

(No Model.)

2 Sheets—Sheet 1.

J. H. HOWE.  
BEE HIVE.

No. 384,627.

Patented June 19, 1888.

Fig. 2.

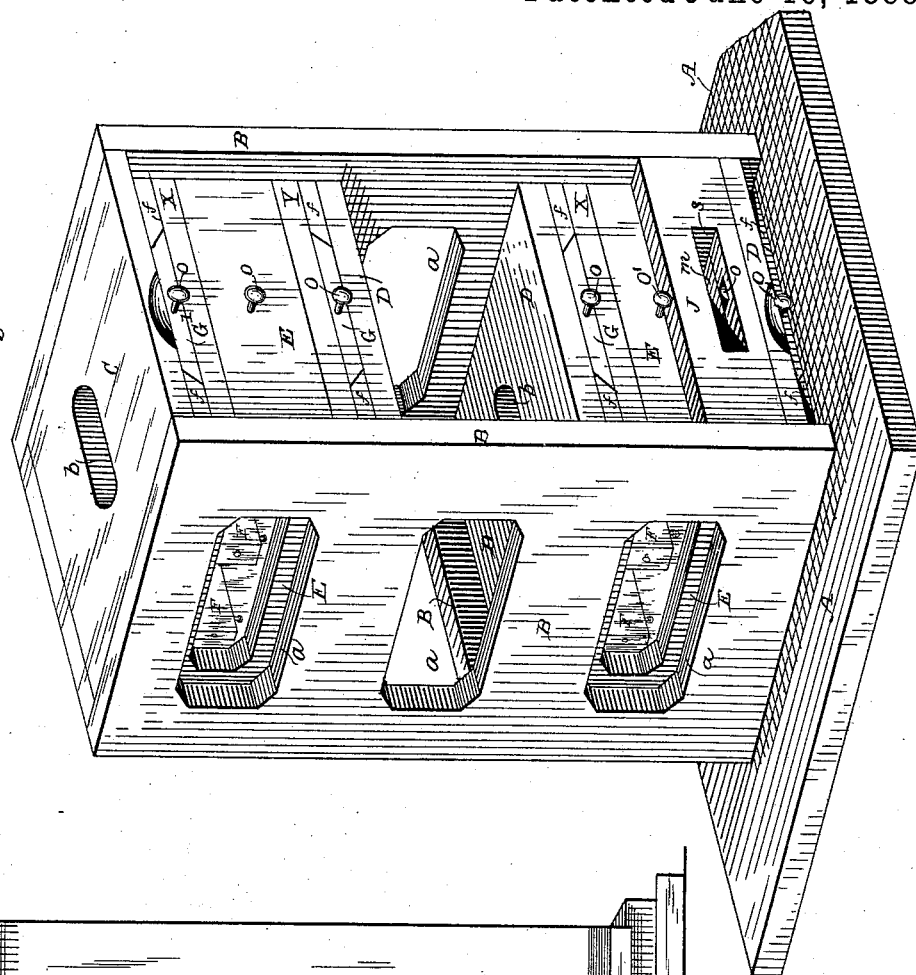
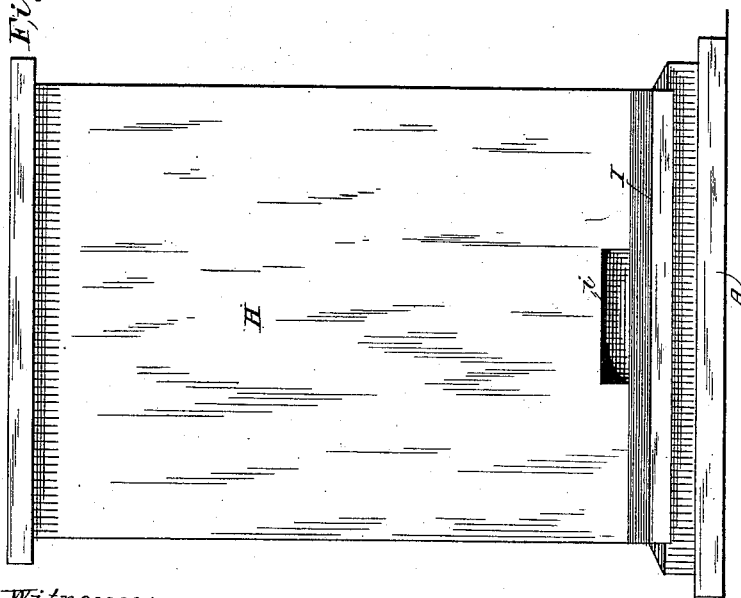


Fig. 1.



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## BEE-HIVE.

SPECIFICATION forming part of Letters Patent No. 384,627, dated June 19, 1888.

Application filed July 15, 1887. Serial No. 244,359. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES HENRY HOWE, a citizen of the United States, residing at Paintsville, in the county of Johnson and State of Kentucky, have invented certain new and useful Improvements in Bee-Hives; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This improved bee-hive is composed of a series of drawers or boxes which are inserted in tiers in a suitable open frame-work, each box or drawer being independently removable from the frame and each being provided with a slide at top and bottom, so that each may be brought into communication with the one below or above or entirely isolated. The open frame-work and the honey-boxes are inclosed by a double-walled removable casing, which excludes the light from the boxes and equalizes the temperature. The hive is illustrated in the accompanying drawings, in which—

Figure 1 is a front exterior view of the hive; Fig. 2, a perspective view of the hive, with the outer casing and one honey-box removed; Fig. 3, a central vertical section from front to back of the hive complete. Fig. 4 is a plan view, and Fig. 5 a side view, of one of the boxes removed.

The frame-work of the hive consists of a base, A, to which are fastened three vertical walls, B B, constituting the sides and back of the frame, and a top, C. The front is left open and unobstructed. Fixed between the side walls are a series of horizontal shelves, D D, corresponding in number with the number of honey-boxes, three, (the number shown) being a proper number. The lower shelf is raised a slight distance above the base A. Between each set of shelves the sides and back are provided with large openings *a a* to permit inspection of the boxes without removing the same. Each shelf, and also the base and top, has an elongated laterally-extending slot or aperture, *b*, at its center, the several apertures all being in the same vertical line.

E E are the honey-boxes, which are placed upon the several shelves, each fitting snugly

within the space allotted to it. As in most respects each box is the exact counterpart of the rest, the description of one will suffice for all. Each box is composed of a top, X, and bottom Y and four sides, the front side being closed, but the other three sides being fitted with glass, which, when the boxes are in the frame-work, are opposite to the openings *a a* therein, so that the interior of the boxes may be inspected without opening the boxes or removing them from the frame. In its interior each box is preferably (though not necessarily) provided with a removable cross-frame, F, the design of which is to offer a support for the honey-comb and so prevent, in as far as possible, the attaching of the comb to the sides of the box. This frame F rests upon a movable bottom, *c*, and supports a movable top, *d*, in the box. The movable bottoms *c* and tops *d* are interposed between the frame F and the permanent tops X and bottoms Y of the boxes, so as to facilitate the removal of the honey from the boxes. Each box has on its front side a knob, *o'*, for withdrawing it. Each box has in its top X and bottom Y an elongated laterally-extending slot or aperture, *f'*, at its center conforming in size and shape to the apertures *b b*. These apertures *f' f'* are so arranged that when the boxes are in position on the shelves the several apertures *f' f'* are all in line with the apertures *b b*, so that a continuous passage is formed through the several boxes. The movable bottoms and tops *c d* have also corresponding apertures, *e e*.

Each box is provided with two cut-off slides, G G, which slide between suitable ways or guides, *f f*, formed on the top and bottom of the box. Each slide is as long as the depth of the box, and is provided with a slot or aperture, *g*, which is adapted to be brought into coincidence with an aperture, *f'*, in the permanent top or bottom of the box to permit access to the interior of the box. Each slide has on the front side—that is, the windowless side of the box and the open side of the frame—an operating-knob, *o*. The backward movement of each slide is limited by its coming into contact with the wall of the frame. With the exception of the top slide of the top box, the apertures in all of the cut-off slides are so arranged that when the slides are pushed in to their far-

the limit the apertures *g g* will coincide with the apertures *f' f'* and *b b*, so that free communication is allowed between the several boxes. The top slide, *G'*, of the top box when so pushed in closes the top aperture in said box and also the one in the top *C* of the frame-work *B*. Between the lowest shelf, *D*, and the base *A* of the frame a similarly-apertured slide is located, and this also when pushed in closes the aperture in the base *A* and permits no communication through it to the honey-boxes.

*H* is the outer inclosing-casing, having an open bottom, so that it may be placed over the frame-work. The side walls of the outer inclosing-casing are double, as shown, and may be and preferably are filled with sawdust, excelsior, or similar light porous packing, so as to render the walls non-conductors of heat. In this manner the temperature within the hive will be equalized and the bees will not be subjected to sudden changes of heat and cold. The casing fits closely over the frame-work containing the boxes, and can only be placed over the same when all the slides *G G'* are pushed in as far as they will go. The casing has in its top an aperture, *h*, similar to the apertures *b, c, f'*, and *g*, and so located in the top that when the top is in position over the boxes, &c., it will be in line with the other apertures. As long, however, as the slide *G'* is in place in the top box, this aperture *h* will not afford communication into the hive. The bees obtain entrance into the hive through a slotted aperture, *i*, near the bottom of the casing at its front, and a horizontal shelf, *I*, attached to the exterior of the casing on a level with said aperture offers a foot-hold for the bees to alight on preparatory to entering through said aperture. This aperture communicates directly with a slotted aperture, *m*, in the lower part of the front side of the lowest box, which is the only box provided with a front aperture. Having gained access to this box, the bees have free communication with those above.

There is necessarily a space between the fronts of the boxes and the inner surface of the front of the casing to allow room for the knobs *o*. To prevent the bees entering this space, and to oblige them to enter the boxes, a removable filling-strip, *J*, is placed between the front side of the lower part of the lower box and the casing, this strip having an aperture, *s*, establishing free communication between the apertures *i m*.

Since the casing can only be put in place when the cut-off slides are moved in as far as possible, it follows that when it is in place the hive is in proper working order.

While the number of boxes shown is three, there is no necessary limitation to that number. There may be two or any larger number. In any case the lowest box or entrance-chamber is the brood-chamber, and those above it are the honey boxes or chambers.

To drive out the bees, so as to take the honey, the casing is first removed and the upper slide, *G'*, of the top box is moved, so as to establish

communication into the upper box through the aperture *b* in the top of the frame-work. Smoke is then introduced through this aperture, driving out all the bees into the box immediately below. When all are driven out, the upper slide of the intermediate box (into which the bees have been driven) is drawn partly, so as to close the aperture in the upper part of the said intermediate box. The uppermost box can then be removed. Continuing this operation, all boxes containing honey can be removed. Empty boxes are inserted to take the place of those removed. The bees can then be transferred into the empty boxes by a reversal of the smoking process.

To feed the bees, the front slot, *m*, of the lowest or brood box is closed by reversing the filling-strip *J*. The bottom slide (between the lowest shelf and the base *A*) is then removed, so as to open the slot in the base and establish communication therethrough with the boxes. Smoke is then introduced through this aperture, driving the bees out of the lowest or brood box into those above. The lower slide of the honey-box immediately above is then closed, confining the bees. The lowest or brood box is then removed and the food placed therein, and it (or a new box with food in it) is then replaced in the frame. The bottom slide is then closed and the slide of the honey-box above is opened, admitting the bees to the brood-box containing the food.

In a hive thus constructed the honey can be removed without destroying the bees, and all the operations of feeding, &c., can be performed without permitting the escape of any of the bees.

I claim as my invention—

In a bee-hive, a suitable supporting frame-work provided with apertures in its base and top and a series of boxes or drawers removably placed therein one over the other, each of said boxes or drawers having apertures in its top and bottom, said apertures being so located that when said boxes are in position in the frame-work they may communicate with each other and also with the exterior of the hive through said apertures in the base and top of the frame-work, and separate cut-off slides for the apertures in the base of the hive and for the top and bottom apertures in each box, said slides being so constructed that when pushed in as far as possible the apertures in the base and top of the frame-work are closed, but all the apertures between the boxes are opened, so that the boxes are in communication with each other, in combination with an inclosing-casing which is placed over the frame-work and boxes, which casing can only be so placed when all the said slides are pushed in as far as possible, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES HENRY HOWE.

Witnesses:

W. J. WILLIAMS,  
E. B. BUFFINGTON.