

other disadvantages are the following: (1) They are too small to winter as separate units, and therefore require to be restocked every season; (2) owing to the small capacity of the frames, constant supervision is necessary to prevent starvation on the one hand, or undue honey-glutting of the frames on the other; (3) unless stocked at an out-yard and released in the home yard (or *vice versa*) there is the risk of too many bees deserting; (4) the trouble entailed in making the small frames and getting them worked out in Langstroth frames and afterwards transferred to the baby nuclei.

THE NEW MATING-BOX.

During the last two seasons I have been experimenting with a nucleus hive made out of benzine- or kerosene-case ends, and of dimensions to take ten frames the size of a Langstroth frame cut in half horizontally. These hives have provision for four entrances, one on each side and end, and are capable of being divided into any number of compartments, up to four, by slipping in movable division-boards made of three-ply wood flanged with strips of rubber tubing to provide a tight-fitting cushion. The floor-board is movable, but fastened in position when necessary with four wire pins. Entrance shutters are provided to close any compartments not in separate use.

Details of Construction.

Details of the construction of this hive are as follows:—

Floor-board: This is $19\frac{3}{8}$ in by $11\frac{3}{4}$ in., and composed of two benzine-case ends cut to size and nailed on 1 in. bearers all round. The scraps cut off provide more than enough to form short legs, which are nailed to the under-side. On top of the floor-board, 1 in. from each end, are nailed pieces of wood 1 in. square and the width of the hive. In the centre of each of these is cut a small hive-entrance.

Body-box: Sides—one complete benzine-case end each, with frame rabbet $\frac{7}{16}$ in. deep by $\frac{3}{8}$ in. cut out. Ends—one case end each, reduced to $11\frac{3}{8}$ in. When nailing together let the ends lap the sides, instead of letting the sides lap the ends. In the ends cut entrances corresponding to those in the floor-board. At each side bore auger-holes 9 in. from end of box (outside measure), such holes being placed diagonally (not opposite) to each other. The box should fit comfortably between the pieces on each end of the floor-board. Bore four gimlet-holes through these end pieces and the hive ends, and insert fence-wire pins to hold the box and floor-board firmly together.

The division-boards of the box are made of three-ply wood, $9\frac{1}{2}$ in. wide by $9\frac{1}{4}$ in. deep. Along the bottom and projecting $\frac{1}{2}$ in. from the wood is a strip of motor-car inner-tube rubber $10\frac{1}{2}$ in. long, and similar pieces $9\frac{1}{4}$ in. long project in the same way down each side. These are tacked firmly to the three-ply with strips of thin wood. A similar strip runs along the top edge, with ends projecting to fit the rabbets of the hive. The gist of the whole arrangement is to keep the bees not only from passing the division-boards but to prevent any communication between the compartments, and yet for the division-boards to be easily removable and not subject to prologization.