APIARY.

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FROST IN THE BEE-HOUSE.

G. K., of Navan, Ont., writes: "I looked at my bees recently and found them all in good condition. I keep them in a bee-house, and the thermometer has been standing at 26 to 34 degs. all the winter. Frost has found a lodging place all round the house inside. Will it do the bees any harm, when the weather gets warmer, to melt the frost? How would it do to sweep off the frost? I have chaff cushions."

[The best way to get over the difficulty of frost in the house would be to very gently raise the temperature, so as to avoid too great an amount of dampness. The temperature of a bee-house should not be allowed to go below 40 degs. all through the winter, and then the evil spoken of would not occur. However, it is satisfactory to know that so far the bees are in good condition.—Ed.]

The Baroness Burdette-Coutts, who is not only the richest lady in the world, but the most liberal one, and who is also the President of the British Bee-Keepers' Association, gave a New Years' dinner to eight hundred of her tenants, and afterwards personally presented a gift to each one of her guests.

JUDICIOUS USE OF COMB FOUNDATION.

Mr. Sylvester Marshall, of Pratt's Fork, O., propounds the following: "Which is the best kind of comb foundation to use for getting extracted honey—drone or worker? How thick should it be to obtain the best results?"

Drone comb foundation has been used, to some extent, but now it is entirely discarded; the worker-cell comb foundation answers every purpose, and as drone cells in a hive is a temptation to drone-rearing when such are not wanted, it is preferable not to have it there for any purpose.

Experience has demonstrated that comb foundation, for the brood chamber and extracting, should be about 4½ feet to the pound, with a thin base and heavy side walls. This is the most desirable for economy in the use of wax and rapidity of comb-building by the bees.

Considering the start given to a colony of bees, by a judicious use of comb foundation, the certainty of having the combs all built straight, the ease with which the number of drones produced by a colony may be controlled, no one can justly intimate that we are not making prodigious strides in placing bee culture among the scientific and profitable occupations of the present progressive age.—*Am. Bee Journal.*

THE EYES OF A WORKER BEE.

Mr. C. Theilmann, of Theilmanton, Minn., writes as follows: "In examining the heads of bees with the microscope, I found the sides, which appear to the bare eye as if the high brown spots were the eyes, but found these two spots all thinly covered with hair, without any glassy, bright or clear spot whatever, and the skin, or outside covering appears like grained leather, when looking with the bare eye. Looking closer, with the microscope, I found on top of the head three little, round, glassy, skinny spots; one is in the centre, a little ahead of the two, which are one on each side. There are no hairs close around these spots, but a bunch of hair between the three, and the head has to be held in a certain position, in order to see all three at once. If these three spots are not the eyes, where are they? I have examined spiders heretofore, and found from four to six of such little glassy spots on their heads, which I would call eyes."

The large eyes which he saw without the microscope are the compound eyes; the three small ones are the simple eyes.

A HARD WINTER FOR BEES.

We are pleased to notice that the snow storms, blizzards and very severe weather of the past five or six weeks has now given way to a less rigorous atmosphere. The reports for weeks have been about delayed and blockaded trains, terrible snow drifts, and loss of life.

This state of things not only obtains here, but also in Europe. England has been visited by storms more severe than for many years; her coasts have been lashed with the furious waves; many of her stately oaks and pleasure bowers have been leveled to the ground, and much of her shipping has been destroyed.

Of course the bees have suffered as well as other stock. For nearly two months, here in the North, those wintered on the summer stands have been imprisoned by storm and tempest; and, finally, their hives were enveloped in an icy winding-sheet.

In some places, disease has set in, and many may yet die of that fearful bee malady—dysentery.

This winter will try, to the utmost, all kinds of out-door wintering. What the final results may be, can, as yet, only be conjectured.

Many already have asked us what effect all these troubles will have on the bee industry. We reply: Just the same as it does on the farmer, manufacturer, merchant and stock-men. Will they become discouraged and give up? No! but with redoubled energy the will start anew and retrieve their losses!

Because the storm king has destroyed thousands of vessels and many cargoes, will the mariners forsake their calling? No! but with dauntless courage they will pursue their labors and bid defiance to the elements

Will the fruit culturist cut down his trees, "cast them into the fire," and look for some business that has no drawbacks? No! he will plant again, watch, cultivate and hope for the best!

The bees have been compelled to *fight for existence;* is it any wonder that they have suffered to a greater or less extent, governed by their location and the surroundings, together with the care and protection afforded them by their keepers? Instead of being discouraged over the situation, we should feel that our sympathies are needed by the poor bees, who have been thus tortured, and beset on every side with warring elements, in a mad career of desolation. We should admire their pluck, energy and endurance, instead of being cowardly enough to try to find an entrance for ourselves to that *dungeon* over whose portals is written the stinging motto—"Blasted Hopes." There are no such words as "blasted hopes!" in the vocabulary of men of true worth. Reverses only stimulate "progressive men" to further diligence.

When the fruit grower, the farmer, the merchant, the sailor and the manufacturer become discouraged and "give up the battle," it will be time enough for the bee-keeper to *think* about being discouraged! *Until then,* give no heed to such a bugbear as "Blasted Hopes," but, by perseverance, pluck and energy, *hold on;* for the average years, for bee-keepers, make as good a showing for "bees and honey," as for any business a man can engage in.

REMEDY FOR DYSENTERY.

Mr. J. M. Hicks, Battle Ground, Ind., writes as follows to the *Grange Bulletin,* concerning this disease and remedy for it:

"Dysentery is usually brought on by the bees feeding upon sour or impure honey. It is also frequently produced by being disturbed in some way just before a sudden change in the temperature, which, if very cold immediately after they have filled themselves, you may be quite sure your bees will have dysentery. We suggest the following remedy:

"Take of good granulated sugar, 4 lbs., and just enough of water to make it into a mash (not syrup) and add 40 drops of carbolic acid, stirring so as to incorporate all thoroughly, and then mould into cakes so as to feed your bees, by laying two or three cakes of the candy on their brood-frames, and your bees will, in a few days, have relief. This is the best remedy I have ever found after the disease has thoroughly set in. It is a well-known fact that carbolic acid is one of the most powerful disinfectants we have in chemistry.

"And now I wish to further say, I have at all times believed that an ounce of prevention was worth at least a pound of cure, and in order to be more successful in future in preventing this malady, we recommend a free use of rock salt to be placed in a small trough a few yards from your bees, and fill with water and cobs so that the bees will visit it without danger of drowning. This remedy I have found to be a sure preventive for dysentery as well as the dreadful disease called foul brood, which has proved to be, with some, very difficult to manage."

PROFITABLE USE OF FOUNDATION, OR OLD COMBS, WHEN THE SUPPLY IS LIMITED.

It often happens that the apiarist wishes to give each swarm, when hived, a start, in the way of frames filled with comb or foundation, but does not have enough of such to give a *hive full* to all the swarms he expects will issue, hence he wishes to give four or five frames to each, or near that amount. To this end he places his four or five frames of comb in the centre of the hive, and fills out each side with empty frames, and places his swarms upon them.

As the queen has plenty of room to lay in these combs without the bees building more, she goes to work depositing eggs. As honey is coming in at the time, the bees must have a place to store it, so they fill the empty frames with stores, which are always of the drone size of cells, the same as they would build if hived in an empty hive with an old unprolific queen. Hence, the apiarist becomes disgusted with the use of old combs, and declares that they are of no use to swarms, as a colony not helped at all will accomplish more than the swarm he has tried to help.

This was about the decision I came to, when first trying to use a limited number of combs for a swarm. Therefore, I decided to use a hive full of comb, or none at all. I soon found that these swarms hived on full sets of combs so far surpassed those not helped at all, that I wished for a way to help all alike, if possible. I had also noted that by the use of the division board I could generally get from four to five frames filled with nice, straight worker comb, after which I could get more or less drone comb built by a swarm having no help at all by way of frames of comb.

I studied on this matter during the winter, and the result was that the next season found me placing ten frames, each having a nice starter of worker comb along the top bar, in each hive; I placed a division board in the centre, thus leaving five frames on each side. This division board did not come quite to the bottom of the hive, but allowed room for the bees to pass under it, as they desired. Into these hives I placed my swarms, and in whichever side the queen chanced to go, there the bees commenced work. As fast as the bees could build comb it was filled with eggs, hence nothing but worker comb was built.

After the swarm had been hived 48 hours, I put on the boxes or sections, which were immediately taken possession of, thus securing the five frames filled entirely of worker comb; for if any drone comb was built, it was in the sections. As soon as these five frames were filled (which was readily ascertained by the bees commencing work on the vacant side of the hive), the frames in the vacant side of the hive were taken out and the division board moved to side of hive.

I next spread these combs apart, and put in each alternate space a frame of comb, thus securing a full hive of nice, straight worker comb. As I used only nine frames to the hive this gave the swarm four empty combs.

I thus secured two objects, a hive full of all worker comb, and the bees taking possession of the sections in the shortest possible time. I have been so well pleased with it, that I have used it for years, and find it works equally well in using comb foundation where the apiarist does not feel able to buy enough to have a full hive of it for each swarm.

EGGS OR LARVÆ, WHICH?

Mr. O. E. Cooley tells us that bees remove eggs from one cell to another, and then states why he believes they do so, giving the negative side as proof of his position. There are other ways by which the colony might have obtained a laying queen, besides the one he gives, such as a queen entering the wrong hive, or a small swarm, with a queen, going into it, etc.; but, as that is not the object of this article, I will not go into detail.

He says the "bees must have moved *an egg;*" I take it for granted that, if the bees moved anything, *it was a larva.* That bees do sometimes remove eggs I admit, but they are not apt to do so, where there are larvæ at their disposal, as there was in the case given by Mr. Cooley.

To illustrate: A few years ago I had a colony which was "bent on swarming," and I was equally "bent" on their staying where they were. They had come out twice, and I had put them back, cutting out the queen cells each time. After staying five days they came out again, and while they were out, I cut out all the queen cells, queen cups, and everything I could find that might look like an embryo queen cell, when they returned. When about half of the swarm had entered the hive, out came two swarms from other hives, and instead of alighting, they simply passed out of their hives and went in with this returning swarm. As the queens to both of these last had their wings clipped, they were returned to their old hives, and the bees allowed to stay with those I had determined should not be hived as a separate swarm. I put on