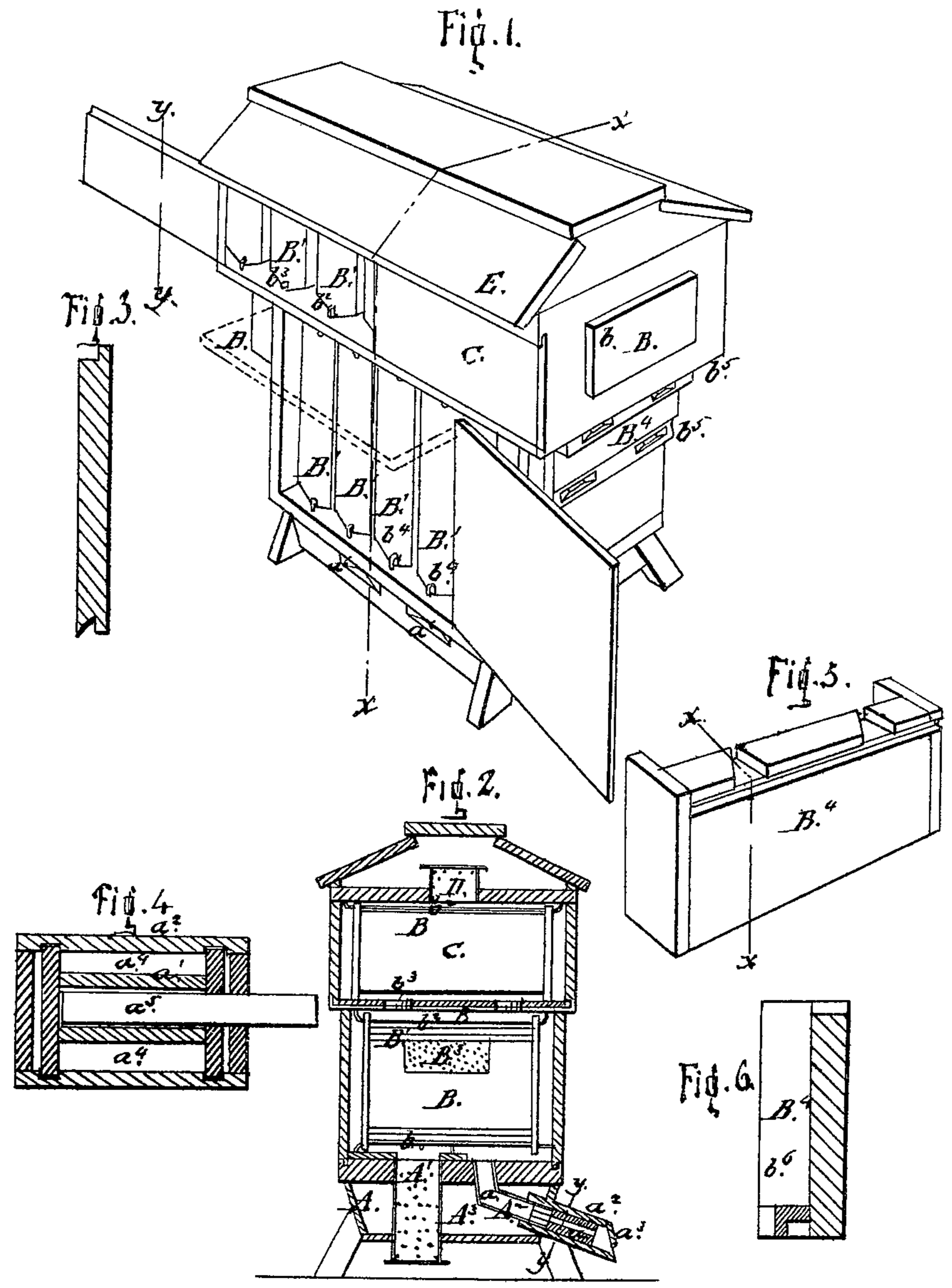


J. J. & A. J. Frey.

Bee Hive.

N^o 88,157.

Patented Mar. 23, 1869.



Witnesses:
 Chas. F. Brown
 E. W. Williams

Inventors:
 J. J. Frey
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 Attorney

Sheet 2 - 2 Sheets.

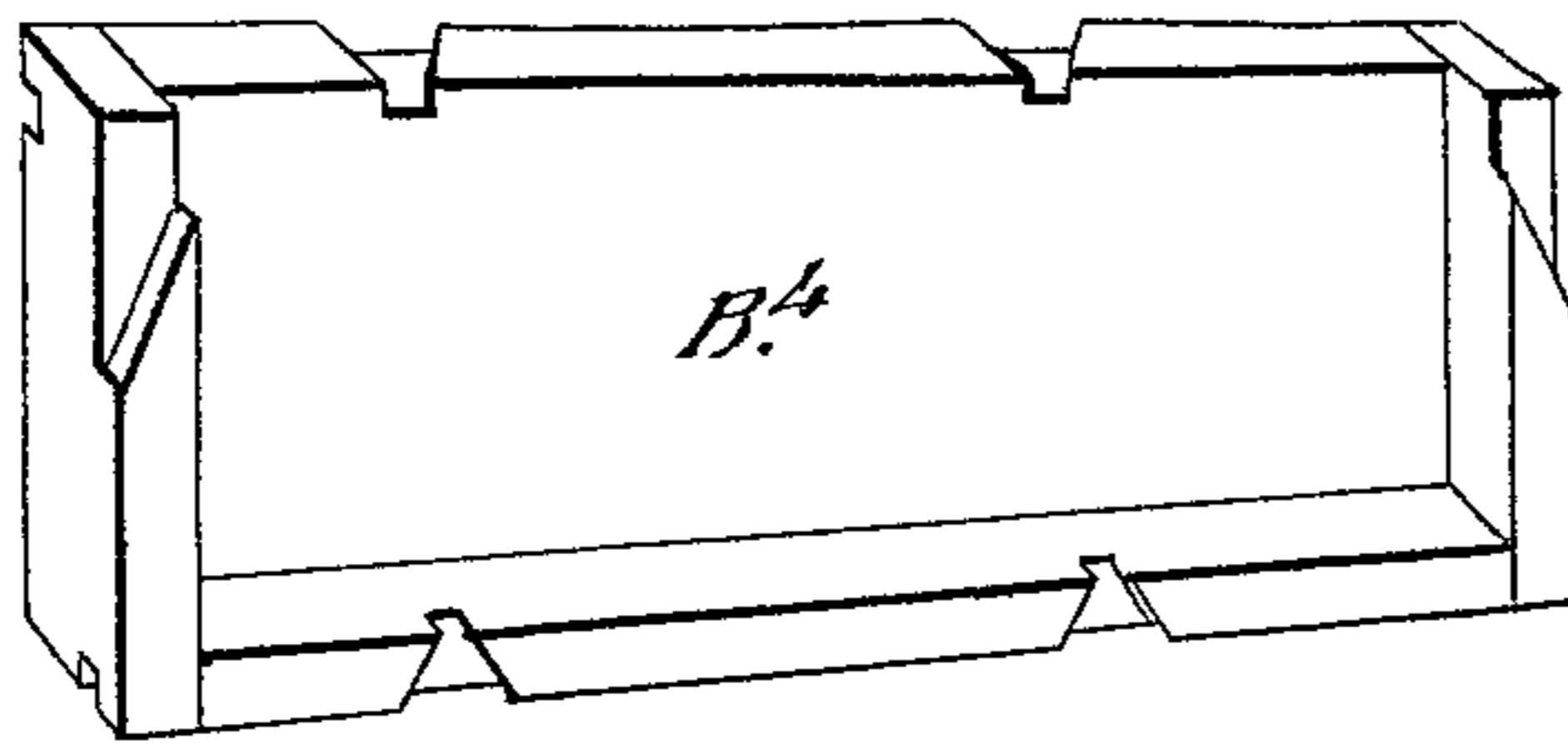
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Fig. 7.



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J. J. FREY AND A. J. FREY, OF HOOK'S POINT, IOWA.

Letters Patent No. 88,157, dated March 23, 1869.

IMPROVEMENT IN BEE-HIVES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, J. J. FREY and A. J. FREY, both of Hook's Point, in the county of Hamilton, and State of Iowa, have invented new and useful Improvements in Bee-Hives; and we 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.

This invention relates to certain improvements in bee-hives, and consists mainly in the general construction and arrangement of the hive for ventilating-purposes, and also in certain devices for making it moth-proof, the details of all of which will be fully described hereinafter.

In the drawings—

Figure 1 represents a perspective view of our improved bee-hive;

Figure 2, a sectional elevation through the line $x-x$, fig. 1;

Figure 3, a sectional elevation through the line $y-y$, fig. 1;

Figure 4, a sectional view of the bee-entrance, through the line $y-y$, fig. 2;

Figure 5, a perspective view of the slide boxes covering the side ventilators;

Figure 6, a sectional elevation of the same in the line $x-x$, fig. 5; and

Figure 7, a perspective view of the inner side of the ventilating moth-chamber.

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.

A represents the stand;

B, the chamber for the bees; and

C, the honey-cap.

The stand, or bench A is provided with the ventilator A^1 , of rectangular shape, as shown, which has a sliding bottom, by means of which it may be thoroughly cleaned, when desired.

It has also the bee-entrance A^2 , of peculiar construction, which, connecting with the bee-chamber by means of the elbow a , slopes in a downward direction, as shown, and extends beyond the hive a short distance, as is customary.

Over the bee-pipe, or entrance proper, which is designated in the drawings by the letter a^1 , is placed a case, or tube, a^2 , which is provided with a hinged door, or flap, a^3 .

The pipe proper, a^1 , is constructed with its side pieces extending beyond its upper and lower parts, in such manner as to form, with the case a^2 , supplemental tubes a^4 a^4 , above and below, as clearly shown in fig. 4.

These tubes a^4 extend into and terminate in the chamber A^3 in the stand.

a^5 represents a slide, which fits closely within the bee-pipe, when closed, and effectually cuts off all entrance to the hive.

a^6 a^6 represent tapering passages beneath the upper

board of the stand A, which lead into the chamber A^3 , which latter, it will be observed, has no connection whatever with the hive proper.

The bee-chamber B is provided, upon its rear side, with a door, b , which has a covered glass, b^1 , through which the operation of the bees may be seen when desired, without disturbing them.

In this chamber are placed the honey-frames B^1 , which slide upon the rods b^2 b^3 , located above and below, as shown.

These frames are peculiarly constructed. They are provided with the notches b^4 b^4 in their ends, which serve to confine the frames to the rods. The upper side of the frame is provided, also, with a groove, which extends its entire length, and in which the upper rod rests.

The upper part of the bee-chamber consists of a honey-board, B^2 , which is not fastened to the main part of the hive, but is so arranged as to slide in and out, when desired.

B^3 represents ventilators in the sides of the bee-chamber, which are covered upon the outside by the peculiarly-constructed sliding boxes B^4 , which are shown in figs. 1, 5, and 6.

These boxes slide in grooves in slats b^5 , which are attached to the hive, as shown in fig. 1. They are provided with but two sides, (outer and lower,) the upper and inner being wanting.

These boxes do not shut closely over the ventilator, but a space is left between the ventilator and the outer wall of the box, which is indicated in fig. 6, by b^6 .

The slats b^5 are provided with tapering passages, as shown in fig. 1, through which the air is admitted to the hive through the ventilator, and through which, also, the moth may readily pass, but only to be baffled in its attempt to gain entrance.

The honey-cap C is provided with frames similar to those in the bee-chamber, but smaller. It has also sliding doors, constructed as shown in fig. 3, by means of which a tight joint is made.

Extending above the honey-cap C is the ventilator D, which is so arranged as to be easily removed, if desired.

E represents the roof, covering all the hive.

By the construction and arrangement herein described, an extremely desirable hive is obtained, which possesses many advantages over the ordinary forms now in use.

It is almost perfectly moth-proof, the arrangements for enticing the moth into the moth-chamber, and into the side boxes B^4 , being in perfect accordance with their habits, and such as must necessarily be successful.

The manner of ventilating is such that pure air circulates through the hive freely, at all times, and in all weathers, without exposing the bees to draughts of air. The tight joints exclude all dampness. The form of the hive is desirable. The bees are protected from the heat of summer by the roof, and also by the honey-cap. By removing the roof, and taking off the upper ven-

tilator, the hive is open in such manner that bees from another hive can be easily driven into it. This, at times, is a great convenience.

The honey-board B^2 may be taken out, when necessary, for the purpose of separating the frames, when they become united by the comb.

If desired, the hive may be made double, for two swarms, in which case one system of ventilators will answer for both.

Having thus fully described our invention,

What we claim, and desire to secure by Letters Patent, is—

1. The moth-chamber A, having the tubes a^4 and passages a^6 , as and for the purpose described.

2. The bee-pipe a^1 , with slide a^5 , when combined with the case a^2 , in the manner described, for the purpose set forth.

3. The honey-frames B^1 , constructed as described, when used in connection with the rods $b^2 b^3$, in the manner described, for the purpose set forth.

4. The sliding boxes B^4 , covering ventilators B^3 , when constructed and arranged substantially as described, for the purpose set forth.

5. The hive A B C, provided with the ventilators A^1 , B^2 , B^3 , and D, when constructed and arranged substantially as described, for the purpose set forth.

This specification signed and witnessed, this 17th day of December, A. D. 1868.

J. J. FREY.
A. J. FREY.

Witnesses:

L. C. VROMAN,
J. W. ARMSTRONG.