No. 804,736. PATENTED NOV. 14, 1905.

G. F. KREGEL.

BEEHIVE.

APPLICATION FILED JUNE 7, 1904.

2 SHEETS--SHEET 1.

Fig. 1.

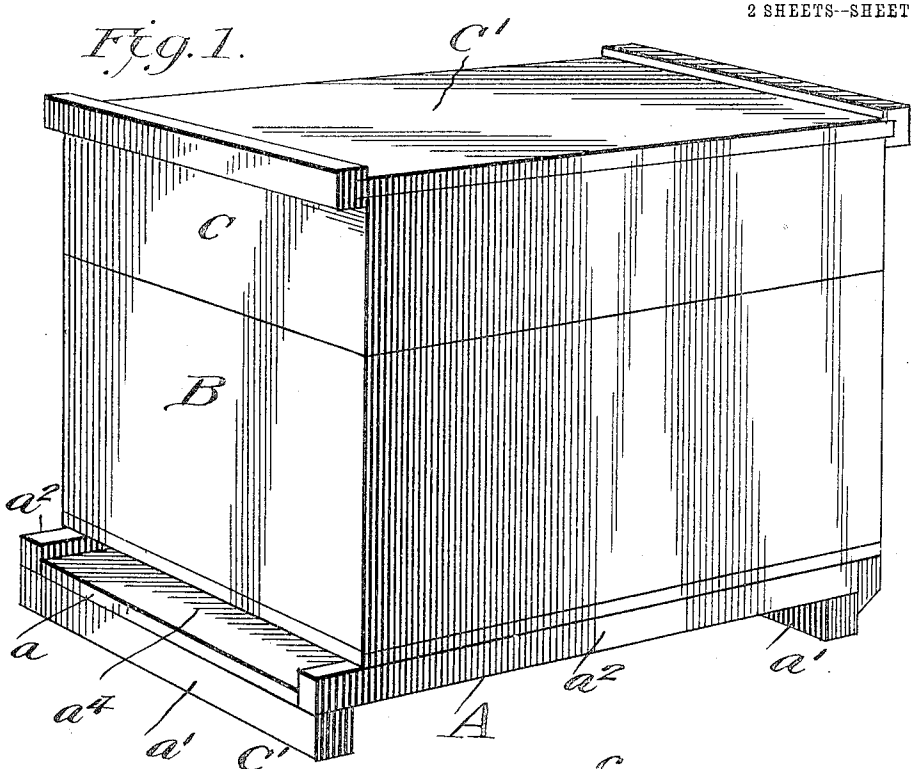
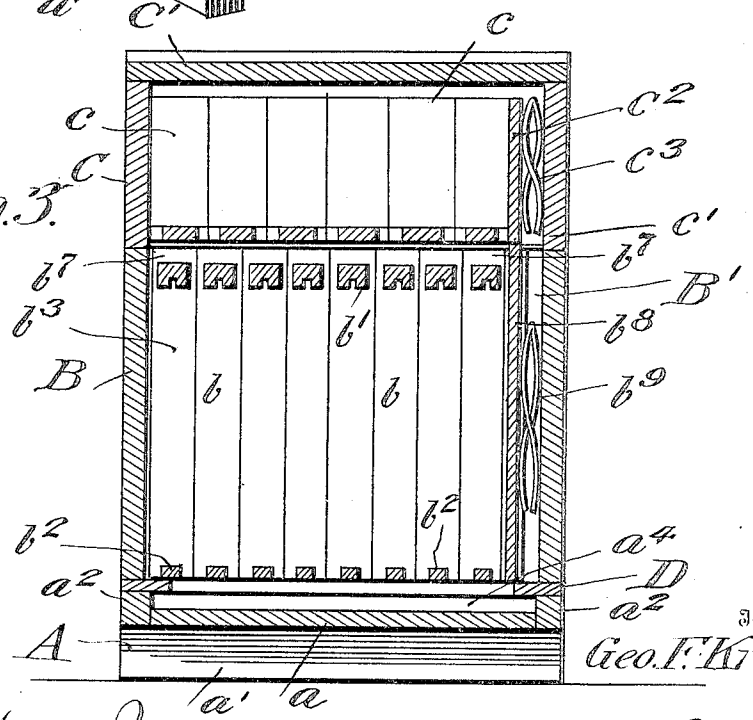


Fig. 3.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

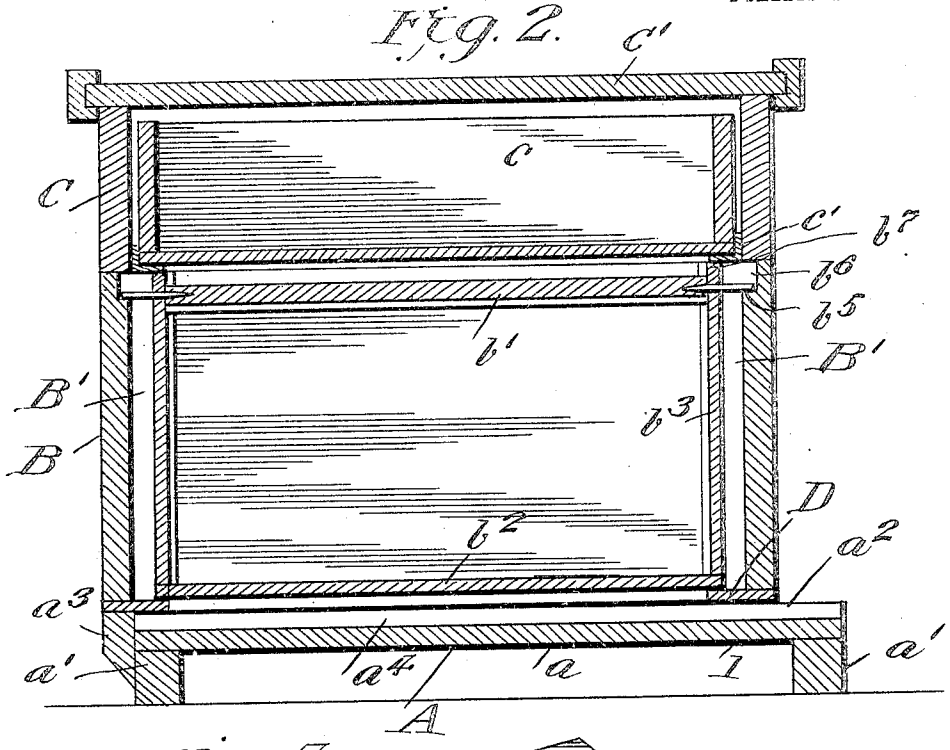
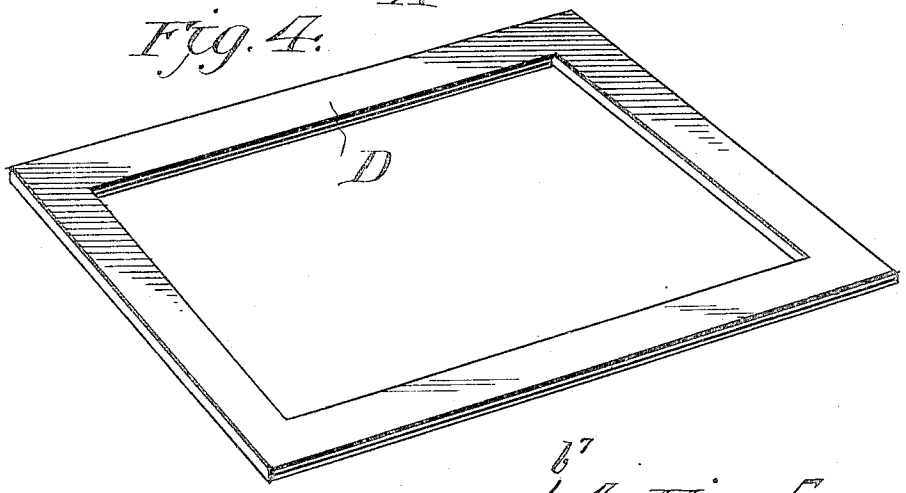


Fig. 4.



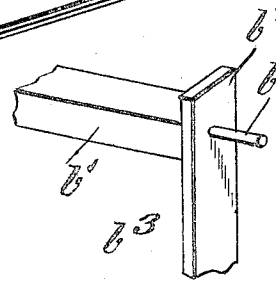


Fig. 5.

Witnesses

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BEEHIVE.

No. 804,736. Specification of Letters Patent. Patented Nov. 14, 1905.

Application filed June 7, 1904. Serial No. 211,511.

To all whom it may concern:

Be it known that I, GEORGE F. KREGEL, a citizen of the United States, residing at Nebraska City, in the county of Otoe and State of Nebraska, have invented new and useful Improvements in Beehives, of which the following is a specification.

This invention relates to beehives, the main object of the present invention being to provide novel and efficient means whereby the bees are prevented from gaining access to the spaces beyond the end frames in the brooding-chamber of the hive and whereby a dead-air space is left between the frames and the body or walls of the hive.

A further object of the invention is to provide novel means whereby the frames may be lifted out of the hive-body and conveniently handled.

With the above general objects in view the invention consists of the novel construction, combination, and arrangement of parts hereinafter fully described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a beehive constructed in accordance with my invention. Fig. 2 is a vertical longitudinal section of the same. Fig. 3 is a transverse section. Fig. 4 is a perspective view of the rim or open center frame employed for closing the lower ends of the dead-air spaces in the winter season; and Fig. 5 is a fragmentary view showing the corner portion of one of the comb-frames of the brood-chamber, the view illustrating the construction and arrangement of the frame-supporting pin and the finger-hold and closure to prevent the bees from getting over the frame ends and entering the dead-air spaces.

Referring now more particularly to the drawings, the letter A designates the usual base or hive-bottom, which, as shown, comprises a horizontal body portion or platform a, mounted at its front and rear ends upon transverse supporting blocks or sills a' and provided at its sides with longitudinal upward extensions or cleats a^2, connected and braced at their rear ends by a rear cross-bar a^3. These cleats and cross-bars serve to support the brood-chamber B, which is removably mounted upon the base A, the construction being such that the brood-chamber is held elevated above the platform a, thus providing a passage a^4, through which bees enter and leave the hive. The passage a^4 is open at its forward end and closed at its rear end by the cross-bar a^3.

The brood-chamber B is of ordinary form and may be detached from the base A by simply lifting it upward therefrom. Within the brood-chamber are arranged comb-frames b, which are of the usual construction, each consisting of top and bottom bars b' and b^2 and end pieces b^3, the said frames being held in place by means of pins or staples b^4, projecting from the ends thereof and resting upon a ledge or shoulder b^5, formed by rabbeting the upper portion of the hive-body or brood-chamber, as clearly shown in Fig. 2, the rabbeting of such portions also causing the production of grooves or recesses b^6, disposed above said ledges or shoulders b^5. The frame ends b^3 meet closely together, as shown in Fig. 3, and together form walls which are located at sufficient distances from the ends of the hive to leave intervening spaces B′, which, as will hereinafter appear, form dead-air spaces or chambers which serve to regulate the temperature within the brooding-chamber.

In carrying out the present invention the frame ends b^3 are extended above the frame top bars b', so as to form projecting portions or finger-holds b^7, by means of which the frames may be lifted out of place and conveniently handled. Also by extending the frame ends so that they will lie flush with the upper edge of the brood-chamber the air is confined in the spaces B′, and the bees are prevented from getting over the frame ends and entering said spaces, thus keeping the hive clean.

The super C is also of ordinary construction and removably rests upon the upper edge of the brood-chamber B and is closed at its upper end by a lid or cover C′ of any preferred form and construction. In the super are arranged the usual comb-frames c, which may be of any ordinary construction and which rest at their lower ends upon angle metal supporting pieces or ledges c', fastened to the wall of the super. The two sets of comb-frames b and c in the brood-chamber and super are held closely pressed together by follower-boards or keyboards b^8 and c^2, respectively, said boards being pressed into engagement with the said frames by the usual pressure-springs b^9 and c^3. When the super C is applied, the supporting-ledges c' thereof lie over the receiving-grooves b^6 in the wall of the brood-chamber B, and the extended ends

or finger-holds b^7 of the frames b contact therewith, and thereby close the upper ends of the air-spaces B′ and prevent the bees from clustering on the outside of the frame ends and keyboard b^8, which also extends the same height as the frame ends, thus insuring a cleaner hive.

Arranged upon the hive-base A and between said base and the bottom of the brood-chamber B is a rim or open center frame D, which closes the bottom of the air spaces or chambers B′. This rim rests upon the cleats a^2 and cross-bar a^3 and is adapted for use in the winter season, so as to exclude cold air from the said air-chambers and moderate the temperature in the brood-chamber. This rim or open center frame D may be removed in the summer season to permit fresh air to circulate through the spaces B′ by simply lifting the brood-chamber B slightly above the base A′, whereupon the said frame D may be readily withdrawn. The frame D may extend beneath the comb-frames b, so as to assist the pins b^4 in supporting them in position.

It will be observed that by having the projections b^7 on the frames b and the follower b^3 come up to the hive-super C the bees will not only be prevented from clustering on the outside of the frame ends and follower, but the upper ends of the air-spaces, as well as the recesses b^6, will be closed, thus preventing dead bees from collecting in the air-spaces and restricting or entirely preventing the passage of air, according to the use or disuse of the frame D, so as to maintain an even temperature within the brood-chamber. Upon the removal of the super C the grooves b^6 are exposed, thus permitting the fingers of the hand to be inserted therein, so that the finger-holds or upright projections b^7 on the comb-frames b may be conveniently grasped to permit said frames to be removed from the hive-body. Thus the construction of the parts is such that the super when applied will not only close the upper ends of the dead-air spaces or chambers, but the extended ends of the end portions b^3 of the comb-frames b will prevent bees from passing into the dead-air spaces, while permitting of the ready removal of the comb-frames when the super is detached. Under the arrangement of the frame ends and keyboard b^8, taken in connection with the removable frame D, which is used only in the winter season, a double wall with intervening dead-air spaces is established at both ends at one side and the bottom of the brood-chamber. The first frame at the other side, with its comb, makes a double wall at that end of the brood-chamber, so that all the remaining frames are well protected for winter.

From the foregoing description, taken in connection with the accompanying drawings, the construction and mode of operation of the invention will be apparent without a further extended description.

Changes in the form, proportions, and minor details of construction may be made within the scope of the invention without departing from the spirit or sacrificing any of the advantages thereof.

Having thus described the invention, what is claimed as new is—

1. In a beehive, a hive-body provided at its upper edge with recesses, frames having their ends extended above their top bars to form finger-holds disposed opposite said recesses, the said ends of the frame being spaced from the body to provide dead-air spaces communicating with said recesses, and a super supported upon the body and closing said recesses and dead-air spaces, said recesses permitting of the insertion of the fingers to grasp the said handholds.

2. In a beehive, a hive-body, frames disposed therein, the outer open side of one of the end frames being closed by a wall of the body, the frame ends being provided with extensions above their top bars to form finger-holds, and a spring-pressed keyboard closing the open side of the opposite end frame and holding the side edges of the frame in abutting contact, whereby the bees are prevented from escaping between the frames, the extensions of the frame ends projecting to the plane of the body of the super, whereby stops are formed to prevent the bees clustering on the outside of the frames and a double wall is provided with intervening air-spaces at the opposite portions of the brood-chamber.

3. In a beehive, a hive-body provided at its upper edge with ledges and recesses, frames having their ends extended above their top bars to form finger-holds disposed opposite said recesses, the said end bars of the frame being spaced from the body to provide air-spaces communicating with said recesses, pins projecting from the ends of the frames and resting upon the ledges at the bases of the recesses to support the frames within the body, and a super supported upon the body and closing said recesses and the upper ends of the air-spaces, said recesses permitting of the insertion of the fingers to grasp the said handholds when the super is removed.

4. In a beehive, a body, a base removably supporting the body, said base having a passage communicating with the body for the entrance and exit of the bees, frames in the body having their end bars spaced from the body to provide air-spaces, a super supported upon the body and closing the upper ends of the air-spaces, and an open-center rim-frame removably mounted between the base and body and closing the lower ends of the air-spaces.

5. In a beehive, a body, a base removably supporting the body, said base having a passage communicating with the body for the entrance and exit of the bees, frames in the body spaced from the walls of the body to provide air-spaces, said spaces normally communicat-

ing with said passage, and means adapted to be removably applied between the base and body to close communication between the passage and air-spaces.

6. In a beehive, a base having a passage for the entrance and exit of bees, a body removably supported upon the base and provided at its upper edge with recesses, frames having their ends extended above their top bars to form finger-holds disposed opposite said recesses, whereby the fingers may be inserted in said recesses to grasp the finger-holds, the said end bars of the frames being spaced from the body to provide dead-air spaces communicating at their free ends with the recesses and normally communicating at their lower ends with said entrance and exit passage, a super supported upon the body and closing said recesses and the upper ends of the dead-air spaces, and means adapted to be removably applied between the base and body to close communication between the passage and dead-air spaces.

7. In a beehive, a base having a passage for the entrance and exit of the bees, a body removably supported upon the base and provided at its upper edge with recesses, frames having their ends extended above their top bars to form finger-holds disposed opposite said recesses, whereby the fingers may be inserted into said recesses to grasp the finger-holds, the said end bars of the frame being spaced from the body to provide dead-air spaces communicating at their upper ends with the recesses and normally communicating at their lower ends with the said entrance and exit passage, and an open-center rim-frame removably mounted between the base and body and closing the lower ends of the dead-air spaces.

8. In a beehive, a base having a passage for the entrance and exit of the bees, a body removably supported upon the base and provided at its upper edge with ledges and recesses, frames having lateral projections extending into said recesses and resting upon said ledges and having their ends projected above their top bars to form finger-holds disposed opposite said recesses, the said end bars of the frame being spaced from the body to provide dead-air spaces communicating at their upper ends with the recesses and normally communicating at their lower ends with the said entrance and exit passage, a super supported upon the body and closing said recesses and the upper ends of the dead-air spaces, and an open-center rim-frame removably mounted between the base and body and closing the lower end of the dead-air spaces.

9. In a beehive, a base having a passage for the entrance and exit of the bees, a body removably supported upon the base and provided at its upper edge with ledges and superposed recesses, frames having lateral supporting projections extending into said recesses and resting upon said ledges, a spring-pressed keyboard for holding the frames in meeting contact, said frames having their ends extending above their top bars to form finger-holds disposed opposite said recesses, the said keyboard and end bars of the frame being spaced from the body to provide dead-air spaces communicating at their upper ends with the recesses and normally communicating at their lower ends with the said entrance and exit passage, and an open-center rim-frame removably mounted between the base and body and closing the lower ends of the dead-air spaces.

10. In a beehive, a base, a hive-body mounted upon the base, a passage being formed between said base and body for the entrance and exit of the bees, the body being provided at its upper edge with recesses, frames disposed within the body, a spring-pressed keyboard holding the frames assembled with their ends in contact, said keyboard and frames being spaced from the walls of the body to provide air-spaces communicating at their upper ends with the recesses and at their lower ends with the bee entrance and exit passage, the said frames having finger-holds disposed opposite said recesses, a super mounted upon the upper portion of the body and closing the recesses and the upper ends of the air-spaces, and a removable rim mounted between the base and lower end of the body and closing the lower ends of the air-spaces, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE F. KREGEL.

Witnesses:

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LOUIS W. RODENBROCK.