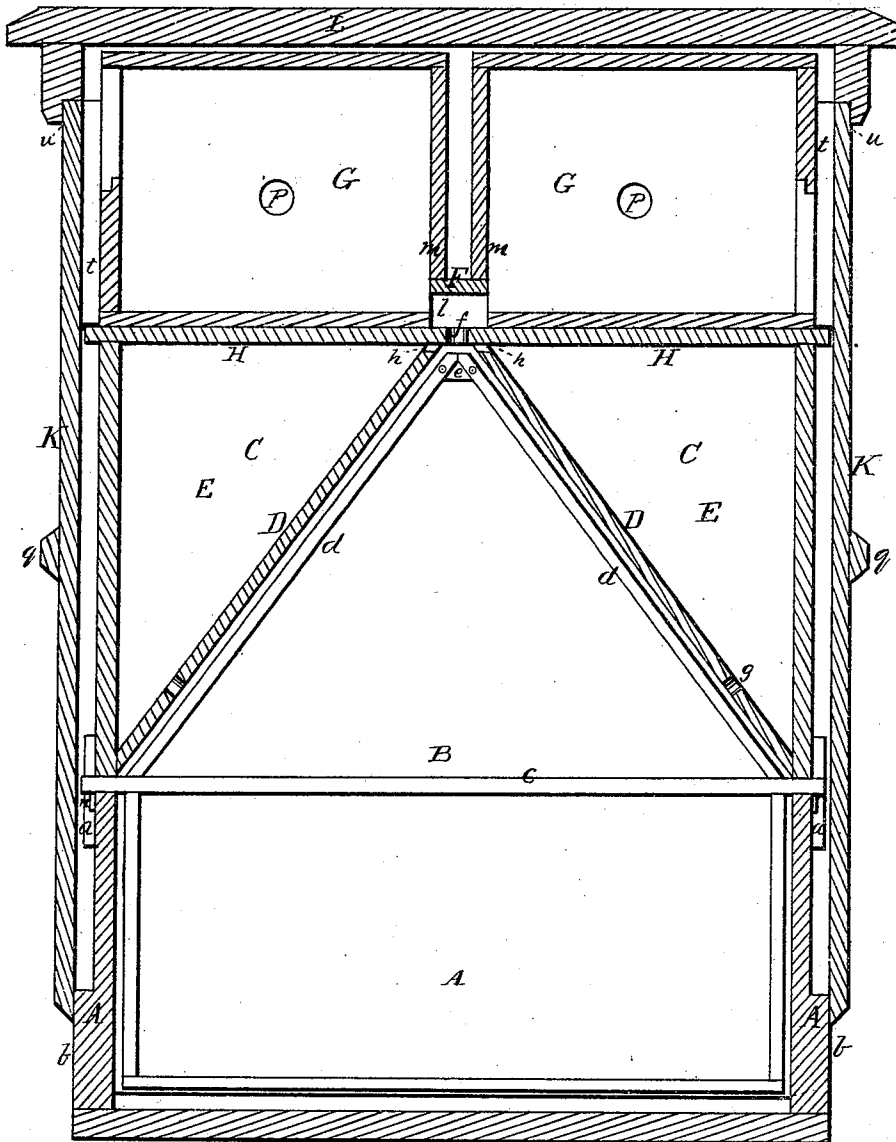


O. COLVIN.
BEE-HIVE.

No. 170,237.

Patented Nov. 23, 1875.

Fig. 1.



WITNESSES

Robert Everett,
George E. Upham.

INVENTOR

Orson Colvin,
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Fig. 2.

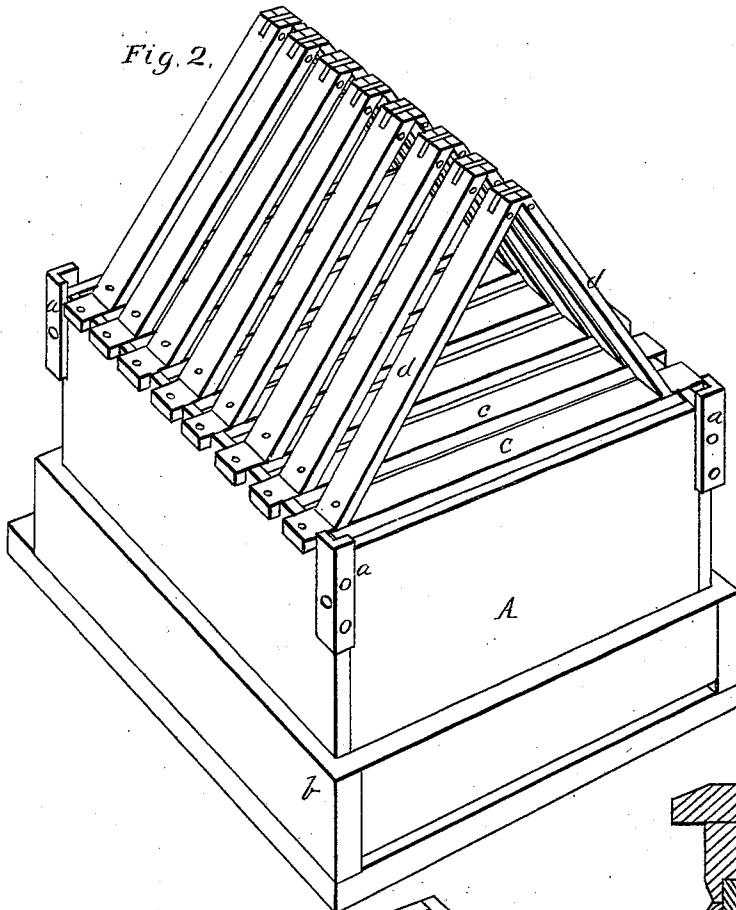


Fig. 3.

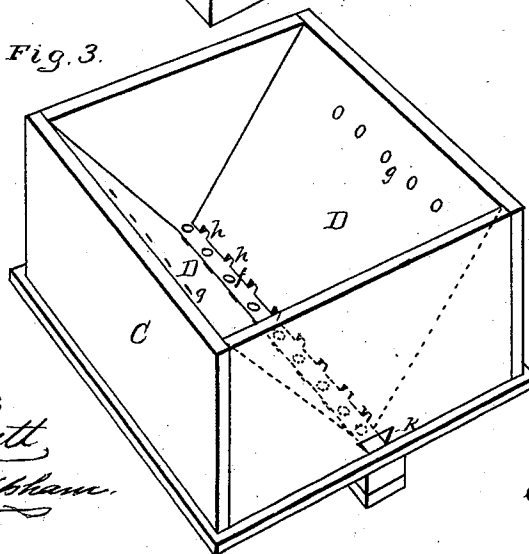
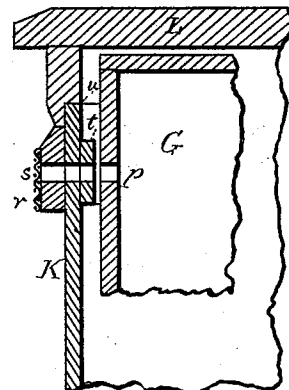


Fig. 4.



WITNESSES

Robert Everett
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UNITED STATES PATENT OFFICE

ORSON COLVIN, OF VICKSBURG, ASSIGNOR, BY MESNE ASSIGNMENTS, OF ONE-HALF HIS RIGHT TO JOHN L. HAWKINS, OF PORTAGE, MICHIGAN.

IMPROVEMENT IN BEE-HIVES.

Specification forming part of Letters Patent No. **170,237**, dated November 23, 1875; application filed May 22, 1875.

To all whom it may concern:

Be it known that I, ORSON COLVIN, of Vicksburg, in the county of Kalamazoo and State of Michigan, have invented a new and valuable Improvement in Bee-Hives; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a vertical central sectional view of my bee-hive; and Figs. 2, 3, and 4 are detail views thereof.

This invention has relation to bee-hives; and it consists in the construction and novel arrangement of the base wall, the chambered inner section, and the rectangular sleeve-wall supported by the corners of said inner section; in the form and construction of the comb-frames, and the chambered inner section which covers them; in the raised bridge on the top of said inner section, and in the formation of the openings into the honey-boxes corresponding to said raised bridge.

In the accompanying drawings, the letter A designates the base of the hive, whereof the wall is vertical inside, and provided on the outside with a plinth or rabbet, *b*, around its lower portion, and with corner-guards *a*, projecting a little above the upper edge of said wall. The upper edge referred to is rectangularly notched on two sides to receive the bearing ends of the long central ties of the comb-frames, which project beyond the wall for a distance, which is slightly less than the thickness of the corner-guard or of the base-plinth. The rectangular bearing-notches are designed to be as wide as the tie, and serve to keep the frame from vibrating, holding it in a steady position parallel with its fellows. B represents the comb-frames, which are movable. Each frame consists of a middle horizontal supporting-tie, *e*, to which are secured, below, the vertical bars of the rectangular or lower portion of the frame, and above the inclined bars *d* of the upper or triangular portion. When these bars *d* are joined together at the apex of this portion of the frame a saw-

kerf is cut through the ends, and a short tenon-board, *e*, let into the kerfed ends and secured therein, thereby making the apex strong, and preserving strictly the angular relation of the bars *d*. Both the inclined bar and the vertical bar of the same side, above and below the tie, may be secured thereto with a single brad. At the ends of the tie small spurs *n* are employed, which form stops to prevent the frame from moving endwise in either direction after the ends of the supporting-tie are seated in the notches of the wall. Upon the edge of the wall of the base A rests the inner chambered section C. This consists of four vertical walls and a top secured together, and has inclined inside walls D, which extend upward from the edges over the notches of the base wall to near the central line of the top, said central line being left free for the perforations *f*, leading to the chamber above the section C. It will, therefore, appear that on the inside the section C conforms to the general form of the series of angular upper portions of the comb-frames, having two vertical walls and two inclined walls leading to the perforations *f*. Between the inclined walls D and the adjacent vertical walls of the section are air-chambers E, which serve to protect the bee-chamber from too great heat. Perforations *g* are made near the lower edge of each inclined wall, and notched passages *h* are made in the upper edge where it joins the top. Through one of the end walls of the section an opening, *k*, leading into the upper part of the angular space between the inclined walls, is made for the ventilation of the comb-chamber. The corners, where the vertical walls of this section join, are seated within the angular projections of the corner-guards *a*. On the upper surface of the top of the section C are arranged the end blocks *l* and the central block *l'*, upon which is secured the bridge F, which is located in the direction of and over the line of perforations *f*, leading from the angular chamber of the section C. The space under this bridge and between the blocks is wide enough for the bees to turn about in, and affords, therefore, a roomy passage to the honey-boxes. G G indicate the honey-boxes, which rest on the top of section C. These are of or-

dinary construction, except that they have the glass opening at the upper portion of one of the outside walls, and the entrance-opening in the lower part of the wall opposite. In order to form this entrance-opening the wall of the inside terminates below at a height equal to that of the bridge F, and when the box is located in place, the shortened wall *m* rests on the bridge, and the opening into the box fits to and corresponds with the side opening of the passage under the bridge. In the end wall of the box is made the ventilating-aperture *p*, which is located opposite apertures in the exterior wall or case, which are provided with wire gratings. The top H of the section C projects beyond the vertical wall to the distance of the thickness of the corner-guards *a*. K indicates the outer or incasing sleeve of the hive. This is rectangular in form, having four vertical walls, and is of such diameter that it will just slip over the projecting top H of the inner section C, the corner-guards *a*, and the plinth. Outside, the sleeve K is provided with a bead, *q*, at about its middle portion, which serves as a handle, whereby it may be lifted. It is also provided with buttons *r*, pivoted at one end, and secured by a screw at the other. These buttons are perforated to register with apertures through the wall of the sleeve opposite the perforations in the ends of the honey-boxes. Over the perforations in the buttons are secured pieces of wire-cloth *s*. Within the sleeve K is provided with guide-blocks or guards *t*, surrounding the perforations through its wall, and corner-stops *v*, located in the corners near the upper end of the sleeve, and adapted to rest on the corners of the projecting top H of section C, and thereby support the said sleeve. L represents the top of the hive, having its sides rabbeted at *u*, and serving to cover in the honey-boxes.

It will be observed that the construction is such that the sleeve K is kept away from the base chamber-wall, the wall of the inner chamber C and the honey-boxes leaving a ventilating-space between these portions of the hive

and the sleeve. The hive may be readily taken apart without disarranging its different sections.

When desirable, the sleeve and top may be removed, leaving the hive-sections in form and connected.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the rabbeted base-section A of a bee-hive, of the inner section C, having projecting top H supported thereon, and the incasing-sleeve K, having the corner-stops *t* resting on said projecting top H, substantially as specified.

2. The inner section C, having the angular air-chambers, in combination with the comb-frames, having the bars *d* inclined toward each other in angular form, substantially as specified.

3. The inner section C, having the angular air-chambers bounded on the inside by the perforated inclined walls, the passages through the top of the section between said inclined walls, and the bridge over said passages, substantially as specified.

4. The combination, with the bridge above the passages through the top H, of the honey-boxes having the lateral openings, and fitting against said bridge, substantially as specified.

5. The combination, with the lower or base section A and the inner section C, of the corner-guards *a* and the incasing-sleeve K, substantially as specified.

6. The bee-chamber top section C, having air-chambers bounded by inclined sides, having perforations through their lower portions and at their upper edges, and the air-opening *k* through the vertical wall of said bee-chamber in the angular space between said air-chambers, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

ORSON COLVIN.

Witnesses:

MOTT HILL,

GEO. A. SMALLEY.