

ward you. Let it first rest on the front edge, then on the front side, and at last on the top.

Now, I don't intend to urge any of my brother bee-keepers in America to accept this movable straw hive—no, not in the least. Their honey-market and other circumstances are different from those of Germany in more than one respect; and, besides that, I am fully aware that the hive used in America is the most suitable one for the wants of the American bee-keepers. But as there is nothing perfect in this world of trouble, and progress must take place everywhere, I am convinced that very decided progress will be put forward in that line which has been pointed out by you friend Root, and by Mr. Brown—*handling hives more instead of frames*. How this is to be done in the most suitable way, in your country, will, no doubt, be shown by American bee-keepers without any assistance from other countries. James Heddon has already taken a great step forward; and other steps of importance, to further your ideas are, I think, the accession of the fixed Hoffman frames and the movable bottom-board.

After these preliminary words, let me explain in what way you, friend Root, and Mr. Brown have advanced a most valuable idea in the bee-keeping world by advocating the handling of hives instead of frames. You will allow me to describe this by referring to my hive, as I lay great stress thereon. American bee-keepers do not think ill of my hive; but I wish to convince them that it is not the production of the writing-table, but the fruit of careful experience, and such a one as has helped me to raise a crop of honey not surpassed by any other bee-keeper in Germany, unless by one of my disciples.

The handling of the hive, and not touching any of the frames, can be accomplished if the colonies are in a normal condition, as a colony will be if the bee-keeper did his duty at the close of the previous season, and the wintering was good. Of course, there will be exceptions to the rule; but of such I shall speak by and by. As for these colonies, the movable comb and handling of frames is of the greatest benefit. I handle hives: 1. After the first cleansing flight in the spring. I do not have to remove any warming materials, quilts, nor to open a door, as is necessary with side-opening hives. I simply turn my hive over, in the way before mentioned. This gives a most complete view of the interior of the hive, not limited by wide top-bars and thick honey-combs, or one single comb, as is the case with German hives. I see how many spaces between the comb are filled with bees, and how strong the colony is. No one will deny that an exact knowledge of this is of

great importance every time. If the bees come up briskly from a compact cluster below, then I take it for granted the colony is not queenless. Should the bees not sit in a compact cluster, but more scattered between and on the combs, then the colony is most probably queenless. A few puffs from the smoker will drive the bees down. I now let the bright daylight in, and see whether there is brood in the comb or not; and then should I not see what I wish to, I push aside two combs from those in the middle of the cluster, and take them out of the hive to look after the queen or eggs. In the same way I find out how it is with the provisions, providing lifting the hive and weighing it in my hands has not told me what I wished to know. Finding all is right, as a good normal colony always will be, the whole task is done without handling any frames. In less than a minute the hive stands again in its old position—no replacing of a quilt or warming materials, nor a window; no loss of heat from the brood-nest. no tearing up of the nicely glued cover to cause a draft of air from the entrance through the cluster of the bees to the top of the hive. If not prevented by loss of time, there is no disturbing the bees by handling frames. To let the bees alone till a time of mild weather would not be judicious. The sooner I know the wants of a colony, the sooner I can help. I do not need more than three hours on the day following a cleansing flight, to know the minute conditions of hundreds and more of my colonies; besides having swept with a brush the dead bees and the cappings of the honey-cells from the floor board, saving more than four pounds of wax from a hundred colonies in this way. All colonies that need my further attention (and these are always a considerable part) get one, two, or three sticks on the front side, according as the brood-chamber is to be contracted, queenlessness is suspected, or stores are supplied. In these colonies, as exceptions to the rule, I do not avoid handling the frames; on the contrary, in such case it is a benefit to help them by means of the movable combs.

I handle only the hives, to know whether a colony is on the swarming-point, or fit to swarm artificially. No one will deny that it is of great importance to know this. I simply turn the hive over, giving a few whiffs of smoke; and now, as the true workplace of the colony lies open before me, I see whether queen-cells are started, whether there are eggs in them or larvae, or on the point of being capped over, or have reached maturity.

All my hives have a space of from two to three inches beneath the small bottom-bars of