

that a hive ought not to require one single unnecessary motion either for the bee or its owner.

Influenced by such considerations, I determined to see the actual workings of the Heddon hive in his apiary at Dowagiac, Mich. As the weather on my arrival there was too cold to handle bees, I carefully studied the hive. From what I know of the habits of bees, and construction of hives, just as a short examination of a Munn hive shows me that it is worthless either for amateur or practical uses—so the longer I studied the Heddon hive, the stronger was my belief that it would accomplish what he claimed for it.

As soon as I could see bees handled in these hives, and could handle them myself, all my favorable prepossessions were fully confirmed, and knowing how little I could count upon the continuance of health, I felt that in justice to the public, as well as to Mr. Heddon, I ought to put this opinion on record, by writing to some of my bee-keeping friends.

I think that no one who knows how I was deprived of the legitimate fruits of my own invention, will be surprised that I should feel it to be a positive duty to use what influence I may have among bee-keepers, to secure for Mr. Heddon both the honor and the profit to which he seems, not only to me, but to so many of our best apiarists at home and abroad, to be justly entitled.

*Suum Cuique*—"TO EACH HIS OWN."

From my earliest recollections my dear father enjoined this as a sacred duty upon his children—and I believe that all who know what I have done and written in connection with bees, will bear me witness that I have not departed from the spirit of his teachings. It was this strong sense of duty to give honor to whom honor is due which made me desire, even before I had any correspondence with Mr. H. about his hive, to go to Dowagiac and judge of it for myself. I will now describe some of the most important things that I there witnessed:

1. Before I saw the easy working of his frames even in hives which had been occupied for several years by bees, with close-fitting uprights (I prefer this French term to our word, ends), I could not conceive how they could possibly be handled as rapidly or safely as the Langstroth frames. The propolis trouble alone seemed to forbid this. Judge of my surprise then to find, that by leaving no space for bees to get between the uprights and the cases holding the frames, and by keeping the touching surfaces of the uprights so closely pressed together by the thumb-screws, as to leave no joint open wide enough for bee-glue, he

had actually reduced the propolis propensity of the bees to a minimum!

My knowledge of the trouble and delay in manipulating all the previous styles of close fitting uprights, led me to think that it would be quite difficult to handle the Heddon frames. To find that I was mistaken on this point was a greater surprise than the way in which the propolis difficulty was met. In handling Langstroth frames of the standard depth (and still more with deeper frames), bees are often hurt between the uprights and case—a thing impossible with the Heddon arrangement, while at the same time the uprights of his case—as they go down into the hive when a frame is put back—only push the bees away instead of pinching them between their closing surfaces. When the Langstroth frames are put back, even by experts it often happens that they must re-adjust the spacing, to get room for the last frame, whereas, the Heddon frames always go to their proper places. As a matter of fact then, the Heddon frames can be safely handled with more rapidity than any in previous use; thus securing all the advantages of close-fitting uprights without their old inconveniences.

2. I was actually charmed to see how quickly the queen can be found in this hive. There is really no place where she can hide behind either the uprights or the frames; or on any of the frame pieces, or on the combs, which by a single inversion of their containing case, have all been made to completely fill the frames. Alarmed, now, by the introduction of both light and smoke into such a shallow case, she usually glides at once to the bottom-board to hide herself between it and the bottom of the frames. If she does not show up when the case is lifted off, she can, as I have seen, be readily shaken out from such shallow and uniformly straight combs so as to be easily secured.

To catch a queen with so little trouble, and with no danger of robbing, seems almost too good a thing to be believed, until it is actually witnessed, and the mere thought that such a feat is possible, must recall to many of our readers their weary queen-hunts in the old styles of hives under the boiling sun and with the hateful annoyance of robber bees.

3. Another important feature in this hive is the remarkable rapidity with which the exact condition of affairs, in the brood-chamber, can be ascertained. In less time than is needed to remove and replace a single frame in other hives, a Heddon brood section can be lifted off, and from its being shallow enough to allow a good view of the combs from both above and below, even without shaking out the bees, the quantity