March 17, 1942. W. L. CULBERTSON, 3D 2,276,938

BEEHIVE DEVICE

Filed Sept. 30, 1940

Fig. 1.

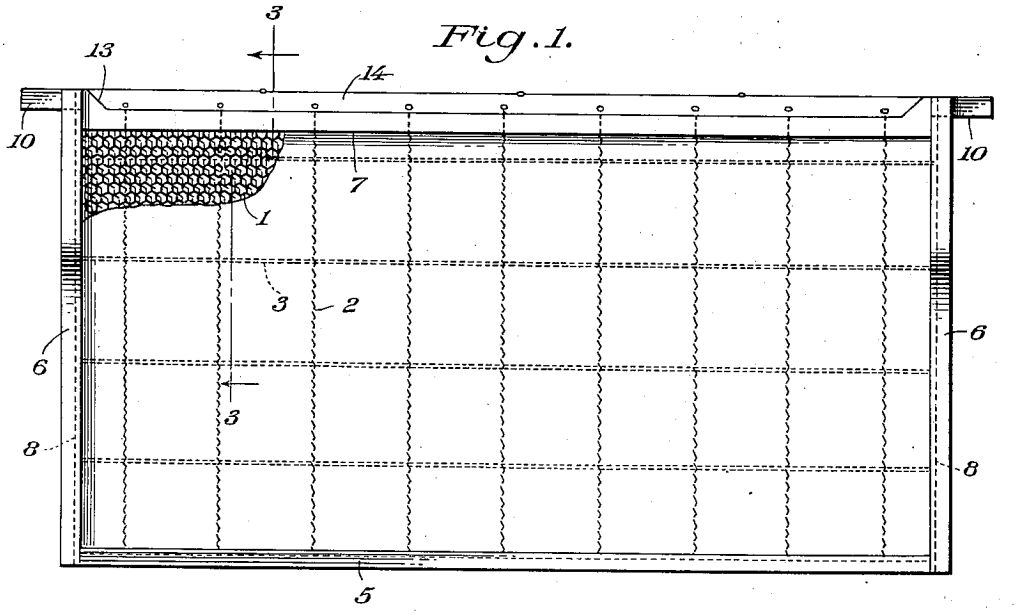


Fig. 2.

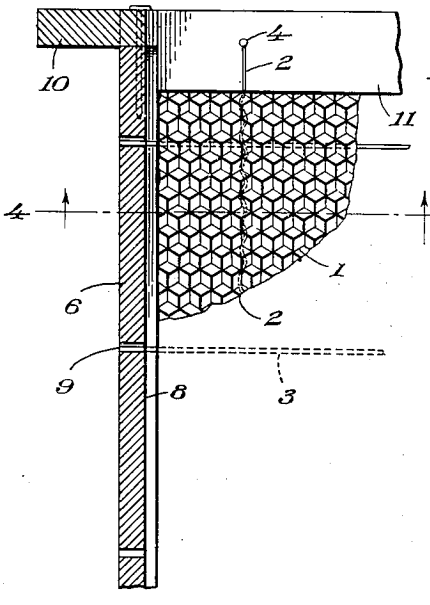


Fig. 3.

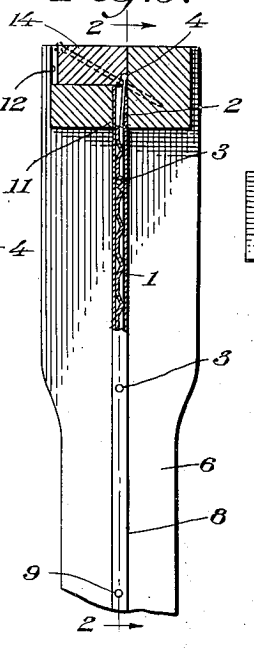
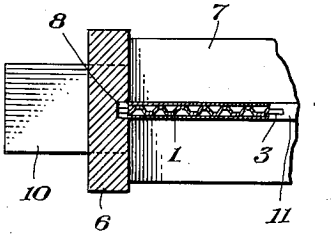


Fig. 4.



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2,276,938

UNITED STATES PATENT OFFICE

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BEEHIVE DEVICE

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2 Claims. (Cl. 6—10)

This invention relates to beehive devices, and its general object is to provide an improved artificial comb foundation and a frame therefor, the foundation being reinforced or braced both vertically and horizontally or longitudinally to prevent any possibility of distortion, buckling or warping in any direction, and the reinforcing means is associated with the frame to prevent sagging or casual removal or displacement of the foundation with respect thereto, in that the foundation is actually fixed to the top bar of the frame and is connected to the bottom and side bars, thus it will be seen that the foundation is substantially rigid and held accordingly throughout its length and height.

A further object is to provide a foundation reinforced in accordance with my invention, that can be easily and expeditiously applied to the frame.

Another object is to provide a comb foundation mounting frame that includes grooved or kerfed side bars for receiving the ends of longitudinally extending reinforcing wires which are embedded within the foundation, and the upper or supporting bar of the frame is recessed along its length to receive a wedge strip that embraces headed upper ends of vertical extending reinforcing wires, the latter being likewise embedded within the foundation and have their lower ends mounted in a groove along the length of the bottom bar of the frame.

A still further object is to provide a device of the character set forth, that is simple in construction, inexpensive to manufacture, and extremely efficient in use and service.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawing and specifically pointed out in the appended claims.

In describing the invention in detail, reference will be had to the accompanying drawing wherein like characters denote like or corresponding parts throughout the several views, and in which:

Figure 1 is a front elevation of the frame and foundation which form the subject matter of the present invention, and illustrates the web of the foundation, broken away.

Figure 2 is a sectional view taken approximately on line 2—2 of Figure 3, looking in the direction of the arrows.

Figure 3 is a sectional view taken approximately on line 3—3 of Figure 1, looking in the direction of the arrows.

Figure 4 is a sectional view taken approximately on line 4—4 of Figure 2, looking in the direction of the arrows.

It will be understood that the foregoing, that my invention comprehends both the comb foundation and the frame therefor, and referring to the drawing in detail, the reference numeral 1 indicates the sheet or web of the foundation, the sheet being made from the usual material, with partial cells formed therein and is of the usual elongated rectangular formation.

It is well known that considerable difficulty has been experienced in eliminating buckling or distortion of the sheet 1, and while vertical reinforcing wires have been used and have proved partially satisfactory for the purpose intended. I not only provide the sheet 1 with vertical reinforcing or bracing wires 2, but also with longitudinal reinforcing or bracing wires 3.

Both the wires 2 and 3 are embedded within the sheet 1 and are arranged in equi-distantly spaced relation throughout the length and height of the sheet, so that they cross each other. The vertical extending wires 2 are preferably waved or corrugated as shown, and while the lower ends of the wires 2 may terminate flush with the lower edge of the sheet 1, the upper end portions thereof extend a considerable distance beyond or above the upper edge of the sheet, as best shown in Figure 2, and the upper ends are provided with heads 4 which as shown are in the form of substantially spherical beads, but the heads may be of disk form or any other desired shape and they may be applied to the wires, or the upper end of the wires may be crushed or expanded to provide the heads, the use of which will be later described.

The longitudinally extending wires 3 preferably extend slightly beyond the side edges of the sheet 1, as best shown in Figure 2, and while they are shown as being straight, they likewise may be waved or corrugated. In any event, it will be obvious that the wires 2 and 3 cooperate with each other to materially reinforce the sheet 1, for holding the same substantially rigid against any possibility of buckling, or warping, in any direction.

The frame of course is shaped to receive and fit the foundation and therefore it is likewise of elongated rectangular formation. It includes a base or bottom bar 5, side or end bars 6 and a top or supporting bar 7.

The base or bottom bar 5 may be of the usual construction and is provided with a groove or kerf extending along the longitudinal center of

its upper face for receiving the lower edge of the foundation. The side or end bars 6 are laterally reduced for a portion of their height, in the usual manner and the upper and lower ends thereof are recessed to receive the top and bottom bars for disposal of the latter flush therewith, which of course is likewise of the usual construction, but the important feature of the side bars is the fact that they are provided with grooves or kerfs 8 in the inner or confronting faces thereof, the grooves extending along the center of the bars 6 and throughout their height, for the purpose of receiving the extending ends of the longitudinal reinforcing or bracing wires 3, as clearly shown in Figure 2. The bars 6 likewise have openings 9 extending from the grooves 8 to their outer faces, and the openings or holes 9 likewise receive the ends of the wires 3.

The top bar is of greater length than the bottom bar and the ends thereof are reduced and extend beyond the outer faces of the side bars to provide supporting projections 10 that are received by the usual runners or cleats within the hive for supporting the device in the usual manner. The top bar is slotted vertically for receiving the upper end portions of the wires 2, with the slot which is indicated by the reference numeral 11 terminating adjacent to the ends thereof, as shown in Figure 4 and the top bar is likewise recessed longitudinally from its upper face to one side face and laterally of the slot, with the recess which is indicated by the reference numeral 12 being of a length substantially coextensive with that of the slot, as well as provided with beveled ends 13, and the recess is for the purpose of receiving a wedge strip 14 that is provided with beveled ends for fitting beveled ends 13. The wedge strip is fixed within the recess to close the upper end of the slot, so as to embrace the heads 4 and cause the latter to be embedded within the top bar, for fixing the foundation thereto, as clearly shown in Figure 3, and by that construction, together with the arrangement of the ends of the wires 3, within the grooves or kerfs 8, and the lower edge of the foundation, together with the wires 2, within the groove of the bottom bar, it will be obvious that sagging, removal or displacement of the foundation with respect to the frame is practically impossible.

The members or bars of the frame are secured together by nails in the form as shown, but any other suitable means may be used for that purpose, and the foundation is preferably mounted within the grooves of the bottom and side bars before the top bar is fixed in place. However, the foundation is freely bendable so that it can be applied within the completed frame.

While I have shown a top bar having a recessed upper edge portion, the lower edge portion may be recessed for receiving the wedge strip 14, and in that event the slot 11 will be eliminated and the vertical wires will have their upper end portions terminating within the lower recess. The use of the lower recess materially facilitates the application of the foundation to the complete frame, that is with the top bar fixed in place, as the lower edge of the foundation can be inserted in the groove of the bottom bar, thence the wedge strip is secured in place, and finally the ends of the longitudinal extending wires 3 are slipped into the grooves of the side bars, merely by applying pressure to the latter wires adjacent to the ends thereof.

It is thought from the foregoing description that the advantages and novel features of the invention will be readily apparent.

It is to be understood that changes may be made in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What I claim is:

1. A beehive device comprising an elongated comb foundation including a sheet of comb material, wires embedded within the sheet and extending vertically and longitudinally thereof throughout its height and length, certain of the wires being corrugated, a frame having the foundation mounted therein and including grooved side bars and a slotted upper bar, the longitudinal wires extending beyond the side edges of the sheet and mounted in the grooves, said side bars having holes therethrough for receiving the extending ends of the longitudinal wires, the vertical wires extending beyond the upper edge of the sheet and mounted in the slot of the upper bar, substantially spherical shaped beadlike heads formed on the upper ends of the vertical wires, said upper bar being recessed laterally along its upper edge portion and the recess having beveled ends, and a wedging strip shaped to fit the recess and secured therein to embrace the heads for securing the foundation to the frame.

2. A beehive comb foundation frame comprising a bottom bar longitudinally grooved for receiving the lower edge of the foundation therein, side bars fixed to the ends of the bottom bar and being grooved centrally along the length of the confronting faces thereof for receiving the side edges of the foundation therein, a top bar fixed to the upper ends of the side bars and being slotted along its longitudinal center for receiving the upper edge of the foundation therein, said top bar being recessed laterally along its upper edge portion and said recess having beveled ends, and a wedging strip shaped to fit the recess and secured therein for embracing the foundation for fixing the latter within the frame.

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