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WILLIAM P. SHORTRIDGE.
Improvement in Bee Hives.

No. 118,822.

Patented Sep, 12, 1871.

Figure 1.

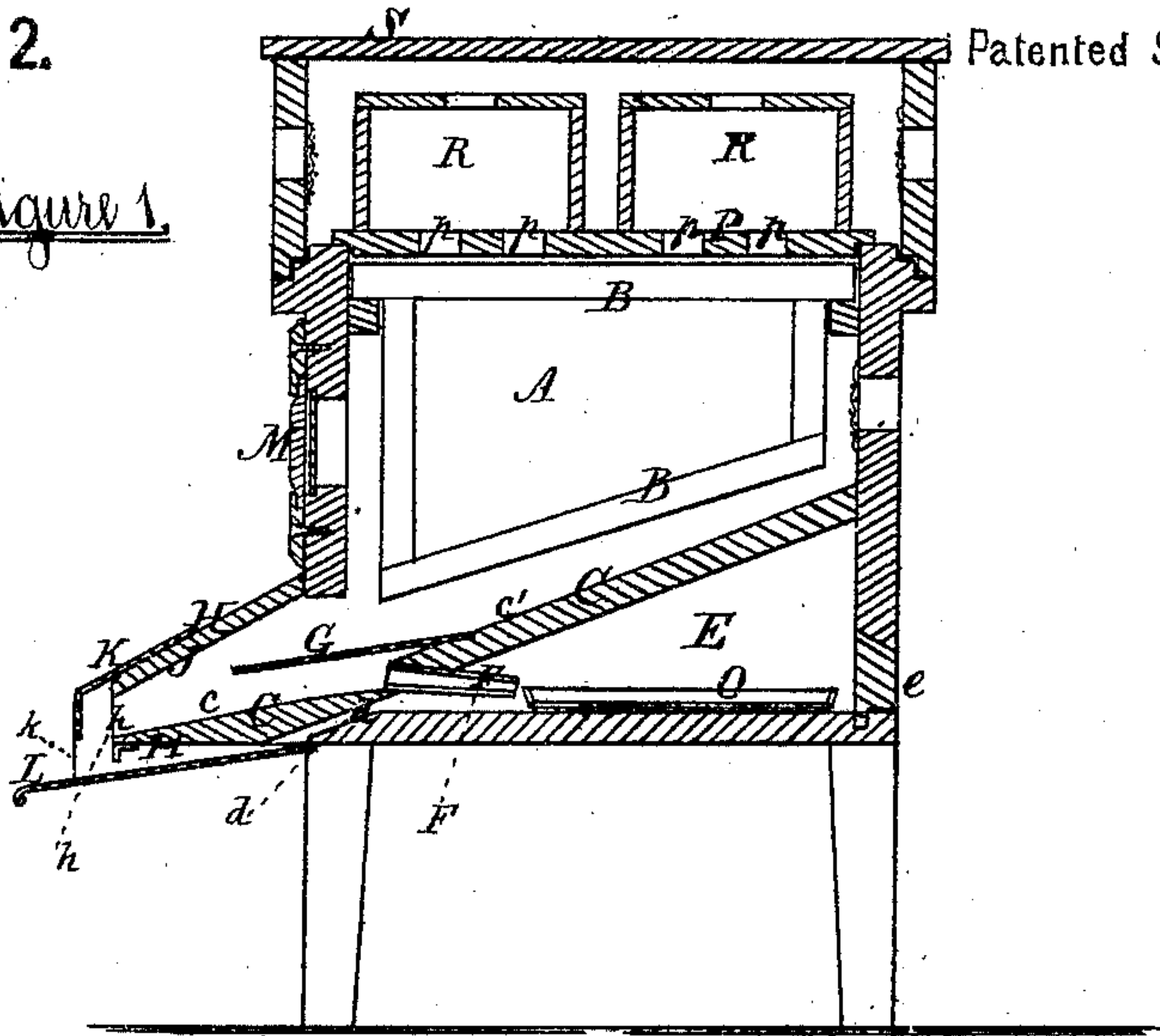


Figure 2.

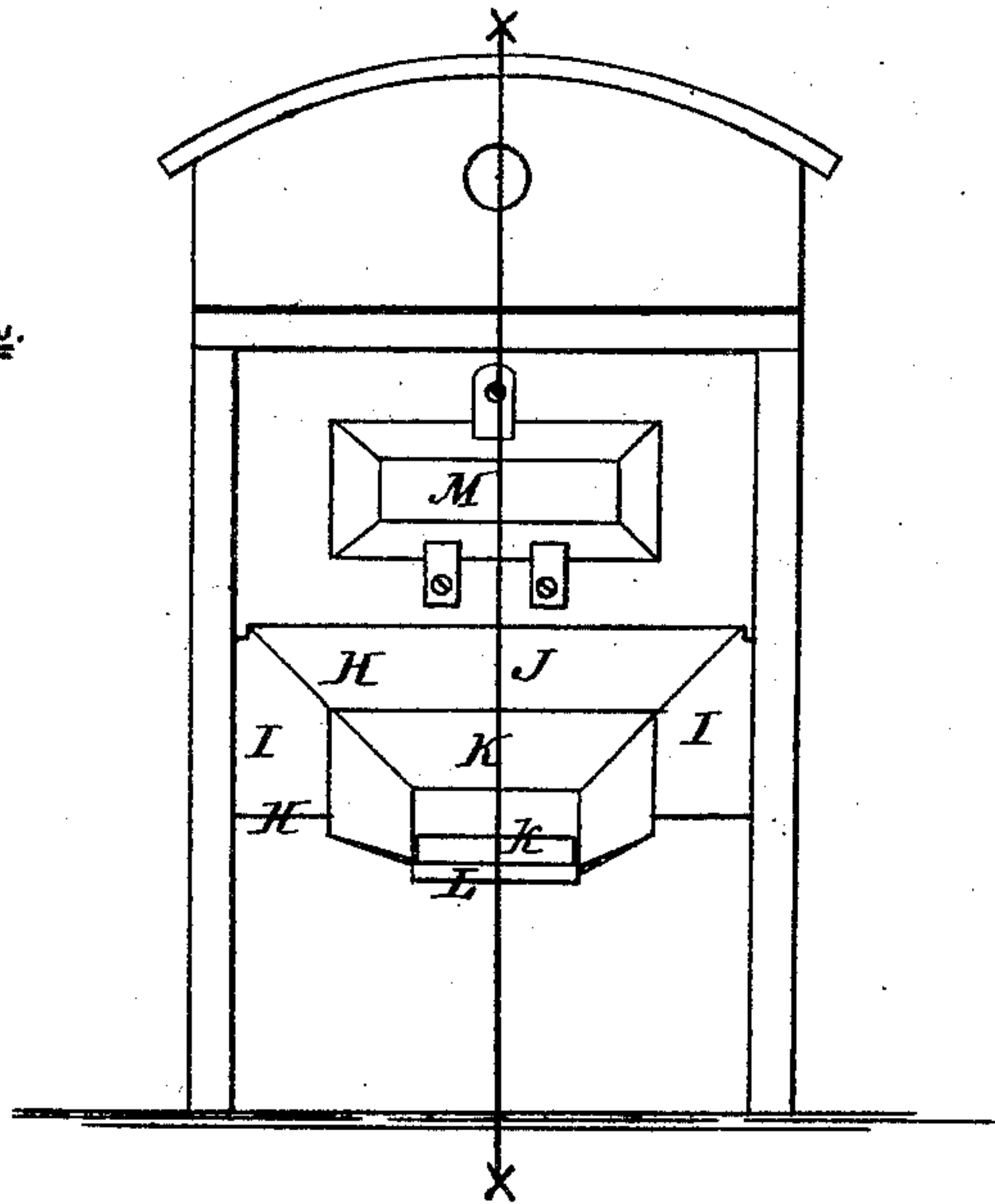
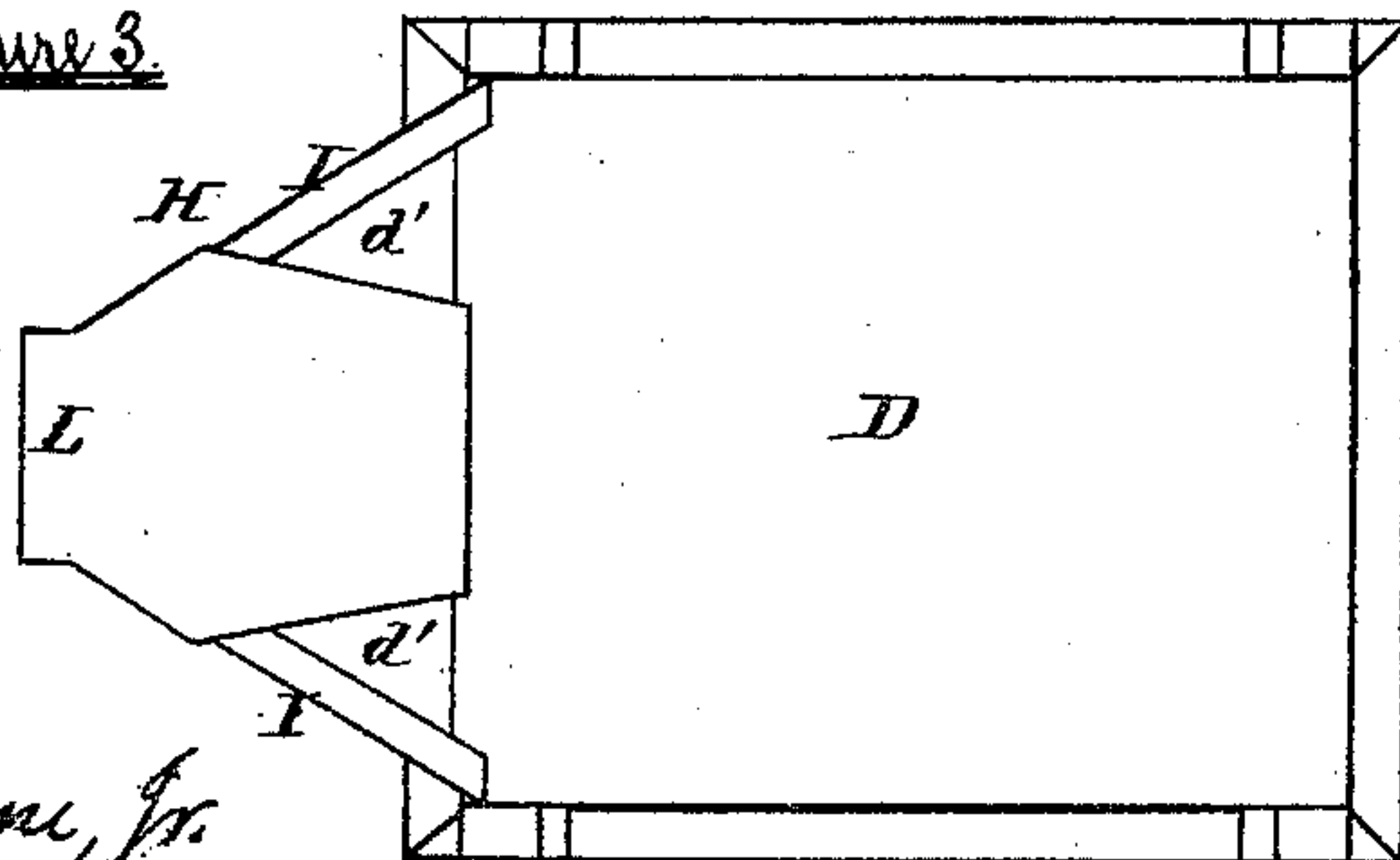


Figure 3.



Witnesses:

Lewis B. Wayne, Jr.

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Inventor:

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UNITED STATES PATENT OFFICE.

WILLIAM P. SHORTRIDGE, OF EASTON, MISSOURI.

IMPROVEMENT IN BEE-HIVES.

Specification forming part of Letters Patent No. 118,822, dated September 12, 1871.

To all whom it may concern:

Be it known that I, WILLIAM P. SHORTRIDGE, of Easton, in the county of Buchanan and State of Missouri, have invented a new and useful Improvement in Bee-Hives, of which the following is a specification:

My invention consists in the construction of the lower part of a bee-hive in such a manner that moth-flies or millers cannot possibly enter the comb-chamber, as hereinafter more fully described.

In the drawing, Figure 1 is a longitudinal vertical section through my improved bee-hive in line *xx*, Fig. 2. Fig. 2 is a front elevation, and Fig. 3 an under-side or bottom view of the same.

A is the comb-chamber of my improved hive, in which the comb-frames B are suitably suspended. C is the bottom of this chamber, which inclines downwardly from the rear to the front and forms, with the bottom D of the hive, a second chamber, E, having an inclined roof. The bottom C of chamber A extends forwardly beyond the bottom D, which latter is chamfered off at its forward upper edge to form an opening, *d*, on the under side of the hive. On its forward upper surface the bottom C is recessed so as to form steps *c c'*, from the latter of which tubes F extend backwardly and downwardly into the chamber E, while they are covered by a metal plate, G, which extends forwardly from step *c'* to very near the opening *h* of the spout H, which latter is formed by the bottom C, the side pieces I, and the cover J. K is a cover over the spout H and suitably attached to the same, having a lighting-board, L, at its mouth, *k*. On the upper side of bottom C, at its front edge, is secured a downwardly-projecting piece, G, which serves to prevent the millers or moths from crawling up on the inclined bottom C. The lighting-board L partially covers the opening *d*, leaving only one opening, *d'*, on each side of the cover on the under side of the hive. M is the usual slide over a glass window through which to observe the interior of the comb-chamber A. A pan, O, filled with thin molasses, is placed in the chamber E. The comb-frames B and the comb-chamber A are covered by a division-plate, P, provided with openings *p* which extend across the frames B, and thus afford communication between each of the spaces between the comb-frames and the honey-boxes R, which rest on the division-plate P, and

are covered by the top S, which latter closes the entire upper part of the hive.

The millers or moth-flies have no way to enter the hive except through the openings *d'* on each side of the spout H, or over the lighting-board L. In either case they pass under the piece N, into the chamber E, and into the pan O, filled with molasses, and there find their destruction. If they try to effect their entrance on the lighting-board, which is also the entrance for the bees, the latter will repel them from this board, or the millers will escape through the opening *d* into the chamber E. Should, however, any of the moth-flies penetrate further up the spout over the piece G, they will again meet a strong colony of bees on an inclined plane, which will either force them out of the spout again, or they will be driven into the space under the metal plate G, from which place they are driven through tubes F into the chamber E and molasses-pan O; so that no matter how they enter the spout, they must get into the chamber E. This chamber is provided with a sliding door, *e*, at the rear, through which the pan and flies may be taken out and the chamber cleaned. There are four entrances to the chamber E, viz.: the two openings *d'* on each side of the spout H; the opening *d* under the bottom C; and the tubes F under the metal plate G; and thus moth-flies are certainly destroyed through whichever opening they may enter, as they invariably must enter the chamber E, and cannot thus deposit their eggs anywhere in the hive.

When it is desired to introduce bees in such hive, the cover K of the spout may be removed; and in the same manner access can be had to the tubes F for the purpose of cleaning them.

One of the great advantages of my improvement is that it can be readily attached to any square bee-hives now in use, as the inclined additional bottom C forms the principal part of the same. The lower end of the comb-frames must, of course, be cut down or altered to conform to the inclination of the bottom C. The spout-cover K, with its lighting-board L, can, of course, be made in one piece, so that the attachment of my improvement to any old square hive will require but very little labor or trouble.

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

1. The openings *d d'*, leading to the chamber

E, when formed by the inclined bottom C, the hive-bottom D, and the spout-cover K, substantially as described.

2. The detachable cover K, provided with a lighting-board, L, in combination with the independent inclined bottom C, to form the several channels of ingress or egress, and arranged to be attached to any common square bee-hive, substantially as described.

3. The arrangement of the inclined bottom C

with its steps *c c'*, hive-bottom D, chamber E, tubes F, metal plate G, covers J and K, the latter provided with the lighting-board L, openings *d d'*, and pan O, all arranged to operate substantially as described.

WILLIAM P. SHORTRIDGE.

Witnesses:

WILLIAM F. FORBIS,
JAMES B. LEFTWICH.

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