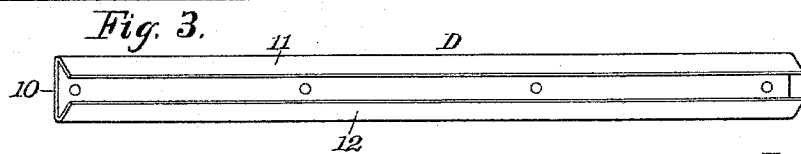
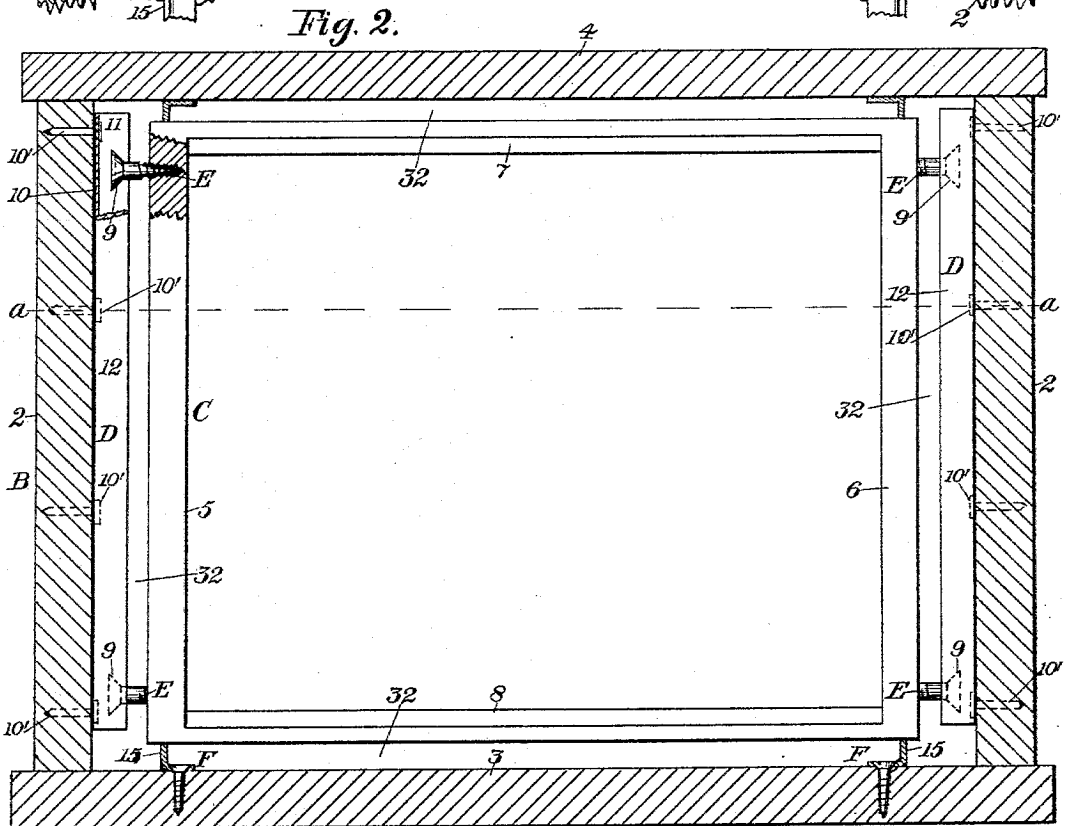
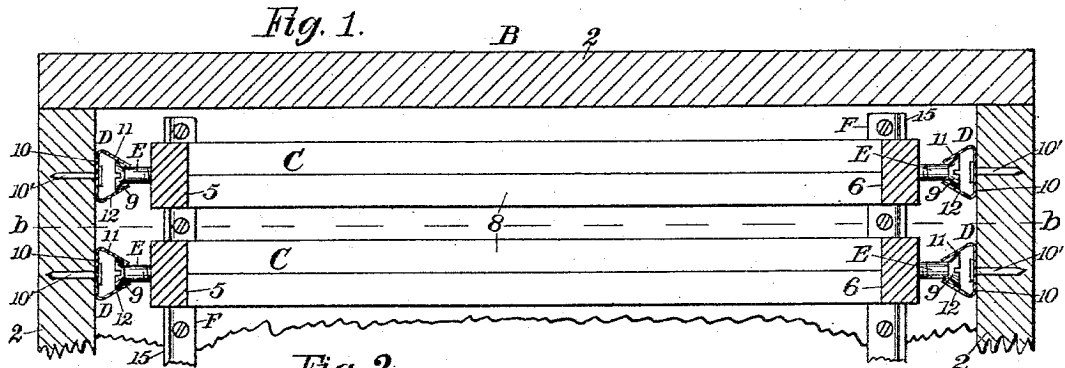


(No Model.)

E. A. WANDER.
BEEHIVE.

No. 531,816.

Patented Jan. 1, 1895.



Witnesses:
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UNITED STATES PATENT OFFICE.

EUGENE A. WANDER, OF HARTFORD, CONNECTICUT.

BEEHIVE.

SPECIFICATION forming part of Letters Patent No. 531,816, dated January 1, 1895.

Application filed February 5, 1894. Serial No. 499,112. (No model.)

To all whom it may concern:

Be it known that I, EUGENE A. WANDER, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Beehives, of which the following is a specification.

This invention relates more particularly to that class of bee-hives, known as sectional-hives, or hives made up of two or more horizontal sections or cases.

The object of my invention is to furnish a hive, or hive-section, having a series of removable, reversible and interchangeable frames supported from the sides of the case at a sufficient distance therefrom as to prevent the bees from filling up the intermediate space, and to accomplish this by means of holding devices, whose exposed surfaces materially preclude the adhesion of bee-gum and consequently prevent, in a great measure, the cementing of the parts together and the resultant obstruction to the free movement of the frame; also to support the several frames of the hive-section in substantial proximity, but at a short distance from each other so as to provide spaces between adjacent frames in which the bees may climb up and down on the surfaces of the combs in said frame; also to so construct and organize the parts just referred to that the frame may be readily removed and replaced by a sliding movement without jarring, pinching, or otherwise disturbing the bees in the hive-section.

In the drawings accompanying and forming a part of this specification, Figure 1 is a horizontal section taken in line *a-a*, Fig. 2, of a portion of a hive-section, or case, embodying my invention. Fig. 2 is a vertical section of the same taken in line *b-b*, Fig. 1. Fig. 3 is an isometrical perspective view of one of the slide-ways for holding and guiding one of the sliding frames in the hive-section.

Similar characters designate like parts in all the figures.

By the old method of supporting the frames in hives, as is well known, the frames are apt to be dislodged or moved about so much when the hives are inverted or transported as to destroy many bees by crushing; also the bees owing to their natural habit in such cases, will cement the frames in place so as to pre-

vent the removal thereof except by breaking out, and it is one of the chief objects of this invention to furnish means for overcoming these objections.

Briefly stated, the hive-section, in the form thereof herein shown, consists of a casing B, having four side walls 2 and the bottom 3, (three sides only being shown in the drawings,) a series of frames, C, and holding and guiding devices, as D and E, for said frames, all of which will be hereinafter more fully described.

The removable frames C of the hive-section are, or may be, of any usual construction, each frame consisting, in the ordinary form herein shown, of the two end strips, 5 and 6, and a top and bottom strip, 7 and 8, respectively, all secured together in the manner shown to form an open rectangular frame.

As a means for removably securing each sliding frame independently in the casing, I have provided in connection with each end of said frame, and with the side-walls of the casing adjacent thereto, supporting and guiding devices which, in the preferred form thereof herein shown, consist of two members, D and E, respectively, in sliding engagement one with the other; one of said members being secured to the frame, and the other of said members being secured to the side wall of the casing. In the preferred form thereof herein shown, one of said members, as D, is in the nature of a dovetailed slide-way secured by means of screws, or nails, 10', to the inner face of the side wall of the casing, and the other of said members, as E, is shown as a screw secured in the end rail of the frame and having its head, 9, in sliding engagement between the side-walls 11 and 12 of the slide-way D.

The holding-devices D and E will both be constructed, preferably, of metal, but the particular form and organization thereof may vary from that shown in the drawings without departure from my invention. Therefore I do not desire to limit myself to the use of devices of the exact construction shown in the drawings.

The slide-ways D are herein shown as constructed of sheet-metal and comprising a bottom wall, 10, and two inwardly projecting side-walls, 11 and 12, which walls will preferably be resilient. The pins or projections E, herein

shown as screws, are secured to the end rails of the frame, the shanks thereof projecting for some distance beyond the outer edge of said rails, and the heads 9 thereof being extended into engagement with the side walls of the slide-ways D, as clearly shown in Fig. 1. The side-walls of the slide-ways are shown so constructed and disposed as to closely impinge the shank of the screw between the outer edges thereof, thereby steadying the frame while the same is in place, and also while the same is being drawn out or replaced. The enlarged heads 9 of the pins, or screws E, are shown in close proximity to the inner sides of the inclined walls of the slide-way, and act as guides to prevent jar or vibratory action when said frames are being drawn out or slid in, this being necessary to avoid alarming the bees or making them angry. The slide-way being of metal and having narrow resilient edges projecting toward the frame (when the frame is in the hive) and the points or pins E being also metallic, and of relatively small diameter, prevent the bees from building on these surfaces sufficiently to bind the frame in place. The aforesaid guide pins have a space at 31 between the ends thereof and the inner face of the bottom wall of the guide-way, thus avoiding any possibility of catching upon the nails, or screws, which hold the guide-way in place.

Owing to the resilient nature of the side-walls of the slide-ways, the frames C, while being firmly held, are capable of a slight lateral movement. This is advantageous in that any sudden blow upon the casing in which the frames are held, will, in large measure, be taken up by the resilient walls of the slide-ways without materially disturbing or jarring the frames.

In practice, means will be provided for holding the frames in the casing so as to leave a space between the lower rail thereof and the bottom of the casing. This will usually be done by means of a suitable supporting device, as, for instance,—the risers or angle-bars F, secured to the bottom wall of the casing by suitable screws and having upwardly projecting flanges, 15, upon which the frame may rest.

By the construction and organization of the holding devices D and E, and the supporting devices F, hereinbefore described, each sliding frame has a bee-space, 32, entirely around its periphery between said frame and casing, which space is of sufficient magnitude to prevent the bees from building up said space and thereby cementing the frame to the casing.

As a means for preventing movement of the frames in the casing when inverting the same, a cover, as 4, may be applied to the upper edges of the side-walls of the case, said cover having angle-bars similar to those just described to bear upon the upper edges of said frames.

The operation of removing and replacing the frames will be readily understood by comparison of the drawings with the preceding description.

Having thus described my invention, I claim—

1. In a hive, the combination with the two opposite side-walls of the casing thereof, of two oppositely-disposed slide-ways secured in alignment one to each side-wall, and having inclined resilient side-walls, and a reversible sliding frame having remotely-disposed headed pins at opposite sides thereof, the heads of which pins are entirely inclosed within and impinged by the walls of the slide-ways, substantially as described and for the purpose set forth.

2. In a hive, the combination with the adjacent faces of the two opposite side-walls thereof, of two oppositely-disposed U-shaped sheet-metal slide-ways secured in alignment one to each side-wall having resilient side-walls inclined toward each other at their outer ends to form a V-shaped channel, and a reversible sliding frame having remotely-disposed headed pins at opposite sides thereof, the heads of which are entirely inclosed by, and impinged between, the resilient walls of the slide-ways, substantially as described and for the purpose set forth.

3. In a hive, the combination with the adjacent faces of the two opposite side-walls and the adjacent faces of the top and bottom walls thereof, of two oppositely-disposed slide-ways secured in alignment one to each side-wall, a reversible sliding frame having remotely-disposed projecting pins or points at opposite sides thereof movably held between the side walls of the slide-ways so as to leave a bee space between said slide-ways and frame, and transverse oppositely-disposed risers secured to the upper and lower walls and bearing against the upper and lower edges of the frame to support said frame with its upper and lower edges remote from the top and bottom walls, substantially as described and for the purpose set forth.

EUGENE A. WANDER.

Witnesses:

FRED. J. DOLE,

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