C. J. SPERRY & L. CHANDLER.

BEE-HIVE.

No. 191,620. Patented June 5, 1877.

Fig. 1

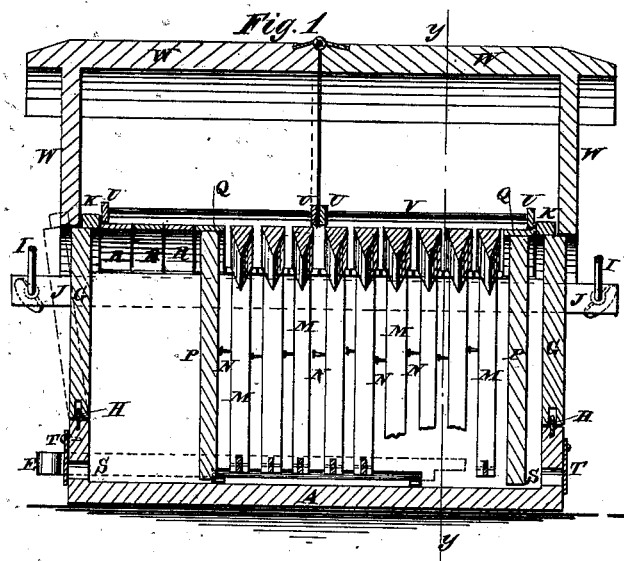

Fig. 2

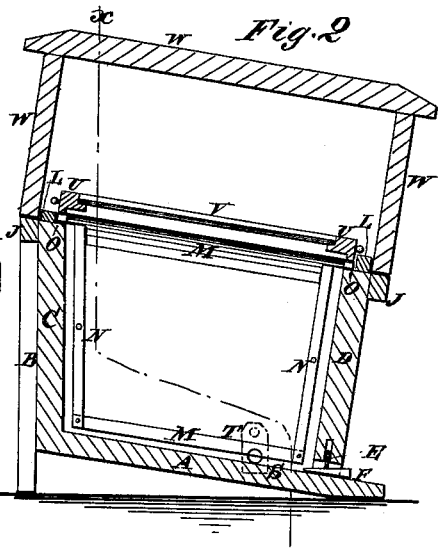

Fig. 3

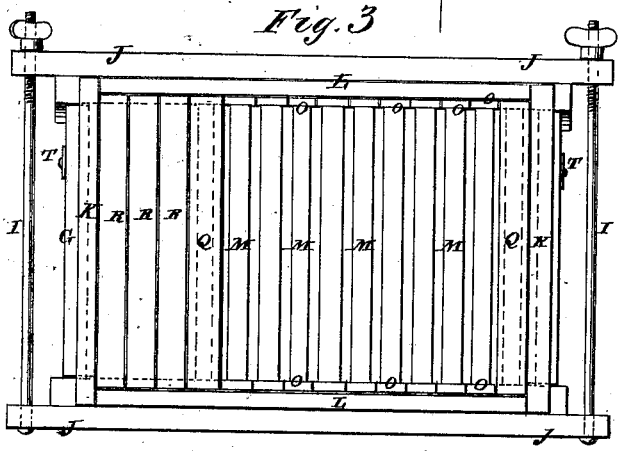

Fig. 4

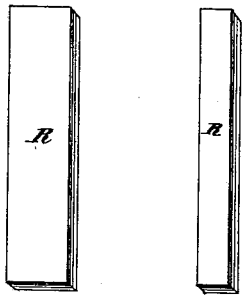

Fig. 5

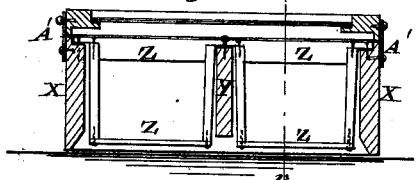

Fig. 6

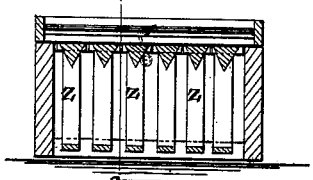

Fig. 7

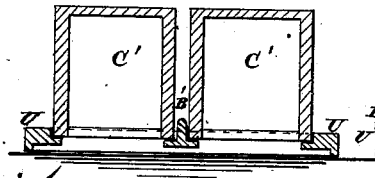

Fig. 8

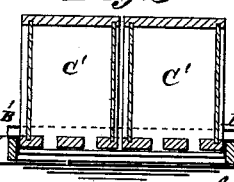

Fig. 9

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CHARLES J. SPERRY AND LYMAN CHANDLER, OF NEW LONDON, MINN.

IMPROVEMENT IN BEE-HIVES.

Specification forming part of Letters Patent No. **191,620**, dated June 5, 1877; application filed February 3, 1877.

To all whom it may concern:

Be it known that we, CHARLES J. SPERRY and LYMAN CHANDLER, of New London, in the county of Kandiyohi and State of Minnesota, have invented a new and useful Improvement in Bee-Hive, of which the following is a specification:

Figure 1 is a longitudinal section of our improved bee-hive, taken through the line *x x*, Fig. 2. Fig. 2 is a cross-section of the same, taken through the line *y y*, Fig. 1. Fig. 3 is a top view of the hive, the cover being removed and the hive arranged for ordinary use. Fig. 4 represents a wide and a narrow contraction-slat. Fig. 5 is a detail longitudinal section of the honey-case, taken through the line *z' z'*, Fig. 6. Fig. 6 is a detail cross-section of the same, taken through the line *v v*, Fig. 5. Fig. 7 is a detail vertical section of two honey-boxes, the cross-bar, and the sash, taken crosswise of the hive. Fig. 8 is a detail vertical section of two of the honey-boxes and the sash, taken longitudinally with the hive. Fig. 9 is a detail view of the cross-bar.

Similar letters of reference indicate corresponding parts.

The object of this invention is to improve the construction of the bee-hive for which Letters Patent No. 143,307 were granted to us, September 30, 1873, so as to make it more convenient in use, enabling the bees to be more readily handled and controlled.

The invention consists in the construction and combination of parts, which will be hereinafter more fully described, and then pointed out in the claim.

A is the bottom of the hive, the lower side of the forward edge of which rests upon the table, and which is supported in an inclined position by legs B attached to the back of the hive.

C is the back of the hive, to the lower edge of which the bottom A is attached, and which is vertical, or nearly so.

D is the front of the hive, the upper part of which inclines outward, and the lower edge of which is attached to the bottom A at a little distance from its edge. The projecting part of the bottom A serves as a table for the bees to alight upon. In the middle part of the lower edge of the front D is formed a long notch for the ingress and egress of the bees.

The size of this passage is regulated by a slide, E, placed in a groove in the lower edge of the front D, and which is supported adjustably by two wedges, F, placed beneath it at the ends of the said notch.

By this arrangement, by adjusting the wedges F the slide E may be raised to permit workers and drones to pass in and out, or lowered to shut out the drones, while allowing the workers to pass in and out freely.

By removing the wedges F the passage will be entirely closed. The lower edge of the slide E is notched at one end, so that by removing the wedges F and adjusting the said slide E longitudinally a narrow passage may be formed.

The other end of the slide E projects at the side of the hive, to serve as a handle for adjusting it.

G are the sides of the hive, which are vertical, and are each made in two unequal parts. The lower and smaller part of each side G is stationary, and is secured to the bottom A, back C, and front D of the hive.

The adjacent edges of the parts of the sides G are grooved longitudinally, and in the said grooves is inserted a strip, H, of sheet metal, which makes the joint tight, and serves also as a hinge to enable the upper edges of the said sides G to be moved outward to give space for removing the comb-frames.

The loose upper parts of the sides G are secured in place by screwing up the nuts of the rods I, which pass through the projecting ends of the bars J, which are attached to the back C and front D near their upper edges, and which serve as flanges for the edges of the cover to rest upon.

The projecting ends of the bars J serve also as handles for lifting and carrying the hive.

To the upper edges of the sides G are attached bars K in such positions as to project beyond the inner surface of said sides for a distance equal to half the ordinary distance between two frames, so that the side frames may have as much space as the others. The bars K leave the outer parts of the top edges of the sides G uncovered, to serve as shoul-

ders for the edges of the cover to rest upon, as shown in Fig. 1.

The ends of the bars K project to rest upon the upper edges of the back C and front D, and against the ends of the flanges or bar L, formed upon or attached to the said edges of the said back and front, so as to form shoulders for the ends of the top bars of the comb-frames M to rest upon.

The top bars of the comb-frames M are made triangular in their cross-section, as shown in Fig. 1. The lower part of the ends of the top bars of the comb-frames are cut away to form a square surface to rest upon the shoulders of the back and front, and to form shoulders for the upper ends of the side bars of the frames to be attached to.

The frames M are kept in place and at the proper distance apart by small tacks or pins N, attached to the side edges of their side bars, and which rest against the side bars of the next adjacent frame.

To the ends of the top bars of the comb-frames M are attached short cross or space bars or blocks O, the ends of which rest against each other, and which are made of such a length as to hold said frames at the proper distance apart.

The space bars or blocks O also prevent the bees from waxing the comb-frames to their supports, and enable the frames to be moved without injuring the bees.

P is a division-board, of the thickness of a card of comb, and of the size of a frame, M.

To the upper edge of the division-board P is attached a strip, Q, of such a width as to occupy the exact space of a frame, M, so that if a hive be too large for the swarm one of the division-boards P Q may be substituted for the outer frame M at each side of the hive, or, for a frame, M, at any desired distance from the sides.

The space at the outer sides of the division-boards P Q may be filled by empty frames M, or by boards or strips R of the width of one or of two frames M.

Bees may be allowed to have access to the spaces between the division-boards P Q and the sides G of the hive, through openings S in the lower stationary parts of said sides, and which are closed by pivoted slides T.

U are two frames or sashes, each of half the size of the top of the hive.

The sashes U rest upon the top bars of the frames M, and the lower sides of their end bars are rabbeted, to bring their edges or flanges to the same width as the space-blocks O, upon which they rest to prevent the bees from waxing the sashes U to the frames M.

The end bars of the sashes U are rabbeted upon their upper sides to form a seat for the glass plate V, so that the condition of the bees and their progress can be observed without removing the sashes U, and so that the bees can pass between the frames M and glass V.

W is the cover, which is made in two parts, hinged to each other at the adjacent edges of their tops, so that either part can be turned back upon the other part to give access to either half of the hive. The adjacent edges of the sides of the cover W are tongued and grooved to each other, to make a close joint.

As thus far described, the hive is arranged for ordinary use.

X is a case made of half the size of the top of the hive, and the lower edges of which are beveled to the thickness of the space-blocks O, to rest upon and cover said space-blocks.

The case X is divided into two equal parts by a transverse partition, Y, to adapt it to receive two rows or series of small comb-frames, Z.

When the honey-case X Y Z is to be used, one of the sashes U V is slipped off, and is placed upon the top of the case X, where it is secured in place by hooks A′, pivoted to the ends of the case X, and hooking around pins or into staples attached to the ends of the sash U, as shown in Fig. 5.

The case and attached sash are then placed upon the part of the hive from which the said sash was removed.

When honey-boxes are to be used, the glass plate V is removed from the sash U, and a cross-bar, B′, is placed across the middle part of said sash. The lower parts of the ends of the cross-bar B′ are cut away, or are rabbeted transversely, to drop the body of said cross-bar between the side bars of the sash U.

The sides of the cross-bar B′ are rabbeted to form shoulders or flanges to receive the lower edge of the honey-boxes C′, the said rabbets being in line with the rabbets in the end bars of the said sash, as shown in Fig. 7.

The honey-boxes C′, four of which are placed upon each sash U, are made with glass sides and slat bottoms, the said slats being placed far enough apart to allow the bees to pass between them freely.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

The combination, in a bee-hive, of metallic strips H with the stationary and movable parts of the sides G, having grooved adjacent edges, as and for the purpose set forth.

CHARLES J. SPERRY.
LYMAN CHANDLER.

Witnesses:
EBER A. WRIGHT,
LOUIS LARSON.