

UNITED STATES PATENT OFFICE.

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BEE-HIVE.

SPECIFICATION forming part of Letters Patent No. 226,613, dated April 20, 1880.

Application filed August 29, 1879.

To all whom it may concern :

Be it known that I, RICHARD HIMES, of Elizaville, in the county of Fleming and State of Kentucky, have invented a new and useful Improvement in Bee-Hives, of which the following is a specification.

Figure 1 is a top view of my improved beehive, the cover being removed and parts being broken away to show the construction. Fig. 2 is a vertical cross-section of the same, taken through the line *xx*, Fig. 1. Fig. 3 is a detail side view of one of the end surplus-honey boxes and its sections. Fig. 4 is a detail section, showing one of the gates.

The object of this invention is to furnish beehives which shall be so constructed that the surplus honey can be easily and conveniently removed without disturbing or exciting the bees, which will allow the swarming of the bees to be controlled, and which can be easily arranged to form a warm and dry wintering-hive.

The invention consists in the combination of the pivoted buttons or equivalent covers and the gates with the bottom and the partitions for opening and closing the passages through the said bottom and partitions into the end surplus-honey chambers; and in the combination of the gate and screw and the platform or plate with the bottom, the front partition, and the front for opening and closing the passages into and through the front surplus-honey chamber, as hereinafter fully described.

Similar letters of reference indicate corresponding parts.

A represents the front side, B the rear side, C the ends, and D the bottom, of the hive. The front edge, *d'*, of the bottom D projects to form a ledge or platform for the bees to alight upon and take flight from when entering and leaving the hive. The rear edge of the bottom D is flush with the outer surface of the rear side, B, and to it is hinged a strip, *d²*, which may be turned up into line with the said bottom D, to form a ledge or platform for the bees to alight upon and take flight from when the rear side of the hive is used as a front, and which is turned down beneath the said bottom D when not required for use.

The interior of the hive is divided into four

compartments by three partitions, E F F, forming a large brood-chamber in the rear middle part of the hive, a long surplus-honey chamber in the front of the hive, and two short surplus-honey chambers in the ends of the hive. By this arrangement the main or brood chamber will be surrounded upon three sides by surplus-honey chambers.

In the middle parts of the lower edges of the front A, the back B, and the partition E are formed long slots *a' b' c'* for the passage of the bees. The notches *a' c'* are connected by a tin platform, G, fitting into the space between the front A and the partition E, and having its end edges turned down to rest upon the bottom D, to form a passage-way for the bees from the entrance *a'* to the brood-chamber and prevent them from entering the front surplus-honey chamber, and which may be moved to one side or removed when it is desired to have the bees enter the said surplus-honey chamber. The plate G is kept in place by two cleats, *g'*, attached to the bottom D at the ends of the notches *a' c'*.

In a recess in the bottom D, beneath the notch *c'* in the partition E, is placed a gate, H, hinged at one edge, and which may be turned up to close the said notch by a hand-screw, I, passing up through the bottom D. The partitions F F do not extend quite to the bottom D, sufficient space, *f'* being left for the passage of the bees.

The spaces or passages *f'* are provided with gates J, which are pivoted at their upper or lower edges, so that they may be turned to open and close the said passages when required.

The pivots K of the gates J pass through the back B, and are bent to one side to serve as handles to operate the said gates J, and as indexes to show in what position the said gates J may be.

The gates J may be adjusted and at the same time locked in place by turning the eccentric buttons L against the bent ends of the pivots K.

M are the comb-frames of the brood-chamber, the ends of the top bars of which frames project and rest upon the rabbeted upper edges of the partitions F.

The comb-frames M are spaced or held at

proper and uniform distances apart by bars N, laid upon their top bars and notched upon the lower sides to receive the said top bars.

To the lower sides of the spacing-bars N, midway between their notches, are secured the upper edges of tin plates O, which extend down midway between the comb-frames M, to separate them and cause the bees to build the combs straight and entirely separate from each other.

P are the boxes for the end surplus-honey chambers, the ends of the top bars of which project to rest upon the rabbeted upper edges of the end walls of the said chambers. The bottom bars of the boxes P have long slots formed in them upon their center lines of sufficient width to allow bees to pass through freely.

In the upright bars of the boxes P are formed slots to receive glass plates Q, which do not extend down to the bottom bars of the said boxes, and have sufficient space between their upper edges and the top bars of the said boxes to allow the bees to pass through freely.

The interiors of the boxes P are filled with small frames or sections R upon each side of the glass plates Q, four (more or less) being used upon each side, and being so constructed that the bees have a pass-way from one section R to another, between the sections R and the glass, on both sides of the glass.

To the upper side of the top bar of the boxes P are hinged rings S, for convenience in removing and inserting the said boxes, and which, when not in use, are turned down upon the said top bars. The boxes P for the long front surplus-honey chamber are made in exactly the same way, except that they may have a central upright to strengthen them, and are provided with a slot in their bottom bar, a glass plate, Q, small frames or sections R, and hinged rings S, in the same way.

In the front A and in the ends C of the hive are formed holes $a^2 c^2$, which are covered at their inner sides by glass plates T, let into the said front and ends so as to be flush with their inner surfaces.

The holes $a^2 c^2$ are designed to allow the combs to be inspected, so that they may be removed when capped.

The holes $a^2 c^2$ are covered, except when in use, by buttons U, pivoted to the front and ends, or by slides or other covers that will keep out the light.

In the lower edge of the back B is formed a long notch, b' , to allow the bees to pass in and out when desired, which opens directly into the brood-chamber, and is kept closed by wire-gauze, a slide, or other suitable cover, except when required for use. When the hinged edge or platform d^2 is turned up to allow the bees to use the entrance b' it is supported by a button, V, pivoted to the bottom D in such a position that it may be turned out beneath the said platform or ledge.

In the bottom D are formed holes or slots d^3 , leading into the end surplus-honey chambers near the partitions F, and which are closed by

long buttons W, pivoted to the lower side of the said bottom D.

The hive is covered by a peaked or roof-shaped cover, X, in the gable ends of which are formed ventilating-holes X', which are covered at their inner ends with wire-gauze, Y, to prevent anything from entering, while allowing air and moisture to pass out freely.

In using the hive the bees are first admitted to the brood-chamber, and afterward are admitted to the end surplus-honey chambers by opening the gates J. When the section-frames R of the end surplus-honey chambers are filled with comb and honey and one gang of bees are capping the cells in the end chambers, the platform G is so moved as to allow the idle bees to go to work to fill the section-frames R of the front surplus-honey chamber with comb and honey, thus preventing them from clustering idle upon the outside of the hive and preparing to swarm. When the comb-cells in the end surplus-honey chambers are capped, which can be known by looking through the holes in the ends C of the hive, the gates J are closed, so that the bees cannot enter, and the bottoms W are turned to uncover the holes or slots d^3 in the bottom D, so that the bees that may be in the said chambers can pass out.

The boxes P can then be removed without destroying, injuring, or exciting the bees, as there will be no bees in the surplus honey. The filled sections R can be removed and replaced with empty ones, and the boxes P put back, and the tin gates J turned so as to admit the bees back to the same, to which they rush immediately and go to work, as there will be bees to occupy the whole hive at that time.

When the comb in the front surplus-honey chamber has been capped the gate H is closed, the hive is reversed, and the passage b' is opened, so that the bees, as they pass out of the said chamber, will enter the hive through the said passage b' , and will not find their way into the said surplus-honey chamber, and the boxes P may be removed, the filled sections R removed and replaced with empty ones, and the boxes P put back, ready for use when required.

When the comb-frames M of the brood-chamber have been filled with comb the spacer and separator N O is removed, and will never be needed again in that hive. The comb-frames M are then spaced a half-inch apart toward each side, leaving a space in the middle, which may be filled with an empty frame, which the bees will immediately fill with comb, the adjacent straight combs serving as guides, and causing them to build the new comb straight.

In wintering the bees the boxes P P P are removed from the surplus-honey chambers, and bags filled with leaves are packed into the said chambers. The cotton cloth upon the top of the chambers is removed and replaced with a woolen cloth, and a bag filled with clover-chaff is placed upon it, the woolen cloth and the clover-chaff absorbing the moisture and allowing it evaporate through the ventilating-holes X', and the bees will be kept warm and dry,

and may be safely wintered upon the ordinary summer-stand on from ten to twelve pounds of honey. All the frames M that the bees do not cluster upon are removed, which gives room to insert in the rear part of the brood-chamber a chaff cushion, or anything else that will form a double wall, so that the bee-hive will have a double wall all around and upon its top.

I am aware that honey-boxes have been divided into four separate and distinct compartments to facilitate the removal of the honey in small quantities, and I therefore do not claim, broadly, a honey-box containing one or more compartments.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of the pivoted buttons W, or equivalent covers, and the gates J, with the bottom D and the partitions F, for opening and closing the passages $d^3 f'$ through the said bottom and partitions into the end surplus-honey chambers, substantially as herein shown and described.

2. The combination of the gate and screw H I and the platform or plate G with the bottom D, the partition E, and the front A, for opening and closing the passages into and through the front surplus-honey chamber, substantially as herein shown and described.

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Witnesses:

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