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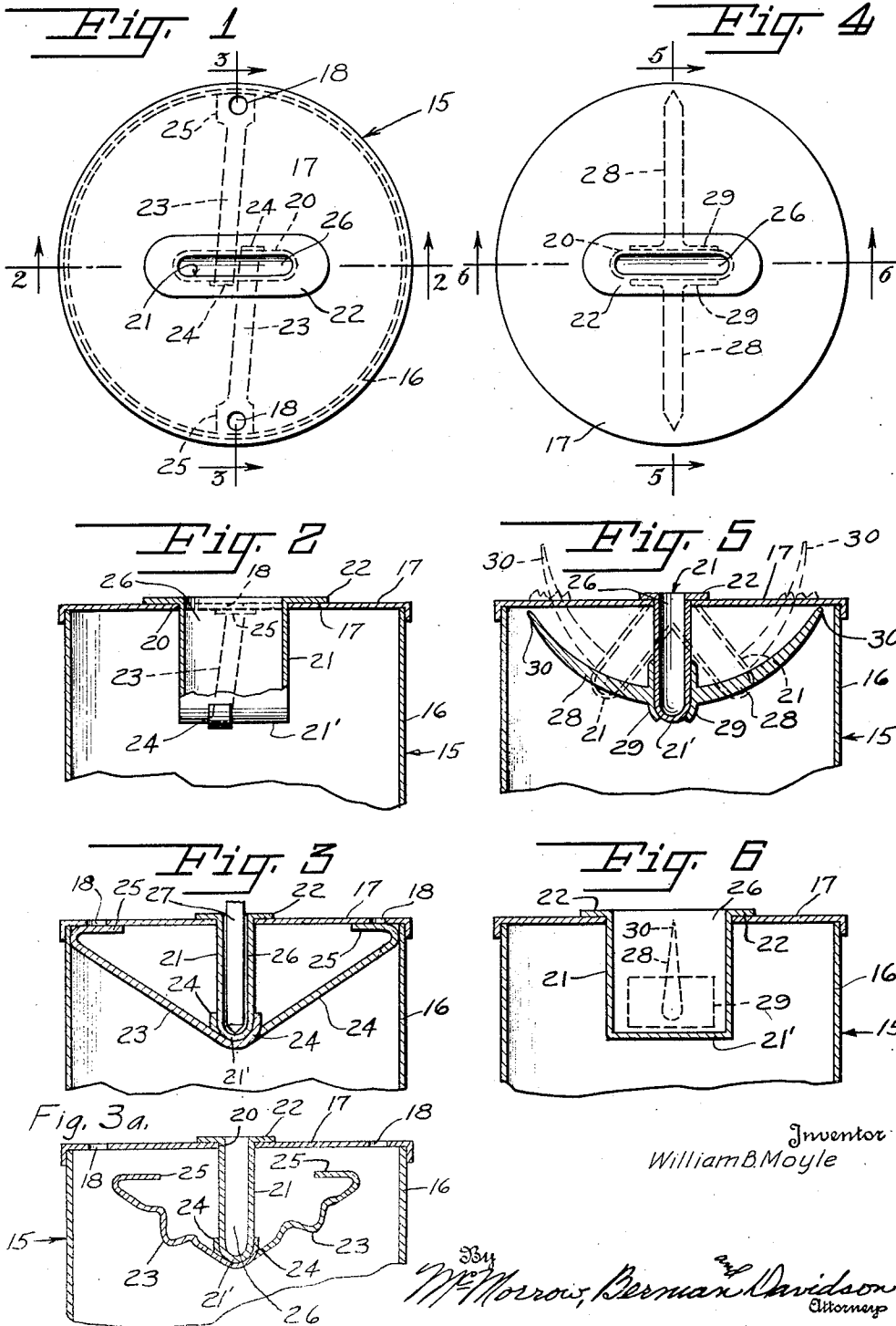
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COMBINATION CAN OPENER AND SPOUT

Filed Dec. 24, 1946

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Fig. 7

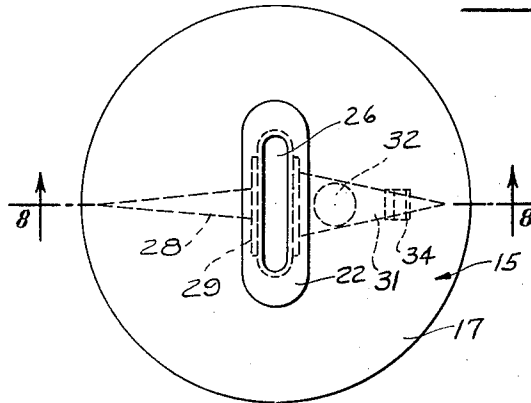


Fig. 8

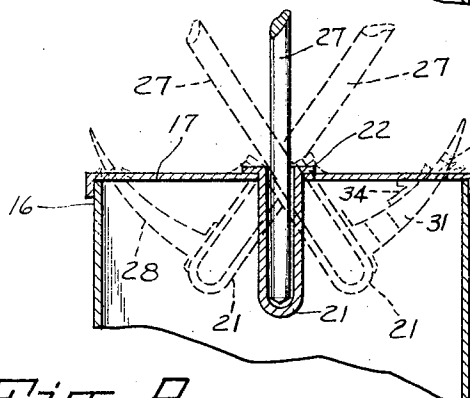
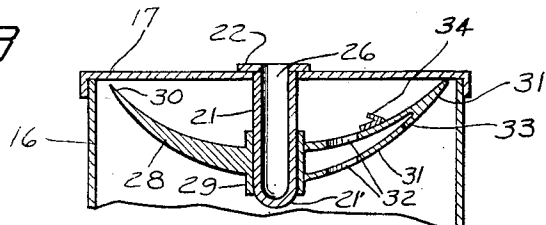


Fig. 9

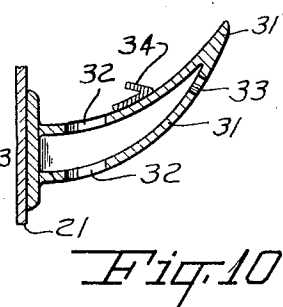


Fig. 10

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## UNITED STATES PATENT OFFICE

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## COMBINATION CAN OPENER AND SPOUT

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3 Claims. (Cl. 220—51)

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My invention relates to a container or can, having means arranged within the same to be acted upon from outside of the can, for opening the same.

An important object of my invention is to provide a container or can of the type used for evaporated milk, fruit juices, and other liquids, having means for forming dispensing openings in the can, without the use of a can opener, ice pick, or other piercing or cutting implement.

A further object of the invention is to provide a container, preferably in the form of a tin can, having means arranged within the container, adapted to be actuated by the user, for forming dispensing openings in the top of the container.

A further object of the invention is to provide a can for liquid contents, having means arranged therein and adapted to be actuated from the outside of the can, for forming a dispensing opening in the can, and also providing a spout for pouring out the contents of the can.

A still further object of my invention is to provide a container of the above mentioned type, which is of practical construction, relatively inexpensive to manufacture, and which will greatly simplify the use of containers of this class.

Other objects and advantages of my invention will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this application, and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a plan view of a can embodying my invention,

Figure 2 is a fragmentary central vertical section taken on line 2—2 of Figure 1, parts in elevation,

Figure 3 is a fragmentary central vertical section taken on line 3—3 of Figure 1, and showing an implement arranged for opening a can,

Figure 3a is a fragmentary vertical section through a can, after the same has been opened,

Figure 4 is a plan view of a can showing a modified form of the invention,

Figure 5 is a fragmentary central vertical section taken on line 5—5 of Figure 4,

Figure 6 is a fragmentary central vertical section taken on line 6—6 of Figure 4,

Figure 7 is a plan view of a container showing a further modification of the invention,

Figure 8 is a fragmentary central vertical section taken on line 8—8 of Figure 7,

Figure 9 is a similar view illustrating the use of the can opening means, and,

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Figure 10 is an enlarged sectional detail of a can piercing and dispensing prong.

In the drawings, where for the purpose of illustration are shown preferred embodiments of my invention, attention is called first to Figures 1 to 3a of the drawings. In Figures 1 to 3a, the numeral 15 designates a container or tin can, having a cylindrical side wall 16, and an end or top 17, rigidly secured to the upper end of the side wall in the usual manner. Formed in the top 17 of the can, and diametrically oppositely arranged thereon, and near the edge of the top, are apertures 18. The top 17 is also provided with an elongated centrally located opening 20. The longitudinal axis of the elongated opening 20 is at right angles to the common center line of the openings 18, in Figure 1. Arranged within the elongated opening 20, and depending below such opening, into the upper portion of the can, is a rigid unitary seat or socket 21, which is closed and rounded at its lower end 21'. The upper end of the socket 21 is open, and is provided with a continuous horizontal flange 22, suitably rigidly secured upon the top 17 by means of soldering, or the like. The socket 21 may be formed in any desired manner, such as a drop-forging, or from a suitable sheet metal blank, which is subsequently formed and soldered and extends into the container a distance not materially greater than the distance from opening 20 to the edge of end wall 17. The joint formed by the socket 21 within the elongated opening 20 is liquid tight and strong, due to the large area of contact between the flange 22 and the top 17. Arranged within the container 15, are two thin metal strips 23, having circularly curved lower ends 24, which are rigidly secured to the rounded lower end 21' of the socket 21 by means of soldering, or the like. The strips 23 are inclined upwardly, and are bent inwardly laterally at their upper ends, forming horizontal tabs 25. These tabs 25 engage beneath the top 17, to cover the apertures 18, and the tabs 25 are secured to the top by means of soldering, or the like, to provide a liquid tight covering for the apertures 18. The socket 21 provides an elongated opening or slot 26 into which any sufficiently rigid blade or implement 27 may be inserted. The soldered joints formed between the tabs 25 and the top 17 are relatively weaker than the joints formed by the curved ends 24, and by the horizontal flange 22.

To open the container 15, for dispensing the liquid contents thereof, the blade 27 is inserted into the slot 26, and moved or rocked laterally

back and forth to positions like those shown in dotted lines, in Figure 9 of the drawings. The socket 21 is thereby pivoted or rocked about its upper secured end, and the strips 23 carrying the tabs 25 are torn away from beneath the apertures 18. When the socket 21 is pivoted about its upper end, to tear away one tab 25, the opposite strip 23 is buckled and longitudinally shortened, see Figure 3a. When the socket is now pivoted or rocked in the opposite direction, to tear away the opposite tab 25, the strip 23, first torn away from its adjacent aperture 18 is buckled and shortened. The socket 21 is returned to its normal vertical position, and both apertures 18 remain uncovered, see Figure 3a. One aperture 18 serves as an air opening or port, to facilitate the dispensing of the liquid contents of the can through the opposite aperture 18.

In Figures 4 to 6, I have shown a modification of the invention, in which the can 15 and seat or socket 21 are identical with those shown and described in the first form of the invention. Rigidly secured near the lower end of the socket 21, in this form of the invention, by means of soldering, or the like, are curved can piercing prongs 28. These prongs 28 are arranged upon opposite sides of the socket 21, and include inner generally vertical and flat mounting strips 29, which are soldered to the socket 21. The prongs 28 extend radially outwardly near the wall 16 of the can, and upwardly, where they terminate in sharp points 30, close to the top 17. All other parts are identical to those shown and described in the first form of the invention.

To open the can described in this form of the invention, the blade 17 is inserted in the slot 26; and the socket 21 is rocked back and forth, to positions like those shown in dotted lines in Figure 5. The points 30 of the prongs 28 pierce the top 17, and form dispensing and air inlet openings. The socket 21 is then returned near its normal vertical position, and the liquid contents of the can may be poured out.

In Figures 7 to 10, a further modification of the invention is shown. In this form of the invention, one of the can piercing prongs 28, previously described, is employed; and arranged oppositely from this prong 28 is a hollow piercing and dispensing prong or spout 31. This hollow prong or spout 31 is rigidly secured to the socket 21, in exactly the same manner that the prongs 28 are secured, and the location of the hollow prong 31, within the can is the same as that of the corresponding prong 28 in the previous form of the invention. This hollow prong 31 has liquid inlet openings 32, formed near its inner end, and also has an outlet or pouring opening 33, near its outer end and formed in its lower wall. The hollow prong 31 is curved radially and upwardly, and terminates in a sharp point 31'. Rigidly secured to the upper side of the prong 31, and spaced inwardly a short distance from the pouring opening 33 is a lug or stop 34. All other parts are identical with those shown and described in the previous forms of the invention.

In use, the implement or blade 27 is inserted in the slot 26, and the socket 21 is rocked back and forth about its upper end; the prong 28 pierces an air hole in one side of the top 17, and the hollow prong 31 pierces an opening in the opposite side of the top. The socket 21 is allowed to remain in the latter rocked position, and the prong point 31' projects through the top 17. The pouring opening 33 is arranged outside of the can, while the inlet openings 32 are inside.

The stop 34 limits the upward swing of the hollow prong, and fixes the position of the openings 32 and 33, as described. The can is now tilted and the liquid contents thereof may be poured through the hollow prong 31, which functions as a spout. The liquid contents enter the openings 32 and discharge through the opening 33.

It is to be understood, that the forms of my invention herewith shown and described, are to be taken as preferred examples of the same, and that various changes in the shape, size, and arrangement of parts may be resorted to, without departing from the spirit of my invention, or the scope of the subjoined claims.

Having thus described my invention, what I claim is:

1. In a container having a side wall and a pair of end walls positioned one at each end of said side wall and hermetically sealed thereto, one of said end walls having an elongated central opening therethrough, means for opening said container comprising a thin-walled socket of elongated, generally rectangular, cross-sectional shape inserted through said end wall opening, said socket having a flange surrounding its open end and hermetically sealed to said one end wall around said opening, and pointed prongs secured to the inner end of said socket at respectively opposite sides of the latter and extending in opposite directions therefrom to open two apertures in said one end wall upon rocking of said socket in said end wall by an implement inserted into said socket.

2. In a container having a side wall and a pair of end walls positioned one at each end of said side wall and hermetically sealed thereto, one of said end walls having an elongated central opening therethrough, means for opening said container comprising a thin-walled socket of elongated, generally rectangular, cross-sectional shape inserted through said end wall opening, said socket having a flange surrounding its open end and hermetically sealed to said one end wall around said opening, and means secured to the inner end of said socket and extending in opposite directions therefrom to open two apertures in said one end wall upon rocking of said socket in said end wall by an implement inserted into said socket, said means comprising a pair of metal strips each secured at its inner end to the inner end of said socket and having at its outer end a tab sealed to the inner surface of said one end wall in covering relationship to a respective opening provided in said end wall, said tabs being broken away from their aperture covering relationship upon rocking of said socket.

3. In a container having a side wall and an end wall secured to one end of said side wall and having an elongated central opening therethrough and a pair of oppositely-disposed apertures positioned near the edge of said end wall at opposite sides of the elongated extent of said central opening, means for opening said container comprising a thin-walled socket of elongated, generally rectangular, cross-sectional shape inserted through said elongated end-wall opening, said socket having a flange surrounding its open end and hermetically sealed to said end wall around said elongated opening, and means secured to the inner end of said socket and extending in opposite directions therefrom to open said two apertures in said end wall upon rocking of said socket in said end wall by an implement inserted into said socket, said means comprising a pair of metal strips each secured at its inner

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end to the inner end of said socket and having at its outer end a tab sealed to the inner surface of said end wall in covering relation to a respective aperture in said end wall, said tabs being broken away from their aperture-covering relationship upon rocking of said socket.

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