

No. 610,720.

Patented Sept. 13, 1898.

E. M. PEACOCK.  
CLOSURE FOR MILK CANS.

(Application filed Mar. 8, 1898.)

(No Model.)

Fig. 1.

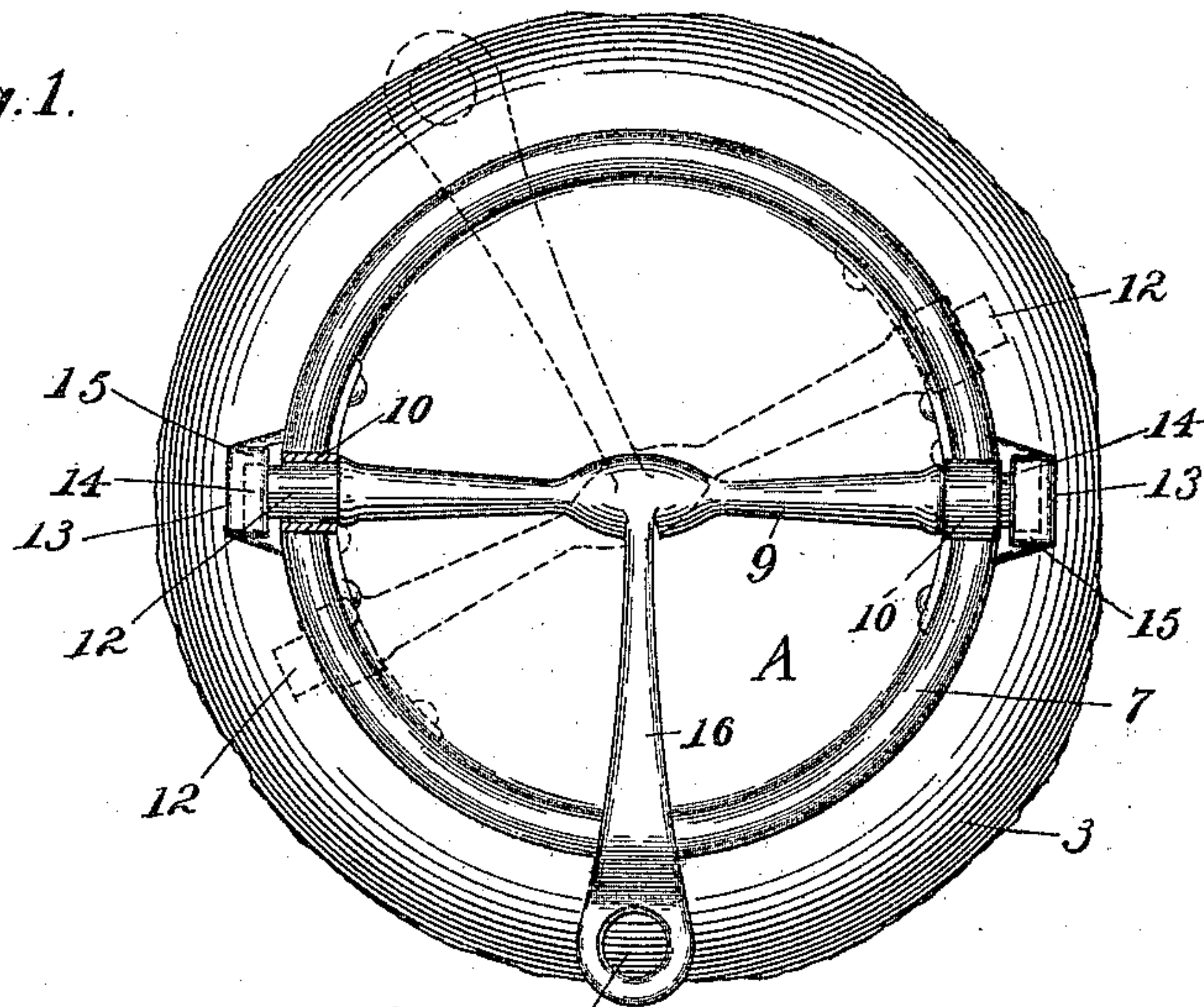


Fig. 2.

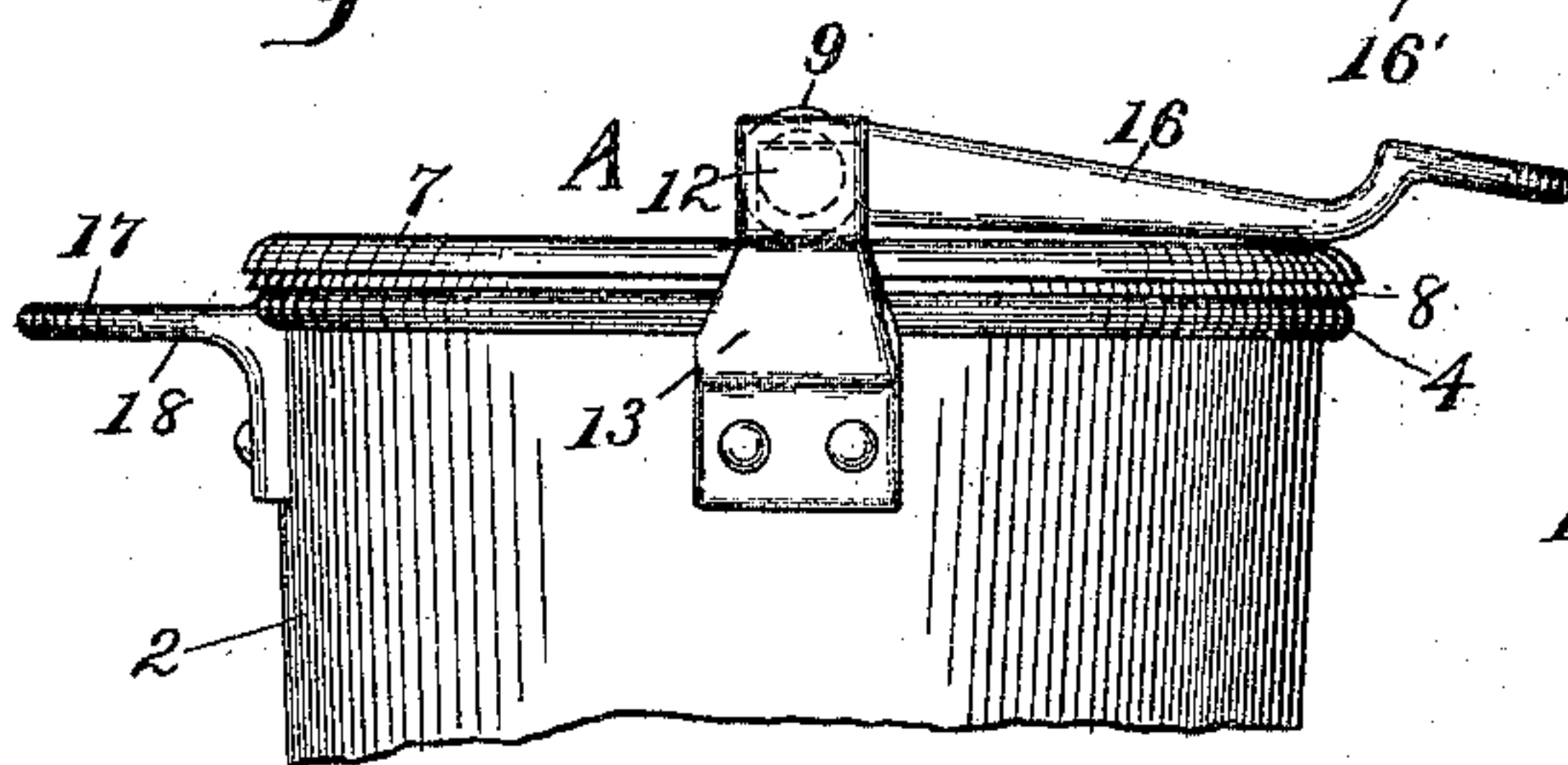


Fig. 3.

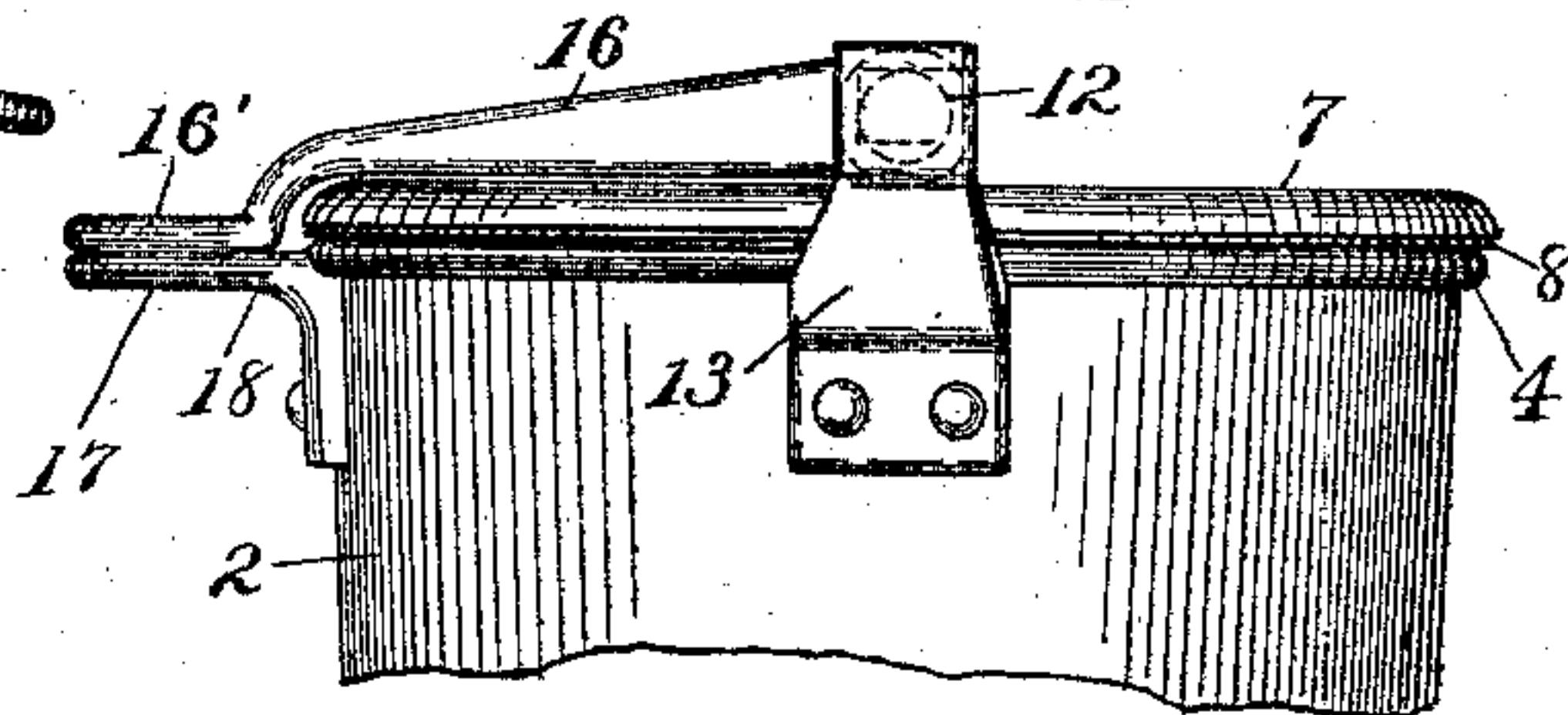


Fig. 4.

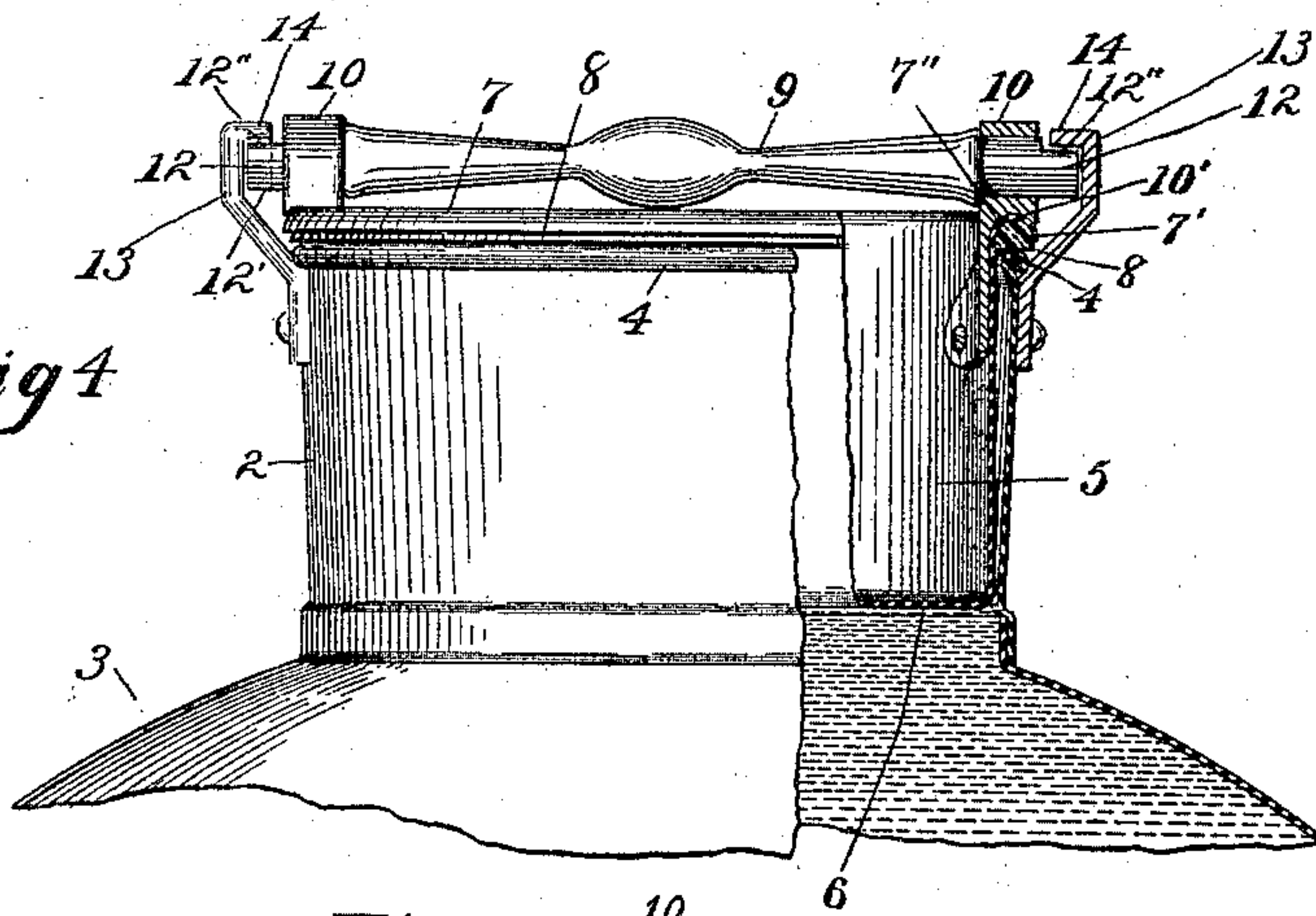
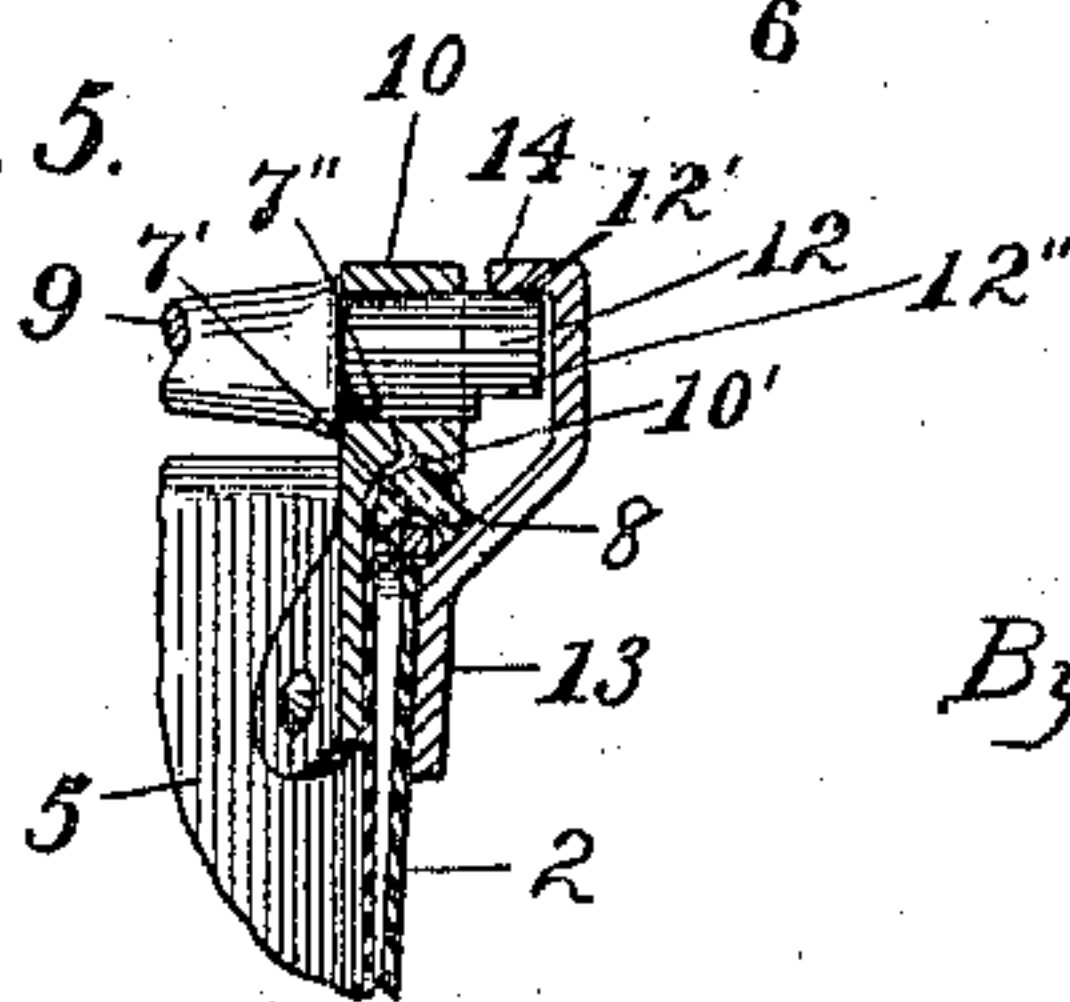


Fig. 5.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## CLOSURE FOR MILK-CANS.

SPECIFICATION forming part of Letters Patent No. 610,720, dated September 13, 1898.

Application filed March 8, 1898. Serial No. 673,103. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD M. PEACOCK, a citizen of the United States, residing at New York, in the borough of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Closures for Milk-Cans, of which the following is a specification.

This invention relates to milk receptacles or cans, and more particularly relates to closures or covers for the mouths thereof.

One object of this invention is to provide an improved closure or cover adapted to depend a relatively great distance within the neck of the receptacle and have its bottom in direct contact with the surface of the milk or other fluid, thereby to prevent splashing and churning thereof, and which closure can be maintained in a pure condition and free of disease-germs.

A further object of the invention is to provide the closure or cover with improved means for supporting an improved closure-locking device or instrumentality and which supporting means, coacting with the locking means and with the neck of the receptacle, constitutes a fluid-tight joint intermediate the closure and the mouth of the receptacle, thereby to prevent the splashing or loss of the fluid.

In the drawings accompanying and forming part of this specification, Figure 1 represents the upper portion of a receptacle and shows a top view of this improved closure or cover in different positions. Fig. 2 is a side elevation thereof, showing the closer in unlocked position. Fig. 3 is also a side elevation thereof, showing the closure in its closed and locked position. Fig. 4 represents a side view of the upper portion of the receptacle, partly in section, the locking means being in the position shown in Fig. 2; and Fig. 5 is a sectional view of one part of this improved locking means, said locking means being in the position shown in Fig. 3.

It is the usual practice in the dairy business to fill a milk receptacle or can only up to a certain point, usually a point slightly above the point of juncture of the neck with the breast, and unless some means is provided for completely closing the usually large area in the neck of the can intermediate the sur-

face of the milk and the mouth or upper edge of the neck of the receptacle splashing and churning of the milk takes place, especially in that character of cans designed to transport a large number of gallons at a time. To obviate this, it has sometimes been the practice to use a relatively deep wooden stopper or plug adapted to be pressed into the neck of the can, which, aside from the fact that it is liable to jar out, necessarily soon becomes foul and impregnated with disease-breeding germs, it being impossible to maintain the same in a cleanly condition for any considerable length of time, so that it is necessary to constantly replace such foul plugs with new ones, thus materially increasing the expense of shipping and transporting milk.

To avoid the disadvantages above pointed out, I have provided an improved closure or cover which will project sufficiently far into the mouth of the can to be directly in contact with the surface of the milk, and thus prevent splashing and churning of such milk, and may be locked in such position against accidental displacement and which closure can be maintained at all times perfectly clean and pure and is not adapted to retain or be impregnated with disease-germs.

I desire to state that while this improved closure is particularly adapted for use with milk receptacles or cans it nevertheless can be used with equal facility with other receptacles in which it is desired to prevent the splashing of the contents or the fouling of the closure.

In the present instance the invention is shown embodied in a milk can or receptacle, which is provided with a relatively deep neck 2, connected with the breast 3, of which it is only necessary for the purposes of this specification to show a portion and which neck is preferably provided at the top thereof with an enlarged, reinforced, or beaded flange 4, the upper surface of which is convex in cross-section.

The improved closure or cover (designated in a general way by A) comprises a relatively deep, preferably hollow or cup-shaped, closure 5, adapted to extend into the neck sufficiently far to have its bottom or lower surface in direct contact with the surface of the milk



when the can is filled to its usual mark, usually a short distance above the juncture of the neck 2 with the breast 3, and for this purpose the bottom surface of said closure is shown flat, whereby it may be in direct contact with the milk throughout the entire diametrical area of such closure. The upper edge of the closure is provided with an outwardly-extending or flaring reinforcing flange or rim 7, which forms a reinforced upper edge for the closure, and the under or concaved side 7' of which flange is adapted to receive a packing-ring 8 of suitable material, preferably of rubber, to form with the neck-flange 4 a tight joint intermediate the mouth of the can and the closure to prevent the outflow or loss of the milk.

The means for maintaining the closure in position and which thus constitutes locking mechanism therefor comprises an oscillatory spindle or shaft 9, journaled in two apertured lugs or ears 10, riveted or otherwise secured to the closure at the inner sides thereof. These lugs 10 are recessed to have the under portions of the spindle-supporting parts thereof fit over and directly engage the upper convex edge of the reinforcing flaring flange 7, and for this purpose such parts may have their under walls 10' shaped to conform to the contour of the upper surface 7'' of the flange. By means of this construction it will be readily seen that the locking mechanism is not only securely fastened to the closure by means of the lug-rivets, but is also supported directly on the upper reinforced edge of said closure, so that in use the pressure on the cam parts, hereinafter described, of the locking device is directly communicated to the closure-flange and therethrough to the rubber packing to form a fluid-tight joint between the mouth of the can and the closure. The shaft 9 extends through the lugs and is provided at its outer extremities with two cam-shaped projections 12, preferably of a semicylindrical form and adapted in one position of the spindle to have their curved portions 12' and in another position their flat portions 12'' uppermost. To engage these cam projections 12, the neck 2 is provided with a pair of ears 13, riveted or otherwise secured thereto at the outer sides thereof and each of which ears is provided with an inwardly-extending flange 14, in position to overlap the cam ends of the shaft 9 when the latter is in position to lock the closure shut. Each of these flanges 14 is recessed at its under side and which recess terminates in a stop face or wall 15, disposed in the path of travel of the cam projections 12 to stop them when they are beneath and in position to engage the flanges 14. In the present construction it will be observed that one stop face or wall 15 is at one side of one ear 13, while the stop-wall of the other ear is at the opposite side thereof, or, in other words, such stop-walls 15 are diagonally opposite each

other. To operate the shaft, it is shown provided with an arm 16, adapted to oscillate it, and thereby the cam projections 12, into position to have their curved faces engage the under faces of the flanges 14, and thereby press and lock the neck and closure flanges 4 and 7, respectively, tightly together. This arm 16 may be enlarged at one end to form a handle and may also be provided with an aperture 16', adapted to register with a similar aperture 17 of a lug 18, riveted or otherwise fastened to the neck, so that a padlock or any other suitable locking means may be passed through these apertures to confine the arm in this position and maintain the can tightly closed. In the present construction the outer end of this arm 16 is so shaped or curved that it will extend over and depend below the upper edge of the closure, whereby it will be more securely maintained against premature upward movement.

In closing the can the closure is inserted with the shaft and arm in the positions shown by the dotted lines in Fig. 1. The closure is then rotated in the neck of the can until the cam projections 12, which in this position have their flat faces 12'' uppermost, pass under the projecting flanges 14 and engage the stop-faces 15, the closure and locking means being then in the position shown in Figs. 2 and 4. The arm 16 and spindle 9 are then oscillated into the position shown in Fig. 3, whereby pressure is transmitted through said spindle 16 and the lugs 10 to the closure, the flange 7 of which serves to transmit this pressure equally to all parts of the rubber packing to make the joint tight at all points.

It will be noted that the upper side of the closure-flange 7 constitutes a means for supporting the locking mechanism, while the under side thereof carries the rubber or other packing, so that the pressure applied to said fastening device is directly received by the flange and directly communicated to the rubber, which is in juxtaposition to the locking means to compress such rubber into firmer engagement with the beaded or enlarged flange 4 of the can-neck, and to this construction is due the formation of a tight joint at all points, though the pressure is only applied at two diametrically opposite points. At the same time the cup-shaped closure extending relatively deep into the neck of the can and into contact with the surface of the milk prevents the churning and splashing thereof, and consequently its tendency to leak out at the mouth. Moreover, by this structure the closure proper and its flange can be readily formed as one integral structure at one operation, while, as before stated, the flange constitutes both a reinforcing means for the upper edge of the closure and also a retaining means for the packing or rubber, so that said flange, in the present structure and in its position shown herein, performs a three-fold function—namely, a supporting means for



the locking mechanism, a retaining means for the packing or rubber, and a reinforcing means for the upper edge of the closure—while at the same time it may be formed as an integral structure and at one operation with said closure. Furthermore, it will be seen that by this construction the packing or rubber and its carrying-flange 7 can be formed at the extreme upper edge of the closure, whereby only a comparatively small portion of such closure projects above the mouth of the can, and that the locking device can likewise be carried at the upper edge of the closure, thereby to permit all of the closure, except its flange 7, to project inwardly into the mouth of the can.

I claim as my invention—

1. A receptacle having a relatively deep mouth-neck; a closure adapted to fit and depend into said relatively deep neck throughout the major portion thereof, whereby the bottom of said closure is in contact with the surface of the contents of said receptacle throughout the entire area of said receptacle-neck, and provided at its extreme upper edge with a flange adapted to engage the upper edge of said neck; and means carried on and rigidly secured to said flange and adapted to engage means carried by said neck for maintaining said closure in position in the mouth of the receptacle, substantially as described.

2. A receptacle having a relatively deep mouth-neck provided with a pair of recessed ears secured thereto; a closure having a relatively flat bottom and adapted to fit and depend into said relatively deep neck substantially the entire part of the vertical portion thereof, whereby the flat bottom of said closure is in contact with the surface of the contents of said receptacle throughout the entire area of said receptacle-neck, said closure having at its extreme upper edge an outwardly-extending flange adapted to extend over and engage the upper edge of said neck; means carried on and rigid with said flange, at the upper edge of said closure, for maintaining the closure in position, and comprising an oscillatory shaft supported in bearings, and provided with cam projections adapted to extend into the recesses of said ears.

3. A receptacle having a relatively deep mouth-neck provided with a pair of recessed ears secured thereto; a closure adapted to fit and depend into said relatively deep neck substantially the entire part of the vertical portion thereof, whereby the bottom of said closure is in contact with the surface of the contents of said receptacle, and provided at its extreme upper edge with an outwardly-extending flange adapted to engage the upper edge of said neck; a pair of lugs carried by said closure, each having a part thereof extending over and resting on said closure-flange; and means carried by said lugs for maintaining said closure in position relatively to the mouth of said receptacle, and compris-

ing an oscillatory shaft carried by said lugs and having cam ends adapted to extend into the recesses of said neck-ears, and means for operating said oscillatory shaft.

4. The herein-described milk receptacle or can having a relatively deep mouth-neck provided with an enlarged upper edge and with a pair of recessed ears secured to said neck and projecting above the upper edge thereof; a cup-shaped closure depending into said neck substantially the entire part of the vertical portion thereof, and having a relatively flat bottom adapted to engage the surface of the milk throughout the entire area of said receptacle-neck, and provided at its extreme upper edge with an outwardly-extending curved flange adapted to fit over the enlarged upper edge of said neck; a packing carried by said flange at the under side thereof and adapted to engage the enlarged upper edge of said neck; a pair of apertured and recessed lugs secured to said closure at the inner sides thereof, and having a part thereof projecting over and resting on the outwardly-extending flange of said closure; an oscillatory shaft journaled in said apertured lugs and provided at each end with a cam-surface adapted to project into the recesses of said neck-ears; and means for operating said shaft, thereby to maintain said closure in position with the packing at its upper edge in contact with the enlarged upper edge of the receptacle-neck.

5. A receptacle having a mouth-neck; a closure for said mouth and having its extreme upper edge in juxtaposition to the upper edge of said neck; and means carried on and rigidly secured to the upper edge of said closure for engaging means carried by said neck, to thereby maintain the closure in position against displacement, and said closure edge and neck edge in close relationship to form a fluid-tight joint, substantially as described.

6. A receptacle having a mouth-neck provided with a pair of recessed ears; a closure for said mouth and provided with an outwardly-extending flange at its extreme upper edge adapted to extend over and engage the upper edge of said mouth-neck; a pair of apertured lugs carried by said closure and projecting above said flange and having a part thereof resting on the upper edge of said flange; and means carried by said lugs for engaging the neck-ears, thereby to maintain said closure in position relatively to said mouth-neck.

7. The herein-described milk-receptacle having a mouth-neck provided with a pair of recessed ears secured thereto and extending above the upper edge of said neck; a closure adapted to close the mouth of said receptacle, and having an outwardly-extending flange at its extreme upper edge adapted to extend over said neck edge; a packing carried by said flange at its under side in position to rest on and engage the upper edge of said



neck; a pair of apertured and recessed lugs secured to said closure, a part of each projecting over and resting on the upper edge of said outwardly-extending flange; an oscillatory spindle journaled in said lugs and having cam ends adapted to project into the recesses of said neck-ears; and a lever secured to said spindle for oscillating the same into position to maintain the closure in position relatively to the mouth of the receptacle.

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Witnesses:

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