J. LONGGREAR & J. E. CLARK.

Improvement in Bee-Hives.

No. 130,511. Patented Aug. 13, 1872.

Fig. 1.

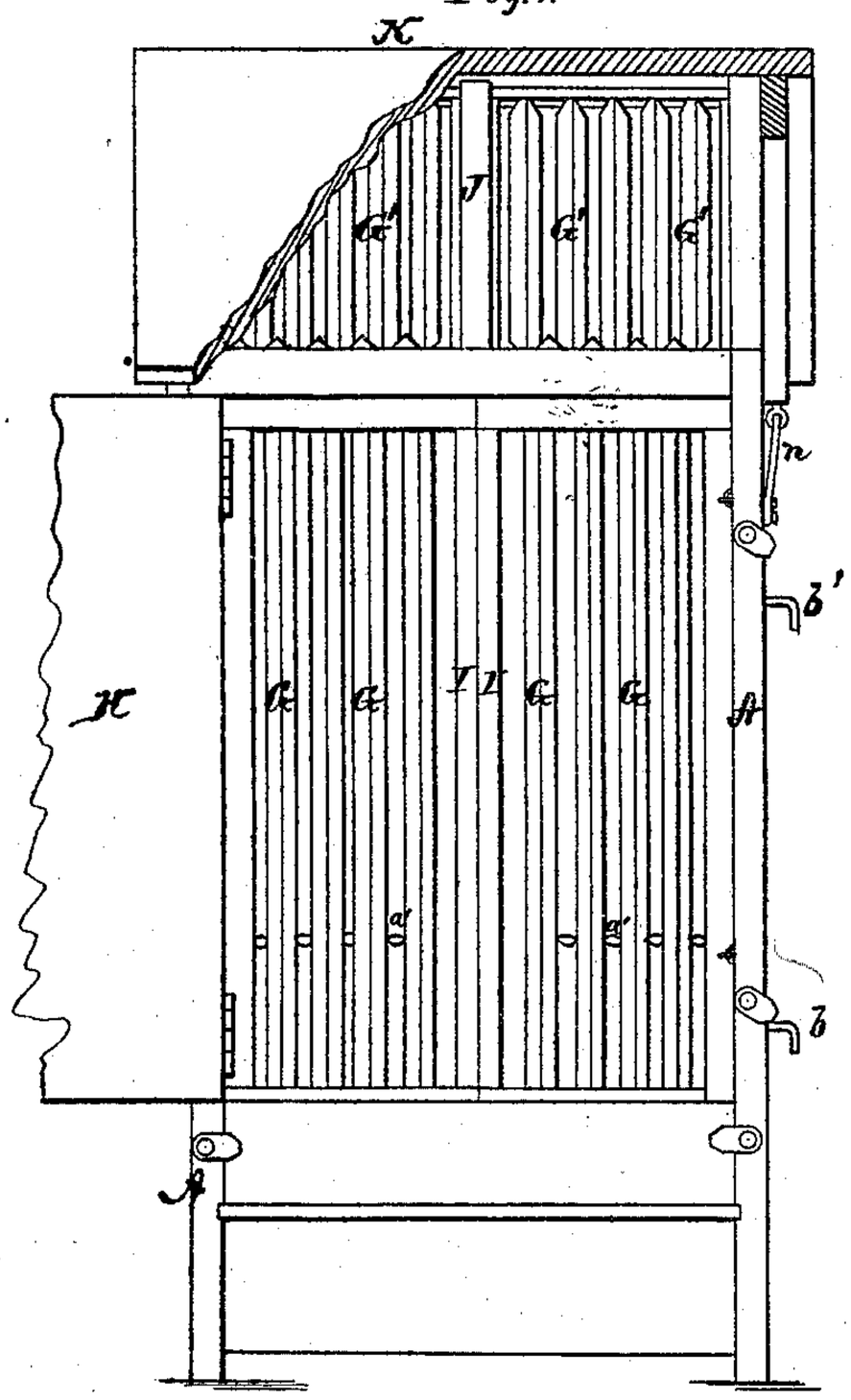


Fig. 2.

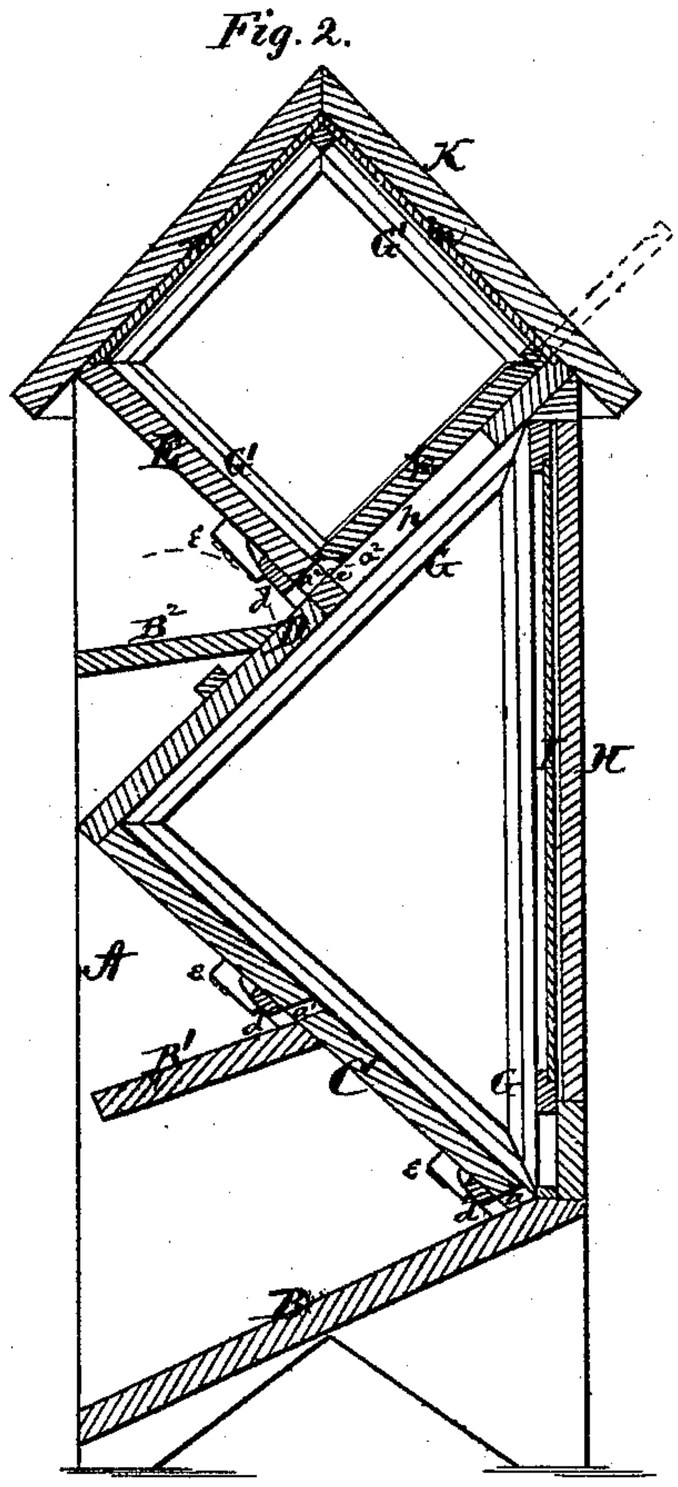


Fig. 3.

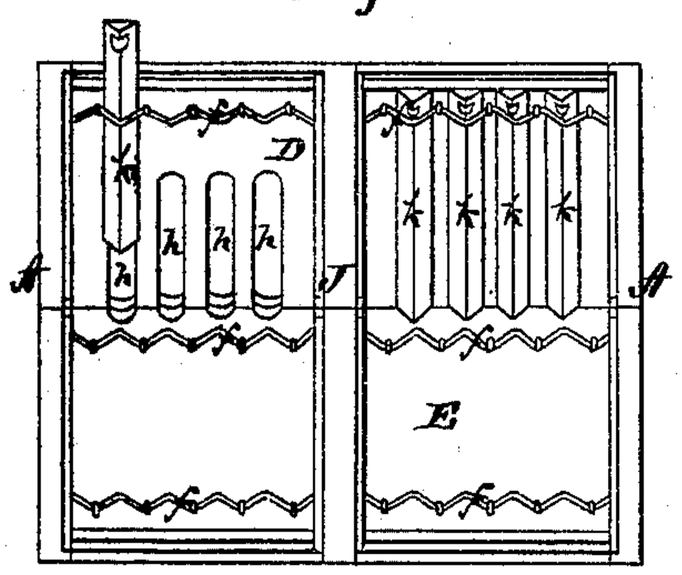
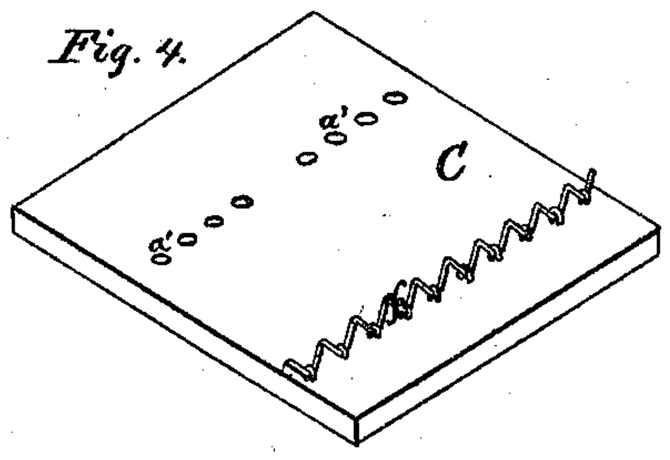


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN LONGGREAR AND JAMES E. CLARK, OF ROLLA, MISSOURI.

IMPROVEMENT IN BEE-HIVES.

Specification forming part of Letters Patent No. **130,511**, dated August 13, 1872.

To all whom it may concern:

Be it known that we, JOHN LONGGREAR and JAMES E. CLARK, of Rolla, in the county of Phelps and in the State of Missouri, have invented certain new and useful Improvements in Bee-Hives; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

The nature of our invention consists in the construction and arrangement of a "bee-hive," as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a rear elevation of our hive with the door to the brood-chamber open and a part of the lid or cover of the hive broken open to show the interior of the honey-boxes. Fig. 2 is a transverse vertical section of the same, and Fig. 3 is a plan view of the hive with the lid or cover removed. Fig. 4 represents the bottom board of the brood-chamber.

A A represent the two sides or end pieces of our hive, the upper ends of which are cut inclined on both sides so as to form a peak, the two inclined sides being at right angles with each other. These two end pieces are connected by means of the alighting-board B, bottom C, and top D of the brood-chamber, and the board E, which latter forms part of the bottom of the honey-box, the other part being formed of the upper half of the brood-chamber top D. This top board D as well as the board E join the lower ends of the inclined portions of the end pieces A A, and stand at right angles with said inclined sides, thus making the honey-chamber diamond-shaped in its cross-section. The bottom board C and top board D of the brood-chamber also stand at right angles with each other, joining together at the front edges of the end pieces, making the brood-chamber of right-angle triangular form, with the two sides (top and bottom) of equal length. The alighting-board B, at the bottom, is inclined, as shown, and joins with the lower end of the board C, in which there is the bee-entrance *a*, for the bees to enter into the lower part of the brood-chamber. About midway of the board C are a series of openings, a^1, to allow the bees to enter further up in the brood-chamber. Immediately below these openings is another alighting-board, B^1, held at each end by two pins, *b*, passing through the end pieces A A. One of these pins on each side may be removed, allowing the board to swing on the other two pins for the purpose of cleaning. At the lower end of the board E are formed other openings, a^2, to allow the bees to enter into the top of the brood-chamber and into the honey-box, below which openings is still another alighting-board, B^2, resting with its inner edge upon the board D, and its outer edge held by a pin, *b'*, on each side, passing through the end pieces, and upon which pins the board may swing for cleaning. All the openings *a* a^1 a^2 have movable strips *d*, held by buttons *e* for opening and closing the same at will. G G are the comb-frames in the brood-chamber, made of triangular shape, as shown in Fig. 2, to fit the shape of said chamber, the back of the brood-chamber being closed by a wooden door, H, between which and the frames are glass doors I I, hinged one to each side, as shown in Fig. 1. These frames are made of square bars, joined together so that their cross-sections will be diamond-shaped and thus present a sharp ridge all around the inside of the frame, obviating the necessity of any comb-guides, the frames forming their own comb-guides. The frames are held in place by means of wires *f* arranged on the inner sides of the top and bottom boards of the brood-chamber, as shown in Fig. 4. The entrances a^1 are made between the frames, as shown in said figure. In the upper part of the top-board D are made slots *h h*, leading into the honey-chamber above, said slots being between the comb-frames G G. Each of these slots is covered by a triangular slide, *k*, the inner end of which comes against one of the openings a^2 in the board E. This end of the slide has a groove, *i*, in its under side, so that when said slides are inserted the bees may pass through the entrances a^2, grooves *i*, and slots *h* into the brood-chamber, but have no access to the honey-chamber. By removing or partially withdrawing the slides *k k* the bees may pass into either chamber and from one to the other. The slides *k k* pass under wires *f* arranged, as shown in Fig. 3, on

the board D, and similar wires are arranged on the board E for holding the honey-frames G′ G′ in the same manner as the comb-frames G in the brood-chamber are held. The honey-chamber is, by a central cross-partition, J, divided into two honey-boxes, each having a certain number of frames, G′. These frames are made, like the frames G, of diamond-shaped bars, made in diamond-shaped form to correspond with the form of the honey-box. The upper sides of the honey-boxes are covered with glass-plates *m*, and the whole hive covered with the peaked lid or cover K, held by hooks *n*, as shown in Fig. 1.

The following are some of the merits of our hive: Ease of access to the brood-chamber without having to remove the cover, surplus frames, or honey-boxes, the brood-frames being movable from the back part of the hive without disturbing the working of the bees. A saving in the distance of travel of the working-bee by having three different entrances to the brood-chamber—the top, middle, and bottom of the brood-frames. The bee can go out and in immediately at the place of deposit, which saves much time in travel from the bottom of the hive to the upper part of the brood-chamber. The back of the hive is inclosed by two doors, the inner being of glass for observation, hung on small hinges, and can be swung out so as to expose only a part of the hive at a time. The outside covering is wood, thus making the covering double. The glass panes *m m* over the honey-boxes keep the hive warm and tight, and are easily removed, when the whole or part of the frames are filled with honey, either for the market or to be emptied by the extractor, and the cover can be returned, and thus save the making of new comb and keep the bees busy at work. The bees may be shut out from the brood-chamber or honey-box, or both, or can be made to work just where it is desired. The upper alighting-board B^2 forms, with the board D beneath, a good moth-trap.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The within-described bee-hive, composed of the sides A A, alighting-boards B B^1 B^2, inclined boards C D E, triangular frames G, and rectangular frames G′, all constructed and arranged substantially as and for the purposes herein set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 13th day of April, 1872.

JOHN LONGGREAR.
JAMES E. CLARK.

Witnesses:
H. E. BAKER,
JOHN FETZER.