

E. ARMSTRONG.

Bee-Hive.

No. 162,788.

Patented May 4, 1875.

Fig. 1.

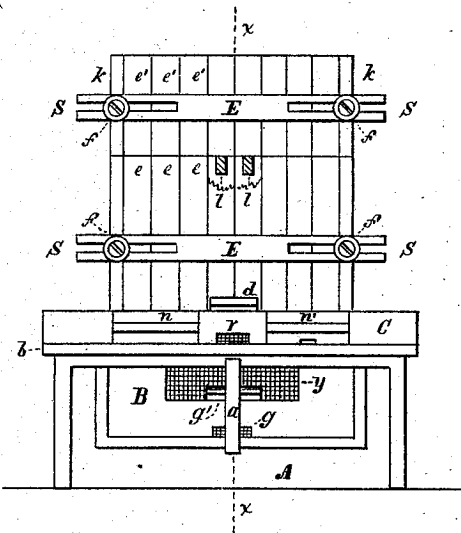


Fig. 2.

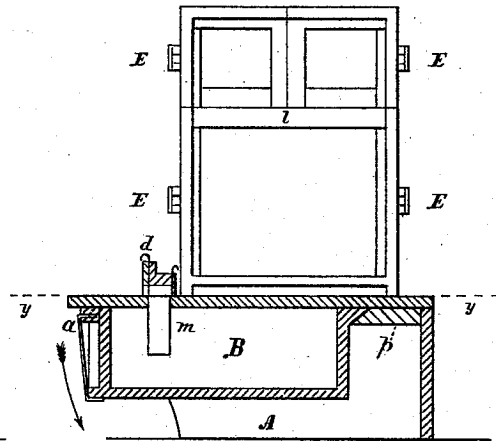
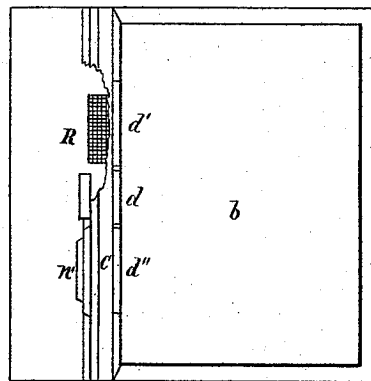
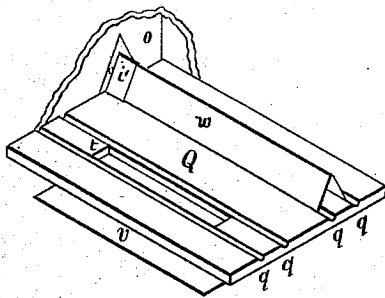


Fig. 3.

Fig. 4.



WITNESSES

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN BEE-HIVES.

Specification forming part of Letters Patent No. 162,788, dated May 4, 1875; application filed October 8, 1874.

To all whom it may concern:

Be it known that I, ELVIN ARMSTRONG, of Jerseyville, in the county of Jersey and State of Illinois, have invented a new and Improved Bee-Hive; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The object of this invention is an improvement in bee-hives; and consists, first, in a novel manner of securing together the sections of the brood-chamber and honey-boxes, so that these compartments may be increased or reduced in capacity by the addition or removal of sections thereof; second, in providing a cover for the brood-chamber, adapted to carry off the condensed vapors, as hereinafter described; third, in a novel device for trapping the drones; fourth, in a novel manner of suspending the moth-box to the floor of the hives, so that its removal and replacement may be effected without disturbing or injuring the bees.

In the drawings, Figure 1 is a front elevation of the hive, the outer casing being removed. Fig. 2 is a sectional elevation taken in the line *x x*, Fig. 1. Fig. 3 is a plan view taken in the line *y y*, Fig. 2, showing above that line the cross-bars in which the entrance-doors are made to slide. Fig. 4 is a perspective of the cover for brood-chamber.

A, Fig. 1, is a rectangular frame, on the top of which is a platform or floor, *b*, provided on top with a cross-frame, C, adapted to receive sliding doors. In the center of this cross-frame is an aperture, *r*, to which is a sliding door made of wire-gauze. B is a moth-box depending from the under side of the platform *b* by a cross-bar, *p*, and a clasp-plate, *a*. *m* is a tube passing through and secured to the floor of the hive, the upper end communicating with the interior of the hive, the lower end opening into the moth-box. Y is an aperture in the moth-box, covered by wire-gauze. *x'* is a smaller aperture, closed by a sliding door. *n n'* are sliding doors for the admission of the bees. *e e*, &c., are the frames or sections composing the brood-chamber. *e' e'*, &c., are similar frames composing the honey-boxes. E E are bars provided with slots *s s*,

&c., at each end, for the reception of screws *f f*, &c., by which the end frames or followers *k k* are secured the required distance apart. *l l* are sectional views of the top bars of the brood-chamber. R, Fig. 3, is an opening in the floor of the hive, communicating with the moth-box, and is covered with wire-gauze. Q, Fig. 4, is a board made to fit the interior of the outer casing of the hive, a portion of which is shown at *o*. This board is provided with two openings, as shown at *t*. Each of the latter is furnished with a cover having steep sloping sides, the lower edges of which rest in channels extending the whole length of the board, and are secured in position by caps fastened to the outer casing, as shown in the drawing. V is a lining of cloth or other textile fabric, having openings to correspond with those in the board Q. This board, it will be observed, is used to cover the brood-chamber only when the honey-boxes are removed. Each end of the brood-chamber and honey-boxes is closed by a pane of glass.

The working of the hive is as follows: To trap the drones, the doors *d d n n* are closed. The only light then admitted to the hive is by the aperture *r*. The drones, endeavoring to escape by this the only apparent outlet, fall down the tube *m* into the moth-box, from which they are unable to return. The aperture *r* is closed in cold seasons by a sliding door at the rear of door *d*. The working bees frequently fall into the same trap, but provision is made for their escape by the opening *g*, which is too small to admit the passage of the drones, yet large enough for that of the workers. This opening may be closed by the door *g'*, when necessary. The moth-box may be detached from the floor of the hive by removing the clasp *a* and lowering the front end, as indicated by the arrow, then by such movement as will disengage its beveled edge from the support *p*. This mode of removing the moth-box has the advantage of neither crushing nor disturbing the bees. The small aperture in the door *n'* is for the purpose of limiting, at certain seasons, the entrance and exit of the bees to one at a time. When this opening is not used the door is simply inverted. The top cross-bars of the brood-chamber are made narrow and deep, as shown in cross-

section at *ii*, Fig. 1. The reason for this form of bar is to obtain as wide a space as possible between them, in order to prevent the bees running the comb across from one to the other. The honey-boxes are made in small squares, as shown in Fig. 2, so that the honey can be conveniently sold in the comb, and yet in small quantities.

By means of the bars *E E* the number of frames composing the honey-box may be increased or diminished by moving the followers any required distance apart, and securing them in position by screws, as shown at *ff*, &c., and precisely the same mode of adjustment is adopted in reference to the brood-chamber.

For the purpose of trapping the moths the screen and opening *R* are provided, through which they fall into the box below as they endeavor to enter the hive.

In the winter season, when the honey-boxes are removed, the board or cover *Q* takes its place, and between it and the top of the brood-chamber is interposed the cloth *V*, for the purpose of preventing the bees attaching their comb to the cover.

In order to get rid of the moisture which usually accumulates in the upper part of the brood-chamber, in the form of small globules of water, openings, as at *t*, are provided. Through these the watery vapors rise, and, condensing against the sloping sides of the covers *w*, &c., are thereby conducted into the channels *q q*, &c., by which they are led out of the hive through suitable openings in the outer casing.

I claim as my invention—

1. The combination of the bars *E*, slotted at their ends, and the securing-screws *ff*, with the follower *kk* and the intermediate frames *ee*, as described.

2. The combination of the board *Q*, having openings *t* and channels *q q*, with the *V*-shaped cover *w*, as described.

This specification signed and witnessed this 26th day of September, 1874.

ELVIN ARMSTRONG.

Witnesses:

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H. McCLUSKY.