

CALIFORNIA.

The following report of plague-eradivative work in California for the week ended December 5, 1914, has been received from Passed Asst. Surg. Hurley, of the United States Public Health Service, in temporary charge of the work:

SAN FRANCISCO, CAL.		SAN FRANCISCO, CAL.—Continued.	
RAT PROOFING.		RAT PROOFING—continued.	
Inspections of new buildings under construction.....	287	Yards, passageways, etc., new buildings (sq. ft. 42,979).....	52
Basements concreted, new buildings (sq. ft. 44,668).....	22	Total area of concrete laid, new premises (sq. ft. 272,887).	
Floors concreted, new buildings (sq. ft. 185,250).....	28	Inspections, class A, B, C, fireproof buildings.....	137

SAN FRANCISCO CAL.—Continued.

RAT PROOFING—continued.

Roof and basement ventilators, etc., class A, B, C, buildings screened.....	651
Wire screening used (sq. ft. 2,438).	
Openings around pipes, etc. closed with cement.....	1,615
Sidewalk lens lights replaced.....	1,500
Inspections, old buildings.....	189
Wooden floors removed, old buildings.....	19
Yards and passageways, planking removed..	12
Cubic feet new foundation walls installed, old buildings.....	5,631
Concrete floors installed, old buildings (sq. ft. 14,200).....	31
Basements concreted, old buildings (sq. ft. 5,382).....	7
Yards and passageways, etc., concreted (sq. ft. 21,187).....	75
Total area concrete laid in old premises (sq. ft. 40,769).	
Floors old buildings rat proofed with wire cloth (sq. ft. 4,280).....	6
Buildings razed.....	17
New garbage cans stamped approved.....	825
Nuisances abated.....	304

OPERATIONS ON THE WATER FRONT.

Vessels inspected for rat guards.....	17
Reinspections made on vessels.....	11
Defective rat guards repaired.....	2
Rats trapped on wharves and water front....	14
Rats trapped on vessels.....	22
Traps set on wharves and water front.....	72
Traps set on vessels.....	56
Vessels trapped on.....	11
Poisons placed within P. P. I. E. grounds....	7,200
Bait used on water front and vessels, bacon (pounds).....	6

RATS COLLECTED AND EXAMINED FOR PLAGUE.

Collected.....	237
Examined.....	174
Found infected.....	0

RATS IDENTIFIED.

Mus norvegicus.....	65
Mus rattus.....	47
Mus alexandrinus.....	78
Mus musculus.....	47

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	None.....	398 rats.
Oakland.....	Aug. 9, 1911	Dec. 1, 1908	do.....	126 rats.
Berkeley.....	Aug. 28, 1907	None.....	do.....	None.
Los Angeles.....	Aug. 11, 1908	do.....	Aug. 21, 1908	1 squirrel.
Counties:				
Alameda (exclusive of Oakland and Berkeley).	Sept. 24, 1909	Oct. 17, 1909 ¹	Aug. 7, 1914	286 squirrels, 1 wood rat.
Contra Costa.....	May 17, 1914	None.....	Oct. 23, 1914	1,565 squirrels.
Fresno.....	None.....	do.....	Oct. 27, 1911	1 squirrel.
Merced.....	do.....	do.....	July 12, 1911	5 squirrels.
Monterey.....	do.....	do.....	Apr. 10, 1914	6 squirrels.
San Benito.....	June 4, 1913	do.....	Sept. 26, 1914	36 squirrels.
San Joaquin.....	Sept. 18, 1911	do.....	Aug. 26, 1911	18 squirrels.
San Luis Obispo.....	None.....	do.....	Jan. 29, 1910	1 squirrel.
Santa Clara.....	Aug. 31, 1910	do.....	July 23, 1913	25 squirrels.
Santa Cruz.....	None.....	do.....	May 17, 1910	3 squirrels.
Stanislaus.....	do.....	do.....	June 2, 1911	13 squirrels.

¹ Wood rat.

SQUIRRELS COLLECTED AND EXAMINED FOR PLAGUE.

Contra Costa County.....	15
San Benito County.....	19
Total.....	34
Found infected.....	0

RANCHES INSPECTED AND HUNTED OVER.

Contra Costa County.....	15
San Benito County.....	5
Total.....	20

OTHER ANIMALS COLLECTED AND EXAMINED FOR PLAGUE.

San Benito County—rabbit.....	1
Found infected.....	0

The work is being carried on in the following-named counties: Alameda, Contra Costa, San Francisco, Santa Cruz, San Joaquin, Merced, Stanislaus, San Benito, and Santa Clara.

LOUISIANA—NEW ORLEANS.

Detailed Report of Cases of Plague in Man in New Orleans, La., June—September, 1914.

Case No.	Type of disease.	Age.	Sex.	Occupation.	Residence.	Where employed.	Date of onset of illness.	Location suspected as source of infection.
1	Septicemic	49	Male	Laborer.	713 St. Joseph.	424 Notre Dame.	1914.	424 Notre Dame.
2	Bubonic (left femoral).	50	do.	do.	do.	do.	June 19	Do.
3	do.	8	do.	None.	2831 First.	do.	June 28	Unknown.
4	Bubonic (right auxiliary)	28	do.	Laborer.	2227 St. Ann.	429 Poydras.	July 5	429 Poydras.
5	Bubonic (left femoral)	35	Female	Waitress.	1902 Agricultural.	307 LaHayette.	July 9	307 LaHayette.
6	Bubonic (right femoral)	10	do.	None.	532 Camp.	611-621 South Front.	July 16	532 Camp.
7	Bubonic (left femoral)	15	do.	Laborer.	1331 St. Philip.	611-621 South Front.	July 12	611 South Front.
8	do.	23	do.	Clerk.	2845 Baronne.	629 Canal.	July 16	629 Canal.
9	Septicemic	73	Female	Housewife.	532 Camp.	do.	July 20	532 Camp.
10	Bubonic (right femoral)	50	Male	Bartender.	4528 Constance.	601 Fulton.	July 21	601 Fulton.
11	Bubonic (left femoral)	41	do.	Janitor.	1023 Melpomene.	532 Camp.	July 24	532 Camp.
12	Bubonic (right femoral)	24	do.	Laborer.	1523 Arts.	611 Commerce.	July 23	611 Commerce.
13	Bubonic (left femoral)	16	Female	Housework.	1809 Bienville.	1904 Bienville.	July 22	1809 Bienville.
14	Bubonic (right femoral)	22	Male	Car cleaner.	2138 Eighth.	Girod near Mississippi River.	July 29	Girod near Mississippi River.
15	Bubonic (left femoral)	20	Female	Grocery clerk.	1836 Iberville.	1836 Iberville (rear).	Aug. 11	do.
16	do.	17	Male	Unknown.	do.	do.	Aug. 1	do.
17	Bubonic (left inguinal)	52	do.	Vegetable stand em- ployee.	1817 Carondelet.	French market.	Aug. 6	French market.
18	Septicemic	72	do.	Cook in restaurant.	911 Toulouse.	916 Toulouse.	Aug. 15	918 Toulouse.
19	Bubonic (right femoral)	40	Female	Housewife.	1905 Bienville.	do.	Aug. 16	do.
20	Bubonic (left femoral)	24	do.	Unknown.	do.	do.	Aug. 17	do.
21	do.	84	do.	Housewife.	1734 Felicity.	do.	Aug. 26	1734 Felicity.
22	Bubonic (right femoral)	22	do.	Salesman.	413 Carondelet.	Camp and Gravier.	do.	413 Carondelet.
23	Bubonic (femoral bubo)	30	Male	Grocery clerk.	421 Harmony.	Carrollton and Green.	Aug. 29	421 Harmony.
24	Bubonic (left femoral)	19	do.	None.	1742 Four.	do.	Sept. 1	1742 Four.
25	Bubonic (right femoral)	12	Female	do.	1824 Baronne.	812 Royal.	do.	1824 Baronne.
26	Bubonic (right femoral)	43	Female	Housework.	824 Burgundy.	Unknown.	Sept. 21	824 Burgundy.
27	Septicemic	40	Male	Baker.	1463 Bourbon.	Bakery adjoining dwelling.	Sept. 20	1463 Bourbon.
28	Bubonic (right femoral)	18	Female	Housewife.	910 Elysian Fields.	do.	Sept. 21	910 Elysian Fields.
29	do.	4	Male	None.	1573 Chippewa.	do.	Sept. 30	1573 Chippewa.
30	do.	51	do.	Laundryman.	1055 Baronne.	1055 Baronne.	do.	1120 Tulane.

Plague-Infected Rats Captured in New Orleans from July 11, 1914, to Dec. 5, 1914.

Case No.	Where found.	When found.	Case No.	Where found.	When found.
		1914.			1914.
1	Burgundy Street.....	July 13	82	218 Canal Street.....	Aug. 31
2	1529 Religious Street.....	July 13	83	2113 N. Rampart Street.....	Aug. 7
3	1904 Magazine Street.....	July 11	84	2543 Carondelet Walk.....	Sept. 2
4	525 S. Peters Street.....	July 12	85	1739 Bourbon Street.....	Aug. 28
5	434 S. Rampart Street.....	July 13	86	3237 Tchoupitoulas Street.....	Sept. 4
6	Dumaine Street Wharf.....	July 16	87	Julia Street Wharf.....	Sept. 4
7	819 Antoine Street.....	July 21	88	Annunciation Street between Terpsichore and Melpomene Streets.....	Sept. 5
8	511 St. Ann Street.....	July 21	89	1513 Baronne Street.....	Sept. 7
9	1531 Magazine Street.....	July 23	90	Poydras and Dryades Streets.....	Sept. 8
10	117 North Liberty Street.....	July 21	91	1503 Baronne Street.....	Sept. 10
11	1171 Annunciation Street.....	July 25	92	S. Rampart and Common Streets.....	Sept. 11
12	515 Barracks Street.....	July 15	93	1936 Eighth Street.....	Sept. 2
13	Elevator E, Stuyvesant docks.....	July 23	94	606 Montegut Street.....	Sept. 14
14	1823 Second Street.....	July 21	95	Celeste Street Landing.....	Sept. 4
15	Toulouse Street shed.....	July 25	96	Terpsichore and Baronne Streets.....	Sept. 9
16	Marais and Bourbon Streets.....	July 26	97	2733 Tchoupitoulas Street.....	Sept. 9
17	1031 Chartres Street.....	July 22	98	Arts and N. Roman Streets.....	Sept. 13
18	1308 Girod Street.....	July 22	99	150 S. Rampart Street.....	Sept. 16
19	Toulouse Street shed.....	July 22	100	1017 Common Street.....	Sept. 16
20	930 Tchoupitoulas Street.....	July 24	101	160 S. Rampart Street.....	Sept. 17
21	Bienville Street landing.....	July 27	102	.....do.....	Sept. 16
22	L. and N. roundhouse.....	July 24	105	.....do.....	Sept. 17
23	840 Burgundy Street.....	July 24	106	.....do.....	Sept. 17
24	427 Dryades Street.....	July 27	113	.....do.....	Sept. 17
25	Toulouse Street shed.....	July 27	114	1630 Bourbon Street.....	Sept. 17
26	2846 Dryades Street.....	July 29	115	1017 Common Street.....	Sept. 18
27	French Market.....	July 28	121	1938 Eighth Street.....	Sept. 18
28	918 Toulouse Street.....	Aug. 1	122	162 S. Rampart Street.....	Sept. 18
29	536 Madison Street.....	Aug. 1	123	2733 Tchoupitoulas Street.....	Sept. 12
30	Girod Street landing.....	July 22	124	1017 Common Street.....	Sept. 19
31	Harmony Street wharf.....	July 30	125	.....do.....	Sept. 21
32	918 Toulouse Street.....	Aug. 4	126	160 S. Rampart Street.....	Sept. 21
33	.....do.....	July 29	127	.....do.....	Sept. 22
34	Dumaine Street landing.....	Aug. 4	128	162 S. Rampart Street.....	Sept. 22
35	786 Liberty Street.....	Aug. 7	129	2815 Dumaine Street.....	Sept. 16
36	832 Chartres Street.....	Aug. 4	130	Elevator D, Stuyvesant Docks.....	Sept. 23
37	Julia and Franklin Streets.....	Aug. 8	131	S. Rampart near Common Street.....	Sept. 24
38	518 Camp Street.....	Aug. 8	132	Girod Street Wharf.....	Sept. 18
39	Richard and St. Thomas Streets.....	Aug. 9	133	2009 Spain Street.....	Sept. 25
40	Thalia Street Landing.....	Aug. 9	134	1013 Magazine Street.....	Sept. 26
41	536 Madison Street.....	Aug. 9	135	.....do.....	Sept. 26
42	532 Howard Street.....	Aug. 3	136	2904 Melpomene Street.....	Sept. 26
43	1300 Tulane Avenue.....	Aug. 5	137	1013 Magazine Street.....	Sept. 27
44	1837 Marais Street.....	Aug. 10	138	.....do.....	Sept. 27
45	Ninth Street platform.....	Aug. 10	139	832 Frenchman Street.....	Sept. 27
46	918 Toulouse Street.....	Aug. 4	140	1459 Bourbon Street.....	Sept. 28
47	2043 Dryades Street.....	Aug. 6	141	1233 St. Ann Street.....	Sept. 28
48	3211 Dryades Street.....	Aug. 6	142	1611 Prytania Street.....	Sept. 30
49	Ninth and Tchoupitoulas Streets; warehouse.....	Aug. 11	143	Girod Street Wharf.....	Sept. 30
50	2124 Erato Street.....	Aug. 5	144	162 South Rampart Street.....	Sept. 30
51	359 S. Rampart Street.....	Aug. 6	145	163 Dryades Street.....	Sept. 30
52	2851 Baronne Street.....	Aug. 8	146	916 Washington Avenue.....	Sept. 27
53	3225 Dryades Street.....	Aug. 13	147	St. Claud and St. Ann Streets.....	Sept. 27
54	625 Commerce Street.....	Aug. 10	148	200 South Rampart Street.....	Oct. 6
55	1535 St. Thomas Street.....	Aug. 15	149	1013 Magazine Street.....	Sept. 26
56	Ninth Street platform, Harmony Wharf.....	Aug. 10	150	926 North Liberty Street.....	Oct. 11
57	527 Dumaine Street.....	Aug. 10	151	1013 Magazine Street.....	Oct. 12
58	841 Burgundy Street.....	Aug. 17	152	.....do.....	Oct. 13
59	931 St. Ann Street.....	Aug. 18	153	2712 St. Andrew Street.....	Oct. 15
60	1318 S. Derbigny Street.....	Aug. 18	154	1013 Magazine Street.....	Oct. 16
61	799 S. Franklin Street.....	Aug. 19	155	2721 Josephine Street.....	Oct. 19
62	Toulouse Street shed.....	Aug. 1	156	Stuyvesant docks.....	Oct. 22
63	909 St. Charles Street.....	Aug. 16	157	128 South Roman Street.....	Oct. 28
64	Espanade and Bourbon Streets.....	Aug. 21	158	2002 Painters Street.....	Oct. 26
65	930 Magazine Street.....	Aug. 24	159	South Peters and Natchez Alley.....	Nov. 6
66	741 Espanade Avenue.....	Aug. 25	160		
67	218 Canal Street.....	Aug. 27	161		
68	.....do.....	Aug. 27	162		
69	1006 Magazine Street.....	Aug. 27	163		
70	1523 N. Miro Street.....	Aug. 28	164		
71	1006 Magazine Street.....	Aug. 28	165		
72	930 N. Miro Street.....	Aug. 28	166		
73-78	218 Canal Street.....	Aug. 29	167		
79	.....do.....	Aug. 30	168		
80	723 Felicity Street.....	Aug. 30	169		
81	Eighth and St. Thomas Streets.....	Aug. 25	170		

**Plague-Infected Rats Captured in New Orleans from July 11, 1914, to Dec. 5, 1914—
Continued.**

Case No.	Where found.	When found.	Case No.	Where found.	When found.
194	1561 North Galvez.....	Nov. 11	203	826 North Claiborne.....	Nov. 16
195	Hagan Avenue dump.....	Nov. 13	201	Westwego garbage dump.....	Nov. 21
196	3911 Iberville Street.....	Nov. 21	205	1005 Poyfarro Street.....	Nov. 28
197	3911 Iberville Street.....	Nov. 21	206	Eleanore and Tchoupitoulas.....	Nov. 21
199			207	917 Touro Street.....	Nov. 30
200	Stuyvesant docks.....	Nov. 24	208	Cortez and Toulouse Streets.....	Nov. 26
201	3911 Iberville Street.....	Nov. 25			
202	Mandeville and Florida Walk (city garbage dump).	Nov. 20			

Report for Week Ended December 12, 1914.

The following report of plague-eradivative work at New Orleans for the week ended December 12, 1914, has been received from Asst. Surg. Gen. Rucker, of the United States Public Health Service, in charge of the work:

OUTGOING QUARANTINE.

Vessels fumigated with sulphur.....	20
Vessels fumigated with carbon monoxide..	18
Vessel fumigated with hydrocyanic gas....	1
Pounds of sulphur used.....	5,281
Coke consumed in carbon monoxide fumi- gation.....	26,000
Pounds of potassium cyanide used in hydro- cyanic gas fumigation.....	120
Pounds of sodium carbonate used in hydro- cyanic gas fumigation.....	120
Pounds of sulphuric acid used in hydro- cyanic gas fumigation.....	200
Clean bills of health issued.....	26
Foul bills of health issued.....	13

OVERLAND FREIGHT INSPECTION.

Cars inspected, found in good order; per- mitted to load.....	989
Cars ordered repaired before loading.....	1,467
Total cars inspected.....	2,456

**DESTINATION AND NUMBER OF RAILROAD CARS
INSPECTED WEEK ENDED DEC. 12.**

Alabama.....	140
Arkansas.....	15
California.....	15
Carolina, North.....	2
Carolina, South.....	3
Colorado.....	3
Florida.....	54
Georgia.....	54
Illinois.....	90
Indiana.....	38
Iowa.....	6
Kentucky.....	50
Louisiana.....	929
Massachusetts.....	1
Michigan.....	15

**DESTINATION AND NUMBER OF RAILROAD CARS
INSPECTED WEEK ENDED DEC. 12—continued.**

Minnesota.....	6
Mississippi.....	481
Missouri.....	41
Nebraska.....	2
New York.....	31
Ohio.....	83
Oklahoma.....	12
Pennsylvania.....	14
Rhode Island.....	1
Tennessee.....	68
Texas.....	83
Utah.....	6
Virginia.....	1
West Virginia.....	1
Washington.....	1
Wisconsin.....	5
Canada.....	2

FIELD OPERATIONS.

Rats trapped.....	10,921
Premises fumigated.....	1
Premises disinfected.....	71
Premises inspected.....	9,590
Notices served.....	2,208

BUILDINGS RAT PROOFED.

By elevation.....	38
By marginal concrete wall.....	136
By concrete floor and walls.....	278
By minor repairs.....	113
Square yards of concrete laid.....	24,360
Total buildings rat proofed.....	565
Buildings rat proofed to date.....	5,769
Number of abatements.....	532
Number of abatements to date.....	15,872

LABORATORY OPERATIONS.

Rodents examined.....	10,053
Mus norvegicus.....	4,282
Mus rattus.....	120
Mus alexandrinus.....	341
Mus muscull.....	5,153
Putrid.....	871
Total rodents received at laboratory.....	10,410
Number of suspicious rats.....	74
Plague rats confirmed.....	
Total number of rodents captured to Dec. 12.....	186,156

LABORATORY OPERATIONS—continued.

Total number of rodents examined to Dec. 12.....	161,422
Rodent cases to Dec. 12 by species:	
Mus rattus.....	10
Mus musculus.....	1
Mus alexandrinus.....	3
Mus norvegicus.....	194
Total rodent cases to Dec. 12.....	208

WASHINGTON—SEATTLE.

The following report of plague-eradivative work at Seattle for the week ended November 28, 1914, has been received from Surg. Lloyd, of the United States Public Health Service, in charge of the work:

RAT PROOFING.

New buildings inspected.....	72
Basements concreted, new buildings (18), square feet.....	8,096
Floors concreted, new buildings (8), square feet.....	8,624
Yards, etc., concreted, new buildings (4), square feet.....	1,206
Sidewalks concreted..... square feet..	188,008
Total concrete laid, new structures, square feet.....	203,934
New buildings elevated.....	4
New premises rat proofed, concrete.....	22
Old buildings inspected.....	8
Buildings razed.....	1

WATER FRONT.

Vessels inspected and histories recorded.....	8
Vessels fumigated.....	7
Sulphur used..... pounds..	2,050
New rat guards installed.....	19
Defective rat guards repaired.....	15

WATER FRONT—continued.

Vessels searched for dead rats.....	5
Dead rats recovered after fumigation.....	18
Fumigation certificates issued.....	7
Canal Zone certificates issued.....	3
Port sanitary statements issued.....	44

LABORATORY AND RODENT OPERATIONS.

Dead rodents received.....	24
Rodents trapped and killed.....	258
Total.....	282
Rodents examined for plague infection.....	211
Rodents proven plague infected.....	1
Blocks poisoned.....	26
Poison distributed..... pounds..	73
Human bodies examined for plague infection..	3
Bodies showing infection.....	0

CLASSIFICATION OF RODENTS.

Mus rattus.....	5
Mus alexandrinus.....	59
Mus norvegicus.....	163
Mus musculus.....	53

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

Rodents examined in Tacoma.

Mus norvegicus trapped.....	8
Mus norvegicus found dead.....	13
Mus rattus found dead.....	2
Total.....	23
Rodents proven plague infected.....	0

HAWAII.

The following report of plague-eradivative work at Hilo, Hawaii, for the week ended November 21, 1914, has been received:

Rats and mongoose taken.....	2,134
Rats trapped.....	2,089
Rats found dead.....	6
Mongoose taken.....	39
Rats and mongoose examined macroscopically.....	2,134
Rats and mongoose plague infected.....	0
Classification of rats trapped and found dead:	
Mus norvegicus.....	498
Mus alexandrinus.....	253
Mus rattus.....	543
Mus musculus.....	801

Last case of rat plague, Paauhau Sugar Company, Aug. 29, 1914.
Last case of human plague, Paauhau Sugar Company, Aug. 16, 1914.

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.

CEREBROSPINAL MENINGITIS.

State Reports for November, 1914.

Places.	New cases reported.	Places.	New cases reported.
California:		Massachusetts—Continued.	
Imperial County.....	1	Middlesex County—	
Los Angeles County—		Newton.....	1
Los Angeles.....	2	Worcester County—	
San Francisco County.....	2	Northbridge.....	1
Total.....	5	Sutton.....	1
Maryland, exclusive of Baltimore city:		Total.....	11
Allegany County—		South Carolina—	
Neri.....	1	Charleston County.....	1
Lonaconing.....	1	Pickens County.....	1
Baltimore County—		Total.....	2
St. Agnes Hospital.....	1	Wisconsin:	
Towson.....	1	Dane County.....	1
Total.....	4	Marinette County.....	1
Massachusetts:		Milwaukee County.....	3
Essex County—		Outagamie County.....	1
Beverly.....	1	Total.....	6
Haverhill.....	1		
Suffolk County—			
Boston.....	6		

Idaho Reports for July, August, and September, 1914.

Places.	New cases reported.	Places.	New cases reported.
July:		September:	
Shoshone County.....	3	Shoshone County—	
August:		Wallace.....	1
Shoshone County.....	2		

City Reports for Week Ended Dec. 5, 1914.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Boston, Mass.....	2	2	New York, N. Y.....	12	4
Buffalo, N. Y.....	2	2	Philadelphia, Pa.....	1	
Chicago, Ill.....	1		Pittsburgh, Pa.....	2	1
Cincinnati, Ohio.....	2	1	St. Louis, Mo.....	1	
Detroit, Mich.....	1	1	San Francisco, Cal.....	1	1
Manchester, N. H.....	1	1	Worcester, Mass.....	1	
Milwaukee, Wis.....	2	2			

DIPHTHERIA.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 3488.

ERYSIPELAS.

City Reports for Week Ended Dec. 5, 1914.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Ann Arbor, Mich.....	1	.....	Hartford, Conn.....	1	.....
Binghamton, N. Y.....	3	.....	Los Angeles, Cal.....	6	.....
Boston, Mass.....	.....	1	Milwaukee, Wis.....	5	.....
Braddock, Pa.....	1	.....	Newark, N. J.....	.....	1
Buffalo, N. Y.....	5	.....	New York, N. Y.....	.....	4
Chicago, Ill.....	12	.....	Philadelphia, Pa.....	7	1
Cincinnati, Ohio.....	3	.....	Pittsburgh, Pa.....	18	1
Cleveland, Ohio.....	5	2	St. Louis, Mo.....	6	2
Detroit, Mich.....	1	.....	San Francisco, Cal.....	7	1
Duluth, Minn.....	1	.....	Schenectady, N. Y.....	1	.....
Erie, Pa.....	2	.....	Springfield, Ohio.....	1	.....
Harrisburg, Pa.....	1	.....	Taunton, Mass.....	.....	1

GONORRHEA.

California Report for November, 1914.

The State Board of Health of California reported that during the month of November, 1914, 51 cases of gonococcus infection had been notified in the State of California.

MALARIA.

State Reports for November, 1914.

Places.	New cases reported.	Places.	New cases reported.
California.....	34	New Jersey.....	10
Maryland.....	2	Virginia.....	691
Massachusetts.....	1		

MEASLES.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 3488.

PELLAGRA.

State Reports for November, 1914.

Places.	New cases reported.	Places.	New cases reported.
California.....	1	Massachusetts.....	3
District of Columbia.....	1	Virginia.....	28

City Reports for Week Ended Dec. 5, 1914.

During the week ended December 5, 1914, pellagra was notified, by cities, as follows: Charleston, S. C., 3 deaths; Lynchburg, Va., 1 case, with 1 death; Nashville, Tenn., 2 deaths; Philadelphia, Pa., 1 death.

PLAGUE.

Washington—Seattle—Plague Rat Found.

Surgeon Lloyd reported by telegraph December 16, 1914, that one plague-infected rat had been found at the intersection of Second and Marion Streets, Seattle, Wash.

PNEUMONIA.

City Reports for Week Ended Dec. 5, 1914.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Auburn, N. Y.	2	.....	Norfolk, Va.	2	2
Binghamton, N. Y.	2	3	Pasadena, Cal.	1	.....
Braddock, Pa.	1	.....	Pawtucket, R. I.	5	.....
Chicago, Ill.	153	55	Philadelphia, Pa.	39	63
Cleveland, Ohio	12	16	Pittsburgh, Pa.	15	27
Concord, N. H.	.....	1	Reading, Pa.	1	2
Galesburg, Ill.	1	1	Rochester, N. Y.	1	6
Grand Rapids, Mich.	1	3	Sacramento, Cal.	1	1
Harrisburg, Pa.	1	2	San Diego, Cal.	1	1
Kalamazoo, Mich.	1	.....	San Francisco, Cal.	15	8
Lancaster, Pa.	2	.....	Schenectady, N. Y.	5	1
Los Angeles, Cal.	16	10	South Omaha, Nebr.	1	.....
Manchester, N. H.	2	2	Springfield, Ill.	3	3
Newport News, Va.	2	2			

POLIOMYELITIS (INFANTILE PARALYSIS).

State Reports for November, 1914.

Places.	New cases reported.	Places.	New cases reported.
California:		New Jersey:	
Marin County.....	1	Camden County.....	1
Tulare County.....	1	Essex County.....	1
Total.....	2	Total.....	2
District of Columbia.....	2	South Carolina:	
Maryland, exclusive of Baltimore city:		Charleston County.....	4
Allegany County—			
Cumberland.....	2	Virginia:	
Massachusetts:		Albemarle County.....	1
Bristol County—		Essex County.....	1
Fall River.....	1	Dickenson County.....	1
Essex County—		Fluvanna County.....	1
Haverhill.....	1	Greene County.....	1
Hampshire County—		Lee County.....	1
Hadley.....	1	Middlesex County.....	1
Middlesex County—		Montgomery County.....	2
Everett.....	1	Nansemond County.....	1
Norfolk County—		Orange County.....	1
Sharon.....	1	Powhatan County.....	1
Suffolk County—		Princess Anne County.....	1
Boston.....	2	Prince George County.....	1
Worcester County—		Tazewell County.....	1
Worcester.....	2	Washington County.....	1
Total.....	9	Total.....	16
Michigan:		Wisconsin:	
Kent County—		Dane County.....	2
Browne Township.....	1	Walworth County.....	1
Washtenaw County—		Waupaca County.....	1
Ann Arbor.....	1	Total.....	4
Total.....	2		

Idaho Reports for July and October, 1914.

The State Board of Health of Idaho reported that in Nez Perce County, Idaho, 1 case of poliomyelitis had been notified in July and 1 case in October, 1914.

City Reports for Week Ended Dec. 5, 1914.

During the week ended December 5, 1914, poliomyelitis was notified by cities as follows: Ann Arbor, Mich., 1 case; Cleveland, Ohio, 1 case with 1 death.

RABIES.

Illinois—Cairo.

During the week ended December 5, 1914, a death from rabies was notified at Cairo, Ill.

Virginia—Lynchburg—Correction.

A death from rabies was erroneously reported as occurring at Lynchburg, Va., during the week ended October 30, 1914.¹

SCARLET FEVER.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 3488.

SMALLPOX.

Arizona—Naco.

Acting Asst. Surg. Tarbell reported by telegraph December 16, 1914, that 2 cases of smallpox had been notified in Naco, Ariz.

State Reports for November, 1914.

Places.	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.
California:						
Imperial County.....	1				1	
Riverside County.....	1				1	
Corona.....	2				2	
San Diego County.....	1					1
San Diego.....	3				3	
San Joaquin County—						
Stockton.....	2				2	
Stanislaus County.....	1					1
Total.....	11				9	2

¹ Public Health Reports, Oct. 30, 1914, p. 2910.

SMALLPOX—Continued.

State Reports for November, 1914—Continued.

Places.	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.
State of Maryland, exclusive of Baltimore city:						
Allegany County—						
Midland.....	3		1	1	1	
Somerset County—						
Princess Anne, R. F. D.....	2				2	
Washington County—						
Hagerstown.....	5				5	
Worcester County—						
Pocomoke City, R. F. D.....	1				1	
Pocomoke City.....	4				4	
Total.....	15		1	1	13	
Michigan:						
Allegan County—						
Leighton Township.....	1				1	
Allegan.....	15				15	
Berrien County—						
Benton Harbor.....	1				1	
Kalamazoo County—						
Alamo Township.....	11				11	
Kalamazoo.....	3				3	
Manistee County—						
Brown Township.....	4				4	
St. Clair County—						
Port Huron.....	22				22	
Washtenaw County—						
Ann Arbor.....	1				1	
Wayne County—						
Spring Wells Township.....	1					1
Northville.....	1				1	
Detroit.....	21				21	
Total.....	81				80	1
Wisconsin:						
Brown County.....	3		1		2	
Clark County.....	2				2	
Columbia County.....	22			3	14	5
Dodge County.....	1					1
Douglas County.....	4					4
Fond du Lac County.....	1					1
Grant County.....	3				3	
Iron County.....	2		2			
Jefferson County.....	14				8	6
Kenosha County.....	1				1	
La Crosse County.....	2			1	1	
Milwaukee County.....	95					95
Oconto County.....	1			1		
Oneida County.....	1					1
Ozaukee County.....	1				1	
Racine County.....	7				3	4
Richland County.....	9				1	8
Rock County.....	1				1	
Sauk County.....	1					1
Sawyer County.....	6				6	
Sheboygan County.....	2		1		1	
Walworth County.....	1				1	
Washington County.....	7				1	6
Waukesha County.....	2				2	
Winnebago County.....	10			1	3	6
Total.....	199		4	6	51	138

SMALLPOX—Continued.

Miscellaneous State Reports.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
District of Columbia (Dec. 1-31).....	9	.....	New Jersey (Nov. 1-30): County—		
Idaho (July 1-31): Counties—			Hunterdon.....	1	.....
Ada.....	1	.....	South Carolina (Nov. 1-30): Counties—		
Bannock.....	1	.....	Barnwell.....	1	.....
Bonneville.....	1	.....	Clarendon.....	3	.....
Total.....	3	.....	Colleton.....	1	.....
Idaho (Aug. 1-31): Counties—			Greenville.....	2	.....
Ada.....	3	.....	Richland.....	3	.....
Franklin.....	5	.....	Total.....	10	.....
Latah.....	2	.....	Virginia (Nov. 1-30): Counties—		
Shoshone.....	2	.....	Brunswick.....	6	.....
Total.....	12	.....	Buchanan.....	2	.....
Idaho (Sept. 1-30): County—			Charlotte.....	1	.....
Blaine.....	5	.....	Fauquier.....	1	.....
Idaho (Oct. 1-31): Counties—			Grayson.....	2	.....
Blackfoot.....	7	.....	Lancaster.....	1	.....
Franklin.....	3	.....	Nelson.....	1	.....
Total.....	10	.....	Northampton.....	1	.....
			Prince Edward.....	2	.....
			Southampton.....	8	.....
			Tazewell.....	6	.....
			Total.....	31	.....

City Reports for Week Ended Dec. 5, 1914.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Ann Arbor, Mich.....	1	.....	Little Rock, Ark.....	1	.....
Charleston, S. C.....	1	.....	Milwaukee, Wis.....	27	.....
Cleveland, Ohio.....	2	.....	Muncie, Ind.....	3	.....
Detroit, Mich.....	16	.....	Nashville, Tenn.....	1	.....
Erie, Pa.....	3	.....	New Orleans, La.....	1	.....
Galesburg, Ill.....	1	.....	San Diego, Cal.....	2	.....
Jersey City, N. J.....	1	.....	Toledo, Ohio.....	1	.....
Kokomo, Ind.....	1	.....		

SYPHILIS.

California Report for November, 1914.

The State Board of Health of California reported that during the month of November, 1914, 21 cases of syphilis had been notified in the State of California.

TETANUS.

City Reports for Week Ended Dec. 5, 1914.

During the week ended December 5, 1914, tetanus was notified by cities as follows: Charleston, S. C., 1 death; Chicago, Ill., 1 death; Cleveland, Ohio, 1 death; Norfolk, Va., 1 case with 1 death; San Diego, Cal., 1 case with 1 death.

TUBERCULOSIS.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 3488.

TYPHOID FEVER.

Kentucky—Hindman.

Asst. Epidemiologist Harrington reported that during the period from November 6 to December 10, 1914, 52 cases of typhoid fever had occurred at Hindman, Ky. Most of the cases developed at the W. C. T. U. Settlement School, and the other cases were directly traceable to infection from the settlement. The outbreak was probably due to the use of polluted drinking water from dug wells at the institution.

State Reports for November, 1914.

Places.	New cases reported.	Places.	New cases reported.
California:		State of Maryland, exclusive of Baltimore city—Continued.	
Alameda County—		Allegany County—Continued.	
Alameda.....	1	Allegany Hospital.....	1
Hayward.....	3	Western Maryland Hospital.....	1
Oakland.....	6	Lindernville.....	1
Butte County.....	1	Anne Arundel County—	
Colusa County.....	4	Crownsville.....	1
Fresno County—		Annapolis.....	1
Fowler.....	1	Fairfield.....	2
Fresno.....	2	Curtis Bay.....	1
Imperial County.....	1	Solley.....	1
Kern County.....	1	Churchton.....	1
Kings County—		Mayo.....	1
Lemoore.....	1	Baltimore County—	
Los Angeles County.....	7	West Forest Park.....	1
Alhambra.....	1	Alberton R. F. D.....	1
Azusa.....	2	Arlington.....	2
Long Beach.....	4	Mount Washington.....	2
Los Angeles.....	13	Towson.....	1
San Gabriel.....	1	Highlandtown.....	1
Santa Monica.....	1	Monkton.....	1
Watts.....	2	Sparrow Point.....	4
Madera County—		Fullerton.....	3
Madera.....	1	Colgate.....	1
Modoc County—		Roslyn.....	1
Alturas.....	1	Cockeysville.....	1
Orange County.....	3	Brooklandville.....	1
Sacramento County—		Randallstown.....	1
Sacramento.....	7	Raspeburg.....	2
San Bernardino County.....	3	Glyndon.....	1
Ontario.....	1	Caroline County—	
San Diego County—		Federalburg.....	2
National City.....	1	Bethlehem.....	1
San Francisco.....	19	Marydel.....	1
San Joaquin County—		Goldsboro.....	6
Stockton.....	4	Ridgely.....	1
San Luis Obispo County—		Denton.....	1
San Luis Obispo.....	1	Preston.....	1
Santa Clara County.....	2	Carroll County—	
Sonoma County.....	2	Westminster.....	1
Healdsburg.....	2	Mount Airy.....	1
Santa Rosa.....	3	Cranberry Station.....	1
Stanislaus County.....	5	New Windsor.....	1
Sutter County.....	1	Calvert County—	
Tehama County—		Island Creek.....	2
Corning.....	1	Wallville.....	3
Tulare County.....	1	St. Leonards.....	6
Dimuba.....	3	Chesapeake Beach.....	1
Yolo County.....	1	Paris.....	1
Total.....	114	Broomes Island.....	4
District of Columbia.....	35	Adelina.....	1
State of Maryland, exclusive of Baltimore city:		Cecil County—	
Allegany County—		Rising Sun.....	1
Cumberland.....	5	North East.....	2
North Branch.....	1	Zion.....	1
Lonaconing.....	1	Port Deposit.....	1
Mount Savage.....	2	Charles County—	
Westernport.....	1	Indianhead.....	7
Narrows Park.....	1	Pisgah.....	3
		Dentsville.....	1
		La Plata.....	1
		Nanjemoy.....	1

TYPHOID FEVER—Continued.

State Reports for November, 1914—Continued.

Places.	New cases reported.	Places.	New cases reported.
State of Maryland, exclusive of Baltimore city—Continued.		State of Maryland, exclusive of Baltimore city—Continued.	
Charles County—Continued.		Wicomico County—	
Berry.....	1	Salsbury.....	6
Waldorf.....	1	Salsbury (Peninsula General Hospital).....	2
Newport.....	1	Fruitland.....	1
Dorchester County—		Worcester County—	
Rhodesdale.....	1	Pocomoke City.....	10
Cambridge R. F. D.....	1	Showell.....	4
East New Market.....	1	Stockton.....	2
Cambridge.....	3	Girdletree.....	2
Williamsburg.....	3	Berlin.....	2
Frederick County—		Newark.....	5
Buckeystown.....	2	Pocomoke City R. F. D.....	3
Frederick.....	2	Snow Hill.....	1
Brunswick.....	1	Total.....	258
Ijamsville.....	1		
Emmitsburg.....	1	Massachusetts:	
Garrett County—		Barnstable County—	
Jennings.....	1	Provincetown.....	2
Bloomington.....	3	Berkshire County—	
Harford County—		Adams.....	1
Perryman R. F. D.....	1	North Adams.....	9
Havre de Grace.....	3	Pittsfield.....	3
Perryman.....	5	Bristol County—	
Howard County—		Fall River.....	14
Ellicott City.....	2	New Bedford.....	15
Kent County—		North Attleboro.....	2
Millington.....	1	Taunton.....	1
Kennedysville R. F. D.....	1	Essex County—	
Montgomery County—		Beverly.....	3
Gaithersburg.....	1	Danvers.....	1
Bethesda.....	1	Haverhill.....	3
Rockville.....	1	Ipswich.....	1
Dickerson.....	2	Lawrence.....	7
Germantown.....	1	Lynn.....	2
Prince Georges County—		Newburyport.....	1
Lanham.....	2	Peabody.....	9
Mount Rainier.....	1	Rowley.....	1
Townshend.....	1	Franklin County—	
Nottingham.....	1	Greenfield.....	2
Croom.....	15	Hampden County—	
Upper Marlboro R. F. D.....	1	Chicopee.....	9
Landover.....	1	Holyoke.....	1
Seat Pleasant.....	2	Southwick.....	1
Berwyn.....	1	Springfield.....	5
Westwood.....	1	Westfield.....	1
Queen Annes County—		West Springfield.....	2
Fords Store.....	2	Hampshire County—	
Centreville.....	2	Williamsburg.....	1
Stevensville.....	1	Middlesex County—	
Somerset County—		Arlington.....	1
Eden R. F. D.....	2	Cambridge.....	6
Princess Anne R. F. D.....	2	Concord.....	1
Princess Anne.....	3	Everett.....	1
Smiths Island.....	1	Hudson.....	1
Fairmount.....	2	Lowell.....	5
Upper Fairmount.....	1	Malden.....	2
Marion R. F. D.....	2	Medford.....	1
Crisfield.....	4	Melrose.....	3
Westover.....	1	Natick.....	1
Crisfield R. F. D.....	1	Newton.....	2
Parsonville.....	1	Somerville.....	4
St. Marys County—		Tyngsboro.....	1
Mechanicsville.....	1	Woburn.....	3
Valley Lee.....	1	Norfolk County—	
Talbot County—		Braintree.....	1
Easton.....	3	Brookline.....	1
Trappe.....	4	Medfield.....	1
St. Michaels.....	5	Milton.....	2
Oxford.....	1	Quincy.....	2
Cordova.....	1	Weymouth.....	3
Washington County—		Plymouth County—	
Weverton.....	3	Bridgewater.....	1
Big Pool.....	2	Brockton.....	4
Williamsport.....	1		
Hagerstown.....	5		
Gapland.....	1		

TYPHOID FEVER—Continued.

State Reports for November, 1914—Continued.

Places.	New cases reported.	Places.	New cases reported.
Massachusetts—Continued.		Michigan—Continued.	
Suffolk County—		Midland County—	
Boston.....	42	Midland.....	1
Chelsea.....	2	Monroe County—	
Revere.....	1	Monroe.....	1
Worcester County—		Montcalm County—	
Auburn.....	2	Cato Township.....	1
Fitchburg.....	1	Pine Township.....	1
Spencer.....	1	Reynolds Township.....	1
Westboro.....	1	Winfield Township.....	1
Worcester.....	7	Lakeview.....	1
Total.....	201	Greenville.....	1
		Muskegon County—	
Michigan:		Muskegon.....	2
Allegan County—		Oceana County—	
Fillmore Township.....	1	Grant Township.....	1
Alpena County—		Ogemaw County—	
Alpena.....	12	Richland Township.....	1
Antrim County—		Ottawa County—	
Bellaire.....	1	Jamestown Township.....	1
Barry County—		Holland.....	1
Woodland Township.....	2	Presque Isle County—	
Hastings.....	3	Onaway.....	11
Benzie County—		Saginaw County—	
Weldon Township.....	1	Marion Township.....	2
Thompsonville.....	1	Richland Township.....	1
Berrien County—		St. Charles.....	1
Niles.....	1	Saginaw.....	6
Chippewa County—		St. Clair County—	
Sault Ste. Marie.....	3	Marine City.....	1
Eaton County—		Port Huron.....	2
Brookfield Township.....	1	St. Joseph County—	
Genesee County—		Sturgis.....	1
Flint.....	6	Shiawassee County—	
Gladwin County—		Middlebury Township.....	1
Tobacco Township.....	1	Vernon Township.....	1
Gratiot County—		Tuscola County—	
Bethany Township.....	1	Novesta Township.....	1
Lafayette Township.....	2	Van Buren County—	
Ithaca.....	1	South Haven Township.....	1
Alma.....	1	Washtenaw County—	
Hillsdale County—		Saline Township.....	1
Pittsford Township.....	1	Ypsilanti.....	1
Hillsdale.....	1	Wayne County—	
Huron County—		Northville Township.....	3
Dwight Township.....	1	Ford.....	1
Sebawaing Township.....	1	Plymouth.....	1
Caseville.....	2	Detroit.....	46
Bad Axe.....	2	Total.....	209
Ingham County—			
Bunkerhill Township.....	1	New Jersey:	
Locke Township.....	1	Atlantic County.....	8
Lansing.....	1	Bergen County.....	12
Jackson County—		Burlington County.....	23
Spring Arbor Township.....	1	Camden County.....	8
Jackson.....	1	Cape May County.....	2
Kalamazoo County—		Cumberland County.....	3
Kalamazoo.....	4	Essex County.....	9
Kalkaska County—		Gloucester County.....	8
Orange Township.....	3	Hudson County.....	14
Springfield Township.....	1	Hunterdon County.....	1
Kent County—		Mercer County.....	14
Walker Township.....	1	Middlesex County.....	1
Wyoming Township.....	12	Monmouth County.....	10
Sparta.....	2	Morris County.....	1
Grand Rapids.....	32	Passaic County.....	7
Lapeer County—		Salem County.....	2
Dryden Township.....	1	Somerset County.....	2
Lapeer.....	1	Sussex County.....	2
Livingston County—		Union County.....	2
Howell.....	1	Total.....	129
Manistee County—			
Manistee.....	1	South Carolina:	
Marquette County—		Abbeville County.....	2
Tilden Township.....	1	Aiken County.....	1
Ishpeming.....	1	Calhoun County.....	1
Negaunee.....	1		

TYPHOID FEVER—Continued.

State Reports for November, 1914—Continued.

Places.	New cases reported.	Places.	New cases reported.
South Carolina—Continued.		Virginia—Continued.	
Charleston County.....	11	Lunenburg County.....	3
Chester County.....	2	Madison County.....	5
Clarendon County.....	1	Mathews County.....	1
Dillon County.....	1	Mecklenburg County.....	1
Florence County.....	1	Middlesex County.....	5
Greenville County.....	6	Montgomery County.....	17
Greenwood County.....	1	Nansemond County.....	9
Marion County.....	1	Nelson County.....	1
Oconee County.....	1	Norfolk County.....	10
Orangeburg County.....	3	Northampton County.....	1
Pickens County.....	4	Nottoway County.....	1
Richland County.....	1	Orange County.....	2
Spartanburg County.....	5	Patrick County.....	2
Sumter County.....	1	Pittsylvania County.....	7
Union County.....	2	Powhatan County.....	2
Total.....	45	Prince Edward County.....	1
Virginia:		Prince William County.....	1
Albemarle County.....	3	Pulaski County.....	6
Alexandria County.....	1	Richmond County.....	3
Alleghany County.....	3	Roanoke County.....	23
Amelia County.....	8	Rockingham County.....	1
Amherst County.....	4	Russell County.....	8
Appomattox County.....	1	Scott County.....	16
Augusta County.....	8	Shenandoah County.....	8
Bedford County.....	4	Smyth County.....	2
Bland County.....	2	Southampton County.....	11
Brunswick County.....	1	Spotsylvania County.....	3
Buchanan County.....	2	Stafford County.....	1
Buckingham County.....	1	Surry County.....	1
Campbell County.....	13	Sussex County.....	2
Caroline County.....	3	Tazewell County.....	31
Carroll County.....	1	Washington County.....	8
Chesterfield County.....	1	Wythe County.....	6
Clarke County.....	1	Total.....	354
Dickenson County.....	3	Wisconsin:	
Dinwiddie County.....	6	Buffalo County.....	4
Elizabeth City County.....	1	Calumet County.....	1
Essex County.....	5	Columbia County.....	2
Fairfax County.....	2	Door County.....	1
Fauquier County.....	3	Dunn County.....	1
Floyd County.....	5	Grant County.....	1
Franklin County.....	10	La Crosse County.....	6
Frederick County.....	1	Marathon County.....	2
Giles County.....	3	Marinette County.....	2
Gloucester County.....	4	Marquette County.....	2
Goochland County.....	1	Milwaukee County.....	13
Grayson County.....	1	Oconto County.....	2
Greensville County.....	1	Oneida County.....	1
Halifax County.....	10	Ozaukee County.....	2
Hanover County.....	9	Rock County.....	1
Henry County.....	3	Rusk County.....	1
Isle of Wight County.....	3	Sawyer County.....	2
James City County.....	2	Taylor County.....	1
King and Queen County.....	2	Vernon County.....	4
King William County.....	2	Winnebago County.....	2
Lancaster County.....	5	Wood County.....	5
Lee County.....	11	Total.....	56
Loudoun County.....	5		

TYPHOID FEVER—Continued.

Idaho Reports for July, August, September, and October, 1914.

Places.	New cases reported.	Places.	New cases reported.
July:		September:	
Bannock County.....	1	Gooding County.....	1
Bonneville County.....	5	Minidoka County.....	1
Madison County.....	3	Idaho County.....	3
Canyon County.....	1	Booneville County.....	2
Shoshone County.....	9	Boise City.....	3
Total.....	19	Shoshone County.....	2
		Total.....	12
August:		October:	
Nez Perce County.....	1	Ada County—	
Madison County.....	5	Boise.....	2
Ada County.....	2	Bingham County—	
Bonneville County.....	1	Blackfoot.....	4
Total.....	9	Fremont County—	
		Rexburg.....	2
		Total.....	8

City Reports for Week Ended Dec. 5, 1914.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Atlantic City, N. J.....	2		Lynn, Mass.....	1	
Auburn, N. Y.....	1		Malden, Mass.....	2	
Aurora, Ill.....	1		Massillon, Ohio.....	1	
Baltimore, Md.....	18	3	Milwaukee, Wis.....	4	
Boston, Mass.....	18	1	Nanticoke, Pa.....	1	
Brockton, Mass.....	2		Nashville, Tenn.....	6	1
Buffalo, N. Y.....	16	2	Newark, N. J.....	4	
Cincinnati, Ohio.....	7	2	New Orleans, La.....	41	5
Cambridge, Mass.....	1		Newton, Mass.....	1	
Camden, N. J.....	2		New York, N. Y.....	50	4
Charleston, S. C.....	10		Norfolk, Va.....	5	2
Chelsea, Mass.....		1	Norristown, Pa.....	2	1
Chicago, Ill.....	38	4	Oakland, Cal.....	1	
Chicopee, Mass.....	2		Philadelphia, Pa.....	11	2
Cleveland, Ohio.....	6	2	Phoenix, Ariz.....	15	1
Coffeyville, Kans.....	1	1	Pittsburgh, Pa.....	5	3
Columbus, Ohio.....	2		Portsmouth, Va.....	2	
Cumberland, Md.....	2		Pottstown, Pa.....	1	
Dayton, Ohio.....	3		Providence, R. I.....	12	
Detroit, Mich.....	9	2	Reading, Pa.....	4	2
Elmira, N. Y.....	2		Richmond, Va.....	1	
Evansville, Ind.....	3		Roanoke, Va.....	5	
Fall River, Mass.....	5		Rochester, N. Y.....	3	
Galesburg, Ill.....	1	1	Rockford, Ill.....	1	
Grand Rapids, Mich.....	3	2	St. Louis, Mo.....	10	2
Harrisburg, Pa.....	1		San Francisco, Cal.....	7	1
Hartford, Conn.....	8	3	South Bend, Ind.....	4	
Kearny, N. J.....	1		Springfield, Ill.....	1	
La Crosse, Wis.....	1		Springfield, Mass.....	1	1
Lancaster, Pa.....	2		Springfield, Ohio.....	2	1
Little Rock, Ark.....	2		Taunton, Mass.....	1	
Los Angeles, Cal.....	4		Wilkes-Barre, Pa.....	3	
Lowell, Mass.....	3		Wilmington, N. C.....	1	
Lynchburg, Va.....	5				

13 cases omitted from previous reports.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

State Reports for November, 1914.

States.	Cases reported.			States.	Cases reported.		
	Diphtheria.	Measles.	Scarlet fever.		Diphtheria.	Measles.	Scarlet fever.
California.....	417	820	334	Michigan.....	795	134	432
District of Columbia.....	58	38	31	New Jersey.....	1,054	.....	446
Maryland, exclusive of Baltimore city.....	120	36	213	South Carolina.....	215	2	36
Massachusetts.....	1,108	822	593	Virginia.....	643	.....	319
				Wisconsin.....	354	94	221

Idaho Reports for July, August, September, and October, 1914.

Months.	Cases reported.			Months.	Cases reported.		
	Diphtheria.	Measles.	Scarlet fever.		Diphtheria.	Measles.	Scarlet fever.
July.....	4	93	9	September.....	.....	30	6
August.....	3	2	.....	October.....	.....	3	3

City Reports for Week Ended Dec. 5, 1914.

Cities.	Population as of July 1, 1914 (estimated by United States Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Over 500,000 inhabitants:										
Baltimore, Md.....	579,590	194	36	4	1	23	.....	21	.....	19
Boston, Mass.....	733,802	219	95	6	147	3	57	1	59	23
Chicago, Ill.....	2,393,325	598	221	18	53	.....	72	1	205	74
Cleveland, Ohio.....	639,431	167	65	7	6	.....	11	2	13	13
Detroit, Mich.....	537,650	137	60	6	.....	1	27	2	10	5
New York, N. Y.....	5,333,537	1,385	319	26	203	6	146	4	425	161
Philadelphia, Pa.....	1,657,810	565	88	8	74	4	45	1	106	43
Pittsburgh, Pa.....	564,878	166	40	5	139	2	108	9	25	10
St. Louis, Mo.....	734,667	214	196	6	3	.....	32	2	35	25
From 300,000 to 500,000 inhabitants:										
Buffalo, N. Y.....	454,112	130	17	4	3	.....	28	1	35	20
Cincinnati, Ohio.....	402,175	122	35	4	2	.....	5	.....	31	16
Los Angeles, Cal.....	438,914	115	13	.....	3	.....	19	.....	33	16
Milwaukee, Wis.....	417,054	90	48	6	2	.....	12	1	15	11
Newark, N. J.....	389,106	101	32	.....	4	.....	11	.....	33	15
New Orleans, La.....	361,221	165	40	3	1	.....	1	.....	41	31
San Francisco, Cal.....	448,502	150	39	2	143	2	8	.....	64	20
From 200,000 to 300,000 inhabitants:										
Columbus, Ohio.....	204,567	.....	11	.....	.....	.....	10	.....	7	5
Jersey City, N. J.....	293,921	71	20	.....	1	.....	12	1	14	3
Providence, R. I.....	245,090	59	19	2	6	.....	14	1	.....	3
Rochester, N. Y.....	241,518	59	19	1	1	.....	6	.....	12	5
Seattle, Wash.....	313,029	61	2	.....	1	.....	1	.....	8	6
From 100,000 to 200,000 inhabitants:										
Cambridge, Mass.....	110,357	25	7	.....	13	.....	5	.....	7	5
Camden, N. J.....	102,465	.....	8	.....	10	.....	.....	.....	10	.....
Dayton, Ohio.....	123,794	38	5	.....	.....	.....	4	1	6	1
Fall River, Mass.....	125,443	36	6	.....	12	.....	7	.....	6	6
Grand Rapids, Mich.....	123,227	36	9	.....	.....	.....	6	.....	7	2
Hartford, Conn.....	107,038	34	5	.....	.....	.....	5	.....	.....	2
Lowell, Mass.....	111,604	30	2	.....	1	.....	2	.....	.....	3
Nashville, Tenn.....	114,899	39	2	.....	1	.....	4	.....	6	2
New Bedford, Mass.....	111,230	34	6	1	4	.....	6	1	7	3

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

City Reports for Week Ended Dec. 5, 1914—Continued.

Cities.	Population as of July 1, 1914 (estimated by United States Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 100,000 to 200,000 inhabitants—Continued.										
Oakland, Cal.	183,002	54	1		1		3			4
Reading, Pa.	103,361	32	7	1	1		4		3	4
Richmond, Va.	134,917	35	5							4
Springfield, Mass.	100,375	30	4		2		1		2	3
Toledo, (Ohio)	184,126	46	15		10		3		4	1
Trenton, N. J.	106,831	50	6	1			4		5	7
Worcester, Mass.	157,732	43	11	1			5		6	5
From 50,000 to 100,000 inhabitants:										
Altoona, Pa.	56,553	9	3							1
Atlantic City, N. J.	53,952	7	1						1	
Bayonne, N. J.	65,271	12	4				4		4	
Binghamton, N. Y.	52,191	20	12	1			1		4	
Brookton, Mass.	64,043	14	5				1		5	4
Charleston, S. C.	60,121	44	4				1		2	6
Duluth, Minn.	89,331	2	2				3			2
Eric, Pa.	72,401	32	7		1		8			
Evansville, Ind.	71,284	16	1		34					2
Harrisburg, Pa.	69,493	23	4		1		1		6	2
Johnstown, Pa.	64,642	18	13				5			1
Kansas City, Kans.	94,271	11	2				1			
Little Rock, Ark.	53,811	28	6				1			1
Lynn, Mass.	98,207	19	2		1		7		8	2
Manchester, N. H.	75,635	25	2				3		2	1
Mobile, Ala.	55,513	16								
New Britain, Conn.	56,612	2	2		1		1		1	
Norfolk, Va.	86,540	5	5		2		3		3	3
Pawtucket, R. I.	56,901	14	1	1						1
Rockford, Ill.	52,337	17								2
Schenectady, N. Y.	90,503	17	2		33		4		2	2
South Bend, Ind.	65,114	19					1			2
Springfield, Ill.	57,972	19	3	1	2		2		3	3
Springfield, Ohio	50,058	14	2				1		1	
Wilkes-Barre, Pa.	73,660	26	6		5		2		4	3
From 25,000 to 50,000 inhabitants:										
Auburn, N. Y.	36,509	12	2						2	4
Aurora, Ill.	33,022	10	5							1
Brookline, Mass.	31,138	1	2							
Butte, Mont.	41,781	18	2							5
Chelsea, Mass.	32,452	16	1		2		1		4	1
Chicopee, Mass.	28,057	7	2				4			2
Danville, Ill.	30,847	4								1
East Orange, N. J.	39,852	3	3		5		3		3	
Elgin, Ill.	27,485	3								1
Elmira, N. Y.	37,816	8	8		1		3			
Everett, Mass.	37,381	9	2		8		2		1	3
Fitchburg, Mass.	40,507	9	1		1				5	1
Galveston, Tex.	40,289	16	3		1					3
Haverhill, Mass.	47,071	9					4		2	1
Kalamazoo, Mich.	45,842	10	1						1	
La Crosse, Wis.	31,367	8								1
Lancaster, Pa.	49,685	2	2				2		3	
Lexington, Ky.	38,819	16	1						4	
Lynchburg, Va.	31,830	14	3	1			1		4	2
Malden, Mass.	48,979	19	8	2			4		4	1
Medford, Mass.	25,240	6	2		3		2		2	1
Moline, Ill.	26,402	4	1							1
Newcastle, Pa.	39,589	3	3				7		3	2
Newport, Ky.	31,517	6	4				6		2	1
Newport, R. I.	29,154	5	5						2	2
Newport News, Va.	20,446	4	1				1		1	
Newton, Mass.	42,455	6	1						1	1
Niagara Falls, N. Y.	35,127	15	1		1					1
Norristown, Pa.	20,265	8	1		1					
Orangetown, N. J.	31,968	14	1		1		5		1	
Pasadena, Cal.	40,880	9					1		1	2
Pittsfield, Mass.	36,531	13			1				3	1
Portsmouth, Va.	37,599	9	2				1			

FOREIGN REPORTS.

CUBA.

Communicable Diseases—Habana.

Communicable diseases were notified in Habana during the 10 days ended November 30, 1914, as follows:

Diseases.	New cases.	Deaths.	Remain- ing under treat- ment.	Diseases.	New cases.	Deaths.	Remain- ing under treat- ment.
Diphtheria.....	7	.....	5	Scarlet fever.....	4	.....	6
Leprosy.....	.....	2	261	Smallpox.....	1	.....	3
Malaria.....	1	.....	1	Typhoid fever.....	34	8	109
Measles.....	5	.....	2	Varicella.....	13	.....	19
Paratyphoid fever..	6	.....	20				

GREAT BRITAIN.

Examination of Rats—Liverpool.

During the two weeks ended November 7, 1914, 592 rats were examined at Liverpool for plague infection. No plague-infected rat was found. The total number of rats examined from July 26 to November 7, 1914, was 3,255. No plague infection was found.

MAURITIUS.

Plague.

During the period from September 18 to October 8, 1914, 8 cases of plague were notified in the island of Mauritius.

NORWAY.

A Correction Regarding Reported Smallpox.

The Direktoren for det civile Medicinalvæsen, Christiania, Norway, stated, under date of December 2, 1914, that the reported occurrence of smallpox in Trondhjem, as noted in the Public Health Reports from June 1 to August 31, was incorrect, as no case of smallpox had occurred in Trondhjem this year.

The Direktoren further states that there have been seven cases of smallpox in Christiansand and one case in Christiania.

WEST INDIES.

Yellow Fever—Curacao.

A fatal case of yellow fever was notified at Curacao, December 9, 1914.

CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX.

Reports Received During Week Ended Dec. 25, 1914.

[From medical officers of the Public Health Service, American consuls, and other sources.]

CHOLERA.

Places.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary:				
Crownlands—				
Bohemia—				
Prague.....	Nov. 8-14.....	2	1	
Galicia.....	Sept. 24-Oct. 17...	354	97	
Lower Austria—				
Vienna.....	Oct. 4-17.....	22	11	
Stiermark.....	.....do.....	4	1	
Tyrol and Vorarlberg..	Oct. 17.....	2		
Hungary—				
Budapest.....	Sept. 26-Oct. 17...	223		
Dutch East Indies:				
Celebes—				
Macassar.....	Oct. 11-17.....	25	20	
Menado.....	.....do.....	110	110	
Java—				
Batavia.....	.....do.....	153	135	5 cases among Europeans.
Greece:				
Janina.....	Aug. 5.....	1	1	
India:				
Madras.....	Oct. 25-31.....	187	153	
Indo-China:				
Cholon.....	Jan. 1-Sept. 20....	28	8	

PLAGUE.

India:				
Bassein.....	Oct. 11-17.....	1	1	
Provinces.....				Total, Jan. 4-Oct. 17: Cases, 270,242; deaths, 226,104
Delhi.....	Jan. 25-May 16....	26	13	
Bombay and Sind.....	Jan. 4-Oct. 17....	27,725	20,160	
Madras.....	.....do.....	5,105	3,700	
Bengal.....	Jan. 4-Oct. 10....	568	534	
Bihar and Orissa.....	Jan. 4-Oct. 17....	55,116	48,093	
United Provinces.....	.....do.....	101,564	89,013	
Punjab.....	.....do.....	62,934	50,469	
Burma.....	.....do.....	7,419	6,905	
Assam.....	Jan. 4-10.....	1	1	
Central Provinces.....	Jan. 4-Oct. 17....	271	185	
Mysore.....	.....do.....	4,235	2,939	
Hyderabad.....	.....do.....	2,450	2,038	
Central India.....	.....do.....	783	519	
Rajputana.....	Jan. 4-Aug. 15....	1,352	1,086	
Northwest Province.....	Jan. 4-Oct. 10....	399	292	
Kashmir.....	.....do.....	313	157	
Mauritius.....	Sept. 18-Oct. 8....	8		

SMALLPOX.

China:				
Chungking.....	Oct. 25-31.....			Present.
Cuba:				
Habana.....	Dec. 16.....	1		From s. s. Valbanera, from the Canary Islands.
Dutch East Indies:				
Borneo—				
Pontianak.....	Oct. 11-17.....	51	17	
Java.....				Sept. 19-Oct. 17: Cases, 1,723; deaths, 218.
Batavia.....	Sept. 19-Oct. 17...	33	7	
Tegal.....	Sept. 19-Oct. 3....	37	17	

CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.**Reports Received During Week Ended Dec. 25, 1914—Continued.****SMALLPOX—Continued.**

Places.	Date.	Cases.	Deaths.	Remarks.
Egypt:				
Alexandria	Oct. 29-Nov. 18...	17	3	
Cairo	Oct. 22-23.....	2		
Germany				Nov. 8-14: Case, 1.
Greece:				
Saloniki	Nov. 8-14.....	13	7	
India:				
Bombay	Oct. 25-31.....	1		
Madras	do.....	8	5	
Norway:				
Christiania	Nov. 1-30.....	1		
Russia:				
Moscow	Oct. 25-Nov. 7....	4	1	

Reports Received from June 27 to Dec. 25, 1914.**CHOLERA.**

Places.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary:				
Crownlands.....				Total, Sept. 16-Oct. 17: Cases, 469; deaths, 160 in 11 provinces.
Bohemia—				
Prague.....	Nov. 8-14.....	2	1	Sept. 26, 1 case in Zizkov, suburb.
Gallcia.....	Sept. 24-Oct. 17...	354	112	
Lower Austria—				
Vienna.....	Sept. 13-Oct. 17...	34	11	Oct. 30, still present.
Silesia.....	Nov. 27-Oct. 10.....	27	7	
Stiermark.....	Sept. 27-Oct. 17...	6	2	And vicinity.
Tyrol and Vorarlberg.....	Oct. 17.....	3		
Hungary.....				Total, Sept. 19-Oct. 17: Cases, 805. Oct. 24: Present in Carinthia, Carniola, and Moravia Provinces.
Budapest.....	Sept. 26-Oct. 17...	223	11	
Ceylon:				
Colombo.....	June 14-20.....	1	1	
Uda Pusselawa, district.....	June 7-13.....			Present in Kumbalagamuwa and the neighboring tea estates.
China:				
Amoy.....	Aug. 23-Sept. 12...	1	1	
Kulangsu.....	Aug. 1.....	1		
Hankow.....	July 12-18.....	1		From up-country districts.
Chaochowfu.....	July 4.....			Present.
Canton.....	Jan. 1-Apr. 30.....	4		
Hongkong.....	May 17-23.....	1	1	
Do.....	Sept. 27-Oct. 3.....	1	1	
Dutch East Indies				
Celebes.....				June 6-13: In Bali and Lombok. Cases, 44; deaths, 23. July 19-Aug. 1: Cases, 85; deaths, 85.
Gorontalo.....	Sept. 16.....			Present.
Macassar.....	July 12-Oct. 17.....	163	142	
Menado.....	June 21-Oct. 17.....	386	355	
Java—				
Batavia.....	June 23-Oct. 17.....	501	424	
Samarang.....	Aug. 30-Sept. 12.....	1	1	
Sumatra—				
Palembang.....	Aug. 2-Oct. 17.....	177	109	
Germany:				
Silesia.....	Nov. 15-28.....	33	9	Nov. 20: 1 fatal case in Alteberun and Tischau, and 1 case in Myslowitz.
Greece:				
Janina.....	Aug. 5.....	1	1	
Piraeus.....				Oct. 15: Cases, 1, from Gallipoli Village.
Surgun Tschadaks.....	July 22.....	1		
Via.....	do.....	1		

CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.**Reports Received from June 27 to Dec. 25, 1914—Continued.****CHOLERA—Continued.**

Places.	Date.	Cases.	Deaths.	Remarks.
India:				
Basin.....	Apr. 26-June 29...	84	65	
Bombay.....	May 17-Oct. 17....	281	7	
Calcutta.....	May 10-Oct. 31....		339	
Cocanada.....	July 18-Aug. 12....		44	
Kashmir, Province.....				Endemic. Aug. 18, increasing.
Madras.....	May 31-Oct. 31....	2,034	1,519	Epidemic from Aug. 15.
Moulmein.....	June 7-13.....	1	1	
Negapatam.....	May 14-Aug. 27....	21	31	
Rangoon.....	Apr. 1-Aug. 31....	29	28	Aug. 2-Sept. 5, present.
Indo-China:				
Baria.....	July 1-31.....	18	15	
Battambang.....	June 11-July 31....	5	5	
Cholon.....	July 1-Sept. 20....	28	3	
Hanoi.....	May 1-July 31....	2	0	
Saigon.....	Jan. 1-July 31....	8	5	Saigon and vicinity, June 2-Sept. 14: Cases, 49; deaths, 23.
Soctrang.....	May 10-20.....	3	3	
Scarleng.....	July 1-31.....	1	1	
Travinh.....	Jan. 1-July 31....	43	27	
Japan:				
Karatsu.....	Oct. 2.....	2		Coaling station 50 miles from Nagasaki.
Saga.....	Sept. 1-30.....	4	3	
Persia:				
Anzali.....	June 15.....	1		
Philippine Islands:				
Manila.....	July 4-Oct. 24....	482	220	First quarter, 1914: Cases, 49; deaths, 27.
Provinces:				
Rizal.....				First quarter, 1914: Cases, 519; deaths, 392. July 2-Oct. 5: Cases, 1,131; deaths, 796.
Malabon.....	July 2-Oct. 1.....	30	14	Total: Cases, 128; deaths, 74.
Pateros.....	July 7-Aug. 3.....	2	0	
S. P. Macati.....	July 12-20.....	8	2	
Pasay.....	July 16-Oct. 3....	15	1	
Pasig.....	July 17-19.....	4	3	
Laspinas.....	July 21.....	1	0	
Paranaque.....	July 21-Sept. 24....	2	2	
Navotas.....	July 25-Oct. 5....	38	34	
Calocan.....	Aug. 3-Sept. 11....	10	5	
Jalajala.....	Aug. 16-25.....	16	13	
Bulacan:				
Paombong.....	July 21-Oct. 5....	25	24	
Calumpit.....	July 21-Aug. 24....	12	6	
Baliwag.....	July 20-Oct. 2....	5	4	
Hagonoy.....	July 23-Oct. 5....	158	97	
Maysanayan.....	July 25.....	5	3	
Folo.....	Aug. 2-31.....	10	9	
Pullian.....	Sept. 21.....	1	1	
Obando.....	Aug. 7-Oct. 3....	15	13	
Malolos.....	Aug. 11-Sept. 27....	52	41	
Bulacan.....	Aug. 17-Sept. 27....	22	17	
Bocane.....	Aug. 23.....	2	1	
Quigua.....	Aug. 31-Sept. 4....	3	2	
Cavite:				
Cavite.....	July 9-Sept. 9....	8	7	
Imus.....	Aug. 28.....	1	1	
Rosario.....	Sept. 11-27.....	12	12	
Kawit.....	Sept. 22-Oct. 4....	5	3	
Bacoar.....	Oct. 5.....	1	0	
Carmona.....	Sept. 22-Oct. 4....	7	7	
Noveleta.....	Oct. 2-5.....	4	2	
Iloilo:				
Iloilo.....	July 20.....	2		
Tayabas:				
Lueban.....	Aug. 3.....	2		
Pampanga:				
Minalin.....	Aug. 6.....	1	1	
Massantol.....	Aug. 7-Oct. 4....	36	17	
Macabebe.....	Aug. 8-Oct. 2....	10	4	
Apalit.....	Aug. 10.....	1	1	
Bataan:				
Dinalupihan.....	Oct. 4.....	1	1	Total: Cases, 2; deaths, 2.
Orani.....	Aug. 7.....	1	1	

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

Reports Received from June 27 to Dec. 25, 1914—Continued.

CHOLERA—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.	
Philippine Islands—Continued.					
Provinces—Continued.					
Laguna					
Binang.....	Sept. 23-Oct. 2.....	25	19	Total: Cases, 35; deaths, 26.	
Santa Rosa.....	Sept. 24-Oct. 2.....	8	5		
Calamba.....	Oct. 1.....	1	1		
S. P. Tunasan.....	Oct. 2.....	1	1		
Pangasinan					
Binalonan.....	Aug. 23.....	4	3	Total: Cases, 46; deaths, 30.	
Dagupan.....	Sept. 11-Oct. 3.....	26	17		
Mangaldan.....	Sept. 25-Oct. 4.....	3	3		
San Fabian.....	Sept. 25-Oct. 5.....	10	6		
San Jacinto.....	Sept. 25.....	1	1		
Manaoag.....	Oct. 1.....	2	1		
Union					
S. Fernando.....	Aug. 29-Oct. 3.....	77	60	Total: Cases, 497; deaths, 370.	
Bawang.....	Sept. 10-Oct. 5.....	50	34		
Nanglian.....	Sept. 10-Oct. 4.....	14	22		
San Juan.....	Sept. 2-Oct. 4.....	41	27		
Bacnotan.....	Sept. 30-Oct. 4.....	27	25		
Ago.....	Sept. 14-Oct. 5.....	53	33		
Santo Tomas.....	do.....	74	60		
Tubao.....	Sept. 16-Oct. 5.....	13	11		
Aringay.....	Sept. 20-Oct. 5.....	70	45		
Bangar.....	Sept. 22-Oct. 5.....	33	18		
Caba.....	Sept. 18-Oct. 5.....	22	17		
Luna.....	Sept. 19-Oct. 5.....	11	12		
Rosario.....	Sept. 18-Oct. 4.....	9	5		
Balacan.....	Oct. 1-5.....	3	1		
Capiz					
Capiz.....	Sept. 11-27.....	5	5		Total: Cases, 6; deaths, 6.
Tabuc.....	Sept. 20.....	1	1		
Amburayan—					
San Gabriel.....	Sept. 16.....	5	3	Total: Cases, 8; deaths, 6.	
Cagayan—					
Aparri.....	Sept. 27-Oct. 4.....	3	2		
Ilocos Sur					
Caoyan.....	Oct. 2.....	1	1		
Santa.....	Oct. 1.....	7	5		
Mountain—					
Tagudin.....	Sept. 23.....	3	4		
Russia:					
Kief.....	Oct. 3.....			Present. July 19-Aug. 2: Cases, 254; deaths, 85.	
Podolia.....					
Bratzlaw.....	July 26-Aug. 2.....	1		Aug. 30, present.	
Jampol.....	July 19-Aug. 2.....	25	8		
Letichev.....	July 10.....	2	2		
Litime.....	July 26-Aug. 8.....	8	3		
Vinnitza.....	July 19-Aug. 2.....	220	74		
Warsaw.....					
Siam:					
Bangkok.....	Apr. 19-Sept. 26.....		289		
Straits Settlements:					
Singapore.....	May 10-Sept. 19.....	152	122		
Turkey in Asia:					
Egrel, Konieh.....	July 19.....		1	From a vessel.	
Eski-Cherl.....	July 23-24.....	2	1		
Kamaran.....	Sept. 29.....	1			
Tagadima.....	July 29.....	2			
Turkey in Europe:					
Adrianople.....	May 14-19.....		2		
Constantinople.....	July 15.....	1			

YELLOW FEVER.

Brazil:				
Bahia.....	May 10-Oct. 10.....	21	18	
Pernambuco.....	May 1-15.....		1	
Ecuador:				
Guayaquil.....	May 1-Sept. 30.....	6	2	
Do.....	Aug. 1-31.....	4	2	
Mexico:				
Yucatan.....	Nov. 7-13.....	2		In the interior.
Merida.....	Sept. 14-Nov. 27.....	4	2	
Progreso.....	Oct. 8.....	1		

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

Reports Received from June 27 to Dec. 25, 1914—Continued.

YELLOW FEVER—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Venezuela:				
Caracas.....	June 1-30.....	1	1	
Do.....	Dec. 10.....	1		
La Guayra.....	Aug. 18-31.....	1	1	
Maracaibo.....	June 15.....			Present in light form. No cases since.
West Indies:				
Curacao.....	Dec. 9.....		1	Reported Dec. 11.

PLAGUE.

Brazil:					
Bahia.....	May 17-Nov. 15.....	63	36		
Pernambuco.....	May 1-Sept. 30.....		11		
Rio de Janeiro.....					Oct. 3, 1 fatal case.
British East Africa:					
Mombasa.....	June 1-July 31.....			2	
Ceylon:					
Colombo.....	May 19-Oct. 24.....	169	159		
China.....					Jan. 1-Apr. 30, present in Hokschan, Shuntak, Tangsching, and Tungkun. Apr. 3-17, present in Kan-lai and San-hu, 20 miles distant from Pakhoi. June 6, still present in vicinity of Swatow. June 20, improving in the Chaotow and Puning districts.
Amoy.....	June 20-July 18.....				Present: July 13, present in inland villages. Aug. 10, diminishing.
Kulangsu.....	May 20.....	1			
Canton.....	Jan 1-June 11.....	1,156			Present 30 miles north from Amoy.
Chinchew.....	May 30-June 6.....				Present.
Fatshan.....	May 13.....				Total, Jan. 4-Sept. 26: Cases, 2,156; deaths, 1,708.
Hongkong.....	May 10-Sept. 26.....	932	770		From a vessel from Hongkong, Apr. 3-June 18: Cases, 100. In Kan-lai and San-hu, 20 miles distant.
Pakhoi.....	June 18.....	2			
Shanghai.....	Oct. 5-Nov. 8.....			5	
Cuba.....					Total, Mar. 5-Sept. 17: Cases, 43; deaths, 10.
El Aceite (near El Caney).....	July 27-Aug. 2.....	4			Including 2 cases previously reported from vicinity of El Caney; all removed to and previously reported as from Santiago.
Santiago.....					June 30-Sept. 23: Cases, 12 (case Sept. 17 from El Caney); deaths, 4. One of these deaths was a case from El Aceite.
Dutch East Indies:					
Provinces.....					Total, Apr. 1-Sept. 30: Cases, 8,794; deaths, 7,723.
Kediri.....	Apr. 1-Sept. 30.....	2,566	2,350		
Madjoen.....	do.....	778	672		
Paseroean.....	do.....	4,901	4,206		
Surabaya.....	do.....	549	500		
Ecuador:					
Guayaquil.....	May 1-Sept. 30.....	30	10		
Egypt.....					Total, Jan. 1-Nov. 4: Cases, 214; deaths, 108.
Alexandria.....	June 2-Oct. 7.....	40	20		
Damietta.....	July 17.....	1			
Ismailia.....	June 3-9.....	1	1		
Port Said.....	June 9-Oct. 21.....	35	12		
Provinces—					
Assiout.....	May 25-June 20.....	5	1		
Charkeh.....	July 13.....	1	1		
Fayoum.....	May 27-Aug. 13.....	8	2		
Garbieh.....	Apr. 23-July 24.....	4	1		
Gizeh.....	May 27-June 24.....	6	3		
Keneh.....	Oct. 14.....	2	2		
Menouf.....	June 17.....	1			
Minieh.....	May 23-July 12.....	11	5		

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

Reports Received from June 27 to Dec. 25, 1914—Continued.

PLAGUE—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
German East Africa:				
Dar-es-Salaam.....	May 2-June 10....	7	3	
Muanza.....	Feb. 21-Mar. 18....	7	5	
Great Britain:				
Liverpool.....	Aug. 8-12.....	9	3	
Greece:				
Chios.....	Aug. 2.....			Epidemic.
Kara-Burum.....	Sept. 19.....	2		Among the military.
Piræus.....	Aug. 7-Sept. 9....	16	2	Sept. 30, ended.
Saloniki.....	Sept. 15.....	3		
Syra, island.....	Sept. 3-4.....	1	1	
Hawaii:				
Paaahu.....	Aug. 17.....	1	1	
India:				
Bassah.....	Apr. 26-Oct. 17....	49	45	
Bombay.....	May 17-Nov. 24....	631	531	
Calcutta.....	May 10-Oct. 10....		163	
Karachi.....	May 24-Sept. 19....	29	28	
Moulmein.....	Apr. 26-Sept. 19....	116	114	
Rangoon.....	Apr. 1-Aug. 31....	904	783	
Provinces.....				Total, Jan. 4-Oct. 17: Cases, 270,242; deaths, 226,104.
Delhi.....	Jan. 25-May 16....	26	13	
Bombay and Sind.....	Jan. 4-Oct. 17....	27,725	20,160	
Madras.....	do.....	5,105	3,700	
Bengal.....	Jan. 4-Oct. 10....	568	534	
Bihar and Orissa.....	Jan. 4-Oct. 17....	55,116	48,093	
United Provinces.....	do.....	101,564	89,013	
Punjab.....	do.....	62,934	50,469	
Burma.....	do.....	7,419	6,905	
Assam.....	Jan. 4-10.....	1	1	
Central Provinces.....	Jan. 4-Oct. 17....	271	185	
Mysore.....	do.....	4,235	2,939	
Hyderabad.....	do.....	2,450	2,038	
Central India.....	do.....	783	519	
Rajputana.....	Jan. 4-Aug. 15....	1,352	1,086	
Northwest Province.....	Jan. 4-Oct. 10....	380	292	
Kashmir.....	Jan. 4-June 27....	313	157	
Indo-China:				Total Jan. 1-July 31: Cases, 1,630; deaths, 1,292.
Cholon.....	Jan. 1-July 31....	93	10	
Phanitet.....	do.....	394	330	
Phanrang.....	do.....	853	489	
Pnum Peneh.....	do.....	171	152	
Saigon.....	do.....	73	41	Saigon and vicinity May 10-Oct. 26: Cases, 208; deaths, 74.
Soctrang.....	May 1-July 31....	22	15	
Italy:				
Catania.....				Since Sept. 1, 1914, there have been 17 officially reported cases and unauthenticated rumors of others.
Japan:				Total Jan. 1-Sept. 30: Cases, 82; deaths, 69, exclusive of Taiwan.
Hodogaya.....	June 9-July 3....	3		
O-No district.....	June 9-15.....	1		Near Yokohama.
Taiwan (Formosa)—				
Kagi.....	May 3-Aug. 8....	303	273	
Taihoku.....	Aug. 16-22.....		2	
Tokyo.....	June 22-Aug. 8....	14	4	Total Apr. 18-July 25: Cases, 45. And vicinity. Total May 23-Aug. 15: Cases, 23; deaths, 19.
Yokohama.....	July 5-Aug. 15....	4	4	
Mauritius:				
Do.....	Apr. 17-23.....	2		
Peru:				
Do.....	Sept. 17-Oct. 8....	11		
Ancachs:				Total, Jan. 1-May 31: Cases, 479; deaths, 235.
Casma.....	Feb. 9-Mar. 22....	4		Total, Jan. 1-Mar. 31: Cases, 34; deaths, 20.
Chimbote.....	Mar. 23-May 2....			Present.
Quarhuay (Huaylas).....	do.....			Do.
Samanca.....	do.....			Do.
Arequipa.....				Jan. 1-May 31: Cases, 24; deaths, 12.
Mollendo.....	Mar. 23-Sept. 27....	17		

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

Reports Received from June 27 to Dec. 25, 1914—Continued.

PLAGUE—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Peru—Continued.				
Cajamarca.....				Jan. 31—Apr. 30: Cases, 16; deaths, 7.
Contumaza.....	Mar. 23—May 2.....	3		
Lambayeque.....				Jan. 1—Mar. 31: Cases, 74; deaths, 35.
Chiclayo.....	Mar. 23—May 2.....	3		
Guadalupe.....	do.....	1		
Libertad.....				Jan. 1—May 31: Cases, 234; deaths, 111.
Huacamarca (Otzuco).....	Mar. 23—May 30.....			
Moche.....	July 9—Aug. 2.....	2		Present.
Pichipampa (Otzuco).....	Mar. 24—30.....	4		
Salavarry.....	Mar. 23—May 2.....	1		
San Pedro.....	do.....	8		From Pacasmayo.
Trujillo.....	Mar. 23—Sept. 27.....	26		Nov. 2, 7 cases in the lazaretto.
Lima.....				Jan. 1—May 31: Cases, 56; deaths, 27.
Callao.....	Aug. 3—Oct. 15.....	4		Jan. 1—Feb. 28: Cases, 4; deaths, 2.
Unigambal (Santiago de Chuco).....	Mar. 23—June 7.....	16		
Lima.....	Mar. 23—Sept. 27.....	23		
Surco (Matucana).....	do.....	11		
Monsefu.....	Aug. 3—Sept. 27.....	1		
Piura.....				Jan. 1—May 31: Cases, 37; deaths, 21.
Catacaos.....	Mar. 23—Aug. 2.....	4		
La Husca.....	June 8—July 5.....	1		
Piura.....	Mar. 23—July 5.....	12		Aug. 3—Sept. 27, present.
Philippine Islands:				
Manila.....	May 17—Sept. 19.....	8	8	May 17, 1 case from s. s. Taisang from Amoy; May 23, 1 case from s. s. Linan from Amoy; June 12-20, a fatal case from s. s. Linan from Amoy; June 17, a fatal case in the Philippine General Hospital. First quarter, 1914: Cases, 14; deaths, 10. May 20, 1 case on s. s. Rubifrom Hongkong.
Cebu.....				
Portugal:				
Lisbon.....	Oct. 8-9.....	8	8	Pneumonic form.
Russia:				
Astrakhan Government.....				Total, May 25—July 15: Cases, 49; deaths, 46.
Kirghis steppe—				
Betas-Tschagal.....	May 25—July 15.....	2		
Bulanal.....	May 25—June 14.....	10	10	7 of these cases pneumonic.
Manysch-Tschagal.....	do.....	5		
Kalmuck steppe—				
Archanskoge-Tebe.....	do.....	4		
Gubia.....	do.....	4		
Schitkur.....	do.....	1		
Senegal:				
Dakar.....	May 15.....	12		May 17-23, 5 deaths daily among natives.
Siam:				
Bangkok.....	Apr. 19—Sept. 5.....		17	
Straits Settlements:				
Singapore.....	May 10—Sept. 19.....	3	3	
Tripoli.....				July 15, present in Asizia, Tarhuna, and Zanzur, vicinity of Tunis. Dec. 3, 1 case on s. s. Misurata, in the harbor.
Turkey in Asia:				
Adalia.....	July 19—Aug. 1.....	2		
Bagdad.....	Sept. 30—Oct. 24.....	5	2	
Basra.....	June 24—July 19.....	16	8	
Beirut.....	June 16—Nov. 4.....	6		
Haifa.....	Aug. 29.....	1	1	
Jaffa.....	June 5-27.....	4	3	
Kut.....	July 6.....		1	From a steamboat from Bagdad to Basra.
Mitylene.....	Aug. 2.....			Present.
Samos.....	do.....			Epidemic.
Smyrna.....	July 2—Oct. 4.....	9	4	

CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.**Reports Received from June 27 to Dec. 25, 1914.—Continued.****PLAGUE—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
Union of South Africa: Cape Town— Queenstown and Tarka				Total, Sept. 24–Oct. 5: Cases, 29; deaths, 24. 1 fatal case, a European. All pneumonic.
Zanzibar: Zanzibar	July 1–Oct. 14	28	18	

SMALLPOX.

Algeria: Departments— Algiers	Mar. 31–May 31	7		Total, May 8–Nov. 12: Cases, 365 in the metropolitan area and 140 cases in the country districts.	
Constantine	do	7			
Oran	do	57			
Arabia: Aden	June 10–Oct. 26	1	2		
Argentina: Buenos Aires	June 1–30		1		
Australia: New South Wales— Sydney					
Western Australia— Bunbury quarantine station	May 5–June 12	8	1		From s. s. Kilchattan, from Bombay, including previous report.
Austria-Hungary: Galicia	Mar. 17–July 25	12			
Lower Austria	May 31–June 20	2			
Styria	July 5–11	2			
Upper Austria	May 17–July 11	4			
Belgium: Liege	June 1–6		3		
Brazil: Bahia	June 1–Oct. 21	15			
Para	May 24–30		1		
Pernambuco	May 1–Sept. 30		61		
Rio de Janeiro	May 10–Oct. 31	3,820	817		
Canada: British Columbia— Vancouver	Aug. 18–Sept. 5	4		Among coolies from India. May 16–23, present in Kaying and increasing in Chea Chow. Present.	
Manitoba— Winnipeg	June 14–Nov. 7	20			
Ontario— Hamilton	Aug. 1–Nov. 3	11			
Niagara Falls	July 15–21	1			
Ottawa	July 26–Aug. 1	1			
Toronto	Nov. 30–Dec. 5	1			
Prince Edward Island— Charlottetown	July 16–22	1			
Quebec Montreal	Nov. 8–Dec. 5	23	2		
Quebec	July 11–Nov. 26	6			
Canary Islands: Teneriffe— Santa Cruz	June 28–Nov. 7		28		
Ceylon: Colombo	May 19–Oct. 24	141	41		
Uva district— Passara	June 7–13	39	11		
China: Amoy	May 17–June 13				Total Jan. 4–Oct. 24: Cases, 101; deaths, 71. Present.
Canton	Jan. 1–Apr. 30	21			
Chungking	May 22–Oct. 31				
Dairen	June 7–July 4	2			
Hongkong	May 10–Oct. 24	16	12		
Nanking	May 23–Oct. 31				
Newchwang	June 13–Oct. 17				
Pakhol	Apr. 17				
				Present, and in San-hu, 20 miles distant.	

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

Reports Received from June 27 to Dec. 25, 1914—Continued.

SMALLPOX—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
China—Continued.				
Shanghai.....	May 18-Nov. 8.....	.....	44	Deaths among natives.
Tientsin.....	June 6-Sept. 26.....	2	.....
Tsingtau.....	May 19-July 5.....	21	3	
Cuba:				
Habana.....	Nov. 2-Dec. 16.....	6	1	Dec. 16: 1 case from steamship Valbanera.
Dutch East Indies:				
Borneo.....	May 17-Oct. 17.....	841	278	In the western part, Aug. 22-Oct. 17, present in Pontianak.
Java.....	.....	.....	.....	In the western part, May 3-Oct. 17: Cases, 4,555; deaths, 792, including Batavia.
Batavia.....	May 3-Oct. 17.....	238	62	
Tegal.....	Aug. 2-Oct. 3.....	56	23	
Egypt:				
Alexandria.....	June 4-Nov. 18.....	65	22	
Cairo.....	May 21-Oct. 28.....	205	77	
Port Said.....	May 21-June 6.....	4	.....
France:				
Bordeaux.....	June 7-July 11.....	.....	4	
Marseille.....	May 1-31.....	.....	2	
Paris.....	May 24-Nov. 14.....	37	3	
Germany:				
Hamburg.....	June 7-27.....	5	.....	May 31-Nov. 14: Cases, 11,
Kehl.....	May 1-31.....	.....	1	
Gibraltar.....	June 8-27.....	1	1	
Great Britain:				
Leeds.....	June 6-July 18.....	4	.....
Southampton.....	June 29-July 4.....	1	.....
Greece:				
Athens.....	July 6-12.....	.....	1	
Goumenza.....	Oct. 18-24.....	2	.....
Kavalla.....	Oct. 4-24.....	3	.....
Mitylene.....	.....	.....	.....	Nov. 11: 100 cases in hospitals and 30 cases in the city. Isolated.
Patras.....	Sept. 2-16.....	22	18	Epidemic.
Saloniki.....	May 31-Nov. 14.....	.....	101	June 6: Present in a mild form among 20,000 refugees from Asiatic Turkey, Chio, and Mitylene; Sept. 19, cases, 2.
India:				
Bombay.....	May 19-Oct. 31.....	93	60	
Calcutta.....	May 10-Oct. 10.....	.....	251	
Karachi.....	May 24-July 25.....	13	4	
Madras.....	May 17-Oct. 31.....	49	11	
Rangoon.....	Apr. 1-Aug. 31.....	12	2	
Indo-China:				
Saigon.....	May 12-Oct. 12.....	8	3	
Italy:				
Turin.....	July 20-26.....	2	.....
Japan:				
Hakodate.....	Oct. 18-24.....	1	.....
Kobe.....	June 19-23.....	1	.....
Nagasaki.....	May 18-Oct. 18.....	58	19	
Taiwan (Formosa).....	May 3-Oct. 10.....	19	6	
Yokohama.....	June 23-29.....	1	.....
Honduras:				
Puerto Cortez.....	Sept. 1-30.....	.....	6	
Mexico:				
Chihuahau.....	May 18-Nov. 8.....	18	15	
Guadalajara.....	Aug. 31-Oct. 10.....	.....	3	
Juarez.....	Aug. 1.....	2	.....
Matatlan.....	June 17-Nov. 17.....	3	4	
Mexico.....	Jan. 17-Feb. 21.....	99	16	
Monterey.....	June 30-Sept. 20.....	.....	9	
Tampico.....	May 11-July 31.....	.....	70	
Vera Cruz.....	June 1-Oct. 31.....	17	6	
Norway:¹				
Christiania.....	Nov. 1-30.....	1	.....
Christiansand.....	Nov. 1-21.....	3	2	Total, Nov. 1-30: Cases, 7.
Stavenger.....	Nov. 15-21.....	2	.....
Total, Jan. 1-Sept. 30: Cases, 425; deaths, 98, exclusive of Taiwan.				

¹ Reports of smallpox in Trondhjem during 1914, received and published in the U. S. Public Health Reports, were erroneous.

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

Reports Received from June 27 to Dec. 25, 1914—Continued.

SMALLPOX—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Peru:				
Callao.....				June 22, Aug. 8, and Oct. 8, present.
Lima.....	Oct. 28.....			Epidemic.
Philippine Islands:				
Samar Province.....				First quarter 1914, severe outbreak.
Portugal:				
Lisbon.....	June 14-Nov. 21....	22		
Portuguese East Africa:				
Lourenco Marquez.....	Aug. 1-31.....		1	
Russia:				
Batum.....	Feb. 1-Aug. 31....	9		
Libau.....	Oct. 12-18.....	1		
Moscow.....	May 10-Nov. 7....	56	11	
Odessa.....	May 10-Oct. 3....	9		
Riga.....	May 31-July 25....	14		
St. Petersburg (Petrograd).....	May 24-Oct. 24....	351	147	
Vladivostok.....	Apr. 2-May 13....	8	1	
Warsaw.....	Feb. 1-May 2....	146	61	
Servia:				
Belgrade.....	May 23-July 19....	12	2	
Siam:				
Bangkok.....	June 13-Sept. 26....		2	
Spain:				
Almeria.....	July 1-31.....		1	
Barcelona.....	June 14-July 31....		28	
Do.....	Nov. 7-13.....		5	
Cadiz.....	May 1-31.....		5	
Madrid.....	June 1-Oct. 31....		9	
Seville.....	Sept. 1-30.....		1	
Valencia.....	June 7-Nov. 14....	126	19	
Straits Settlements:				
Singapore.....	Sept. 27-Oct. 3....	1		
Switzerland:				
Cantons—				
Basel.....	May 31-Oct. 24....	35		
Geneva.....	July 5-11.....	1		
Grisons.....	June 7-13.....	1		
Zurich.....	July 1-Aug. 8....	2		
Turkey in Asia:				
Beirut.....	June 1-Oct. 31....	100	41	
Damascus.....	Mar. 15-Aug. 20....	905	460	
Haifa.....	Oct. 19-25.....	5	2	
Jerusalem.....	May 3-Sept. 30....	45	2	
Mersina.....	Aug. 2-8.....	2		
Smyrna.....	May 13-Oct. 3....	8	7	
Trebizond.....	May 19-Oct. 17....			Present.
Tripoli.....	Oct. 3-24.....	6		
Turkey in Europe:				
Constantinople.....	June 14-Sept. 12....		9	
Union of South Africa:				
Pretoria.....	May 9-23.....	1		
Uruguay:				
Montevideo.....	Sept. 1-30.....		1	
Atsea.....				Nov. 19 and 24, respectively, on s. s. Balmes, from Barcelona to New Orleans, via the Canary Islands, one case from Las Palmas, Grand Canary, and one case from Santa Cruz, de la Palma. Reported from San Juan, Porto Rico.

SANITARY LEGISLATION.

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

CHATTANOOGA, TENN.

Wells—Record of Locations—Analysis of Water—To Be Filled When Contaminated. (Ord. 1492, Sept. 28, 1914.)

SECTION 1. That it shall be the duty of the owner or person in control of any premises, within the corporate limits of the city, on which there is a well to report within 30 days after this ordinance takes effect at the office of the commissioner of the department of education and health the location of all such wells on his premises, and thereafter, once during each calendar month, to furnish at said office in the municipal building a sample of the water from such wells.

SEC. 2. That there shall be kept in said office a record showing the location of all wells reported as provided in section 1, and that it shall be the duty of the commissioner of the department of education and health to have all samples of water furnished to him, as provided in section 1 hereof, analyzed by the city bacteriologist. If, upon such analysis, any such water shall be found to be infected or deleterious to health or in such condition as to produce disease, said commissioner shall at once notify the owner or person in control of the premises on which the well from which such water has come is located.

SEC. 3. That it shall be the duty of any person receiving notice from the commissioner of the department of education and health, as provided in section 2 hereof, to immediately stop the use of water from the well in question for drinking purposes, and within 10 days cause said well to be filled or stopped up, so that water can be used only from it for other purposes than drinking.

SEC. 4. That any person violating any of the provisions of this ordinance shall, upon conviction, be fined not less than \$2 nor more than \$5 for each offense, and each day upon which such person shall be in default shall be deemed a separate offense.

DENVER (CITY AND COUNTY), COLO.

Milk—Transfer of License. (Ord. 104, Sept. 21, 1914.)

SECTION 1. That ordinance No. 88 of the series of 1909, entitled "A bill for an ordinance relating to the maintenance of dairies, and the production, keeping, transportation, sale, and distribution of milk, cream, and dairy products, establishing standards for certain dairy products, providing for the inspection, regulation, and control of dairies, all appliances used therefor, and the prod-

ucts thereof, and of the handling, keeping, selling, and disposing of dairy products, providing a license therefor and making penalties for the violation thereof," be, and is hereby, amended by adding to section 4 thereof the following paragraph, to wit:

"Licenses issued under the provisions of this ordinance may be transferred from one licensee to another, or one location to another, upon the payment of a transfer fee of \$1, upon approval of the health commissioner and commissioner of excise."

Garbage—Care and Disposal. (Ord. 52, Apr. 27, 1914.)

SECTION 1. That section 1039, chapter 23, of "The municipal code of the city and county of Denver," passed and approved April 12, 1906, be, and the same is hereby, amended to read as follows:

SEC. 1039. "*Garbage*" defined—*Carts lettered*—*Supervision of commissioner of social welfare*.—The word garbage as herein used is intended to mean all refuse, animal or vegetable matter, and all stale or unsound fruit, vegetables, bread, fish, meat, and any other food products not fit for human food. All carts or vehicles used for the collection of garbage shall have the words "Garbage wagon" plainly printed thereon in such letters as to be legible at a distance of at least 80 feet, and all garbage wagons shall be thoroughly cleaned, and such wagons and the drivers thereof and the owners shall, as to such garbage business, be under the supervision of the commissioner of social welfare.

SEC. 2. That section 1040, chapter 23, of "The municipal code of the city and county of Denver," passed and approved April 12, 1906, be, and the same is hereby, amended to read as follows:

SEC. 1040. *Contract for garbage removal—Bond*.—In case it shall be deemed advisable and to the advantage of the city and county of Denver by the commissioner of social welfare, he may enter into a contract with some responsible person, firm, or corporation for the removal and disposition beyond the limits of the city and county of Denver of all of the garbage of said city and county; such contract shall be in writing and in the name of the city and county of Denver and shall be signed by the mayor and attested by the clerk and approved by the commissioner of social welfare and shall be made for such time and upon such terms and conditions as the commissioner of social welfare may deem for the best advantage of said city and county, provided said contract shall be entered into without compensation or pay other than said garbage from the city and county of Denver, and if a contract can not be made with a responsible person, firm, or corporation without pay or compensation from the city and county of Denver other than said garbage, then said contract shall only be made after due advertisement for proposals on the same and the contract to be awarded to the lowest responsible bidder, the said commissioner of social welfare to have the right to reject any or all bids.

Provided, That any contract entered into by the city shall require the person, firm, or corporation entering into said contract where garbage is to be disposed of by feeding to hogs, to heat said garbage with live steam to 212° F. at his or their own expense until sterilized, before using said garbage for hog feed, and said sterilization shall be subject to inspection by the commissioner of social welfare; and that no contract for which the city must pay shall be entered into which by its terms extends beyond the period of four years, except that the said contract may contain an option of renewal on behalf of the city for the period of another four years.

And provided further, That before any such contract so executed shall be in force and binding upon the city and county of Denver the contractor named

therein shall execute a bond to the city and county of Denver in the sum of \$5,000, with sureties in each case to be approved by the commissioner of social welfare, the said bond to be conditioned for the full and faithful and punctual performance of all the agreements and covenants in said contract and for a complete compliance with all the ordinances of the city and county of Denver.

SEC. 3. That section 1043, chapter 23, of "The municipal code of the city and county of Denver," passed and approved April 12, 1906, be, and the same is hereby, amended to read as follows:

SEC. 1043. *House, hotel, restaurant, and other garbage cans—How often emptied.*—Housekeepers and restaurant keepers and owners and hotel keepers and owners and sanatorium owners and keepers and all other keepers and owners of places where garbage is made or accumulates, must deposit all garbage in suitable water-tight iron or tin vessels or cans closely covered and provided at their own expense and be placed [sic] in the rear of the lot adjacent to the alley, so that they can be conveniently emptied and the garbage removed by the garbage collector; but no ashes or chamber lye, poison, broken dishes, bottles, glass, cans, or anything except garbage within the meaning of this ordinance shall be deposited within such vessels or cans.

The garbage contractor having a contract with the city and county of Denver and a permit for the removal of garbage from the commissioner of social welfare, and the drivers of garbage wagons and garbage collectors employed by him, and no one else, shall remove or cause to be removed any garbage from private houses, hotels, restaurants, or other places, and here said garbage shall be removed twice a week in the winter and three times a week in the summer from private residences and daily from hotels and restaurants and sanatoriums, and no person, firm, or corporation shall remove or cause to be removed any garbage which accumulates at any place within the city and county of Denver without first obtaining a contract with the city and county of Denver and a permit from the commissioner of social welfare.

SEC. 4. Any person, firm, or corporation violating or neglecting or refusing to comply with any regulation, requirement, or provision of this ordinance or rule or regulation of said commissioner of social welfare shall upon conviction thereof be fined in a sum not less than \$10 nor more than \$200.

Foodstuffs—Bread, Pastry, etc.—Manufacture, Care, and Sale. (Ord. 63, June 1, 1914.)

SEC. 1. That chapter 10 of the municipal code of the city and county of Denver, entitled "Bread," be, and the same is hereby, amended to read as follows:

SEC. 2. (185) *Only good and wholesome materials used—Weight—Exceptions.*—It shall be unlawful for any person, persons, firm, or corporation to sell or to manufacture or offer or expose for sale, or to cause or permit to be sold or manufactured, or offered or exposed for sale, or to have in possession or keep for sale any bread that is not made of good, wholesome materials and sold by avoirdupois weight; also there must be printed, written, or stamped thereon, or upon the wrapper thereof, or upon a label attached thereon, in size at least three-fourths of 1 inch square, the minimum net weight of such bread in pounds, or fractions of a pound, avoirdupois, when offered for sale by the maker, baker, or manufacturer thereof, and the name of the maker, baker, or manufacturer thereof: *Provided*, That the requirements herein contained shall not apply to crackers, pretzels, biscuits, buns, scones, rolls, or loaves of fancy bread weighing less than one-quarter of a pound avoirdupois.

pois, or to what is commonly known as "stale bread," sold as such: *Provided*, That the seller shall at the time of the sale state to the buyer that the bread so sold is "stale bread."

SEC. 3. (186) *Only standard loaves made and sold—Bakery and shop to be clean and sanitary.*—Every maker, baker, or manufacturer of bread, every proprietor of a bakery or bakeshop, and every seller of bread in the city and county of Denver who shall make, bake, or manufacture bread, pies, cakes, and general pastry to be sold for domestic or other use shall deliver the same only in closed wagons or in closed sanitary containers; and all persons handling any of above-named articles of food when delivering from wagon shall wear white washable gloves, and such gloves shall be kept in a clean and sanitary condition; every such maker, baker, or manufacturer of bread, and every proprietor of a bakery or bakeshop, and every seller of bread within the city and county of Denver shall keep scales and weights suitable for weighing the bread in a conspicuous place in his bakery, bakeshop, or store, and shall, whenever requested by the buyer, in the buyer's presence, weigh the loaf or loaves sold or offered for sale.

SEC. 4. (187) It shall be the duty of the inspector of meats and provisions, or of assistants or deputies acting under his direction, as well as the duty of any member of the department of social welfare, to enter in the daytime into any house, store, bakehouse, warehouse, or other building where any bread, pies, cakes, or general pastry is baked, stored, or deposited or offered for sale and inspect the sanitary condition of each place visited and the quality of the ingredients used and the weight of the finished bread on hand, and shall see that all such places are constantly kept and maintained in a clean, wholesome, and thoroughly sanitary condition; and it shall be the duty of the said officers aforesaid to stop, detain, and inspect any person or persons, wagon or other vehicle carrying bread, pies, or general pastry to be sold for domestic or public consumption, and search for, view, try, and weigh all or any bread that shall therein be found, and if on such search there shall be found any bread, pies, or cakes or general pastry made in violation or contrary to any of the provisions of this chapter any of the officers above mentioned may seize such bread, pies, cakes, or general pastry, and the same shall be taken immediately to the office of the inspector of meats and provisions and there deposited and kept to be used at the trial of the person or persons against whom complaint is made, and shall he, they, or them be convicted such bread shall be retained by the inspector of meats and provisions until the fine, if any shall be imposed, and the costs of the suit shall have been satisfied.

SEC. 5. (188) Every maker, baker, or manufacturer of bread, pies, cakes, or general pastries, made or manufactured to be sold for general consumption, is hereby required to keep his bakery shop, store building, or other place of business wherein bread, pies, cakes, or general pastry may be baked, kept, or exposed for sale in a clean, wholesome, and sanitary condition.

SEC. 6. (189) Any person violating any of the provisions of this chapter shall, upon conviction thereof, be fined in a sum not less than \$5 nor more than \$100.

Milk and Milk Products—License Required for Sale—One-Cow Dairies—Regulation. (Ord. 116, Nov. 2, 1914.)

SECTION 1. From and after the passage of this ordinance section 31 of ordinance No. 88 of the series of 1909 shall be amended to read as follows:

"SEC. 31. *Provided* that all of the provisions of the foregoing ordinance and sections thereof as require a license from the department of health of the city and county of Denver and requiring a license fee therefor shall apply and be

applicable to retail groceries and other mercantile houses engaged in the selling of milk, cream, and dairy products; that all persons within the city and county of Denver who own but one cow shall be allowed to sell, peddle, distribute, or otherwise dispose of all the milk from said one cow upon the payment of a license fee in the sum of \$1, as provided in section 5 hereof; and further provided that said cow shall first have been subjected to a tuberculin test by the health department of the city and county of Denver, under such rules and regulations as they may prescribe, and at such times and places as they may fix; and provided further that said cow shall be housed in a stable constructed in conformity with the general provisions of this ordinance and kept in sanitary condition as provided herein, and that said cow shall be cleaned and prepared for milking as provided herein; and further provided that no milk shall be kept in any unclean or insanitary place, or in any bedroom, or other room where children are allowed, or within any distance of any privy or closet other than as provided by section 8 hereof. All one-cow dairies as herein provided shall be under the supervision and direction of the milk division of the department of health of the city and county of Denver and subject to such rules and regulations for the sanitary maintenance thereof as may be made from time to time by said division of said department, and in conformity with the general provisions of this ordinance: *Provided, however,* That as to one-cow dairies it shall not be required that the cleaning and sterilization of receptacles for milk shall be done by means of appliances or plants used exclusively for that purpose, but that the same may be cleaned by boiling water over a clean and sanitary sink or drain box, or in such manner as may be provided from time to time by the milk division of the department of health of the city and county of Denver."

HOLLAND, MICH.

Nuisances—Offensive Trades. (Ord. 311, Nov. 18, 1914.)

RULE 1. No person, firm, or corporation shall deposit or permit to remain in or on their premises any filthy or stagnant water, any foul slops, foul drains, or garbage, decaying or decayed animal or vegetable matter, decaying or decayed fruit, or any offensive thing that may give rise to poisonous, foul, or offensive gases or vapors; nor shall they deposit the same in any street, alley, public space, private premises, nor in any stream within the city limits.

* * * * *

RULE 3. No person, firm, or corporation shall keep or maintain any slaughterhouse, slaughter yard, or slaughter pen within the city limits; nor shall any person engage in rendering tallow, lard, or any animal tissue as a business, except such rendering shall be so conducted as not to give rise to offensive odors.

Domestic Animals—Keeping of—Disposal of Dead Bodies. (Ord. 311, Nov. 18, 1914.)

RULE 2. The carcass of any animal or fowl that has died within the city limits shall be removed by the owner thereof within 24 hours and buried at a depth sufficient to prevent any stench: *Provided,* That the carcass of a horse, cow, mule, dog, or of any of the other larger animals shall not be buried within the city limits and that the carcass of a fowl shall not be buried within 50 feet of any well.

* * * * *

RULE 4. The keeping and maintaining of hogs or hog pens within the city limits is hereby expressly forbidden, nor shall it be lawful for any person, firm, or corporation to have and maintain any stable, yard, or structure where cattle are kept within 50 feet of any dwelling house, occupied building, well, or spring, nor any structure, yard, or inclosure for the confining of chickens, geese, or other fowl, or stable where horses, mules, or other animals are kept within 25 feet from any dwelling house or occupied building except that of the owner of said fowl or animals, or within 50 feet of any well or spring.

Stables and Manure—Care of. (Ord. 311, Nov. 18, 1914.)

RULE 5. All stables, yards, and inclosures where horses, cattle, or fowl are kept shall be kept free from filth and dirt. All manure must be kept in bins completely inclosed, bottom, top, and sides, and from the 1st day of May to the 1st day of November of each year shall be kept constantly screened from flies. All manure bins shall be entirely emptied and thoroughly cleaned at least once in every two weeks.

Spitting—Prohibited in Public Places. (Ord. 311, Nov. 18, 1914.)

RULE 6. Spitting or expectorating upon the floors of any public building, street car, or public conveyance, or upon any sidewalk, crossing, entrance, or other public place, is a menace to public health, and the ordinance relating thereto shall be strictly enforced by the police department of the city of Holland.

Garbage, Refuse, and Ashes—Care and Disposal. (Ord. 311, Nov. 18, 1914.)

RULE 7. All rubbish, such as waste paper, tin cans, leaves, ashes, cast-off crockery, bottles, glassware, and such other substances as do not properly constitute garbage shall be kept in suitable bins or containers and shall be removed before the 1st day of June of each year and again before the 1st day of December of each year; nor shall any of such rubbish be deposited upon any street, alley, public space, or vacant lot, except by permission of the board of health, first had and obtained.

RULE 8. A garbage district is hereby established, which shall include all of the territory within the city limits and which shall be governed by the following regulations:

First.—Each and every householder or occupant of any dwelling house, boarding house, or restaurant having garbage to dispose of shall provide one or more metal cans sufficient to receive all garbage that may accumulate between times of collection, each can to have a capacity not to exceed 10 gallons, and provided with a handle, bail, and tight-fitting cover. These cans must be so placed that they shall at all times be readily accessible for removing or emptying the same, and no other receptacle shall be used for garbage.

Second.—All garbage accumulating between the times of collection shall be placed in such cans: *Provided*, That no tin cans, wire, or metal of any kind, glass, chinaware, crockery, or coarse rubbish shall be placed in such cans.

Third.—All garbage deposited in said cans shall be removed once a week by a licensed scavenger or garbage collector, except in cases of hotels, restaurants, and boarding houses, where garbage shall be collected and removed daily. The expense of such collection shall be paid by the owner, agent, occupant, or tenant of the premises from which the said garbage is collected, but in no instance shall the fee charged for such collection exceed 5 cents per week for each can,

whole or part. In case of restaurants and hotels tight barrels with tight-fitting covers may be used in place of cans.

Fourth.—The scavenger or garbage collector shall provide a covered tank wagon, so constructed that it shall not leak or spill, in which all garbage to be removed shall be collected and conveyed to places at least one-quarter of 1 mile outside the city limits, there to be disposed of.

Fifth.—The wagon and conveyors used for the collection shall be cleansed, and as free from offensive odors as possible; nor shall they be kept in any street, alley, or public place, nor upon any private premises longer than is reasonably necessary to collect the garbage, nor within the city limits except by permission of the health officer.

Foodstuffs—Care and Sale—Meat Markets—Bakeries and Confectionery Shops. (Ord. 311, Nov. 18, 1914.)

RULE 9. It shall not be lawful for any vendor of meats, poultry, fish, vegetables, fruits, candy, or confectionery to expose the same on the outside of markets, stalls, or streets, or in open windows or doorways, unless constantly protected from dirt, dust, filth, flies, and any injurious substance; it is also required that all fish and poultry intended for sale in the city of Holland shall be drawn and properly cleaned immediately after being killed.

RULE 10. It shall be unlawful for anyone to sell or offer for sale any tainted unwholesome, or diseased meats, fish, poultry, or products of the same, or any decayed or unwholesome fruit or vegetables, nor shall such meat, fish, poultry, or other products be treated chemically or otherwise to disguise or overcome signs or appearance of taint.

The health officer, city inspector, or any member of the board of health may seize and confiscate any such tainted, unwholesome, or diseased meats, fish, poultry, or products of the same, or decayed or unwholesome fruit or vegetables, or any of said articles which have been chemically treated as aforesaid.

The health officer, city inspector, or any member of the board of health may affix, or cause to be affixed, to such meats, fish, or poultry which is tainted or unwholesome or diseased, or to any products of the same, or to any receptacle or package containing the same, a card or tag stating that the same has been condemned and the reason therefor.

RULE 11. Every butcher and market man shall keep the floor blocks, counters, locker, utensils, and every part of his market and premises clean and free from all filth and dirt and flies.

RULE 12. Every baker and confectioner, and every dealer in baked goods and confectionery, shall keep his cases, counters, tables, and utensils, shelves, and every part of his place of business clean; and shall protect all such baked goods and confectionery from dust, dirt, flies, and all manner of filth until delivered to the customer.

Wells, Springs, etc.—Prevention of Contamination of—Use Discontinued When Contaminated. (Ord. 311, Nov. 18, 1914.)

RULE 13. No privy, vault, or cesspool shall be placed or permitted within 50 feet of any well, spring, or other source of water supply used for cooking or drinking purposes. It is also ordered that whenever any well, spring, or source of water supply is deemed unwholesome or unsafe by the board of health the same shall be put in a safe and wholesome condition, or shall be removed and its use discontinued.

Privies and Cesspools—Construction—Care and Disposal of Contents—Connections with Sewer. (Ord. 311, Nov. 18, 1914.)

RULE 14. All privy vaults and cesspools shall be cleaned once a year, between the 1st day of April and the 1st day of December of each year, and the contents shall be collected and removed by a licensed scavenger in tightly covered tank wagons or in barrels approved by the board of health, and conveyed to a place at least one-fourth of 1 mile outside of the city limits, there to be disposed of by the trenching method. The scavenger shall deodorize the contents of the cesspool or vault before removing the same by mixing with solution of copperas or other approved efficient deodorant. The expense of cleaning out such vault and cesspool shall be paid by the owner, agent, occupant, or tenant of the premises on which the same are located, but in no instance shall the fee be larger than such as fixed by the board of health under agreement with the licensed scavenger as provided for by the ordinances of the city of Holland.

No coarse rubbish, tin cans, metal, glassware, wire, or wood shall be deposited in vaults or cesspools.

RULE 15. All new privies and closets shall be constructed with a drawer so arranged that it can be readily removed and emptied of its contents. When used sufficient dry earth, ashes, or slaked lime must be used daily to absorb all the fluid parts of the deposit. The maximum fee for cleaning any such drawer shall be fixed by the board of health under the provisions of the ordinances of the city of Holland: *Provided, however,* That no new privies shall be permitted to be built or constructed where in the opinion of the board of health sewer connection can reasonably be had.

Communicable Diseases—Notification of Cases—Quarantine—Placarding—School Attendance—Burial—Disinfection. (Ord. 311, Nov. 18, 1914.)

RULE 16. It shall be the duty of every owner, agent, or occupant of any dwelling house or other building in which there shall occur a case of any communicable disease dangerous to the public health, to immediately give notice thereof to the health officer of the city of Holland.

RULE 17. Any physician who may be called to attend any case of communicable disease dangerous to the public health shall at once report such case to the health officer.

RULE 18. No person sick with any communicable disease dangerous to the public health, nor any clothing or other property that may have been exposed to infection, shall be removed, nor shall any occupant take up residence elsewhere, without the consent and under the direction of the health officer.

RULE 19. No teacher, principal, professor, or superintendent, of any day school, college, or Sunday school, shall knowingly permit any child, pupil, or student, with any communicable disease, or any child, or person residing in a house where there is a case of scarlet fever, diphtheria, smallpox, measles, epidemic cerebrospinal meningitis, infantile paralysis, or tuberculosis, to attend school, class, or service, under his or her charge, until such time as the health officer certifies to such teacher, principal, professor, or superintendent, that the said child or person may attend without danger of communicating the disease to others.

RULE 20. Upon receipt of the notice provided for in rules 16 and 17, the board of health, or its officers, whenever in their opinion a disease dangerous to public health exists, shall take the necessary measure by placard, quarantine, and otherwise, to prevent the spread of such disease.

RULE 21. No person shall remove or deface any card or sign from any building or premises, which may have been placed there by order of the board of health or health officer. No occupant of said placarded building or premises shall leave the same, and no person, except the attending physician, nurse, and clergyman, shall enter the same without first obtaining the permission of the board of health or the health officer: *Provided*, That such physician, or clergyman, when called in to a case of scarlet fever, diphtheria, measles, or smallpox, shall wear a contagious-disease gown, the same to be properly disinfected with formaldehyde or bichloride solution, after each visit.

RULE 22. No person delivering any milk or any foodstuffs to any house or premises under quarantine shall remove from such dwelling house or premises, any bottles, crates, baskets, or containers for foodstuffs, without the consent of the health officer, and not until after such bottles, crates, baskets, or containers have been sterilized, and the quarantine removed from such dwelling house or premises.

RULE 23. In case of death from scarlet fever, diphtheria, measles, or smallpox the body shall be privately conveyed to the cemetery and buried therein without any public funeral services. In such cases burial shall be within 24 hours after death, except when otherwise specially permitted by the written order of the health officer.

RULE 24. No person sick with scarlet fever, diphtheria, measles, smallpox, tuberculosis, or any dangerous communicable disease, and no corpse of any person having died from any of the above-named diseases, and no article which has been infected with or is liable to convey any such disease shall be brought within the limits of the city of Holland without the special permit and direction of the board of health.

RULE 25. In case of recovery or death from any of the aforementioned contagious diseases, the clothing, rooms, and all such articles as may have been exposed to infection shall be disinfected, and all such articles as can not be thoroughly disinfected shall be destroyed by burning.

RULE 26. No house or tenement vacated by a person or persons affected by any of the diseases herein mentioned or referred to shall thereafter be reoccupied until it shall have been disinfected by the board of health in accordance with the rules and regulations as laid down by the State board of health.

RULE 27. Pulmonary tuberculosis, or consumption, being regarded by the medical profession as an infectious and communicable disease, and dangerous to the public health, it is ordered that every physician in this city attending any person having such disease shall forthwith report the same to the board of health in the same manner as in the case of other contagious diseases; and every householder in whose family a case of pulmonary tuberculosis is known to exist shall notify the board of health of the removal of the patient from the house or tenement or of the removal of the family, giving the new address.

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RULE 30. No person shall remove or deface any card or sign from any building or premises or from any can, package, or article which may have been placed there by order of the board of health or the health officer.

Buildings and Premises—Sanitary Regulation. (Ord. 311, Nov. 18, 1914.)

RULE 28. It shall be the duty of the owner or owners of any building, lot, or premises in the city of Holland, whether occupied by himself or by a tenant, to keep or cause such building, lot, or premises to be kept in a sanitary and healthful condition and in accordance with these rules and regulations.

RULE 29. If any building, lot, or premises within the city of Holland is not kept in a sanitary and healthful condition and in accordance with these rules and regulations, the health officer, city inspector, or any policeman or constable of the city, upon the order of the board of health, shall serve a notice upon the owner, agent, or occupant of said premises, requiring said premises to be put in a sanitary and healthful condition and in accordance with these rules and regulations within a reasonable time, to be stated in such notice. If said owner, agent, or occupant shall fail to comply with the requirements of said notice within the time therein named, it shall be the duty of the city inspector to cause said work to be done and the expense thereof shall be charged to such owner or assessed against the premises as other special assessments are levied and collected.

Domestic Animals—Communicable Diseases—Notification of Cases. (Ord. 311, Nov. 18, 1914.)

RULE 31. Every licensed veterinarian practicing in this city shall immediately report to the health officer any animal affected with any disease which is dangerous to other animals or to the public health, the nature of such disease, and the name and location of the owner of such animal, whenever any such animal shall come under the observation of such veterinarian in the city of Holland. He shall also immediately report to the health officer the name and location of any owner of any cow or cows having any disease and from which any milk is being sold in the city of Holland or which he has reason to believe that the milk is being sold or furnished in the city of Holland.

Penalty. (Ord. 311, Nov. 18, 1914.)

In addition to any other penalty herein provided for, any person or persons who shall violate any of these rules, upon conviction thereof shall be punished by a fine of not less than \$2 nor more than \$100 and costs of prosecution, or by imprisonment in the city jail of the city of Holland or county jail of Ottawa County for a period not exceeding 90 days, or both such fine and imprisonment in the discretion of the court or magistrate. And in case a fine and costs only shall be imposed, such person may be committed to said city jail or county jail of Ottawa County until the payment of such fine and costs not exceeding 90 days.

IRONWOOD, MICH.

Communicable Diseases—Notification of Cases—Physicians to Receive Compensation for — Quarantine — Disinfection — Vaccination — Placarding — School Attendance and Inspection. (Ord. Oct. 27, 1914.)

SECTION 1. *Health officer to prevent spread of dangerous diseases.*—When smallpox or any other disease dangerous to public health is found to exist in the city of Ironwood, the health officer shall use all possible care to prevent the spread of the infection and give public notice of the infected places to residents and travelers, by such means as in his judgment be most effectual for the common safety.

SEC. 2. *Householders to give notice of disease.*—Whenever any householder, hotel keeper, keeper of a boarding house, or tenant shall know or shall be informed by a physician, or shall have reason to believe that any person in his family, hotel, boarding house, or premises is taken sick with smallpox, cholera, diphtheria, scarlet fever, or any other disease dangerous to the public health,

he or she shall immediately give notice in writing thereof to the health officer. Said notice shall state the name of the person sick; the name of the disease, if known; the name of the householder, hotel keeper, keeper of the boarding house or tenant giving the notice, and shall, by street and number, or otherwise, sufficiently designate the house in which he resides or the room in which the sick person may be.

SEC. 3. *Penalty for neglect.*—If he shall refuse or wilfully neglect immediately to give such notice as required in section 2 of this ordinance, he shall be deemed guilty of a misdemeanor, and upon conviction thereof he shall be punished by a fine of not exceeding \$100 and cost of prosecution, or in default of payment thereof by imprisonment not exceeding 90 days in the county jail, in discretion of the court: *Provided*, That this penalty shall not be enforced if the physician in attendance has given to the health officer an immediate notice of said sick person and true name of the disease in accordance with this section.

SEC. 4. *Physician to report.*—Whenever any physician shall know that any person whom he has called to visit or who is brought to him for examination is infected with any contagious or epidemic disease, such as anterior poliomyelitis, chicken-pox, diphtheria, erysipelas, mumps, pneumonia, measles, German measles, scarlet fever, smallpox, acute cerebrospinal meningitis, tuberculosis, typhoid fever, whooping cough, or any of the grades of such diseases or any other disease designated as contagious or epidemic by the health officer as dangerous to public health, he shall immediately give notice thereof to the householder, hotel keeper, keeper of boarding house, or tenant within whose house or room the sick person may reside, notify the health officer by telephone, stating name, age, and sex of person sick, the name of the physician giving notice, and shall by street or number, or otherwise, designate the house or room in which the person is sick may be. The physician shall within 24 hours give hereinbefore-mentioned information in writing to the health officer.

SEC. 5. *Penalty on physician neglecting to give notice.*—And any physician, and person acting as physician, who shall refuse or neglect to immediately give such notice shall forfeit for each such offense a sum not less than \$10 or more than \$50: *Provided*, That this penalty shall not be enforced against a physician if another physician in attendance has given the health officer or his legal representative an immediate notice of said sick person and the true name of the disease, in accordance with the requirement of this section.

SEC. 6. *Compensation for reporting.*—For each complete report in writing to the health officer in full compliance with the preceding section, requiring from physicians or other persons notices of diseases dangerous to public health, the physician who gave the notice shall be entitled, on duly certifying that each notice was correct, and when the bill has been duly audited by the health officer, to receive from the city of Ironwood 10 cents, providing the claim is presented before the 5th day of the preceding [sic] month.

SEC. 7. *Examination and removal of afflicted persons.*—It shall be the duty of the health officer to visit and examine or cause to have visited and examined all sick persons who shall be reported to him as laboring, or supposed to be laboring under smallpox, cholera, leprosy, or any contagious or epidemic disease, and he may cause all such persons, whom he may consider dangerous to the community, to be removed to an isolation hospital or to such other safe and proper place as he may think proper, not exceeding 3 miles from said city, and cause them to be provided with suitable nurses and medical attendance at their own expense, if they are able to pay for the same, but if not then at the expense of the city.

SEC. 8. *Special permit required.*—No person sick with leprosy, cholera, smallpox, diphtheria, scarlet fever, or any other communicable disease dangerous to the public health, and no article which has been infected or is liable to propagate or convey any such disease, shall come or be brought into the city of Ironwood, without the special permit of the health officer, and then only under his supervision.

SEC. 9. *Article from infected place.*—No person shall within the city move or expose, or aid in moving or exposing any household goods, article or thing, to any contagious or epidemic disease until such household goods, articles, or things shall have been disinfected in accordance with the requirements of the expose, or aid in moving or exposing any household goods, article, or thing whatsoever from any infected place or from any train or building in which any person has been sick of any such disease, without a permit therefor from the health officer, nor until such articles or things have been thoroughly disinfected.

SEC. 10. *Removal of sick persons—Exposure of persons forbidden.*—No person shall, within the city, without a permit from the health officer, carry or remove from one place to another any person sick with any contagious or epidemic disease. Nor shall any person by any exposure of any individual sick of any such disease, or of the body of any such person or any negligent act connected therewith, or in any respect to [sic] the care or custody thereof or by a needless exposure of himself, cause or contribute to or promote the spread of disease from any such person or from any dead body.

SEC. 11. *Penalty.*—Whoever shall violate the provisions in sections 8, 9, and 10 of this ordinance, or the order of the health officer made in pursuance thereof, shall, on conviction, be deemed guilty of a misdemeanor, and shall be punished by a fine of not more than \$100 or by imprisonment in the county jail not exceeding 90 days, or by both said fine and imprisonment.

* * * * *

SEC. 16.—*Duty to vaccinate all persons at time of smallpox epidemic.*—The health officer or his authorized representative shall take such measures as he from time to time deems necessary to prevent the spread of smallpox, and shall vaccinate without charge all persons who may apply to him.

SEC. 17. *Power of entry to vaccinate.*—The health officer or any physician authorized to act by the health officer or his representative, shall have the power to enter any house, boarding house, rooming house, factory, workshop, schoolhouse, or any other place where persons congregate, for the purpose of vaccinating any person or persons found therein, at any time, when in the opinion or belief of the health officer smallpox is epidemic, or where it shall have come to the knowledge of the said health officer that any person infected with smallpox or who has been exposed to infection, has recently been allowed or permitted to be present in such place hereinbefore mentioned.

SEC. 18. *To vaccinate any and every person in the city.*—The health officer or any physician authorized to act by him or his representative, shall have the power and is hereby authorized at any time when smallpox is prevalent or an epidemic of smallpox appears to be imminent, to vaccinate any person within the city whom he may deem it necessary or advisable to vaccinate: *Provided*, That any such person whom the health officer or his representative shall deem it necessary to vaccinate, shall desire to be vaccinated by his own physician he shall be permitted to be vaccinated by such physician, if such vaccination be performed forthwith and in a manner satisfactory to the health officer or his representative.

SEC. 19. *Penalty.*—Should any person refuse to be vaccinated at time hereinbefore provided and, in the opinion of the health officer or his representative,

such person is a source of danger to the community, said health officer or his representative is hereby authorized and he shall cause said person or persons to be put under strict quarantine for a period of 21 days, or such time as in the opinion of the health officer or his representative the source of danger is removed.

SEC. 20. Isolation and posting of notices.—It shall be the duty of the health officer to impose such restrictions upon, and exercise such supervision over, all persons afflicted or sick with smallpox, scarlet fever, or any contagious, epidemic, or reportable disease as he shall deem necessary to protect from such disease all persons not of a necessity connected with any person so afflicted or sick. In order to secure the isolation of a person afflicted with a contagious or epidemic disease the health officer may cause a notice or notices printed, or written, in large letters to be placed upon or near any house in which such person may be; upon which notice shall be written or printed information setting forth the contagious or epidemic nature of the disease. If after any such notice or notices shall be so affixed any person shall deface, alter, mutilate, conceal, or destroy, or tear down such notice without permission of the health officer, such person shall be punished by the penalty of this section for each offense, and every occupant of any house or building upon which notice shall be affixed as aforesaid shall be held responsible for the removal of the same.

SEC. 21. Health officer to fumigate.—It shall become the duty of the health officer upon removal, death, or recovery of every person suffering from a contagious or communicable disease, and he must without charge, fumigate or cause to be fumigated at a time designated by him and in a manner he may deem most efficient, all rooms, articles, or things which have been infected or exposed to infection, and any article of clothing or wearing apparel which has been in contact with the patient within five days preceding the onset of the disease.

SEC. 22. Householder to cleanse and renovate.—It shall become the duty of the householder upon removal, death, or recovery of any person suffering from a contagious or communicable disease, and he must at his own expense, when ordered by the health officer, cleanse or renovate all furniture and premises which has been infected or exposed to said contagious or communicable disease.

SEC. 23. Permit to return to school requested.—No person or child who has had a disease designated as contagious or epidemic by the health officer or has been exposed to said disease shall be permitted to return to school until the superintendent of schools or the principal of the school in which the said person is to be occupied has received from the health officer consent in writing for the return of such person or child.

SEC. 24. Inspection of school children for contagious disease.—The health officer or such representative or representatives as he may authorize or designate shall have the power of entry into any public school at all times and make or cause to be made an inspection or series of inspections of occupants of said school building for the purpose of detecting contagious or communicable diseases, and the said health officer shall make or cause to be made such inspections at any time and as often as he may deem necessary for the proper protection of the community against contagious or communicable disease.

SEC. 25. Exclusion of pulmonary tuberculosis from public school.—No person or persons shall be employed in a public school building, room, or rooms used for the purpose of public instruction by the city, or on the grounds of such institution, if upon examination by the health officer or his qualified representa-

tive such person or persons are found to be suffering with pulmonary tuberculosis.

SEC. 26. School children afflicted with pulmonary tuberculosis to be excluded.—No person, pupil, or child shall attend a public school for instruction or be allowed to enter and associate with noninfected children on the grounds of said school for public instruction if the records in the office of the health officer shows that said person, child, or pupil is afflicted with pulmonary tuberculosis. When any such person, child, or pupil with the disease hereinbefore mentioned is known by the health officer to be entering such school for public instruction or grounds, it shall become his duty and he must forthwith instruct the superintendent of schools or his representative to exclude from school and grounds of said public school such person, pupil, or child.

SEC. 27. Power of parent or guardian to protest.—The parent or guardian of any person, pupil, or child who has been excluded from school as provided in section 26 of this ordinance may, if he so desires, request in writing, to the superintendent of schools, for a special examination to be made as hereinafter provided. Upon receipt of such request the superintendent of schools is hereby authorized, and he shall cause to assemble, a board to be known as the school tuberculosis exclusion board, consisting of three regularly qualified physicians, one of whom shall be the family physician of the complainant or a well-qualified physician, whose name shall have been presented by said parent or guardian of the child, and the second member of the said board shall be the health officer, or a well-qualified physician acting as his representative. It shall become the duty of the first and second members to meet, select and agree upon the third member.

This board shall make such examination as they may deem proper and their findings communicated in writing to the superintendent of schools, who shall cause the person, pupil, or child to be readmitted to such school: *Provided*, That the said tuberculosis exclusion board ordered said person readmitted.

SEC. 28. Compensation of board.—The compensation of the tuberculosis exclusion board shall be as herein provided.

It shall become the duty of the complainant to pay any and all expenses and examination fee or fees of the first member. This being one of the duties provided for in creating the position of health officer, the second member of said board shall act at any and all times without compensation. The third member of said board may enter a claim against the board of education for an amount not exceeding \$5 for each and every examination; should the third member of said board not receive compensation as heretofore provided for, the city shall pay to the said third member an amount not exceeding \$5 for each and every examination.

Health Officer—Powers and Duties—Insignia of Office. (Ord. Oct. 27, 1914.)

SEC. 12. Duties of health officer.—It becomes the duty of the health officer and he shall enforce act 27 of the revised State code relative to tuberculosis, and at all times comply with the rules and regulations of the State board of health pertaining to the duties of health officer.

* * * * *

SEC. 29. Power to make rules and regulations.—The health officer shall have power to make such rules and regulations in relation to the sanitary conditions of the city, and for the prevention and suppression of disease, not inconsistent with the laws of the State or the ordinances of the city, as he may deem necessary. Such rules or regulations shall not take effect until approved by the city council excepting in case of emergency as hereinafter provided for. In case of

epidemic contagious disease or anticipated or impending epidemic, or in case the sanitary condition should be such to warrant it, it shall be the duty of the health officer to make such rules and regulations, and take such measures and to do and order to be done, and cause to be done, such acts for the preservation of public health (though not herein or otherwise authorized) as he may in good faith believe and declare the public safety and health demand, and all such rules and regulations so declared by the health officer, to be emergency rules and regulations, shall, as soon as may be after the promulgation of the same, be reported by said health officer to the city council for approval.

SEC. 30. Insignia of office.—The insignia of the health officer, or his authorized or designated representative, shall be a five-pointed metallic star, not more than 3 inches in diameter, on the face of which must be stamped or engraved in clear letters and forming a circle the words "Sanitary Ironwood," and the serial number of said star.

No person shall wear, keep in his possession, give, barter, or exchange a star, as hereinbefore described, unless he be, in fact, an officer and designated or authorized to act as such by the health officer.

The health officer or his authorized representative shall have the same authority in which the police officer is invested excepting the power of arrest.

Any person or persons who shall refuse entry, oppose, resist, or attack said health officer or his representative when wearing this insignia exposed or while in pursuance of duties invested in him by the common council, or violate sections 20, 22, and 23 of this ordinance, shall upon conviction be deemed guilty of a misdemeanor and punished by a fine of not less than \$10 nor more than \$100, or 90 days in the county jail, or both, in the discretion of the court.

. Antitoxin and Vaccine—Distribution and Sale. (Ord. Oct. 27, 1914.)

SEC. 13. Antitoxin, typhoid vaccine, and vaccine—Free distribution.—The health officer shall at all times keep on hand, so far as is practicable, a sufficient quantity of diphtheria antitoxin, vaccine for the immunization against small-pox and typhoid fever, and he shall without charge issue this for the treatment or immunization of any dependent or deserving person: *Provided*, That the physician who is to administer the antitoxin or do the immunizing against typhoid fever makes application for said antitoxin or vaccine in writing, giving name, age, occupation, and address of the person to be treated or immunized.

SEC. 14. Antitoxin—Reports of sale or distribution required.—Every person, firm, or corporation who shall sell or give free of charge to any person within the city of Ironwood any diphtheria antitoxin shall report in writing the following facts to the health officer within 24 hours after such sale or gift: The name and address of such seller; the date and hour of such sale or gift; the name and address of the buyer or recipient; the name and address of the patient on whom it is to be used; and the number of packages and the number of units in each.

SEC. 15. Penalty.—Any person, firm, or corporation who shall fail, neglect, or refuse to make the report required in section 14 of this ordinance shall be deemed guilty of a misdemeanor and upon conviction thereof shall be punished by a fine of not less than \$5 nor more than \$25.

Nuisances—Public Places—Dumping Grounds—Care of Premises. (Ord. Oct. 27, 1914.)

SECTION 1. No person shall himself, or by another, throw, place, deposit, or leave in any street, highway, lane, or alley, public place or square, or in any

private place or premises within the limits of this city, any animal or vegetable substance, dead animal, fish, shavings, paper, dirt, rubbish, excrement, filth, slops, unclean or nauseous water, liquor, or gaseous fluids, hay, straw, soot, offal, garbage, swill, or any other article or substance whatever. In case any alley where any substance above named shall exist or have been deposited, it shall be the duty of every owner or occupant of any lot or premises, within 24 hours after having been notified by the sanitary engineer or health officer or either of their representatives so to do, to remove from the half of said alley adjoining such lot or premises all such substances.

SEC. 2. Dumping refuse on lots prohibited.—No lot or ground within the city of Ironwood shall be used for a dumping place for rubbish, refuse, or waste material excepting such lots and grounds as with the consent of the owner thereof shall be designated as a public dumping place by the sanitary engineer or health officer. Lots and grounds designated as a place for public dumping shall be so marked by an appropriate sign to which must be affixed a copy of the permit creating said public dumping ground, such permit to bear the signature of the property owner and the sanitary engineer or health officer.

SEC. 3. It shall be the duty of the owner or occupant of each and every lot, plat, or parcel of real estate in the city to keep the same free from noxious grasses and weeds.

Spitting—Prohibited in Public Places—Spittoons to be Provided. (Ord. Oct. 27, 1914.)

SEC. 4. No person shall spit or expectorate upon any sidewalk, crosswalk, or footway of any public streetway, park, or square, or upon the floor of any hall or office in any hotel, house, tenant or lodging house which is used in common by guests or tenants thereof, or upon the floor, platform, steps, or stairs of any public building, hall, church, theater, railway station, store, or factory, street car, or other public conveyance.

SEC. 5. Every person owning or having the management or control of any house, tenant or lodging house, or any store, factory, theater, building, or room which is used in common by the public shall provide sufficient and proper receptacles for spitting, and also shall provide for the cleansing and disinfecting of such receptacles at least once in every 24 hours.

SEC. 6. The following placard shall be exposed by the proprietors, agents, or other persons in charge of said public buildings, sidewalks, or conveyances:

NOTICE.

Spitting (designate place) is prohibited by law under a penalty of one to five dollars fine or thirty days' imprisonment.

By order of

Sanitary Engineer or Health Officer.

Privies and Cesspools—Maintenance. (Ord. Oct. 27, 1914.)

SEC. 7. No privy vault or cesspool for sewage shall hereafter be constructed in any part of the city where a sewer is at all accessible, which fact shall be determined by the sanitary engineer or health officer, nor shall it be lawful to continue a privy vault or cesspool on any lot, plat, piece, or parcel of ground abutting on or contiguous to any street or alley through which passes a public sewer within the city limits.

It becomes the duty of the sanitary engineer or health officer and he shall give notice in writing to each owner of property on which is located a privy vault

or cesspool in violation of this section, and he shall allow a period not exceeding 90 days from date of notice for the property owner to have vault cleaned, filled, and privy removed and destroyed.

Penalty. (Ord. Oct. 27, 1914.)

SEC. 8. Any violation of this ordinance shall be punished by a fine of not less than \$10 nor more than \$100 and the costs of prosecution; and in the imposition of such fine and costs the court makes a further sentence that the offender be imprisoned in the county jail of Gogebic County or the city jail of the city of Ironwood until the payment thereof: *Provided, however,* That the charge of such imprisonment shall not exceed 90 days.

ISHPEMING, MICH.

Milk and Cream—Production, Care, and Sale—Inspection. (Ord. July 9, 1914.)

SECTION 1. The office of dairy and milk inspector is hereby created, and the term of office of said inspector shall be during the pleasure of the mayor and common council; and no person not a veterinarian registered under the laws of this State shall be eligible to appointment or shall hold said office.

SEC. 2. Upon any such appointment and approval said inspector shall take and file with the recorder the constitutional oath of office, and before entering upon the discharge of the duties of such office shall execute and file with the recorder a bond in the penal sum of \$1,000 with a surety company as surety, or at least two personal sureties thereon, to be approved by the common council, conditioned upon the faithful performance of the duties of such office.

SEC. 3. The compensation of said inspector shall be fixed by the common council of the city of Ishpeming.

SEC. 4. It shall be the duty of such inspector to file with the city recorder an accurate and complete report of his doings on or before the first Tuesday of each and every month.

SEC. 5. It is hereby made the duty of such dairy and milk inspector to purchase tags at the expense of the city, to be used by such inspector as means of identifying cattle by him inspected. And it shall also be the duty of such inspector to tag every cow after inspection if such cow shall be found to be healthy and in good condition. Said inspector shall also purchase tuberculin, reagents, and chemicals used by him in making tests of cows.

SEC. 6. It shall be the duty of said dairy and milk inspector to enforce in this city all State laws relative to dairies and dairy products, and also all the provisions of this ordinance; and he shall at least once in each month inspect all dairies, stables, and premises in the county of Marquette where cows or other animals are kept, from which milk or cream is sold or furnished in this city, by any licensed milk dealer; that said inspector, once in each and every year, shall inspect every cow in every herd with a hypodermic tuberculin test, supplying milk to be sold in this city, and every cow added to said herd by any such owner shall, before selling any milk or cream from said cow, be inspected; it is hereby made the duty of any milk dealer to notify the inspector of any cow added to his herd before he shall sell any milk or cream from said cow, and that said inspector shall within three days thereafter make an inspection of any such cow or cows added by any dealer.

SEC. 7. No person shall bring into the city of Ishpeming, for sale or offer for sale, any milk or cream without a permit from the milk and dairy inspector of this city.

Sec. 8. It shall be unlawful for any person or persons to bring into the city of Ishpeming, for sale or offer for sale, any milk or cream which has been obtained from any milk dealer, dairyman, or other person not having a permit from the inspector of this city.

Sec. 9. Before any person or persons shall engage in the business of selling milk or cream in the city of Ishpeming, he shall apply to and obtain from the dairy and milk inspector a permit, and in the application for said permit the applicant shall state his name, residence, location of business, and the number of cows owned by such applicant, for which permit the inspector shall collect the sum of \$1, which shall belong to and be paid to the city of Ishpeming. That said inspector shall not issue any such permit to any dealer or other person unless he shall have inspected the cow or other animal from which milk is sold, belonging to such applicant before issuing such permit: *Provided, however,* That if said inspector shall find the cows or other animals from which milk is sold healthy and all premises in good condition, then it shall be the duty of said inspector to at once issue a permit to such applicant.

Sec. 10. All permits issued by the inspector to milk dealers and dairymen shall expire on the 1st day of May next after the issuance thereof.

Sec. 11. Said inspector shall not issue any permit unless he shall have proof of the healthy condition of the cows and the cleanliness and sanitary condition of all the stables and places of business of such applicant and dealer; also the cleanliness of the utensils used by said dealer from which milk or cream is obtained, and that all persons engaged in the care and handling of cows, milk, or cream are free from contagious disease, and that all persons connected with said business use due cleanliness in the performance of their duties.

Sec. 12. It shall be the duty of such inspector to visit the dairy or place of business of each and every dealer and make such investigation and gather such information as to inform himself of the sanitary condition of such dairy, stable, or other place of business: *Provided, however,* That if such dealer or applicant shall live at such a distance from the city of Ishpeming as to make it impracticable for the inspector to visit such dairy premises, then such applicant shall furnish satisfactory evidence of the cleanliness of his premises and utensils and the healthy condition of his cows.

Sec. 13. If after the issuing of any such permit to sell milk or cream said inspector shall find that the provisions of this ordinance are being violated, it is hereby expressly made the duty of such inspector at once to revoke said permit, and no new permit shall be granted or issued to such dealer until all unsanitary conditions have been removed and the provisions of this ordinance complied with.

Sec. 14. That all milkers of cows or other animals from which milk is sold shall thoroughly wash and wipe his or her hands and the cows' udders before milking said cow or other animal from which milk is sold; that said milker shall also thoroughly wash all pails, cans, strainers, etc., in hot water and soda shall also thoroughly wash all pails, cans, strainers, etc., in hot water and soda and sterilize same with boiling water or steam before using same.

Sec. 15. It shall be the duty of said milker, immediately after milking, to remove such milk from the stable into a milk house or room and cool to at least 55° F. temperature, and put into perfectly clean standard bottles; that said milk house or room shall be screened from flies and other insects, and shall be at least 30 feet from any cesspool or manure heap, and shall be kept clean at all times, and free from odors.

Sec. 16. It shall be unlawful for any person or persons to use any containers other than standard bottles in the distribution of milk, and such bottles

shall be thoroughly cleaned with hot water and soda and sterilized with boiling water or steam before same are used or refilled.

SEC. 17. No person shall sell or offer for sale in the city of Ishpeming milk containing less than $3\frac{1}{2}$ per cent butter fat and having a specific gravity of less than 1029: *Provided, however,* That the $3\frac{1}{2}$ per cent butter fat and the specific gravity of 1029 shall not apply to milk sold and labeled as skim milk and buttermilk. That no person shall sell or offer for sale as hereinbefore mentioned any milk containing any dirt, foreign matter, or sediment, or drawn from any cow having a communicable disease or showing symptoms of tuberculosis, or from a herd containing any diseased cattle, or are [sic] afflicted with or have been exposed to any communicable disease, or drawn from any cow within 15 days before and before eighth milking after parturition, or drawn from any cow with inflamed or sore nipples, or having a temperature or which has been kept at a temperature higher than 55° F.

SEC. 18. That all surroundings of stables or premises where cows are kept shall be kept in a sanitary condition, that cows shall not be allowed to stand in manure or filth, and that all stables where cows are kept shall be painted or whitewashed at least once each year, and shall be kept free from cobwebs, dust, and odor; that manure and urine shall be removed from the stable at least once daily, and if not taken away daily, shall be removed and kept removed at least 30 feet from the stable or place where cows are kept, and that said cows shall not be allowed to get to said manure heaps; that all floors where cows are kept shall not be laid less than 1 foot higher than the inside surface level and to be tight, and shall be so constructed as to afford good drainage; that all floors where cows are kept shall be maintained in good repair and constructed with a drain not less than 12 inches wide; that all ceilings shall be tight and kept free from cobwebs; that window area shall be at least 3 square feet per 500 cubic feet of air space, and shall be so uniformly distributed as to afford a reasonably well lighted stable or barn; that all stables or barns shall be well ventilated.

SEC. 19. It shall be unlawful for any person or persons to keep any other livestock in the same stable with cows.

SEC. 20. Any person or persons attempting to carry on the milk or dairy business in the city of Ishpeming without first having obtained a permit from the inspector shall be fined not less than \$25 nor more than \$100, or by imprisonment in the county jail not to exceed 60 days, or by both such fine and imprisonment, in the discretion of the court.

LAPORTE, IND.

Milk and Milk Products—Production, Care, and Sale. (Ord. 177, June 1, 1914, as Amended Sept. 3, 1914.)

SECTION 1. It shall be, and it is hereby made, unlawful for any person, persons, firm, or corporation to bring into, or to sell, barter, or exchange, or offer for sale, barter, or exchange within the corporate limits of the city of Laporte, or to have in his, their, or its possession, with intent to sell, barter, or exchange any milk, cream, or skim milk, intended for human food, without first having obtained a license therefor as hereinafter provided, from the city of Laporte. All milk sold, bartered, or exchanged, or offered for sale, barter, or exchange, or to be given away within the corporate limits of the city of Laporte shall be what is known as "inspected milk" or shall be "pasteurized milk" and must test as hereinafter provided. Any person, persons, firm, or corporation

desiring to bring milk into the city of Laporte, or to barter, sell, or exchange within the corporate limits of the city of Laporte shall first make application to the secretary of the board of health of the city of Laporte, upon the blanks to be provided for that purpose; which application shall be signed and verified by the person, or by a member of the firm or by an officer of the corporation making the application; and shall submit the cattle producing the milk and the premises upon which it is produced and handled to an examination by the secretary of the board of health. If it shall be found that the applicant has complied with the requirements of the laws of the State of Indiana and of this ordinance for the protection of the public health, a certificate of that fact shall be issued to the applicant, which certificate together with a fee hereinafter prescribed shall be delivered to the clerk of the city of Laporte, Ind., and a license shall thereupon be issued to such applicant, permitting such applicant to sell and dispense milk within the corporate limits of the city of Laporte.

Such application for a license shall set forth the full name and address of the applicant, the number of cows owned by such applicant, if any, and the description and location of the place where such cows are kept, and a description and location of the premises upon which the milk is handled. If such applicant shall obtain milk from some other person, firm, or corporation, or proposes to obtain milk from some other person, firm, or corporation, he shall also give the name of such person, firm, or corporation and the location of the place where the cows are harbored which furnish such milk and the place where such milk is handled.

Such application shall further show whether or not the cattle owned by him and used in the production of milk sold in the city of Laporte have been subjected to a tuberculin test, and whether or not such test showed such cattle free from tuberculosis.

Upon the filing of such application with the secretary of the board of health he shall cause an inspection to be made of the premises, cows, and milk owned by such applicant and the person, firm, or corporation from whom such applicant is buying or proposes to buy milk, cream, or skim milk, and the place of handling the same, and shall certify such fact to the city clerk who shall issue the permit as hereinbefore provided.

Upon such examination having been made by the city health officer, if he shall report favorably, such applicant shall immediately pay the fee prescribed to the city clerk and procure the license herein provided for, but such applicant shall not bring any milk into the city of Laporte nor dispose of any milk in the city of Laporte before obtaining such permit or license. If any person, firm, or corporation who has obtained a license to sell or dispose of milk, cream, or skim milk within the city of Laporte shall desire to purchase any milk, cream, or skim milk from any person, firm, or corporation not named in his original application, to whom a permit or license shall not have been previously granted, as provided for in this ordinance, then such applicant shall notify the secretary of the board of health of such intention at least five days before he shall sell or offer for sale or distribution or delivery any such milk, and the secretary of the board of health shall thereupon make an examination of the cows and premises upon which such milk is produced and handled, and if such cows and the place of handling said milk and the premises shall comply with the provisions of this ordinance and the laws of the State of Indiana, an additional permit shall be issued to such applicant, permitting him to sell such milk, but such permit shall not authorize the person, firm, or corporation producing the milk to sell or deliver milk to any other person, firm, or corporation in the city of Laporte, unless a license has been issued to such other person.

firm, or corporation, as herein provided for. No license fee shall be required to be paid by any person, firm, or corporation producing milk, for milk sold to any other person, firm, or corporation, provided such other person, firm, or corporation shall have procured a license and paid the fees provided for, but such producer shall obtain a permit and comply with all of the provisions of this ordinance, except the payment of such fee, before they shall be permitted to sell or deliver milk, cream, or any other dairy products in the city of Laporte.

Sec. 2. After the 1st day of June, 1915, no milk, cream, or skim milk shall be delivered or distributed or offered for sale, barter, exchange, or delivery in the city of Laporte unless the cows which produced such milk shall have been tested for tuberculosis by a veterinary approved by the State veterinary of the State of Indiana and a certificate of such fact delivered to the owner of such cows showing that such cow or cows are free from tuberculosis. Upon making such inspection such veterinary shall attach to the left ear of such cow a small metal tag which shall be furnished by the city of Laporte at cost; and which tag shall show the date of such inspection and the number of the cow inspected; but no such tag shall be attached to any cow which shall not have been first inspected and found to be free from tuberculosis.

All cows producing milk, which milk shall be brought into the city of Laporte or sold or delivered in the city of Laporte, shall be inspected at least once each year thereafter, and the cost of all inspections shall be borne by the owner of such cow or cows.

No milk-producing cow or cows which shall not have been inspected and declared free from tuberculosis shall be permitted to be with cows which have been inspected and certified under this provision, nor shall the milk of any cows which have not been reported certified as free from tuberculosis be mingled with the milk of cows certified as free from tuberculosis, as herein provided for, nor shall the milk of any cow or cows not found to be free from tuberculosis be sold or delivered or offered for sale or delivery in the city of Laporte.

Sec. 3. All milk brought into the city of Laporte for sale, barter, or exchange or to be delivered in said city shall be divided into two classes, which classes shall be known as:

First. Inspected milk.

Second. Pasteurized milk.

Sec. 4. All inspected milk must be produced from dairies and cows kept as hereinafter provided and handled in the manner following: Cows must be kept clean at all times and must be thoroughly cleansed each time before milking.

Sec. 5. The practice known as wet milking shall not be permitted.

Sec. 6. Cows shall not be fed on slops, refuse of any distillery or brewery, glucose, or any malt in a form of fermentation, putrefaction, or decomposition, or any other putrid or unwholesome substance. The milking must be done by persons who are clean as to both clothing and person, or by clean mechanical milkers operated by persons as above specified. Milk produced from cows within five days after calving shall not be mixed with inspected or pasteurized milk.

Sec. 7. No milk shall be brought into the city of Laporte or sold or distributed from any premises either inside or outside of the city of Laporte, if any person living or employed on said premises shall have any contagious or infectious disease or shall be exposed to any such disease, or if any person residing or employed upon such premises is suspected of being a carrier of typhoid or diphtheria germs.

If any such person is found or suspected to have any infectious or contagious disease the secretary of the board of health shall immediately be notified, and no milk, skim milk, or buttermilk shall be removed from said premises until

such secretary shall have made an inspection and shall authorize the person in charge of such premises, in writing, to remove such milk, cream, skim milk, or buttermilk for use in the city of Laporte.

SEC. 8. All utensils or other devices used in the producing or handling of inspected milk must be thoroughly sterilized each time before used and must be so constructed that no milk can accumulate or soak in so that it could not be easily removed by simple washing. All such utensils or devices must be free from rust.

All inspected milk must be removed from the stable immediately after it is obtained and shall be strained and cooled at once to 60° F. or below and shall be kept at such temperature or below until delivered to the consumer. All milk, cream, skim milk, or buttermilk exposed for sale, offered for sale or sold to the consumer shall be contained in tightly inclosed capped bottles or receptacles of a similar character, and the caps of such bottles shall be marked "Inspected" "Milk," "Cream," or "Skim milk," as the case may be, on the tag or cap attached to such bottle, in letters not less than three-sixteenths of an inch high; such cap or tag shall be marked with the series number corresponding with the numbers of the license issued to the distributor and the permit issued to the producer, and shall also be plainly marked with the day of the week upon which said milk, cream, or skim milk was first drawn from cow or cows: *Provided*, It shall be unlawful for any person, firm, or corporation to permit to be marked on any bottle or container, the name of any day other than that upon which the contents were drawn from the cow.

SEC. 9. Inspected milk and inspected skim milk at the time of delivery to the consumer shall not contain more than 100,000 bacteria per cubic centimeter between October 1 and May 1, inclusive, and not more than 150,000 bacteria per cubic centimeter from May 2 to September 30, inclusive.

Inspected cream at the time of delivery to the consumer shall not contain more than 150,000 bacteria per cubic centimeter from October 1 to May 1, inclusive, and not more than 300,000 bacteria per cubic centimeter from May 2 to September 30, inclusive, as may be determined by tests made by the secretary of the board of health.

SEC. 10. Pasteurized milk, pasteurized cream, pasteurized skim milk must be pasteurized and handled under the conditions hereinbefore required for the production and handling of inspected milk, except the word "pasteurized" should be substituted and used where the word "inspected" appears hereinbefore. All milk, cream, or skim milk shall be pasteurized unless it shall be inspected and handled on the plans and in the manner hereinbefore set forth, and unless said premises and cattle and the manner of handling the same shall have been inspected and approved by the secretary of the board of health within one year of the date of the delivery of such milk.

All milk sold, bartered, exchanged, or delivered, or kept for sale, barter, exchange, or delivery in the city of La Porte which shall not have been produced and handled in compliance with the provisions relative to inspected milk must be pasteurized.

Every person, firm, or corporation installing or operating a pasteurizer for the purpose of pasteurizing or treating milk, cream, or skim milk to be sold, offered for sale, or kept with the intention of selling, or for the pasteurization or treatment of milk, cream, or skim milk to be shipped or brought into the city of La Porte shall notify the board of health in writing, stating the time when and the place where such pasteurizer is to be installed, together with the name of the person or persons who will operate said pasteurizer, and shall file with said board of health the name of the owners and the location of all farms from which the milk that is to be pasteurized at said plant is to be obtained.

The secretary of the board of health shall thereupon make or cause to be made an inspection of such pasteurizer and the premises or plant wherein the same is operated. He shall also inspect or cause to be inspected all farms the milk supply of which after pasteurization at said plant is sold or to be sold or intended for sale or brought into the city of La Porte; and no such farms shall be allowed to bring or furnish milk or cream to such pasteurizing plants without first being inspected and found to comply with the requirements of this ordinance.

If the pasteurizer and pasteurizing equipment is such that 99 per cent of all bacteria and all pathogenic bacteria are killed in pasteurization, a permit shall be issued allowing the milk, cream, or skim milk pasteurized in such pasteurizer on such premises to be brought into or sold in the city of La Porte.

The pasteurized products shall be cooled at once to a temperature of 45° F. or below. The cooling shall be so conducted that the pasteurized product is not exposed to possible sources of contamination. The cooling apparatus shall be so constructed that it can be readily cleaned and sterilized.

Milk, cream, or skim milk shall be inclosed in tightly capped bottles or packages of similar character or in sealed cans immediately after pasteurization.

Pasteurized milk, cream, or skim milk shall be kept at a temperature of 50° F. or below while the same is stored or kept at pasteurizing plant, bottling establishment, or milk depot, and delivered to consumer at 60° F. or below.

Pasteurized milk and skim milk shall not contain more than 50,000 bacteria per cubic centimeter from October 1 to May 1, inclusive, and not more than 100,000 bacteria per cubic centimeter from May 2 to September 30, inclusive. Pasteurized cream shall not contain more than 150,000 bacteria per cubic centimeter from October 1 to May 1, inclusive, and not more than 300,000 bacteria per cubic centimeter from May 2 to September 30, inclusive, and shall not contain colon bacilli in 1 cubic centimeter as determined by culture method.

SEC. 11. Milk, cream, or skim milk which has been pasteurized and held for a period of 12 hours after such pasteurization shall not be repasteurized or reheated for the purpose of enhancing the keeping qualities of such milk, cream, or skim milk.

SEC. 12. No water-closet, privy, cesspool, urinal, inhabited room, or workshop shall be located within any building or room for stabling cows, or for the storage or handling of milk or milk products; nor shall any fowl, hog, horse, sheep, goat, or other animal be kept in any room used for milking or for storing milk or milk products.

SEC. 13. All rooms and stables in which cows are milked shall be thoroughly clean and in good repair and shall be painted or whitewashed once each year.

SEC. 14. All persons using any premises for keeping cows shall cause the yard or pasture in connection therewith to be provided with a proper receptacle for drinking, for such cows, and none but fresh, clean, pure water shall be stored in such receptacle.

SEC. 15. Any inclosure in which cows are kept shall be graded and drained so as to keep the surface reasonably dry and to prevent the accumulation therein, and no garbage, urine, fecal matter or similar substances shall be placed or allowed to remain in such inclosure, and no open drain shall be allowed to run through it.

SEC. 16. All milk or cream cans delivered to creameries or dealers in cities shall be covered with tight-fitting lids, and when conveyed in open wagons shall be covered with clean canvas while so conveyed.

SEC. 17. No person or persons, firm, association, or corporation buying, storing, or receiving milk for the purpose of selling the same for consumption as

such, or for manufacturing it into butter, cheese, ice cream, condensed milk, or other human food, shall keep the same in utensils, cans, vessels, or rooms that are unclean or have unsanitary surroundings or drainage, or under conditions favorable to unhealthfulness or disease, and milk to be sold for consumption as such shall be cooled to a temperature not higher than 60° F. within one hour after receipt, and shall be kept at such temperature until delivered.

SEC. 18. When the secretary of the city board of health, the city inspector, or other person authorized to collect samples of milk or cream for analysis shall, in the discharge of his duties, take samples of such milk or cream for analysis, he shall before taking samples from a bulk container cause the milk or cream to be thoroughly mixed by stirring or pouring of said milk or cream.

SEC. 19. Inspected milk and inspected cream under the terms of this ordinance shall be held to be unclean, impure, unhealthy, unwholesome, or adulterated, when said milk or cream shall contain more than 150,000 bacteria per cubic centimeter of milk and 300,000 bacteria per cubic centimeter of cream, on two successive counts from samples collected by some member of the board of health or a duly authorized representative thereof.

SEC. 20. No person, either by himself, his servant or agent, or as the servant or agent of another person, shall sell, exchange, or deliver, or have in his custody or possession with intent to sell, exchange, or deliver, expose or offer for sale or exchange, adulterated milk or milk to which water or any foreign substance has been added, or milk produced by sick and diseased cows, or milk from which the cream or a part thereof has been removed, or milk which is not of standard quality, or milk collected and kept or handled under conditions which are not cleanly or sanitary, or milk which contains visible dirt, or milk which contains less than 8½ per cent of milk solids exclusive of fat, or milk which contains any added color or preservative, or as pasteurized milk, milk which has not been subjected to a temperature of at least 145° F. for 20 minutes, or 165° for 60 seconds.

No milk, cream, or skim milk shall be brought into the city of La Porte for sale or delivery, or offered for sale or delivery in said city of La Porte more than 36 hours after it has been drawn.

SEC. 21. All milk, cream, skim milk, or buttermilk brought into the city of La Porte, or sold, offered for sale, or kept for the intention of selling, or of using in the manufacture of ice cream, which does not comply with the provisions of this ordinance, shall be condemned by the secretary of the board of health and rendered unfit for human food by coloring or otherwise treating, or shall be seized and destroyed: *Provided*, That if in the opinion of the board of health it is proper to do so, the said milk, cream, skim milk, or buttermilk may be tagged as follows: "Condemned, board of health, La Porte," and returned to the shipper or producer.

SEC. 22. It shall be the duty of every person, firm, or corporation owning, conducting, carrying on, or operating any dairy or milk house, or any place where milk is stored or is kept for sale, to post and keep posted thereon at all times a copy of this ordinance.

SEC. 23. There shall be five classes of licenses issued under this ordinance, which shall be as follows:

1. A license to sell inspected milk from less than five cows, for which a fee of \$1 for each cow per year shall be paid by the applicant upon filing his application.

2. A license to sell inspected milk from five or more cows, for which a fee of \$5 shall be paid by the applicant upon filing his application.

3. A license to operate a pasteurizer for the pasteurization of milk not marked as inspected, and to sell and deliver such milk, for which a fee of \$10 shall be paid upon the filing of the application as hereinbefore provided.

4. A license to sell pasteurized milk where same has been pasteurized by some person, firm, or corporation other than the person selling, offering for sale, or delivering same, for which license a fee of \$3 shall be paid where the average daily sales amount to less than 7 gallons, and a fee of \$5 where the average daily sales amount to more than 7 gallons.

In all cases where a person owning cows shall deliver for pasteurization to any person, firm, or corporation operating a pasteurizer, and shall receive back pasteurized milk from such person, firm, or corporation, he shall pay the license fee provided for under subdivision 4 of this section.

5. A license to sell inspected milk where the average daily sales amount to less than 2 gallons, for which a license fee of \$2 per year shall be paid.

All licenses for the sale of milk or other products issued in pursuance to the provisions of this ordinance shall expire on the 30th day of June following the date of their issue.

SEC. 24. The funds derived from the sale of licenses shall be known as "The milk laboratory fund," and the proceeds of the sale of all licenses issued under this ordinance shall be paid into such fund and used for the payment of the expenses incident to the examination and testing of milk and other dairy products sold or offered for sale in the city of La Porte.

SEC. 25. *Penalties and seizure.*—Every person, firm, or corporation violating any of the provisions of the foregoing sections shall be fined not less than \$5 nor more than \$200 for each offense.

SEC. 26. The secretary of the city board of health is hereby empowered to revoke the license of any dealer in milk, cream, skim milk, or buttermilk who has failed or refused to comply with the provisions of this ordinance; and he is hereby directed to revoke the license of any dealer who has been convicted of a violation of this ordinance or of the pure-food laws of the State of Indiana.

LEXINGTON, KY.

Buildings and Premises—Insanitary—Abatement of Nuisances—Vacation of. (Ord. 450, Aug. 17, 1914.)

SECTION 1. It shall be unlawful for any person, firm, or corporation, after notice as hereinafter set out, to maintain, lease, let, occupy, or permit the occupancy of any building, structure, or portion thereof, or premises adjacent thereto, designed or intended for dwelling purposes or used for human habitation, which is or may become so unclean, insanitary, unhealthful, or out of repair as to render it unfit for human habitation or dangerous, injurious, or detrimental to the lives, health, or morals of its occupants or the community.

SEC. 2. Any structure, building, or portion thereof, or premises adjacent thereto, intended or designed for dwelling purposes or used for human habitation which is or may hereafter become so unclean, insanitary, unhealthful, or out of repair as to render it unfit or unsafe for human habitation or dangerous, injurious, or detrimental to the lives, health, or morals of its occupants or the community, or which may be infected with a communicable disease, or which is not provided with toilet facilities and water supply as required by law and ordinance, is hereby declared to constitute a nuisance.

SEC. 3. Whenever any building, structure, or portion thereof or premises adjacent thereto, intended or used for human habitation, shall be unfit or unsafe

for such purpose, or be dangerous, injurious, or detrimental to the lives, health, or morals of its occupants or the community as set out in section 1 of this ordinance, or shall constitute a nuisance as defined in section 2 of this ordinance, it shall be the duty of the mayor, upon being informed thereof by the health officer, housing inspector, or any police officer or citizen, to cause a written notice, setting out the grounds therefor, to be served on the owner, landlord, or person in control of such building, structure, or premises to remove, discontinue, and abate the nuisance and insanitary, unhealthful, and unsafe conditions within 10 days after service of the notice or within a shorter time to be fixed in the notice (but not less than 24 hours in any case), if necessary in case of emergency for the protection of the lives, health, and safety of the occupants or of the community. A copy of the notice may be served on the tenant or occupant. If it is necessary that the building or premises be vacated or the building or portion thereof be removed in order to abate the nuisance or to remove the insanitary or unsafe conditions, the notice shall so state and a copy thereof shall be served on the tenant or occupant. The notice may be served by any police officer of the city or by any sheriff or constable within his jurisdiction. If the owner or person in control of the building or premises is a non-resident of Fayette County, Ky., the notice may be served on the tenant or occupant, and if there be no tenant or occupant the notice may be served by posting on the premises for the required time.

SEC. 4. When the owner or person in control of such building or premises is served with a notice as provided in section 3, it shall be his duty to comply with same within the prescribed time by abating the nuisance and by removing, discontinuing, and abating the insanitary, unhealthful, and unsafe conditions and the causes thereof, and to put the building and premises in a clean, sanitary, healthful, and safe condition; and to vacate the same and to remove the building, structure, or portion thereof if such vacation or removal be necessary for said purpose: *Provided*, That in all cases where the insanitary, unhealthful, or unsafe conditions are caused or produced by the occupant or tenant, it shall be his duty, jointly with the landlord or owner or person in control, to remove, discontinue, and abate such conditions if he be served with notice as provided in section 3, and it shall also be the duty of the tenant or occupant to vacate the building or premises in accordance with notice served on him. In all cases the mayor will cause notice to be served on the tenant or occupant when requested by the landlord or owner.

SEC. 5. Any owner, landlord, or person in control of any such building, structure, portion thereof, or premises appurtenant thereto, who shall fail to comply with the provisions of section 4 of this ordinance, after service of notice as required by section 3, shall upon conviction be fined not less than \$5 nor more than \$50 for each offense, and each day of such failure to comply with section 4 shall constitute a separate offense; and the court, in its judgment of conviction, shall determine and adjudge whether the building or premises shall be vacated and whether the building, structure, or any portion thereof, shall be abated, torn down, destroyed, or removed: *Provided*, That if the owner, landlord, or person in control of such building or premises be a nonresident of the State or the county of Fayette, he may be proceeded against in the police court of the city by warning order as prescribed by the civil code in proceedings against nonresidents, but no fine shall be imposed, but the court shall determine and adjudge whether any part of the building or premises shall be vacated, torn down, or removed.

SEC. 6. Whenever there shall be a judgment, under this ordinance, that any building, structure, portion thereof, or premises be vacated it shall be the duty

of the chief of police and the members of his department to carry out and enforce the judgment. If the judgment be that any building, structure, or portion thereof be abated, torn down, or removed, it shall be the duty of the mayor, in the name of the city, to contract with some suitable person or persons to abate and remove the structure, building, or portion thereof at the cost of the owner or owners thereof, which cost, if not paid by the owner or owners, may be paid by the city, and the amount so expended shall be recovered by the city by suit in any court of competent jurisdiction.

SEC. 7. Any tenant or occupant, other than the owner of the building or premises, who shall violate section 4 of this ordinance, or fail to comply with same after notice has been served on him as required by section 3, shall be fined not less than \$2 nor more than \$25, and each day such violation thereof or failure to comply with section 4 continues shall constitute a separate offense. In cases where the conditions described in section 4 are caused or produced by the tenant or occupant, the court may, in its discretion, impose a fine on such tenant or occupant and not on the owner or landlord.