E. Walker,

Bee Hive.

No. 110,517. Patented Dec. 27, 1870.

Fig. 1.

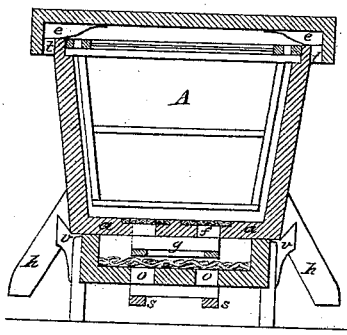


Fig. 2.

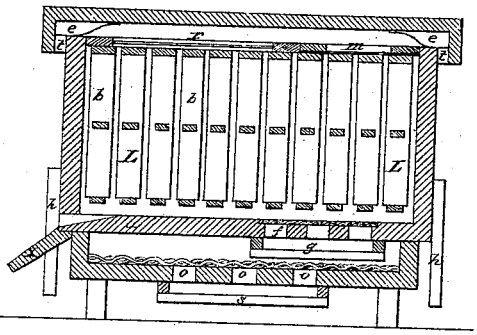


Fig. 3.

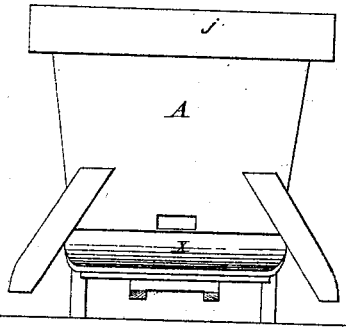
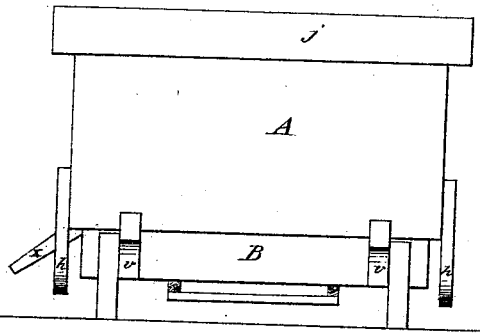


Fig. 4.



Witnesses:

Inventor:
Edward Walker
per. Otto Leisring
his Atty.

UNITED STATES PATENT OFFICE.

EDWARD WALKER, OF INDIANAPOLIS, INDIANA.

IMPROVEMENT IN BEE-HIVES.

Specification forming part of Letters Patent No. **110,517**, dated December 27, 1870.

To all whom it may concern:

Be it known that I, EDWARD WALKER, of Indianapolis, in the county of Marion and State of Indiana, have invented a Bee-Hive; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification.

Figure 1, transverse longitudinal section of hive; Figs. 2 and 3, transverse sections of hives; Figs. 4 and 5, detached portions of hive or comb-frames.

This invention consists in the construction and arrangement of the several parts of which the bee-hive is composed, as will hereinafter be more fully described, and has for its object to promote bee-culture, and to develop and economize the same.

The bee-box A is an oblong square in its horizontal area, to realize all the benefits of the invention, though many parts of it are applicable to every form of hive. Its upper portion is rabbeted at the sides to receive and support the projections of the top rails of comb-frames *b*, and is built of boards thicker than the superincumbent honey-chamber *c*, and is preferably built wider at the top than at the bottom. The honey-chamber *c*, in its external horizontal area, is the same measurement as the upper portion of the bee-box A, so that the cap D will fit equally on either; but, because the sides of chamber *c* are relatively thinner than the sides of chamber A, the contained space between the sides of chamber *c* is greater than that between the sides of chamber A, thus enabling the operator to manipulate the frames *b* without removing chamber *c*. The sides of chamber *c* are rabbeted to receive and support the projections of the contained comb-frames *h*, and allow them to be slipped from one end of chamber *c* to the other. Said removal can be accomplished without disturbing the bees within the inclosure formed by partitions Y and frames *h*.

Y is a partition-board, of sufficient dimensions to form a cover to the laterally-open portions of the comb-frames *h* as arranged in place, and leaving the same space between it and the sides of chamber *c* as the comb-frames *h* do. There is open space also between the lower part of partition Y and the top part of frames *b*, that the honey-box formed by the combined use of frames *h* and partitions Y may be moved over frames *b* at will without interference.

The frames *h* and partitions Y, as arranged, form a complete box or chamber, open side down, and, when fastened together with clamp R, it is again separable into its several parts; also, the clamp R may be used in like manner to hold the partitions Y Y and frames *b* together, and can be thus used as a bee-hive, for examination, swarming, and other purposes.

The clamp R consists of one or more bars, having one or more adjustable armatures, P P, projecting at right angles, and into which are inserted fastening and adjusting screws or keys, wedges, or other sufficient fixture or device to secure the relative parts in position.

At the joinings of the top and side strips of comb-frames braces *r* are attached, giving strength to the frames. Flanges or strips *i m* are attached to the under side of the top bars of comb-frames, to serve as guides in comb-building; also, flanges S S are attached to the outer edges, and on the inside of the side bars of frames *b*, serving to hold in place small cross-bars *z*, used as comb-supporters, which may be inserted to support recently-transferred comb. The top bars of comb-frames are sharpened at the edges *i*, which edges come in contact with each other when arranged in place.

Blocks *n*, or elevators, are attached to such of the frames as are required to be elevated for the purpose of giving space or passage-way between the top rails of comb-frames for the bees to pass above into chambers *c*. The elevators *n* are removable, so that the combined frames *b* may be rendered tight-fitting or open at the top at will by simply elevating or depressing the frames. This arrangement affords opportunity to control the frames of the bee-habitation, so as to be either a box, open at the top and bottom at will, or rendering it an inclosure open at the bottom only, or connected with a superincumbent honey-chamber, *c*, as described, by means of the passage-ways formed by the elevated frames.

T U W is a feeder, consisting of a box and wide frame united, and can be inserted or re-

ıoved from or to the bee-box in the same ıanner as the comb-frames.

When the comb-frames *b* and *h* and partiions Y and Y Y are arranged in place, so as) form one united chamber by combination, ıere yet remain uncovered spaces, which ave a tendency to waste the animal heat gen-ated by the bees, the addition of the partiion-board K, constructed wide and deep ıough to completely fill or cover the openıgs at the sides of and under the partitions , and above the frames *b*, thus rendering the ıclosure complete for the purposes required.

U and T are for liquid food. N is a float; V, compartment for meal or other solid food. and *r r* are entrances for bees; V, openıgs into feeder from the top, which may be ɔvered with glass. The liquid is poured into , and passes through an opening into U, and ıe whole together forms a feeder with three ɔparate divisions.

E is a gate, consisting of a square board, ith openings constructed in one or more of s sides or edges, to govern the entrance of ıe hive, and may be held in place by butɔns. Said gate is of different color from the de of hive to which it is affixed, and has vaed figures painted upon it as a help to the ees in finding their home.

F is a box or dish, containing oil or soft rease, and also attractive bait for moths, and placed under the alighting-board, with a ıin passage-way leading to it. The cap D ɔnsists of an angling roof-shaped cover, high ı the middle, and with downward-projecting ides *j*, surrounding the upper portions of the ive. To the inner portions of the sides *j* are ttached guides *g*, to hold the cap in position. are cleats surrounding the inner portion of ap D and resting upon the upper edges of hiveox. Removable cross-bars 7 (or it may be ɔrds or wire) are attached to, or rest upon, ıe sides *j* or cleats 3, to serve as supporters ɔr straw or similar loose material in the cap), as protection against cold or the heat of ıe sun. The contained straw is impregnated ith strong salt brine or other pungent mateial as a defence against being infested with ermin. Openings *x* are pierced in the angles f the end boards *j* of cap D, and are protected r covered by projections 5, which may be lled behind them with loose-structured subtances impregnated with drugs. In all the ɔinings formed by the junction of removable arts are inserted packings or cushions of loosetructured material, and impregnated with alt, aloes, or other pungent substances, servıg the double purpose of muffling ventilation nd repelling insects.

It is especially required that the hay or othr loose-structured substance which is placed bout the ventilating-openings *f* and *o* should e rendered unpleasant to insects by means of alt or other chemicals.

b are comb-frames, with the top bar projectıg beyond the side strips, and supported in place within the bee-box by rabbets formed in the upper portion of the sides of chamber A, having braces or cleats *s s* and *i m*. *g* and *g g* are bars or slats attached to the bee-box, to serve both as legs or supports to the bee-box, and also as guides to regulate the proper relative position of bee-box A and base-box B when connected together. H H is a movable division-board, fitting tight to bottom and sides of bee-box, and having a passage-way, *c c*, constructed through it.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is the following:

1. A bee-hive constructed substantially as described—that is to say, the combination of the honey-chamber C with the bee-box A, constructed and arranged in the manner and for the purposes substantially as set forth.

2. In combination with the comb-frames *b*, tight fitting to each other within the bee-box at the top and sides, the elevators *n*, or equivalent device, used to elevate one or more of the frames *b*, in the manner and for the purposes substantially as set forth.

3. In combination with the comb-frames *b* and *h* and partitions Y and Y Y, the partition K, constructed in the manner and for the purposes substantially as set forth.

4. In combination with the flanges S S and elevators *h*, the comb-frames *b*, constructed and arranged in the manner and for the purposes substantially as set forth.

5. In combination with the bee-box A, the cap D, constructed in the manner and for the purposes substantially as set forth.

6. In combination with the cap D, or equivalent device, the porous or loose-structured packing contained therein, impregnated with salt or other pungent substance obnoxious to vermin, constructed and arranged in the manner and for the purposes substantially as set forth.

7. In combination with a box used as a bee-hive, the packing or cushioning of the joints, formed by the union of removable parts of a hive with salted or otherwise chemicalized loose-structured cushioning or packing, as a protection against vermin, and also as an element of ventilation, constructed and arranged in the manner and for the purposes substantially as set forth.

8. In combination with the bee-box A, the gate E, constructed and arranged in the manner and for the purposes substantially as set forth.

9. In combination with the bee-box A, or equivalent device, the oil moth-trap F and feeder T U W, constructed and arranged in the manner and for the purposes substantially as set forth.

10. In combination with the frames *b* and *h* and the partitions Y and Y Y, the clamp R, constructed and arranged in the manner and for the purposes substantially as set forth.

11. In combination with the comb-frames *b*,

tight fitting to each other at the sides, when arranged in place within the bee-box, the flanges S S, constructed and arranged in the manner and for the purposes substantially as set forth.

12. In combination with the bee-box A and base-box B, the slats *g* and *g g*, constructed and arranged in the manner and for the purposes substantially as set forth.

13. In combination with the cap D, constructed and arranged as described, the opening X and cover 5, constructed and arranged in the manner and for the purposes substantially as set forth.

14. In combination with a bee-box, A, the divider H H, constructed and arranged in the manner set forth.

EDWARD WALKER.

Attest:
W. F. MEDSKER,
H. H. TAYLOR.

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