UNITED STATES PATENT OFFICE.

HIRAM WHEATON, OF ALLEGANY, NEW YORK.

IMPROVEMENT IN BEE-HIVES.

Specification forming part of Letters Patent No. **189,291**, dated April 3, 1877; application filed January 8, 1877.

To all whom it may concern:

Be it known that I, HIRAM WHEATON, of Allegany, in the county of Cattaraugus and State of New York, have invented certain new and useful Improvements in Bee-Hives, of which the following is a specification:

My improvements are designed more especially to afford greater facility to the bees in passing from the brood-chamber to the surplus-honey boxes; to prevent frequent swarming and loss of bees therefrom; to give ample ventilation in warm weather and protection from the cold; and to render the construction advantageously adapted for the removal of any one or all of the surplus-honey boxes, as may be desired.

The hive is of hexagonal build, and has the comb-frames depending from near the top of the brood-chamber. A removable glass cover surmounts the comb-frames, and above these comb-frames an open chamber is formed, surmounted by a removable cloth covering, the object of which is to absorb the vapor resulting from the respiration of the bees, and to isolate the vapor take-up from the comb-frames.

Surplus-honey boxes are arranged one upon another at the several sides of the brood-chamber, in a manner to leave triangular spaces, which, in connection with an inclosing-case, form ventilating-flues between the several tiers of boxes.

The sides of the brood-chamber are slides, vertically removable to give free communication from the brood-chamber directly into any one or all of the honey-boxes, and thereby avoid all unnecessary travel of the bees to deposit the surplus honey, in which case the inner sides of the surrounding tiers of boxes form the sides of the brood-chamber, the frame of which is formed by fixed posts at its several angles.

The inclosing-case is made removable for convenience in getting at and removing any one or all of the surplus-honey boxes, and to allow it to be raised to open a way all round the base of the hive, to afford ventilation to the surrounding boxes. The top of the case is also made removable, to allow inspection to the comb-frames, and the removal of the top boxes of the several tiers, if desired, without removing the case. The withdrawal of the slides leaves a space between the comb-frames and each tier of boxes for the free passage of the bees from the brood-chamber to said boxes, and the latter are arranged to fit snugly between the corner-posts, and to rest upon the bottom of the hive.

In the accompanying drawings, Figure 1 represents a view, in perspective, of a bee-hive embracing my invention, the cover and case being removed to expose the interior construction; Fig. 2, a vertical section, and Fig. 3 a horizontal section; Fig. 4, the cloth cover for the brood and top ventilating chamber, and Fig. 5 a rear view of one of the honey-boxes.

The structure of the hive is composed, primarily, of a base, A, and posts B, rising therefrom equidistant from each other, back from the edge of the base, to form, with vertical slides C, the brood-chamber, of hexagonal or many-sided shape. These slides are made removable from the top by being fitted in grooves *a* in the sides of the posts B, and they extend from the top to the bottom thereof. The purpose of such removal will be hereinafter explained.

The comb-frames D are suspended from bars *b*, secured to the posts a short distance below their top, and a removable glass-covered frame, E, rests upon these comb-frames, and closes the brood-chamber, so that it may be inspected from the top. Surplus-honey boxes F are arranged in tiers at the several sides of the brood-chamber, so as to fit between the posts and against the slides, and leave angular spaces at each corner-post to form, in connection with an inclosing-case, G, ventilating-flues H, extending from the base to the top of the hive. The boxes rest upon the base, and by having the inclosing-case, which also rests thereon, removable, they can be taken out in tiers or separately. A cover, I, closes the top of the case, to afford facility for removing the comb-frames, when desired, and to take out the slides to afford communication between the brood-chamber and the side boxes, for the deposit of the surplus honey. The removal of these slides gives direct access for the bees into the boxes, and opens the way to each at once without disturbing them or causing the

bees to travel upward. These boxes have front and back glass covers, the latter having openings *c c*, Fig. 5, to give entrance into the boxes, and free view through them into the brood-chamber from all sides when the inclosing-case is removed. When the slides are taken out, a free space, *d*, Fig. 2, is left between the comb-frames and the inner sides of the boxes, to give the bees free travel into said boxes. The lowest box, F^2, of one of the tiers is open, and, with a corresponding opening, *e*, in the case, forms the entrance for the bees into the hive. The inner side of this box has a tin cover, *f*, with bottom and top openings *g g'* for the bees, and for ventilation to the brood-chamber. At this tier of boxes the slide does not extend to the base, but rests upon the entrance-box.

In the winter season the surplus-honey boxes are removed, the slides inserted in place, and the spaces occupied by them, including the angular flues H, are filled with any non-conducting material for winter protection. The glass cover of the brood-chamber is also removed, and the chamber J, above the comb-frames, formed by the extension of the slides and posts, opens into said brood-chamber, and has a cloth cover, K, Fig. 4, to absorb and hold the vapors produced from the respiration of the bees. In this way the hive is provided with complete facilities for work and winter protection.

The angular flues serve to equalize the temperature, and the ventilation of the system of honey-boxes can be made complete in hot weather by raising the inclosing-case a little from the base to open a way.

The slides and the posts extend about two inches above the brood-chamber and frames, to form, in addition to a ventilating-chamber, an apartment for feeding the bees in winter, and when the store or brood chamber is deficient in honey, the glass cover being removed, the bees have ready access to the top, and the cloth cover then closes the chamber.

The posts B and the base A are the only fixed parts of the hive, and they form a skeleton structure, upon and to which the several parts constituting the hive are fitted and held in place without fastenings, affording facility for easy removal of each part separately. The fixed posts, being simply secured to the base and top braces, form the guides for the slides, the surplus-honey boxes, and the supports for the comb-frames. This affords a facility and cheapness of construction and a capacity which are of much importance in bee-hives.

I claim—

1. The combination, with the surplus-honey boxes F, the posts B, and the removable slides C, forming the comb-chamber, of the removable inclosing-case G, and the removable cover I, substantially in the manner and for the purposes herein set forth.

2. The means herein described of forming the corner ventilating-flues H, consisting of the tiers of surplus-honey boxes F, the inclosing-case G, and the fixed posts B, said boxes being arranged between the case and the comb-chamber, and said flues being formed within said space by and between the walls of the tiers of boxes, as herein set forth.

3. The removable and interchangeable covers E and K, in combination with the slides C, posts B, and inclosing-case, forming the top and comb chamber, as and for the purpose herein set forth.

4. The slides C and posts B, extended above the comb-frames D, combined with the removable glass cover E and inclosing-case, to form the top chamber J, as and for the purpose herein set forth.

5. The combination, with the radial tiers of honey-boxes F, arranged to form ventilating-flues between them, as described, of the inclosing-case G, adapted to be raised sufficiently from the base to open said flues at the bottom, to give equal ventilation to the several tiers of honey-boxes, as described.

6. The base A and the fixed posts B, constructed to form a skeleton frame constituting guides, holds, and supports for the boxes, and the comb-chamber slides, and combined with the removable inclosing-case, in the manner and for the purpose herein set forth.

In testimony whereof I have hereunto set my hand.

HIRAM WHEATON.

Witnesses:

SANFORD B. MCCLURE,

LEVI YOUNG.