June 28, 1949. L. B. SMITH ET AL 2,474,382

BEE COMB FOUNDATION FRAME

Filed Sept. 21, 1945

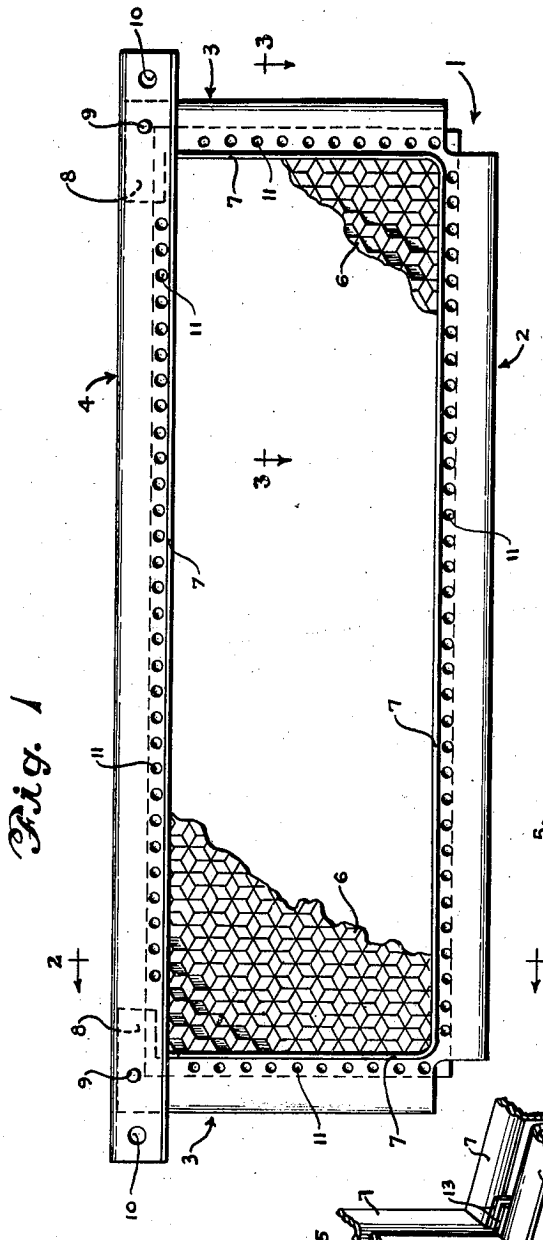

Fig. 1

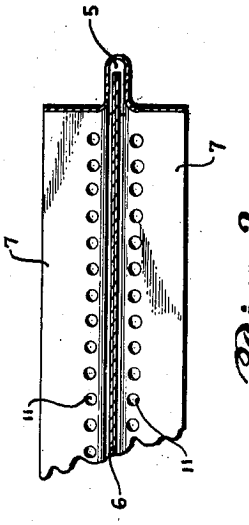

Fig. 3

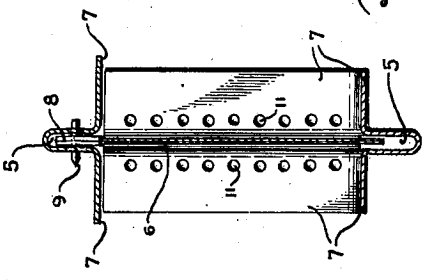

Fig. 2

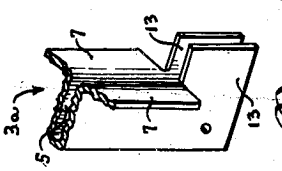

Fig. 5

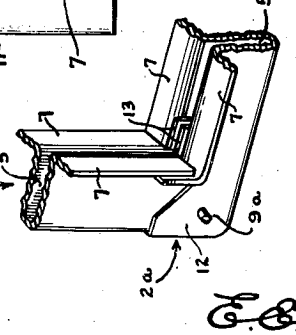

Fig. 4

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Patented June 28, 1949 2,474,382

# UNITED STATES PATENT OFFICE

2,474,382

## BEE COMB FOUNDATION FRAME

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Application September 21, 1945, Serial No. 617,738

2 Claims. (Cl. 6—10)

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This invention relates to a bee comb foundation frame.

An object of the invention is the construction of a novel and efficient frame for holding a sheet of foundation.

Another object of the invention is the construction of a novel and efficient frame either of metal or plastic material, which frame will permit the easy insertion of a sheet of foundation therein, and retain the sheet for best results.

A still further object of the invention is the construction of a novel frame and top or cap section provided with a groove or channel throughout their length, to receive part of a sheet of foundation.

With the foregoing and other objects in view, our invention comprises certain novel constructions, combinations, and arrangements of parts as will be hereinafter fully described, illustrated in the accompanying drawings, and more particularly pointed out in the appended claims.

In the drawings:

Figure 1 is a view in side elevation of a bee comb foundation frame, showing the preferred form of the invention.

Figure 2 is a transverse sectional view taken on line 2—2, Fig. 1, and looking in the direction of the arrows.

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

Figure 4 is a fragmentary, perspective view of another embodiment of the invention.

Figure 5 is a fragmentary, perspective view of one of the end sections of the embodiment shown in Figure 4.

Referring to the drawings, in which the preferred embodiment is illustrated in Figures 1 to 3, 1 designates the substantially U-shaped metallic frame that is constituted by the bottom section 2 and the two integral end sections 3. A hollow top or cap section 4 normally straddles the end sections 3 in the peculiar manner hereinafter specifically described.

The end sections 3 and bottom section 2 are each provided with a groove or channel 5, Fig. 2, into which extend the edges of the foundation sheet 6. Each section is provided with outwardly extending flanges 7 which support the comb cells as the bees work in the frame.

The end sections 3 are provided at their upper ends with inwardly extending tongues 8 formed in the same horizontal plane; these tongues act to make the entire frame structure more efficient, as well as acting as a guide to hold the sheet 6

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in efficient position; these tongues 8 being mostly positioned in the channel or groove 5 of the top or cap section 4. The whole frame therefore has a continuous groove 5, since the groove in the cap section 4, end sections 3, and bottom section 2 all register.

When the hollow cap section 4 is placed over the frame 1 with the upper tongued ends of the end sections 3 therein, pins 9 are placed through the cap section 4 and end sections 3, detachably holding said sections together.

Apertures 10 are formed in the cap section 4 near its ends for receiving a lifter hook (not shown), whereby the frame can be lifted easily out of the hive.

Apertures 11 are provided for wiring foundation if desired.

In the embodiment shown in Figures 4 and 5, the bottom section 2a and the end sections 3a are made separate, which is necessary when plastic or similar material is used in the construction of the frame. In this embodiment, the bottom section 2a is provided at its two ends with upstanding shoes 12, which receive the lower end of the two end sections 3a. Each end section 3a is provided with parallel tongues 13 (Fig. 5) that normally fit into the groove 5 of the bottom section 2a. A pin 9a extends through the shoe 12 and the tongued portion 13, securing the units of the device together. These tongues of the device act to strengthen the same by bracing the structure at its connecting parts. In this non-metallic embodiment, it will be noted that there are four major sections, to wit: the bottom section, the end sections, and the cap section, all made in separate units or parts. The cap section of this embodiment is held in place the same as the cap of the metallic embodiment shown in Figures 1 to 3.

By reason of the novel construction described, the frame or device is non-breakable; it does not warp nor crack, and there are no nails to pull out or joints to work loose. The device is practically non-destructible, since it does not decay and there are no pores for disease germs to collect in. It has also a great many other advantages, such as being easily cleaned; therefore sanitary. The structure of the device makes it possible for the bee keeper to quickly refill with a foundation sheet, as the sheet can be easily positioned and secured. Either wired or unwired foundation can be used, as the grooves hold the foundation true without danger of warping, thereby preventing the building of

drone cells in uneven places. This device affords more cells for brood or honey, etc.

While we have described the preferred embodiment of our invention and illustrated the same in the accompanying drawings, certain minor changes or alterations may appear to one skilled in the art to which this invention relates, during the extensive manufacture of the same, and we, therefore, reserve the right to make such changes or alterations as shall fairly fall within the scope of the appended claims.

What we claim is:

1. In a bee comb foundation frame, the combination of a sheet metal frame, including a bottom section and two side sections, said bottom and side sections being U-shaped in cross section throughout their length, said side sections being provided at their top with pairs of inwardly extending tongues, said tongues in each pair being in engagement, a metal cap section U-shaped in cross section throughout its length, said cap section placed over and receiving the upper ends of said side sections including said inwardly extending tongues, and said U-shaped sections also forming a continuous open structure for receiving freely the four edges of a foundation sheet.

2. In a bee comb foundation frame, the combination of a metallic bottom section provided at its ends with upstanding shoes, metallic end sections provided at their upper and lower ends with inwardly extending horizontal parallel tongues, said end sections being seated at their lower ends in said shoes with said inwardly extending tongues within the bottom section, a cap section over the upper ends of said end sections with the tongues on the upper ends within said cap section, said bottom section provided along its longitudinal edges with outwardly extending horizontal flanges having upstanding portions at their ends, said end sections being provided with outwardly extending flanges in engagement with said upstanding portions, and said bottom, end and top sections being provided with an open groove-like structure, whereby a foundation sheet can be placed in said groove-like structure and loosely held in position thereby.

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