T. SHIELDS.

Bee Hive.

No. 82,757. Patented Oct. 6, 1868.

Fig 1.

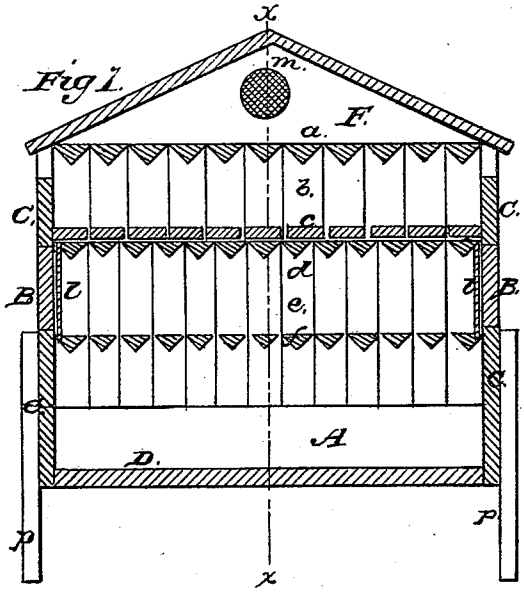


Fig 3.

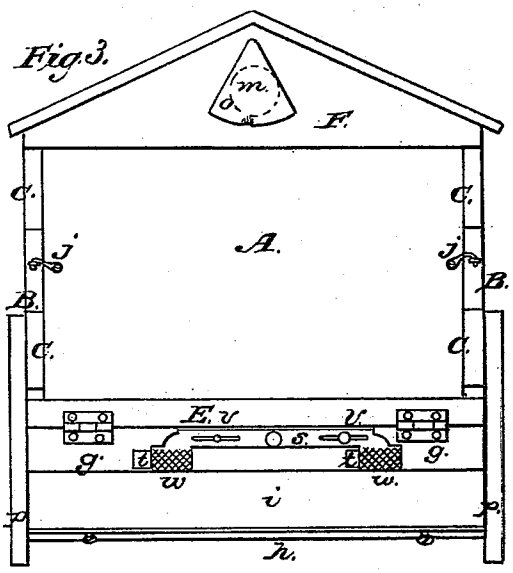
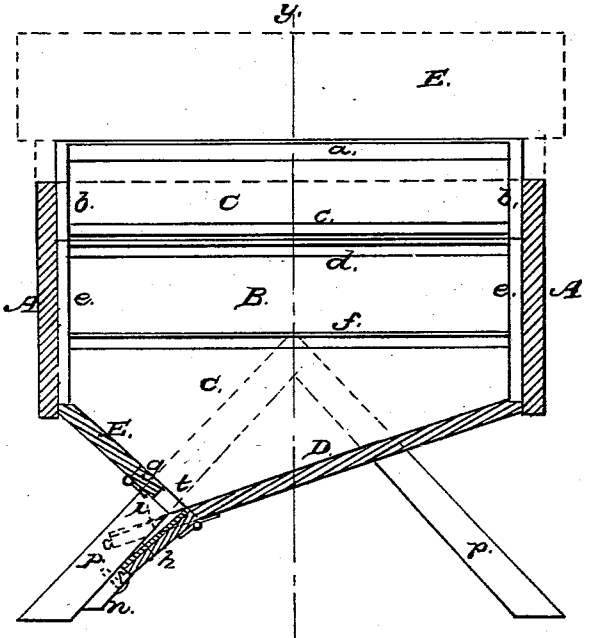


Fig 2.



Witnesses:

Fredk. Andre

J. Snowdon Bell.

Inventor:

Thomas Shields

By his attorney J. C. Robbins

United States Patent Office.

THOMAS SHIELDS, OF HILLSBORO, OHIO.

Letters Patent No. 82,757, *dated October* 6, 1868.

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, THOMAS SHIELDS, of Hillsboro, in the county of Highland, and State of Ohio, have invented a new and improved Bee-Hive; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification—

Figure 1 being a transverse section in the line *y y* of fig. 2,

Figure 2 a longitudinal section in the line *x x* of fig. 1, and

Figure 3 an end view of my said improved bee-hive.

Similar letters indicate like parts in all the drawings.

The exterior enclosing-portion of my improved bee-hive consists of the opposite end casings A A; the opposite side casings B, C C, the double-inclined bottom sections D E, and the removable roof F, the said parts being combined with each other, and the supporting-legs, *p p*, being secured to the sides of the bee-hive in the manner represented in the drawings.

The upper ends of the bottom sections, D E, are brought to a horizontal line with each other, and serve as supporters to the series of honey-frames, *d e f*.

The said honey-frames are each composed of opposite vertical legs, *e e*, and horizontal connecting-slats, *d f*, the upper slat, *d*, of each frame having its ends connected with the upper ends of the opposite legs *e e*, and the lower slat, *f*, of each frame having its ends connected with the central portions of said legs *e e*, as represented in fig. 2.

The outermost of each of the honey-frames *d e f* has a pane of glass, *l*, secured within its rectangular opening.

The sections B B of the side casings of the hive, which are located immediately opposite the said panes of glass *l l* in the outermost honey-frames, are removable at pleasure, for the purpose of enabling the owner of the hive to observe the operations of the bees at any time, by removing the said side sections.

The said side sections, B B, may be secured in their appropriate positions in the sides of the hive by means of hooks and eyes, *j j*, fig. 3, or by any other appropriate fastenings.

Above the series of honey-frames *d e f*, and resting thereupon, another series of honey-frames, *a b c*, is placed, as shown in the drawings.

The said upper series of honey-frames *a b c* is each composed of end-uprights, *b b*, and connecting-slats, *a c*.

The upper slats, *a a*, of the series of upper honey-frames, are of such a width that there is not sufficient space between any two of them for the bees to pass from the honey-chamber up into the air-chamber, immediately above the said upper series of honey-frames. The remainder of the honey-frame slats, *c d f*, are of such a width that there are ample spaces left between them for the bees, which enter the air-chamber below the lower series of honey-frames, to pass up into the honey-chambers within each series of said honey-frames.

The alighting-board *h* is hinged to the lower edge of the bottom section, D, of the hive, and the upper face of said alighting-board is covered with a sheet of glass, *i*. A portion, *g*, of the bottom section, E, of the hive is hinged to the main portion thereof, as shown in fig. 2.

The apertures *t t* in the said hinged portion *g* of the bottom section, E, permit the bees to freely pass from the alighting-board *h i* into the air-chamber immediately beneath the honey-frames.

The sliding plate *s*, fig. 3, carries at its extremities perforated covers, *u u*, for the aforementioned apertures *t t*, the said plate being so arranged that by sliding it in one direction, the perforated covers *u u*, at the extremities thereof, will close the apertures *t t*, and by sliding it in an opposite direction, the said apertures will be opened, for the entrance and exit of the bees.

These apertures *t t* should be closed at all times when there would be danger of the bees becoming benumbed with cold by a sudden variation of the temperature of the atmosphere whilst they should be abroad, and also at all other times when the safety of the bees might render it expedient to close said apertures.

Whenever a freer ventilation of the hive may be desired, the alighting-board *h i* may be turned downwards, and the hinged portion, *g*, of the bottom section, E, may be turned upwards.

When the said hinged portion, *g*, of the bottom section, E, is in the closed position shown in fig. 2, it may be retained in said position by elevating the hinged alighting-board *h i* to its highest position, and retaining it in that position by means of the buttons *n* on the inner side of the front legs of the bee-hive, shown in fig. 2.

By retaining the said alighting-board *h i* at the proper degree of elevation, the bee-moth cannot ascend the glass face thereof, and consequently that marauder is completely excluded from the interior of my improved bee-hive.

The air-chamber, between the upper series of honey-frames, *a b c*, and the roof of the hive, is ventilated by means of apertures, *m m*, in the pediments of said roof.

The said ventilating-apertures *m m* are protected from insect-marauders by perforated covers, and from any injury from the elements by means of hoods, *o*, one of which is shown in fig. 3.

It will therefore be perceived that the air is permitted at all times to circulate freely through all parts of my improved bee-hive, the bee-moth is completely excluded therefrom, without interrupting the free ingress and egress of the bees, and by the temporary removal of the side sections, B B, the operations of the bees within the hive can at any time be observed by the person who has charge of the hive.

Having thus fully described my improved bee-hive, what I claim therein as new, and desire to secure by Letters Patent, is—

1. The two series of removable honey-frames, of different widths, arranged the one above the other between upper and lower ventilating air-chambers, substantially as herein set forth.

2. The glazing of the outermost of the lower series of honey-frames in the hive, when the said glazed honey-frames are located opposite to the removable sections B B of the side casings of the hive, substantially as herein set forth.

3. The glass face of the alighting-board *h*, when the said alighting-board is arranged with the other parts of the hive, substantially in the manner herein set forth.

In testimony that the aforegoing is a true specification of my new and improved bee-hive, I hereunto sign my name.

THOMAS SHIELDS.

Witnesses:

JOS. H. MULLERIX,

B. B. THEUPON.