

THE CATTLE HORN-FLY.

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Considerable anxiety has been evinced by stock-owners in the Provinces of Ontario and Quebec, concerning the sudden appearance upon their cattle of enormous numbers of a small blackish fly which irritates the animals so much with its bite and disturbs them so constantly that they fall off rapidly both in flesh and yield of milk.

This is the so-called "Horn-Fly" which has attracted much attention in the United States for the last three years. It is a European pest which was first brought to the notice of the U. S. Division of Entomology in September, where it has been known since 1889.

In 1889, its complete life-history was worked out by Prof. Riley and his assistants Messrs. L. O. Howard and C. L. Marlatt. This was published in "Insect Life," vol. II, p. 93-103 and in the Annual Report of the U. S. Entomologist for 1889 and 1890.

These investigations were so thorough that there was little left for later observers to discover.

Prof. J. B. Smith, of New Jersey, also worked up the life-history independently, at the same time, and published an account of his work in Bulletin 62 of the New Jersey Agricultural Experiment Station.

The advent of this insect into Canada was first brought to my notice by Mr. Elmer Lick, of Oshawa, Ont., on July 30th last, when he stated that it had appeared in large numbers in that section of country and was causing considerable alarm.

Since that date I have received specimens and enquiries from localities ranging from the extreme west of Ontario to Boucherville, P. Q., some five miles east of Montreal. In all cases farmers seem to be thoroughly aroused and to appreciate the losses they may suffer by neglecting this pest.

Exaggerated statements of losses, and injuries to the animals which are quite impossible, have received free and extensive circulation by word of mouth, and through the newspapers. Cows are inaccurately said to have been killed by the flies, which, it is alleged, lay their eggs either on the horns into which the maggots bore and then penetrate to the brain, or "in holes which they eat through the hide, lay eggs therein, which hatch out in large numbers and proceed with their boring operations until the vital portions of the cow are touched and death ensues."

None of these statements are founded on fact. As stated above the complete life-history has been worked out. I had the good fortune to be in Washington, staying with Mr. Howard, in August, 1889, and was courtly permitted to join in his investigation of this matter. Together we visited some of the infested stock-farms in Virginia and secured living flies and eggs from which, later on, the perfect insects were reared.

The life-history is briefly as follows:—The eggs are laid singly on the freshly-dropped dung of cattle, chiefly during the warmer hours of the day. They are 1-20 of an inch in length, brown in colour, and very first and from this fact are not easily seen when laid. The young maggots hatch from the eggs in less than twenty-four hours and at once burrow a short distance beneath the surface of the dung. Here they remain until full-grown, feeding on the liquid portions of the manure. This is their only food and all stories about their boring into the horns, brains or flesh of living animals are untrue. When the maggots are full-grown, which takes about a week, they are 1/4 of an inch in length, and are of a dirty white colour. They descend a short distance into the ground to pupate, and the dark-brown pupae are 1/4 of an inch in length. During the hot weather of summer the pupal state lasts only four or five days, but the last brood passes the winter in this condition a short distance beneath the surface of the ground, and the flies emerge the following spring. The perfect insect is shaped much like the common cattle-fly or the house-fly, but it is smaller, being only 1/4 of an inch in length, that is, about one-third the size of those insects.

The colour of the Horn-fly is dark gray with a yellowish sheen, and the body is covered with black bristles. The head consists almost entirely of the dark-red silvery-grey eyes, which bears on its lower surface the black dagger-shaped tongue which is the cause of so much torture to cattle. When not in use this is carried projecting forward in front of the head.

This pest will be at once distinguished from the ordinary cattle-fly by its smaller size, greater activity and the characteristic habit of gathering in clusters upon the horns of cattle, particularly upon the upper side. When very abundant the flies form a more or less complete ring round the horn extending sometimes from two to four inches from the base towards the tip. The clustering upon the horns seems to be peculiar to this species, for where the common Cattle-fly occurs with it in large numbers upon the same animals, I have never found specimens in the thick clings upon the horns. Neither does the Horn-fly, like the Cattle-fly, bite horses and other animals, but seems to confine its attacks to cattle. It may not be amiss to mention here that no injury whatever results from this habit of gathering on the horns, the flies merely resting on the horns as a resting place from which they may easily dislodge by the neck and at the base of the tail. The flies assume two characteristic positions, one while feeding when the wings are slightly elevated and held out from the body, the other while resting, when the wings lie nearly flat down the back, with the tips only slightly separated. It is in this resting position that they are always found on the horns.

Cattle of all breeds are subject to the attacks of this pest, but there is very great difference in the susceptibility to injury of various breeds and individual animals according to their temperament and the texture of their skins. While feeding, the flies work their way down through the hairs so as to reach the skin of their victim, but they are extremely agile and quickly take flight at the slightest disturbance. The bites seem to produce great irritation and sores are frequently formed on the bodies of animals by their rubbing themselves against trees and other objects or by licking bitten places where the irritation cannot be allayed by rubbing, as inside the thighs and around the udder.

It is in the perfect state only that this insect is troublesome to stock; but it appears early in spring and lasts the whole season, successive broods following each other rapidly throughout the summer. Mr. Howard found that from ten to sixteen days, say two weeks, was about the time required from the laying of the egg to the appearance of the fly, and as there are about four active breeding months—from May 15th to September 15th—there is time for eight generations or broods. This rapidity of development will account for the flies appearing in such large numbers as to have attracted general attention simultaneously in many widely separated localities. There is no

doubt that the pest has been present on our Canadian stock farms throughout the past summer, but has only now increased in sufficient numbers to alarm the owners. Prof. Robertson, the Dairy Commissioner for the Dominion, tells me that he has received an unusual number of complaints this year of flies working stock, and these are in all probability attributable to this new importation, which brought into the United States only six years ago, has spread in all directions over many States of the Union and is now infesting our herds in Canada.

The appearance of this insect in Canada, is a serious matter, for it has been found that stock in infested regions have been so much tormented that animals fall off in condition very much, and the yield of milk is reduced in some instances from one-third to one-half. There are, however, several simple remedies which will, if attended to, greatly reduce this loss, and if all farmers would combine and use them, not only would their animals benefit in comfort but the owners would reap rich returns for their outlay.

Notwithstanding the great loss which may result to stock-owners from neglecting to attend to this new enemy, there is no reason why it should not be kept within control by simple and well tested remedies. This, of course, will be much more easily done if by some united effort steps are taken promptly at its first appearance in a new locality. From the fact that it has appeared comparatively late in the season, and probably will not this year do much harm, as it always disappears with the first frosts of autumn, farmers will have an opportunity of becoming acquainted with the habits of the pest and of learning the best remedies to be used against it, before a new season opens, and all should be prepared with the return of spring to wage a systematic, vigorous, and persistent warfare, and strive to induce their neighbours to do the same, so as to prevent its increasing in numbers and spreading all over the Dominion.

All accounts agree that the fly increases much more rapidly early in the season than later on in the year. This shows the advantage of being prepared before the pest appears with the necessary materials and beginning work promptly so as to destroy as many as possible before breeding commences.

The remedies are cheap, simple, and easily applied; but constant attention is required to make them effective. They may be grouped under two heads:—

1. Preventive, or such as prevent injury to the animals by keeping the insects from biting them;

2. Active, the object of which is the destruction of the insects either in the perfect or larval condition.

Preventive.—Under this heading I cannot do better than quote from the article by Messrs. Riley and Howard in "Insect Life," Vol. II, No. 4, which reads as follows:—

"Almost any greasy substance will keep the flies away for several days. A number of experiments tried in the field, with the result that train-oil and train-oil with a little sulphur or carbolic acid added, will keep the flies away for from five to six days, while with a small proportion of carbolic acid it will have a healing effect upon sores which may have formed. Common axle-grease will answer nearly as well, and is sufficiently used by a large stock-dealer in Virginia. Tallow has also been used to good advantage. The practice of smearing the horns with pine or coal-tar simply repels them from these parts. Train-oil or fish-oil seems to be more lasting in its effects than any other of the substances used."

Crude Carbolic Acid or Oil of Tar, mixed with fish oils if the two substances be placed together in a bottle and well shaken. They may be mixed in the proportion of 1 oz. of either in half a gallon of oil. The Oil of Tar has a stronger odour than Carbolic Acid and is cheaper.

The remedy which I think in the long run will be found to be the best is the Kerosene emulsion, and when farmers have learnt how to use this very valuable remedy against the insect enemies of crops and domestic animals can be prepared, many of the pests which now give trouble will be brought into subjection.

This emulsion consists simply of a mixture of soap-suds with twice the quantity of ordinary coal oil, made as follows:—

Kerosene (coal oil)..... 2 quarts, Rain water..... 2 quarts, Soap..... 2 oz.

Boil the soap in the water till all is dissolved; then while boiling hot, turn it into the kerosene, and churn it constantly and forcibly with a syringe or force pump for five minutes, when it will be of a smooth, creamy nature. If the emulsion be perfect it will adhere to the surface of glass without oiliness. As it cools it thickens into a jelly-like mass. This gives the stock emulsion, which must be diluted before using with nine times its measure, that is 27 quarts of water. It will be found to mix much more easily if done at once, before it cools.

The above proportions give three quarts of the stock emulsion which with 27 quarts of water added, make up thirty quarts of the mixture ready for use.

This may be applied to the animals either by means of a sponge or what will certainly be found most convenient, where there are many animals to treat, by means of a force pump and spray nozzle.

Prof. W. B. Alwood has found that the stock emulsion diluted ten times and mixed with one part of a water extract of tobacco waste (made by steeping 1 pound of tobacco stems in 1 gallon of hot water for an hour or more, gave almost perfect immunity for a period of three days and that two treatments per week almost entirely relieved his cattle from annoyance. He makes the application with a knapsack pump fitted with a cyclone nozzle, and the work is done just after milking time. His method is as follows:—The animals are driven into an enclosure through a gate which will only admit one at a time. A man with a knapsack pump on his back stands at the gate and sprays one side of each animal as it passes, and then drives out again, and the other side is treated in the same manner. The quantity of liquid thus applied is very small, but has been found sufficient. Previously, Prof. Alwood employed two men at milking time, and used one or two pints for each animal.

The knapsack sprayer mentioned above consists of a tank of four or 5 gallons capacity, fitted with straps for carrying it on the back, and supplied with a small force pump, a few feet of rubber hose and a spraying nozzle. These can be procured from several of the pump makers for about \$12, or \$14, complete.

Smaller and less expensive pumps would answer equally well, and may be obtained at prices ranging from \$2 to \$5 from most of our Canadian seedsmen.

Active.—Of applications to destroy the fly, a proprietary substance consisting mainly of tobacco dust and creosote, and known as "X. O. Dust," manufactured by a Baltimore firm, is very highly spoken of, particularly by Prof. J. B. Smith, of the

New Jersey Experiment Station. This costs about 25 cents a pound. When placed upon the cattle by dusting it through the hair, the flies will not remain long enough on the animals to bite them. Its effects last only about two days.

Kerosene emulsion made as directed above, sprayed over the cattle, killed all the flies reached and prevented others coming, as long as the odor lasted, which was from three to seven days.

Remedies for the destruction of the perfect insects, are mainly useful upon the first appearance of the pest in a new locality, or early in the season for the destruction of the first brood. The best way to fight this enemy is by the treatment of the cattle droppings so as to destroy the eggs and larvae. The maggots can only live in the dung whilst it is in a moist condition. Any means, therefore, which will ensure its drying up before the maggots are full grown, will destroy them. For this purpose lime, land plaster, and wood ashes have been recommended, and the last-named of these will probably be found the best, not only from its strong alkaline properties, which are destructive to insect life, but also from its great fertilizer, and from the further fact that it is easily obtainable on every farm. If farmers could be only induced to keep this valuable material for application to their own land, instead of, as is too often the case, selling it to speculators at much less than its value to themselves, the benefit derived therefrom would much more than repay them for the trouble and expense even without considering the use for which it is now recommended. Messrs. Riley and Howard state that—"Throwing a spadeful of lime upon a cow dung will destroy the larvae that are living in it. If the evil should increase, it will well pay a stock-keeper to start a low line through his fields occasionally, particularly in May or June, as every larva killed then represents the death of very many flies during July and August. We feel certain that this course will be found in many cases practical and of great avail, and will offer to be an advantage to the pasture besides."

I am of the opinion that Canadian wood ashes would be far superior to lime for the above purpose, and if neither of these materials were easily obtained, a good shovelful of dry earth or road-dust, would soon absorb the moisture necessary for the development of the larvae.

What appears to me to be the most practical recommendation is, that of Prof. J. B. Smith. He says:—"By sending a boy over the pasture every other day with a shovel to thoroughly spread out the cow droppings, all eggs and larvae would be destroyed. I believe if this were done twice a week it would be sufficient, and would be equally effective in wet weather, when the substance would be washed away, as in hot weather when it is dried up."

Legend of the Death of Solomon.

There is a legend concerning the death of Solomon, alluded to in the Koran, the Talmud, Baring-Gould's "Patriarchs and Prophets," and many other old and curious books, both vulgar and semi-sacred, which is as follows:—Solomon employed the geni in building the temple, but, perceiving that his power was near at hand, prayed God that his death might be concealed from the workers until the great building was completed.

Therefore he made himself a staff from a tree and leaning upon his staff, with his head bowed in adoration, he died in the temple. His soul was taken so gently from him that his body remained standing for some time, and those who saw him thought that he was absorbed in prayer and dare not approach him.

Still the geni worked night and day until the temple was completed, thinking that they were watched in every detail by the master whose eyes had many weeks before been closed in death. But, during all this time, little white ants had been gnawing at the staff, and when the temple was finished, the staff crumbled under its weight and the body fell to the floor. Mahomet alludes to this curious legend in the Koran. See Sura, chapter xxiv. "When He (God) had decreed that Solomon should die, nothing discovered death unto them (the geni) which gnawed the staff, and when the body fell down the geni plainly perceived that if they had known that which (was) secret they would not have continued in vile punishment."

They Were on the Make.

One day in my rambles among the hills I came upon an old fellow hoeing corn in front of his house, and in the course of our talk he told me he had five sons.

"That's the family," I remarked. "Mostly," he responded briefly. "Are they all at home?"

"No, none of them." "They are all grown, then?"

"Yes, and has been for a long time." "What do they do for a living?"

"No; Bill, he makes shoes; Jim, he makes staves; Sam, he makes tinware; and Thomas Henry, he makes pills."

"Do they all make a living?" I asked, following out the "make" idea, but not noticing that he had skipped one of the five.

"Yes." "By any of them make money?" I continued.

The old fellow flushed a little I thought. "Yes—no," he hesitated, "that is to say, Hiram, he made money, but he don't no more now sense they sent him to the penitentiary for counterfeiting;" and there was such a look of pain on the old man's face that I was ashamed of myself for having unwittingly made the father disclose the skeleton in his closet.

Bent on Repose.

Pat and Mike were two brothers employed as seamen on a sailing vessel, who worked in different watches, but when the body it was Pat's watch on deck when the ship struck a rock, causing her to leak badly. Pat was therefore sent below to tell his brother to rise at once as the ship had sprung a leak.

"I don't care," says Mike, "if she has sprung a leak of onions. I am going on with my sleep."

"But," says Pat, "You don't understand my meaning. There's a big hole in the side of the ship, and the water is coming in fast."

"Sure, then," says Mike, "put a hole in the other side and let it out again; I am going on with my sleep."

A Human Barometer.

Bellefornical physicians are puzzled over a barometrical sort of young lady of that place, who is of the most amiable and pleasant disposition in clear, sunny weather, but who gets ugly and moose when the clouds gather, and so usually before a big storm that she has to be restrained.

Another omnibus turned over lately at Hyde Park Corner, London, injuring several persons terribly.

TREE SAWING CROW.

Pursuivant of Spring, the Bear and the Departing Autumn Birds.

Not the robin's impatient yelp nor yet the happy song, nor the song sparrow's thrill nor the bluebird's sweet melody, heralding the coming of Spring; but at its vanguard. These blithe musicians accompany the soft air that bares the fields, enpurple the buds and fans the bloom of the first squirrel cups and sets hehyla's shrill chime a-ringing.

Proceeding these, while the fields are yet unbroken whiteness and the coping of the drifts maintain the fantastic grace of their storm-built shapes, before a recognized waft of Spring is felt or the voice of a fresh stream is heard, comes that sable pursuivant the crow, fighting his way against the fierce North wind, tossed aloft and aloft, buffeted to this side and to that, yet staggering bravely onward and sounding his trumpet in the face of his raging antagonist, and far in advance of its banner proclaiming Spring.

It is the first audible promise of the longed-for season, and it heartens us though there be weary days of waiting for its fulfillment, the bold herald is beset by storm and pinched with hunger as he holds his out-post and gleams his scant rations in the Winter-desolated land.

He finds some friendliness in nature even now. Though her forces assail him with relentless fury, she gives him the shelter of her evergreen tents in windless depths of woodland; bares for him there a rood of crumb of comfort; leaves for him ungathered apples on the naked boughs, and on the upturned tangles of vines wild grapes, poor raisins of the frost—the remnants of autumn feasts of the robins and part-migrants.

Thankful now for such meagre fare and eased for the fullness of digesting repasts, in the bonny of other seasons he becomes an epicure whom only the choicest food will satisfy. He has the pick of the fattest grubs, he makes stealthy levies on the earliest robins' nests, and from some lofty lookout or aerial scout watches the farmer plant the dairy and awaits its sprouting into the daily nibbling fondness for whose sweetness is his overmastering weakness. For this he braves the terrible scarecrow and the dread mystery of the cornfield's lined boundary, for this risks life and forfeits the good name that his better deeds might give him. If he would not be tempted from grubs and carrion, what a worthy bird he might be accounted. In what good if humble repute might he live, how lamented if die.

O, appetite! thou base belly-denned demon, for what sins of birds and men art thou accountable!

In the Springtime days he turns aside from theft and robbery to the softer game of love, whereunto he hears the harsh voice attuned in clattering notes, and, having wooed his mate, the pair begin house-building and keeping.

It is the rudest and clumsiest of all bird architecture that has become the centre of their cares, such a jumble of sticks and twigs as chance might pile on its forked foundations, but who betide the hawk who ventures down to the nest, who dares to sound his hollow trumpet in the sacred precincts.

At the first alarm signal, as suddenly and mysteriously as Robin Hood's merry men appeared at winding of his horn, the black clansmen rally from every quarter of the greenwood to assail the intruder and force him to ignominious retreat.

When at last the darlings having clad their uncouth nakedness with full sable raiment, are seen in the world, they, with unwary foolhardiness and incessant and unrelenting cries of hunger or alarm, are still a constant source of anxiety to parents and kindred.

But in the late Summer when the youngsters have come to months of discretion and the elders are freed from the bondage of their care, a long holiday begins for all the tribe.

The young crow has long since ceased to tempt them and the persecution of man has abated. The shorn meadows and the cropped pastures swarm with grass-hoppers, field and forest offer their abundant fruits.

Careless and uncared for, what happy lives they lead, sating their insatiable wing through the sunshine from chosen fields of chosen wood, and at nightfall encamping in the fragrant tents of the pines.

At last the gray banners of Autumn signal departure and the gathered clans file away in staggling columns, flecking the blue sky with pulsating dots of blackness, the green earth with waving shadows. Sadly we watch the retreat of the sable cohorts whose desertion leaves our Northern homes to the desolation of Winter.—(Forest and Stream.)

A Prodigy of Memory.

Professor Henke, a few years ago, in one of his articles in the Journal of Speculative Philosophy, makes mention of a remarkable character whom he met at Salem, Mass., in 1868. Daniel McCarty by name. McCarty was 51 years of age at the time, but proved to the satisfaction of Professor Henke that he could remember where he had been, the state of the weather, etc., for each day and hour since he was 9 years old, dates covering a period of forty-two years!

These remarkable feats of memory were proved and verified by water records and newspaper files kept in the city; and of the hundreds of tests resorted to to try his powers, he never failed to prove himself a mnemonic freak of the most freakish kind. This prodigy of memory worked at the Salem Republican office and, naturally, one would think him able to furnish the brains for half a dozen papers, but he could not—in fact, he was of no use whatever, except to turn the big press twice a week!

Why He Loved His Sunday-School Best.

Sunday-school teacher (to small boy in her class): "Well, Johnny, which do you like best, your Sunday-school or your regular day-school?"

Small Boy (decidedly): "My Sunday-school, mum."

Sunday-school Teacher (smiling approvingly): "And why do you love your Sunday-school best, Johnny?"

Small Boy: "Because it don't keep but one day in th' week, mum."

A Chance For a Sore Tongue.

Mrs. Poots—What are you looking so grim about?

Poots—Oh, there's a confoundedly tender spot on my tongue from resting against a broken tooth.

"Humph! You're always grunting about something. Funny I never have anything like that the matter with my tongue."

"Nothing funny about it. Your tongue is never at rest."

People who write poetry "just to kill time," will find that time will not be murdered by measure without retaliating.

The religion of to-day is the pocketbook. The more there is in it the stronger the faith.

EARLY RISERS.

Great Men of Earth Who Did Not Rise Late.

Alfred the Great, whether as harper or King of England, always arose before daylight. Columbus devoted many hours daily to dawn planning his voyage of discovery; and many of Napoleon's most brilliant campaigns were laid out in the early hours of the morning.

John Sobieski, King of Poland, one of the greatest warriors of the seventeenth century, slept only four hours. Stanislaus of Poland and Charles VII. were early risers. Stanislaus retired at 9 and rose between 4 and 4.

In the reign of Henry VIII. seven o'clock was the fashionable breakfast hour, and ten o'clock the dinner hour. Elizabeth dined at eleven and supped at five.

Paley, Priestley, Bishops Jewel and Burnet, Jeremy Taylor, Baxter, Wesley, Asbury, and Mathew Hale rose between four and five. Sir Isaac Newton devoted the early morning hours to study.

Peter the Great, whether at work in the docks of London as a ship carpenter or at the anvil as a blacksmith, or on the throne of Russia, always rose before daylight. "I am," said he, "for making my life as long as possible, and therefore sleep as little as possible."

Frederick II. of Russia, even in old age, never slept later than four in the morning.

Copernicus and his conferees were all distinguished and early risers, and the Duke of Wellington said if he hadn't been an early riser Waterloo might have claimed a different conqueror.

Lord Brougham slept but four hours, yet performed more in the same period of time.

Sir Thomas Moore rose every morning at four. Washington, Jefferson, Monroe, Franklin, Webster, Clay, and Calhoun made it a rule always to rise early.

George Bancroft, the historian, even when an old man could be seen every fine morning on horseback or in his rose garden. William Cullen Bryant arose at five, and never worked at night. Washington Irving, Longfellow, Emerson, Oliver Wendell Holmes, Whittier, Whitman, Dickens, and Victor Hugo have each demonstrated by their lives and works the beneficial result of the custom.

The "Grand Old Man" of England, Gladstone, is often seen in his grounds around Hawarden castle while the dew is still sparkling on the well-kept grass.

Dean Swift says he never knew a man come to greatness and eminence who lay in bed of a morning.

Franklin says, "He who rises late may as well not have overtaken his business at night."

The above are only a few of the many distinguished men whose names have come down to us as adherents to the axiom, "Early to bed and early to rise, makes a man healthy, wealthy, and wise."

The average duration of the lives of these distinguished early risers was about 73, nine years more than the allotted time.

The difference between rising at 5 and at 7 in the morning for the space of 40 years, supposing that a man goes to bed at the same time every night, adds almost ten years to a man's life. What wonderful possibilities might be comprehended in those ten years, what strides in science and art!

Lilith, Adam's First Wife.

According to the Jewish Talmud, Lilith, the fiend of the Jewish demons, was taken to wife by Adam, our first parent, prior to the appearance of Eve upon the scene. Being the legendary mother of all evil spirits, one would quite naturally expect the story as a fact when told that she became unmanageable and tried to supersede Adam as the mother of the race. Thwarted in these evil designs, she took to the regions of the air, where, as a specter in the guise of a beautiful woman, she lies in wait for and pounces upon defenceless children. Some ignorant European Jews believe that the beautiful murderer still inhabits the air above our earthly abodes, waiting with the hope of a demon for a chance to murder their little ones. It is said that the word "lullaby" is a corruption of the word "Lilith," or "Begone, Lilith!" words used as a charm by the superstitious mothers of the Middle Ages. See article "Eve" in Baring-Gould's "Patriarchs and Prophets."

Curiosities of Insects.

The markings of the "death-head" moth are so arranged as to form a striking picture of a human skull.

There are in Australia three species of beetles which have the extraordinary power of reproducing their eyes if it so happens that those useful organs get destroyed.

Earwigs are hatched from eggs in exactly the same way that a hen hatches her young.

The smallest known insect (outside of the so-called microbes, bacilli, etc.) is the pterostomus putnami. It is a parasite of the ichneumon, and is but one-ninetieth of an inch in length.

The largest insect that has yet been catalogued by the entomologists is the Erebus Strix, a night-flying moth of Central America, which has from eleven to eighteen inches of wing expanse.

The luna beetle of Ceylon seems to be more nearly identified with the moon than with the things of the world. It has two phosphorescent spots on each wing that wax and wane just as the moon does, and during the "dark of the moon," they are wholly invisible.

A hot spring near Boise, Ida., is used in heating the city.

A man who is struck dumb has struck on melancholy days.

Hay fever will make even the most unassuming man blow his own horn.

Wanted—The man who can address a Sunday school without beginning his speech with, "when I was a little boy."

Because a young man wears a tennis blazer it does not necessarily follow that he will set the world on fire.

Miss Ume Taula, a young Japanese girl who graduated from Bryne Mawr College last June, is endeavouring to secure funds for the establishment of a scholarship for Japanese girls at some college in America. Her brother has been educated as a civil engineer in this country, and returns to his own country to practice his profession.

Railway bonusing is still popular in Canada. Recently Hamilton voted \$275,000 to the Toronto, Hamilton and Buffalo railway, and a few days ago Vancouver, B. C., decided to bonus the Burrard Inlet and Fraser Valley railway to the extent of \$300,000. Most of the municipalities in the Pacific province have placed a safeguard around the bonusing power by providing that a by-law to be adopted must receive sixty per cent. of the votes cast. If this rule had been applied to Vancouver the bonus would have been defeated, but through the absence of it the railway receives the gift.

ENGLAND AND AMERICA.

Plan for an Alliance Between the Two Nations.—The United States both a Naval and Military Power.

In a few years' time the population of the United States will reach a hundred millions of English-speaking people, nearer to us in sentiment and institutions than any other nation can ever be, occupying a geographical position of supreme advantage, having with us a frontier line some 4,000 miles long and an increasing trade enormously greater than that interchanged by two other States of the world. While European countries stagger under a heavy load of debt, the United States find their treasury balances almost an inconvenience.

In manufacturing power, in a slight preponderance of naval power, in the number of our old colonies already surpassing any State except our own, and their full development has yet to come. The amount of British capital invested in that development defies estimate, and the woven interests of the hundred races have already reached a complexity which baffles the imagination.

Money seeks investment in America readily as if it were a portion of the empire, and no other markets act and react upon our own in the same degree. The mere existence of a state of war, apart from its actual operations, would inflict a deadly blow to the whole fabric of British commerce. The thing should be inconceivable. As Lord Overstone said of the occupation of London by a foreign army, "it must never be."

The common sense of the many instinctively recognises this, without, however, fully realizing the utter disaster which such a war would entail; but the tacit recognition fails to reach the mind of the Foreign Office or to trace its impress upon the national policy. Meanwhile, the mind of the soldier, dazzled by the multitudinous glitter of German, French or Russian bayonets, is incapable of seeing either the paramount value of a friendly America, or the enormous potentiality for inflicting injury upon this country which exists beyond the Atlantic. This thousand miles across the ocean mobilisation in the European sense is wholly superfluous, and the United States could without difficulty create, equip and maintain armies of any required strength, while they must already be ranked among great naval powers.

Moreover, a change is rapidly coming over the aspect of their foreign relations. "Why," asked Washington in his farewell address, "by interweaving our destiny with that of any part of Europe, entangle our peace and prosperity in the toils of European ambition, rivalry, interest or caprice?" "Because it is inevitable," is the answer which political and commercial truth has dictated. The expansion of Great Britain and of Russia was not more inevitable than that the United States should take a leading place among the nations. Commercial entanglement has already grown up, with one European power at least, and the construction of a powerful sea-going navy is but one of several signs of what must come. Could we be brought to realize the dominant position which the United States has already attained we should be less inclined to resent occasional manifestations of a sentiment which, in the case of Germany or France, would be esteemed as no mere arrogance.

There is only one power which could seriously injure Great Britain in war, or whose alliance would give us the guarantee of peace. There is only one power whose material prosperity is intimately bound up with our own, and to whose external interests a British alliance