

WAR ON THE FILTHY FLY



THE LITTLE HOUSE FLY: FEMALE AT LEFT, MALE NEXT, WITH ENLARGED ANTENNAE; LARVA AT RIGHT, ALL ENLARGED

FAR FROM looking upon them as dipterous angels dancing attendance on Hygeia, regard them rather in the light of winged sponges spreading bither and thither to carry out the foul behests of contagion.—Sir John Lubbock

Other names have been suggested for the house-fly to bring out, some special characteristic or to indicate its nature as a carrier of disease. Accordingly, Dr. C. W. Stiles of the United States public health and hospital marine service suggested for it the name of "filth-fly" to indicate that it is hatched and reared in filth and that it abounds wherever filth abounds. Dr. L. O. Howard of the United States department of agriculture named it the "typhoid fly," from the fact that it is a ready carrier and disseminator of the germs which cause typhoid fever.

With the first advent of spring weather the house-fly appears. During the long winter months it has been hibernating. It was too cold for the fly to live and be active. Barring certain places where the temperature is high and food abundant, the fly is not seen during the winter months.

Soon after musca domestica has made its appearance it is in search of a place to breed. The female fly has got to lay her eggs. Nothing suits her better as a depository for her eggs than a pile of horse manure. She, therefore, makes her way to the stable, and that is the reason why stables are so densely infested with these insects. There they breed in countless numbers. In the absence of the favorite manure pile, any fermenting and putrid animal and vegetable matter will suit.

Whenever a fly is seen it is positive proof of the existence of some filth in the neighborhood. It is much more filthy and much more dangerous to have flies in the kitchen and dining room than to have bedbugs in the bedroom.

Every open garbage can, every bit of exposed food, every stagnant bit of water means another nursery and refuge for the pest. And each individual fly is the breeding place for as many germs as there are flies in the average fly nursery!

Flies can carry various disease germs to man. By so doing they kill thousands of people, especially babies, every year; therefore, kill the flies and save the babies.

If flies have access to human excrement they not only feed upon it, but they lay their eggs in it. After a few hours the egg hatches out a maggot; this feeds in the filth for several (about five) days and then forms a pupa; after about five days the adult fly comes out of the pupal case, feeds on the filth, and carries disease germs from the filth to the house, depositing these germs on the foods. Thus flies carry disease to people. A fly drops his excrement about once every four and a half minutes and may spread germs not only in this way, but also with his feet, wings, and mouth parts.

Even if excrement containing fly maggots is buried under as much as six feet of sand, the maggots can crawl to the surface, bringing disease germs with them.

Thus it is clear that if flies are kept away from human excrement, not only will they decrease in numbers, but they will be prevented from spreading certain diseases, such as typhoid fever.

The germs that the fly happens to alight upon with its feet or to suck up with its food it is ready to carry away and deposit elsewhere. Just as often as not a fly will alight upon the "worst kind of unmentionable filth, filled with all sorts of germs, and thence will make for a jug of milk or any other article of diet prepared for human consumption that happens to come in its way.

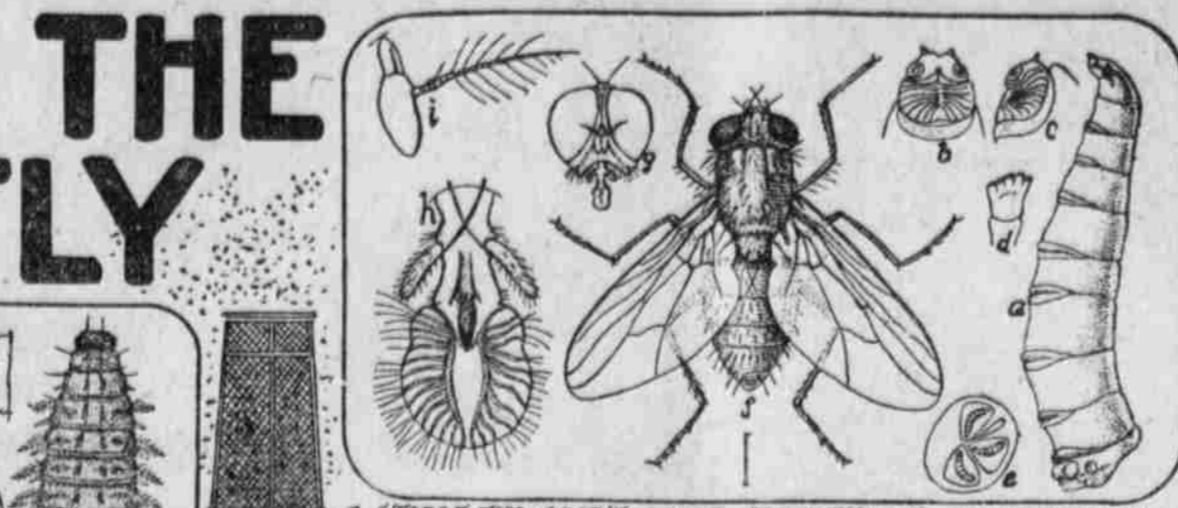
The fly is a ready carrier of the germs of tuberculosis, since these are found especially in the dried sputum expectorated by the persons afflicted with that disease.

It is a ready carrier and disseminator of the germs of typhoid fever also. It carries these germs from the privy or other filth and deposits them upon all kinds of food in the kitchen. It may even pollute the entire water supply of a community.

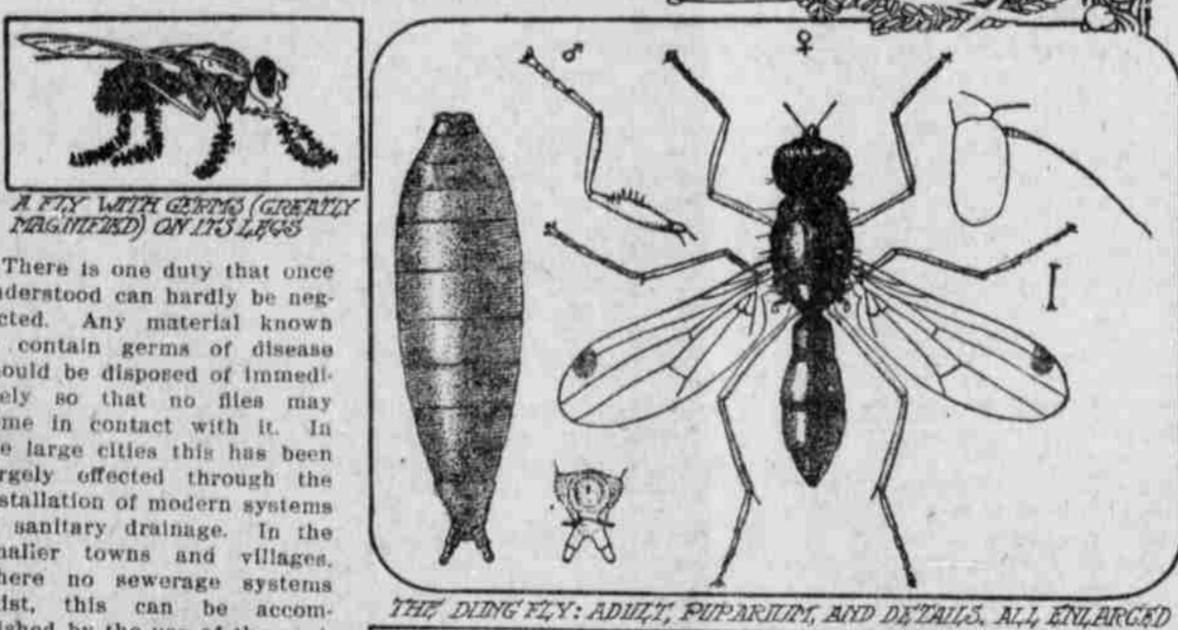
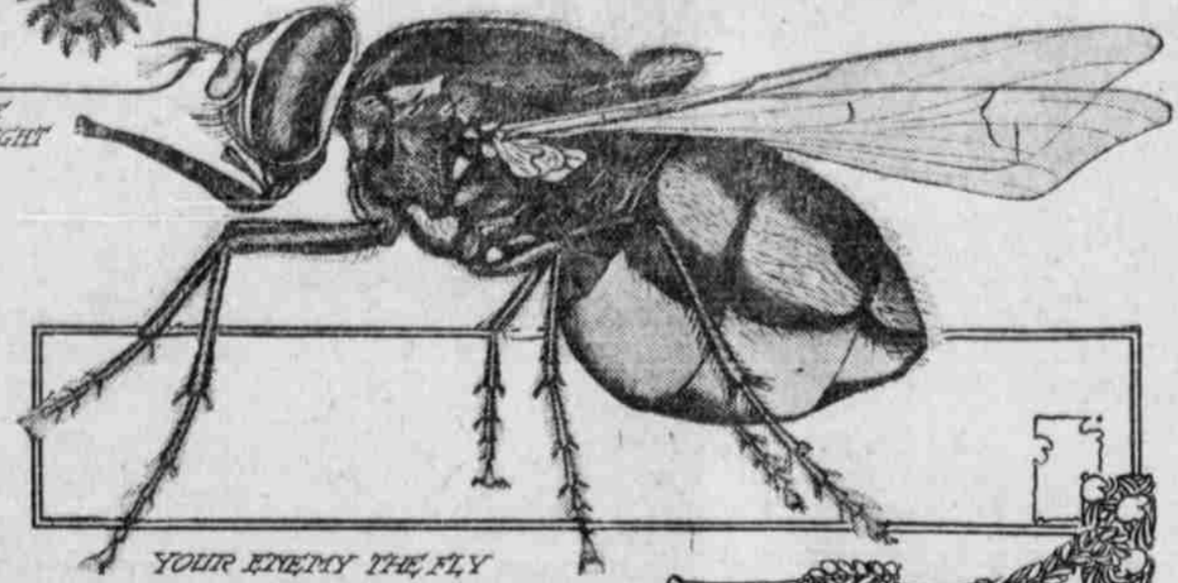
Tuberculosis and typhoid, however, though the most important, are not by any means the only diseases which the fly can carry. Asiatic cholera, bubonic plague, bacillary dysentery, summer diarrhea of infants, anthrax, the tropical disease known as yaws, ophthalmia or pink eye of children, diphtheria and smallpox and certain parasitic worms—all these may be carried by the fly and the infection spread either through the medium of food or by direct contact with man.

Owing to the great prevalence and the large mortality in the United States caused by summer diarrhea of children, the fly as the carrier of the germs of this malady becomes at once a most important factor to consider in the efforts made to save child life, and no mother should be ignorant of this fact. The food given little children should be carefully guarded against coming in contact with the house-fly.

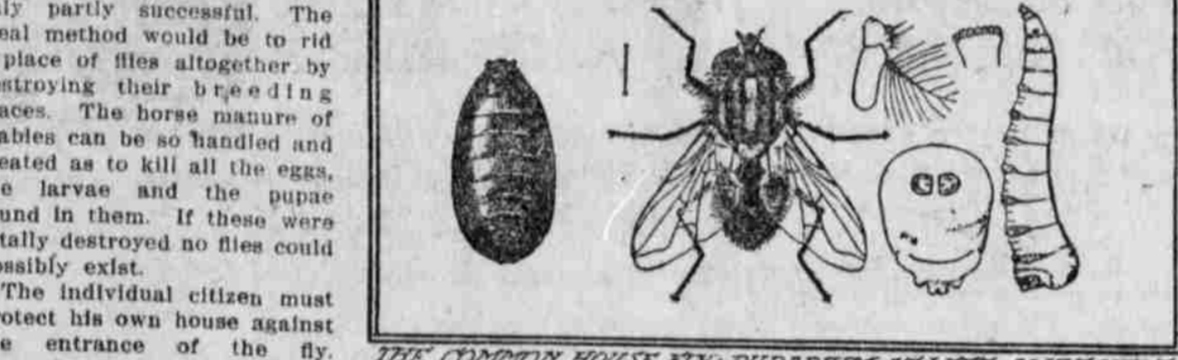
The remedies to be used against the fly may be divided into two classes: Those which the community may use through the agency of boards of health and those which the individual citizen should employ to protect his house against the entrance of those pests and to guard his foodstuffs against contamination by them.



A STABLE FLY: ADULT, LARVA, AND DETAILS, ALL ENLARGED



THE DINING FLY: ADULT, PUPARIUM, AND DETAILS, ALL ENLARGED



THE COMMON HOUSE FLY: PUPARIUM AT LEFT, ADULT NEXT, LARVA AND ENLARGED PARTS AT RIGHT, ALL ENLARGED

There is one duty that once understood can hardly be neglected. Any material known to contain germs of disease should be disposed of immediately so that no flies may come in contact with it. In the large cities this has been largely effected through the installation of modern systems of sanitary drainage. In the smaller towns and villages, where no sewerage systems exist, this can be accomplished by the use of the sanitary privy. This, however, is only partly successful. The ideal method would be to rid a place of flies altogether by destroying their breeding places. The horse manure of stables can be so handled and treated as to kill all the eggs, the larvae and the pupae found in them. If these were totally destroyed no flies could possibly exist.

The individual citizen must protect his own house against the entrance of the fly. Screening is the best method known; but in spite of all screening some flies will make their way into the home. These must be killed. An easy way to accomplish it is to take some soft, flat object such as a rolled-up newspaper and kill them by the simple means of striking them. If there be too many of these insects to go after in that manner, there are many excellent fly-traps and fly poisons that can be made to do effectual work. By all these methods combined flies may be got rid of.

One matter of moment and the only one which is in the hands of the housekeeper alone is the habit of keeping all foodstuffs carefully covered and away from the possibility of contact with flies.

The house-fly costs the United States \$350,000,000 a year. In other words, he deprives the American people annually of 170,000,000 years of

BEST WAY TO RID A HOUSE OF FLIES.

The London Lancet, the leading medical journal of the world, says that the best and simplest fly killer is a weak solution of formaldehyde in water (two teaspoonfuls to the pint). Place in plates or saucers throughout the house. Ten cents' worth of formaldehyde will last an ordinary family all summer. It has no offensive smell, is fatal to disease organisms, and is practically non-poisonous except to insects.

Pyrethrum powder, which may be bought at any drug store, burned in the house, will also kill flies.

human life, or 4,000,000 lives of the present average length. For screens to obstruct his entrance into our homes we spend each year \$10,000,000. Yet his intrusion into millions of dwelling places remains unchecked. He is born and bred in the filth on which he feeds, and his pestilential progress from dunghill to dining room brings disease and death.

Flies kill more persons than wild beasts or poisonous snakes. Many of these animals and reptiles never get a chance to kill any human beings; but any one of the millions of flies found in most of our towns and cities, if he comes into a house carrying typhoid germs, has a chance of killing a whole family. Startling facts and unpleasant truths.

The earliest convincing evidence of the part played by house-flies in the dissemination of the typhoid bacillus was furnished by Drs. Vaughan, Veeder, Reed, Sternberg and Shakespeare, who investigated camp conditions during the Spanish-American war. Dr. Vaughan, a member of the United States army typhoid commission, summarized his reasons for believing that flies were active in the dissemination of typhoid fever in these paragraphs:

"(a) Flies swarmed over infected fecal matter in the pits, and then visited and fed upon the foods prepared for the soldiers in the mess tents. In some instances where lime had recently been sprinkled over the contents of the pits, flies, with their feet whitened with lime, were seen walking over the food.

"(b) Officers whose mess tents were protected by screens suffered proportionately less from typhoid fever than did those whose tents were not protected.

"(c) Typhoid fever gradually disappeared with the approach of cold weather and the consequent disabling of the fly."

In organizing a fly-swatting campaign the following steps are most important:

1. To educate the people as to the deadly nature of the fly.
2. To kill off all winter flies—those hiding about the houses, awaiting their season to flog.
3. To do away with all breeding places for flies.
4. To trap all flies that happen to escape.

The extermination of the winter fly is a problem for the individual housekeeper. Don't let one fly escape. Hunt for them and kill them early, for the winter fly is the mother of all the summer's terrible swarm.

To do away with the fly breeding places is merely a matter of cleanliness. Clean houses, gardens and yards. Clean streets and alleyways. Discourage the fly in its breeding proclivities.

Carrying out the fourth step, the sale of fly-traps should be encouraged in all stores. These are marvelous little wire screen-houses, which are baited with milk, wherein a fly, once trapped, is doomed. They may be placed on porches, window sills, garbage pails—anywhere that flies are likely to congregate, but always outside the house. Then the fly has no chance to come inside and spread disease and dirt.

To sum it all up, swat the fly before he is born.

MEAGER MENU.

Jones—How did you like the treatment at the northern sanitarium?
Smith—Not at all; I had nothing but bacilli soup and vermifuge pie for two weeks."

LIFE.

"I understand you furnished all the life at the donation party?" she said.
"No, not me," he replied. "It was my brother who took the cheese."

ITS ADVANTAGE.

"Beauty has one advantage over ability."
"What is that?"
"Even the most cautious will take beauty at its face value."

HER THOUGHT.

"I can read your thoughts," he said with a smile.
"And yet you don't say good night and go," she replied.

NEWS FROM STATE HOUSE

The military department of the state university is planning a series of Thursday afternoon dress parades.

Delegates from all over the state attended the short course of the boys' and girls' club of Nebraska, held at the university farm last week.

The teachers' college has a call for six principals of schools which it is unable to fill. The salaries run from \$85 to \$100 and the positions are open only to men.

The implement exhibits at the next state fair promise to be complete and attractive. During the last week a number of exhibitors engaged space and will send the latest models in farm machinery for exhibition.

The ceremony of laying the cornerstone for the Nebraska building on the grounds of the Panama-Pacific exposition has been recorded in moving picture films and has been sent to Nebraska by the exposition authorities.

Deputy State Auditor Minor has complete lists of county officials for his state roster, from all except Cedar, Hamilton and Logan counties. He will write again to those counties and expects to get the names of the officers there within a short time. The roster will be kept on file at the auditor's office, for public reference.

That greenhouses contain merchandise, not growing crops, and are therefore assessable as such, was the ruling of Secretary Seymour of the state assessment board. Numerous assessors had complained to him that greenhouse proprietors had attempted to avoid assessment by claiming the same immunities as farmers, on growing crops.

Dr. H. K. Wolfe, professor of physiology at the state university, is introducing practical psychology to business men of Lincoln. He favors tests based upon psychological facts as applied to applicants for positions. Various organizations of business men have taken to the idea, believing that by scientifically testing their employees they will secure greater efficiency.

Secretary E. Royle of the Nebraska state banking board has drawn upon 721 state banks for a total of \$54,526.17 to reimburse depositors of the First State Savings bank of Superior, Neb., which went down into bankruptcy when a national bank in the same town failed. The two banks were owned by practically the same persons.

The twenty-fourth annual meeting of the Nebraska Academy of Sciences will be held May 8 and 9 at the state university. Plans are now being made for a fitting celebration of the quarter centennial next year. The special effort and attention at this time, however, is being directed toward the program of this year, which promises to be one of the best in the history of the Nebraska Academy.

More than 75,000 acres of virgin soil will be turned over in the vicinity of Sidney within the next few days, according to Joseph Oberfelder of that city. And consequently, thinks the optimistic western Nebraskan, the state's crop budget for the year will be enriched by many hundreds of thousands of dollars by that activity. Huge gasoline tractors are at work on the job. The ground will be planted mainly to flax.

A convention of Nebraska school board members is called to meet at the Commercial club rooms in Lincoln, Thursday, May 14, the preliminary meeting to be held at 11 o'clock a. m., and the general session at 1:30 p. m., for the purpose of organizing a state association of city school boards. This call is addressed to individual members of, and to boards of education in, all cities and districts having a population entitling them to six members on the board.

Japanese will be employed to cultivate the beet fields of northwestern Nebraska this year, according to Deputy Auditor W. H. Minor, who has just returned from a trip to Morrill. The farmers there are engaging Japs instead of Russians, he reports. There has been a small colony of Japanese at Scotts Bluff for the past year or so, and this spring more of them are coming in.

Children Pass to Board of Control.

The state board of control will soon assume the management of the state school for dependent and delinquent children in Lincoln. Under a decision given by Deputy Attorney General George W. Ayres the board of control and not a special board created by statute and appointed by the governor must manage the institution. A board appointed by the governor, comprising Dr. P. L. Hall, Rev. A. L. Weatherly and Rev. H. H. Harmon, has had control of the home. Dr. Hall asked the attorney general for an opinion.

Interest in Exposition.

Nebraskans and Ex-Nebraskans on the Pacific coast are taking a keen interest in the effort to raise sufficient funds for a Nebraska building on the grounds of the Pacific-Panama exposition. The commission appointed by Governor Morehead and the state officials is making every effort to raise the money. It is planned to use as much of the material as possible on the Nebraska state fair grounds after the exposition is over.

TAXES ARE DUE STATE

LIST OF HERDS IN FUTURITY EXHIBIT AT STATE FAIR.

GOSSIP FROM STATE CAPITAL

Items of Interest Gathered from Reliable Sources and Presented in Condensed Form to Our Readers.

Western Newspaper Union News Service.

Back Taxes Due the State.

If every cent of taxes owing the state from 1859 to 1913, inclusive, were paid into the treasury the amount would more than foot the bills occasioned by the removal of the university to the farm campus. This startling statement was made by Clerk Wheeler of the auditing department after he had completed a table of the outstanding obligations. The total is close to \$3,666,000 and amounts due vary as between the ninety-two counties of the state. Every cent of the debt represents back taxes not remitted to the state by the counties. In practically all of the instances the taxes were not collected, hence the counties were losers, too, in the affair, as well as all of the subdivisions for whose aid the taxes were levied.

Dedication Set for May 12.

The date for the dedication of the monument to mark the Oregon trail on the Kansas-Nebraska state line has been definitely set for May 12, and both governors have been secured to speak. Secretary Paine of the state historical society has received word from August Jaedleke of Hanover, Kan., chairman of the erection committee, that about five hundred automobile loads of Kansas people will attend the unveiling ceremonies. A large delegation of Nebraska people will also attend, many of them from Lincoln. Arrangements have been made whereby those going by train will be met at Wymore by automobiles and taken on the sixteen mile ride to the monument site, which is two miles west of Lanham, at the point where the line between Gage and Jefferson counties intersects the state line.

Nominations for Futurity Shows.

The American Poland China Record association has issued a list of the herds nominated in the eleven futurity shows to be held during the season of 1914. These are held on the state fair grounds and the Nebraska exhibit will be held September 7 to 11 at the state fair.

In Nebraska there are twenty nominations as follows: Beall & Jackson, Roca; T. W. Cavett, Phillips; W. R. Cooper, Milford; Phil Dawson, Endicott; W. E. Epley, Diller; William Ferguson, Scribner; L. P. Fuller, Bethany; G. A. Klissinger, Milford; W. A. Lingford, Dannebrog; D. C. Lonergan, Florence; O. J. McCullough, Clarks; H. C. McGath, Foster; McNutt & Meese, Ord; J. C. Meese, Ord; Timm Neuhofel, Central City; L. F. Reilly, St. Paul; Harry Seltz, DeSoto; Lloyd S. Taylor, Steele City; Paul Wagner, Pierce, and W. E. Willey, Steele City.

Convict Teachers Are Successful.

The convict teachers at the state penitentiary night school have been successful in instructing their less fortunate fellow prisoners, according to Warden Fenton. Though they hold no state certificates and possibly could not pass examinations in the psychology of teaching, they have the gift of stimulating interest in their classroom work and the very fact that both teacher and pupil are convicts makes their attitude mutually helpful. The percentage of illiterates in the prison population is being steadily decreased and prison authorities believe that in time illiteracy will be entirely eliminated. Men who have never attended school and who have been neglected in their homes are learning to read and write.

Members of the board of control have announced that they will not soon make their choice of a location for the new state reformatory. They are not delaying the matter because of their dislike to make a final settlement, but are busy with other work which cannot be allowed to lag. It is likely that two or three sites will be visited within the next few weeks by the entire board membership.

Improvements in Penitentiary Lighting.

The state prison has for a long period furnished the light for the state house, grounds, orthopedic hospital and the governor's mansion, and has itself been enshrouded in darkness. Conditions have been changed. Twelve cement T posts, with two lights each, are lined up in front of the building. Seven arches with incandescent lights are scattered along the driveway. An arch of electricity is over the doorway. The work of manufacturing the cement posts and the metal arches was done by the inmates. The material was on the ground. Old gas pipes were welded into arches and painted white. The lighting effect has completely changed the exterior of the prison.

Reports from poultry experts received by the Nebraska state board of agriculture, indicate that a prosperous year is expected in this industry. Fowls came through the winter in good condition and there are signs of increased interest in this important industry.