

G. C. RAHN,
BEEHIVE,
APPLICATION FILED JULY 21, 1913.

1,116,921.

Patented Nov. 10, 1914.

Fig. 1

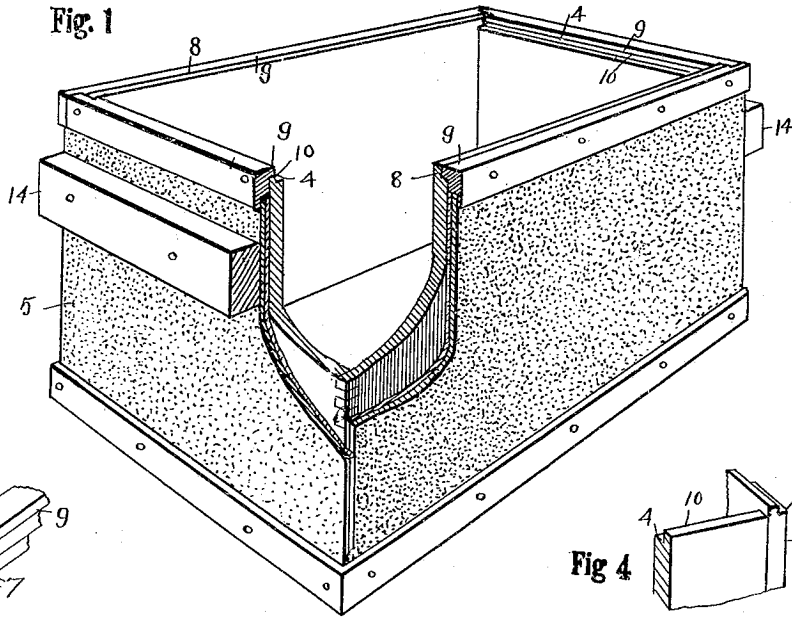


Fig. 3

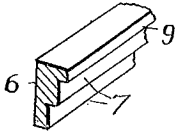


Fig. 4

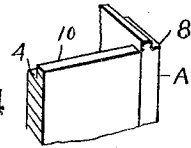
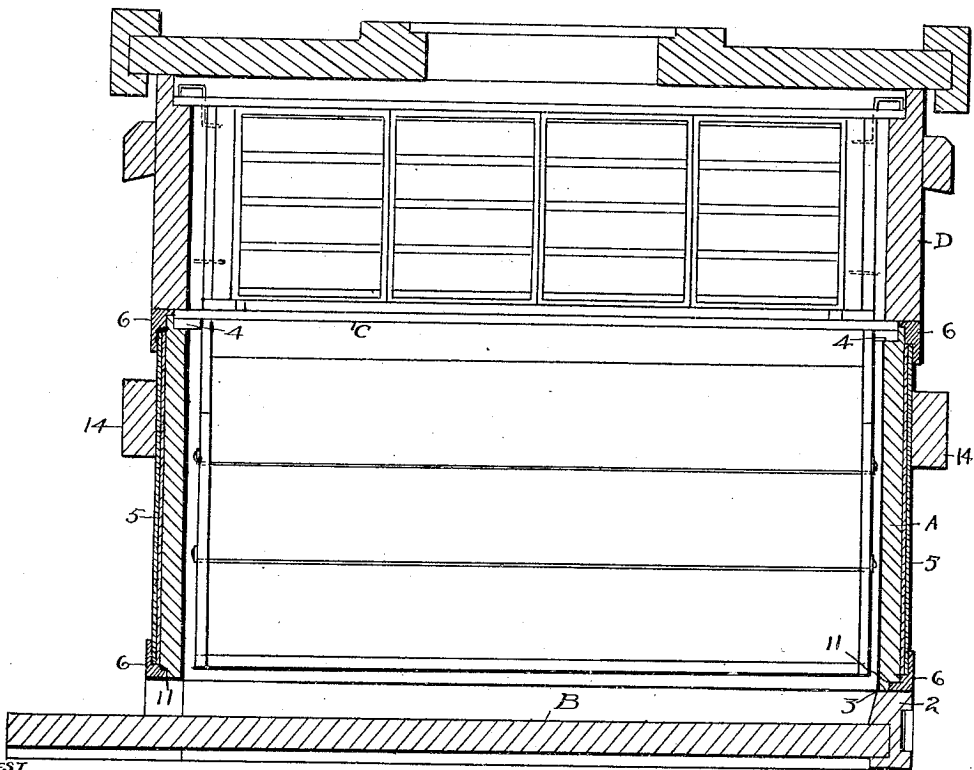


Fig. 2



ATTEST
Emil Fisher
[Signature]

BY *Fisher & Moore*
INVENTOR
Serge C. Rahn
ATTYS

UNITED STATES PATENT OFFICE.

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BEEHIVE.

1,116,921.

Specification of Letters Patent.

Patented Nov. 10, 1914.

Original application filed January 23, 1913, Serial No. 743,733. Divided and this application filed July 21, 1913. Serial No. 780,379.

To all whom it may concern:

Be it known that I, GEORGE C. RAHN, citizen of the United States, residing at Haileybury, in the district of Nippising, Ontario, Canada, have invented certain new and useful Improvements in Beehives, of which the following is a specification.

My invention consists of a bee-hive box embodying the new and useful features of construction substantially as hereinafter shown and described and more particularly pointed out in the claims.

This application is a division of my application for improvements in bee-hives filed January 23, 1913, Ser. No. 743,733, and the object of the present improvement is to provide a brood box having an insulating covering and made light in weight and of exceptional durability to withstand all kinds of weather and constructed in its entirety so that it may be used with any other standard bee-hive section in general use.

In the accompanying drawing, Figure 1 is perspective view of my improved bee-hive section or box with one corner broken away, and Fig. 2 is a cross section thereof, showing the box as it appears in use with other sections of a bee-hive. Fig. 3 is a perspective view of a portion of one of the batten or border strips, and Fig. 4 is a perspective view of one top corner of the box.

The bee-hives in common use are sectional, that is, they comprise separate bottoms, brood boxes, super-boxes, and covers. However, each section is of a standard size so that it may be used with any one of the sections of other bee-hives in the field, and for this reason the edge walls of the brood and super boxes are of the same thickness and adapted to rest one upon the other. This joint should be as tight as possible to exclude the light and to save the bees extra labor and time in sealing it shut. This sealed joint also makes it necessary to pry the sections apart with some force when the bee-hive is taken down or an exchange of boxes or sections takes place. Therefore, it will be seen that an insulated box to be of practical utility must be constructed in a particular way to meet the foregoing conditions.

Accordingly, my invention comprises a box or section A of rectangular shape conforming in size and adapted to seat upon the border-frame 2 of the bottom-board B,

the inner wall of the box coming even with the inner top edge 3 of the said border frame. The upper inner edge 4 of each end of the box is rabbeted or grooved to seat wire-strung frames C for the honey-comb cells which the bees prepare and use for the storage of honey and in hatching their larvæ. A series of these frames C fill the brood-chamber but are spaced apart for ventilation and to give room for the bees to work.

Now it is well known that honey-bees suffer a great deal with heat and cold in the ordinary hive and are greatly handicapped in their work, especially in extremely hot and cold climates, and in order to get the best results in honey-production it is exceedingly desirable to provide the brood-box with an efficient insulating material. With this general purpose in view the four walls of the brood-box A are lined upon their outside with two or more thin sheets of insulating material, such as asbestos and hair, and because of this protection the said walls may be made thinner than usual which is of advantage as the weight of the box is materially reduced. However, the top and bottom edges of the box must be made with a view to fit other boxes and still resist the strains imposed thereon in breaking the sealed joints as stated. I therefore nail batten or border strips 6 to the box, and which pieces are of wood having a double-stepped face 7 to engage and overlap the edges of the box and also the edges of the sheets 5 at the sides of the box. The upper edges of two sides of the box are rabbeted on the outside at 8 (see Fig. 1) to seat the shoulder portion or rib 9 of the border strip 6. The ends of the box differ from the sides in that the upper rabbeted edge 4 is on the inside and in that the shoulder 9 of the border strip rests upon the projecting rib or top edges of said ends. The bottom edges of box A are recessed or rabbeted upon the outside on both the ends and the sides as shown at 11, Fig. 2. This arrangement of parts serves several useful purposes, that is, it clamps the sheets loosely in place, prevents rain or water from working between the sheets, allows unequal expansion and contraction of the walls of the box and the sheets, and prevents cracking or buckling of these parts when the hive is exposed to excessive heat

and cold, and finally, it provides a durable and firm rest which will resist prying operations by a wedge-like tool when two sealed sections are forcibly separated. A prying pressure on the batten strip, if the latter is not rabbeted and mounted as described, will loosen the same, increase the labor of the bees in closing the cracks, and permit water to enter; but with the batten rib 9 seated within the rabbeted edges of the sides and upon the top edge 10 at the ends of the box such prying operation may be safely accomplished. Handle strips 14 are also secured to the outer walls of the box over the sheets 5.

15 Summarizing, the improvements provide a durable, thoroughly-insulated box of light weight wherein the walls are of standard size and thickness for use with any standard section placed either above or below.

20 The double shouldered batten strips provide the edges of the box with the necessary width of sealing face to make an effective joint with other boxes or sections and they also make an effective holder for the insulating sheets.

In Fig. 2, the brood-box A has a super or surplus-box D of the ordinary construction mounted thereon, and it will be particularly noticed that the seating or engaging portions of the different forms of boxes are of equal thickness to provide flush surfaces inside and outside at the joint line. However, this showing is arbitrary as it is obvious that the surplus-box D may be constructed and insulated the same as the brood-box B, particularly when protection is required against excessive heat in countries where the wax combs are apt to melt and be affected by the heat.

40 What I claim is:

1. In a bee-hive, a box comprising side walls having an outer sheet lining of insulating material and means at the top and bottom supporting edges of said box to se-

cure the said lining in place with a closed joint, said box and its composite walls at the supporting edges thereof being of standard dimensions to fit and provide flush and even joints with other bee-hive sections in common use.

2. In a bee-hive, a box having an open top and bottom and an outer lining of insulating material and provided with batten strips removably fixed to said box along the top and bottom edges thereof and loosely engaged with the edges of said lining to maintain a closed joint under unequal expansion and contraction of the parts.

3. In a bee-hive, a box having an outer lining and rabbeted batten strips overlapping said lining and the top and bottom edges of said box and the combined width of the walls of the box and the batten strips at the seating edges of the box being of corresponding width to the seating portions of other standard box sections in general use.

4. In a bee-hive, a box having side walls with the upper edges thereof rabbeted on the outside and end walls with the upper edges thereof rabbeted on the inside, in combination with a lining of insulating material covering the outer faces of the box, and batten strips mounted upon the rabbeted top edge of said box and rabbeted to overlap the said lining.

5. In a bee-hive, a box having rabbeted outer edges, an outer lining of thin sheets of insulating material for said box, and batten strips having double-stepped face portions to engage and overlap the edges of said box and also the edges of the said sheet lining.

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

GEORGE C. RAHN.

Witnesses:

ALICE C. MCQUARRIE,
JAMES MCQUARRIE.