

to it—a strange affair, but more of this at another time.

As Mr. Heddon would now claim the new system of management, it will be necessary to give the full history of its origin, and I propose to show that his part in the matter has been very small indeed. Some time in 1881 or '82, Mr. Doolittle gave to the beekeeping world his contraction system in the production of comb honey. Not long after Mr. Jones introduced perforated zinc to American beekeepers. Here, then, was the beginning of the system that is now attracting so much attention, and which is to become the great system of comb honey production of the future. It is to be remarked that the rise and process of the system has been slow and is creditable to no one man, but is the result of years of experiment and investigation by a host of beekeepers. Though I may take less credit than I deserve in publishing for the last three years what I have called "my new system of management" I am free to acknowledge it is the outgrowth of the labor of many minds. The invention of the Heddon hive has had little or nothing to do with it, as the following will show. In 1884 there was quite an agitation in Gleanings and several other bee papers about reversible frames and hives. Mr. Heddon, following the lead of Mr. C. J. Hawes, became highly enthusiastic in the matter and proceeded to invent a reversible hive. On page 336 of Gleanings for that year he tells us when and how he got up his new reversible hive and all about it. He says: since my former article I have made several reversible hives which are now piled up in my waste room. It consists of a plain Simplicity case into which we place 8 brood frames made on the same principle as is a common open top and bottom all dovetailed section, the top and bottom bars being  $\frac{7}{8}$  wide, while the end bars are  $1\frac{1}{8}$ , and close fitting." After a further description of this hive he had evidently copied from Mr. Hetherington, he goes on to tell how he copied from Mr. Bingham in making another hive. After making the frames a little deeper and shorter and using a bottom bar as well as a top bar, both being just alike, he clapped them together on the tight-end-fitting plan, with the loop wire and key, as invented and used by Mr. Bingham. He also made upper stories of wide frames to hold sections, which were clamped together in the same manner. But as yet he had not invented (copied) his set screws to clamp these frames. Still he had secretly tested for three years his patented hive prior to the spring of 1885. Now if he had invented the set screws why was he fooling with Mr. Bingham's loop wire and key

at this time? Mr. Heddon may try to reconcile this matter if he likes, but the reader will perceive that no explanation can ever reconcile his statements, that in the spring of 1884 he had not tested his patented hive as alleged. The purpose of thus ante-dating his invention may be to claim the contraction system which was made known by Mr. Doolittle at about that time or in 1882. Mr. Heddon may claim and claim, but until he gives us one invention, pure and simple, that he has not copied from some one else his reputation as an inventor is nil.

The article above referred to presents a strong argument for reversible hives. Mr. Heddon tells us he had "slept and dreamt and laid awake over the subject" from about the 1st of April till fifth of May in his efforts to invent a reversible hive. On the 3rd of March, 1885, he applied for a patent which was granted in September following. The patent shows that the reversible hive idea was the dominant one, the interchanging feature standing next. As neither of these features by themselves are of any consequence in the new system of management; and as no reference is made to the latter in his patent, or in his book, it is clear that at this time he knew nothing about it.

In 1883 he began the contraction of the brood nest in producing comb honey and in 1884 began the use of queen excluders which Mr. Heddon condemned after his three years of secret experience, all through the year 1885 as of "no value at all" in the production of comb honey. I used tin and wood hives and also some of Mr. Jones perforated zinc. This I cut in strips and tacked on the slatted boards I had been using the same as I had used the tin. Mr. Heddon also used the zinc in the same way, or if not then, he did in 1885. Because of this he claims to have invented the wood-zinc queen excluder, which he confesses to have never made, had never used or had never seen until he saw one on my hive at the Mich. State Fair in Sept., 1885. As the inventor, it devolved upon me to experiment and investigate, to ascertain its uses. From the first I placed great value upon it; thought of getting it patented, but finally decided to give it to beekeepers, which I did. I could and should have got it patented. Had I done so Mr. H. would now be paying a royalty, on any queen excluders he has since made and used. Instead of expressing any gratitude to me that I decided not to patent it, he went on and sought to deprive me of all credit as the original inventor. I have been thus explicit about the queen excluder as without its use the new system of management is not worth a straw.

After experimenting with various depths and