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E. C. H. OLSON
BEEHIVE FRAME REST
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2,274,090

Fig. 1.

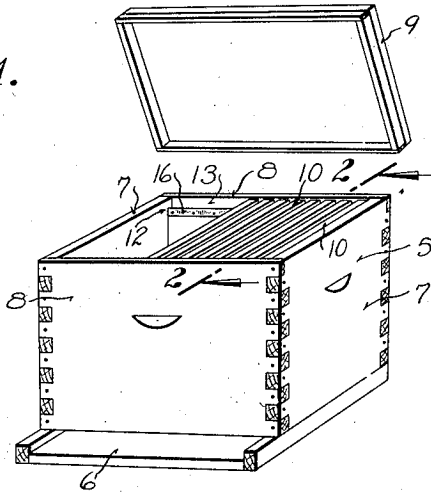


Fig. 2.

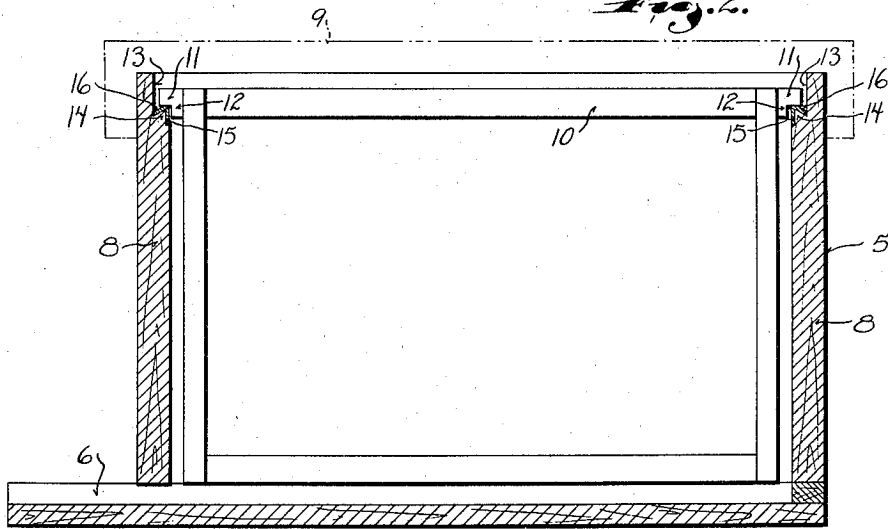
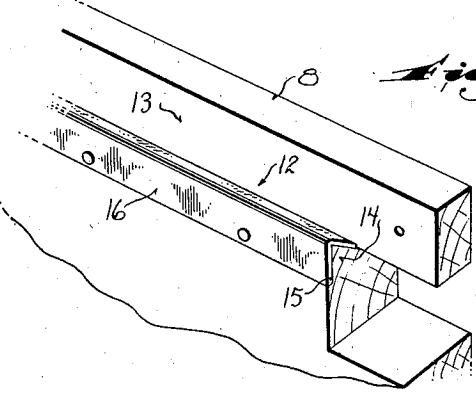


Fig. 3.



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BEEHIVE FRAME REST

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6 Claims (Cl. 6—2)

This invention relates to beehives and refers particularly to the manner in which the comb frames are supported therein.

The construction of beehives is more or less standardized and generally comprises a box-like enclosure with a removable cover and with two opposite walls usually the end walls, equipped with frame supports. These frame supports are adapted to have the projecting ends of the comb frames rest thereon.

The construction of these comb frame supports is quite important. The frames must be so supported that the proper clearance is at all times maintained between the walls of the hive and the ends of the frame and also between the top of the frame and the removable cover of the hive or the superimposed frame, if supers are used.

The bee space above the frame, that is, between the frame and the undersurface of the cover or superimposed frame is of considerable importance. Obviously, it must not be too small; and if it is too large, the bees will fill it with comb. If this occurs, it is almost impossible to remove the frame and if removal is effected, the comb is broken and the honey runs all over the bees.

Another very important consideration in the design of frame supports is that they must be so designed that the bees cannot readily glue or stick the frames to the support with propolis.

It has been found that the bees do not readily propolize the frames to the support if the contact is metal to wood rather than wood on wood.

It has also been found that restriction of the area of contact further reduces the possibility of propolizing the frames to the supports.

Consequently, the frame supports, as illustrated in Patent No. 1,782,202, issued to G. G. Frater, November 18, 1930, have been formed entirely of metal and so proportioned as to present a narrow supporting surface to the projecting frame ends. The structure shown in this patent was the nearest approach to the optimum construction heretofore available; but this past construction has several very serious disadvantages and it lacks the strength to withstand the rough handling to which beekeepers' supplies are now being subjected.

The nature of these frame supports necessitated their being made of relatively thin gauge metal; and as a consequence, the upstanding flange formed by folding the metal strip upon itself was unable to withstand the jolting inevitable in the handling of hives as beekeeping is now practiced.

These upstanding flanges, upon which the frames rested, would become bent and deformed. Accuracy of spacing was thus lost.

Attempts were made to overcome the difficulty by using heavier gauge metal, but experience proved this to be unsatisfactory.

The present methods of beekeeping known as migratory beekeeping are largely responsible for discovering the defects of these past constructions; for in migratory beekeeping, the hives are hauled by a truck from one location to another to take advantage of honey flows.

Also, in recent years, many beekeepers have begun hauling the bees from the north to the south and back again to follow the seasons.

Thus, it will be clear that the jolting and jarring of this repeated handling and transporting places a severe strain on the frame supports.

With these deficiencies of past frame supports in mind, the present invention has, as its object, the provision of an improved construction for the frame supports whereby adequate strength is obtained without sacrificing the desirable edge-like construction.

With the above and other objects in view which will appear as the description proceeds, this invention resides in the novel construction, combination and arrangement of parts substantially as hereinafter described, and more particularly defined by the appended claims, it being understood that such changes in the precise embodiment of the hereindisclosed invention may be made as come within the scope of the claims.

The accompanying drawing illustrates one complete example of the physical embodiment of the invention constructed in accordance with the best mode so far devised for the practical application of the principles thereof, and in which:

Figure 1 is a perspective view of a beehive constructed in accordance with this invention;

Figure 2 is an enlarged vertical sectional view through the hive taken on the plane of the line 2—2 in Figure 1; and

Figure 3 is a fragmentary detail perspective view illustrating the specific construction of the frame supports.

Referring now particularly to the accompanying drawing, in which like numerals indicate like parts, the numeral 5 designates a wooden hive of conventional construction which consists of a box-like enclosure having a bottom 6, side walls 7 and end walls 8. One of the end walls is spaced from the bottom to provide an entrance

for the bees. A removable cover 9 closes the open top of the box-like enclosure.

As is customary, the hive is designed to accommodate a plurality of comb frames 10. These frames are of conventional construction and form no part of this invention. Their top bars have projecting ends 11 which rest on frame supports designated generally by the numeral 12.

As noted hereinbefore, it is of utmost importance that the proper spacing be maintained between the comb frames and the inner walls of the hive. Endwise spacing of the frames is accomplished by the particular construction of the frames per se.

Vertical spacing, that is, the relationship of the frames to the bottom and top of the hive, and particularly the top, depends entirely upon the accuracy of the frame supports 12; and inasmuch as hives are now subjected to rather rough handling, special consideration must be given to the construction of these frame supports to insure the maintenance of this proper spacing.

It is also essential that the frame supports be so designed that the bees cannot readily propolize the frames to the supports. This latter requirement is met by forming the frame supports of metal while the former requirement is satisfied by the particular construction of the supports.

To this end, the frame supports are formed by rabbeting the inner upper edges of the end walls 8, as at 13. These rabbets have a re-entrant formation which defines inclined ledges 14, the front edges of which are higher than the rear edges.

A shallow groove 15 is also cut into the front face of each ledge to a depth equal to the thickness of a metal angle strip 16 secured to each ledge. These angle strips form an acute angle in cross section corresponding to the shape of the cross section of the ledges and fit the same with their front flanges engaging in the grooves 15 so that their front faces lie substantially flush with the inner surfaces of the end walls 8.

The apexes of the angle strips present edge-like supports upon which the frame ends rest; and inasmuch as the angle strips are supported throughout their entirety by direct contact with the wooden ledges, they have adequate strength to withstand the jostling and jarring to which the hives may be subjected.

The edge-like formation and the fact that the actual support for the frames is of metal also minimizes the possibility of the bees propolizing the frames to the supports.

From the foregoing description taken in connection with the accompanying drawing, it will be readily apparent that this invention provides a substantial improvement in the construction of beehives.

What I claim as my invention is:

1. In a beehive including two opposed walls; frame supports carried by said walls and adapted to have the ends of comb frames supported thereon, said frame supports comprising ledges

inclined obliquely downward from the inner faces of said walls; and correspondingly shaped metal angle strips extending upward along said inner faces and covering said ledges to provide substantially sharp edges upon which the frame ends rest.

2. In a beehive: a box-like enclosure including two opposed walls; frame supports carried by said walls, each of said frame supports comprising a ledge intersecting the inner face of the wall at an acute angle and lying wholly between the planes of the inner and outer surfaces of the wall; and correspondingly shaped metal angle strips covering said ledge and extending a short distance downward along said inner face to present a substantially sharp edge upon which the frame ends are adapted to rest.

3. In a beehive: a substantially box-like enclosure including opposed walls, each of which has a re-entrant rabbet at its upper inner edge forming a ledge sloping from the inner surface of the wall downwardly toward the outer surface of said wall and a metal angle strip sloping downward from said inner edge toward said outer surface, and extending vertically downward a short distance along the inner surface of the corresponding wall, thereby covering said ledge to provide a substantially sharp edge-like support upon which an adjacent frame end may rest.

4. In a beehive: two opposed wooden walls, each having its upper inner edge rabbeted to provide a ledge, said rabbets having a re-entrant formation, causing the plane of said ledge to form an acute angle with the plane of the inner surface of the corresponding wall with the front edge of said ledge higher than the rear edge; and a metal angle strip of corresponding shape covering said ledge and presenting a substantially sharp edge-like support upon which the ends of frames may rest.

5. In a beehive: two opposed wooden walls having their upper inner edges rabbeted, said rabbets being of a re-entrant shape so as to define flat ledges with the front edge thereof higher than the rear edge and the front face of each ledge having a shallow groove; and a metal angle strip covering each of said ledges, each angle strip forming an acute angle in cross section corresponding to the angle of intersection of the ledges and a plane parallel to the inner surface of the corresponding wall, and having a metal thickness substantially equal to the depth of the groove in the front face of the corresponding ledge and having its vertical flange received in said groove so that the front face of the angle strips lie flush with the adjacent inner faces of said walls, said angle strips providing strong edge-like frame supports.

6. In a beehive adapted to hold a plurality of comb frames: frame supports upon which the frames rest, said frame supports comprising solid shelves sloping downwardly from the inner surfaces of two opposed walls of the hive; and a thin sheet metal covering over said shelves and extending downwardly along said inner surfaces.

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