

secuted by one specific, though imaginary type of insect and constitutes a mental fixation or hallucination. All cases probably started from genuine attacks at one time or another, of lice or mosquitos or no-see-ums (*Culicoides*) and perhaps true ticks, which so worried them that the sense of suffering remained to form a mental plague when the insects themselves had passed. This was definitely so in the case supplied by Mr. Gregson, for the man had visited a mining property near Nelson, B.C., with some companions and all members of the party had been attacked by wood ticks which they had completely removed from their bodies and clothing. It was not until several days later that the mental trouble began in the man in question.

What was possibly an incipient case of this kind was encountered in Vancouver in an elderly couple, comfortably off financially, who had rented their house for the season. They returned to find it infested by a few bed bugs which bit both man and wife, and horror and disgust seized them; they rented another house and had their own home treated, cleaned and

redecorated from basement to roof. The fear and loathing of the bed bugs followed them into the rented house and every speck on the walls, on the furniture or in their beds, turned into an imaginary bug and any sudden irritation or feeling on the skin developed into the intolerable itching of a bite.

At this stage I was called in by a friend who actually thought they had bed bugs. I found both people suffering from burns and irritation caused entirely by the number, variety and severity of the "dopes" they had used; the furniture, sheets and mattresses were stained by varied insect sprays including creosote washes, and the blankets had great holes burnt in them by lye. There was not a sign of a bug anywhere in the house.

It took two days of demonstration and persuasion to convince the old people that they had no bed bugs and were not being bitten and probably saved them from developing the same permanent mental delusion and suffering which affected the other people.

NAPHTHA GASOLINE IN INSECT KILLING BOTTLES.

—When making population counts of grasshoppers by sweeping, it becomes necessary to kill a large number in a short time. While working on these counts we found that even a quart-size cyanide bottle took too long so we employed a large candy jar containing a quart of methyl alcohol into which the whole tip of the net was dipped. This worked well but the alcohol soon became filthy and we substituted naphtha gasoline and have employed it ever since. It is the fastest killing substance we have used; three seconds is enough to penetrate a mass of grasshoppers as large as a baseball. Large-mouthed jars are sometimes hard to get so we now carry the gasoline in any quart bottle, from which the fluid is poured directly on to the mass of insects in the end of the net, whence it drips into a small tin can. So long as the insects are wetted they die immediately. The gasoline is poured back into the bottle from the can.

Less convenient to carry but equally convenient to use, is a one-inch diameter shell vial containing a little gasoline, with a wire gauze disc shoved half way down. Any insect caught in a net can be tapped into this bottle, which should be inverted and righted again as fast as possible and the insect removed with forceps. Too long immersion induces a rigor which is apt to snap off the legs, especially of grasshoppers whose hind legs invariably come up over their heads.

The gasoline evaporates in a matter of seconds and

does not spoil the bloom on any dipteran, dragon fly or wasp on which we have used it; in fact it cleans insects by degreasing them, especially fresh bumble bees. It should not, however, be used to clean old dry bumble bees whose fur becomes matted when soaked in it.—George J. Spencer, Kamloops, B.C.

ON THE DESTRUCTION OF ALL STAGES OF INSECTS IN PULVERIZED CEREALS AND SPICES.—Within the last two years there has been put on the market a patented mechanical contrivance for sterilizing all types of pulverized cereal products and spices and possibly commercial fertilizers containing fish meal, that are subject to attack by insects infesting stored food products. It is called the "Entoleter" and consists of a relatively simple hopper-fed machine which hurls the material with forced draught through a nozzle, up against a plate, thus destroying all stages of any insect that might happen to be present.

According to the Canadian agent in Toronto, a considerable number of these machines of varying capacities has already been installed in cereal-manufacturing plants in the United States and in Canada. They should prove a boon to the industry on this coast and should reduce to a minimum, the instances of infested foodstuffs attributable to infestations prior to the goods leaving the factories and developing later inside the packages.—George J. Spencer, Department of Zoology, University of British Columbia, Vancouver, B.C.