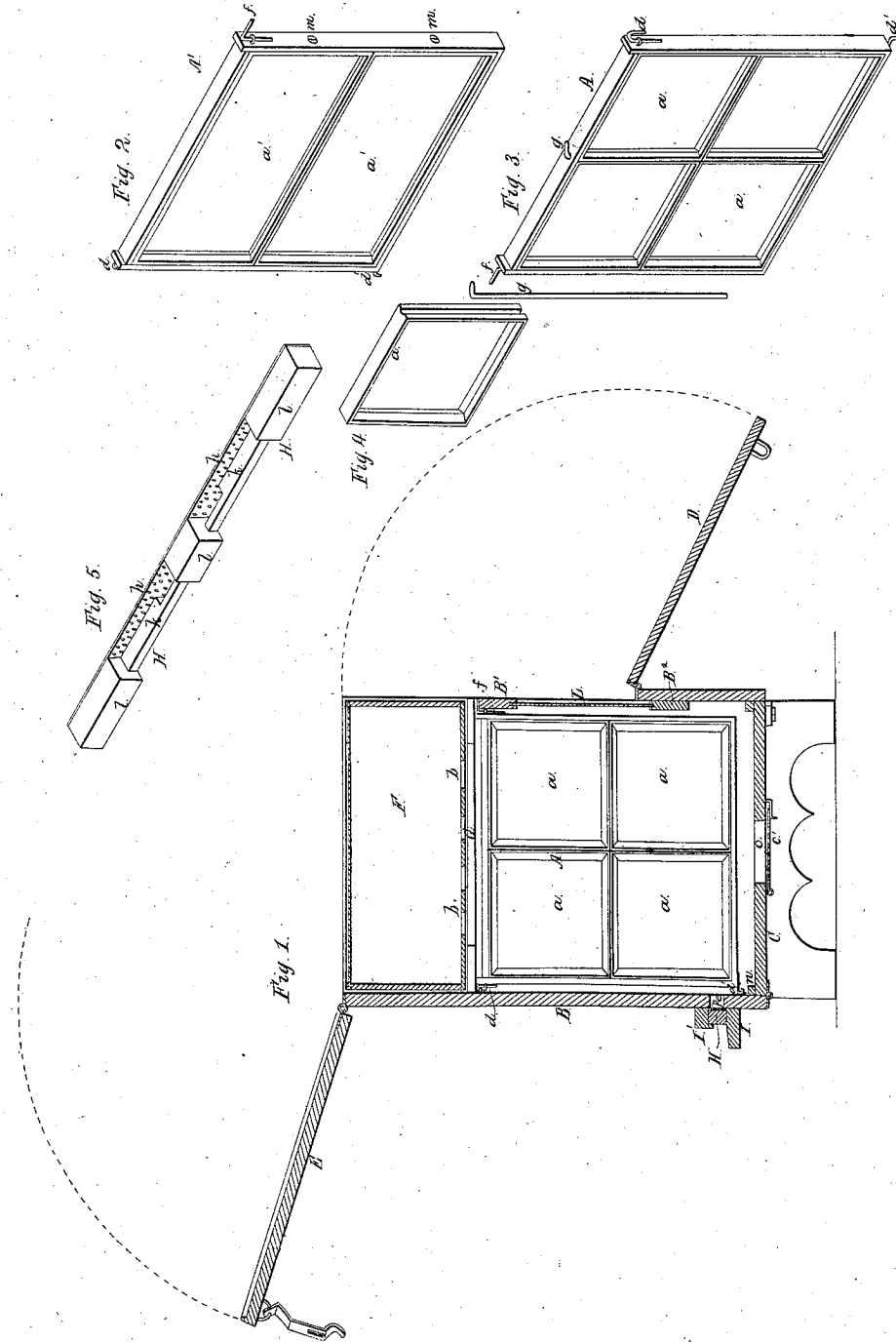


E. W. Phelps.

Honey Comb Frame.

No. 22,030.

Patented Nov. 9, 1858.



UNITED STATES PATENT OFFICE.

EBENEZER W. PHELPS, OF ELIZABETH, NEW JERSEY.

BEEHIVE.

Specification of Letters Patent No. 22,030, dated November 9, 1858.

To all whom it may concern:

Be it known that I, EBENEZER W. PHELPS, of Elizabeth, Union county, and State of New Jersey, have invented a new and useful Improvement in Beehives; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference thereon marked.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

In the several figures similar characters refer to like parts.

Figure 1, is a vertical cross section. Fig. 2, is a view representing a main frame of only two sectional frames. Fig. 3, is a view representing a main frame containing four sectional frames showing manner of attaching and detaching. Fig. 4, is one of the sectional frames. Fig. 5, is a view of the adjustable ventilating slide. Fig. 6, is a plan view. Fig. 7, is the extension side. Fig. 8, inverted view of honey boxes. Fig. 9, section showing ventilating apparatus.

In Fig. 1, B, the case of the hive. It may be constructed in any desired form or size. When intended to be used as a "non-swarmers" they should be from twenty inches to two feet in the clear to afford the bees ample room to store honey without being crowded. The case for my portable hives for common use I make in the form of a chest, having a lid or top E, hinged to the front of the case, also a shutter D on the rear side extending down about two thirds of the height of the hive and secured by butts to a cross rail forming with shutter D, the rear side of the case. The bottom C, is also hinged to the lower side of the front, and can be opened and closed at pleasure by the buttons at the rear corners. The best practical dimensions of the case in the clear, are, eighteen inches deep, thirteen inches from front to rear, and eighteen inches wide.

The interior of the hive consists of a series of movable frames A, arranged side by side, supported and kept in proper place at top and bottom by means of small wire staples *d* and *d'* (or their equivalent) driven into the case to correspond with wire hooks secured to the upper and lower corners of the frames in front; the rear part of the frame is supported by means of a pin *f*, in the upper end of the frame falling into a

groove in the cross piece B', one and a half inches wide extending across the rear of the case forming a support for the upper edge of the pane of glass L, in the rear. The lower edge of the glass is secured by means of a thin strip B² grooved at the upper edge and tacked to the inside of the rail to which the rear shutter is attached. The hooks and staples *d*, and *d'* secure the frames in the desired positions, when it is necessary to move or transport the hive with bees, and prevents their sliding together at the top and from swinging, or vibrating and striking together at the bottom, injuring the comb, and causing the honey to drip, and the bees to be destroyed. This mode of fastening affords the bees no means whatever to attach or wax the frames to the case at any point, or afford the least obstruction to their removal at pleasure, as the frames are suspended by their fastenings, leaving a space of about three-eighths of an inch between the frames and the case of the hive at top and bottom.

Movable frames, similar to my main outside frames, have been used to some extent both in this country and Europe; though mostly for experimenting purposes, as the honey taken from the hive in these large pieces is not fit for the table or market, since it is not in convenient form to handling or transport, and the quality and value of it is depreciated on account of the lower portion of the combs being used by the bees for breeding purposes, and being consequently dark colored, and much of it containing pollen or bee bread.

In whatever form or size the hive be constructed, the whitest combs and purest honey will always be found in the upper part of the hive, while the lower portion is used for rearing the young. Hence, to remove an entire frame or comb from a colony during the working and breeding season, would injure the colony by destroying many of its young, while the honey would be unfit for market, and worth but little for family use, and though a portion of the comb be cut out and the frame returned, yet the honey will drip, injuring the bees, and the honey thus obtained will be but of an inferior quality.

To obviate the objections above named and provide a remedy, I construct my hives with from two to four or any desired number of small frames, fitted and secured in

the main frames. These small frames *a* are confined in the large ones *A* by means of a half round groove in their adjoining sides (see *a* Fig. 4) into which a rod *g* is inserted through the main frame at both top and bottom. By this means any one or more of the frames can be removed whenever desired, upon withdrawing the rod, and thus the best honey is obtained in the most desirable and salable form; being in straight handsome combs about five inches square and two inches thick.

Since bees always use the central and lower portion of the hive for breeding purposes, I therefore use two frames Fig. 2 half the size of one of the large frames for

each three or four large ones, and occupying the center of the hive; by this means I can remove either brood or honey-comb at will without cutting them. These half sized frames I usually confine in the larger ones by means of screws *m* or groove and rod *g*.

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

The small sectional adjustable frames *a* set in the main frames *A* by means of half round grooves and rod *g*, operating as described and for the purposes set forth.

E. W. PHELPS.

Witnesses:

F. G. CLAYTON,

JOHN S. HOLLINGSHEAD.