

long hole, having the end that is bent over come in same position usually occupied by the wooden thumb screw, the other end of rod being of suitable length to reach through the opposite side of hive about one inch. Before putting on the nut have a rubber washer about half-inch thick to put on first, and then an iron washer and last of all the nut, which may be a thumb nut, or, as I prefer, a common square nut, which can be tightened up very quickly by means of a socket wrench with handle like a common screw-driver handle. The advantage I claim for this arrangement is that the frames are not pressed between the two sides of the hive which tends to disjoin the hive whenever the frames expand by moisture or by undue pressure of the screw from the opposite side of the hive, but being held by drawing them towards one side of the hive you can see that no amount of pressure can affect the hive in the least, and as the frames are held by a yielding pressure they have a chance to expand and contract in wet and dry weather, and yet be tight all the time. I don't know how you look at it, but with me the settling of the frames when the hive is inverted is a serious objection. Just think of the trouble caused by the frames dropping down on a hot day and closing the entrance to the hive if only for a few minutes. I predict that nothing short of a yielding pressure can be relied upon for holding the frames as they will expand and contract in spite of us and one-fourth of an inch is enough to let them drop, and their expanding power is sufficient to disjoin any hive ever made. The inverting principle of this hive is one of its best points, and it ought to be so it could be relied upon either side up. I know very well that the rods cost a little more than the wooden thumb-screw but are they not enough better to pay for the extra cost.

The reason I have for making the iron pass through both sides of the hive instead of simply bending the end, is that the bees put propolis back of the end of rod so it cannot be pushed back when the nut is loosened, and then again, by making it this way it can be taken out any time without molesting the frames. I presume that a three-sixteenth rod would be sufficient. It certainly would have twice the power of the wooden thumb-screw.

D. S. HALL.

S. Cabot, Sept. 13th, 1886

For The Canadian Bee Journal.

EMPTY FRAMES VS. FOUNDATION.

AS there has been much said under the above heading, and as it is a question of great importance, I should be pleased if my experience would be of any value to other bee-keepers. Previous to the season of

1886 I had practiced using full sheets of foundation, but reading Mr. W. Z. Hutchinson's method of using empty frames, I concluded I would give it a thorough test, which I did this season, and can say I am more than pleased with the results. On the 24th of May I hived two swarms of equal strength, one on foundation and the other on empty frames, and at the end of ten days those on empty frames had their surplus arrangement containing twenty-eight sections filled and the combs in the brood-chamber over half completed, while those on foundation had not an ounce of honey in the sections and no more brood than the others; and not only did those on empty frames get the start when first hived, but they kept it all through the season, and I find they have given me over one-third more honey. These two colonies of which I write are but a fair sample of all I tried. I have had no trouble with drone comb, not having enough in any one hive to fill half of an L. frame. I use an eight frame Langstroth hive, with a surplus arrangement holding twenty-eight $4\frac{1}{2} \times 4\frac{1}{2}$ sections, and use full sheets of foundation in the sections, putting them on at time of hiving. If working for extracted honey in a one-story hive, I think it would be to one's advantage to use foundation, unless a perforated division-board were used, and, even then, it might pay to use it, but in working for comb honey, no foundation for me, thanks.

A. W. BROWN.

Port Rowan, Sept. 22nd, 1886.

From the Mechanical World.

A BEE IN A TELEPHONE.

THE experience of telegraph operators, inspectors, and linemen brings them into close acquaintance with all sorts and conditions of faults in connection with their work; the variety of these faults is wonderful, many stranger than fiction. One of the most curious in connection with telephony which we have ever known has just happened within the last few days at a place called Moss Bay. The linemen's attention was called to the circuit in question as hearing was difficult; on listening at the telephone he heard a "sort of booming which came on intermittently, very much resembling the distant roll of the tide, and which rendered speaking and transmission of work almost impracticable." Having satisfied himself by the usual methods that the instrument was right and the line free from induction, and that it was not picking up vibration, the conclusion was arrived at that the fault must be in the general office, Moss Bay. An examination of the telephone apparatus disclosed a novelty. A huge bee was