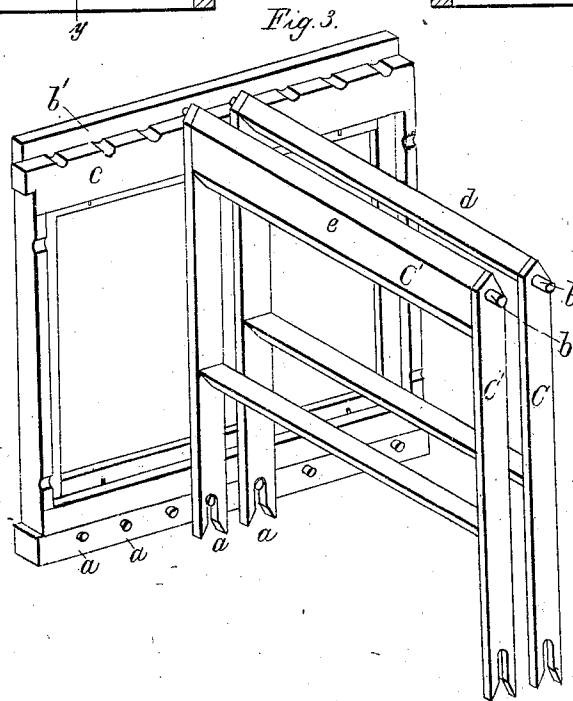
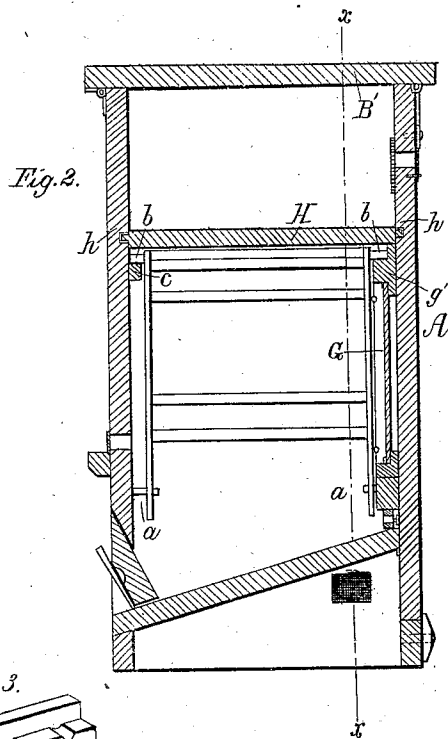
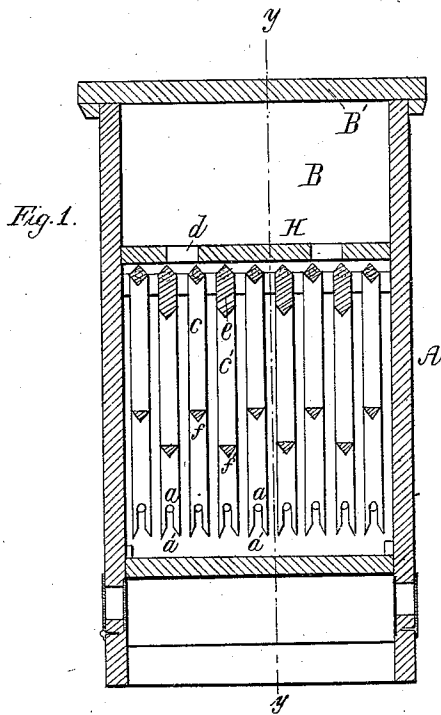


J. H. HARPER.

Bee Hive.

No. 36,088.

Patented Aug. 5, 1862.



Witnesses  
*John A. Gauberschnidt*  
*Charles Smith*

Inventor  
*John H. Harper*  
*Per [Signature]*

# UNITED STATES PATENT OFFICE.

JOHN H. HARPER, OF WASHINGTON, DISTRICT OF COLUMBIA.

## IMPROVEMENT IN BEE-HIVES.

Specification forming part of Letters Patent No. 36,088, dated August 5, 1862.

*To all whom it may concern:*

Be it known that I, JOHN H. HARPER, of the city of Washington, in the District of Columbia, have invented certain new and useful Improvements in Bee-Hives; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a vertical transverse section of a hive with my improvements at the line *x x*, Fig. 2. Fig. 2 is a vertical longitudinal section of the same at the line *y y*, Fig. 1. Fig. 3 is a perspective view, on a larger scale, of a portion of the hive, to be hereinafter described.

Similar letters of reference indicate corresponding parts in the several figures.

The principal object of this invention is to facilitate the removal of comb-frames from the interior of the main body of the hive.

To this end the invention consists, first, in constructing the alternate comb-frames with their upper cross-pieces of unequal depth, to prevent irregularity in the building of the comb, as hereinafter explained; second, in a combination of devices whereby the frames are held firmly in position and, when desired, may be moved laterally at top to facilitate their removal, as will be explained, and, third, in an improved device for securing the honey-board against displacement.

To enable others skilled in the art to fully understand and construct and use my invention, I will proceed to describe it with reference to the drawings.

A represents a case, which may be constructed of rectangular form and provided, if desired, with spare honey-boxes fitted in a compartment, B, in the upper part, covered by a hinged lid, B'.

A' is a hinged door in the back of the hive, covering a sash, G, provided with the customary glass window to afford a view of the interior when the door A' is open.

Within the body of the hive a series of comb-frames, C C', are placed. The lower ends of the frames C C' are formed with notches *a'*, fitted over pins *a* in the sides of the hive, while the upper ends of the frames are suspended by pins *b* within notches *b'*, formed in a cleat, *c*, attached within the front of the hive and in the upper cross-piece, *g'*, of the sash G.

The top pieces, *d*, of the frame C are about square in their transverse section, as shown clearly in Fig. 1; but the top pieces, *e*, of the frames C' are deeper than the top pieces, *d*, the former extending down fully twice as far as the latter, as shown clearly in Fig. 1.

The lower cross-pieces, *f f'*, of the comb-frames C C' may be placed in different horizontal planes, the cross-pieces *f* of the frames C being above the cross-pieces *f'* of the frames C'. By this arrangement the bees will construct their combs in line with the top pieces, *d e*, of the frames C C', which is not the case in ordinary hives, which have the top and cross-pieces, *d e f f'*, respectively, in line. In this latter case the bees are very liable to build their comb waving, with irregular projections or extending from one frame to another, whereas by my improvement the deep top pieces, *e*, isolate, as it were, the adjoining top pieces from each other, affording at the same time flat surfaces which effectually prevent irregularities or projections in the commencement of the combs in the adjoining braces, and thus the comb of each frame is made in line with its top piece. The lower cross-pieces, *f f'*, also favor this result, as by having them alternately higher and lower a sufficient space is allowed between them to confine the construction of the combs to their individual frames.

It is well known to apiarists that a correct and symmetrical form imparted to the comb at its commencement insures its proper construction throughout; and hence it will be apparent that the result obtained by the use of artificial combs is accomplished by this invention very effectually with little expense and with little waste of space, the deep cross-pieces presenting on each side straight vertical planes, which the bees are naturally disposed to continue downward. This insures the proper form of comb in the frames C', while in the frames C it is confined to proper form by the bees building out to within the regular distance from the adjacent sides of the cross-pieces *e*, as before explained.

The pins *a*, fitting in the notches *a'*, and the pins *b*, fitting in the notches *b'*, effectually hold the frames from accidental lateral displacement, but permit their ready removal vertically. When it is desired to withdraw either of the frames upward, the adjoining ones on

each side may be gently raised out of the notches *b'* and moved at top to afford a wider space for the withdrawal of the frame between them. In this case the pins constitute pivots, on which the frames turn as they are separated. The bees, finding the combs closing together at top, move downward, and thus escape injury. The superiority of this device over any in which the frames must be moved bodily sidewise will be evident. In the latter case the bees are liable to be crushed from having no apparent way of escape.

By removing the sash *G* the comb-frames are exposed at their rear edges, being supported by the cleat *c* in front and the pins *a* at both front and back. Any one of the frames may then be withdrawn edgewise with perfect facility without disturbing the rest, rising from the pins *a* in front and turning over upon those at back. My improvements thus adapt the frames to be taken out with equal ease either upward or horizontally, each being preferable under certain circumstances and conditions.

The combs within the frame, being all of correct form and equal dimensions, may be withdrawn and inserted at will or changed from hive to hive and full hives relieved and weak ones supplied with either honey or brood without any paring or fitting of the comb, which paring inevitably causes leakage, with its well-known attendant evils, inducing robbery, smothering the brood, &c.

*H* is the honey-board, resting on top of the

frames *C C'*, so as to hold them down in their notches. The said board is secured by pins *h*, projecting from its front and rear edges into suitable holes in the front board of the hive and the door *A'*. On opening the said door the board *H* is released, and may be readily lifted or drawn out; but while the door remains closed the said board renders it impossible for the frames to be displaced, either by jolting or by the inversion of the hive for transportation.

Having thus described my invention, what I claim therein as new, and desire to secure by Letters Patent, is—

1. The combination of the alternate comb-frames *C* and *C'* with their upper cross-pieces, *d e*, of unequal depth, substantially as and for the object specified.

2. The combination of the comb-frames *C* or *C'* with the cleat *c*, cross-piece *g'*, notches *a' b'*, and pins *a b*, all constructed and arranged as herein shown and described, and for the purposes explained.

3. In the described combination with movable comb-frames *C* or *C'*, supported as described, securing the movable honey-board in position by means of pins *h*, projecting into holes in the front board, and door *A'*, as set forth.

JOHN H. HARPER.

Witnesses:

OCTAVIUS KNIGHT,  
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