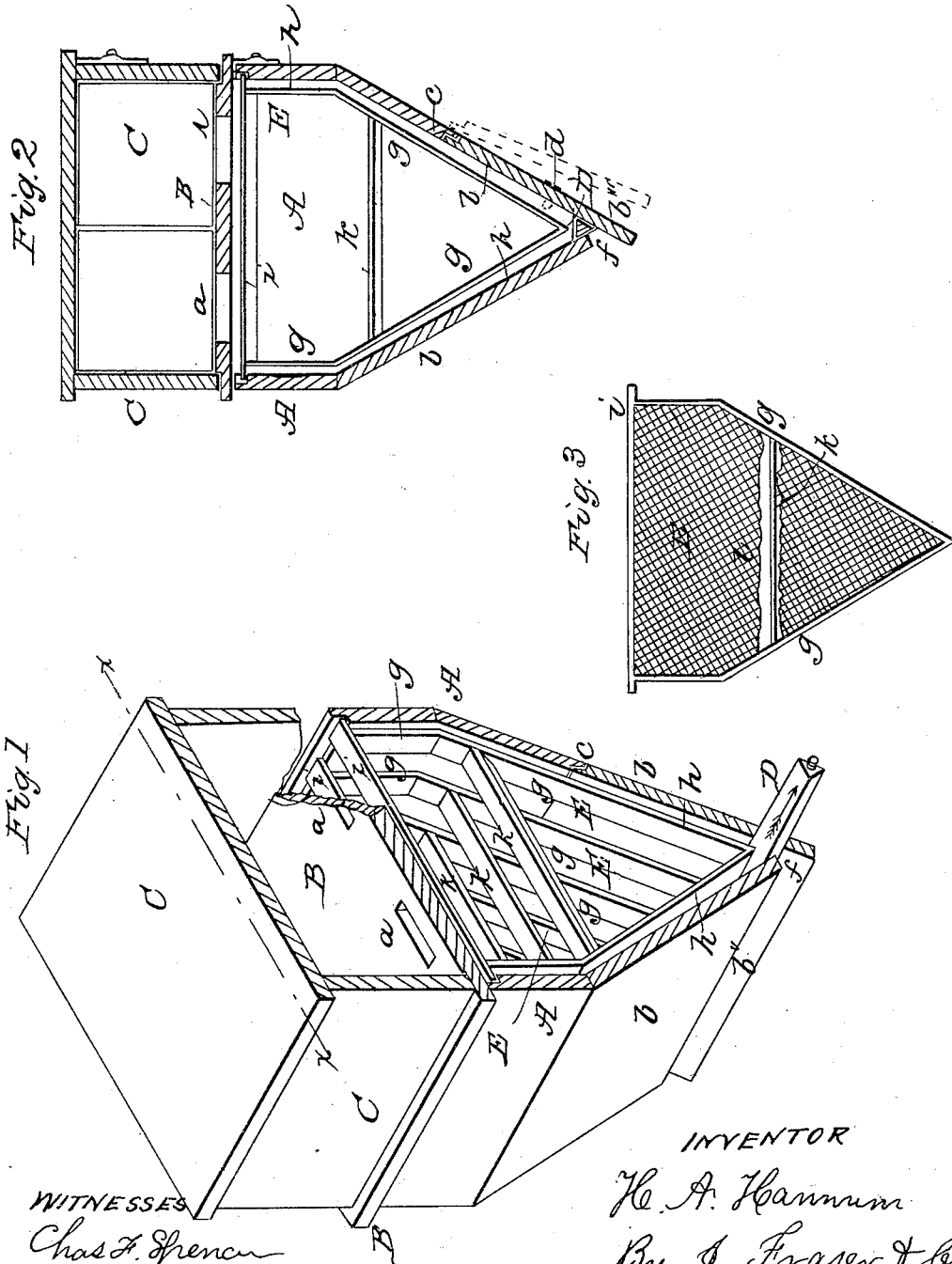


H. A. HANNUM.

Bee Hive.

No. 44,949.

Patented Nov. 8, 1864.



WITNESSES

Chas. F. Spencer

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# UNITED STATES PATENT OFFICE.

HENRY A. HANNUM, OF CAZENOVIA, NEW YORK.

## IMPROVEMENT IN BEE-HIVES.

Specification forming part of Letters Patent No. 44,949, dated November 8, 1864.

*To all whom it may concern:*

Be it known that I, H. A. HANNUM, of Cazenovia, in the county of Madison and State of New York, have invented a new and useful Improvement in Bee-Hives; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is a sectional perspective view of my improved bee-hive; Fig. 2, a vertical section thereof in the plane of line *x x*. Fig. 1. Fig. 3 is a side elevation of one of the movable frames detached, with the honey-comb in place.

Like letters of reference indicate corresponding parts in all the figures.

My invention consists in the peculiar construction of the bottom portion of the hive in such a manner that one side thereof may be removed for the purpose of arranging the comb-frames, hiving the bees, &c.; but when in place forming an alighting-board, and with the opposite side forming a dovetailed space, in which rests an angular slide for governing the entrance.

I prefer to employ a hive, A, substantially of the form represented. Over the top of this hive is situated a partition or diaphragm, B, and on this rests a case, C, containing the usual honey-boxes. Communication is sustained between hive A and case C by means of slots or openings *a a* in the diaphragm. One angular side, *b*, of the hive is secured rigidly in place, but the lower portion, *b'*, of the other side is made removable—its upper edge being jointed, as shown at *c*, to the fixed portion of the same side, and being held in place by means of screws *d d*, which, when taken out, unfasten this side. The lower edge of this side (or the opposite side, *b*, if preferred) projects downward sufficiently far to form an alighting-board, *b''*—a passage, *f*, of suitable size being left in the angle, for egress and ingress of the bees. This passage is effectually stopped, when desired, by an angular-shaped slide, D, which rests in the space or groove formed between the two sides *b b'*, simply by nailing or screwing them in place. There are several advantages secured by this arrangement. In the first place, by making the side *b'* removable I am enabled at any time to expose the interior of the bottom

of the hive to examination, which in other hives of this peculiar angular shape cannot be done—the only access being from the top. By this means I can at any time adjust the comb-frames, hereinafter described, or remove such broken comb as is sometimes unavoidably produced, or clear the hives of moths; also make a large opening in the bottom of the hive for the purpose of “hiving,” which is far preferable to removing the top and inverting the hive, as is usually done, since the top is frequently stuck down. In the next place, the two sides *b b'* form a dovetailed space, which answers the purpose of a groove, formed especially for the reception of the cut-off slide in other arrangements of similarly-shaped hives. This is not only very cheap and simple, but the peculiar advantage is, that the inner plane surface of the angular sides *b b'*, where the slide enters, is unbroken, so that such dirt and filth as slides down from above escapes freely, and no recess or hiding-place is provided for moths. Were a positive groove made for the cut-off slide in the sides *b b'*, the filth would clog in the same, and it would form a secure retreat for the moths. And, lastly, the projection *b''* forms a convenient alighting-board for the bees in their passage from and to the hive.

Removable comb-frames have long been used, but are usually of square or rectangular form, to fit the hive in which they are employed; but in one instance I am aware that a triangular form of frame has been used, so arranged that either angle may be changed upward. My frame differs from this in several essential particulars. My frames E E are of the same outline form of the hive proper, A, the sides *g g* meeting at an acute angle at the bottom, while at the top they are vertical. These sides are of smaller diameter or size than the sides of the hive, thus leaving an open and unobstructed space, *h*, all around between the frames and the sides of the hive. At the top of the frame is a hanger-piece, *i*, by which the frame is suspended on the opposite sides of the hive, and at a suitable position below, within the frame, is situated a cross-piece or slat, *k*. The bees attach their comb to the top of the frames and build downward; but they never close it at the bottom—merely touching it down at intervals—leaving a space there for a passage through. Thus, by the

employment of the cross-piece *k*, I am enabled to preserve an opening, *l*, Fig. 3, transversely through the frame, which facilitates the passage of the bees and allows them to circulate more freely than if the entire frame were filled with an unbroken sheet of comb. It also insures more regularity, uniformity, and straightness in the sheet than if filling the entire frame, in which case it is liable to be built jagged, projecting, and angular, so as to interfere with the removal of any one of the frames. Furthermore, as the brood-comb is usually at the bottom, the cross-piece *k* may be so situated as to form the boundary between the brood and true honey comb, thus insuring a ready separation of the two without loss when any one of the frames is to be appropriated.

In addition to these advantages the unobstructed and unbroken space *h*, between the sides of the frames and the hive, allows the free passage of the bees not only at the said sides, but also at the bottom—the frames reaching not quite to the surface of the slide—thus giving ready entrance and exit. This open space at the sides gives a free passage to all the filth and dirt that drops from above, the same sliding unobstructedly down the

inclined sides *b b'* of the hive and escaping. This is of the greatest importance to the welfare of the bees, and is not shown in the triangular or any other arrangements with which I am acquainted, though in such a mere passage is made at the side to allow the bees to pass; but in such case the filth will clog at the bottom around the bearing of the comb-frames against the sides of the hive, and will furnish a retreat for the moths.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination and arrangement of the removable angular side *b' b''*, slide *D*, and rigid side *b* of the hive, in such a manner that the interior of the bottom of the hive may be opened, an alighting-board formed for the bees, and a space formed to retain the slide by the angular position of said sides, and without the danger of clogging by filth, substantially as herein set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

HENRY A. HANNUM.

Witnesses:

R. F. OSOOD,

JAY HYATT.