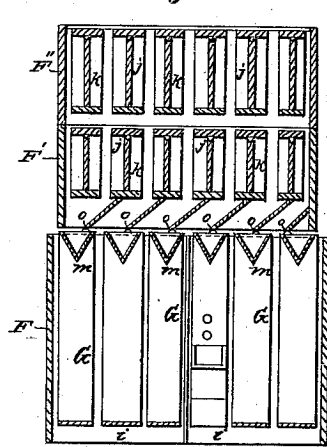
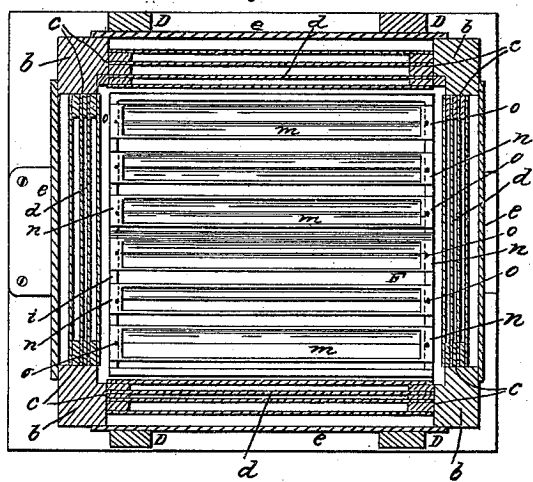
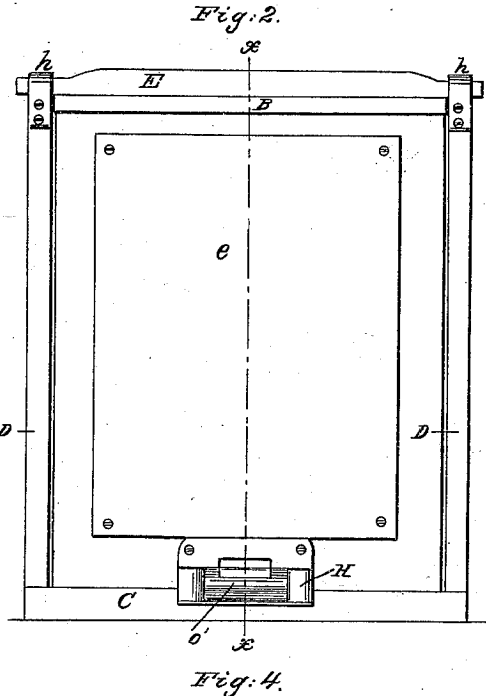
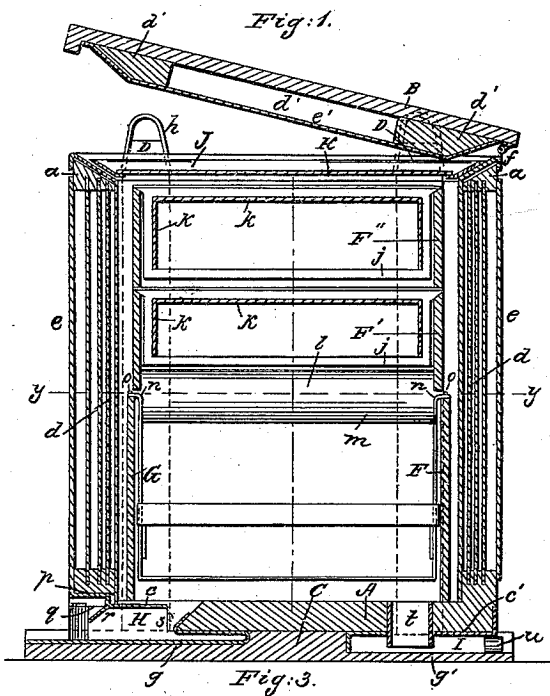


E. COX.  
Bee Hive.

No. 66,680.

Patented July 16, 1867.



Witnesses:  
Thos. Tusch.  
J. A. Service.

Inventor:  
Edwin Cox.  
per *Munn & Co.*

# United States Patent Office.

EDWIN COX, OF MONROE, WISCONSIN.

Letters Patent No. 66,680, dated July 16, 1867.

## 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 I, EDWIN COX, of Monroe, in the county of Green, and State of Wisconsin, have invented a new and improved Bee-Hive; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical section of my invention taken in the line *x x*, fig. 2.

Figure 2, a front elevation of the same.

Figure 3, a horizontal section of the same taken in the line *y y*, fig. 1; and

Figure 4, a detached vertical section of the chambers within the bee-hive.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved bee-hive, and it consists in a novel construction of the hive, as hereinafter fully shown and described, whereby several advantages are obtained over the various hives in present use.

The hive is constructed of a wooden frame and paper walls covered or protected by wooden or sheet-metal panels. The top of the frame is formed of four sticks, *a*, of tri-lateral form in their transverse section, and having corner posts, *b*, attached, with upright sticks, *c*, secured to them, which are slitted or grooved vertically to receive the edges of paper sheets *d*, any suitable number, which form the walls of the hive. The exterior paper sheets may be protected by wooden or sheet-metal panels *e*. These sticks and sheets of paper may be arranged and applied in various ways and the same end attained, to wit, the obtaining of a hive warm in winter and cool in summer, and by a very simple and economical means. Cloth sheets may be used in lieu of the paper sheets, if desired. The lower ends of the corner posts *b* are nailed, or otherwise secured, to a plank or bottom, *A*, and all the seams or joints put together with softened beeswax. On the sides of the bottom *A* bee-entrances *c c'* are cut, as shown in fig. 1. *B* is the top or lid of the hive, having bevelled cleats, *d'*, nailed to its under side to fit the top of the hive. The cleats *d'* are covered with woollen cloth, *e'*, which makes the top or lid double walled, enclosing a dead-air space, and said lid is attached to the top of the hive by hinges *f*. The bottom board *A* rests upon another bottom board, *C*, in which bee-entrances *g g'* are made, cones pending to the entrances *c c'* in *A*. In two opposite sides of the bottom board *C* there are two notches made to receive the lower ends of uprights *D*, said uprights being mortised at their upper ends, or having metal straps, *h*, attached to receive the ends of bars *E E*, which keep the lid *B* down to its place and the bottom board *C* also in proper position, both being thereby clamped snugly to the hive. The interior of the hive is provided with three boxes, *F F' F''*, the former and lowermost one, *F*, being the brood-box, and the two others, *F' F''*, spare-honey boxes. The brood-box *F* is composed of two parts *i i*, connected together by hooks or other suitable fastenings. The spare-honey boxes have the top edges of two opposite sides bevelled on the inside to form bearing surfaces for the ends of the upper bars of the comb-frames *j*, as will be fully understood by referring to fig. 1. By this means the boxes *F' F''* may be fitted closely together so as to prevent the bees passing out between them. These comb-frames may be of wood, and to the inner surfaces of their top and side bars cords, *k*, coated with beeswax, are attached to serve as guides for the bees in building their combs and thereby insure the latter being made in vertical planes separate or detached from each other. The bottom of the box *F'* is composed of a series of strips, *l*, of sheet metal (ordinary tinned plate) let into the sides of the box at an angle of about forty-five degrees. These inclined strips *l* serve to conduct the dirt and droppings from the upper box *F'* into V-shaped troughs or gutters *m*, which form the top slats of the comb-frames in the brood-box, and thereby prevent said dust and dirt falling upon the brood-combs. This will be fully understood by referring to fig. 4. The comb-frames *G* of the brood-box *F* may be constructed of wood or sheet metal, and the ends of the troughs or gutters *m* are formed with lips, *n*, which are fitted on pins, *o*, on the top edges of two opposite sides of the brood-box *A*. The two honey-boxes *F' F''* are used for changing or shifting the comb-frames when the lower one, *F'*, is filled. The comb-frames are placed in the upper box *F''* and the empty frames of the latter placed in *F'*. By this means the top and bottom of the hive are kept full of combs, and bees will naturally exert themselves to fill the space between them, as they have a proclivity to connect detached combs, and consequently will make more honey than if top

spare-honey boxes were alone used. By having the frames G in the brood-chamber hung on pins, *c*, as shown and described, they may always be spaced at equal distances apart without any trouble or difficulty whatever. The front bee-entrance H I construct of tin, having a flaring front, and is fitted in the bottom boards A C, as shown in fig. 1. On the top of this entrance H there is secured a shallow box, *p*, the front end of which is open, and directly above the entrance of H, and at the rear of the bottom of box *p* there is an opening, *g*, leading into H, with an inclined chute or apron, *r*, extending down into H. This arrangement is to prevent moths gaining access to the hive. They will enter box *p* and pass through the opening *g* and be directed by the inclined chute or apron *r* out from the entrance H. At the upper part of the rear of the flaring part of H there is an opening, *s*, through which the bees pass into the hive. The other bee-entrance I is an oblong quadrilateral box, having an upright rectangular tube, *t*, inserted in its top about two inches back from its front end. This tube *t* fits into the mortise in board A, as shown clearly in fig. 1. The front of this box is composed of a piece of tin or sheet metal perforated with two holes, in which stoppers, *u*, are fitted. This passage-way, when not required for use, is closed by the stoppers *u* and is designed for ventilating the hive, removing damp air, and causing a fresh circulation over the bottom board and around the brood-combs. The tube *t* extends down a short distance in box I to prevent the advent of moths into the hive. J is a movable air-chamber constructed of tinned plates connected by mitre joints at their ends to form a square, the plates having an angle of inclination of forty-five degrees and turned inward at their lower edges to support a glass plate, K, which is secured in position by beeswax. This air-chamber is fitted into the top of the hive and over the spare-honey boxes, and is pressed tightly to the sides of the top by the lid B, when secured down by the bars E E, the top of the hive being thereby rendered proof against moths, or any other insects, and also against the admission of air.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent—

1. A bee-hive having its sides or panels composed of one or more layers of paper with outer protecting panels of wood, whereby the dampness within the hive is absorbed, substantially as herein set forth for the purpose specified.
2. The inclined strips or plates *l* in the bottom of the spare-honey box F', in combination with the troughs or gutters *m* in the upper parts of the comb-frames G, substantially as and for the purpose set forth
3. The entrance-boxes H I provided respectively with the moth-box *p*, tube *t*, and stoppers *u*, constructed and arranged substantially as described.

EDWIN COX.

Witnesses:

ED. T. GARDNER,  
A. W. POTTER.