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BOTTLE ATTACHMENT

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2 Sheets-Sheet 1

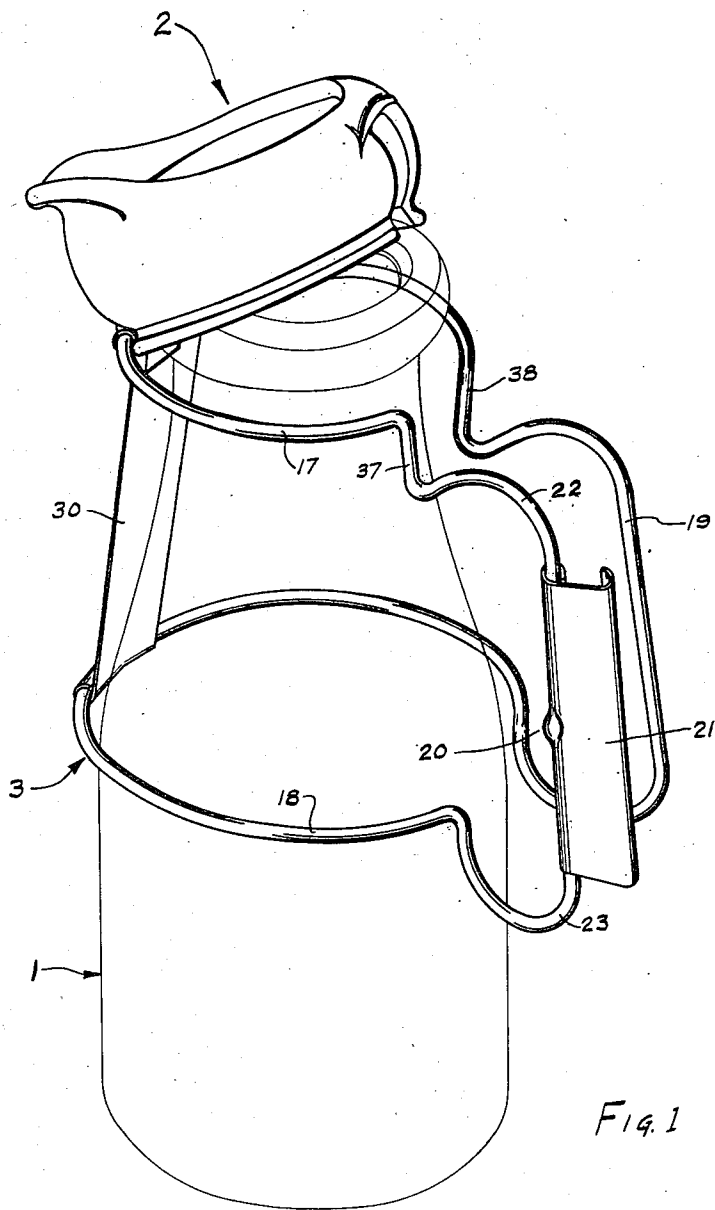


Fig. 1

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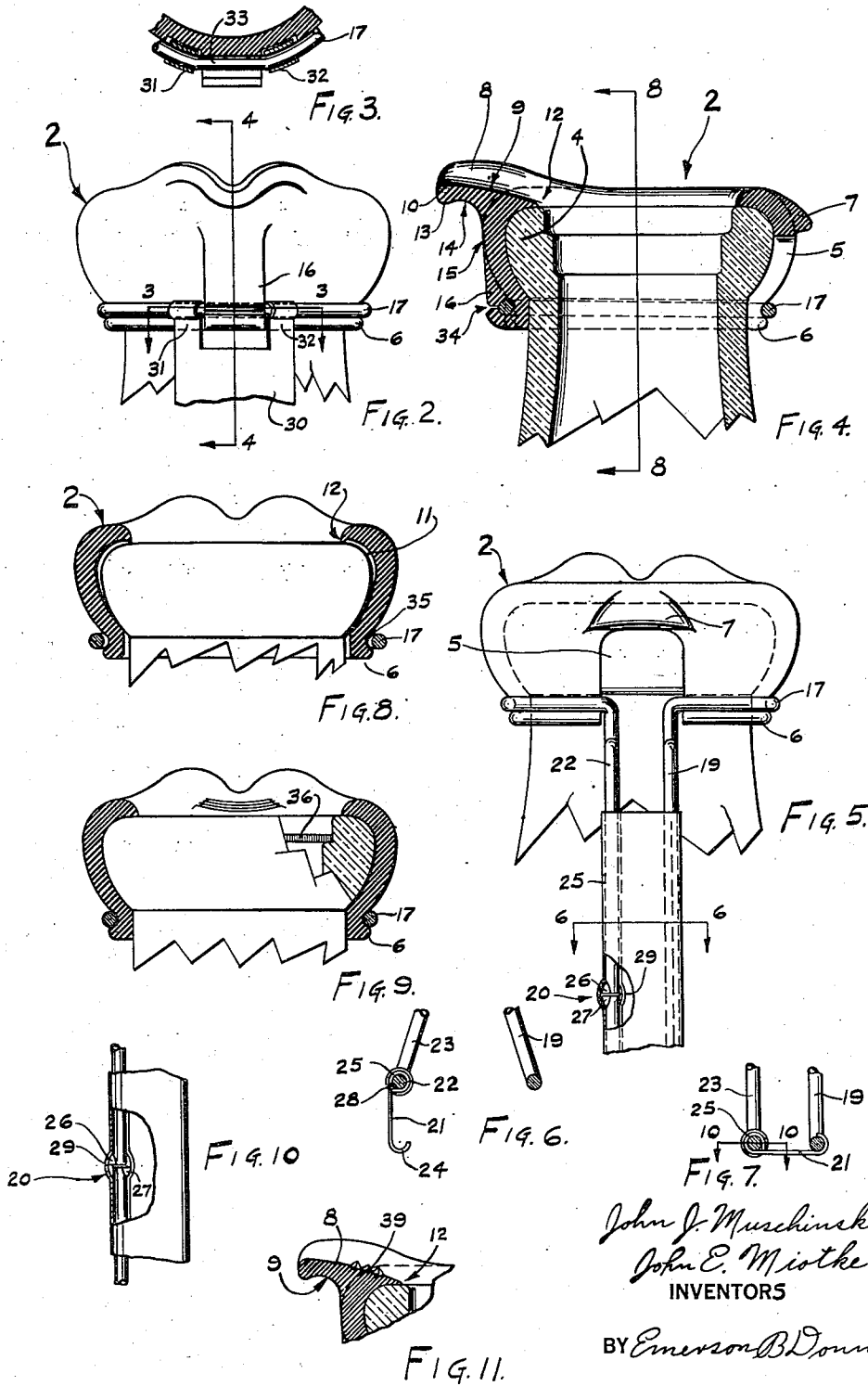
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2 Sheets-Sheet 2



## UNITED STATES PATENT OFFICE

2,049,219

## BOTTLE ATTACHMENT

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13 Claims. (Cl. 215—100)

This invention relates to bottle attachments, and more particularly to attachments for milk bottles and adapted and arranged to facilitate the handling of such bottles and the pouring of the contents thereof.

An object of the invention is to provide an improved detachable spout for a bottle.

A further object is to provide detachable carrying means for a bottle.

A further object is to provide means associated with the carrying means for securing the spout on the bottle.

A further object is to provide means for rendering the spout readily removable.

A further object is to provide a location of a handle which will result in a comfortable and convenient pouring position.

A further object is to provide improved means for clamping the carrying means on the bottle.

A further object is to provide an improved seal between the spout and the bottle.

A further object is to provide for readily uniting and separating the spout and carrying means.

A further object is to provide structure having the above enumerated advantages and which is also readily cleaned and not apt to become contaminated while in use, and further objects and advantages will be apparent in the annexed specification and accompanying drawings, in which:

Fig. 1 is a perspective view of the complete attachment in position on a bottle and ready to be attached thereto.

Fig. 2 is a front elevation of the device in place on a bottle, parts being broken away.

Fig. 3 is a sectional view on the line 3—3 of Fig. 2.

Fig. 4 is a vertical sectional view of the device taken on the line 4—4 of Fig. 2.

Fig. 5 is a rear elevation of the device partially in section and with parts broken away.

Fig. 6 and Fig. 7 are horizontal sectional views taken on the line 6—6 of Fig. 5, showing the parts in locked and unlocked positions, respectively.

Fig. 8 and Fig. 9 are vertical sectional views taken on the line 8—8 of Fig. 4, and showing the parts in unclamped and clamped positions, respectively.

Fig. 10 is a rear elevation of a portion of the device partially in section on the line 10—10 of Fig. 7, showing a modification.

Fig. 11 is a partial sectional view taken on the line 4—4 of Fig. 2, showing a modified construction.

Similar reference characters have been applied

to the same parts throughout the drawings and specification.

As seen in Fig. 1 the device is applied to an ordinary milk bottle of one pint size, generally designated by numeral 1, but it is to be understood that it is equally applicable to a quart size bottle, the differences in dimensions between the two sizes being almost entirely outside of the zone occupied by the attachment and other slight differences being readily accommodated by the flexibility of the various parts. In fact the attachment is intended for use on any bottle to which it may be found applicable, and it is desired to secure to the inventors by Letters Patent of the United States, all the advantages and features of novelty embraced by the disclosed structure without limitation except as defined by the subjoined claims.

The device itself consists of a spout or top portion generally denoted by numeral 2, and a cage or clamp portion generally denoted by numeral 3, separably fixed together and capable of being fixed on a bottle as will be fully explained below.

Top portion 2 is formed of suitable plastic or deformable material and may be readily stretched over the bead or rim 4 of the bottle as more particularly apparent from Fig. 4, the stretching or deforming being preferably facilitated by means of a slot or opening 5, the opening making it unnecessary to stretch the lower edge portion 6 about the full diameter of the bead 4 of the bottle. To facilitate the removal of the top portion 2, a boss or projection 7 may be provided, preferably, though not necessarily located above the notch or slot 5 where it may form a convenient thumb rest to assist in tilting the bottle for pouring. The top portion 2 is provided with a spout 8 projecting therefrom, preferably diametrically opposite to the boss 7 and slot 5, the spout having a lower surface 9 extending from a rounded lip portion 10 backwardly to the uppermost surface of the bottle and intersecting an annular recess 11, Fig. 8 in the top, to provide a relatively attenuated or sharp edge 12. Lip 10 has a downwardly extending rim 13, and a reentrant portion 14 is formed in the under side of the spout between the lip 10 and the front surface 15 of the top portion, to prevent dribbling of the liquid down the surface 15 after pouring. A boss 16 on top portion 2 preferably beneath spout 8 facilitates attachment to an appropriate portion of cage 3.

Cage 3 as particularly shown in Fig. 1 is preferably formed of a piece of wire of suitable material, preferably non corrosive or stainless, bent substantially as shown to form upper and lower

bottle embracing rings 17 and 18 connected by a portion 19, the ends of the wire in the present instance meeting at 20 within a hollow portion of a handle or locking member 21, and being bent at 22 and 23 to match portion 19. The last mentioned portions and member 21 constitute a handle by which a bottle may be securely lifted and the contents poured therefrom, the wire portions being pressed together and locked by means of member 21 and compressing rings 17 and 18 to grip the bottle tightly. The position of the parts before such locking or clamping is shown particularly in Figs. 1 and 6, the wire portions being separated, and the position thereof after clamping is shown in Figs. 5 and 7, the wire portions being then relatively close together, and the member 21 being engaged with wire portion 19 by means of a rolled or hooked portion 24. Member 21 in the present instance has a tubular portion 25 embracing wire portions 22 and 23, thereby forming a hinged connection with the wire.

For locking the wire ends within member 21, in the present instance the wire is formed with bosses or projections 26 and 27, Fig. 5, and during assembly of the cage these are passed into the tubular portion with member 21 in position for the bosses to pass lengthwise through a partially open portion 28 of the tubular portion 25. When the ends are properly located the member 21 is rotated about wire portions 22 and 23, the bosses then forming a bulge or chamber 29, preventing accidental axial displacement of the wire portions or of member 21. In some instances it may be preferable to locate the bosses as shown in Fig. 10, opposite each other, one wire being then inserted in the tubular portion, the member 21 turned, the other wire being inserted and member 21 being turned again. There will then be no position of member 21 in which both bosses 26 and 27 can enter the open portion 28. A panel member 30 is fastened substantially opposite handle portions 21, etc., between rings 17 and 18 in any suitable manner, preferably by bending about the wire as shown, the panel being bifurcated to form legs 31 and 32 as shown in Figs. 2 and 3 embracing ring 17. The panel serves to brace the rings and space them the correct distance apart. It may conveniently carry advertising or other desired information, as may also handle member 21. Both are desirably conspicuous and unobstructed.

Ring 17 is provided between leg portions 31 and 32 with a substantially straight portion 33, as more particularly shown in Fig. 3, above mentioned boss 16 being provided with above embracing the straight portion so that top portion 2 may pivot thereabout into and out of ring 17 when the latter is open, or in the position shown in Fig. 1. A slot 34 Fig. 4 intersects the bore in boss 16 and permits entrance of portion 33 into the bore thus permitting ready attachment of top portion 2 to the cage portion, or detachment thereof from the cage portion.

In use the top 2 is placed upon the cage as just described and the cage placed about a bottle, the parts occupying the position shown in Fig. 1. Top portion 2 is then forced down about the bead of the bottle, and the wire handle portions 19, 22, and 23 pressed together and locked by handle portion 21. Ring 18 is thus clamped about the body of the bottle, and ring 17 about the edge portion 6 of top 2, the edge having an undercut portion 35 to receive it as particularly shown in Fig. 8. The whole is thus rigidly se-

cured on the bottle, the stopper 36, Fig. 9, of which may then be removed and the contents poured out without danger of spilling and without danger of dropping the bottle.

It has been found that by displacing the handle portion downwardly by providing portions 37 and 38, Fig. 1, the bottle balances easily in the hand at just about the correct angle for pouring, adding further to the convenience of the device, and also that the balance changes as the contents are poured out, the angle being increased as necessary as pouring continues without undue effort.

It is to be noted that the stopper need not be removed until after the attachment is in place, and that the customary washing of the bottle mouth before removal of the stopper may be done after the application of the attachment, so that a prolific cause of accidents is eliminated, namely the slipping of the wet bottle. With the disclosed device the bottle is held securely by the handle during the washing process and during the removal of the stopper. The stopper may, of course, be replaced and removed as often as desired without disturbing the attachment.

The pressure of ring 17 about rim 6 serves to securely clamp top portion 2 in position and also to seal the parts against leakage of liquid between the top portion and the bottle. Thus, as seen in Fig. 8, the annular space 11 in top portion 2 is preferably narrower than the bead 4 of the bottle, and rim 6 is of greater diameter than the neck of the bottle immediately below the bead. Compression of ring 17 will accordingly, owing to the angularity of the bead adjacent the neck, cause downward movement of rim 6. Edge portion 12, as shown is extended circumferentially about the mouth of the bottle, and such downward movement of rim 6 accordingly presses edge 12 tightly into contact with the bottle surface and stretches the body of top portion 2, the parts then appearing as shown in Fig. 9. Edge 12 being relatively sharp, there will be substantially no recess at the point where it engages the glass, and owing to the stretched condition of the body of the top, the engagement of the edge with the mouth of the bottle will be tight enough to prevent even the slightest leakage down between the top and bottle.

The device thus presents no crevices or the like in which bacteria may lodge and develop during the ordinary time it would be allowed to remain on a milk bottle, for example, and when the contents of the bottle are exhausted, the device would ordinarily be removed and the top portion detached and sterilized, but since the top portion presents no recesses or portions difficult of access, ordinary washing would generally be all the cleansing necessary.

The reentrant portion 14 would ordinarily prevent the dribbling of liquid down the surface 15, but occasionally after pouring a drop might hang on rim 13 and eventually fall to soil the bottle or surroundings, and to prevent this there may be provided means to temporarily hold a small quantity of liquid on the surface 9 of the spout 8. This body of liquid, upon the bottle's being restored to upright position it has been discovered, will run back over the edge 12 into the bottle and, through the action of surface tension or the like, will draw the hanging drop up from lip 13 on to spout 8, from which it will find its way into the bottle. Just why this happens is not perfectly clear, but the action appears to be similar to that of a syphon, the distances in-

involved, and the quantities dealt with being so small that the action takes place in spite of the absence of the customary closed passage ordinarily necessary for operation of a syphon. The means in the present instance are represented as a series of small ridges 39, Figs. 11 and 9, although other means are contemplated and intended to be secured by the Letters Patent.

It is to be noted that the contraction of the plastic top portion 2 is generally forceful enough to form a reasonably tight seal between edge 12 and the mouth of the bottle, and also to prevent accidental displacement of cage member 3 in the event that the handle portion 21 is inadvertently left unhooked, and also that the cage portion when clamped can be used without top portion 2, ring 17 then being substantially smaller than the bead 4 of the bottle, thus preventing displacement of the cage. Similarly top portion 2 can be used without cage portion 3, although to realize to the fullest extent all the advantages above explained, the two elements should be used together as described.

The above being a complete description of an illustrative embodiment of the invention, what is claimed as new and desired to be secured by Letters Patent of the United States is:

1. In a bottle attachment the combination of a deformable spout member formed to be forced over the mouth of a bottle and to provide a sealing portion cooperable with said mouth, and a cage member attachable to said bottle and provided with lifting means, said cage member being arranged to compress said spout member, and said spout member being so shaped as to transmit pressure from said cage member to said sealing portion to perfect the seal between said sealing portion and said mouth.

2. In a bottle attachment the combination of a spout member of deformable material of general annular configuration and having a pouring lip, said member providing therein an annular recess of greater diameter and less height than the bead of a bottle to which said member is to be attached, said recess terminating in a relatively sharp upper edge, a lower rim on said member of a diameter greater than the neck of said bottle immediately below said bead, a lifting cage for said bottle having an upper compressible annulus engaging said rim when compressed and forcing it from the lower portion of said bead into contact with said neck, stretching said spout member downwardly, and bringing said sharp upper edge into forcible contact with the mouth of said bottle.

3. In a bottle attachment the combination of a spout member of general annular configuration and having a pouring lip, a lifting cage for said bottle having a handle portion comprising a hinged panel and a loop portion, said panel and portion being so arranged that when pressed toward each other they act to clamp said cage and said spout member on said bottle, and means on said panel engageable with said loop portion to maintain said cage and spout portion in clamped relation.

4. A bottle attachment including upper and lower deformable rings connected by a two part handle portion connected to compress said rings upon pressing together of said parts, said rings and handle being shaped to be capable of being formed by bending a single piece of wire, the ends of said wire meeting in one of said handle portions, and a grip member on said handle por-

tion and having means preventing separation of said ends of said wire.

5. A bottle attachment including upper and lower deformable rings connected by a two part handle portion arranged to compress said rings upon pressing together of said parts, said rings and handle being shaped to be capable of being formed by bending a single piece of wire, the ends of said wire meeting in one of said handle portions, and a grip member on said handle portion having a tubular portion embracing said ends of said wire so as to be hinged thereon and to maintain said ends in mutual axial alignment.

6. In a bottle attachment the combination of a rubber spout attachable to and removable from a bottle, and having a contractile portion arranged to grip said bottle when said spout is placed thereon, and a cage member attachable to said bottle and adapted to compress said contractile portion of said spout about said bottle whereby to increase the gripping power of said portion, and to prevent removal of said spout from said bottle while said cage is attached to said bottle.

7. In a bottle attachment the combination of a deformable spout attachable to and removable from a bottle, and having a contractile portion arranged to grip said bottle when said spout is placed thereon, and a cage member attachable to said bottle and provided with lifting means, said cage portion being arranged to compress said contractile portion of said spout about said bottle whereby to increase the gripping power of said portion, and to prevent removal of said spout from said bottle while said cage is attached to said bottle.

8. In a bottle attachment the combination of a spout member of general annular configuration attachable to a bottle, and having a contractile portion arranged to grip said bottle when said spout is placed thereon, said spout member being provided with a pouring lip, a lifting cage attachable to a bottle and having a handle portion downwardly displaced relatively to said cage whereby to position it for convenient pouring of fluid from said lip, said cage being arranged to engage said contractile portion and compress it against said bottle whereby to increase the gripping power of said portion to secure said spout member to said bottle and prevent removal thereof while said cage is attached to said bottle.

9. In a bottle attachment the combination of a deformable spout member attachable to and removable from a bottle, said spout member having a contractile portion arranged to grip said bottle when said spout is placed thereon, and a cage member attachable to said bottle, a hinged connection between said spout member and said cage, said cage being provided with lifting means and a portion arranged to engage said contractile portion and compress it against said bottle whereby to increase the gripping power of said portion to secure said spout member to said bottle and prevent removal thereof while said cage is attached to said bottle.

10. A bottle attachment including a rubber spout member of general annular configuration, said member having an annular recess therein arranged to enclose the bead of a bottle to which said member is to be attached, and terminating in an upper sealing knife-edge, said recess being of such dimensions as to be stretched both radially and axially when applied to a bottle, whereby placing of said spout member on a bottle will cause said knife-edge to be pressed into sealing contact with the mouth of said bottle.

11. A bottle attachment including a rubber spout member of general annular configuration, said member having an annular recess therein arranged to enclose the bead of a bottle to which said member is to be attached, and terminating in an upper sealing knife-edge, said recess being of such dimensions as to be stretched both radially and axially when applied to a bottle, whereby placing of said spout member on a bottle will cause said knife-edge to be pressed into sealing contact with the mouth of said bottle, and a lower contractile rim formed to be engaged and forced into contact with said bottle by a clamp.
12. A bottle attachment as claimed in claim 11 having a slot extending across said lower contractile rim, and provided with a grip portion, thickened, and extending across the end of said

slot to facilitate removal of said spout, and to reenforce said rubber at the point where it is reduced in section by said slot.

13. A bottle attachment including a deformable spout member of general annular configuration, said member having an annular recess therein arranged to enclose the bead of a bottle to which said member is to be attached, and terminating in an upper sealing knife-edge, said recess being of such dimensions as to be stretched both radially and axially when applied to a bottle, whereby placing of said spout member on a bottle will cause said knife-edge to be pressed into sealing contact with the mouth of said bottle.

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