

# Indiana State Board of Health

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The MONTHLY BULLETIN will be sent to all health officers and deputies in the State. Health officers and deputies should carefully read and file each copy for future reference. This is very important, for we expect to print instructions, rules and general information, which it will be necessary for officers to preserve.

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## SEPTEMBER BIRTHS.

Total births, 4,580. Males, 2,362; females, 2,218. Rate, 20.4 per 1,000. Excess of birth over death rate, 9.9.

Whites—Males, 2,327; females, 2,186. Negroes—Males, 35; females, 32.

## ABSTRACT OF MORTALITY STATISTICS FOR OCTOBER, 1908.

Total number of deaths, 2,674; annual rate, 11.5. In the corresponding month last year, 2,701 deaths, rate 11.8. In the preceding month, 2,755 deaths, rate 12.3. Deaths by important ages were: Under one year of age, 422, or 16.6 per cent. of the total; 1 to 5, 177; 5 to 10, 55; 10 to 15, 45; 15 to 20, 76; 65 and over, 796, or 31.3 per cent. of the total. Some important causes of death were: Consumption, 304, of which 252 were of the pulmonary form; typhoid fever, 129; diphtheria, 43; scarlet fever, 4; measles, 4; whooping cough, 7; pneumonia, 130; diarrhoeal diseases under five, 182; cerebro-spinal meningitis, 12; influenza, 4; puerperal fever, 9; cancer, 160; violence, 186.

**SANITARY SECTIONS:** NORTHERN SANITARY SECTION, population 920,585, reports 913 deaths, rate 11.7. In the corresponding month last year, 866 deaths, rate 11.3. In the preceding month, 950 deaths, rate 12.5.

CENTRAL SANITARY SECTION, population 1,087,413, reports 1,172 deaths, rate 12.7. In the corresponding month last year, 1,171 deaths, rate 12.3. In the preceding month, 1,136 deaths, rate, 12.2.

SOUTHERN SANITARY SECTION, population 722,146, reports 589 deaths, rate, 9.6. In the corresponding month last year, 664 deaths, rate, 11.5. In the preceding month, 669 deaths, rate, 11.3.

**REVIEW OF SECTIONS:** The highest death rate appears this month in the Central Sanitary Section. The Northern Sanitary Section shows the highest percentage of infantile deaths, and also of deaths among those over 65 years of age. The Central Sanitary Section had the highest death rates from the following diseases: Consumption, 135.6 per 100,000; typhoid fever, 65.1; diphtheria, 22.7; violence, 97.6. The highest death rate from pneumonia appeared in the Southern Sanitary Section—62 per 100,000—while the Central Sanitary Section showed 59.6 and the Northern 47.4. The low death rate from influenza is remarkable and is due to the very mild weather in October, which permitted such an unusual amount of outdoor life. November, which will probably be colder than October, will show a rise in deaths from influenza and pneumonia, and the said rise will be due to more extensive within-house living.

**CITIES:** The cities, total population 1,048,005, report 1,258 deaths, rate 14.1. This is 2.6 higher than the state rate. In the corresponding month last year, 1,191 deaths, rate 13.6. In the preceding month, 1,192 deaths, rate 13.8. By both of these comparisons an increase appears in the city death rate for October. The cities show a higher death rate than the entire State in the following diseases: Tuberculosis, typhoid fever, diphtheria, whooping cough, pneumonia, diarrhoeal diseases, cerebro-spinal meningitis, influenza, puerperal fever, cancer, violence. The death rates of cities having over 10,000 population were: Indianapolis, 14.3; Evansville, 11.1; Fort Wayne, 11.5; Terre Haute, 17.3; Anderson, 14.1; East Chicago, 18.2; Elkhart, 15.1; Elwood, 9.3; Hammond, 10; Jeffersonville, 12.7; Kokomo, 13.7; Lafayette, 22.7; Laporte, 12.9; Logansport, 12.6; Marion, 12.6; Michigan City, 11.8; Muncie, 11.2; New Albany, 13.8; Peru, 13.4; Richmond, 17.4; Evansville, 21.9.

**RURAL:** The country, population 1,639,382, reports 1,416 deaths, rate 10.1. This is 1.4 less than the rate for the whole State and 4 less than the rate of the cities. The death rate among old people was greater in the country than in the cities, the rates being, respectively, country 33.1 per cent., cities 29.3 per cent. The country rate from diphtheria was much lower than the city rate, the country rate being 13.6 and the city rate 24.7 per 100,000.

### SUMMARY OF MORBIDITY AND MORTALITY FOR OCTOBER, 1908.

Typhoid fever was reported the most prevalent disease. It occupied the same position in the preceding month, and also in the corresponding month last year. Despite the warnings and teachings of the health authorities, it remains true this year, as for the last ten years, typhoid fever leads in prevalence in October. The order of disease prevalence was as follows: Typhoid fever (enteric), tonsilitis, bronchitis, rheumatism, diphtheria and membranous croup, diarrhoea, scarlet fever, intermittent and remittent fever, influenza, pneumonia, pleuritis, dysentery, typho-malaria fever, inflammation of bowels, cholera infantum, whooping-cough, cholera morbus, erysipelas, smallpox, puerperal fever, chickenpox, measles, cerebro-spinal meningitis.

**SMALLPOX.** Fifty-four cases in 10 counties, with no deaths. In the preceding month, 32 cases in 8 counties, with no deaths. In the corresponding month last year, 75 cases in 7 counties, with no deaths. We again repeat the remark that very many cases of mild smallpox are not reported, first because many physicians are unable to diagnose mild smallpox, and also because many patients with the disease are not sick enough to consult a physician, and do not know what is the matter with them. The counties

reporting smallpox were: Allen, 1 case; Carroll, 26; Clay, 8; Dearborn, 1; Elkhart, 4; Madison, 1; Marion, 5; Sullivan, 2; Tippecanoe, 5; Vigo, 1.

**TUBERCULOSIS:** Total number of deaths, 304, of which 252 were pulmonary. The male tuberculosis deaths numbered 161, female 143. Of the males, 25 were married in the age period of 18 to 40, and left 51 orphans under 12 years of age. Of the females, 56 were married, and left 117 orphans in the same age period. We therefore credit 168 orphans to this preventable disease in one month. Some of these will drift into orphan asylums, to be cared for at public expense. Total number of homes invaded, 293. We have to record 4 deaths from pulmonary tuberculosis of persons over 80 years of age, and 18 of persons in the age period of 70 to 80. As usual, the greater number of deaths occurred in the useful period of life. The number was 181 in the age period of 15 to 50.

**PNEUMONIA:** This disease was reported tenth in area of prevalence. In the preceding month it was fourteenth, and in the corresponding month last year, seventh. The deaths numbered 130. In the same month last year, 160. Of the pneumonia deaths 37 were under 5 years of age, and 77 were 60 and over. The male pneumonia deaths numbered 60, and female 70.

**TYPHOID FEVER:** Four hundred and sixty-four cases in 72 counties, with 129 deaths. In the corresponding month last year, 562 cases in 73 counties, with 140 deaths. It appears, therefore, that conditions were slightly better this October than last. The disease existed in epidemic form in the following counties: Allen, 15 cases; Clay, 7; Clinton, 9; Daviess, 8; Dearborn, 6; Elkhart, 10; Hancock, 12; Henry, 8; Jackson, 8; Marion, 96; Morgan, 7; Noble, 7; Putnam, 15; Pulaski, 8; Randolph, 8; St. Joseph, 32; Washington, 10.

**DIPHThERIA:** Five hundred and ninety-six cases in 49 counties, with 41 deaths. In the corresponding month last year, 268 cases in 54 counties, with 34 deaths. Bartholomew county reported 26 cases and 4 deaths; Benton, 150 cases, no deaths; Clark, 15 cases, no deaths; Jackson, 12 cases, no deaths; Madison, 7 cases, no deaths; Marion, 194 cases, 8 deaths; Tippecanoe, 8 cases, no deaths. The great number of cases reported from Benton county (150) and Clinton (92) were discovered by taking cultures from the throats of school children. It was a surprise at Earl Park, in Benton county, to find so many infected children. Swabs were taken from the throats of every school child and teacher, and of every person who had a cold. At Mulberry, in Clinton county, there was one death, and cultures were taken from the throats of every school child. Some cases were also found at Frankfort by the culture method. It is true that if cultures had been taken

in all the counties, the number of cases would have swelled beyond one thousand, and possibly twice as many.

**VIOLENCE:** Deaths from violence numbered 185. Of this number, 4 were murders, 27 suicides, and the remainder accidents. All of the murdered persons were males, and the method of murder was shooting. Of the suicides, 6 were females and 21 males. The methods used were: Gunshots, 7 males, 1 female; carbolic acid, 9 males, 3 females; hanging, 2 males, 1 female; poisoning, 2 males, 1 female; throwing himself from high window, 1 male. Of the accidental deaths, 29 were caused by steam railroads, 26 males, 3 females; 6 caused by street cars and interurbans, 5 males and 1 female; automobiles, 2 males; various fractures of bones, 10; machinery, 2; burns and scalds, 26; crushing injuries, 6; dynamite, 2; gunshots, 8; drowning, 6; falls, 10; horses and vehicles, 16; mining, 8; opium poisoning, 3; ptomain poisoning, 4; wood alcohol poisoning, 1; suffocation, 9; electricity, 1; and the remainder by various means.

### THE COUNTRY STORE.

Mrs. Vada Zolezzi keeps a country cross roads store near Bloomington, Indiana. She writes to the State Board of Health as follows:

"Please send me State Board of Health cards to post in my country store which forbid spitting on the floor. I cannot keep the men from befouling our store with their spit. I know that consumption is spread by spitting and I know other diseases are spread as well. It is a nasty habit and indulged in only by nasty people. I hope to receive these cards very soon, for the filth produced by the dirty spitters is terrible."

We are forwarding the cards requested to Mrs. Zolezzi and we hope she will succeed in controlling the nasty and repulsive spitter who befouls her store. Those who claim the right to spit promiscuously are not only dirty and filthy, but in their spitting they claim the privilege of imparting disease to others. This is a violation of the principles of a free country.

**THE ELIZAVILLE SCHOOLHOUSE:** Elizaville is a small hamlet in Boone County. Two good ladies write us the following letter concerning the same:

"The school building at Elizaville blowed down in March. The trustee built it over, and still it is not fit to send our children to school in. When the first fire was started, it set the schoolhouse on fire. I cleaned the building myself, and I know it is not a fit building for school children."

This letter is another example of the interest that people are taking in seeing to it that their children

are surrounded with healthful conditions. The matter has been reported to the County Health Officer, Dr. G. A. Schultz, of Lebanon, and he has been directed to visit the schoolhouse and take such action as the inspection may warrant.

\* \* \*

**ROANN:** Dr. G. E. Snearly, health officer at Roann, finding that he had scarlet fever to fight, went into the battle like a man. No deaths had occurred, but 15 cases were reported, and Dr. Snearly, appreciating that more existed, instituted an examination. He found so many cases that he concluded to dismiss the school and stop public gatherings for a while. He also issued a public circular, which told the people briefly that scarlet fever is easily communicated by contact, and is also carried in clothing. He made clear that grown persons might have the disease, and that it was not exclusively a disease of childhood. His appeal to the people on said circular was as follows:

Parents are earnestly asked to help in this work of clearing it from town. Keep children off the streets and from congregating in large crowds as much as possible. Keep fresh air in living and sleeping rooms. One window raised or lowered eighteen inches at night in sleeping room is not too much in winter or summer. Keep on the stove a pan containing 30 drops of carbolic acid to 1 pint of rain water; the boiling of the water keeps the air in the room more sterile. Keep a close watch on children's throats and for a breaking out or rash on neck and chest; these symptoms, together with fever and usually vomiting, are the first signs of the disease. A doctor or health officer should be notified at once if a case has the above symptoms.

### ROANN BOARD OF HEALTH.

We make special report of this instance, because all too frequently local health officers are slow to look after such conditions as prompted the energetic action of Roann's efficient health officer.

\* \* \*

**DIRTY, RAW MILK:** Dr. W. A. Wyman, of Kentucky, says: I believe that infested, dirty, raw milk is causing more unnecessary suffering, disease and death than anything tolerated by civilization.

### RECORD BREAKING TIME IN CONSUMPTION FIGHT.

AN INSTITUTION BEING ESTABLISHED EVERY OTHER DAY IN UNITED STATES.

Every other day sees a sanatorium, association, or dispensary for the treatment or prevention of tuberculosis established in this country, is a statement issued today by the National Association for the

Study and Prevention of Tuberculosis. During the months of September and October, 16 associations, 10 sanatoria, and 5 dispensaries were started or provided for in the United States, making a record of achievement in anti-tuberculosis activity never before equalled in any country of the world. The stimulus for this wave of philanthropic endeavor has been derived largely from the recent International Congress on Tuberculosis.

From one end of the country to the other, men and women of all ranks and classes, are rising up to fight in the battle against tuberculosis. Including the recently formed societies, there are at the present time, 211 associations for the study and prevention of tuberculosis in the United States, with a total membership of over 20,000, all engaged in an active war on consumption. Never before in the history of the country has such an army been massed to fight against disease. And, with the present rate of increase sustained, it is estimated that the army will be doubled in size within a year. On January 1, 1905, there were in the United States only 24 associations for the study and prevention of tuberculosis. By January 1, 1909, there will undoubtedly be 250 such associations, an increase of over 800 per cent. The states which lead in the number of associations are Massachusetts with 26, New Jersey with 22, New York with 19, Michigan with 16, and Pennsylvania with 14. Thirty-five of the forty-six states have one or more associations.

These associations are all philanthropic in organization, and are composed of physicians and laymen, both men and women, who are anxious to see the number of deaths from tuberculosis reduced. That such organizations are instrumental in saving life, may be seen from the reduced death rates in several states and cities. In Boston the death-rate was reduced from 21.70 to 18.46 per ten thousand, largely through the efforts of the local association. In New York, it is estimated that the campaign against tuberculosis has saved to the city annually at least 3,000 lives. In Chicago a similar reduction in the number of deaths from tuberculosis has been effected.

At the head of the great campaign being carried on throughout the country is the National Association for the Study and Prevention of Tuberculosis, with President Roosevelt as one of its heads and with nearly 2,000 members in every state in the Union. Allied with the national body are 27 state associations, who are fighting tuberculosis in their various states. And under these state organizations, or independent of them, there are nearly 200 associations in the principal cities of the country.

The increase in the number of sanatoria at the present time is also particularly noteworthy, since the need for beds for tuberculosis patients is evident in every state. There are at the present time 250

sanatoria and hospitals making special provision for tuberculosis patients, and the entire bed capacity of all of these institutions is but 15,000. When it is considered that there are in the United States at least 450,000 people suffering from tuberculosis, 1-3 of which number ought to be in sanatoria or hospitals, the lack of proper bed capacity is very evident.

The dispensary movement, one of the later phases in the anti-tuberculosis campaign, is also receiving a great impetus. Four years ago there were only 19 dispensaries in the United States; at the present time there are 165, and new ones are being established at the rate of one a week. These dispensaries are places to which anyone who thinks that he has consumption, or knows that he has the disease, may go and be examined and given proper advice and treatment free of charge, or for a very small sum. The emphasis in these institutions has been laid on a regular and sanitary life on the part of the patient, and on his sleeping in the open air.

## THE DISPOSAL PROBLEM IN RURAL DISTRICTS.

BY GEORGE R. LAKE, M. D.\*

The disposal of the various forms of refuse matter which result from the multitude of extra- and intracorporeal activities which make up the sum of our existence as civilized and educated animals, has been for thousands of years one of the greatest problems that has faced the hygienist, and even after all this lapse of time it is still a problem and is still clamoring for solution.

It is a universal rule that where the need of an hygienic improvement or reform is greatest, there it will be soonest accomplished, under penalty of disease and death; and it is also a patent fact that the human race is so innately conservative that its members will not accept an innovation until driven to it by the pinch of inexorable necessity, the mailed fist of rigidly executed law or the stinging lash of public disapproval and derision.

In cities and the larger towns the conditions are such that any person who attempted to violate the primal laws of community hygiene would be promptly whipped into line by the two last-mentioned agencies before the first had time to act, and this because the first agency had been in operation sufficiently long for that community to have learned its lesson. But when we come to deal with the smaller and more primitive communities we find a very different situation obtaining. The conditions are such that few will feel the personal necessity of cleanliness and sanitation, and the general standard of scientific knowledge among the people is too low to create an enlight-

\* Read at State Conference of Health Officers, May 1908.

ened public opinion on sanitary subjects and to lead to the enactment (to say nothing of the enforcement) of suitable health ordinances. It is our duty as physicians and as health officers in the rural districts of this state to *create* this enlightened public opinion, and then to so direct its activities as to secure results which will tend to permanently lower the death-rate and diminish the prevalence of disease, and I hope in this paper to make some suggestions which you can all take home and put to practical use in your several communities.

The earth closet, the Sackett cesspool, the International incinerator and some simple contrivances for garbage disposal were discussed in a former paper (Bulletin of the Indiana State Board of Health, June, 1907), but in order to clear the ground for the present discussion some of the points there made must be touched upon here.

In towns the only absolute sanitary manner of disposing of garbage, the product of our extra-corporeal life activities, is by cremation. In town or country the disposal of excrement, the product of our intra-corporeal life activities, presents two phases: (1) When excrement alone is to be taken care of, and (2) when private or small public water-works have been installed and we have to deal with true sewage.

The solution of the problem in its former aspect is found for the average town or country dweller in the earth closet, in one or other of its modifications. This subject was taken up here on a former occasion (*vide supra*) and has been more extensively discussed in a more recent paper ("The Privy," Medical Era for March, 1908). I desire, however, to add two suggestions to those made last year.

First—If a vault is used under the privy, let the rear wall slope backward at the top so as to make it possible to clean the vault without removing the building; and,

Second—Let a pipe about six inches in diameter pass from a point just below the seat to a point which shall be higher than the second-story windows of the house.

This will carry off all odors to a point where they can cause no danger or nuisance.

The situation, when we find ourselves confronted with the second set of conditions, is that we must dispose, not merely of excrement, but of a large mass of highly polluted water. I do not propose, in this paper, to go into the very fascinating history of the sewage disposal question. Those who are sufficiently interested to spend a few hours upon this highly edifying subject will do well to request from their congressmen a copy of the pamphlet entitled "The Purification of Boston Sewage" (Water Supply and Irrigation Paper No. 185). I will merely say, in this connection, that the method of disposal which vitally

and particularly concerns most of us, as health officers of small towns, where the water supply is from private wells and not from creeks, ditches or other bodies of open water, is the septic tank method, devised by Donald Cameron, of Exeter, England.

Of this system I showed you a very simple and striking example last year, in the form of the "sanitary cesspool" of Prof. R. L. Sackett, and I take pleasure in again showing you this very ingenious arrangement (Fig. 1), but this time with some modi-

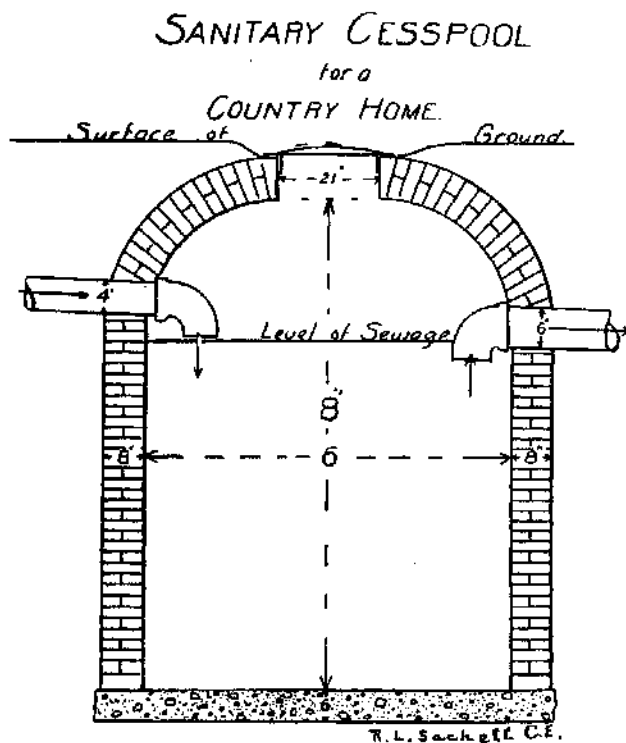
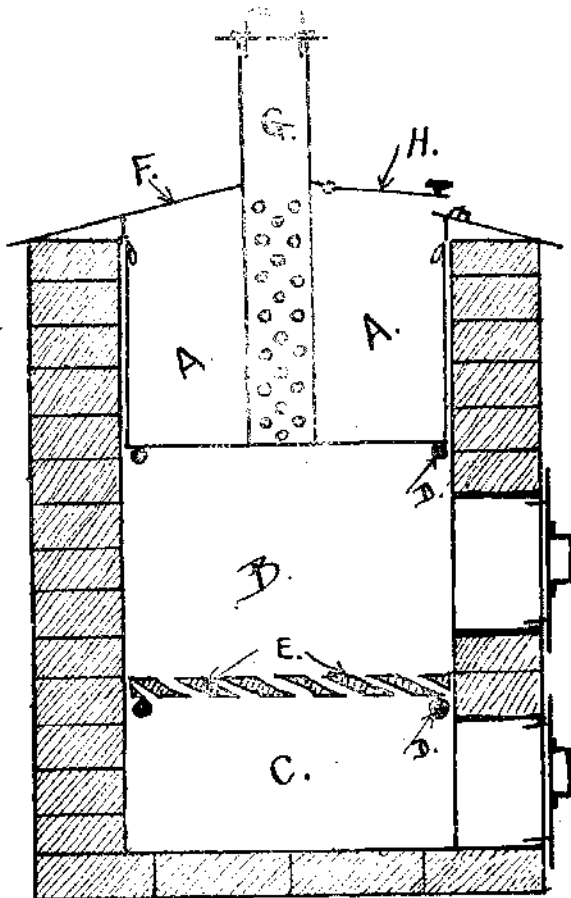


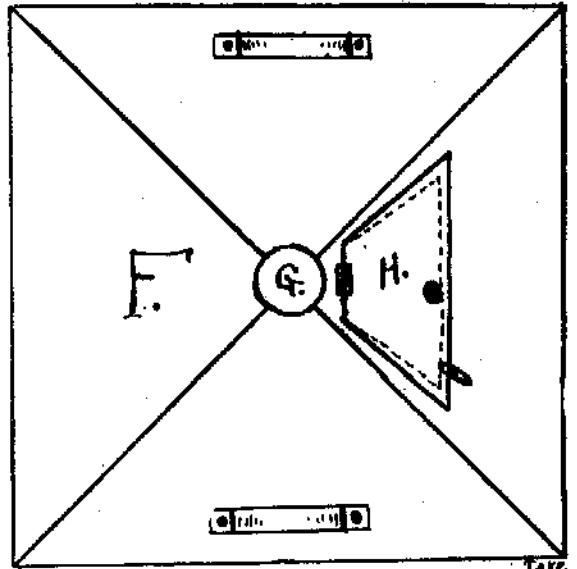
FIG. 1.

fications of my own, which, it appears to me, to some extent enhance its utility. In the first place you will notice (Fig. 2-A) (not shown here) that the inlet pipe, instead of opening above the sewage level, goes below the surface, and this for three reasons: (1) So that the inflow of sewage may not disturb the scum which has formed on top, (2) so that the sewage, as it enters the tank, may not carry down with it, into the contained liquid, any air, to interfere with the action of the anaerobic bacteria which are there at work, and (3) so that none of the gases evolved by the hydrolytic processes going on in the tank may pass back up the inlet pipe into the house. The second modification is the introduction of partial walls, coming above the sewage level (Fig. 2-A and B). The purpose of these walls is to mix and equalize the contents of the tank so as to obviate the possibility of any particles of undigested excrement passing out of the exit pipe, there to pollute the effluent from the tank and interfere with its usefulness. The changes suggested would add very little to the cost of this small septic tank, and would, I believe, amply repay

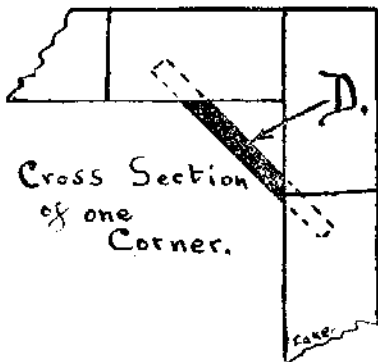


G.B. Lake, '08

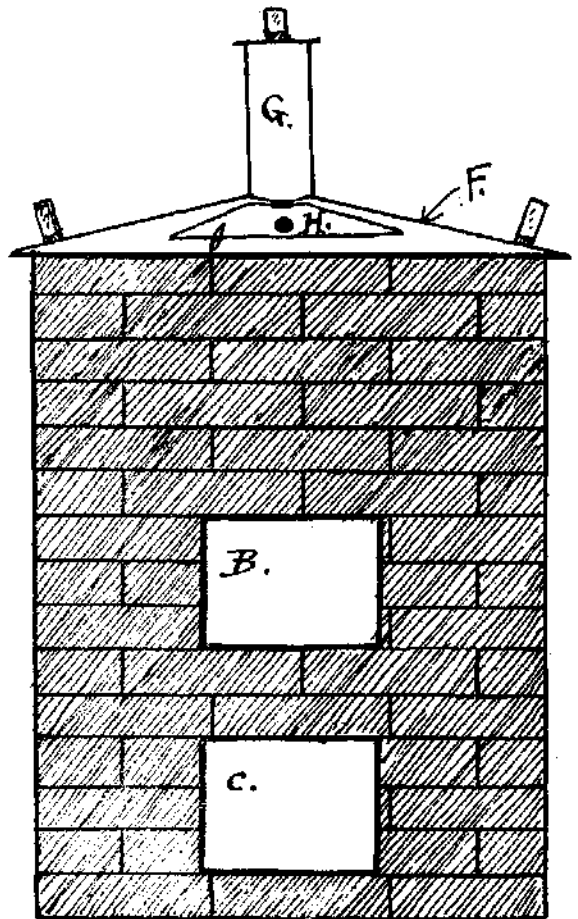
Vertical Section.



Top View of Cover.



Cross Section of one Corner.



Front Elevation.

Fig. 3 —

the extra expense in increased usefulness. The question of cleaning, moreover, would be very little different in the modified tank from what it would be in the original form. The dimensions of the interior should be slightly increased to compensate for the space lost by the interposition of the walls.

I will not attempt, in this paper, to discuss the action of the contact filter or bacteria bed as applied to rural sanitation, as that is a large subject in itself, and I fully believe that in 95 per cent. of all these cases the question is adequately answered by the arrangement just described.

We now come to the question of the disposal of garbage or kitchen waste, and right here I want to reiterate that in towns, no matter how small, the problem is *not solved* by feeding the material to animals, as that merely supplies us with another nuisance which often cries more loudly for abatement than the first. It may do in the country, but in towns this practice must cease, and the sooner the better for all concerned, and we must make the people understand this.

In the winter, as stated on a former occasion, the sanitary disposal of garbage is very easily accomplished, for it may be simply placed in the stove or furnace and there burned. This method of disposal has been carried out in my own household for the past three winters with perfect success. Of course the garbage must be thoroughly drained, and then placed upon the fire in such quantities that there is no danger of putting it out.

The fluid parts of the kitchen waste may be thrown upon the garden, where the nitrifying bacteria, which abound in the surface layers of the soil, will quickly change any organic particles which the liquid may contain back to inorganic salts and water.

In the summer, however, when fires are out and most families are doing their cooking over gasoline or oil stoves, the question again comes up, and more forcibly than ever, for the heat of the atmosphere at this time of year hastens putrefactive processes, thus making accumulated garbage a nuisance, and, moreover, any material of this kind which is left exposed will be black with flies, which insects are a grave menace to the health and welfare of the household. I have spent a good deal of time and experiment upon this matter of the summer disposal of the garbage of individual families, and I now present the results, under the hope that they may help in working out this proposition.

The little garbage crematory which is here shown (Fig. 3) may be constructed in either of two forms. Where the resident is the owner of the property it may be built of brick, as illustrated, and become one of the permanent appurtenances of the property, but where the persons are only renting the crematory should be portable, so that they can take

it with them when they move. In this latter case it should be made of sheet iron or galvanized iron, and, while having the same dimensions as the brick one it should be round instead of square, and the bottom as well as the top should be loose and fastened with hooks, so as to facilitate the removal of ashes. The height of the apparatus should be 28 inches and its inside diameter 15 inches. (Of course, these dimensions may be modified to suit individual requirements.) The upper third is occupied by the garbage basket (A), the middle third of the firebox (B) and the lower third by the ashpit (C). The garbage basket (A) should be made of galvanized iron and of such size as just nicely to slip into the outside cylinder. Its bottom should be perforated with  $\frac{1}{2}$ -inch holes  $\frac{3}{4}$  of an inch apart, and it should have some form of handles for lifting it out. It rests upon shoulders or diagonal cross-bars (D), as the case may be.

The grate (E) should be of cast iron, cast in one piece, and, like the basket, it rests upon shoulders or cross-bars.

The cover (F) should have a slope so as to shed rain, though this is not essential, but it *must* be fly-tight. In the cover are cut two holes, one for the passage of the smoke pipe (G), which should be covered tight when not in use, and one through which the garbage is placed in the basket, and this latter, also, should have a tight-fitting lid (H). The pipe fits the hole in the cover snugly, but is not soldered in place, being left loose so that it may be properly adjusted. This pipe should be perforated up to within one inch of the under side of the cover in the same way as the bottom of the garbage basket.

The doors which open the firebox and ashpit should fit tightly enough to exclude flies. These doors may be of cast iron in the permanent form and of galvanized iron in the portable.

The operation of this apparatus is as follows: All the doors are tightly closed and the smoke pipe is pushed down tight against the bottom of the garbage basket. As fast as garbage accumulates it is carefully drained and placed in the garbage basket through the hole left in the cover for that purpose. A small wooden paddle may be used to distribute the garbage evenly over the bottom of the basket or the cover may be turned part way round each time garbage is put in. During the time that the basket is being filled the tight doors will prevent the egress of odors and the ingress of flies. When the basket is two-thirds or three-fourths full it is time to incinerate the contents.

The choice of fuel for use in this apparatus depends upon circumstances. Where one has time to give the matter more or less close attention for two or three hours wood is the best fuel, because it makes a very hot fire with little dirt, but where, as is usually

the case, the head of the house is a busy man with little time to spare, soft coal or a mixture of coal and coke will do the work just as well and with much less attention. the only disadvantage being caused by the sooty smoke of the soft coal. I have used this latter fuel and so will describe that method.

When ready for incineration the cover should be removed from the smoke pipe, the door of the ashpit opened and a fire started in the fire box. When the coal is well started the firebox should be filled as full as convenient with small pieces of coal or coal and coke and the door closed, the ashpit door being left open. In an hour or two the fire should be stirred from below, through the grate, and more coal added. The garbage in the basket should also be stirred up through the opening in the cover. The attentions just described should be given for the second time at the end of another hour and the incinerator will then "do the rest."

The process which takes place is that the heat of the fire, acting upon the bottom of the garbage basket and passing upward through the perforations in it, first thoroughly dries the contents, the steam passing out through the perforations in the smoke pipe, and then incinerates the material. There are sufficient holes in the bottom of the basket which fall under the lower end of the smoke pipe to insure a good draft, and the pipe being in place before the garbage is put in prevents this draft being interfered with in that manner.

When the incinerator is cold the cover is removed and the basket will be found to contain a small quantity of ashes and charcoal. This material may be emptied in any convenient place. The firebox is now raked out, and any coke remaining may be reserved for subsequent use. The ashpit is cleaned out and the ashes deposited in a suitable place. The apertures are now tightly closed again and the apparatus is again ready to be refilled.

An arrangement like that just described was used in my household, consisting of from two to four persons, all last summer, for all kinds of garbage, including corneobs, meat bones, etc. The crematory was fired six times, from May to September. The cost of the fuel used was forty-two cents in all and the time spent in attending to it was, altogether, not more than three hours. There was no evil odor, either while filling the basket or while incinerating the contents. The original cost of the apparatus was three dollars and a half.

This arrangement, it seems to me, will, for many,

solve the problem of garbage disposal in the summer, and if so I shall be amply repaid for the time and thought spent upon it.

### ABOUT PNEUMONIA.

A messenger with bad news is not welcome. He is simply tolerated, never thanked, and would be kicked out did not reason sometimes prevail over impulse. Nevertheless, we venture to bring bad news. In December the pneumonia month, not less than 230 persons, now well and strong, will lie dead of pneumonia in the State of Indiana. How do we know? Why this slaughter has occurred every December for many years past, and so we conclude it will occur this December. We can not hope to escape having the germs of pneumonia enter our bodies, because they are ubiquitous, being in the dust of the air we breathe, the spitters having placed them there. We can, however, lead the hygienic life, and in that way acquire and store up strength to resist the infection. Right living pays large dividends. Be temperate in drink and food, sleep not less than eight hours in an extra well ventilated bedroom, don't ride inside trolley cars or steam cars when the air is foul. Ride on the platform, walk, or don't go, if you can not otherwise avoid breathing nasty air, which has already been down into the lungs of diseased or well people. There are several ways by which one can lower his resistance so that he may have pneumonia, but the banner method is to breathe foul air. The following recipe will bring the disease for you whenever you want it: Drink freely of stimulants, take a few cocktails or highballs, many cups of coffee and many cups of tea every day; eat quantities of meat and salad, dig into society hard and exhaust your strength, practice all kinds of intemperance, be sure to keep out of the fresh air, don't ventilate your bedrooms, library and office, and ride in the close, thrice-breathed air of the trolley cars. If doing all these foolish things don't bring you pneumonia, you are, indeed, extra strong. So many business men have pneumonia. They attend a convention, enjoy a big feed, spend much time in the hotel buffet with tobacco smoke and bad air, and then go home in a sleeping-car berth with curtains tightly drawn, again associating with bad air. Pneumonia has been termed the "Captain of the Men of Death." It is increasing in the cities at a rapid rate, and slowly increasing in the country. A very large proportion of pneumonia cases which recover afterward die of consumption.



CHART SHOWING GEOGRAPHICAL DISTRIBUTION OF DEATHS FROM CERTAIN COMMUNICABLE DISEASES FOR OCTOBER, 1908.

**NORTHERN SANITARY SECTION.**

Total population	920,586
Total deaths	913
Death rate per 1,000	11.7
Consumption, rate per 100,000	80.7
Typhoid, rate per 100,000	39.7
Diphtheria, rate per 100,000	8.9
Scarlet fever, rate per 100,000	2.5
Diarrheal diseases, rate per 100,000	91.0

**CENTRAL SANITARY SECTION.**

Total population	1,087,413
Total deaths	1,172
Death rate per 1,000	12.7
Consumption, rate per 100,000	135.6
Typhoid, rate per 100,000	65.1
Diphtheria, rate per 100,000	22.7
Scarlet fever, rate per 100,000	2.1
Diarrheal diseases, rate per 100,000	81.3

**SOUTHERN SANITARY SECTION.**

Total population	722,146
Total deaths	589
Death rate per 1,000	9.6
Consumption, rate per 100,000	104.5
Typhoid, rate per 100,000	62.0
Diphtheria, rate per 100,000	21.2
Scarlet fever, rate per 100,000	.0
Diarrheal diseases, rate per 100,000	58.8

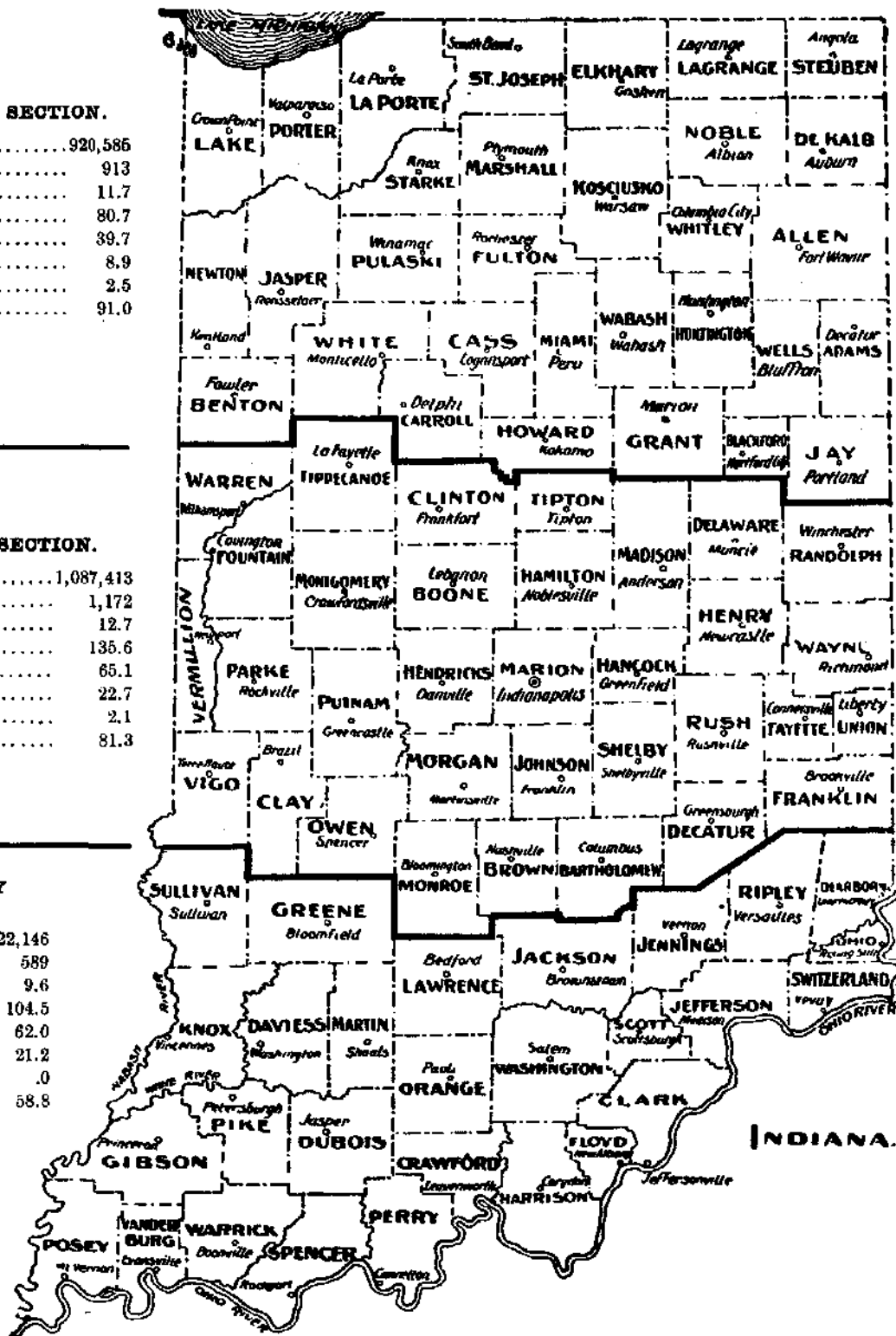


TABLE 1. Deaths in Indiana by Counties During the Month of October, 1908.

STATE AND COUNTIES	Population Estimated June School Census 1906.	Total Deaths Reported, for October, 1908.	Annual Death Rate per 1,000 Population.	IMPORTANT AGES.							DEATHS FROM IMPORTANT CAUSES.																
				Subitua.	Under 1 Year.	1 to 4, inclusive.	5 to 9, inclusive.	10 to 14, inclusive.	15 to 19, inclusive.	25 Years and over.	Pulmonary Consumption.	Other Forms of Tuberculosis.	Typhoid Fever.	Diphtheria.	Croup.	Scarlet Fever.	Measles.	Whooping-Cough.	Pneumonia.	Diarrhoeal Diseases, under 6.	Cerebro-spinal Meningitis.	Influenza.	Puerperal Septicemia.	Cancer.	Violence.	Suicides.	Deaths in Institutions.
State of Indiana.....	2,730,144	2,674	11.5	137	422	177	55	45	76	706	252	52	129	41	2	4	4	7	130	182	12	4	9	180	186	187	
<b>Northern Counties.....</b>	<b>820,585</b>	<b>913</b>	<b>11.7</b>	<b>53</b>	<b>168</b>	<b>59</b>	<b>14</b>	<b>22</b>	<b>15</b>	<b>296</b>	<b>83</b>	<b>15</b>	<b>31</b>	<b>7</b>	<b>2</b>	<b>4</b>	<b>3</b>	<b>57</b>	<b>77</b>	<b>5</b>	<b>2</b>	<b>9</b>	<b>84</b>	<b>82</b>	<b>83</b>		
Adams.....	25,452	26	12.0	3	3	1			2	8	4							2	1					2	3		
Allen.....	89,579	73	9.6	4	8	6	1	2		24	5	3	1					3	1	1				6	6	17	
Benton.....	12,320	7	6.7		2					1																	
Blackford.....	16,222	18	13.0	1	4	1	1			5	2	1												1	2		
Carroll.....	18,868	13	8.1		1			2		4	2		1												1	2	
Cass.....	35,231	38	12.0	2	4	1		1		15	1		2					2		1				2	4	8	
Dekalb.....	24,503	27	13.0		6	3	1	2		10	1	1	2											1	1		
Elkhart.....	47,687	68	16.8	10	15	5		1	1	24	3	2	1					3	3	10				1	9	3	
Fulton.....	17,689	15	10.0		1			1		4	3		1											1	1	2	
Grant.....	57,239	70	14.4		8	5	1	4		32	5	2	2					3	3	2				1	6	18	
Howard.....	29,837	28	11.0	2	7			1		9	1													1	4		
Huntington.....	30,607	22	8.4	3	3	1				8			1												1	2	
Jasper.....	14,469	15	12.2		2				1	3	4														1	1	
Jay.....	27,156	27	11.7		4			2		10	3														2	5	
Kosciusko.....	28,189	32	13.3	2	6	2	1			12	3	1	2					1	1	1				1	2	1	
Lagrange.....	15,449	17	12.9		2				1	7	1														3	3	
Lake.....	63,444	74	13.7	8	23	7	1	1	2	10	7	1	1	3				6	10	4				1	6	4	
Laporte.....	56,007	41	8.6	2	9	4	1			12	2	1	1												1	4	
Marshall.....	25,087	23	10.8		1			1		7	2			1											1	4	
Miami.....	29,543	31	12.3	3	2	1				12	1		1							2					1	2	
Newton.....	10,612	14	15.5		2					6	1														1	2	
Noble.....	22,827	25	13.0	1	5	1			2	13	3	1	2												2	3	
Porter.....	20,985	11	6.1		4	2				11	3																
Pulaski.....	15,928	13	9.6		4		1			8	1														1	1	
Starke.....	12,404	14	13.3		4	2		1		1	1		1											2	1	1	
Steuben.....	13,259	19	16.7	1	2	1	1	1		6	1														1	2	
St. Joseph.....	72,387	86	14.0	3	18	4	2		3	20	8		6					2	1	16				1	5	9	
Wabash.....	28,110	22	9.2		3					8	1		1												2	1	
Walls.....	24,234	17	8.2		3					6	2	1													2	2	
White.....	18,490	16	10.2		3	1	1	1	1	6	1														1	1	
Whitley.....	16,922	13	9.0		4					4															1	1	
<b>Central Counties.....</b>	<b>1,687,413</b>	<b>1,172</b>	<b>12.7</b>	<b>52</b>	<b>169</b>	<b>84</b>	<b>24</b>	<b>11</b>	<b>41</b>	<b>336</b>	<b>125</b>	<b>38</b>	<b>90</b>	<b>21</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>55</b>	<b>75</b>	<b>6</b>	<b>1</b>	<b>4</b>	<b>90</b>	<b>91</b>	<b>107</b>		
Bartholomew.....	23,939	32	15.7	2	4	3	1	1	3	9	3		2	4				2	1					2			
Boone.....	24,473	20	9.6	3	5				2	8			1					4									
Brown.....	10,034	3	3.5			1				1																	
Clay.....	37,180	33	10.4	1	8	2			2	8	2		3														
Clinton.....	27,478	28	12.0	4	4	1	1		2	5	1		1												4	1	
Decatur.....	18,147	14	9.1		1	2				6																	
Delaware.....	50,859	56	12.9	4	8	3	3		3	12	5	2	2					2		3				1	2	1	
Fayette.....	12,271	16	15.3		3	1	1			4	2	1	1														
Fountain.....	19,274	17	10.4		1				1	3	1																
Franklin.....	15,743	15	11.2	1	3					8	1																
Hamilton.....	28,591	32	13.2	2	4	3		2		13	2		3												1	2	
Hancock.....	19,211	26	15.9	1	4	2			1	7	2		1												1	1	
Hendricks.....	20,447	17	9.8		1	1				7	1		1												1	1	
Henry.....	23,589	25	12.5	4	4	2		1	1	6	3		1												1	1	
Johnson.....	19,733	19	11.3	1	2	4				7	1		1												1	1	
Madison.....	71,141	61	10.1	3	14	5	4		2	19	4		6												2	7	
Marion.....	258,773	317	14.4	4	48	17	4	1	10	84	43	4	16	8				15	15	4		3	20	19	67		
Monroe.....	23,254	17	8.6		3	3				5	3	1	1					1							3	2	
Montgomery.....	27,146	23	10.0		4	1				8	1		1												2	2	
Morgan.....	22,421	16	8.4	2					1	6	1		1					2	1						2	2	
Owen.....	15,372	13	9.9		1	2		1		8	1																
Parke.....	22,876	23	11.8	1	6	2		2	1	4	1		2												3	1	
Putnam.....	20,037	16	9.4		2			1		7	1														1	1	
Randolph.....	28,238	36	15.0	2	3	3	3		2	6	5	1	3												1	3	
Rush.....	17,615	17	11.3	1	2					4	1														1	1	
Shelby.....	25,347	27	12.5		3	2	1			7	2		1												1	1	
Tippecanoe.....	39,522	64	19.1		7					23	6		2												3	5	
Tipton.....	19,609	10	6.0	1	1	1			1	4	1																
Union.....	5,117	8	15.4		1	1				3	1																
Vermillion.....	16,856	20	14.0		5	2			2	7	3																



Mortality of Indiana for October, 1908.

POPULATION BY GEOGRAPHICAL SECTIONS AND AS URBAN AND RURAL.	Population, Estimated 31 times School Census 1906.	Total Deaths Reported for October, 1908.	Annual Death Rate per 1,000 Population.	Stillbirths.	Important Ages.										Deaths and Annual Death Rates per 100,000 Population from Important Causes.									
					Under 1.		1 to 5.		5 to 10.		10 to 15.		15 to 20.		25 and Over.		Consumption.		Other Forms Tuberculosis.		Typhoid Fever.		Diphtheria.	
					Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.
State.....	2,730,144	2,874	11.5	137	422	18.6	177	6.9	65	2.1	45	1.7	79	2.9	796	31.3	232	106.9	52	22.4	129	55.7	41	17.7
Northern Counties.....	920,585	913	11.7	53	166	19.3	90	5.8	14	1.6	22	2.5	15	1.7	298	34.4	63	80.7	15	19.2	31	39.7	7	8.9
Central Counties.....	1,087,413	1,172	12.7	52	169	15.0	84	7.5	24	2.1	11	.9	41	3.6	336	30.0	125	135.6	30	22.5	60	65.1	21	23.7
Southern Counties.....	722,146	589	9.6	32	87	15.6	43	7.7	17	3.0	12	2.1	20	3.5	164	29.4	64	104.5	7	11.4	38	62.0	13	21.2
All Cities.....	1,646,005	1,256	14.1	70	199	16.7	82	6.9	21	1.7	19	1.8	34	2.6	349	29.3	127	142.9	21	23.6	68	63.0	22	24.7
Over 50,000.....	405,031	474	13.8	25	71	15.8	24	5.3	7	1.5	7	1.5	15	3.3	117	28.0	55	160.2	10	29.1	19	55.3	8	23.3
25,000 to 50,000.....	43,599	58	15.6	2	15	26.8	1	1.8	1	1.8	1	1.8	1	1.8	10	18.0	5	135.3	4	168.3	4	168.3	4	168.3
10,000 to 25,000.....	290,545	358	14.5	24	61	18.2	24	7.1	5	1.5	7	2.1	6	1.8	107	32.0	35	142.1	4	16.2	17	69.0	7	28.4
5,000 to 10,000.....	174,454	196	13.2	9	28	15.0	21	11.2	4	2.1	2	1.0	7	3.7	56	30.0	18	121.7	4	27.0	9	60.8	6	40.5
Under 5,000.....	134,376	172	15.1	10	24	14.8	12	7.4	4	2.4	3	1.8	5	3.0	59	36.4	14	122.9	3	26.3	7	61.4	1	8.7
Country.....	1,639,382	1,416	10.1	67	223	16.5	95	7.0	34	2.5	26	1.9	42	3.1	447	33.1	125	89.9	31	22.3	73	52.5	19	13.6

Deaths and Annual Death Rates per 100,000 Population from Important Causes.

POPULATION BY GEOGRAPHICAL SECTIONS AND AS URBAN AND RURAL.	Croup.		Scarlet Fever.		Measles.		Whooping-Cough.		Pneumonia.		Dysentherial Diseases, Under Five.		Cerebro-Spinal Meningitis.		Influenza.		Puerperal Septicemia.		Cancer.		Violence.		Smallpox.	
	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.
State.....	2	.8	4	1.7	4	1.7	7	3.0	130	56.1	182	78.5	12	5.1	4	1.7	6	3.3	160	69.1	188	80.3		
Northern Counties.....	1	1.0	2	2.5	4	5.1	3	3.8	37	47.4	51	91.0	5	6.4	2	2.5	4	4.9	64	82.0	62	79.4		
Central Counties.....	1	1.0	2	2.1	1	1.0	1	1.0	35	59.6	75	81.3	6	6.5	1	1.0	4	4.9	60	65.1	90	97.6		
Southern Counties.....	1	1.6			4	6.5	4	6.5	38	62.0	36	58.8	1	1.6	1	1.6	2	2.1	36	58.8	34	53.5		
All Cities.....			1	1.1	1	1.1	6	6.7	67	75.4	89	100.2	5	5.8	2	2.2	5	5.6	76	85.5	60	101.3		
Over 50,000.....					1	2.0			24	69.9	31	90.3	3	8.7			3	8.7	32	93.2	20	67.4		
25,000 to 50,000.....					1	27.0			1	27.0	1	189.4					4	108.2	4	108.2	8	162.3		
10,000 to 25,000.....			1	4.0					18	73.1	24	97.4	1	4.0			1	4.0	20	81.2	27	109.6		
5,000 to 10,000.....					1	6.7			18	42.7	14	84.6			1	6.7			11	74.4	17	114.9		
Under 5,000.....					2	17.5			6	32.6	13	114.1			1	8.7			9	79.0	10	87.8		
Country.....	2	1.4	3	2.1	3	2.1	1	1.7	62	45.8	93	66.9	7	5.0	2	1.4	4	2.8	64	60.4	98	69.0		

Meteorological Summary, Indiana Section. Climatological Service, U. S. Weather Bureau, for October, 1908. Furnished by W. T. Blythe, Section Director, Indianapolis, Ind.

SECTIONS.	TEMPERATURE.						PRECIPITATION.				CONDITION OF SKY.			Wind.
	Highest.			Lowest.			In Inches.				Number of Days.			
	Mean.	Departure from Normal.	Place.	Mean.	Departure from Normal.	Place.	Average.	Departure from Normal.	Snowfall, Un-melted.	Days with .01 inch or more.	Clear.	Partly Cloudy.	Cloudy.	
Northern Section.....	53.6	-0.5	80 18 Logansport.....	17	31	Bluffton.....	0.17	-1.93	T	3	18	7	6	S.W.
Central Section.....	54.8	+0.2	88 18,19 Bloomington.....	13	31	Northfield, Butternutville, Columbus, Seymour, Northfield.....	0.40	-2.07	T	3	16	10	5	S.W.
Southern Section.....	56.4	-0.1	93 20 Rome.....	21	31		0.16	-2.23	0	2	21	7	3	S.W.
State.....	54.9	+0.2	93 20 Rome.....	13	31		0.34	-2.08	T	3	18	8	5	S.W.