

the frames, as such a space secures a good wintering, and shows me whether a colony is ripe for artificial swarming, or whether I have to extract honey. As soon as I see, by simply turning over, that the bees begin to start combs beneath the bottom-bars, I know for certain that the colony is ripe for artificial swarming, or that I have to take out some capped honey-frames, and insert other full combs to be again filled with honey. You see, friend R., the chief point in most cases is to learn the true condition of the colonies, without handling frames, covers, quilts, doors, etc.

TO CONTROL COMB-BUILDING SWARMS.

Whether I have given only starters or full foundation, I must always strive to secure perfect combs. Without such combs, the movable-comb hive is nonsense, and more objectionable than an old skep or box hive. All my thousands of combs in frames are perfect—not crooked in any way, nor do they show any drone-cells where I did not allow them to be built. Therefore I have no more drones in my hives than I wish. A drone-trap is for me a useless thing, and not to be seen in my apiary.

To avoid faulty combs, one must have the easiest control of the comb-building swarms; and that is to be accomplished in the most complete way by turning the hive over. Then one has a view of the actual workhouse of the bees. *Here* is performed comb-building; and *there* is to be seen the busy life of the colony; here are hanging the wax-secreting and comb-building bees. A little smoke, and one sees the new combs built on the starters, or the finishing of the foundation. In most cases I remove the beginnings of drone-combs, and also regulate crooked combs by a so-called drone-knife—a hooked knife with a long handle. Of course, in some cases the drone-knife will not do all that is to be done to secure perfect combs; but then, one may handle one or two frames to do the rest. If I have before me a normal colony, or such a one as has worked according to my wishes, I need not handle a single frame. An inversion of the hive, a few puffs of smoke, a peep at the combs, an inversion of the hive to its normal position, and the work is done in less than a minute.

Now, friend Root, I could point out to you far more advantages in handling hives instead of frames; but it may be enough to show of what great importance your and Mr. Brown's suggestions are for the advancement of bee-keeping. As I have said before, I am of the opinion that American bee-keepers will themselves soon find out in what way this is to be carried out

with their unsurpassed Langstroth hive; and I should be very glad to learn from them how they in future handle their hives instead of frames.—Gleanings.

Wilsnack, Germany.

After reading the above, we could not help but reproduce it, as it brought so vividly to our minds our esteemed friend Gravenhorst. I almost fancied I was walking around with him in his apiary, watching him turn up his hives and handle them easily and smoothly. His hives were extraordinarily well made, being built of straw, very tightly and neatly pressed together, about three inches in thickness. The arched top of the hive enables the bees as they cluster tightly together to draw up very compactly among the hives. He certainly has an excellent hive for wintering. With a suitable frame or bench, as he kept them on, about two feet above ground, the hives can be tipped over very readily, and the rounding top allows one to turn it up almost as easily as taking off a lid. Some may wonder how the top frame is held in place. This is done by nails the proper distance apart or bent wire which holds the frame at the top, and another wire nail is pushed through the hole in the projecting bottom into the side of the hive. Each frame is firmly held and correctly spaced, and so perfectly are all the frames adjusted, that there is no sticking them with propolis, in fact, he would remove and replace them after the hive was turned up, as quickly as we would the ordinary frames. We believe he did not take much comb honey, his crop being principally extracted. Our pleasant and instructive visit to Gravenhorst will ever form one of the happy recollections of our lives.

Discovery of the Cause of Foul-Brood

BY WM. M'EVY



My first experience with foul-brood was in the Spring and Summer of 1875. In April of that year one of my colonies swarmed out, and about two-thirds of the bees got into another colony before I got the hive closed. I then put the remainder of the swarm and its queen back into the hive they came from.

Then, about sundown, when the bees had settled for the day, I examined the colony, and found plenty of both brood and honey, but a