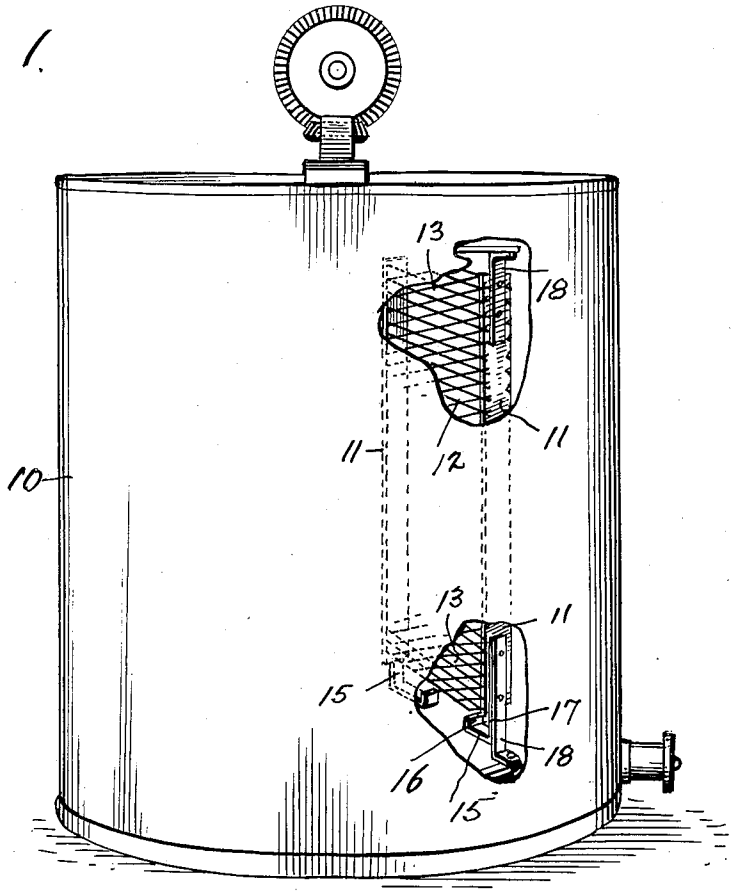
July 31, 1934. J. T. CALVERT 1,968,014

CENTRIFUGAL HONEY EXTRACTOR

Filed Nov. 7, 1931

Fig. 1.



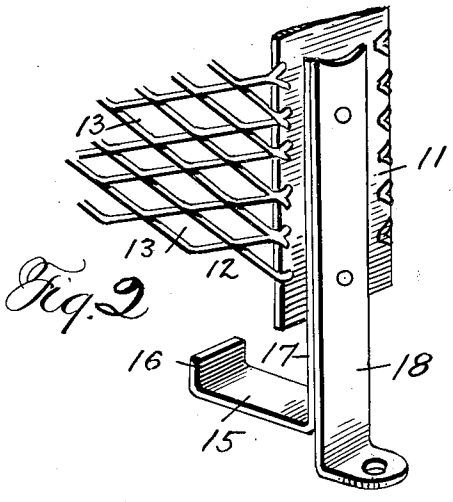


Fig. 2

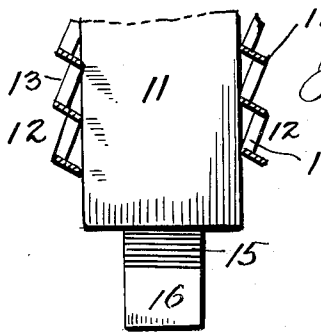


Fig. 3.

Inventor

J. T. Calvert

By Chas. J. Wilkinson

Attorney

Patented July 31, 1934 1,968,014

UNITED STATES PATENT OFFICE

1,968,014

CENTRIFUGAL HONEY EXTRACTOR

John T. Calvert, Medina, Ohio, assignor to The A. I. Root Company, Medina, Ohio, a corporation of Ohio

Application November 7, 1931, Serial No. 573,688

7 Claims. (Cl. 210—65)

My invention relates to centrifugal honey extractors and in particular to the comb pockets which usually are a rectangular frame with perforated side walls which contain and support the frame and the honey combs therein and which are revolved about an axis of rotation at a speed which will cause the honey to be thrown out from the comb by centrifugal force, the frame and comb being restrained by the perforated side walls and the holes in the latter permitting the outflow of honey into the tank in which the revolution takes place. The desiderata in a comb pocket are minimum weight, maximum size of holes in the side walls, or to put it conversely minimum area of side walls, and strength and rigidity sufficient to successfully withstand the breaking or deforming forces at work considering the effect of rotation at high speed with consequent centrifugal force of so heavy a body or mass as honey, and ability to withstand breakage or deformation from knocks or blows unavoidable in handling. These desiderata as will be obvious, present conflicting conditions. An object of my invention is to realize to the utmost a desiderata mentioned. Other objects and advantages of my invention will be readily understood by those skilled in the art.

My invention consists in whatever is described by or is included within the terms or scope of the appended claims.

In the drawing:—

Fig. 1 is a perspective view with parts broken away of a two-frame reversible extractor embodying my invention;

Fig. 2 is a similar view of a portion of one of the pockets;

Fig. 3 is a detail view in vertical section of the bottom portion of one of the pockets.

Describing what is shown in the drawing, the extractor shown is of the two-frame reversible type and as the present invention is not concerned with the reel rotating and the pocket reversing mechanism nor with the reel construction, it is unnecessary to describe the same because all these things are well-known in the art and it is necessary, therefore, merely to state that the external can or tank, 10, is of usual construction with a honey outlet or gate at the bottom. Each pocket consists of two vertical narrow solid end plates, 11, parallel and spaced apart a distance to allow the ready insertion and removal of one brood frame or two shallow frames containing honey comb and two perforated side walls that extend between said end plates and spaced apart the width of the end plates a distance loosely to receive between them the frame or frames of honey comb.

Each side wall is formed of narrow thin strips or strands, 12, which extend in two groups or series obliquely across between the two end plates and such strips or strands are united where they intersect or cross and thus provide numerous diamond shape holes or perforations, 13, each hole being of considerable or substantial size or area. The strips or strands are flat in cross-section and are placed edgewise towards the comb so as to diminish the solid area opposite the comb as much as possible. Preferably these united intersecting strips or strands are of the material known as expanded metal and hence the strips are integrally joined where they intersect. By reason of the obliquity of the direction of the strips or strands and their crossing or intersection and their union where they cross or intersect, it will be seen any force exerted laterally of one strip (such a force as the centrifugal force produced in the operation of the extractor or localized knocks or blows) will be transmitted in various directions from one strip to another and all the strips or strands to which the strains are thus transmitted will cooperate to resist a force which otherwise would break or deform the particular strip receiving the pressure or force.

The ends or extremities of the strips are as shown in the drawing, folded or lapped over the outer side of each end plate at the margin thereof and united thereto preferably by welding. This makes a simple and yet highly efficient connection between the side walls and the end plates and gives a smooth finish configuration.

The strips or strands being placed edgewise and since each is oblong in cross-section, the strip is placed with its greater dimension to resist laterally operating forces or strains. The strips or strands of the expanded metal slant at a slight angle considering a cross-section of a strip, and they are so placed in the pocket construction, that such slant is downward and outward and thus facilitates the outflow of honey from the comb being extracted.

The top bars of comb frames project beyond the end bars to provide means of support in the hive. To accommodate this formation and to provide an adequate rest for the lowermost end bar of the frame when in the pocket suitable provision is made in the form of a horizontally extending foot, 15, at the bottom of the pocket on each side which at its inner end has an upturned toe, 16, upon which the bottom frame

end bar rests when in the pocket and there are two such feet to enable the pocket to take care of two shallow frames placed edge to edge in the pocket as well as one brood frame. Each foot has an upwardly extending side bar, 17, that is riveted to the outer side of the adjacent end plate of the pocket. And this adds to the stiffness or rigidity of the pocket.

One end plate at top and bottom has attached to it a vertical bar on the outer side with an outturned end, 18, perforated for mounting on the reel pivots to permit the reversing swing of the pocket.

What I claim is:—

1. A comb pocket for honey extractors having side walls composed of two series of strips that extend in intersecting directions and are joined where they intersect and are spaced to form substantially diamond shape openings the inner edges of the strips having direct contact with the honey comb, the strips directly supporting the comb so as to maintain the comb intact while allowing the free direct flow through the openings of honey under centrifugal force.

2. A comb pocket for honey extractors having side walls composed of two series of strips that extend in intersecting directions and are joined where they intersect and are spaced to form substantially diamond shape openings, the strips being placed edgewise to the comb within the pocket the inner edges of the strips having direct contact with the honey comb, the strips directly supporting the comb so as to maintain the comb intact while allowing the free direct flow through the openings of honey under centrifugal force.

3. A comb pocket for honey extractors having side walls composed of two series of strips that extend in intersecting directions and are joined where they intersect and are spaced to form substantially diamond shape openings, the strips being placed edgewise to the comb within the pocket, each strip being oblong in cross-section the inner edges of the strips having direct contact with the honey comb, the strips directly supporting the comb so as to maintain the comb intact, while allowing the free direct flow through the openings of honey under centrifugal force.

4. A comb pocket for honey extractors comprising two parallel vertical end plates spaced apart to receive a comb frame between them and side walls extending between the opposite edges of such end plates and each side wall composed of two series of obliquely extending parallel strips, the strips of one series intersecting those of another and being integrally united where they intersect and the strips at their ends being carried over the outer side of the margins of the end plates and secured thereto the inner edges of the strips having direct contact with the honey comb, the strips directly supporting the comb so as to maintain the comb intact while allowing the free direct flow through the openings of honey under centrifugal force.

5. A comb pocket for honey extractors comprising perforated side walls, the perforations of the side walls having marginal edges that contact with the comb surface when in the pocket the inner edges of the strips having direct contact with the honey comb, the strips directly supporting the comb so as to maintain the comb intact while allowing the free direct flow through the openings of honey under centrifugal force.

6. A comb pocket for honey extractors having end and perforated side walls and having at the bottom an inwardly extending foot with a vertical toe at its inner end the foot terminating at the toe.

7. A comb pocket for honey extractors having end and perforated side walls and having at the bottom an inwardly extending foot with a vertical toe at its inner end, there being such a foot at each end of the pocket the foot terminating at the toe.

JOHN T. CALVERT.