

method, this is excellent for a few colonies. In the spring the leaves can be burned and the sacks used in the smoker.

"There was a longing in my case to get hold of a method that involved no labor. To get a hive which would winter as well as summer bees, one which was ready for winter whenever winter came, whether the bee-keeper was or no—that was my desire. The problem was studied for several seasons and success came out of the study.

"It was in the summer of 1902 that I built my first hives, which were to be covered with black roofing paper. Those four hives did so well that I continued to build that variety of hive until I now have upwards of 130 colonies housed in such hives. My hives have cross-wise frames and the endbars are closed from top to bottom, otherwise the hives are not especially peculiar, except for their color and their ample entrances. I now have no fear of winter.

"It is simply a time of rest, so far as the bees and I are mutually concerned.

"The science of this hive lies right here. The warmth of the sunshine raises the black covering to a rather high temperature. This warmth penetrates the hive and warms the air of the same. This air takes up moisture and expands as it warms, carries much moisture from the hive. (As night comes on dry air enters the hive as cooling progresses. We have, therefore, a day and night exchange of air between the interior of the hive and the outside. The result is that the combs and the bees retain a healthful and healthy condition. More than that the warmth stirs up the bees so that they move their dead out and move their stores into the empty cells within the cluster. They do not fly much for they do not need flight. The more sunshine that enters the hive the better, for it kills mould and unwholesome conditions. In spring bees come out vigorous and ready to build up rapidly. The method is

so far ahead of any other ever advanced, that it is a matter of amazement to those who use the method that others are so slow to catch on.

"Another goal that I sought for years was the wintering of nuclei with extra queens. Tests showed that the new method of wintering would not do for nuclei. They could not keep up sufficient heat without wearing out their vitality. My first success came with seven little nuclei stacked in a headless barrel, near the steam heater. Always comfortably warm and a constant gentle current of air through the barrel, such were the conditions that led to success. The next winter I prepared a special case that held 21 nuclei. Once more success came.

"Then I moved to a new home and the cellar was not satisfactory. For two winters death overtook my nuclei.

"So the problem came up anew. Would it be possible to construct a little house that would give the conditions that prevailed in a mammoth hive? The venture was tried, success followed. In the winter of 1909-10, there were 30 nuclei wintered with perfect success, and many of these weaklings developed to do useful work that next season, some even to the extent of 60 pounds of surplus.

"The standards followed were fresh air, intermittent warmth, good stores, freedom from moisture."—Worcester (Mass.) Sunday Telegram.

QUEEN-REARING MADE EASY

Indexed

(By Henry D. McIntyre)

The following is a description of a very simple device I am using for rearing and mating queens. By my plan, I am able to raise and mate from one to six queens in a single hive, utilizing the warmth of the parent colony, and without in any way interfering with the mother queen or otherwise disturbing the work of the colony.

It will be seen from the accompanying illustration (Fig. 1) that my mating

box is simply a metal and 15" long, joined to form a very shallow 4 3/4" in diameter. The surface of this cylinder or clip, made from a same material. The very simple in construction practically nothing.



Fig.

The mating box is Taking a hive, in the entrances are bored as shown in Fig. 3, we lift outside combs of the shake off all the additional now take one of our mats and press it into a position that will correspond to the side entrances. The forced into the comb under midrib, care being taken larvæ (or eggs), pollen



Fig. 2

honey to feed the bees is mated. We next place cell in the cell holder the frame in Fig. the comb flat on the ground up. Lift out another centre of brood nest fairly with young bees; give over the hive in order old bees (and also the old) happen to be upon the