

N. Hutches—It has paid me well. I have kept bees 49 years, but I used to keep them in the old "box" and "gum" hives, but from attending conventions I have learned of bee periodicals and all that I know about keeping bees in the right way. I have forty colonies in good condition; three years ago I cleared \$300.

Dr. Tinker—I feel that it pays, and that these gatherings are of value and interest to the bee-keeping fraternity.

The general impression was that it paid to attend conventions, and that those depending upon the published reports lost a great deal.

Dr. G. L. Tinker, of New Philadelphia, Ohio, then read the following essay:

THE SECTIONAL BROOD CHAMBER AND ITS ADVANTAGES.

If it had been announced that I was to discuss the advantage of sectional hives we should be dealing with a practical subject, one with which every bee-keeper in the land should be familiar. But the subject in hand is one in sore need of discussion, since, for some cause, very little has appeared in our bee periodicals to enlighten us concerning it.

My first season's experience with sectional brood chambers seemed very favorable. It happened to be an extraordinary season with us, and any hive with good management would have made a fair record. The past season was not a good one, and the defects of the new hive were apparent in many things. As compared with the Simplicity hives, of which I had seven in use, they were a marked failure. The bees in the Simplicity hives of my neighbors also did better. They not only had more bees all through the season, but had more surplus and stored enough for winter, while the bees in the sectional brood chambers had to be fed for winter.

I am reluctantly compelled to make this confession, partly because of my own disappointment in these hives, and partly because of the kindly feeling I entertained for the inventor.

I will give in detail my experience with the sectional brood chamber, and my reasons for abandoning it. In the first place, the horizontal half of a brood chamber is too small for a swarm, too small for a colony in the fall and too small for wintering. It is too small for a swarm since, with a queen-excluding honey board the bees will store much pollen in the surplus sections and soon dwindle down to the size of a good nucleus. It is too small in the fall, since the bees are limited in space for stores and brood and become too weak in numbers to winter to the best advantage. It is too small for wintering, since it will not contain sufficient stores to winter the colony and make a respectable start in brood rearing in the spring.

Thus it will be seen that one of the cases of such a hive, by itself, is of no value in the hands of the practical honey-producer. It is required that both parts of the brood chamber be used together to make anything like a success of it. But if they are so used the following difficulties arise:—In the spring the colonies breed up slowly, and without much attention will not get ready for the harvest. When at last it does get ready, if the honey flow is extra good, the bees proceed to fill up the horizontal space with brace combs and fill in with honey. The bee-keeper now thinks of interchanging the sections

and bringing the brood to the top, but finds a lever is required to pry the hives apart. He quickly finds he can neither interchange the parts nor close the hives without killing hundreds of bees. They pile upon the broken surfaces and a smoker is required in order to cut away the honey.

If robbers are troublesome, it becomes a serious matter, and the bee-keeper soon gives up the interchanging business as a bad job. It seems that bees do not build brace-combs to the same extent between whole brood-chambers, tiered one above the other, as between these shallow cases. After all, there is no advantage from interchanging the sectional parts since the bees will carry the brood upward and breed just as rapidly where no interchanging is done, as where it is. As the season advances, the bees put all the honey, or nearly all, in the upper case, so that the whole brood-chamber is required for winter.

The "shake-out" function is a good deal easier to talk about than to carry out in practice. With black bees and a little smoking it may be done, as it does not take much shaking to get them out. With Italians, Syrians and Cyprians, it is a very difficult matter, and the bee-keeper is easily persuaded not to try it again.

Finally, sectional brood-chambers are objectionable because of the extra expense of so much rigging for the amount of honey they contain, and there are no advantages to compensate for the extra cost.

The sectional, or storifying hive, will be the hive of the future. By this I do not mean a hive with a sectional brood-chamber, for one of the parts of such a hive is only half as large as the standard brood-chamber, whose capacity, as fixed by Fathers Langstroth and Quinby, is 2000 cubic inches of space, which will contain, in suspended brood-frames, about 1,350 square inches of comb. I have already shown that the half of such a brood-chamber is too small to be of any practical use by itself. Nothing less than a capacity for 800 square inches of brood-comb is deserving the name of brood-chamber, and such a one may be successfully used. I mean instead, a hive made up of two, three, or more brood-chambers tiered up one upon the other, or, as our English brethren term it, "storified." As this latter term is more elegant and expressive, I shall use it.

"Storifying hives" have many advantages over other kinds of hives. I have no doubt that the popularity of the Simplicity hives is due more to this one feature than any other. We have had them in use in this country for many years, but it is only within the last few years that we have fully appreciated this admirable function. It is highly significant that our English friends are placing so much stress upon this point. Of late they have given no premiums to any but storifying hives.

In this connection I have but one suggestion to make, and I have done. It is, that, if the Simplicity hives were cut down to take a 7-inch brood-chamber, it would be nearly perfect as a storifying hive. It would then be just right for a swarm with a queen-excluding honey-board; it would be just right for wintering, and it could be "storified" at any time in the working season, to make a large hive according to the necessities of the bee-keeper.

DR. G. L. TINKER.