



"THE GREATEST POSSIBLE GOOD TO THE GREATEST POSSIBLE NUMBER."

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REPORT ON WINTERING—QUEENS LAYING AT 40° BELOW ZERO.

ON page 60^e of C. B. J., for 1885, in your foot notes to my report there given, you expressed a desire to know the result of my experiments. I give it with pleasure: I commenced last August to prepare my bees for winter by spreading the brood frames about one and three-quarter inches from centre to centre, in order to have them built out and filled with honey, but as the autumn flowers in this locality were nearly all devoured by grass-hoppers, very little honey or pollen was gathered by the bees, the combs were not plumped out well; the wide space between the combs and the scarcity of honey greatly discouraged brood-rearing; consequently they were mostly old bees that went into winter quarters, and some colonies had very little or no pollen in the hive. When there was no longer any prospect of their getting a sufficient supply for winter stores from the field I commenced feeding, and not having feeders enough to feed all at once, some five or six colonies were supplied by laying combs down flat and pouring the feed into them until every cell was full from top to bottom, and then they were hung in the hive; but the bees did not cap this over very well, and towards spring it seemed to collect moisture, got thin, soured, dripped from the combs and ran out of the hive at the entrance in some cases. Every colony supplied in this way perished before they could gather fresh stores this spring. One colony starved out-right, not leaving one single drop of honey nor pollen in the hive, but the combs were clean and dry as new foundation. I put two colonies in my cellar, placed them on

lar bottom, and right under the stairs where some one was passing up and down several times every day; they remained there from December until April, and not a bee offered to come out to fly that I know of, although they were not fastened in the hive, entrance being open full size eight by three-eighth inch, and the cellar was light enough to see to read in comfortably every day. I set them out on the 9th of April, apparently healthy, one was queenless and they both dwindled down to nothing in a few days. But I have something better than this to tell. I prepared two colonies after Wm. F. Clark's directions, with a hole in the bottom of the hive, and a hibernating box underneath, these wintered through in most excellent condition. On the first of May one of them fully occupied twelve Jones frames, ten of which contained brood, the other two were packed so full of new honey that the queen could not find a place to squeeze an egg into. I also prepared a number of colonies by placing the combs and bees in back end of hive, putting a stuffed division board in front of them, with passage underneath it, packing overhead the same as before described. This arrangement provides an empty or vacant chamber in the front part of the hive as a reservoir for air, a fresh supply of which is constantly furnished through the ventilators in the gable-ends of the hive covers, the usual entrance being closed tightly as possible to keep the cold winds from blowing directly into the brood nest. Colonies prepared in this way wintered just as well as those upon the hibernating-box, so far as I could judge. On Feb. 3rd the thermometer stood at 40° below zero, on the 8th it was warm and pleasant, and I opened one hive and examined the colony, and found fresh laid eggs, eggs just hatching and larvæ in all stages up to capped