W. F. CUNNINGHAM.

Improvement in Bee-Hives.

No. 129,464. Patented July 16, 1872.

Fig. 1.

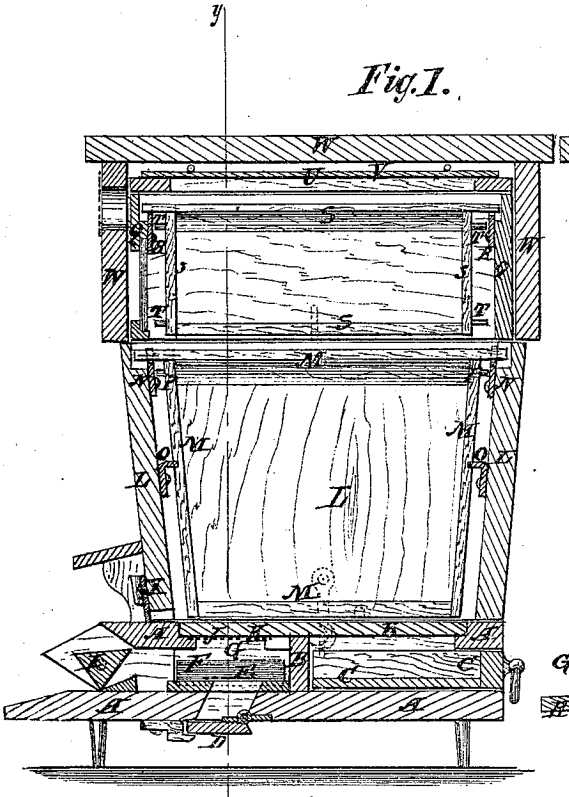


Fig. 2.

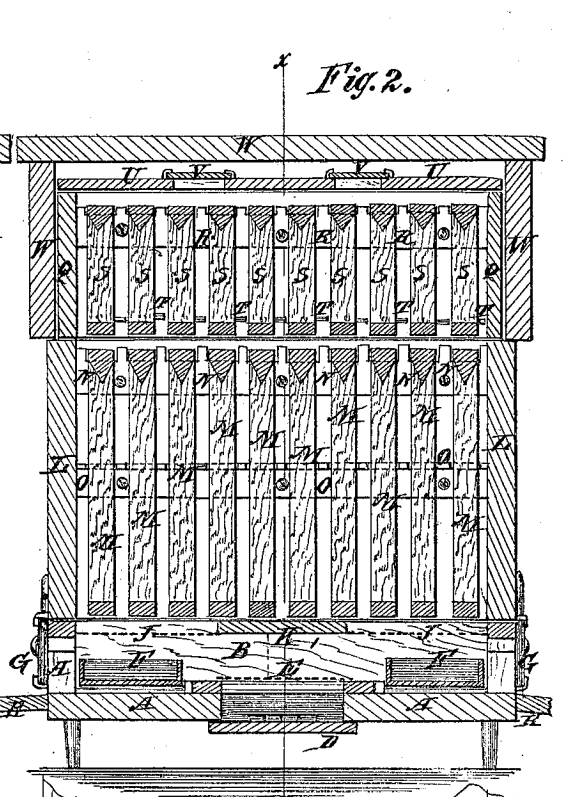


Fig. 3.

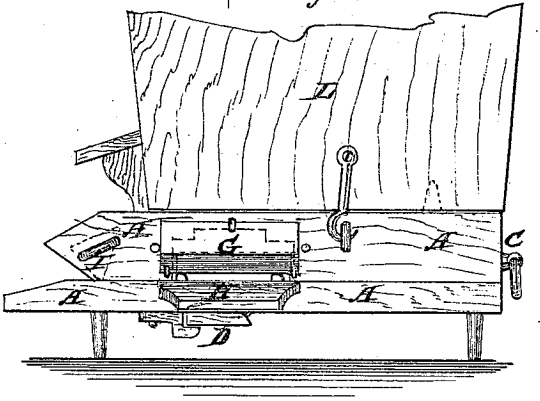
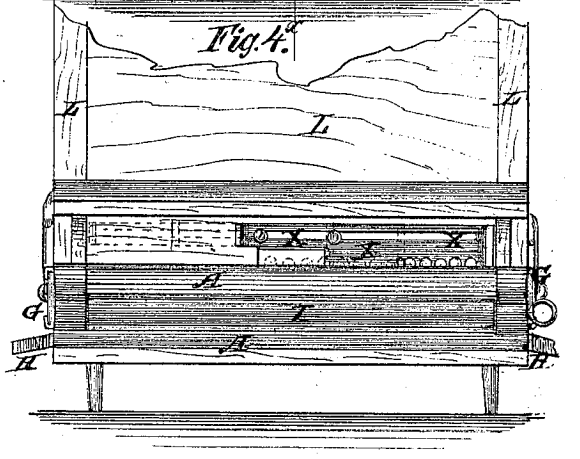


Fig. 4.



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UNITED STATES PATENT OFFICE.

WIRT F. CUNNINGHAM, OF MIDDLETOWN, KENTUCKY.

IMPROVEMENT IN BEE-HIVES.

Specification forming part of Letters Patent No. 129,464, dated July 16, 1872.

Specification describing a new and useful Improvement in Bee-Hives, invented by WIRT F. CUNNINGHAM, of Middletown, in the county of Jefferson and State of Kentucky.

Figure 1 is a detail vertical longitudinal section of my improved hive taken through the line *x x*, Fig. 2. Fig. 2 is a detail vertical cross-section of the same taken through the line *y y*, Fig. 1. Fig. 3 is a detail view of the lower part of one side of the hive. Fig. 4 is a detail view of the lower part of the front of the hive.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved bee-hive, which shall be so constructed as to facilitate the various operations of attending the bees, watching their condition, removing the comb, keeping out moths, &c.; and it consists in the construction and combination of the various parts of the hive, as hereinafter more fully described.

A is the base of the hive, which is made hollow, and is divided into front and rear compartments by a transverse partition, B. In the rear compartment of the base A is placed a drawer, C, which is drawn out at the rear of the hive for convenience in removing the droppings, feeding the bees, and inspecting their condition. In the center of the front compartment is formed a hole or slot leading out through the bottom of the base A, and closed at its outer end by a door, D, hinged at one edge to the bottom of said base, and secured in place when closed by a button, as shown in Figs. 1 and 3. The hinged edge of the door D is beveled off, as shown in Figs. 1 and 3, so that when opened it may serve as an inclined platform for moths to alight upon and pass up conveniently. The inner end of the said inclined opening, except a narrow space at its rear side, is covered with a wire gauze, E. The said opening is designed to serve as a moth entrance, and also as a ventilator for the hive. The end parts of the bottom of the front compartment are recessed to receive shallow pans F to contain a liquid to kill the moths, which pan F rests against the glass and upon ribs in the bottoms of said recesses so as to form spaces or passages for the moths below the said pans. In the sides of the base A, at the ends of the front compartment, are formed openings of sufficient size to admit the pans F, which openings are closed by detachable glass plates G so that the pans F can be taken out and put in as required. The lower parts of the glass plates G should be painted or otherwise rendered opaque to darken the space beneath said pans F. The glass plates G do not extend quite to the bottom of said openings, a space being left for the entrance of the moths. To the sides of the base A, at the lower edges of the openings in said sides, are attached cleats H to serve as platforms for the moths to rest upon before crawling in beneath the plates G. The forward side of the front compartment of the base A is left open, and its bottom projects and is beveled off to serve as a platform for the moths to alight upon, and also to allow the rain to flow off more freely. The open front side of the base is closed by a triangular roller, I, placed and pivoted within it so that by partially revolving the said roller in one direction the opening will be tightly closed, and by revolving it partially in the other direction a space will be opened for the passage of the moths above and below said roller, the inclined upper side of said roller serving as a platform for the moths entering the upper opening. The top of the front compartment of the base A is tightly covered with wire-gauze J so that it may be impossible for the moths to pass from the front compartment of the base into the body of the hive. With this construction, when a moth enters either of the five openings he sees light entering through the upper parts of the glass plates G, and in fluttering upon it he falls into one of the pans F, and is drowned. K is a board attached to and extending across the central part of the top of the base A, from front to rear, to serve as a platform for the bees after entering and before leaving the hive. L is the main body or the brood-chamber of the hive, which is made open at top and bottom, and the lower edge of which rests and fits upon the upper edge of the base A, where it is secured in place by dowel-pins, and hooks and staples, or other convenient fastenings. M are the comb-frames, the lower side of the top bars of which is made V-shaped in the ordinary manner. The ends of the top bars

of the comb-frames M project and rest upon the upper edge of strips N of tin or other suitable sheet metal, to prevent the bees from waxing the frames too firmly, which edges are notched to receive the said ends, as shown in Figs. 1 and 2, to prevent the lateral movement of said frames M. O are strips of tin or other suitable sheet metal, the upper edges of which are bent inward and are notched to receive the side bars of the comb-frames M to prevent any swinging of said frames. The longitudinal movement at top and bottom of the frames M is prevented by pins, tacks, or staples P acting in conjunction with the strips O, and attached to the frames M in such positions as to rest against the sides of the metallic strips N, as shown in Fig. 1. Q is the upper box of the hive, which rests upon and is secured to the top of the box L by dowel-pins or other convenient means, and which is designed to serve a double purpose: first, to sustain the frames S for storing surplus honey; and second, to be filled in winter with cobs, straw, or other non-conducting absorbents for properly wintering the bees. The box Q is made open at top and bottom, and to it, near its top, are attached strips R of tin or other suitable sheet metal, notched upon their upper edges to receive the ends of the comb-frames S. The frames S are kept from swinging and from lateral and longitudinal movement by pins, tacks, or staples T attached to their sides or edges, as shown in Figs. 1 and 2. U is the honey-board, which, when the frames S are used, is placed upon the top of the box Q as a cover. When honey-boxes are used the board U is placed upon the top of the box L to support the said honey-boxes. The board U is slotted for the passage of the bees into the honey-boxes, which slots, when desired, are closed by slides V. W is the cap or cover of the hive, which is made with close sides and top, and which is made of such a size that its lower edge may rest upon the upper edge of the box L, upon the outer side of the box Q. If desired, the cap W may be made larger, so as to fit down over the upper part of the box L, its lower edges resting upon cleats attached to the sides of the box L to give more space in the upper part of the hive for honey-boxes. In the lower edge of the front side of the box L, directly opposite the forward end of the board K, is formed a notch for the ingress and egress of the bees. X is a plate or slide working upon guides along the lower edge of the front side of the box L. The middle part of the slide X, for a space equal to the breadth of the notch or passage, is made wide, so that it may fully cover and close the said passage. At one end of the slide X, for a distance equal to the breadth of the entrance, the lower edge is cut away, so as, when drawn opposite said entrance, to leave it fully open. At the other end of the slide X, for a distance equal to the breadth of the entrance to the hive, its lower edge is notched, said notches being made of such a size that the working-bees can pass through them freely, but which will not allow the drones or queen to pass through. The slide X thus constructed enables the entrance to be opened to any desired extent, or to be opened in such a way that only the working-bees can pass through. In the case of weak stock the slide X can be closed so as to allow but one bee to pass in or out at a time; or, in case of a vigorous attack of robbers, it can be entirely closed. By adjusting the slide X to retain the queen, swarming can be deferred, or after swarming effectually prevented. The slide X can be adjusted when the bee-keeper is to be temporarily absent, so that there can be no swarming in his absence.

Upon the days in which the young Italian queens are expected to mate, the slide X can be so adjusted as to retain all the black drones, and thus secure a pure fertilization. After the swarming season is over a herd of consuming drones is useless, and may be destroyed in the following manner: While the majority of the drones are out at play the slide X is adjusted so that only the working-bees can pass through. When the drones return in the evening they cannot enter the hive, and early the next morning they will be found clustered beneath the portico that shelters the entrance, and can be brushed into a pan of water and destroyed some six weeks sooner than if left to the mercy of the bees, thus saving several pounds of honey to each hive.

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

The pivoted triangular shaft, pivoted within the front side of the base, as and for the purpose described.

WIRT FRASOR CUNNINGHAM.

Witnesses:
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W. BOYD WILSON.