

(No Model.)

I. M. GRUBB.
COMB FRAME FOR BEE HIVES.

No. 445,429.

Patented Jan. 27, 1891.

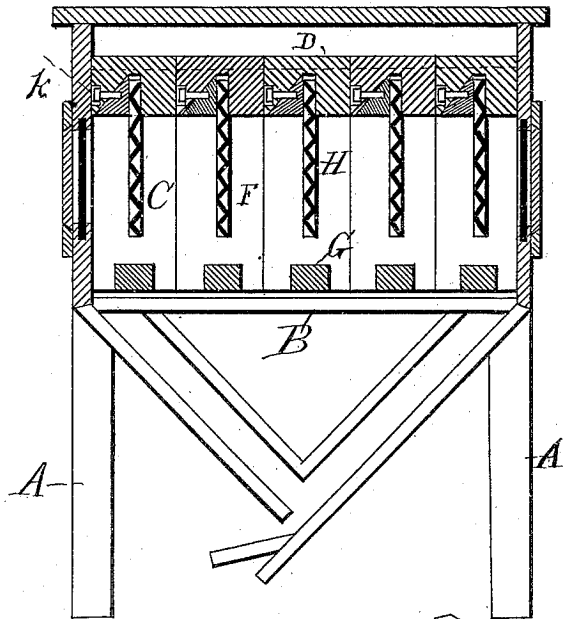


Fig. 1.

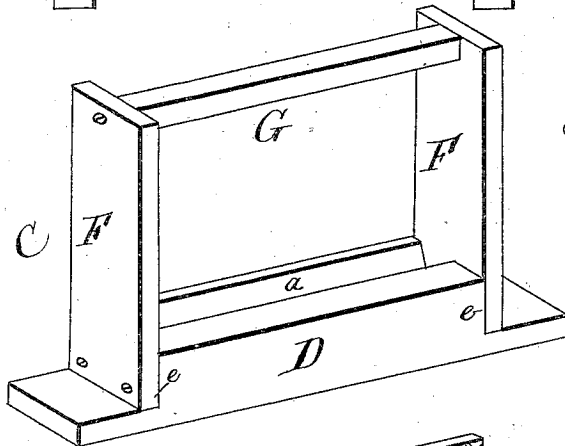


Fig. 2.

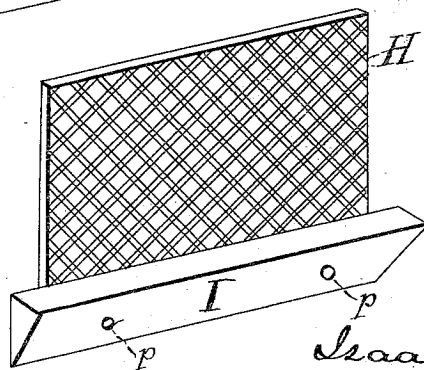


Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

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COMB-FRAME FOR BEE-HIVES.

SPECIFICATION forming part of Letters Patent No. 445,429, dated January 27, 1891.

Application filed August 18, 1890. Serial No. 362,336. (No model.)

To all whom it may concern:

Be it known that I, ISAAC M. GRUBB, a citizen of the United States, residing at Glenville, in the county of Clay and State of Nebraska, have invented certain new and useful Improvements in Comb-Frames for Bee-Hives; and I do hereby 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.

My invention relates to improvements in comb-frames for bee-hives; and it consists in certain details of construction and arrangement of parts, hereinafter more particularly described in the specification, illustrated in the drawings, and pointed out in the claim.

In the drawings, Figure 1 is a vertical section of a bee-hive embodying my invention. Fig. 2 is a perspective view of one of the removable frames adapted to hold the honey in inverted position. Fig. 3 is an inverted view of the artificial base or comb-foundation secured to a wedge-shaped bar or triangular strip adapted to fit within the head of the frame, as shown in Fig. 2.

The object of my invention is to provide a simple, cheap, and convenient means for removing the honey or a portion thereof from the hive at any time when desired, and of quickly substituting a new artificial base for the bees to work upon.

Referring more particularly to the drawings, A A represent the sides of a hive of the usual or ordinary construction and provided with a chamber adapted to contain the frames for holding the honey. The frames C are supported by the projecting ends D of the head-block upon cleats on the inside of the hive in the usual manner. These frames I prefer to make in the forms shown in Fig. 2, in which D is the head-block provided with the triangularly-formed longitudinal opening or slot *a*, having one vertical side and the transverse shoulders *e* at the ends. F are the side pieces secured to the shoulders *e* of the head-block, and G is a bar or brace secured at the outer ends of the sides F for the purpose of stiffening and bracing the frame.

H, Fig. 3, represents an artificial base or

comb-foundation adapted to be removably secured to the head-block within the frame in the manner hereinafter described. I is a triangular bar corresponding nearly in size and form to the longitudinal opening *a* in the head-block. The bar I is secured to the edge of the artificial comb-foundation, as shown in Fig. 3, and may be readily placed in the slot, the wedge-shaped bar I serving to press it downward and outward against the vertical side of the slot in the head-block, where the bar is then secured in place by means of the pins *k*, (shown in Fig. 1,) which are made to project through the side of the head-block and into an opening *p*, provided in bar I for the purpose. Usually a depression or counter-sink is provided in the side of the head-block, so that the head of the pin *k* will not project and interfere with the free movement of the frame. While I have described the holding or retaining pins for the purpose, any other suitable means may be employed to secure the bar I within the head-block without departing from the spirit of my invention.

Having described in detail the various parts, I will now proceed to describe their operation. The artificial comb or base is attached to the triangular bar I, which is then inserted in the slot *a* of the head-block and secured by the pins *k*, or in any other suitable and convenient manner, and the frame is placed in the hive with the head-block D at the top, whereby the comb-foundation is caused to depend or hang down, as shown in Fig. 1. Any suitable or desired number of these frames may be placed side by side, only limited by the amount of space available for the purpose.

When the comb-foundation is built out and loaded with honey, it may be readily and quickly removed by withdrawing the frame, detaching the bar I from the head-block thereof, and substituting another bar with comb-foundation attached; or, if desired, the bar I and its comb-foundation, when loaded with honey, after being detached, may be placed in a separating-machine and the honey removed therefrom, when the same bar and comb-foundation may be replaced and used again.

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

5 A comb-frame for bee-hives having a head-block provided in its under side with a longitudinal channel, one of the walls or sides of which is inclined and the other vertical, said channel carrying a removable bar corresponding to it in shape and held by a clamping de-

vice, and carrying upon its vertical side an artificial comb-foundation, substantially as shown and described.

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

ISAAC M. GRUBB.

Witnesses:

R. W. OLIVER,
E. HOEFFNER.