

(Model.)

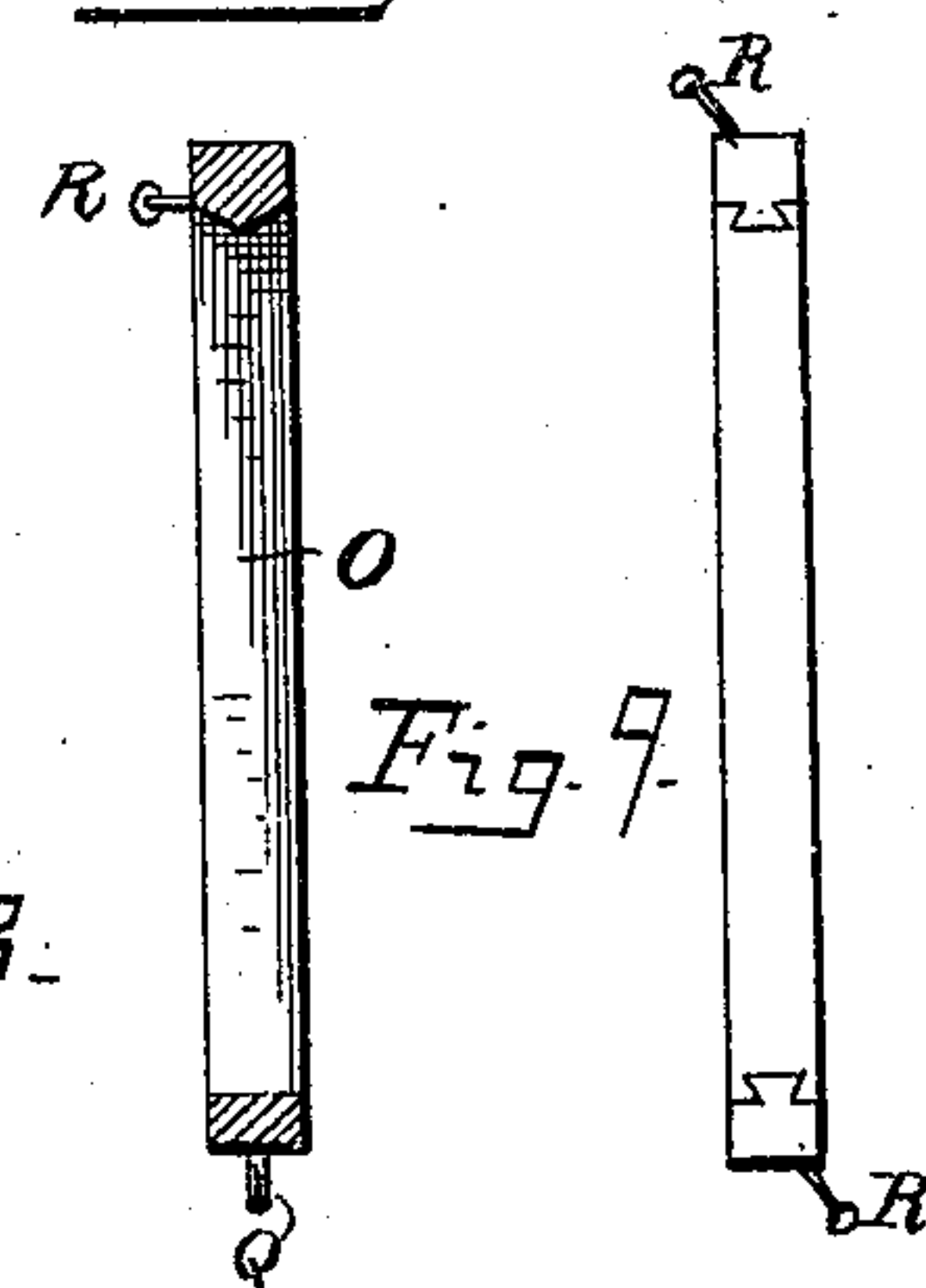
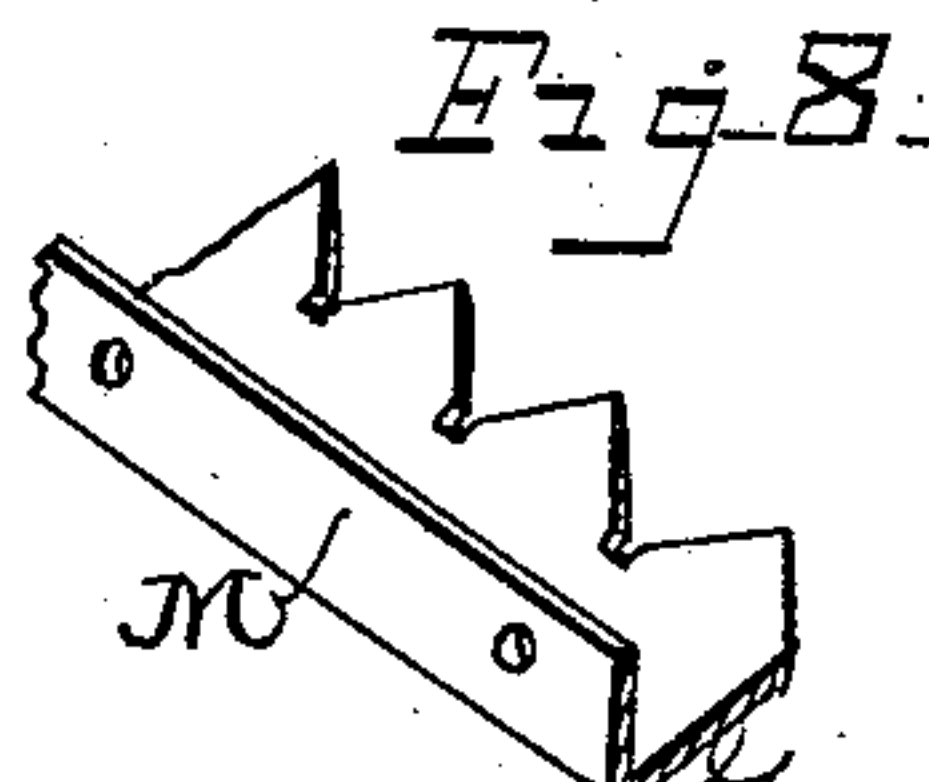
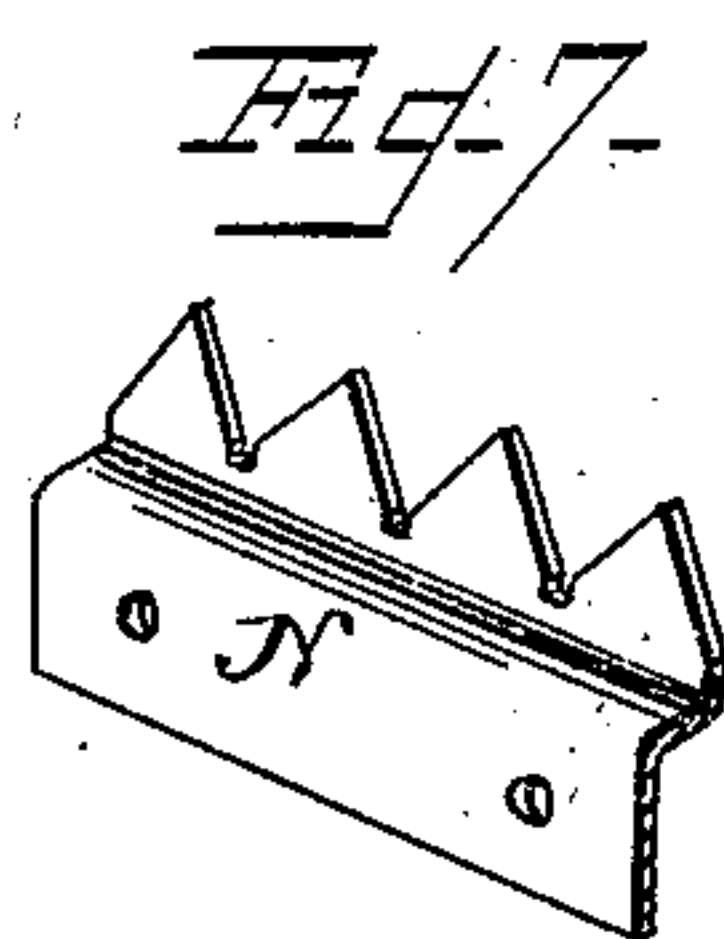
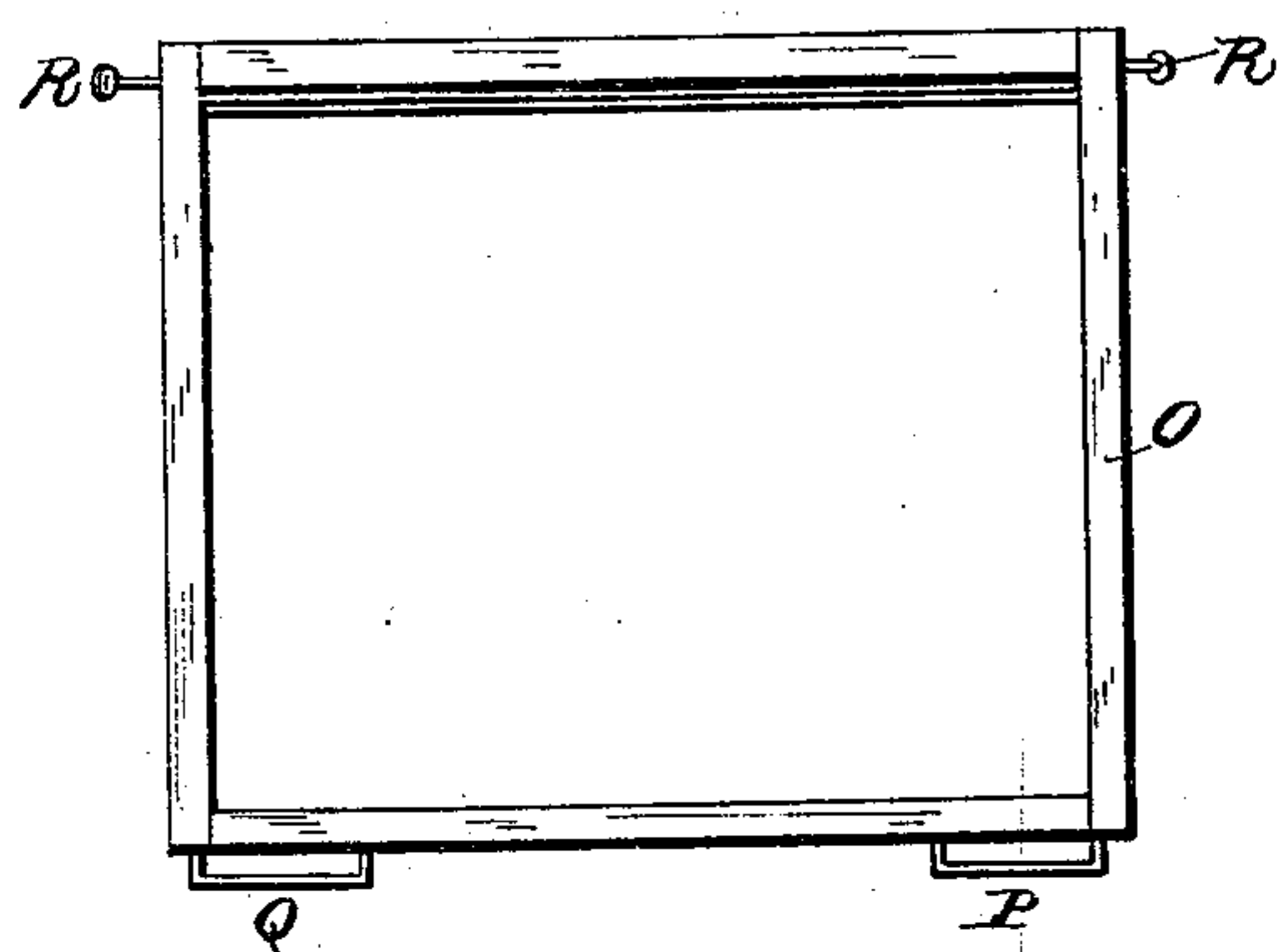
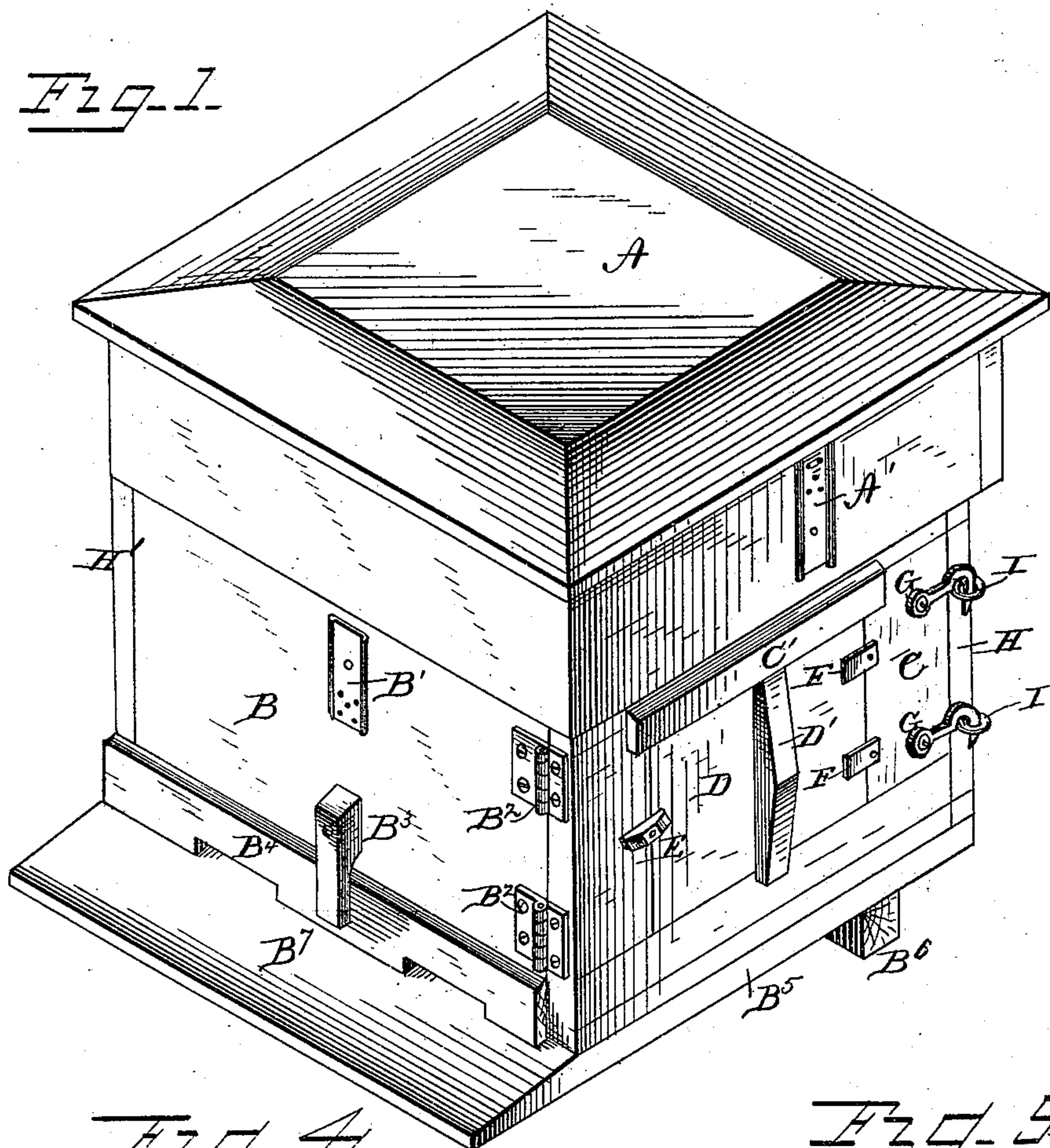
2 Sheets—Sheet 1.

G. K. HUBBARD.

BEE HIVE.

No. 270,803.

Patented Jan. 16, 1883.



*WITNESSES*

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(Model.)

2 Sheets—Sheet 2.

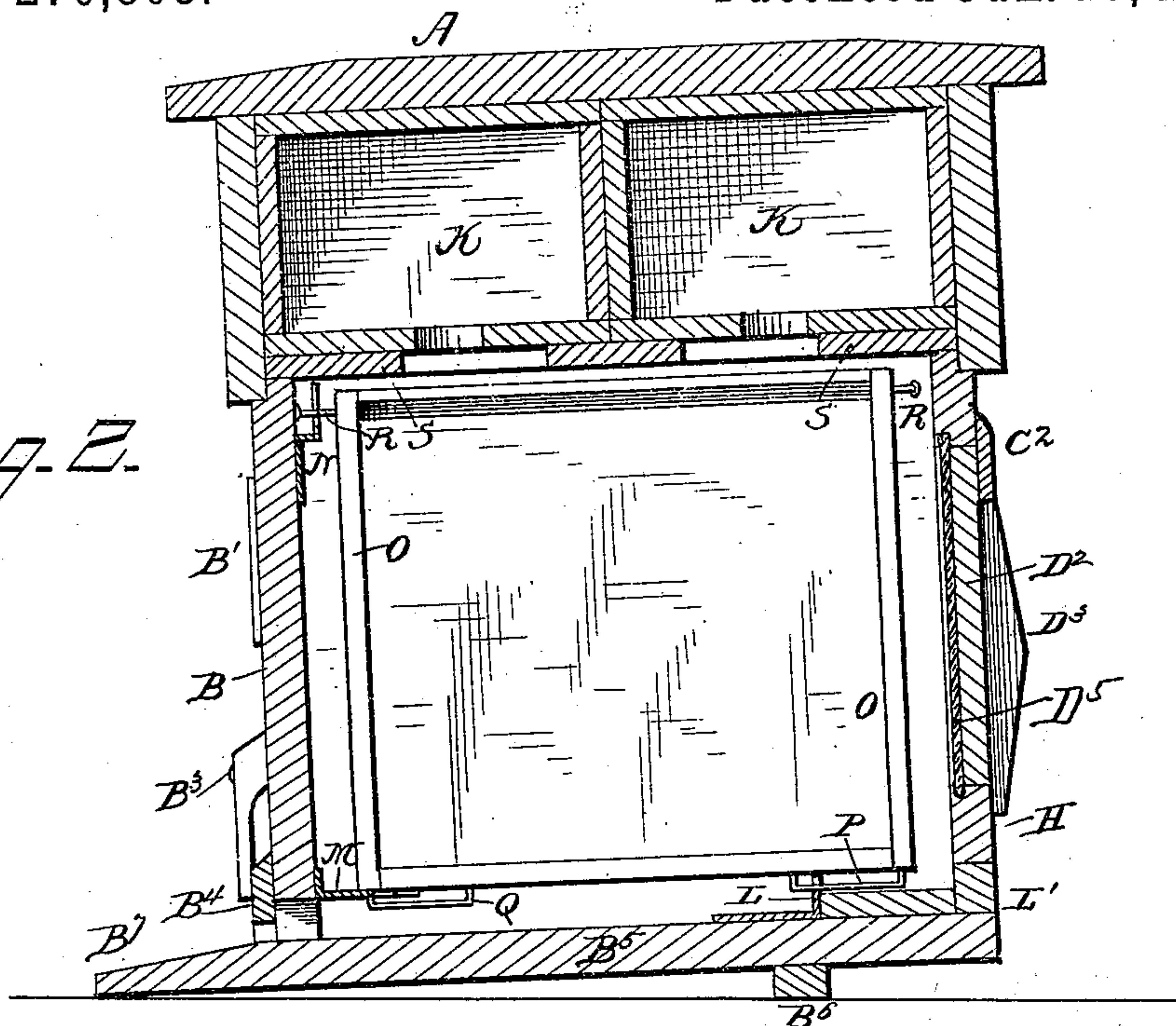
G. K. HUBBARD.

BEE HIVE.

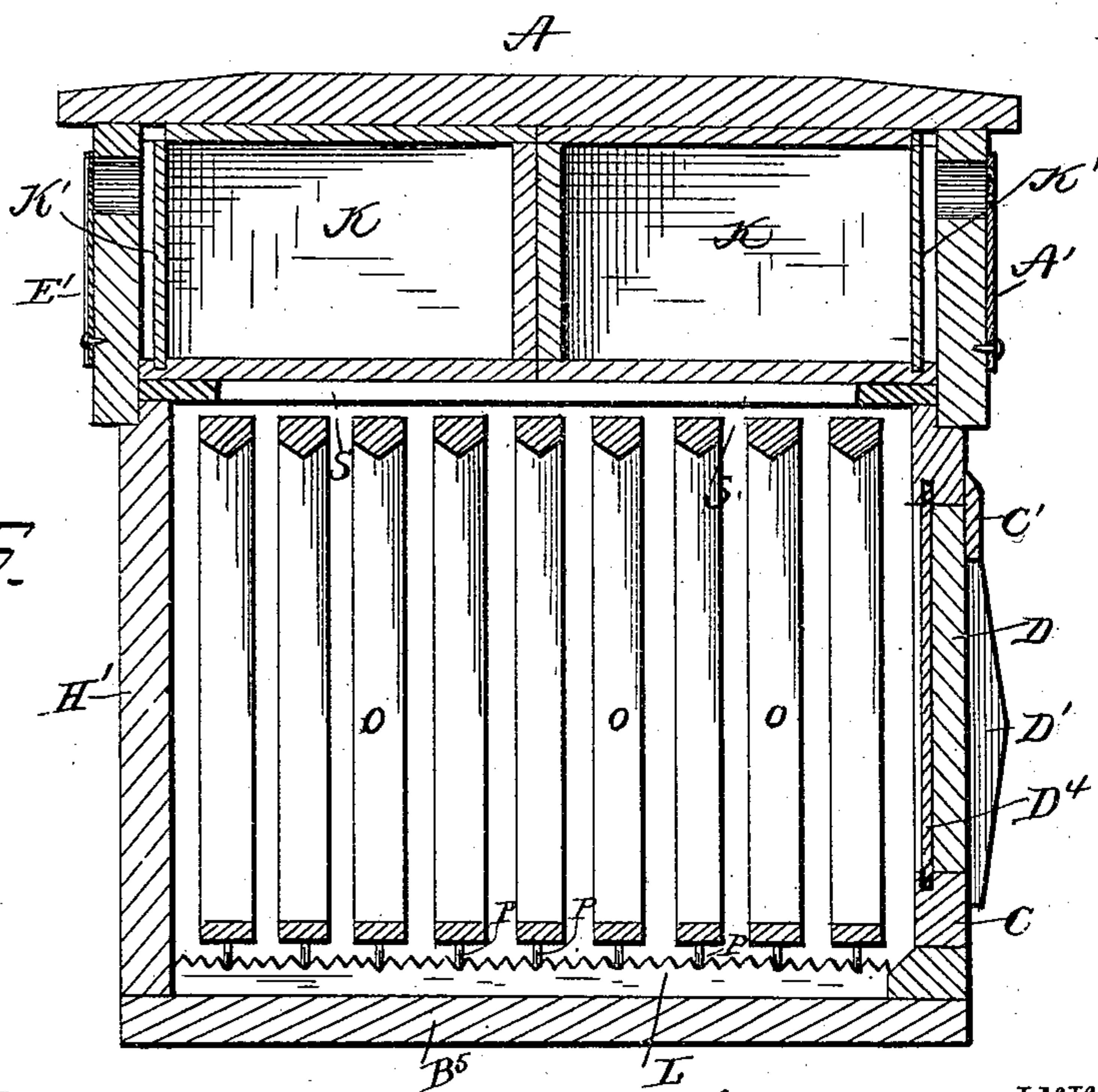
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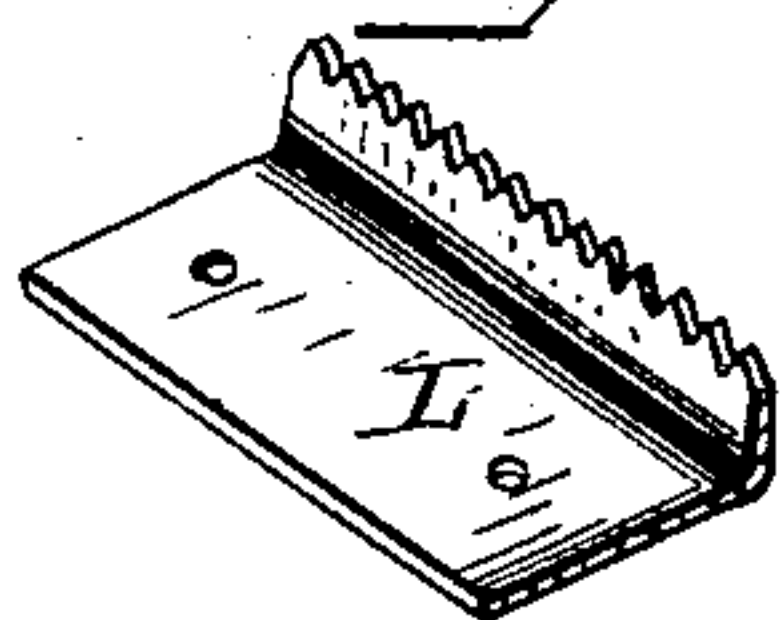
*Fig. 2.*



*Fig. 3.*



*Fig. 6.*



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# UNITED STATES PATENT OFFICE.

GEORGE K. HUBBARD, OF LA GRANGE, INDIANA.

## BEE-HIVE.

SPECIFICATION forming part of Letters Patent No. 270,803, dated January 16, 1883.

Application filed September 19, 1882. (Model.)

*To all whom it may concern:*

Be it known that I, GEORGE K. HUBBARD, a citizen of the United States of America, residing at La Grange, in the county of La Grange and State of Indiana, have invented certain new and useful Improvements in Bee-Hives, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to bee-hives; and it consists in the parts which will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 represents a perspective view of the exterior of the hive. Fig. 2 is a central longitudinal section. Fig. 3 is a central transverse section. Fig. 4 shows a side elevation of one of the honey-comb frames, and Fig. 5 is a cross-section through the same. Fig. 6 represents in perspective a section of the fine-notched metallic plate which lies crosswise in the rear of the hive. Fig. 7 discloses in perspective a section of the coarse-notched plate which is fixed in the front upper part of the hive. Fig. 8 is a similar view of a plate notched in like manner, which is secured to the inner bottom side of the face-piece. Fig. 9 is a top view of one of the frames, showing the oblique manner in which the pins are fixed into the side pieces.

In the following description similar letters of reference indicate like parts throughout the several views.

The letter A represents the cover for the hive, and A' one of two pivoted perforated metallic ventilating-strips thereon, covering an opening in said top.

B is the front of the hive, and B' is a strip on the same, similar to strip A', covering an opening.

B<sup>2</sup> B<sup>2</sup> are hinges on the front B and rear end of side door, C.

B<sup>3</sup> is a button pivoted to the front B. This button secures the strip B<sup>4</sup> and renders said strip adjustable vertically, whereby the capacity of the entrance can be increased or diminished at pleasure to accommodate a large or small colony.

B<sup>5</sup> is the bottom board of the hive, and B<sup>6</sup> is a transverse block on the rear under side thereof, of which tips the hive slightly forward, making it easier for the bees to drag out any foreign substance.

B<sup>7</sup> is the threshold.

C is the side door, and D is a smaller door therein.

C' is a flange on door D, and D' is a vertical strip on door D.

E and F are buttons on the door C to secure the smaller door D thereon.

G G are hooks pivoted to door C. These hooks engage the eyes I I, projecting outward from the edge of the back door, H. Immediately under the door D and rigidly fixed in door C is a glass, D<sup>4</sup>.

D<sup>2</sup> is a small door in the rear door, H.

D<sup>3</sup> is a vertical strip, and C<sup>2</sup> is a flange on door D<sup>2</sup>. D<sup>5</sup> is a glass fixed in door H, which is covered by door D<sup>2</sup>. A hook and eye (not shown, but identical with hook and eye G I) secures the rear door, H, to the bottom piece, B<sup>5</sup>. Said door H is hinged to the rear end of side piece, H'. It will thus be seen that by removing the small door D one is enabled to see the inner workings of the hive through the glass D<sup>4</sup>, or by removing the small rear door, D<sup>2</sup>, a view is obtained of the inner back part of the hive, the glass D<sup>5</sup> preventing the escape or disturbance of the bees; and, further, that by disengaging the hooks from the eyes the doors C and H may be thrown open, either one or both, and access obtained to the inner part of the hive for the purpose of adjusting or removing the comb-frames, which will be more fully hereinafter described. Four small boxes, K, each having a glass, K', in the side and a small bottom opening, rest on a supporting-frame, S. Said frame is rectangular and provided with an inner cross-piece. There is communication between the hive and boxes by means of the openings referred to. The cover A fits over the top of the hive and incloses the boxes and frame S.

L represents a notched metallic strip lying transversely on the inner back side of the hive. Said strip is rigidly secured by suitable means to the bottom piece, B<sup>5</sup>. Said strip is right-angled. The vertical piece thereof, which is in the rear, abuts against a ledge, L'.

M and N are notched metallic strips fixed to the inner side of the front piece, B. The plate M has a right-angled flange thereon, by means of which a connection is made. The notches are on the horizontal part. (Shown in Figs. 2 and 8.) The strip N is fixed on the inner side



of front piece, B, near the top of the hive, the notched part projecting upward. It is adapted to engage and secure the frame-pins.

O O represent the honey-comb frames.

5 P and Q are two rectangular metallic loops on the under side of the frame—front and rear, respectively.

10 R Rare two pins on the front and back pieces, respectively, of the frame, driven in slightly angular to facilitate the swinging of the frames when the side door, C, is opened. By means of the pins and loops on the frames, said frames are secured in position in the hive and rendered susceptible of adjustment in the notched strips.

15 By driving the pins into the sides of the frame obliquely said frames can be more easily swung out, and will swing round farther than if they were driven in straight. When the frames are thus hung there is no danger of killing the  
20 bees when the frames are swung out. If the pins were driven straight into the middle of the end pieces of the frame, the corners of the frame would catch and prevent the swinging of the same.

25 I am aware that hives in some respects similar to mine have been patented, in one of which the frames are held in place, both above and below, at the front side of the hive, by hooks and screw-eyes. I have provided my  
30 hive with a notched tin, M, in which the outer end of the staple Q in bottom of frame is securely held. The advantage of this over the hive referred to is that, instead of having to look carefully and to exercise a great amount  
35 of patience to get the bottom properly hooked, my frame will drop into its place below after being properly placed in its bearing N above. The advantage of this is, instead of having to brush the bees away from around the bearings  
40 and search carefully for the place to hang the frame, in my device I get it near where it belongs and the frame instantly places itself; and, again, instead of the wooden ledge that supports the frame at the bottom, at the rear  
45 end of the hive, as in the hive referred to, I have a very fine notched tin, L, that supports the frame by means of the staple P in the bottom. The advantage is, wherever the wooden part of a frame touches the wooden part of  
50 the hive the bees will gum it fast with propolis, making it difficult to remove it; but they show a natural aversion to metal. However, they will sometimes wax up metal; but even if they should the bearings are too delicate to

55 permit their being waxed to the extent they would be if the whole end of the frame rested upon a wooden support.

The distance between the frames in my hive can be varied. The advantage is, the combs vary in thickness, and it frequently happens  
60 that one wishes to put two thin ones close together to make room for a thicker one. By reason of the fine-notched tin L, which supports the rear end of frames, said frames can be accommodated to the irregularities of the  
65 comb. If the hive should be tipped sidewise, the notched plates would prevent the frames from swinging out of place.

Both ends of my frame being constructed in a similar manner, it must be obvious that  
70 said frame can be easily reversed. This is frequently desirable. When the comb becomes bulged in places, and in exchanging combs from one hive to another, two of these thick  
75 places would often come together, making it very inconvenient to fit in the frame; but by being able to reverse the comb the trouble is avoided. Another advantage derived from having an exchangeable and reversible frame  
80 is, that one can put the queen-cell on the side next the window, and can thus readily learn the day the queen will emerge without disturbing the colony.

Having thus described my invention and set forth its advantages, I claim as new and desire  
85 to secure by Letters Patent—

1. In a bee-hive, the fine-notched plate L, fixed to the bottom board and abutting against the ledge L', and the coarse-notched plates M and N, fixed to the inside of face-board B, said  
90 plates being adapted to engage the metal parts on frames O, for the purposes specified.

2. The frames O, provided with bottom staples, P Q, and oblique end pins, R R, substantially as described, and for the purposes set  
95 forth.

3. The frames O, provided with bottom staples, P Q, and oblique pins R R, in combination with the notched plates L, M, and N, substantially as described, and for the purposes  
100 set forth.

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

GEORGE K. HUBBARD.

Witnesses:

C. S. STROUSS,

CASSIUS M. C. GRIFFITH.