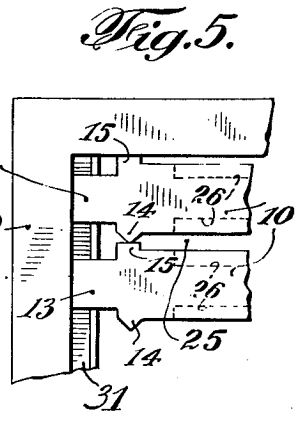
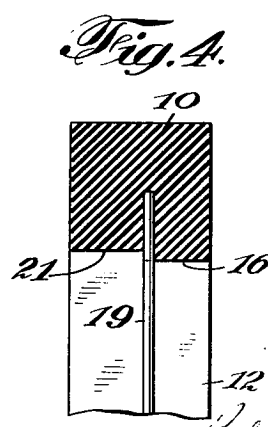
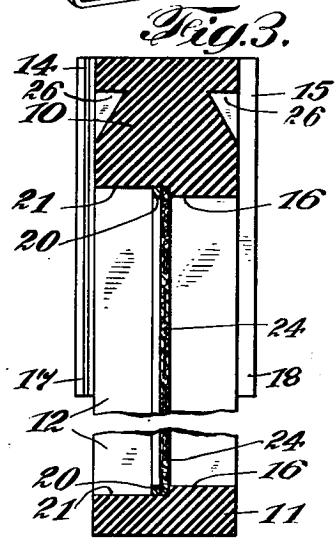
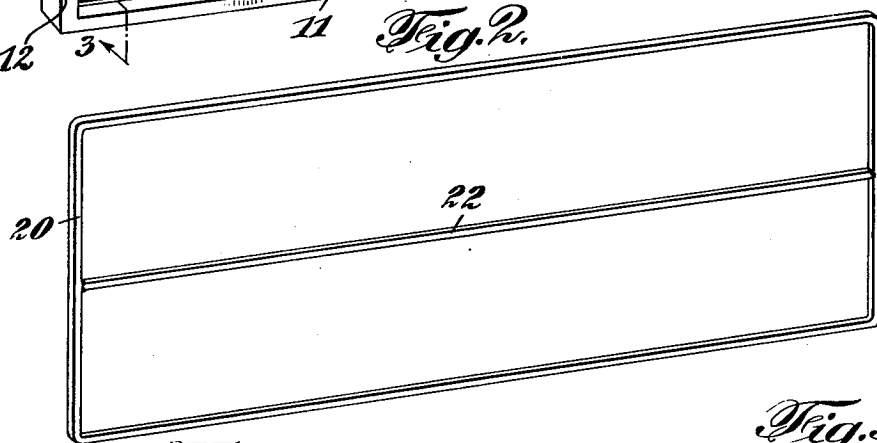
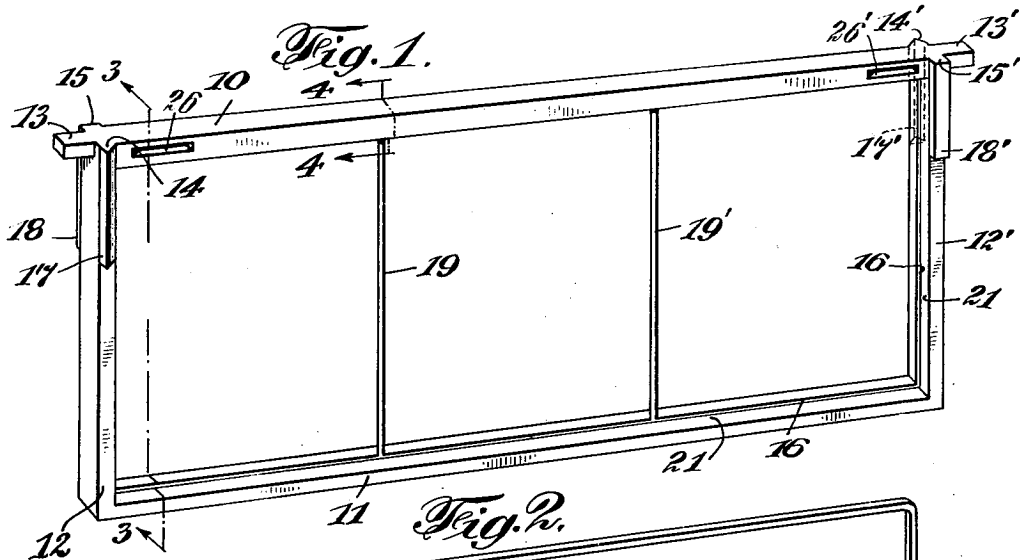


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BEEHIVE HONEYCOMB FRAME

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BEEHIVE HONEYCOMB FRAME

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3 Claims. (Cl. 6—10)

1

My invention relates to honeycomb frames and refers particularly to devices of the character mentioned adapted to be suspended in beehive supers.

One of the objects of my invention is honeycomb frames adapted for proper spaced positions with respect to each other when suspended in a beehive super.

Another object of my invention is honeycomb frames adapted to allow of maximum space for the passage of bees between the suspended devices.

Another object of my invention is honeycomb frames adapted to expose a maximum of comb building surface.

Another object of my invention is honeycomb frames free from separable jointures, thus insuring constant rigidity of the devices and preventing accidental separation of their elements of construction.

Another object of my invention is honeycomb frames which are simple in construction, light in weight, hygienic and capable of inexpensive construction.

Honeycomb frames must comprise means whereby they can be readily suspended in beehive supers at predetermined distances from each other and can be readily removed therefrom without injury to the formed comb, they must comprise means whereby a sheet of wax foundation may be readily inserted therein and maintained in taut position during the comb forming operations, they must expose a maximum full surface of the wax foundation in order that a maximum amount of combs may be formed thereon by the bees, they must be so constructed that the wax foundation will not sag during the comb formation, and they must be of such construction and of such material that they will not warp or change their form during repeated uses thereof.

The honeycomb frames of my invention possess all of the foregoing and other valuable attributes.

The preferred form of the honeycomb frames of my device comprises a rectangular frame, reinforced by at least one rod extending from and attached to, or a part of, opposite sides and extended projections from the opposite faces of the frame adapted to act as suspending means in beehive supers and to space, or separate, the frames from each other in predetermined distances.

The objects and attributes of the honeycomb frames of my invention will be evident upon a consideration of my specification and its accompanying drawings.

2

In the accompanying drawings illustrating one form of comb frames of my invention, similar parts are designated by similar numerals.

Figure 1 is a perspective view of the outer frame portion of one form of a device of my invention.

Figure 2 is a perspective view of one form of a wax-retaining element for employment with the outer frame portion of Figure 1.

Figure 3 is an enlarged section through the line 3—3 of Figure 1 with the wax-retaining member of Figure 2 inserted therein.

Figure 4 is an enlarged section through the line 4—4 of Figure 1.

Figure 5 is a fragmentary top plan view of a plurality of the devices of my invention inserted in a super element of a vertical sectional beehive.

The particular form of a comb frame of my invention shown in the accompanying drawings comprises a top member 10, a bottom member 11, and two side members 12, 12'.

The top member 10 has the two outwardly extended supporting members 13, 13'. The end portions of the top member 10 have transversely directed pyramidal ribs 14, 14' at diagonally opposite corners and transversely directed ribs 15, 15', also at diagonally opposite corners, ribs 14, 15' and ribs 15, 14' being respectively positioned upon the same side of the top member 10, in each case. The underside of the top member 10 has a shoulder 16 for purposes described later.

The bottom member 11 is similar to the top member 10 except that it does not have the extended members 13, 13'.

The end portions 12 and 12' are similar in construction. The end portion 12 has the extended pyramidal rib 17 and the rectangular rib 18. The pyramidal rib 17 is a continuation of the pyramidal rib 14 of the top member 10 and the rectangular rib 18 is a continuation of the rectangular rib 15 of the top member 10. The members of the side member 12' correspond to those of the side member 12 and are indicated by similar prime numerals.

The top member 10 and the bottom member 11 are connected by the two equally spaced rods 19 and 19', the end portions of which are embedded in the top member 10 and the bottom member 11.

The wax-retaining element of my device comprises a rectangularly shaped member 20 made of a rectangularly shaped resilient material, such as spring metal, adapted to fit within the recesses 21, 21' of the top member 10, the bottom member 11 and the side members 12 and 12' cammed by their shoulders 16, 16', the contacts of the rod

20 with the top, bottom and sides of the device being such as to hold it within said recess free from accidental displacement therefrom. A rectangularly shaped rod 22 connects the two end portions of the member 20, being welded thereto.

The operation of my device is as follows:

A sheet of wax foundation paper 24 is placed upon the shoulder 16 as shown in Figure 3, care being taken that it fits snugly therein, the foundation being prevented from sagging by the rods 19, 19', and the wax-retaining member 20 is placed upon the edge portions of the wax foundation, this wax-retaining member 20 being pressed upon the wax foundation to maintain it in position and the retaining member 20 being prevented from accidental outward movement by its frictional contact with the top, bottom, and sides of the frame.

The member 10 contains a plurality of angular recesses 26, 26', into which a tool may be inserted to facilitate the removal of the frames from the hive, in the event the bees should cover the frame with propolis.

The manner in which the comb frame of my invention may be employed with the elements of an ordinary beehive is shown in Figure 5, illustrating two of my frames suspended in a super element 30 of a vertical sectional beehive by means of the extended members 13, 13 carried by the ledge 31 of the hives.

It will be noted that the pyramidal extended member of one frame abuts upon the rectangular extended member of the adjoining frames thus forming the proper space 25 between the frames for the passage of the bees.

My invention is not limited to the specific size, shape, number, arrangement or material parts mentioned and described, all of which can be varied without going beyond the scope of my invention.

What I claim is:

1. In a honeycomb frame, in combination, a rectangular frame having a top, bottom, and two sides, at least one rod extending between the top and bottom, each end portion of the top of said frame extending beyond the side of the frame adjacent thereto, one end portion of said top having a pyramidal spacing member extending from one side thereof and a rectangular separating member extending from the other side thereof, the other end portion of said top having a pyramidal spacing member extending from one side thereof and a rectangular separating member extending from the other side thereof, a pyramidal extending member of one end portion and a rectangular extending member of the other end portion being upon the same side of the top, a continuous shoulder in the inner faces of said rectangular frame forming a continuous recess therein, said recess being adapted to receive the edge portions of a sheet of wax, and a resilient frame adapted to be disposed in said recess to maintain the edge portions of said sheet of wax positioned upon said shoulder.

2. In a honeycomb frame, in combination, a one-piece rectangular frame having a top, bottom, and two sides, at least one rod interconnecting the top and bottom, each end portion of the top of said frame extending beyond the side of the frame adjacent thereto, one end portion of said top having a pyramidal spacing member extending from one side thereof and a rectangular separating member extending from the other side thereof, the other end portion of said top having a pyramidal spacing member extending from one side thereof and a rectangular separating member extending from the other side thereof, a pyramidal extending member of one end portion and a rectangular extending member of the other end portion being upon the same side of the top, a continuous shoulder in the inner faces of said rectangular frame adapted to receive the edge portions of a sheet of wax, and a resilient frame frictionally engageable with said rectangular frame adapted to maintain said sheet of wax positioned upon said shoulder.

3. In a honeycomb frame, in combination, a rectangular frame having a top, bottom, and two sides, at least one rod interconnecting said top and bottom intermediate the sides thereof, each end portion of the top extending beyond the side of the frame adjacent thereto, one end portion of said top having a pyramidal spacing member extending from one side thereof and a rectangular separating member extending from the other side thereof, the other end portion of said top having a pyramidal spacing member extending from one side thereof and a rectangular separating member extending from the other side thereof, a pyramidal extending member of one end portion and a rectangular extending member of the other end portion being upon the same side of the top, a continuous shoulder along the inner faces of said top, bottom, and sides for receiving the edge portions of a sheet of wax, and a resilient rectangular frame having an intermediate cross-rod, the perimetrical surfaces of said resilient frame being frictionally engageable with said inner faces, the inner sides of said resilient frame being in abutting engagement with said edge portions of the wax sheet, and said interconnecting rod and cross-rod being on opposite sides of the body of said wax sheet for supporting the wax sheet therebetween.

ROBERT PARKER HAMILTON.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
660,574	Horner	Oct. 30, 1900
1,412,457	Dadant	Apr. 11, 1922
1,725,448	Erdmann	Aug. 20, 1929
1,734,710	Borchert	Nov. 5, 1929
1,947,706	Frater	Feb. 20, 1934
2,313,735	Dadent et al.	Mar. 16, 1943