

manner. Slat one inch thick were nailed at intervals all around the hive, on these were tacked one layer of thick brown building paper, and then a layer of oiled paper, which increases durability and also keeps out vermin. order to provide extra protection to the hive a box six inches wider and six inches longer was placed over this, cut at the entrance 1 in. by 2 in., all other openings being closed. The wooden covers of each hive were removed and replaced with a chaff cushion three inches thick, the latter placed on the propolis quilt, and lapping over the sides of the hive; two layers of paper were then placed on the top of the cushion and a second cushion added, with the top of the outside box over it. The bees were put into winter quarters on November 18th. No sound could be heard from these colonies all winter up to March 10th, when a slight hum was perceptible. On March 20th the first bees made their appearance. There were many dead bees at the entrance of the hives. On March 21st, the day being bright and warm, the outside cases were removed, leaving the paper and one chaff cushion on during the cold spring. Upon examination one colony was found to be in fairly good condition, the other very poor with many dead bees on the bottom-board. A few days afterward the latter was found to be deserted. The frames in both cases were all dry and clean, and had abundance of honey to carry them through from November to the clover bloom. Weight when put into winter quarters, 53½ pounds each; in spring 77½ pounds each or a loss of 16½ pounds.

A second experiment was tried similar to the above. Four hives were taken for this test instead of having them packed single. The four were placed in a large packing case, the case being one foot larger each way than the hives, the hives being placed six

inches apart in the case with six inches cut straw on the bottom of the case for the hives to rest upon. The six-inch space between the hives was packed with cut straw also the one foot space all around and on top of the hives. The entrance of two of the hives faced east and the other two faced west. The entrance of the hives was kept clear of snow all winter to insure free ventilation. No sound could be heard from these colonies all winter. On March 22nd the bees made their appearance when many were flying briskly going out and returning. From March 22nd to April 22nd, the bees had but one good flight. On April 22nd they were then examined. Very few dead bees were found on the bottom-boards. The combs were dry and no sign of dysentery. They were then removed from the packing case and placed on their summer stands. The average weight of the hives when the bees were put into winter quarters was 62½ pounds when put on their summer stands 49½ pounds, showing that each hive had lost 13 pounds 4 ounces.

The weather at this date being bright and warm the bees built up rapidly and were in excellent condition for the honey flow.

This experiment was tried in a well-sheltered corner, where no cold winds could get at the hives.

#### Damp Cellars For Wintering Bees.

Many letters were received inquiring whether a damp cellar is a fit place to winter bees in. An experiment was conducted during the winter of 1902-3 with three colonies of bees. During the winter of 1903-4 it was thought best to try this experiment with six colonies in a similar manner, as in the previous experiment. Seven pails of water were arranged in such a way that the colonies of bees would rest on the edges of the pails allowing the full surface of the water to be exposed.

Six colonies were selected for this