

United States Patent Office.

VOLNEY LEONARD, OF SPRINGFIELD, PENNSYLVANIA.

Letters Patent No. 65,402, dated June 4, 1867.

IMPROVEMENT IN BEE-HIVES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, VOLNEY LEONARD, of Springfield, in the county of Bradford, and State of Pennsylvania, have invented a new and improved Bee-Hive; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings forming part of this specification, in which—

Figure 1 is a longitudinal vertical section of my invention, taken in the line $x x$, fig. 2.

Figure 2, a section of the same, taken in the line $y y$, fig. 1.

Figure 3, a front view of the same.

Figure 4, a transverse section of the same, taken in the line $z z$, fig. 1.

Figure 5, a detached plan or top view of a moth-trap pertaining to the same.

Figure 6, a detached plan or top view of a supporting bar for the spare-honey boxes.

Figure 7, a section of fig. 6, taken in the line $x' x'$.

Figure 8, a detached horizontal section of a spare-honey box.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved bee-hive, and has for its object the protection of the bees from the moth, perfect ventilation, uniformity of temperature, and a novel construction of the spare-honey boxes and honey-board, whereby several advantages are obtained over hives of ordinary construction, as will be presently set forth.

A represents a base or support, on which the bee-hive rests. This base or support is composed of a board or plank, a , attached at its ends to cleats $b b$, one of which is higher than the other, to give the board or plank an inclined position, as shown clearly in fig. 1. B represents the body of the hive, which is of rectangular form, and has doors c at its sides, which cover glass plates d . By opening these doors the interior of the hive may be inspected at any time. At the bottom of the hive, at each angle or corner, there is a metal plate, e . These plates serve as feet, and allow a space all around underneath the hive. C represents the comb-frames, which are of rectangular form, and have their upper cross-bar projecting beyond the end bars to form lips f to support the comb-frames, said lips resting upon the tops of the front and rear ends of the hive, as shown in fig. 1. In the upper part of the front end of the hive there is made a series of holes, g , directly underneath which a metal plate, D, is attached by a joint or by pivots, h , so that said plate may be raised to a horizontal position or let down so as to hang by the front side of the hive when required. This plate is held in a horizontal position, when required, by catches composed of plates $j j$ pivoted to the front side of the hive, and each having a notch, k , made in it to receive, when the plates are turned down to a vertical position, the sides of the plate D, as shown clearly in fig. 3. The plate D, when raised, is made to serve as an alighting-board, and admit of the bees passing into the upper part of the hive near the spare-honey boxes. When this entrance is not required, the plate D is let down, and the holes g serve as ventilators only. The moth-trap is composed of three strips $h h h$ of wood, grooved longitudinally their whole length, as shown clearly in fig. 5 at i^x , and notched at suitable distances apart, as shown at j^x . These strips h are inserted under the hive, one at each side, and one at the rear end, and the worms will creep into the notches j^x and grooves i^x . The strips h may be removed from time to time and the worms destroyed. E represents the honey-board, which is composed of two parallel bars, having cross-bars k^x fitted between them, with suitable spaces l between the bars, and F represents the cap or box which is fitted on the hive B, and serves as a cover for the spare-honey boxes F, which rest on the honey-board E, the latter resting on the top of the hive B. The honey-boxes are of rectangular form, and have glass sides and ends, and wooden tops and bottoms. The bottoms m have narrow oblong slots or openings n in them, (see fig. 8,) to admit the "workers" but not the queen, and consequently no brood-comb will be built in the spare-honey boxes. The honey-boxes F have wooden corner uprights o , to which the glass sides p are secured by sheet-metal hooks q , the latter being driven between the ends of the sides q , into the outer corners of the uprights o , as shown clearly in fig. 8. This forms a very durable and simple mode of construction. In the upper front part of the cap F there is made a series of holes, r , over which a metal plate, G, is attached by a hinge or joint, s . The holes r are covered, when desired, by the plate G, the latter being secured in a closed state by a button, H. When ventilation is required, the plate G is raised, as shown in fig. 1, and it may be

retained in a partially open or raised state by turning the button H upward, so that the lower part of the plate may bear against the upper part of the button. In cases where the honey-board E is not required, as, for instance, where large spare-honey boxes are employed, I use what may be termed a rest, shown in figs. 6 and 7. This rest is composed of a plate, s, having cleats t attached to it, with spaces u between them, metal strips c being attached to the cleats t. These spaces u afford passages for the bees to pass from the main hive up to the spare-honey boxes, the rest being placed centrally on the hive, and the inner ends of the boxes resting or bearing on the rest.

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

1. The plate D, applied to the hive B, in relation with the holes g, as shown, in combination with the fastenings or pivoted notched plates j, substantially as and for the purpose set forth.
2. The moth-trap, composed of the grooved and notched strips h, applied to the hive, substantially as shown and described.

VOLNEY LEONARD.

Witnesses:

R. W. CHENEY,

E. D. WILDER.