

and using this style of frame. For extracted honey, I am as well pleased with the Gallup frames as with any other. and as I use it for comb honey. of course I prefer it for extracting. Were I working for extracted honey exclusively, I should not consider its advantages as great as I do for comb honey. That it can hang in the extractor the same as in the hive, is one reason for preferring it, and that the Langstroth frame cannot so hang in the extractor, is an objection to it, in my opinion. In extracting I use two different plans, one of which is to use the hive two and three stories high, leaving the combs undisturbed until the white honey season is over. The other is to place the combs in what is termed the "long idea hive," which is a hive made of twice the usual length, and extract from them as filled, ripening the honey in a warm room. in open-mouthed vessels, having a cloth over the top to exclude dirt. Each plan has its advantages and disadvantages. By the former it secures a splendid article of honey with but little labor. By the latter we get a larger quantity but it requires more labor, at a time labor is of the greatest value, and the quality of honey is hardly equal to the other.

### At What Age Will Bees First Gather Stores?

Will bees ever go out in search of food before being from fourteen to eighteen days old.

On this question authorities are as yet divided. Dr. Miller says yes; Vogel, of Germany, no. Of course, one of the two must be wrong. In the *Bienenzeitung* of 1891 Vogel had a long article in which he showed that bees less than eighteen days old would sooner starve than go out in search of food. I was inclined to think he was right, not knowing the reasons that Dr. Miller arrived at his conclusion; but the more I thought of it the more uncertain I became. Dr. M. would have spoiled his proverbial "I don't know" if he had had conclusive evidence, I concluded; and so I decided to settle the question to my own satisfaction; for it seems although I may read and study the ablest written articles giving the best of proof, nothing convinces us quicker or so thoroughly and singly as what we have seen with our own eyes. Seeing is not only believing, but knowing. I will now tell the reader what I found out.

In order to see how young a bee would work in a field I thought it necessary to form a colony out of all just hatching bees. So, on June 4 I took four nice clean combs, all workers size, and gave them to as many different colonies, placing them in the centre of their respective brood nests. On June 25 I collected them again, placing them in a previously and specially-prepared chamber with wire-screen bottom, setting the whole over a very populous colony. quilts and cushion removed. In this way and by means of hot "soap-stones" on top, and wrapping all in blankets, I tried to keep the temperature up to the desired point, so the brood and bees would not suffer either way. When I placed these brood-combs in the above named chamber some bees had already commenced hatching from them. On June 28 quite a number of bees had gathered, forming a regular cluster. I gave them then a new and somewhat isolated location, and for a fly-hole I opened a previously bored  $\frac{3}{8}$  in. hole, being about 2 in. above the bottom board. The oldest bees in this little colony were now just three days old, but not one came out, not even peeped out, that afternoon, although the sun shone warm. The next afternoon a very few bees showed themselves; some few spacked up the outside of the hive a very little around the fly-hole but not one attempted to fly off. The next day, at 3 o'clock in the afternoon (June 30), the oldest bees being then just five days old, there was suddenly a commotion, to be noticed from quite a distance. I was at my post in a minute. Quite a number of bees were flying off and kept flying, apparently in for a play, and, judging from the specking the previous day, perhaps for a cleansing flight. This lasted some fifteen or twenty minutes. Then things became quiet again. Then, all at once, I imagined seeing a bee slipping into the entrance-hole, carrying a tiny load of pollen. The bee disappeared from my sight so quickly I could not be certain. While meditating and wondering whether it really could be, another bee struck the little  $\frac{3}{8}$  in. entrance but also disappeared quickly. Several more bees came in the same fashion, and, although I was as attentive as I could be, I was still undecided whether there had been pollen in any of their pollen-baskets, the loads they carried being so small—hardly visible—and the bees always going from my sight so quickly.

The next bee that came was loaded just a little heavier. This time there was no mistake—the load of pollen was there. The bee carrying it also hit the little round entrance with infallible accuracy. I mention these observations because some one