June 28, 1938. D. A. SPRIGINGS 2,121,890

CAN

Filed Dec. 28, 1937

Fig. 1.

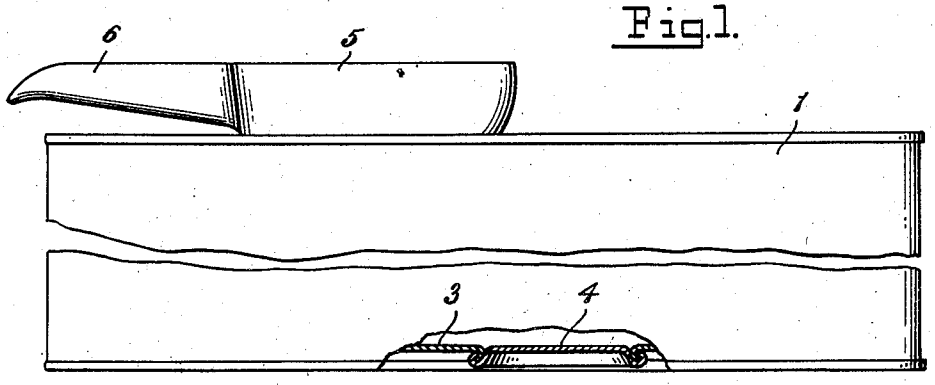


Fig. 2.

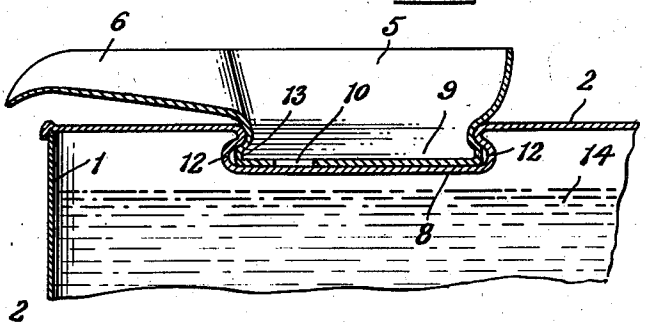


Fig. 4.

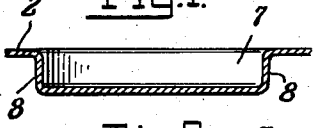


Fig. 5.

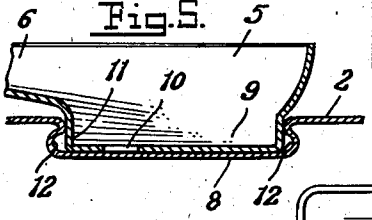


Fig. 3.

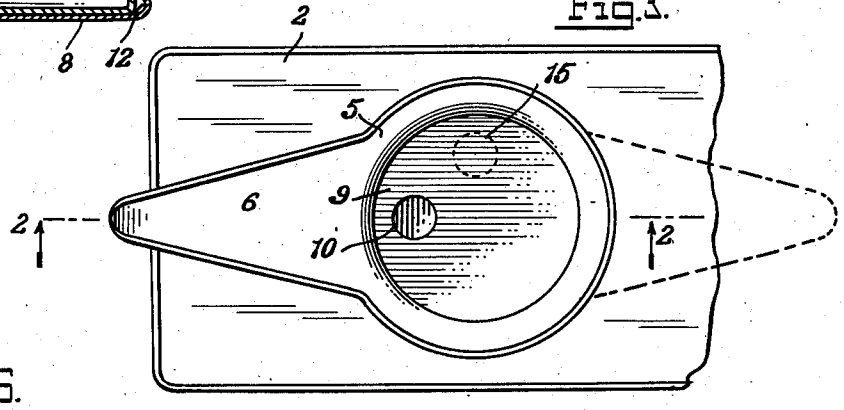
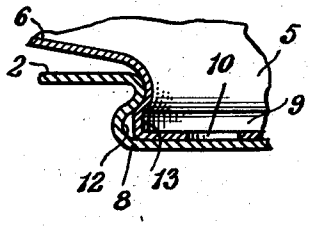


Fig. 6.



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CAN

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Application December 28, 1937, Serial No. 182,151

2 Claims. (Cl. 221—19)

This invention relates to an improvement in cans or other similar receptacles and especially those employed for containing liquids and has for its object the provision of means by which a pouring spout may be attached to a can top to not only facilitate the dispensation of the can contents but greatly aid in the maintenance of a sanitary container.

A further object of the invention is to provide a means for attaching a pouring spout to a can or like receptacle, in which the spout is rotatively mounted on the can top whereby the spout may, when desired, be moved to an inoperative position and will, by such movement, act as a valve to close the outlet opening in the can and thereby protect the contents.

More particularly, the invention contemplates the provision of a can top having a cup-shaped seat or depression, the side walls of which are distorted to engage over cooperating wall portions on a pouring spout, to hold said spout in position in said seat yet permit manual rotative movement of the spout, said spout having an opening adapted to register with a manually formed opening in the can top when the spout is in pouring position, and to close the opening in the can top when the spout is manually rotated to a non-pouring position.

In the accompanying drawing, wherein an embodiment of the invention is shown, Fig. 1 is a side elevation of a can provided with the improvement, with parts broken away and other parts shown in section to disclose construction; Fig. 2 is a sectional view of the upper end of a can, showing the attachment of the spout, the section being taken on the line 2—2 of Fig. 3, looking in the direction of the arrows; Fig. 3 is a plan view of the structure shown in Fig. 2; Fig. 4 is a sectional view through the can top, showing the formation of a cup-shaped depression or spout seat therein in the form in which it is initially produced prior to the insertion of the spout; Fig. 5 is a sectional view of a part of the can top, showing the side wall of the seat expanded or distorted outwardly and the cupped end of the spout inserted in the seat preparatory to being expanded to engage with the wall of the seat; and Fig. 6 is a sectional view through a part of the can seat and the bottom portion of the spout.

In the drawing, 1 indicates the can body which may be of any suitable shape and the same is provided with the usual top 2 and bottom 3, the same being seamed to the can body in the conventional manner. With the can shown, it is contemplated that the filling of the same be performed through a filler opening located in the can bottom 3, said opening being thereafter permanently sealed by a cap 4 or other secure, liquid-tight type of seal. The filler opening can, of course, be located in the top of the can, or at any other convenient position.

The can top 2 is provided with a pouring spout 5 adapted to not only facilitate the pouring or dispensing of the contents 14 from the can, but to also act as a valve. The spout has a pouring end or nose 6 and a cup-shaped base 9, the latter element 9 being adapted to be rotatively maintained in a cup-shaped seat or depression in the top of the can, said recess in its initial form prior to engagement with the spout, being shown at 8 in Fig. 4. In preparation for placement of the spout in position in the seat 8, said seat first has its annular side wall 7 expanded or distorted outwardly by suitable forming rollers until it assumes the shape substantially as shown at 12 in Figs. 2, 5 and 6. The spout 5 now has its cup-shaped lower end or base 9 inserted in the seat or recess 8 (see Fig. 5). At this time, the annular side wall 11 of the base 9 is straight or vertical, as shown in Fig. 5. Forming rollers, entering within the cup-shaped base 9 exert lateral pressure on the annular side wall 11 of the same, expanding or distorting it outwardly as shown at 13 in Figs. 2 and 6, so that it engages within the outwardly distorted side wall 12 of seat 8 and is held thereby against axial or separating movement from the seat, but is free to be manually rotated within the seat.

To prevent binding or a too great resistance to rotative movement of the spout in the seat, it is desirable that the shape 13 assumed by the distorted side wall 11 shall not closely follow the distorted formation 12 of the side wall of the seat. Consequently, the rollers which expand wall 11 to shape 13 should have an edge formation differing from those which expand or distort wall 11. Thus, while the co-operating distorted or expanded walls 12 and 13 interengage sufficiently to hold the spout firmly in the recess or seat 8, spout 5 is manually rotative when desired, with sufficient friction between it and the seat to cause it to hold any selected position. Instead of the distortion or expansion of the side wall 11 of the spout in the formation shown at 13, wherein frictional resistance between the wall of the spout and the side wall of the depression is reduced, the wall may, for example be expanded at spaced points only, thus avoiding full surface contact between wall 12 and the side wall

of the spout and thereby reducing frictional contact in that manner.

The bottom of the base 9 is formed with an opening 10 located eccentrically. When access to the contents 14 of the can is desired, opening 10 is used as a guide for the formation of a hole in the bottom of seat 8 registering with the opening 10. Said hole is formed by a suitable punch or other pointed instrument while the spout is in operative or pouring position, as shown in Fig. 1. Thus, the contents or a portion of the same may be easily and conveniently poured out of the can through the aligned openings and out of the spout 5. To close the can merely requires rotation of the spout to an extent necessary to cause an imperforate portion of the bottom of the spout to extend over and cover the hole formed in the bottom of seat 8. If desired, several holes or openings may be eccentrically formed in the bottom of the cup 9, one of which is diagrammatically illustrated in dotted lines at 15 in Fig. 3, enabling registering co-operating holes to be formed in the bottom of the seat 8, said latter holes being covered over and thus closed by imperforate portions of the bottom of the cup when the spout is rotated to non-pouring or inoperative position.

With the construction described, a firm and secure attachment of the spout to the can is afforded without requiring the perforation of the can to provide securing means for the spout, since the seat 8 constitutes a socket by which the spout is solely maintained in position; an efficient valve means is provided whereby the can contents are maintained in clean and sanitary condition and a convenient and easy dispensation of the can contents through the spout is afforded.

What I claim is:

1. A container of the character described comprising, a can having a top formed with a depressed seat of cup-like formation, a spout having a cupped lower end located in said seat, the seat having an outwardly expanded side wall, the cupped lower end of the spout also have an outwardly expanded side wall of a shape different from that of the expanded shape of the side wall of the seat to lessen frictional resistance between the side walls, the side wall of the spout being embraced by the side wall of the seat and prevented thereby from displacement out of the seat but capable of rotative movement therein, the cupped lower end of the spout having a pouring opening.

2. A container of the character described comprising a can body provided with a top and a bottom, a filling opening in the bottom of the can, a depressed cup-shape seat in the top of the can forming a spout socket, a spout having a lower end portion resting in the socket, said spout having the side walls of its lower portion outwardly distorted, the side walls of the socket being also outwardly distorted to embrace those on the lower portion of the spout to thereby hold the spout in the socket, the distorted side walls of the socket being of a different shape than the distorted walls of the spout and non-conformable thereto whereby co-extensive contact between the respective walls is avoided, the engagement of the side wall of the socket with that on the spout being such as to permit rotative movement of the spout in the seat without binding or excessive resistance.

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