

(No Model.)

E. S. ARMSTRONG.

BEE HIVE.

No. 349,073.

Patented Sept. 14, 1886.

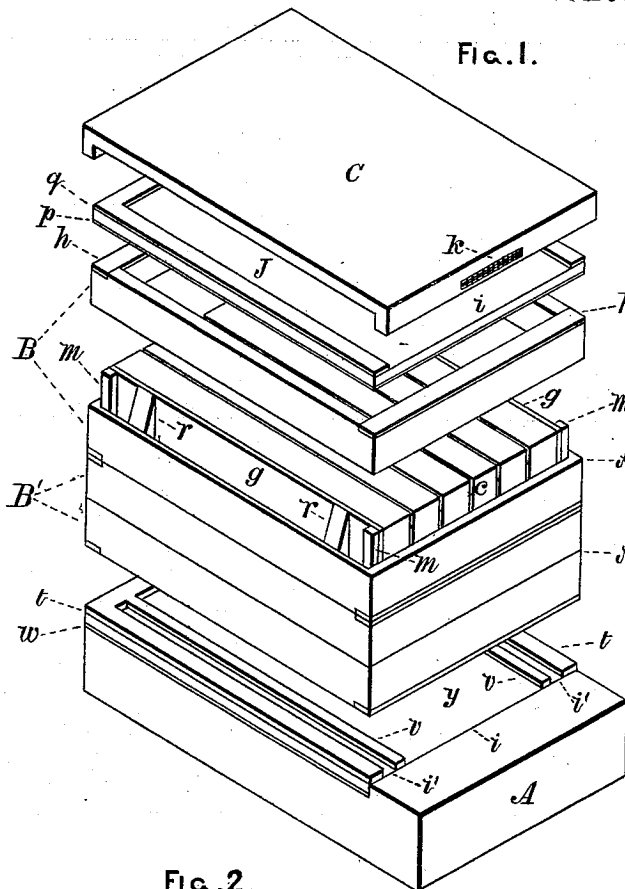


FIG. 1.

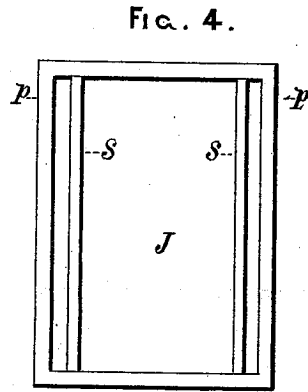


FIG. 4.



FIG. 2.

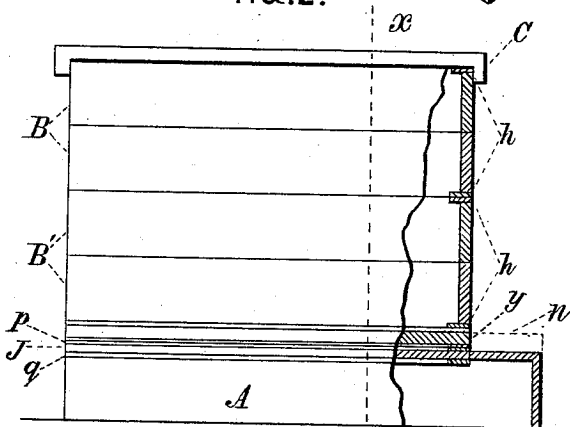
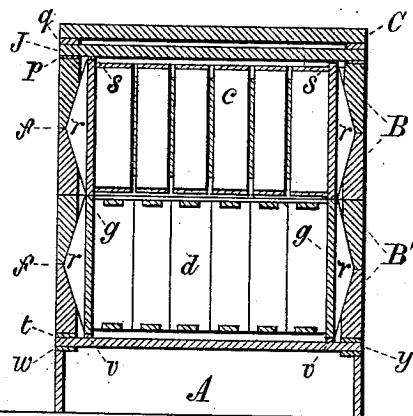


FIG. 3.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

ELVIN S. ARMSTRONG, OF JERSEYVILLE, ILLINOIS.

## BEE-HIVE.

SPECIFICATION forming part of Letters Patent No. 349,073, dated September 14, 1886.

Application filed June 8, 1886. Serial No. 204,532. (No model.)

To all whom it may concern:

Be it known that I, ELVIN S. ARMSTRONG, of Jerseyville, in the county of Jersey and State of Illinois, have invented a new and Improved Bee-Hive; and I 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.

My invention relates to an improvement in bee-hives, chiefly of that class having the body or casing formed of sections superposed in such order as to admit of being separated horizontally about midway between the top and bottom of both the honey-boxes and brood-frames, my object being to provide improved means for clamping together the honey-boxes, and also the brood-frames; and, further, to provide a honey-board of such construction that by transference from one part of the hive to another, and in combination with certain other parts, hereinafter described, it may be made available for protecting the interior of the hive against extreme cold in winter, and also against the intense heat of the sun's rays in summer, and, still further, to provide an improved means for securing to the casing the flanges which support the honey-boxes and brood-frames.

With these ends in view my invention consists in certain details of construction and combinations of parts, explained in the following specification, and pointed out in the claims.

In the drawings, Figure 1 is a perspective view of the hive, several of the parts being shown as lifted one above the other, for the purpose of more clearly exhibiting their construction. Fig. 2 is a side elevational view of the same, showing all the parts brought together. Fig. 3 is a transverse sectional view of the hive, taken in the line *x x*, Fig. 2.

A represents the base of the hive, upon which is supported the casing thereof, consisting of a series of reversible and interchangeable sections, B B', each separable horizontally in the middle, as shown at *f*, the two halves, and also the several sections being secured together by any fastenings adapted for that purpose. The lower section, B', contains a tier of brood-frames, *d*, and therefore constitutes the brood-

chamber. The top section, B, incloses a tier of honey-boxes, and is covered by a removable lid, C, so as to form a honey-rack.

For the purpose of clamping the brood-frames together laterally, and also the honey-boxes, double wedges *r* are inserted vertically between the inner faces of the sides of the casing and the followers *g*, said inner faces being inclined so as to conform to the taper of the wedges, as shown in section in Fig. 3. One of the wedges is shown in perspective upon an enlarged scale to the right of Fig. 1. This feature of my invention has the advantage of clamping the boxes together with a uniform pressure from top to bottom, and releasing them by the removal of the casing, which is rendered free from all liability to stick by the abrupt inclination of the faces of the wedges, which, when withdrawn, allow the honey-boxes and brood-frames to be more widely separated for inspection than heretofore—a convenience of importance to the bee-keeper.

J represents the honey-board provided on the upper side with a strip, *q*, in thickness equal to one whole bee-space, (about three-eighths of an inch,) and extending around three sides only, so as to leave a wide opening at *i*. The under side, of which Fig. 4 is a plan view, is provided with a similar strip, *p*, all round, and in thickness only half a bee-space, the other half being made up by the casing, which projects half a bee-space above the top of the honey-boxes. (See Fig. 3.) At the distance of about a bee-space from the strips *p*, and parallel therewith, as shown in Fig. 4, are two small strips, *s*, adapted to coincide with and rest upon the upper edges of the followers *g*. It will be observed that the upper side of the removable bottom *y* is like the under side of the honey-board J, with the exception that there is no strip on the front, and that the strips *t* and *v*, instead of being half a bee-space thick, like those on the under side of the honey-board, are a whole bee-space thick. The under side of the bottom *y* is provided with a strip, *w*, half a bee-space thick, and extending all round, exactly like the strip *p* in Fig. 4.

For the purpose of sustaining in proper position the honey-boxes *e*, and also the brood-

frames *d*, each section of casing is provided at top and bottom with cleats or flanges *h*, half a bee-space thick, let into the casing, so as to be flush with the upper and lower edges of the side walls thereof, as shown in Figs. 1 and 2. To illustrate this feature more fully, the latter figure shows a part of the interior of the hive in section. When the cover C is brought down upon the honey-board, and the latter upon the casing, as shown in Fig. 3, the top of the hive is closed by two covers—the lid C and the honey-board J—having a space between them in which the circulation of air is kept up through the entrance-way *i*, which coincides with a gauze covered opening, *k*, in the lid C, thus keeping the top of the hive cool. The sides of the hive are similarly protected by the air-space between them and the followers *g*, the edges of which meet at the junction of the sections of casing, and similarly meet the strips *s* and *v* on the honey-board and bottom *y*. An additional purpose of these side spaces is to afford an exit for the bees that alight on the inner surfaces of the side walls while working the hive, and would, without such provision, have to be removed before closing the casing; but with this arrangement they can escape at their pleasure by the small outlets *z*, and re-enter the hive by the broad opening *l*. The followers *g* consist of thin boards, one side of each being provided with a cleat, *m*, at each end, as shown in Fig. 1. The object of these cleats is not only to give strength to the followers, but also to adapt them for use with the brood-frames as well as with the honey-boxes, which is done by simply inverting them, so as to bring the cleats against the ends of the brood-frames, thus preserving the necessary space between the followers and the top bars of the brood-frames.

To protect the interior of the hive against intense cold in winter, the floor *y* is removed, and the honey-board, after being turned upside down, is put in its place, and the floor *y*,

same side up, is placed on the top of it, thus forming a double floor, as shown in Fig. 2, upon which the body of the hive is then placed. The upper part of the hive is protected, in the usual manner, by filling the honey-rack with chaff. When the several parts are thus arranged, the entrance *i*, and also the small side ways, *z*, may be closed by placing a block, *n*, against them, supported upon the alighting-board, as shown in broken lines in Fig. 2.

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

1. The combination, with the honey-boxes and brood-frames, of sections B B', each composed of two horizontally-separable parts having inclined inner faces and flanges *h*, wedges *r*, and followers *g*, all constructed and adapted for co-operation substantially as and for the purpose set forth.

2. The combination, with the honey-boxes and brood-frames, sections B B', each composed of two horizontally-separable parts having inclined inner faces and flanges *h*, wedges *r*, and followers *g*, of the honey-board provided with cleats or strips *q*, *p*, and *s*, and adapted for use with the loose bottom *y*, substantially as set forth.

3. The combination, with the honey-boxes and brood-frames, sections B B', each composed of two horizontally-separable parts having inclined inner faces and flanges *h*, wedges *r*, and followers *g*, of the loose bottom provided with cleats or strips *t*, *v*, and *w*, and adapted for use with the honey-board, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 13th day of April, 1886.

ELVIN S. ARMSTRONG.

Witnesses.

ROBERT NEWTON,  
A. W. NEWTON.