

Nov. 28, 1933.

I. J. B. DEMERS

1,937,486

METHOD OF CONSTRUCTING STRAINER SUPPORTS

Original Filed Nov. 24, 1930

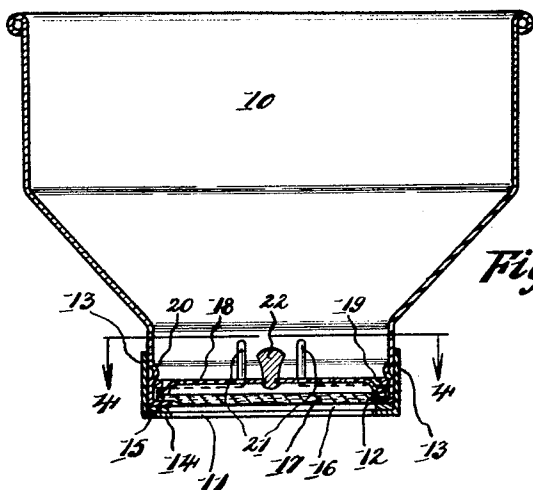


Fig. 1

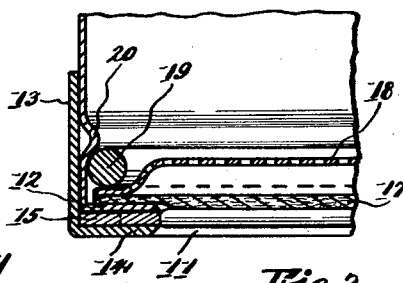


Fig. 2

Fig. 3

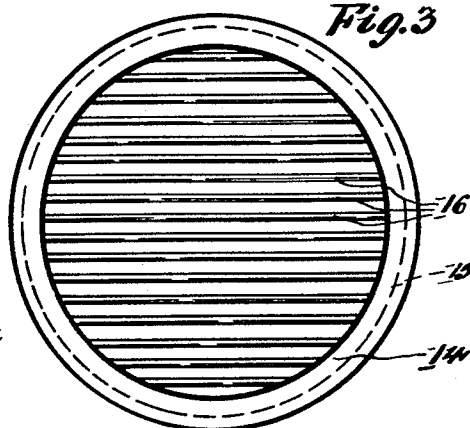


Fig. 3

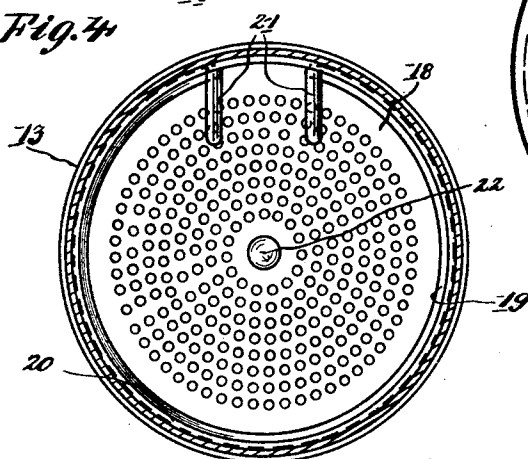


Fig. 4

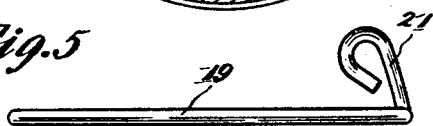


Fig. 5

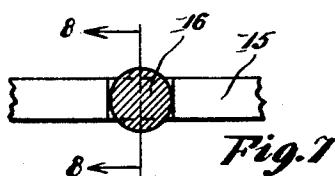


Fig. 6



Fig. 7

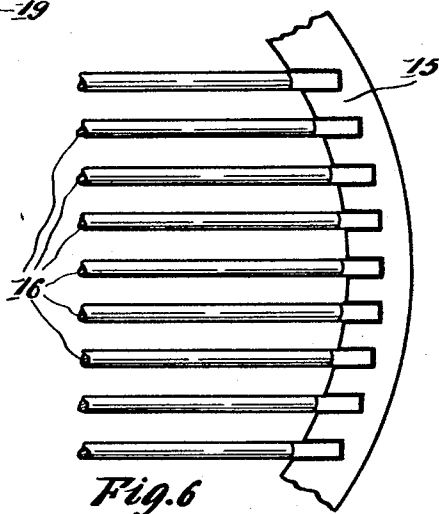


Fig. 8

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UNITED STATES PATENT OFFICE

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METHOD OF CONSTRUCTING STRAINER SUPPORTS

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Original application November 24, 1930, Serial
No. 497,695. Divided and this application
March 5, 1932. Serial No. 596,956

2 Claims. (Cl. 29—148)

This invention relates to a strainer or filter for milk or other liquids.

It is my object to provide a novel strainer adapted to permit the rapid passage of liquid therethrough and so constructed that cleansing is facilitated.

More particularly, it is my object to provide inexpensive means for adequately supporting a fragile filter or strainer fabric while permitting a maximum rate of flow through said fabric.

The invention includes a novel method of constructing the supporting element for the filter fabric whereby the cost of construction is reduced to a minimum consistent with durability and production of a sanitary structure.

As is well known, considerations of sanitation and facility of cleansing are of prime importance in equipment for the treatment of milk and numerous other liquids. My device is rendered unusually sanitary by the elimination of all small recesses and inaccessible surfaces where contaminating matter may lodge.

Referring to the accompanying drawing, Figure 1 is a central vertical section through my improved strainer;

Fig. 2 is an enlarged vertical section showing in detail a part of the bottom of the strainer;

Fig. 3 is a plan view of the bottom of the support for the filter fabric;

Fig. 4 is a horizontal section taken on the line 4—4 of Fig. 1;

Fig. 5 is a side view of the spring detent for the filter fabric;

Fig. 6 is a fragmentary plan view showing a number of the connections between the supporting rods and filler ring;

Fig. 7 is an enlarged section through one of the rods and showing the adjacent portion of the filler ring, and

Fig. 8 is a section taken on the line 8—8 of Fig. 7.

My device has a casing 10 of sheet metal to receive the milk or other liquid at the top and to direct it to a large, circular opening 11 in its bottom. Adjacent to the opening 11 the casing is formed with an annular flange 12. An outer ring 13 fits snugly about the bottom of the casing and has a flange 14 extending in spaced, parallel relation to the flange 12. Between the flanges 12 and 14 is placed a filler ring 15 having a slotted inner periphery to receive a multiplicity of small rods 16. These rods are secured to the ring and form a grid for supporting a filter fabric 17 which is held in place by a foraminous guard disk 18. The margin of the fabric 17 is held

between the flange 12 and the peripheral portion of the guard 18, the central portion of said guard being offset upward to allow the free passage of the liquid to the entire top surface of the fabric 17. To hold the guard ring 18 in place, I provide an arcuate spring 19 adapted to be sprung into place beneath a bead 20 formed in the casing 10. The ends 21 of the spring 19 are bent upward in spaced, parallel relation to each other to facilitate insertion and removal of the spring. A small knob 22 is fixed centrally on the guard 18 to be manipulated in removing and replacing.

The rods 16 are greater in thickness than the ring 15, as clearly indicated in Figs. 2, 7 and 8. In constructing the strainer, the ring 15 is formed with a slotted inner periphery, the slots being of greater width than the thickness of the ring and the rods 16 are severally cut so that they may be dropped into place with their ends fitting loosely in the slots in the ring 15. The assembly, consisting of the ring 15 with the rods 16 in place, is supported in a suitable press having a die adapted to expand the ends of the rods 16 laterally in the slots while reducing the thickness of the rods to conform to the thickness of the ring 15. When the press is operated, the ends of the rods are reduced in thickness from the size indicated in dotted lines in Fig. 8 while they are forcibly expanded laterally to securely fasten them to the ring. All of the rods may thus be secured in one operation of the die. The complete rod assembly is then placed on the bottom surface of the flange 12 and the ring 13 is forcibly pressed in place with its flange 14 gripping the ring 15. It will be noted that the spaces between the flanges 12 and 14 and ends of the rods are completely filled by the ring 15 so that there are no inaccessible recesses between rods where contaminating material may lodge.

Loosely felted cotton or paper fibres are usually employed in the filtering fabrics and such fabrics have insufficient strength to be self-supporting in the strainer. By providing the support for the strainer or filter fabric consisting of properly spaced, parallel rods 16, a maximum of the surface of said fabric (consistent with adequate support of the fabric) is left free for the passage of liquid. The guard 18 prevents breakage of the fabric 17 or channeling of the fibres in case the liquid is forcibly delivered into the empty strainer.

When the device is to be cleansed, the ends 21 of the spring 19 are merely pressed toward each other to contract the spring sufficiently to permit

- it to pass the bead 20 and after the removal of the spring the guard 18 and strainer fabric 17 may be removed. All exposed surfaces of the rods 16 may be readily cleansed because there is no obstruction in the surfaces between rods to prevent the ready use of a brush or other cleansing tool. The openings in the guard 18 are sufficiently large to permit cleansing and the entire strainer may be immersed for sterilization.
- 10 This application is a division of my application for patent for Strainers, Serial No. 497,695, filed November 24, 1930.
- Having described my invention, what I claim as new and desire to protect by Letters Patent is:
- 15 1. The steps in the method of constructing a strainer support consisting of a series of rods and a relatively thin, marginal frame which comprise forming, in the inner, opposite sides of said frame, a series of slots adapted to loosely receive the ends of said rods, cutting said rods to fit in spaced, parallel relation to each other in said slots, then placing said rods in the plane of said frame with their ends abutting said frame in said slots and applying pressure to the ends of said rods in such direction as to reduce the same to the thickness of said frame while enlarging said ends laterally to fit tightly in the slots.
2. The steps in the method of constructing a strainer support consisting of a series of rods and a relatively thin ring which comprise forming, in the inner, opposite peripheries of said ring two series of slots adapted to loosely receive opposite ends respectively of said rods, cutting said rods to fit in spaced, parallel relation to each other in said slots, then placing said rods within said ring and with their ends abutting said ring in said slots and applying pressure to the ends of said rods to reduce the same to the thickness of said ring while enlarging said ends laterally to fit tightly in the slots.
- ISAIE J. B. DEMERS.

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