3 Sheets—Sheet 1.

N. M. BARNES.

Bee-Hive.

No. 205,339. **Patented June 25. 1878.**

Fig. 1.

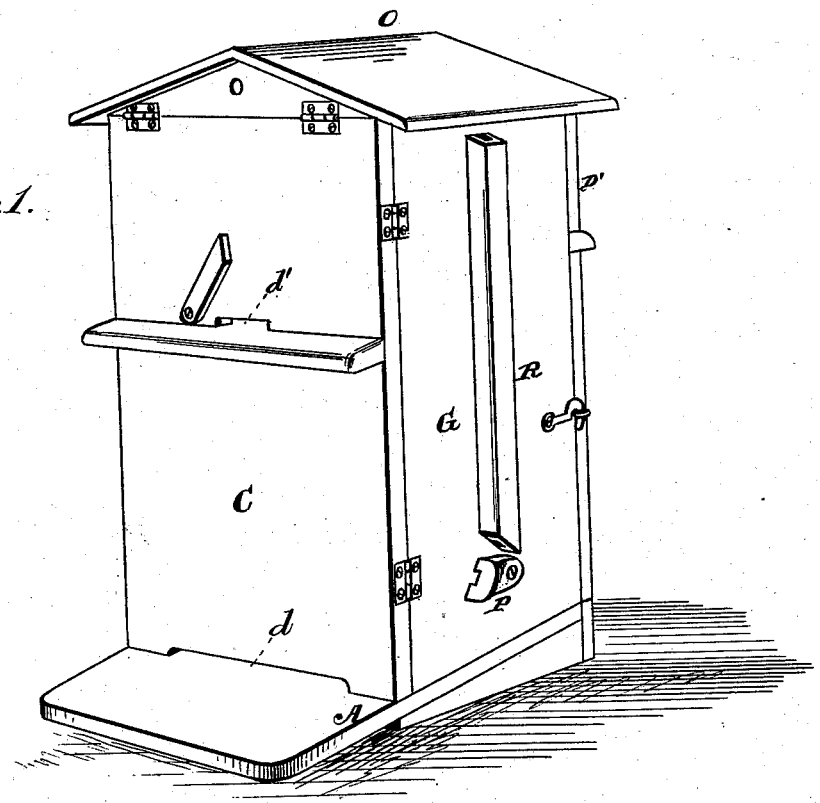
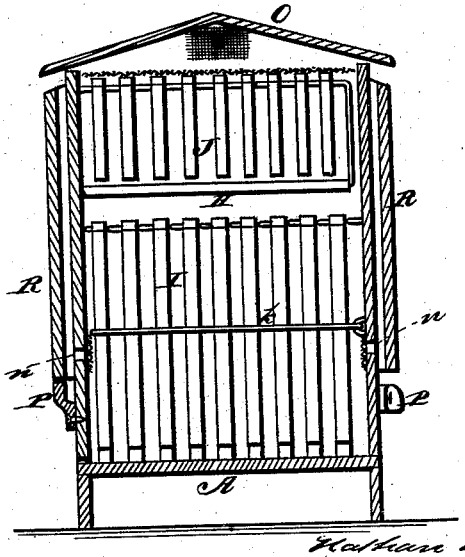


Fig. 2.



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3 Sheets—Sheet 2.

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Fig. 3.

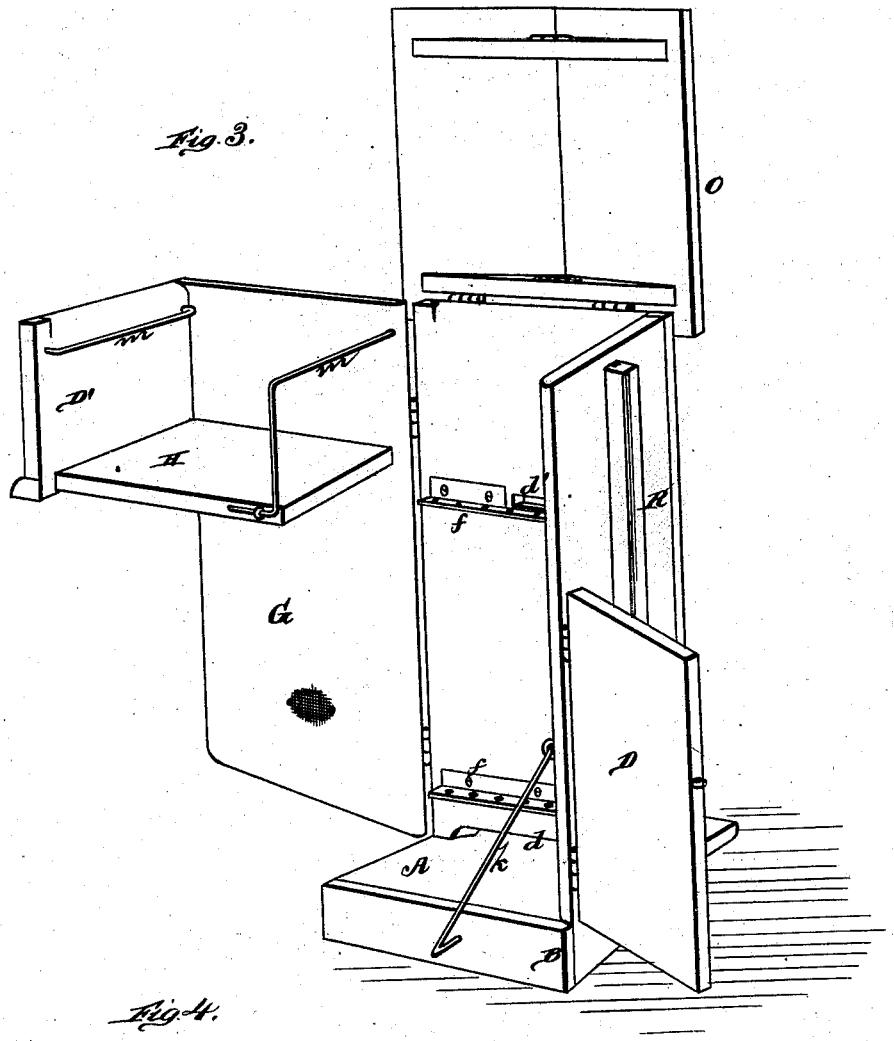


Fig. 4.

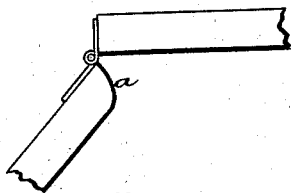
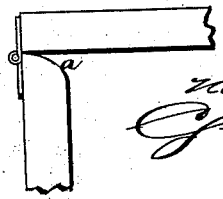


Fig. 5.



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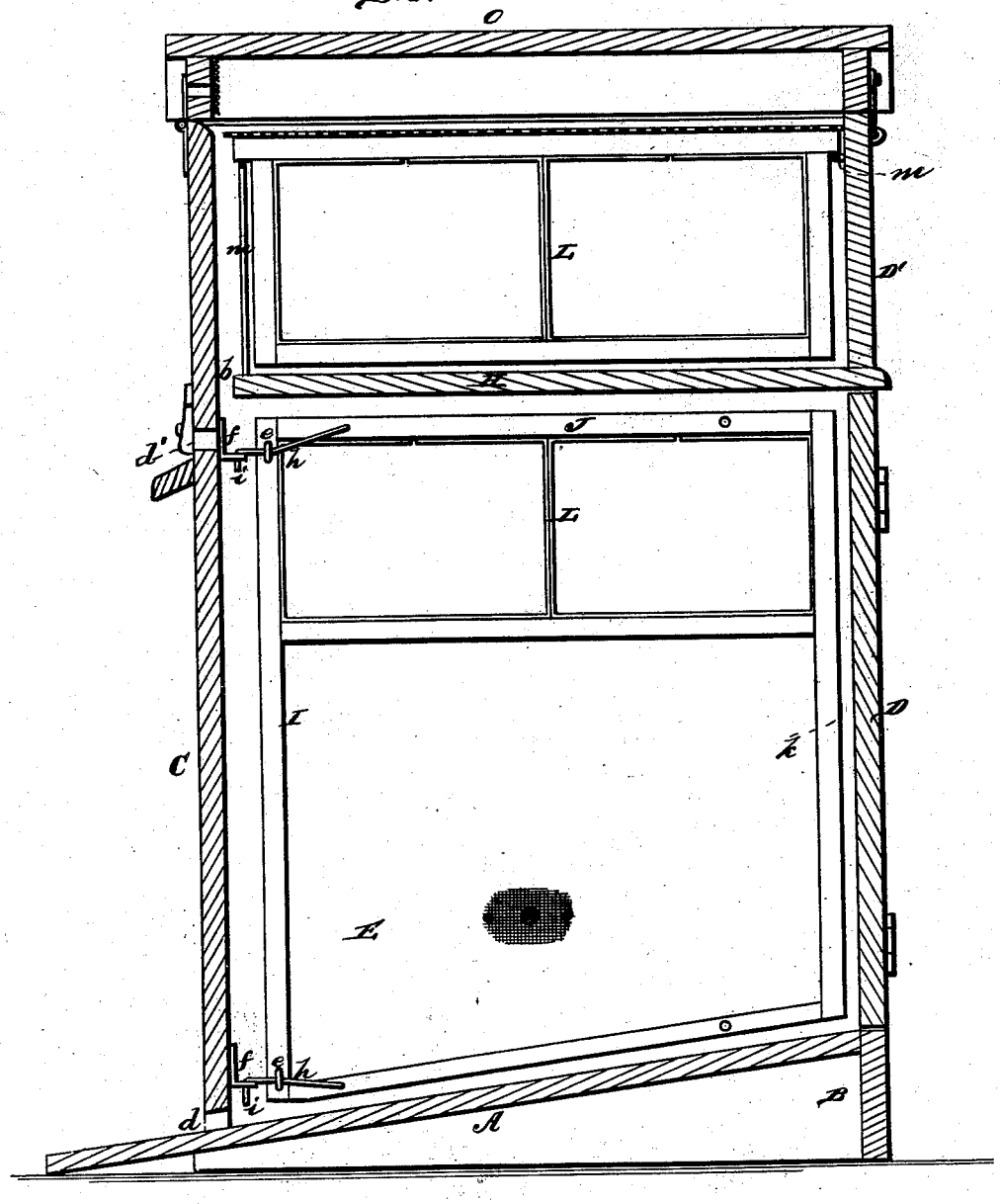
Bee-Hive.

No. 205,339. **Patented June 25, 1878.**

Fig. 6.



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UNITED STATES PATENT OFFICE.

NATHAN M. BARNES, OF LA FAYETTE, INDIANA.

IMPROVEMENT IN BEE-HIVES.

Specification forming part of Letters Patent No. **205,339**, dated June 25, 1878; application filed May 18, 1878.

To all whom it may concern:

Be it known that I, NATHAN M. BARNES, of La Fayette, in the county of Tippecanoe and State of Indiana, 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 drawings is a representation of a perspective view of my bee-hive. Fig. 2 is a transverse vertical section. Fig. 3 is a perspective view of my bee-hive open. Figs. 4 and 5 are views showing rounded corners. Fig. 6 is a longitudinal vertical central section thereof.

My invention relates to bee-hives; and it consists in the construction and combination of parts, as will be hereinafter more fully set forth.

The annexed drawing, to which reference is made, fully illustrates my invention.

A represents the bottom of the hive, made slightly inclined forward by its rear end being supported on a cleat, B. The front C and one side, E, are secured on the bottom A. The other side, G, is hung to the front C by suitable hinges, and the upper part D′ of the back is nailed to this side G, and the honey-board H, which forms the bottom of the top box, is fastened to the side G and back section D′, forming, when complete, with the other side and front, the complete upper story. D is the back door, connected by hinges to the side E, thus completing the two chambers of the hive.

The hive thus constructed, it will be seen, is opened in the side and back, whereby the bee-keeper avoids disturbing the bees which are going in and out, as would be the case with hives opening in front. It also enables the operator to readily get at the frames to remove or replace them.

O represents the roof or cap of the hive, hinged to the front C, as shown. All the hinged parts of the hive are, when closed, fastened by hooks or other similar means. The edges to which the doors, and also the edges upon which the doors and top section of back, close are rounded, as shown at *a*. This is also the case with the edges against which the cap closes, or parts of the cap itself.

Where thousands of bees are in a hive together, they habitually make room for each other in passing and repassing; hence it is natural for them to give way to pressure, so that in closing the hive, as the rounded edge closes gradually upon them, they give way, and the hive is closed without injuring a single bee, whereas if it were a square corner, or even a bevel, they would be liable to be caught, not having time to make room.

A space, as shown at *b*, is left between the edges of the honey-board H, where it closes with the front C and side E, which space affords a passage for the bees from the brood-chamber to the upper or honey chamber, and also prevents the killing of bees in closing the hive.

The hive is provided with the usual entrance *d* at the bottom, and also with a second entrance, *d′*, about an inch below the bottom or honey-board H of the upper box, which, in a large colony, is very useful, as the bees can enter at the top and go down as well as up, and into the top box. It is placed below the bottom H of the top box, because the bees are then clustered, and always handy to prevent the entrance of moth or robbers, while if it was in the top box and above the middle board H, it would not be used until the lower story had been filled, and then the moth would have the top box filled with their brood, thus giving them a foothold in the colony.

I I represent the comb-frames, which are provided at the front, at top and bottom, with wires *h h*, which run somewhat across the corners, and have their inner ends fastened in the sides of the top and bottom bars of the frames, and the wires are held to the front bars of the frames by staples *e e*. The outer or front ends of the wires form hooks *i i*, which are inserted in perforated plates *f f*, fastened to the inner side of the front C. These wires thus support the frames, and also act as braces for strengthening them. They form hinges on which the frames can be swung apart when the hive is opened. The frames are held together by means of a wire latch or arm, *k*, at the rear, as shown.

J J represent the frames in the upper or

honey box, and these frames are hung upon wires *m m*, which leave no corners for moths to harbor in, as a wooden ledge would do, and by their small surface call for less labor from the bees in waxing it over than if it were a wooden strip. The frames I and J, or any of them, are provided with interior frames or sections L, which may be made of pasteboard or thin wood shavings or veneers, or other suitable light material that can be readily bent into shape. The size of these sections may be regulated so as to contain one or more pounds of honey, at pleasure of the operator. These sections being made of paper or thin wood veneers are very light, and their weight will not be considered in selling the honey.

By uniting the edges of the piece forming the section at any point on the top side the bees wax it fast at beginning of work, thus obviating the necessity of previously fastening the ends together.

On the outside of each side of the hive is a ventilating-shaft, R, open at both ends, and provided at the lower end with a slide or valve, P, for closing the same. Near the bottom of each shaft R is an opening, *n*, into the hive, which opening is covered either on the inside or outside with perforated sheet metal or wire-gauze. By this means direct ventilation can be obtained for summer by opening the bottom valves P. In winter the hive may be covered nearly up to the top with chaff or sawdust to preserve thebees from freezing, and, the bottom of the ventilating columns or shafts being shut, the air enters the top of the column and is slightly warmed in its passage downward, so as not to strike the bees cold.

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

1. The body of the hive composed of the bottom A, with front C and side E secured thereto, the side G hinged to the front and provided with the back section D′ and honey-board H, and the back door D hinged to the side E, all substantially as and for the purposes set forth.

2. The honey-board H, secured to the hinged side G and back section D′, and forming, when the hive is closed, bee-spaces *b* along the opposite two edges, as herein set forth.

3. In a bee-hive, the rounded edges *a* at the joints where the hinged parts are closed, for the purposes set forth.

4. In a bee-hive, one or more outside ventilating-shafts communicating near the bottom with the interior of the hive, and provided at the lower end with a slide or valve, substantially as and for the purposes set forth.

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

NATHAN MARCUS BARNES.

Witnesses:
CHARLES GROENENDYKE,
LA FRANK R. TEAD.