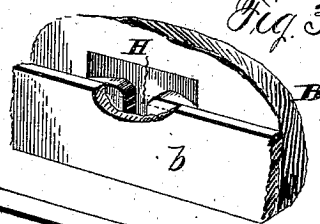
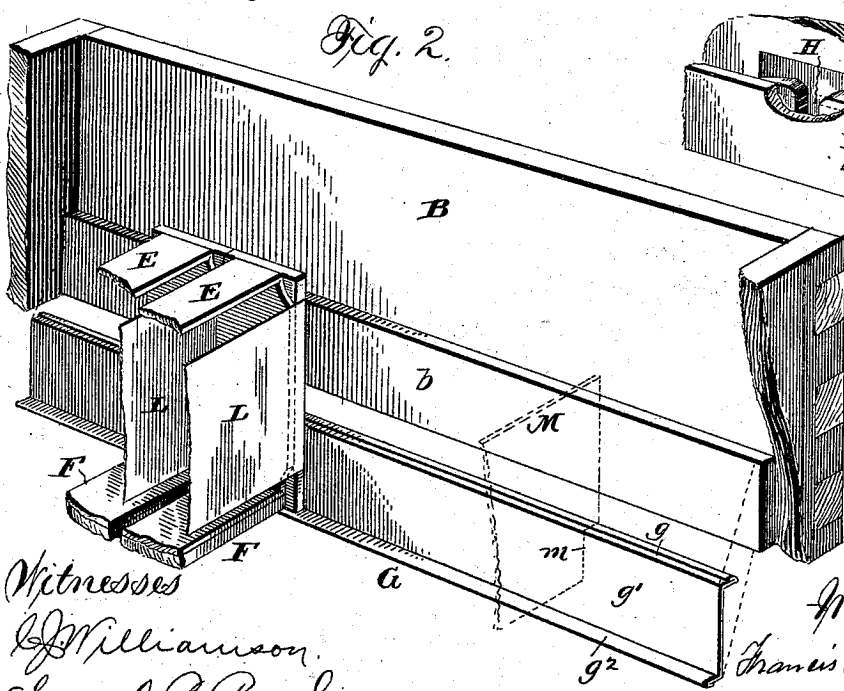
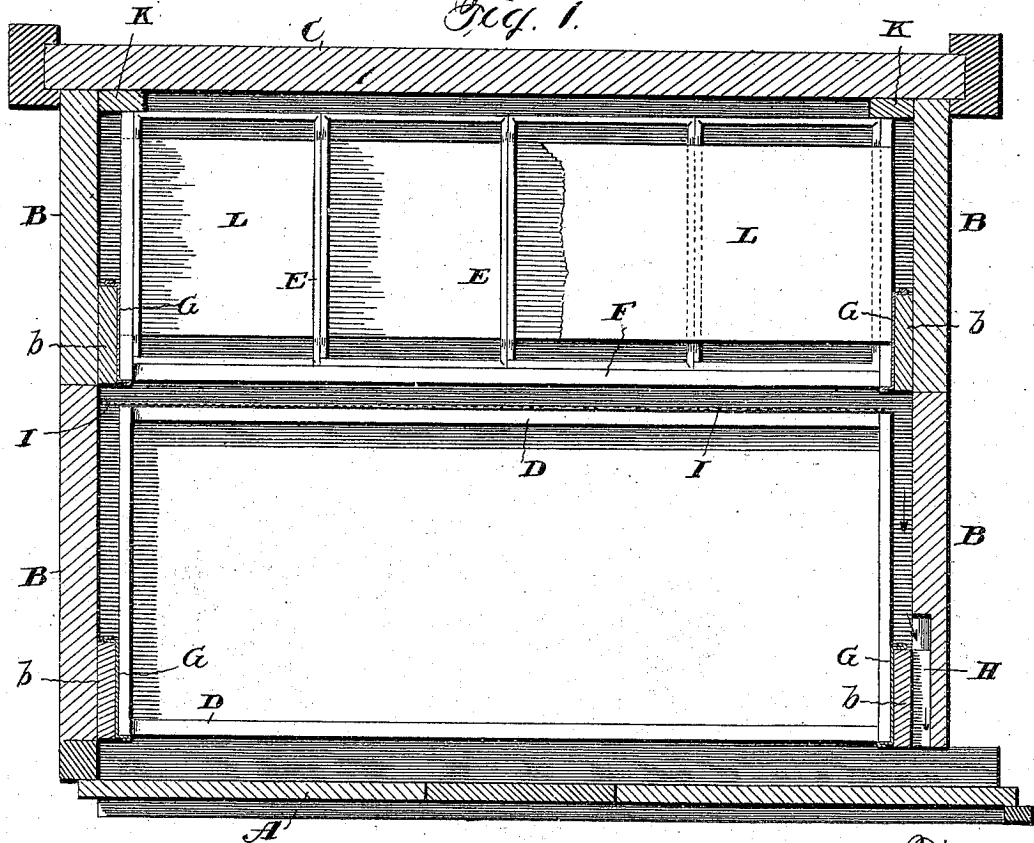


(No Model.)

F. DANZENBAKER.  
BEEHIVE.

No. 547,164.

Patented Oct. 1, 1895.



Witnesses  
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Inventor  
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# UNITED STATES PATENT OFFICE.

FRANCIS DANZENBAKER, OF WASHINGTON, DISTRICT OF COLUMBIA.

## BEEHIVE.

SPECIFICATION forming part of Letters Patent No. 547,164, dated October 1, 1895.

Application filed July 27, 1895. Serial No. 557,353. (No model.)

*To all whom it may concern:*

Be it known that I, FRANCIS DANZENBAKER, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Beehives; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Figure 1 is a longitudinal vertical section from front to rear of my hive. Fig. 2 is a perspective view showing a portion of a case, looking at the inside, one of my supports or hangers detached therefrom, and portions of two honey-sections in position upon the support or hanger. Fig. 3 is a like view of a portion of a case containing my bee-escape.

The design of my invention is to improve on the hive shown in my Patent No. 521,876, issued June 26, 1894, with a view to cheapening and bettering the construction, increasing the facility of manipulation of the hive parts, and controlling the working of the bees; and to these ends my invention consists in the construction of the parts of a beehive, substantially as and for the purpose hereinafter specified.

The hive shown in the drawings is composed of a bottom A, preferably constructed precisely like the hive-bottom in my patent referred to, two rectangular cases B and B superimposed one upon the other, and a top cover C, like that shown in my said patent, placed over the upper case B. The two cases are of like dimension horizontally, but the lower one, which contains the brood-frames D, of usual construction, is preferably deeper than the upper one, which contains the honey-sections E, placed in frames F. It is to be understood, with regard to all of the particulars of construction just described, that my invention is not limited thereto, but such may be changed as found desirable, and that a greater number of cases than two may be employed, according to individual preferences.

Upon the front and rear end of each case B, at the inner side thereof, is a projection or cleat *b*, that extends horizontally entirely

across the same and vertically from the lower edge upward about one-third its height. From these cleats or projections I support the brood-frames or honey-sections, as the case may be, by removable sheet-metal hangers or supports G, having the general construction of the hangers of my said patent—that is to say, being composed of an upper horizontal portion *g* to engage the casing projection *b*, a vertical portion *g'*, and an oppositely-extending horizontal lower portion *g''* for the ends of the frames or other parts to be supported to rest upon. To enable the use of thin and cheap sheet metal, such as tin, I provide a strengthening or stiffening means by folding over upon the upper and lower portions *g* and *g''* the edges of each of such portions, as shown.

By supporting the hangers at a point low down upon the casing instead of from the top edge of said casing, as in my patent referred to, I attain a number of very important and valuable practical advantages. First, much less sheet metal is required to make each hanger, so that a material saving in cost of construction is realized; second, as the top of the hanger is considerably below the top of the frames, the space thus left between the ends is such as to permit the easy insertion of the fingers to catch hold of and readily remove the frames, and, third, such space between the ends of the frames and the casing sides is a dead-air space, it being remembered that the edges of the frame ends abut and form a continuous wall.

A further advantage arising from lowering the point of support of the hanger, and the formation thereby of the space just described, is that I am enabled to construct the hive so as to contain an effective and inexpensive bee-escape. Such escape consists of a vertical opening or passage-way H cut on the inner side of the front end of the lower case B, preferably at the transverse center thereof, which extends from the bottom edge of such case to a point sufficiently above the top edge of the cleat *b* to permit the passage of bees, where it is preferably enlarged laterally, as best shown in Fig. 3. The inner face of the cleat forms one wall of said opening, and when said cleat is a separately-formed piece attached to the casing, and not integral there-

with, it will be apparent that it can be most easily and cheaply formed. To remove the bees from the upper case it is simply necessary to place over the top of the frames in lower case a cover, such as a sheet of paper or enameled cloth, I, (shown in dotted lines,) which will leave the space between the frame ends and the front side of the case free at the top, whereupon the bees will pass down said space and into and through the escape. To prevent their return through the latter the distance of the lower end of the opening, from the bottom A is such that they cannot reach therefrom to said opening. The dead-air spaces between the frames and the case sides are each closed at the top by means of a strip of wood K, which of course is removed from the space of the lower case when the bee-escape is to be used as above described. Besides forming a wall for the dead-air space, propolizing in said space is prevented by said strip.

The separators L for the honey-sections that I use are each a strip of paraffine paper glued or otherwise fastened at the ends to the end pieces of the section-holding frames. Paraffine paper, I have discovered, will not be attacked and destroyed by the bees, and the advantages of being able to employ paper in making separators are numerous. It is cheap, can be most readily and rapidly secured in place, affords a better traveling-surface for the bees than sheet metal, is preferable to wood because of the objectionable warping of the latter, and, above all, it enables the avoidance of openings between the edges of the end pieces of the section-frames above and below the separators, which results when such separators are made of material, such as wood, which has any appreciable thickness. I am thus enabled to preserve the dead-air space between the case ends and the section-frames, and also avoid the propolizing that is done where thick separators are used, which result in openings that are objection-

able to bees. Should it be desired to use wood separators, they can be most readily supported, as indicated in dotted lines at M, Fig. 2, by resting them at their ends upon the tops of the hangers, such ends being notched, as shown at *m*, to properly fit over the hangers.

Having thus described my invention, what I claim is—

1. In a bee hive, the combination of a case, the frames or parts therein, cleats or projections on the inner sides of the case with their top edges below the upper side of the case, whereby air spaces are provided between the case and said frames or parts, and access to the latter is afforded for the manipulation thereof, and hangers having each an upper, horizontal part to engage the top edge of one of the case projections, and an oppositely extending, lower horizontal part on which said frames or parts rest, substantially as specified.

2. A bee hive having a vertical opening or passageway in its front wall communicating with the interior of the hive, and terminating in an exit at the bottom of said front wall, whereby a bee-escape is formed, substantially as specified.

3. In a bee hive, the combination of a case the frames or parts therein, means for supporting said frames or parts, and a cleat on the inner side of the front wall of the case having its top edge below the upper side of the case, said front wall being provided with a bee-escape that consists of an opening or passageway formed between the wall and the cleat, and communicating with the space above the cleat, and terminating in an exit at the bottom of said wall, substantially as specified.

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

FRANCIS DANZENBAKER.

Witnesses:

GEO. G. COLEGATE,  
JNO. O'HOGAN.