Nov. 9, 1948. H. C. DADANT 2,453,411

BEE COMB FOUNDATION

Filed May 15, 1944

Fig. 1.

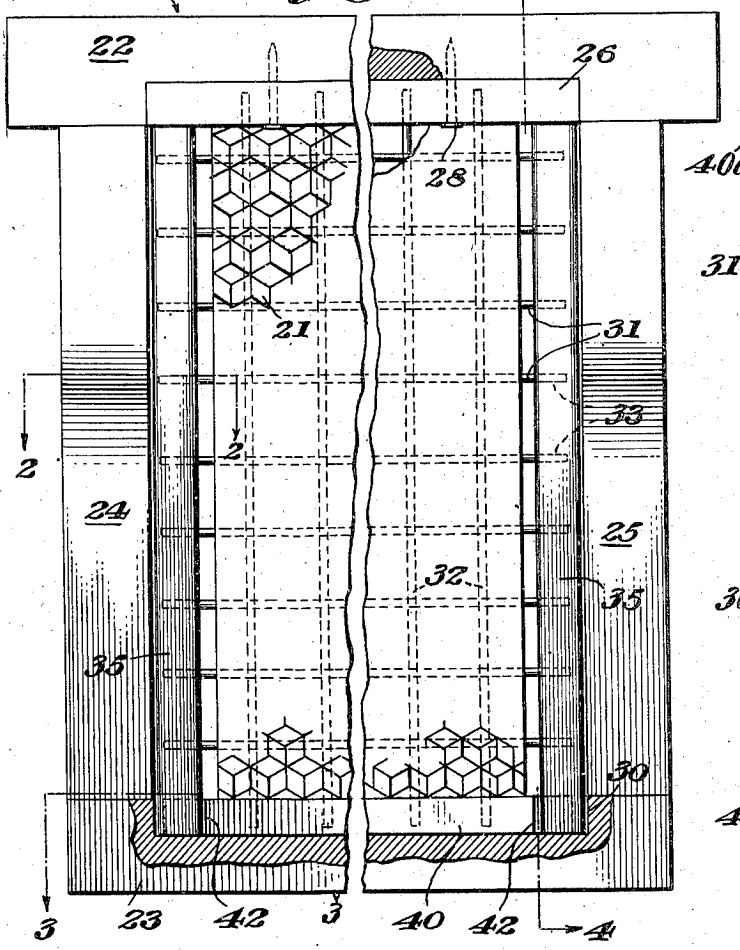


Fig. 4.

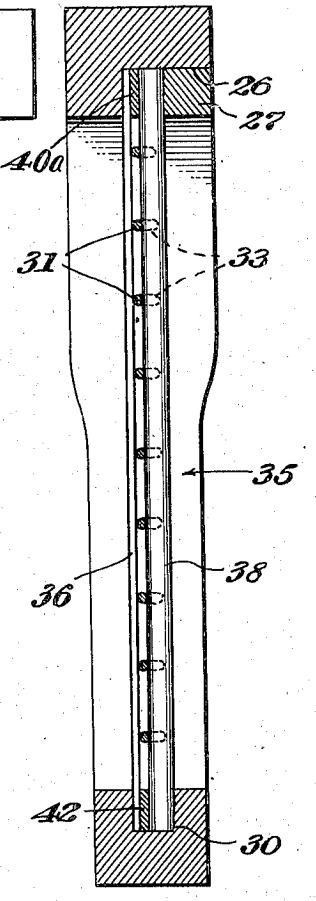


Fig. 2.

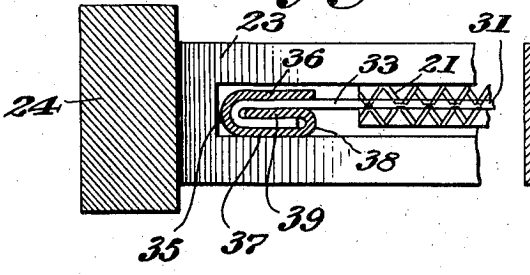
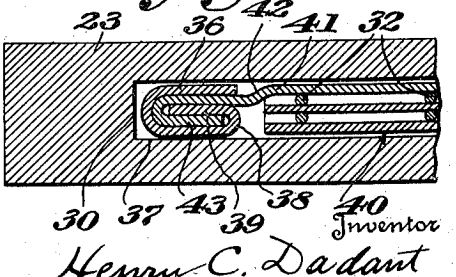


Fig. 3.



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BEE COMB FOUNDATION

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3 Claims. (Cl. 6—10)

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This invention relates to a bee comb foundation.

It has been proposed to bind the opposite edges of sheets of cardboard and wax sheets with a metal strip in which the metal is pinched either throughout its length or at spaced points in order to clamp the simple U-shaped binding strip on the opposite edges of the sheet as a reenforcement. However, the use of metal binding strips on a sheet of wax tends to cut the sheet so that when weight is added to the foundation sheet the wax will tear along the free edges of the flanges of the U-shaped metal binding strip, unless provision is made to prevent tearing.

An object of the invention is the provision of metal binding strips employed at opposite lateral edges of a foundation sheet, or along all four edges, said lateral binding strips having clamping relation with the ends of horizontally disposed wires embedded in the sheets, or if the binding strips are applied to all four edges and the sheet has vertical wires their ends will be likewise clamped against slippage in the top and bottom metal binding strips so that the weight of the foundation sheet will be supported by the four metal binding strips and the wires to prevent sagging of the sheet after the bees have built up the honeycomb.

Another object of the invention is the provision of a binding strip which is U-shaped in cross section, and which has one of the flanges inturned to provide an auxiliary locking means for the ends of wires which are employed in the sheet so that when the flanges of the U-shaped binding strips are clamped upon the wires the foundation sheet will be held in a vertical plane against bulging when additional weight has been added thereto by the bees.

A further object of the invention is the provision of a reenforcement for bee comb foundations, particularly the wax sheet, in which the reenforcement consists of a surrounding frame composed of U-shaped metal members each having one flange bent inwardly to provide an auxiliary binding strip to receive the ends of wires which are embedded in the wax sheet, with the metal strips being applied to the side edges of the sheet, and similar U-shaped metal binding strips applied to the top and bottom edges of the wax sheet, with one flange of the top and bottom binding strips being extended in the form of a tongue of sufficient length to be nested in coiled relation within the U-shaped binding strips at the sides of the sheet and the auxiliary U-shaped member formed by the inturned flange.

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This invention will be best understood from a consideration of the following detailed description, in view of the accompanying drawings; nevertheless, it is to be understood that the invention is not confined to the disclosure, being susceptible of such changes and modifications as define no material departure from the salient features of the invention as expressed in the appended claims.

In the drawings:

Fig. 1 is a view in elevation of one form of my bee comb foundation with parts broken away.

Fig. 2 is a fragmentary horizontal section taken along the line 2—2 of Fig. 1.

Fig. 3 is a horizontal section taken along the line 3—3 of Fig. 1, looking downwardly.

Fig. 4 is a vertical sectional view taken on line 4—4 of Fig. 1.

Referring more particularly to the drawings, it will be seen that a frame generally designated by the numeral 20 is employed for supporting the wax foundation sheet 21. This frame consists of a top bar 22, a bottom bar 23 and side bars 24 and 25. The top bar 22 is wider than the bottom bar 23 and is provided with a rabbet 26 at its lower edge which is adapted to receive the upper edge of the sheet 21 and an attaching strip 27. This attaching strip is secured directly against the upper edge of the top binding strip of sheet 21 when tacks or nails 28 are driven through the strip and into the upper supporting bar 22.

The bottom bar 23, as shown, is provided with a groove 30 which receives the lower edge of the foundation sheet 21 which is equipped with a metal binding strip.

The sheet 21 may be formed of wax or some composition material provided with a wax coating. However, since these sheets are customarily formed entirely of wax they are provided with transverse or horizontal wires 31 and vertical wires 32. The opposite ends of all the wires 31 project beyond the edges of the sheet 21 as shown at 33 and illustrated in Figs. 1 and 2. Also, the opposite ends of the vertical wires 32 project beyond the top and bottom edges of the wax sheet.

A pair of binding strips generally designated by the numeral 35 are located in spaced relation with the side edges of sheet 21. Each binding strip consists of a U-shaped member having flanges 36 and 37, with the flange 37 being turned inwardly as shown at 38 to provide an auxiliary U-shaped or reentrant member 39.

It will be noted that the projecting ends 33

of the horizontal wires **31** are not only received within the main U-shaped members **35**, but the extreme free ends of said wires are also received within the auxiliary U-shaped members **39** so that when pressure is applied to the U-shaped members **35** the ends of the wires will be rigidly clamped into position and maintained against displacement. Therefore, the foundation sheet **21** is maintained against bulging by the horizontal wires **31** and the U-shaped edge binding strips **35**. These binding strips are spaced from the side edges of the sheet with the projecting ends of the wires **31** spanning the space between the binding strips and the side edges of the wax sheet.

A U-shaped metal binding strip **40** is clamped at the lower edge of the sheet **21** with the lower ends of the vertical wires **32** projecting into the U-shaped strip **40**.

Inspection of Fig. 3 will show that one flange **41** of the U-shaped member **40** forms a tongue which is extended at **42** beyond the opposite ends of the said U-shaped member and these extensions are received within the vertically disposed binding strips **35**. The free ends **43** of the extensions **42** are returned upon said extensions and are received within the auxiliary U-shaped members **39** in the same manner as are the ends of the horizontally disposed wires **31**. Thus, the side binding strips **35** with their particular formation not only provide means for clamping the free ends of the wires **31**, but they provide means for retaining the U-shaped member **40** at the bottom of the sheet **21** in position. The U-shaped member **40** may be tacked in place on the bottom bar **23** of the frame if desired.

In the form shown in the drawings, the upper edge of the sheet is held in a binding strip **40a**, similar to the strip **40**, clamped in position by the attaching strip **27** and since the upper ends of the side reenforcing strips **35** are also clamped in position by the strip **27** the side strips **35** will be maintained in parallel relation for maintaining the horizontal wires **33** taut and likewise the sheet **21**. Since the lower ends of the binding strips **35** have interlocking engagement with the extensions **42** of the flange **41** of the U-shaped binding strip **40** said lower ends of the strips **35** when seated within the bottom groove **30** of the frame will likewise be maintained in parallel relation for retaining the vertical wires **32** and the sheet **21** taut.

The top binding strip **40a** likewise holds the upper ends of wires **32** and maintains the upper ends of the side strips **35** properly spaced.

I claim:

1. The combination with a bee comb foundation sheet having transversely extending reinforcing wires the free ends of which extend beyond

the sheet, of an outer carrying frame and an inner sheet reinforcing frame removably supported thereby, said inner frame comprising side bars spaced outwardly from the side edges of the sheet and being U-shaped in cross section with one edge bent inwardly to form a reentrant U-shaped member in which the free ends of the reinforcing wires are clamped.

2. The combination with a honey comb foundation comprising a rectangular wax sheet having vertical and horizontal reinforcing wires the extremities of which project beyond the edges of said sheet, a reinforcing frame surrounding the sheet and comprising a pair of parallel bars at opposite sides of the sheet and a second pair of parallel bars at the top and bottom of the sheet, each of said bars being U-shaped in cross section and having one of their flanges bent inwardly forming a reentrant portion for securing the free ends of said wires, the bars comprising one of said pairs being located between the ends of the bars of the other pair and provided at their extremities with tongues secured within the reentrant bends of the last mentioned bars.

3. The combination with a bee comb foundation sheet having vertically extending reinforcing wires the free ends of which extend beyond the edges of the sheet, of an outer carrying frame having side pieces, and an inner sheet reinforcing frame supported in said outer frame, said inner frame comprising side pieces of U-shaped cross section spaced inwardly from the side pieces of said outer frame and outwardly from the lateral edges of the foundation sheet, said inner frame also comprising top and bottom members of U-shaped cross section, each member having one flange bent inwardly and forming an auxiliary U-shaped portion in which the free ends of said wires are clamped, said top and bottom members having at their ends tongues nested between the flanges of the side pieces of said inner frame.

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