N. J. VAN NESS.

STRAINER FOR MILK CANS, PAILS, AND THE LIKE.

APPLICATION FILED MAR. 27, 1920.

1,421,622. Patented July 4, 1922.

Fig. 1.

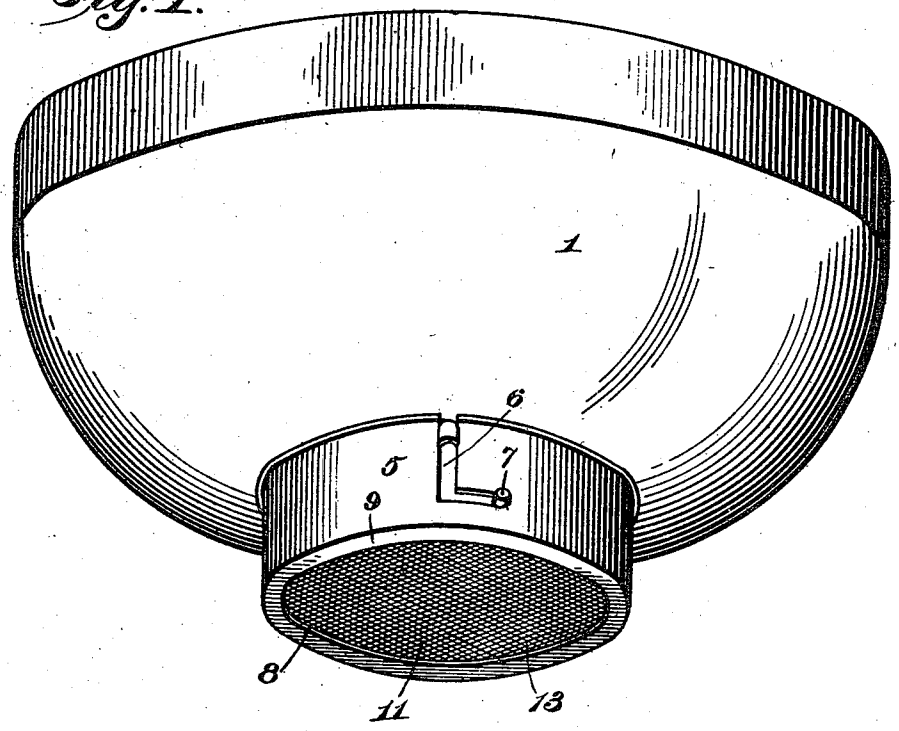
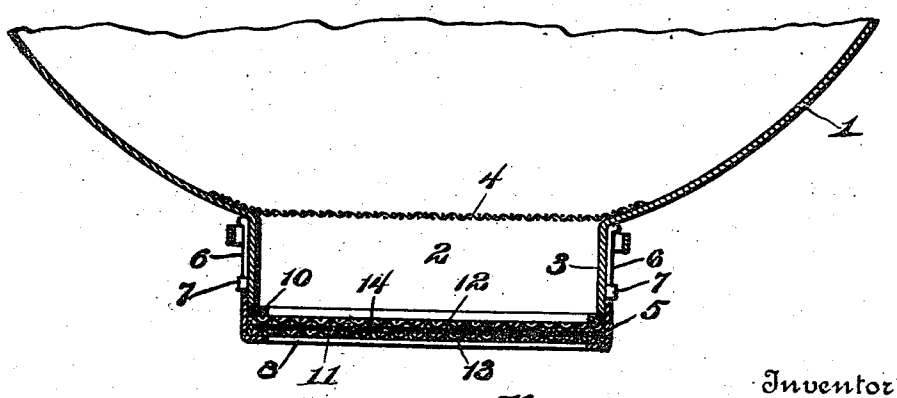


Fig. 2.



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STRAINER FOR MILK CANS, PAILS, AND THE LIKE.

1,421,622. Specification of Letters Patent. Patented July 4, 1922.

Application filed March 27, 1920. Serial No. 369,229.

To all whom it may concern:

Be it known that I, NORMAN J. VAN NESS, a citizen of the United States, residing at Wysox Township, in the county of Bradford and State of Pennsylvania, have invented new and useful Improvements in Strainers for Milk Cans, Pails, and the like, of which the following is a specification.

This invention relates to strainers for milk cans and similar receptacles, and one object of my invention is to provide a strainer for application to milk cans or like receptacles by means of which the milk may be thoroughly strained during the operation of pouring it into the can.

A further object of the invention is to provide a strainer having an outlet and a filter agent therein, combined with means for sealing the joint between the wall of the outlet and the filter agent to prevent any of the milk from discharging without being strained, and also to provide a filter agent wherein a layer of absorbent cotton may be employed in connection with wire gauze without liability of the cotton becoming entangled in the meshes of the gauze and obstructing the flow of the milk through the strainer.

The invention consists of the features of construction, combination and arrangement of parts, hereinafter fully described and claimed, reference being had to the accompanying drawing, in which:—

Figure 1 is a perspective view of the device.

Figure 2 is a vertical section through the bottom of the device and the strainer applied thereto.

Referring to the drawing, 1 designates a bowl-shaped filling funnel or vessel open at its top for the reception of the milk and having an outlet 2 at its bottom for the discharge of the milk, said outlet 2 being formed by a downwardly projecting neck 3. Secured across the outlet 2 at this point of junction with the interior of the body of the funnel is an inner or primary strainer comprising a gauze diaphragm 4. This diaphragm 4 operates to strain the milk before passing into the outlet 2.

Mounted upon the neck 3 is a strainer comprising a cylindrical cap 5 formed to fit snugly about the neck and detachably secured in position in any preferred manner. In the present instance I have shown fastening means of the bayonet-joint type comprising substantially L-shaped slots 6 formed at diametrically opposite sides of the cap or cover for interlocking engagement with pins or studs 7 on the neck 3, but any other suitable type of fastening means may be employed.

The cap 5 is formed with a discharge opening 8 in its bottom and is provided with an inwardly extending horizontal flange 9 bounding said opening. This flange 9 is arranged to underlie the lower edge of the neck 3 and is coextensive in width with an annular rubber gasket or washer 10 seated upon the edge of the neck 3, between which flange 9 and gasket 10 is clamped a strainer 11 of novel construction, which I will now proceed to describe.

The strainer 11 comprises upper and lower layers 12 and 13 of fine mesh wire gauze and an intermediate layer 14 of absorbent cotton. These layers lie snugly in contact with one another and are clamped by the pressure of the flange 9 against the elastic gasket 10, which is compressed and clamped against the lower edge of the neck 3, by which construction the strainer 11 is securely confined in position while the gasket 10 serves as an elastic support therefor and also as a medium for tightly closing the joint between the cap and the neck, thus preventing leakage of any milk through the joint and ensuring that all the milk which is being discharged will pass through the strainer 11.

By the use of upper and lower layers of wire gauze disposed on opposite sides of the intermediate absorbent cotton layer, a plurality of filtration layers of a desired fine mesh are provided to prevent the outward passage with the milk of any particles of impurities or refuse matter. Such gauze layers furthermore form opposed backings for the absorbent cotton layer, allowing a layer of this material to be employed with advantage. The absorbent cotton also may be of any desired thickness, and its particles are retained in position by the elastic yielding pressure of the gauze layers in such manner as to keep the cotton layer intact and prevent such particles, when the cotton layer is fully soaked or moistened, from becoming displaced and entangled in the meshes of the gauze layers and choking the same so as to obstruct the passage of the fluid therethrough. By this means a strainer medium of absorbent cotton, which is highly resistant to the passage of the finest im-

purities and germ life, may be employed with a high degree of efficiency, thus ensuring the straining from the discharging milk of all impurities contained therein.

It will be understood that the elastic gasket 10 not only serves the function of a sealing medium, but, by its elasticity, allows sufficient clamping pressure to be applied to the gauze layers to hold said gauze layers and the absorbent cotton layer in position, without the objection incident to a rigid clamping action under which the gauze layers might be clamped so tightly as to clamp and pack the cotton layer to too great a density. Hence the cotton layer may be held with sufficient force to retain its particles in position and sustain the same against the pressure of the liquid, while avoiding any such close packing thereof as to interfere with the free discharge of the milk from the funnel.

In the use of the device, the funnel 1 is placed in position so that the neck 3 with applied filter will enter the neck of the can, the milk being then poured into the top of the funnel and flowing through the strainer diaphragm 4, whereby it is relieved of a portion of its impurities, and then through the neck 3 and into the can. In its passage through the neck the milk flows through the filter agent, whereby it is further strained and relieved of its impurities, the milk discharging into the milk can in a cleanly state. By this means milk cans may be filled and the milk thoroughly strained as it is being poured into the cans.

The properties of absorbent cotton as a filtration medium are well known, but difficulty has heretofore been experienced in employing the same as a straining medium on milk receptacles, owing to the fact that it has been found impossible in the modes in which it has been heretofore employed, to prevent the cotton from packing or its particles from choking and obstructing the flow of milk through any gauze surfaces in connection with which it has been employed. My invention overcomes these difficulties and allows this valuable filtration medium to be used in an efficient manner for the purpose described.

Having thus fully described my invention, I claim:

A filling funnel for milk cans having a discharge neck, a cap fitted upon the neck and formed with a discharge opening and an inturned horizontal flange surrounding said opening and underlying the edge of the neck, a strainer resting against said flange and composed of upper and lower layers of wire gauze, and an intermediate layer of absorbent cotton disposed therebetween, an elastic gasket sealing the joint between the side wall of the cap and the edge of the neck, said gasket being of greater width than the thickness of the neck and being arranged in parallel relation to the flange of the cap and coextensive in width with said flange and disposed between the edge of the neck and said strainer, and means connecting the cap with the neck whereby the strainer may be clamped with a variable yielding pressure between said flange of the cap and the gasket.

In testimony whereof I affix my signature.

NORMAN J. VAN NESS.