

Time's Here to Swat the Fly

HOUSE FLIES carry disease from one human being to another. This has been proved scientifically. And now it remains to prevent these insects, or to reduce their numbers in the community, that the diseases they convey may be reduced also, or even abolished. One method of dealing with disease-bearing insects is to trap and kill as many as we can. For this reason "kill that fly" or "swat that fly" crusades have been instituted in many places. But it has been found by experiment that we cannot hope to kill sufficient flies to reduce seriously their total numbers. This is because flies breed at a very great rate when the weather is warm, and the total numbers which we can kill is so small, when compared to the total numbers born, that the result of the "swatting" campaigns has been disappointing.

All our efforts should be directed at preventing house flies from breeding—for prevention is better than cure. The best way to do this is to observe strict cleanliness—municipal cleanliness and home cleanliness. Then these insects will desert the neighborhood, and the diseases they convey will vanish. This was the policy pursued on the Suez and Panama canals to prevent malaria and yellow fever, which are conveyed from one person to another by mosquitoes. The method was most successful.

The house fly breeds in filth. Each female fly, as soon as the weather is warm enough, lays about 150 eggs on collections of manure, decomposing garbage, street rubbish or house refuse, and the eggs hatch into tiny maggots. After five days have passed, each maggot becomes a rolled-up, bean-shaped chrysalis, and after another five days each chrysalis gives birth to a two-winged, six-legged, whiskered, bristly flying insect known to us as the house fly. Bluebottles breed similarly, but they prefer to lay their eggs on rotting carcasses or decaying animal matter. The house fly and the lesser house fly convey disease by bathing their legs in germ-laden material, which they find during their feeding forays. The germs stick to their legs and to the tips of their telescopic proboscides, and then are carried to the milk jug, the teacup, to the cut loaf, and to the culinary utensils. Sometimes the flies swallow the germs, which multiply inside them, and afterwards the concentrated disease focus is again deposited wherever the fly settles.

We can be rid of flies if we observe the ordinary common sense rules of cleanliness and sanitation. No fly lairs, or breeding places, must be permitted near human habitations. All unclean places must be made clean regularly once a week by the sanitary or municipal authorities, and then the fly maggots will be unable to come to maturity, and so the pest will be exterminated. Recently a war on flies has been taken up assiduously by the press, and the medical officers of health are exerting themselves to start antily campaigns.

Thus the municipal authorities have made a start, and it remains for the individual householders to help them. Each one of us can do our share of fly prevention. We can prevent flies in our own homes. On one morning, every week, we must inspect our own premises. Begin in the kitchen. Observe every nook of the scullery, the pantry, the cellar, even the dining room, and see that every corner and cranny is scrupulously clean. Next, we must examine the dustbin to see if it is completely cleaned out. Let there be no small collections of tea leaves spilled out of it, or rotting peelings or scraps of bread, or any other places where flies can breed. Let the cheese be well covered, and the bread be in its pan, and all food within the larder in its proper place. And let everything be clean and wholesome.

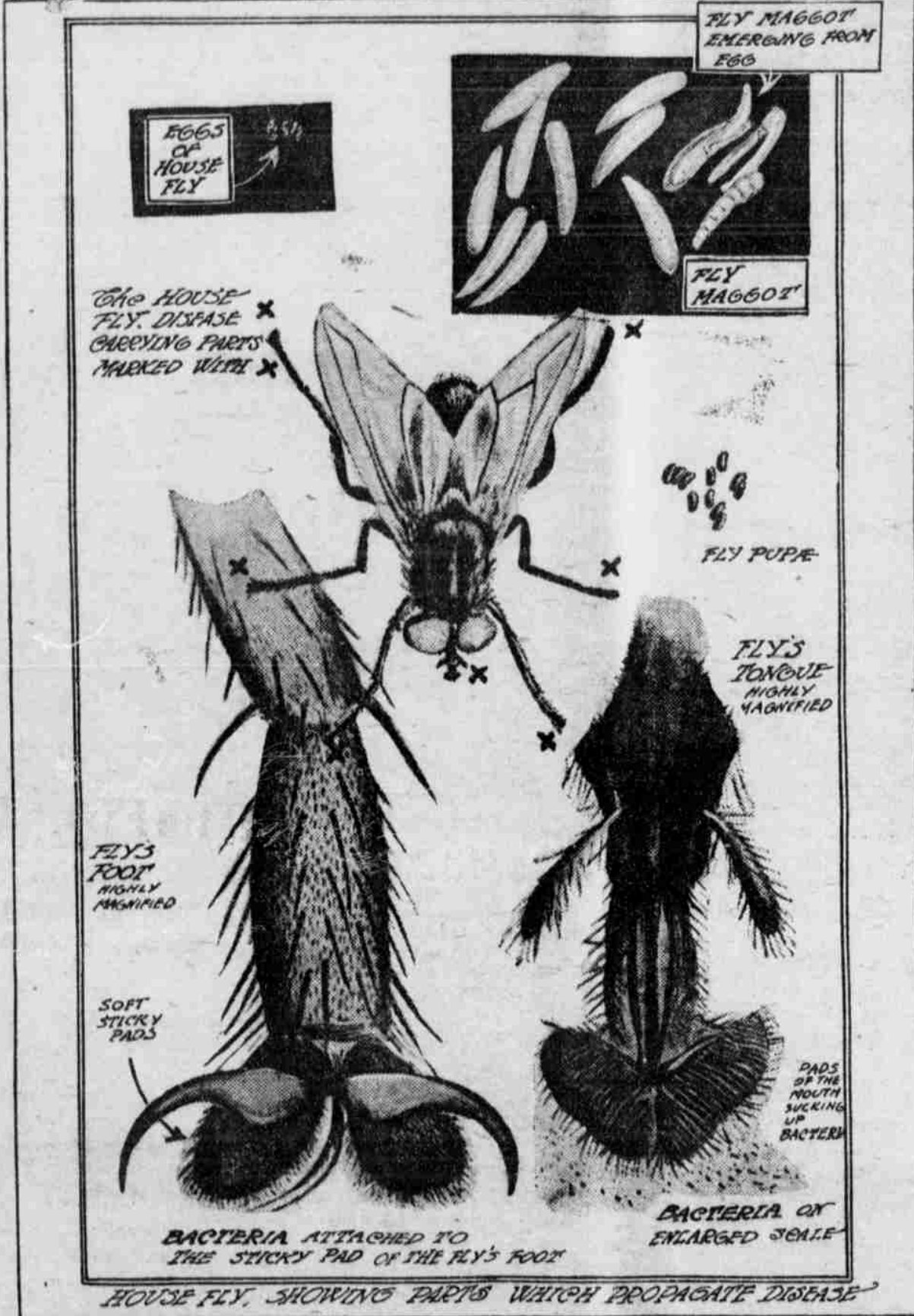
It is most important, also, to inform our neighbors on every convenient occasion of the disgusting and dangerous character of house flies, and to ask them to co-operate in preventing them. Then there will be an organized campaign against these insects. The more we talk about it the sooner will the thing be done. The education of children in the matter is also most essential. Then a new generation will grow up knowing the dangers of flies and how to prevent them. Schoolmasters and schoolmistresses should be invited to teach their charges about flies, and should set the example by instructing them in the tenets of school cleanliness. This will help us greatly. If we all keep our own homes sweet and clean, our children's lives will be spared the horrors of summer sickness, typhoid will be lessened, doctors' bills will be reduced, and the health of the community will be improved enormously. With regard to house flies and fly-borne diseases the remedy is simple. Let us apply it.

As a result of experiments, the specialists of the United States department of agriculture have discovered that a small amount of ordinary borax sprinkled daily on manure will effectively prevent the breeding of the typhoid or house fly. Similarly, the same substance applied to garbage, refuse, open toilets, damp floors and crevices in stables, cellars or markets, will prevent fly eggs from hatching. Borax will not kill the adult fly nor prevent it from laying eggs, but its thorough use will prevent any further breeding. The investigation, which included experiments with many substances, was undertaken to discover some means of preventing the breeding of flies in horse manure without lessening the value of this manure as a fertilizer for use by the farmer. It was felt that if some means of preventing the breeding of flies near a human habitation could be devised, the diseases spread by these filthy germ carriers could be greatly reduced. While the "swat the fly campaign," traps and other devices for reducing the number of typhoid-carrying flies are of value, they are of less importance than the prevention of the breeding. It was realized, however, that no measure for preventing the breeding of flies would come into common use unless it was such that the farmer could use it on his manure pile without destroying its usefulness for growing plants, and without introducing into the soil any substance that would interfere with his crops.

As a result of experiments carried on at the Arlington farm, in Virginia, and New Orleans, La.,



YOUR ENEMY THE FLY



the investigators found that 0.62 of a pound of borax, or 0.75 of a pound of calcined colemanite (crude calcium borate) would kill the maggots and prevent practically all of the flies ordinarily breeding in eight bushels of horse manure from developing. This was proved by placing manure in cages and comparing the results from piles treated with borax and from untreated piles. The borax, it was found, killed the fly eggs and maggots in the manure and prevented their growth into flies.

In the case of garbage cans or refuse piles, two ounces of borax or calcined colemanite, costing from five cents a pound upward, according to the quantity which is purchased, will effectually prevent flies from breeding.

While it can be safely stated that no injurious action has followed the application of manure treated with borax at the rate of .62 pounds for eight bushels, or even larger amounts in the case of some plants, nevertheless borax-treated manure has not been studied in connection with the growth of all crops, nor has its cumulative effect been determined. It is therefore recommended that not more than 15 tons of the borax-treated manure should be applied per acre to the field. As truck growers use considerably more than this amount, it is suggested that all cars containing borax-treated manure be so marked, and that public health officials stipulate in their directions for this treatment that not over .62 (62/100) of a pound for eight bushels of manure be used, as it has been shown that larger amounts of borax will injure most plants. It is also recommended that all public health officials and others in recommending borax treatment for killing fly eggs and maggots in manure warn the public against the injurious effects of large amounts of borax on the growth of plants. Purchasers of manure produced in cities during the fly-breeding season should insist that the dealers from whom they purchase give them a certified statement as to whether or not the manure in the particular car or lot involved in the purchase has been treated with borax.

In feeding to hogs garbage that contains borax care is also recommended, especially when the animals are being fattened for market. Borax is not a very poisonous substance and the feeding of garbage that contains it to hogs is not likely to be a serious matter. On the other hand, borax in large quantities does produce gastric disturbances and for this reason a certain amount of care is advisable.

The method for using this substance in the case of stables is to sprinkle the borax or colemanite in the quantities given above, by means of a flour sifter or other fine sieve, around the outer edges of the pile of horse manure. The manure should then be sprinkled immediately with two or three gallons of water to eight bushels of manure. It is essential, however, to sprinkle a little of the borax on the manure as it is added daily to the pile, instead of waiting until a full pile is obtained, because this will prevent the eggs which the flies lay on fresh manure from hatching. As the fly maggots congregate at the outer edge of the manure pile, most of the borax should be sprinkled there.

Borax costs five to six cents per pound in 100-pound lots in Washington, and it is estimated that at this rate it would cost only one cent per horse per day to prevent all breeding of flies in city stables. If calcined colemanite is purchased in large shipments, this cost should be considerably less. At the same time, if the borax is used on the manure only in the proportions stated, its value for use in the garden or for sale to farmers will not be lessened.

In view of this discovery, there now seems little excuse for any horse owner or resident of a city allowing typhoid flies to breed in his stable or garbage can.

It is believed that this information will greatly help the health authorities in their campaign against the typhoid fly. The health authorities have long tried to prevent the breeding of flies in city stables through the use of iron sulphate as a larvicide. In the case of iron sulphate, however, a large amount is required, and other insecticides, such as paris green or potassium cyanide, while effective in killing flies, are very expensive or extremely poisonous. Borax, which is used freely in most households, and is readily available in all parts of the country, has the advantage of being comparatively nonpoisonous and nonflammable, readily soluble in water and easy to handle. It can be purchased at retail for ten cents a pound, and a single pound used as directed in a garbage pail or open toilet may prevent the breeding of hundreds of dangerous flies.

EXPERIENCE AS A TEACHER.

Little Lemuel—Paw, why do so many people borrow trouble?
Paw—Because, son, that is the only thing most of them can borrow without security.

In the PUBLIC EYE

WILL BE YOUNGEST EMPRESS



Archduchess Zita, when Archduke Karl Franz Josef succeeds to the throne of Austria-Hungary, will be the youngest empress recorded in very many years, for she was only twenty-three years old on May 9, 1915. This fact is pleasing to the Austrians, and especially to the Viennese, only the oldest of whom recall Empress Elizabeth in her fresh beauty when she came to them as Emperor Franz Josef's bride. Archduchess Zita has much to commend her to popularity. She has intelligence, a winning personality, and, above all, the ability to make herself beloved. The chief charm of her face is her splendid eyes, Italian in their power of changeable expression. Her hair is brown, with golden lights.

Her birthplace was Villa della Pianore, near Viareggio, and her unusual name is of Tuscan origin, in honor of Zita of Monte Segrate, whose body lies in the church of San Tradiano at Lucca, and who was made a saint by Pope Nicholas III. Part of her childhood spent in Italy, the princess learned Italian; descended from the bourbon kings of France, French is as her native tongue; English she perfected in the Isle of Wight.

"DAN MAC" OF MAINE

When the next session of congress opens, Daniel McGillicuddy of Maine will be a member of the important ways and means committee of the house. The popularity of "Dan Mac," as his friends call him, in his congressional district has been proved repeatedly, and his political opponents have a wholesome respect for his ability and courage.

Some years ago Congressman McGillicuddy was trying a case in the Androscoggin county court house in Auburn, across the river from his home in Lewiston. The jury was being impaneled. As the name of one of them was called and as he stepped up to the bar of the court, Dan Mac leaned over to his associate and whispered: "I don't like the cut of his jib. He's got a bad face. The Almighty puts a face on a man for the same reason that man puts a face on a clock—to indicate what is going on inside of him. Challenge him," and the jurymen was rejected. Applying Dan Mac's rule of physiognomy to himself, one would have to conclude that he was an open-minded, courageous, vigorous man who would render a verdict on the facts presented in any case that he sat in judgment upon.

But when it comes to politics McGillicuddy is a strong partisan. He is not though the less of because of this. Indeed, it is and has been for years one of his strong points.

He has given his opponents many hard blows and has received in return his share of hard knocks from the other side, but Dan Mac seems to have thrived on the strenuous political life of the Pine Tree state.



MAGNATE OF ARGENTINA



Among the delegates to the Pan-American financial conference in Washington was Samuel Hale Pearson, the greatest capitalist of South America, who represented the Argentine Republic.

Mr. Pearson has had a highly interesting career. He was born in Buenos Aires in 1867, and was educated at the Salvador college there and the Polytechnical school of New York. He gained an extensive commercial experience in his travels, and in 1890 he joined the banking firm of Samuel B. Hale & Co., Buenos Aires, which was founded by his grandfather in 1833. He has taken a leading part in the industrial development of his country and has earned an enviable reputation and inspired the confidence of all of his countrymen, as well as the leading business men throughout the world, by his straightforward dealings and remarkable business ability. Mr. Pearson has a direct control over billions of dollars invested in South America and has recently been appointed director of the Bank of the Argentine Republic by the President and the senate.

KING ALBERT AS A REPORTER

Most people know of King Albert's love of literature, but few are aware that some time ago his desire for knowledge prompted him to become a newspaper correspondent. When prince of the Belgians he traveled incognito through France, Austria, Great Britain, America and Scandinavia as a reporter. In this way he was able to study the commercial advantages of other countries, as well as to broaden his views and educate his mind.

The royal reporter worked diligently at the profession he adopted. He was employed by a Minneapolis newspaper at a salary of \$15 a week. His employers were unaware of his identity, and when sent out on an assignment and he returned with a poor "copy," he was as badly hauled over the coals as were his less aristocratic colleagues.

While serving on a Brooklyn newspaper Prince Albert endeavored to obtain entry into a house where a murder had taken place. He was stopped by a policeman, who demanded his card. The blue-blooded reporter did not happen to have one and, of course, the representative of the law roughly ordered him off. A rival reporter, who noticed the incident, asked the policeman: "Do you know that the man you were speaking to was prince of the Belgians?" "Well," answered the unenlightened policeman, "Mr. Prince should have shown me his card, for I've never heard of that paper."

