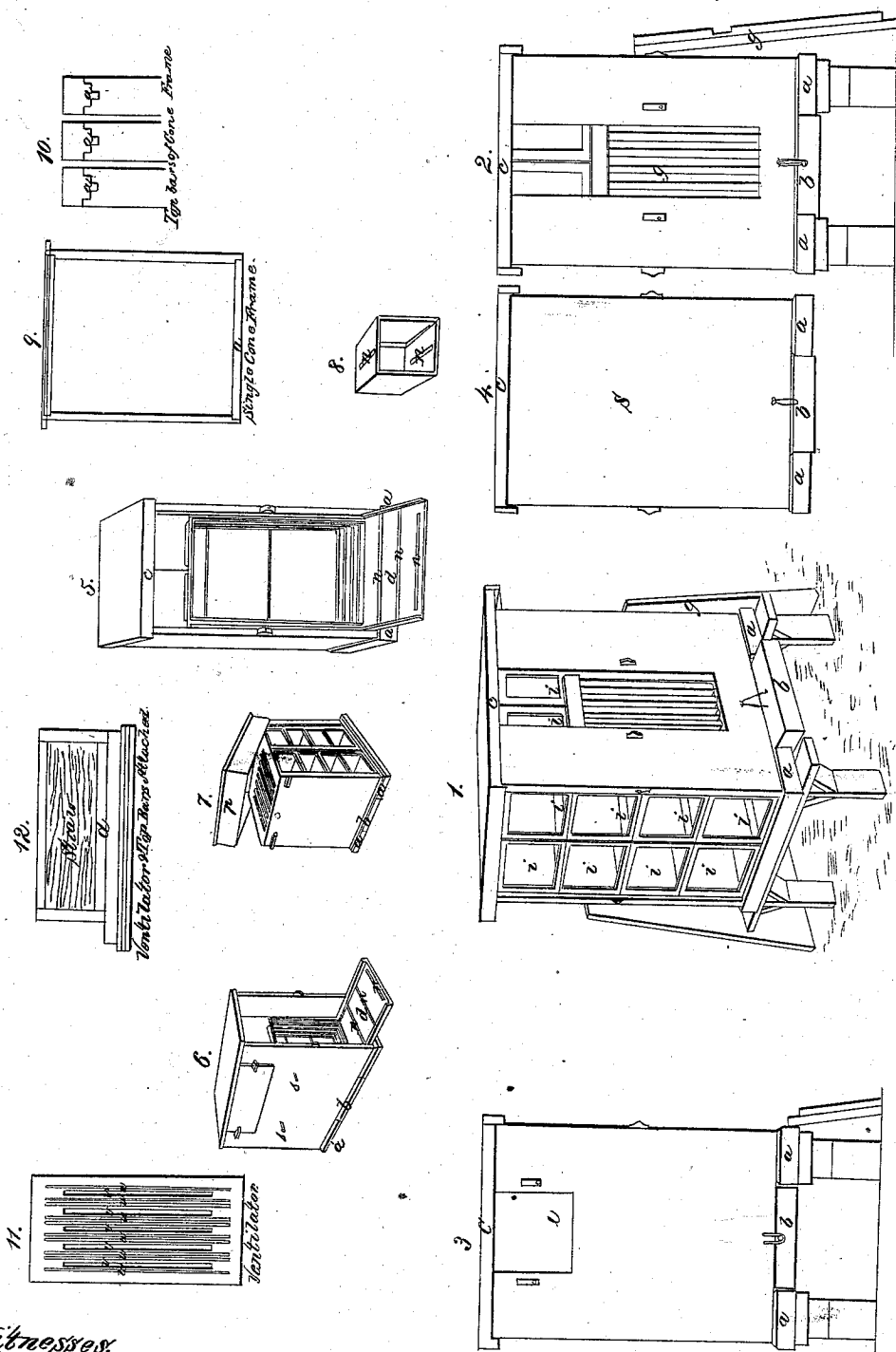


J. HAZEN.  
Honey-Comb Frame.

No. 66,336.

Patented July 2, 1867.



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# United States Patent Office.

JASPER HAZEN, OF BETHLEHEM, NEW YORK.

Letters Patent No. 66,336, dated July 2, 1867.

## 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, JASPER HAZEN, of Bethlehem, in the county of Albany, and State of New York, have invented an improvement or improvements 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, and to the letters of reference marked thereon.

Figure 1 is the hive in perspective.

Figure 4 is the hive in its simplest form.

Its front and back are boards twenty-four and one-half inches long, and twenty-four inches wide, with two boards, ten inches long and sixteen inches wide, nailed firmly to the inside one inch from the bottom, and reaching towards the top, seventeen inches. The short boards form the front and rear of the central apartment, twelve inches from front to rear, ten inches from side to side, and seventeen inches high. The front and rear boards are held together by two boards sixteen inches long and seven inches wide, nailed firmly across the bottom with their outer edges even with the outer edges of the hive, (see *a a*, fig. 4.) The top is held together by two boards, sixteen inches long and six inches wide, nailed firmly to the top one-half inch from the outer edges of the uprights, and let down one inch, that their upper side may be just even with the top of the upright boards. These are covered with the cap-board *c*, having a lip of one inch nailed upon the under side of the cap-board to hold it in place, and cover every joint. It may be hung with hinges upon one side if preferred. The side chambers and top are enclosed by two shutters, *f f*, fig. 1. They may be hung by hinges if preferred. A bottom board, *b*, eighteen inches long and ten inches wide, hung by wire loops or hinges at pleasure between the foot boards *a a* completes the outer walls of the hive. The bottom board projects two inches in front for the bees to light upon, and is let down one-fourth or three-eighths of an inch for passing into the hive. The central apartment or home of the bees is separated from the side chambers *f f*, fig. 1, by two boards, fourteen inches wide and seventeen inches long, one on each side, (see *d*, Figure 5,) held up by a pin, nail, or screw, (see *s s*, Figure 6.) They, if used with the boxes *i i*, fig. 1, require slots *n n*. If not used with the boxes the slots may be closed. This without the slots *n n* is used as a movable partition between the central apartment and the side chambers, and with the slots *n n* as a partition between the central apartment and the boxes *i i*, fig. 1, standing in the side chambers of the hive. The central apartment may be used with movable comb-frames, bars with side guides, either movable or stationary, or bars without side guides, at pleasure. When thus occupied, covered with a board, straw mat, or the ventilator and feeder, hereafter described, we have a swarmer-hive of a little more than two thousand cubic inches. This is our hive as a swarmer.

In the arrangement presented, I use either sixteen or eighteen boxes, twelve in the side chambers and four or six, either, in the top chamber. Perhaps I should explain. I call the spaces between the partitions *d*, fig. 5, and the doors *f f*, fig. 1, below the level of the top of the central apartment, side chambers, and all above that level the top chambers, although there is no partition between them or in either of them. The boxes may be constructed of glass on one, two, three, or all sides, at pleasure, or all of wood. They are arranged by placing two side by side on each foot board, two more directly upon them, two more directly upon them. Six upon each side fill up the two side chambers. Then four directly upon them, meeting each other in the centre, two upon a side, fill the top chamber, or two upon each side, reaching about one inch upon the top of the central apartment, and the space between, occupied by two more boxes, just fill up the space, which answers the same purpose, (see *i i*, fig. 1.) The size and number of the boxes may be varied at pleasure. The boxes are combined by corresponding horizontal apertures, as shown at *i i*, fig. 1, in the right-hand tier of boxes, and vertically by apertures corresponding with each other from the bottom to the top box. Apertures shown in one box, *n n*, Figure 8. The side boxes are combined with the central apartment by corresponding apertures through the inner side of the boxes in the side chambers *i i*, fig. 1, and the movable partitions *d*, fig. 5; or, what is a still more effective combination, remove the partition *d*, fig. 5, entirely, and place the boxes in direct proximity with the bees. Cut apertures in them at pleasure. The top boxes are combined with the central apartment by apertures through their bottoms, corresponding with spaces between the frames or bars. To construct this to fit the size of the hive described, I take a board one and one-half inch thick, fourteen inches long, and ten and a half inches wide; with a circular saw cut slots quite through the board corresponding with the spaces between the

frames or bars, more or less, at pleasure, (see *v v*, Figure 11.) I then turn the board the other side up, and cut slots one and one-fourth inch deep, and one-fourth or three-eighths of an inch wide to receive the feed, (see *w w*, fig. 11.) I then place the frame *d*, Figure 12, upon the board with straw within it, as there marked, and I have my ventilator and feeder.

This hive is precisely the same as fig. 4, except it has the addition of a front and back shutter to give access to the upper chamber, constructed by cutting out a piece from the centre of the top of the uprights to the top and of the central apartment ten inches wide, nailing to it a half-inch board to go by one-half inch on each side, and one-half inch below it, and confine with buttons, or in any other manner, (see *e*, Figure 3.) These differ from the last in having the door cut down to within four or five inches of the bottom, the piece cut covered with half-inch board, and fastened in the same manner. It will also be requisite to remove the inside board from within three or four inches of the bottom to within two or three inches of the top of the central apartment, (see *g*, Figure 2.)

1. Instead of the wide boards front and rear, two boards one foot wide may be used, fastened firmly together by the ten-inch board on the inner side.

2. Instead of the wide board for the cap *e*, two boards eighteen inches long, with the lip upon the under side and well battened upon the top, may be used.

3. The hive may be constructed upon an enlarged or diminished scale, at pleasure.

4. I am aware that several different hives have been constructed with side and top boxes placed upon shelves, having horizontal or vertical partitions, or both. To that combination of boxes I make no claim; (see sections 5 and 6.)

The advantages secured by this combination of the boxes with each other by their arrangement and combination with each other by corresponding apertures between every set of boxes standing side by side, and by apertures through the top of every lower box, and the bottom of every box above it, are—

1. With no shelves or partitions between the boxes we are saved from the danger of sheltering moths, worms, and other insects, which find a shelter between the boxes and partitions and shelves and slides.

2. With the arrangement to remove the partition *d*, fig. 5, and bring the boxes in immediate proximity with the bees, we give no shelter for worms there.

3. We make the whole so much like one capacious room of between six thousand and seven thousand cubic inches as to render swarming improbable.

There are several advantages afforded by the movable partition, *d*, fig. 5:

1. They enclose the central apartment for winter, and with the doors *f f*, fig. 1, afford opportunity, by filling the side and top chambers with saw-dust, chaff, or any other non-conducting material, to render the bees perfectly secure from frost during the winter upon their stand.

2. They give access to the bees at both sides of the hive, for inspecting them, and removing the comb laterally if desired, or to take the outside combs for surplus if the bees have more than sufficient store for winter, thus reaching both sides with no trouble.

3. If fixed bars and guides are used, or only fixed bars, the bees may be approached on both sides for inspection for removing worms.

4. In the fall season, if the swarm has more than a winter's supply, surplus may be taken from the two outside combs, which furnish the best to be found in the hive.

5. When the combs become old or are affected by worms, they may be removed at either side, one-half in each year, to be renewed with new comb by the bees.

6. It also furnishes the best possible chance to approach the hive with movable combs to secure artificial swarms.

Used as it is presented prepared for winter, with the boxes all removed, natural swarms in their season will issue. With the boxes combined as shown in sections 5 and 6, and combined with the central apartment, we have a non-swarmers hive of between six thousand and seven thousand cubic inches.

I claim the combination of the central apartment *g*, the movable partitions *d d*, and the side surplus-honey boxes *i i*, arranged in the manner described.

JASPER HAZEN.

Witnesses:

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