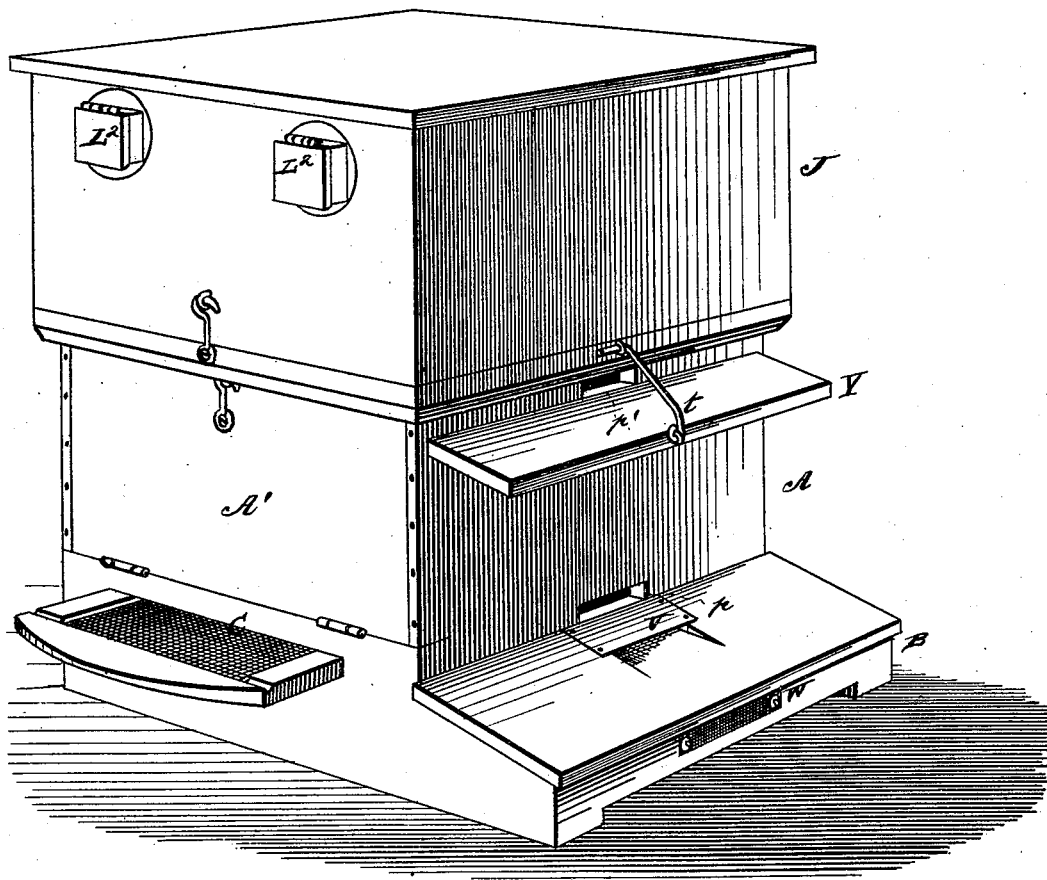


C. W. GALE.  
Bee-Hive.

No. 207,731.

Patented Sept. 3, 1878.

*Fig. 1*



WITNESSES  
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*James J. Sheehy*

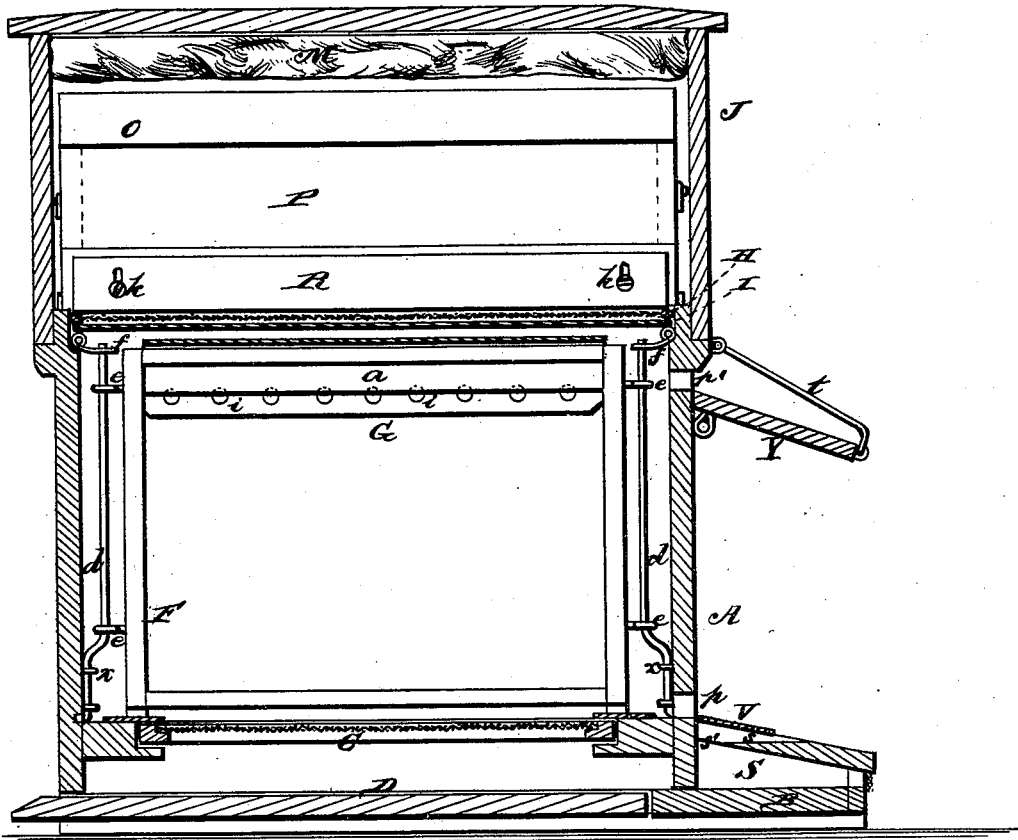
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*Fig. 2.*



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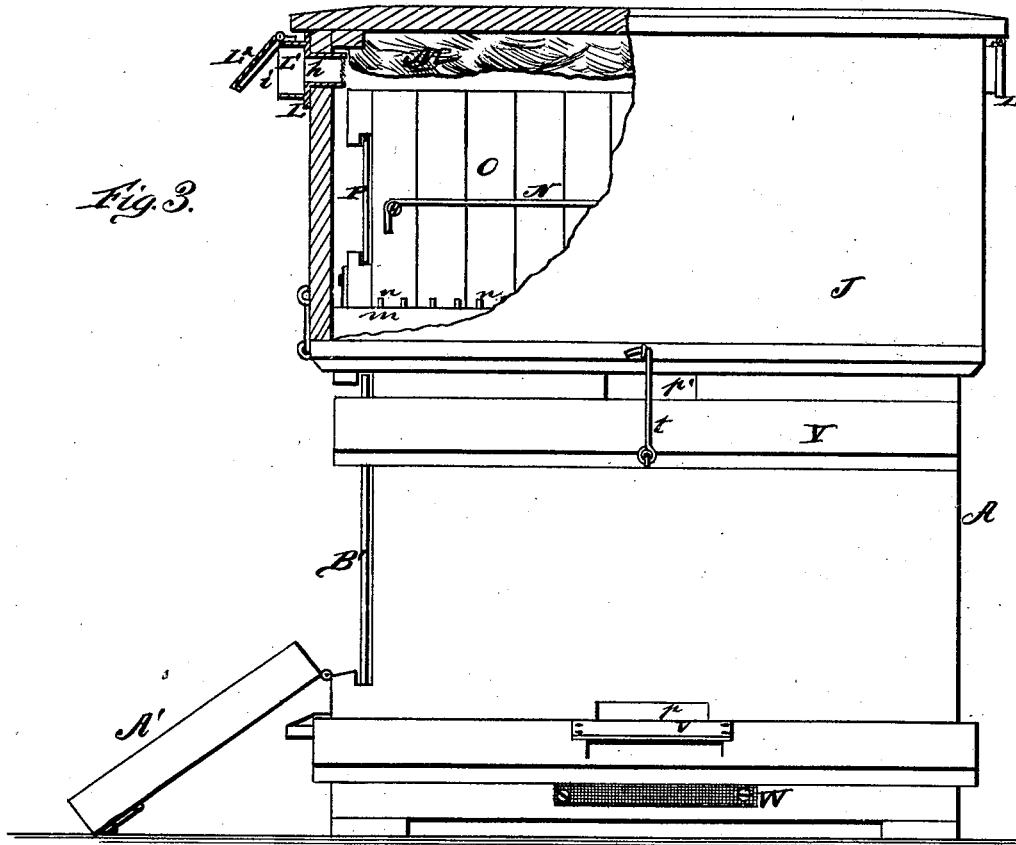
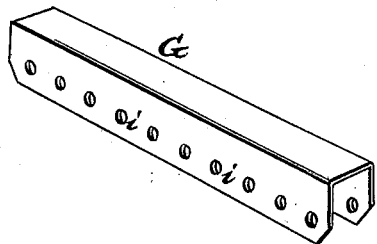


Fig. 4.



Fig. 5.



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ATTORNEYS.

# UNITED STATES PATENT OFFICE.

CHARLES W. GALE, OF OSAWATOMIE, KANSAS.

## IMPROVEMENT IN BEE-HIVES.

Specification forming part of Letters Patent No. 207,731, dated September 3, 1878; application filed May 4, 1878.

*To all whom it may concern:*

Be it known that I, CHARLES W. GALE, of Osawatomie, in the county of Miami and State of Kansas, have invented a new and valuable Improvement in Bee-Hives; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a perspective view of my bee-hive. Fig. 2 is a longitudinal vertical section. Fig. 3 is a part-sectional front view. Fig. 4 is a sectional view of frame, and Fig. 5 is a perspective view of cap.

My invention relates to the construction of bee-hives; and consists in certain improvements thereon, as will be hereinafter more fully set forth, and pointed out in the claims.

The annexed drawings, to which reference is made, fully illustrate my invention.

A represents the body of the hive or brood-chamber, with base B projecting forward in front, as shown. The bottom of the brood-chamber A is formed of a sliding screen, C, and the bottom D of the base under said screen is also made sliding, so as to be drawn out at will. By these means the bee-keeper is enabled to clean, air, and feed his colony with safety, and without endangering it to robbers, millers, mice, or any other vermin that would otherwise infest or destroy it.

To air or feed the colony, the bottom D is drawn, leaving the screen or screen-drawer C closed. For feeding, place the feed on top of the bottom D, and then close the same, after which the screen C is drawn to the last bar, which will entirely close the slot for the screen, keeping the hive tight and giving the bees an open bottom to the feed.

To clean the hive, the screen C is first removed, cleaned, and readjusted, and then the bottom D is manipulated in the same manner.

To air the hive, simply draw the bottom D, leaving the screen C in place.

F F represent the comb-frames, made in rectangular form. The top bar of each frame is, on its under side, provided with a central tongue, *a*, which runs the entire length of said

bar. This tongue is thin and comparatively wide or deep, and leaves a space, *b*, on each side, forming a comb-line, which enables the bees to build cells on both sides of the tongue before reaching its lower edge, which keeps the comb its proper thickness from top to bottom of frame.

The frames F F are on both sides provided with screw-eyes *e e*, which fit upon vertical rods *d d*, arranged at the front and back of the hive, said rods being held by staples *x x* at the bottom. After the frames are put on the wires *d d*, hinged plates *f f* are let down, fitting over the upper ends of said rods and holding them to their proper places. By the arrangement of these parts the frames can be drawn at any time, and it gives the bees ample room to pass between the frames and the rods, and between the rods and the body of the hive, thereby preventing them from fastening the frames to the hive.

By drawing the first frame the others can be moved sidewise; and should any of them be fastened, drawing in that direction will separate them, so that they can be readily removed at the top.

Each frame F is provided with a removable comb-line cap, G, of tin or other suitable material, extending the entire length of the frame and projecting downward a suitable distance. These caps compel the bees to build their comb straight, and prevent them from making a surplus of drone-comb, which is always detrimental to a colony.

In the side of each cap G are apertures *i*, of any desired form, which give the bees a chance to work through them. In a full-sized hive there will be three-eighths of an inch space, for the bees to pass while working.

On top of the frames F is placed a movable glass plate, I, and also a screen, H, covering the top of the hive. The glass plate is for summer use during the honey season, to prevent the bees from entering the cap.

When the body of the hive is filled the honey-box is adjusted and the glass plate I drawn out and placed on top of the box, there to remain until the box is full and ready to be taken off. The glass plate is then readjusted on top of the frames, and allowed to remain till late in the season.

The screen H is for winter use, and will allow the moisture of the bees to pass to the top of the hive-cap.

J represents the cap of the hive, inside of which is fitted a wool mat, M, which absorbs the dampness arising from the colony during the winter, keeping it dry and warm. The cap is provided with ventilating-openings *i*, in which are inserted tubes *h*, projecting within the cap and provided at the inner end with perforated sheet metal or wire-gauze. The outer end of each tube *h* is provided with a plate or flange, L, which is fastened to the outside of the cap, and on this plate is formed a box, L<sup>1</sup>, with hinged cover L<sup>2</sup>, as shown. This ventilator keeps the hive cool in summer-time and prevents the rain, during storms, from driving in, as the cover L<sup>2</sup> is hinged at the top, and may be set at any angle desired. This cover should be closed in winter.

The honey-box is composed of a series of rectangular frames, O O, which are held together by means of hooks N N, as shown, or in any other suitable manner. The frame at each end of the box is provided with a sliding glass plate, P, which can be drawn out when required. The frames all rest upon cleats *m m*, and between pins *n n* thereon. One end frame is, at the bottom, provided with an adjustable plate, R, having vertical slots, and fastened by screws *k*, for closing the space below the honey-box when the glass plate I is removed.

Between the frames O, composing the honey-box, are suitable openings at the bottom for the passage of the bees, and the sides of said frames are beveled to admit the point of a knife, for easily separating the frames, as required.

In the projecting portion of the base B is

the miller-trap, which consists of a chamber, S, beneath and in front of the lower bee-entrance, *p*. A slot, *s*, is cut in the front board deep enough to admit a miller but not a bee. This slot is covered by a plate, V. The miller passes under this plate and through the slot *s*, and then through a slot, *s'*, into the box or chamber S, he being attracted by the light through a small screen, W, at the front of said chamber.

The hive is also provided with an upper bee-entrance, *p'*, below which is a hinged alighting-board, Y, which may be raised and suspended by a hook, *t*, for use, or dropped down when not desired for use.

One side of the hive A is provided with a falling door, A', and a sliding glass plate, B', arranged inside thereof, which assists the bee-keeper to examine the bees, and also enables him to hive them from that point, if desired.

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

1. The combination of the comb-frames F, having eye-screws *e* in their side pieces, the vertical rods *d*, staples *x*, and the hinged plates *f*, substantially as and for the purposes herein set forth.

2. The adjustable plate R, arranged on one end frame of the honey-box, for the purposes herein set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

CHARLES WM. GALE.

Witnesses:

H. B. SMITH,

L. B. MAYNARD.