



## APPARATUS.

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### BEE ENEMIES.

The good bee as other good things, hath many enemies, from which she needs your help to defend her, viz.: 1, the mouse, 2, woodpecker, 3, the sparrow, 4, the titmouse, 5, the swallow, 6, the hornet, 7, the wasp, 8, the moth, 9, the snail, 10, the emit, 11, the spider, 12, the toad, 13, the frog, 14, the other bee, 15, the weather. But not any one of these, nor all the rest together, do half so much harm to the bees as the bees. They make the greatest spoil of bees and honey; for as they of the same hive live in inviolable peace, one with another, so have they no intercourse, no friendship or society with others, but are rather at perpetual war, defiance, and deadly feud with them. In fight they are fierce, and in victory merciless. Within the space of a day or two; yea, of an afternoon sometimes, if the hive be open that they may have easy passage to and fro, they will have rid him clean, and therefore all bees of all enemies do most dread strange bees, knowing well in what danger they are, to be robbed by them of goods and life. This robbing is practiced all the year. In winter, as oft as the weather is fair and warm, some will be prowling abroad, and some are so thievishly disposed that all the summer long they will be sifting should they die for it. In the spring they are more earnest to repair their decayed store, and therefore, now have an eye unto them, and to defend the weaker swarms from their violent interruptions.

Those stalks that have lost their queen or too many of their company, or are offended with the corruptness of their combs, or do dislike this standing for coldness, moisture, mustiness or unfavorableness, as taking no pleasure in their lives, do now easily suffer themselves to be robbed, and if none will come to rob them, will on some fair day go away together, leaving home and honey and young ones behind them. The robbers are thought to be poor swarms, which have not provided themselves for winter; but indeed fitter to be robbed than to be robbers. There is no thief to the rich thief, yet by hook or by crook, though they have enough and more than enough, they will have more although the poor starve for it. When the thieves begin to come thick, and the true bees perceive themselves to be assaulted by many, they suddenly make an outcry, and issuing out by troops, prepare themselves to battle. Some keep the gates, some fly about to see what's done there, and some begin to grapple with the enemy; and soon in heat of battle, you hear more

shrill and sharp notes, as it were of a flute. During time of this battle the wasps (like vultures) prey upon the dead carcasses. The battle being ended by repulse of the enemy, they draw together at the city gates, and there they buzz on to one another, as if in their language they did talk of the fight, and commend to one another for their fortitude.

The robbers not prevailing that day, will up next day, so soon as it is light, and do make a fresh assault. The bees finding the enemy among them, are up in arms, and so begin the second skirmish which without taking the city or the overthrow of the assailants' continueth until the very darkness part them. I know your desire is to know how to succour the true men, either by preventing this dangerous conflict, or by rescuing them in the same. Many practices have been tried; some cast dust, some drink among them. The one whereof does no good; the other harm; for drink makes them smell alike, so that true men cannot know the thieves from their fellows. If the usual helps are no helps, what helps are there then?

### DYSENTERY—SYRIANS.

Much has been written of late on the causes of bee diarrhoea or dysentery, and conflicting theories have been advocated. It is quite possible that there are elements of truth in all, or nearly all, of the theories advanced. I do not propose, in the present article to theorize, except in a very small measure, but to give a few facts that may be taken, with other facts, as the basis of theorizing by others. For several years past the bees have not had diarrhoea to any considerable extent, and last winter my 45 colonies came through the winter, (except a few that starved) without any sign of that dreaded disease. The colonies that perished were evidently perfectly healthy until they ran out of provisions and died of starvation.

But now I come to the principal fact to which I wish to call attention. In the latter part of April, and for some days after the first of May a majority of my colonies were diseased. Bees in considerable numbers would crawl out of the hives so bloated and weak that they could not fly. Some of them would discharge their feces on the front of the hive, and others would die without discharging. Just before this time, and, in fact, while the disease was in progress, there was a good yield of honey, and the bees were rearing considerable quantities of brood. The diseased bees were nearly all young, the most of them having never been out of the hives until they came out to die. Colonies having sealed as well as unsealed honey suffered equally with others that were not so well supplied.

It is manifest that the causes usually assigned for dysentery—cold, long confinement, dampness, etc.—could not have caused the disease in this case, for none of them were present. It must have been some quality of the food. The diseased bees were full of pollen, as young bees generally are. The pollen was gathered mostly from willows, which, within range of the bees, grow in great variety and vast numbers. As enough honey to meet the daily demands of the bees was being gathered, no old pollen or honey was being consumed. If, therefore, the food was the cause of the trouble, it was in the newly gathered supplies. Believing that the disease was caused by some deleterious quality of the food, I predicted that as soon as

the bees should begin to work on apple blossoms it would disappear; and my expectation was fully realized.

I have, in former years, observed symptoms of the same kind, about the same time in the year, but never before were my bees so seriously effected. They now appear to be perfectly healthy, but they are of course, not quite as strong in numbers as they would have been had not so many been lost.

### TEMPER OF SYRIAN BEES

The Syrians are constantly growing in favor with me. The complaints of their temper grow out of failure to understand them. I have two strains of them, one from Mount Lebanon, and the other from Southern Palestine, and I find no great difference in their temper. I consider them more gentle, and more easily handled, than the Italians. If you want to get in a first-class nucleus give a colony of Syrians a good smoking, and then try to handle them. Smoke, especially if much be used, angers them; and when aroused to anger they are hard cases to deal with. I handle mine without using any smoke, except sometimes to blow in a little, very gently, just as the honey board is lifted up. Often I do not light my smoker at all. On the 26th ult., desiring to find a queen, I lifted out all the combs of a strong colony, and not finding the queen the first time, I went over all of them again; and not a bee attempted to sting except one that I accidentally squeezed. I am quite sure that I have not an Italian colony that could be so handled with a like result. Of course care must be taken not to jar them or handle them roughly, especially when the hive is first opened. There is little difference in the temper of the pure Syrians, and those crossed with Italians. The latter are superb bees for business. I believe they will beat Mr. Heddon's business bees.—B. K. Guide

### EXTERMINATION OF FOUL BROOD.

BY A. M. GANDER.

In consideration of the existence and spread of foul brood in Lenawee county, I would request every bee-keeper, to make sure that the disease would not exist; or if it does, to take prompt action against its spreading over the country. All hives which contained diseased colonies should not be left where other bees can have access to them (by carrying away what honey there is left in them, and the germs of the disease with it,) but they should be boiled thoroughly, or burning them would be better.

Bee-keepers cannot be too careful about the spreading of this disease. It may exist among their bees, and they not know it until their apiaries are nearly ruined. Every bee-keeper who cares to keep his bees, should give them a thorough examination and know certainly whether they are diseased or not. Some bee-keepers are too careless to pay the least attention to their bees, and do not know that there is anything the matter with them until the bees are dead.

There are but few of this class of bee-keepers who know what caused the death of their bees; and what is worse than all, they allow the hives to remain for other bees to carry away the foul-broody honey, and spread the disease in every direction. Such men as these will have to be looked after by others who are more interested; and where they will not give the matter the

necessary attention, after being properly informed, they will have to be dealt with according to the law of the State. But how much better it would be if all would look to their own interests and eradicate the disease wherever it exists.

We have a foul brood commissioner in this county (Mr. D. G. Elliciston, of Adrain), whose duty it is to examine bees whenever called upon by a written request according to law. It is the wish of every careful apiarist that this matter be attended to at once. Better have them attended to now than to lose your bees by this disease, which is sure to happen if left to pursue its own course. There is plenty of the disease throughout the county and the above caution will apply to any county.

### WHO SHOULD KEEP BEES.

(Contributed.)

The question is often asked, who should keep bees? I answer, every farmer should keep a few, enough to supply his family with what honey they can use, and this article will be mostly devoted to the farmer, and I will try and write an article for the benefit of the professional bee-keeper hereafter. Of course the farmer cannot, and ought not to keep bees to supply the town and city markets; they should leave this for those who make bee-keeping their business. He cannot adopt and work all the modern improvements and appliances made use of by the professional beekeeper. He wants the cheapest and simplest hive and method he can get. He wants to let all the patent hives alone and get down his shot gun as soon as a patent hive man comes around, for they are all around the country, humbugging and swindling the farmers. The best hive I know of for the farmer, is the improved Langstroth hive, arranged for taking honey in the two-pound section boxes. These can be obtained of the bee-keepers' supply dealers who are located in the large towns and cities, but they can be successful in obtaining honey for the family use with a simple box-hive made twelve inches square and fourteen inches deep, with a 1/2 inch thick board on top with two slots cut 9 inches long and 3/4 in. wide, for the passage of bees into boxes placed on top for the storage of honey. These boxes should be 6 inches deep, of a size for two to cover the hive, the cover to be large enough to slip over the hive and rest on cleats nailed around the hive 1/2 inch from the top. The lumber should be dressed on both sides and painted with two coats of good paint. The more attention the bees receive, the better returns will they give. They should have a good place prepared for them near the house and not too much shaded. The hives should face east or west, and should have the sun most of the day. The ground for some distance around them should be kept clear of weeds and grass, and this can be best done by making the ground some so distance around smooth and level and covering about six inches deep with fresh sawdust. A good place for bees would be on the south side of a fence and a good roof put over them, and boarded down from the roof on the front side, about to the top of the hive. Place the hives only three or four inches from the ground with the bottom board projecting in front, four to six inches. They should stand at least three feet apart. To protect them through the winter, early in October examine them and see that they have plenty of honey to winter on. Remove the honey boxes and cover the passage through the top with some (not too thick) cloth, take the cap and fill it with fine cut straw or chaff, tick over the mouth of the cap some cloth to keep the filling in and place it on the hive. Then pack closely all around the hive and on top with good straw or hay, only leaving the front of the hive open. Corn stalks set closely around the hives make a good protection. Keep the packing around until the settled warm weather in the spring, and leave the packing in the cap until it gets quite warm. You need have no fears about the bees wintering well if prepared in this manner.

I will treat of the care of honey and its uses, feeding when short of stores, and of the bee moth in another paper. RURAL.