Aug. 17, 1937. J. M. HOTHERSALL 2,089,958

CONTAINER

Filed March 2, 1933

Fig. 1

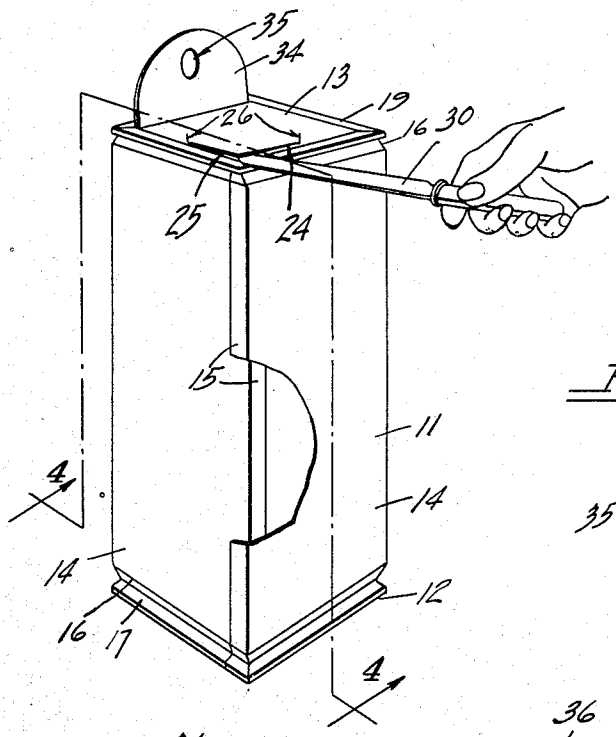


Fig. 2

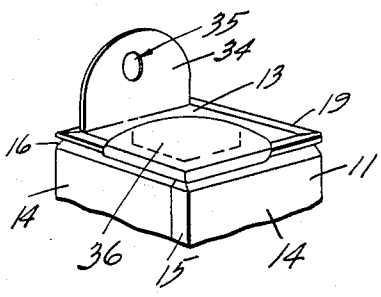


Fig. 3

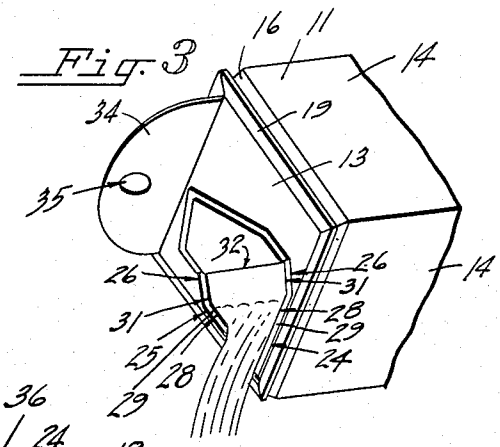


Fig. 4

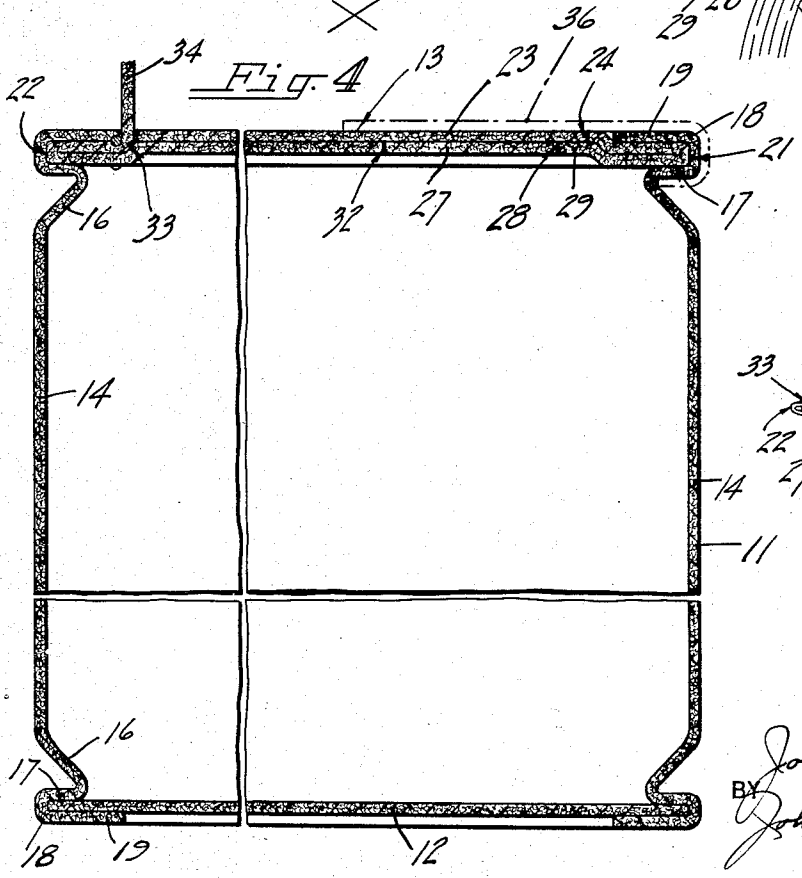
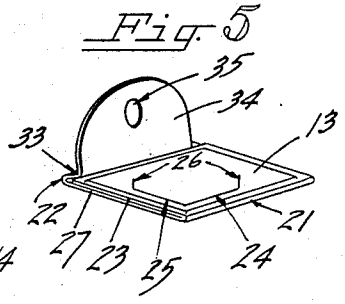


Fig. 5



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CONTAINER

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13 Claims. (Cl. 229—7)

This invention relates in the main to fibre containers, and while it has more particular reference to the provision of a container for the packaging of milk and similar liquids it will be apparent that its several features have other valuable application and uses.

The invention has for its principal object the provision of a fibre container of simple, economical construction, which will be liquid proof, sanitary, and easily opened and handled by the consumer.

In comparison with the ordinary milk bottle generally in use by dairies, the invention contemplates the provision of a fibre container which may be more cheaply manufactured, which will be lighter in weight, which will occupy less space in storage and in the milk wagon, and which will be more sanitary.

The invention contemplates the construction of a milk bottle without metal and of liquid proof fibre parts, of simple construction and joined together in easily formed liquid proof seams.

It contemplates also improvement in the packaging and dispensing of the milk, with less opportunity for contamination than is provided in the use of the glass milk bottles. In this regard the invention contemplates the provision of fibre containers which are wholly sealed in the can factory and which are only temporarily opened by the dairyman for filling prior to delivery to the consumer.

In comparison, also, with the glass milk bottles currently in use, the invention contemplates the provision of a lighter package and one which is rectangular or square in cross-section so that a greater number of containers may be stored in a given space in the wagon and/or in the carriers provided to the milkmen for their delivery.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description, which, when taken in connection with the accompanying drawing, discloses a preferred embodiment thereof.

Referring to the drawing:

Figure 1 is a perspective view of a container embodying the present invention and illustrating the manner of opening the container;

Fig. 2 is a perspective view of the upper part of the same, illustrating the container fully sealed, as after filling;

Fig. 3 is a fragmentary perspective view of the opened container in the position for discharging its contents;

Fig. 4 is a fragmentary enlarged sectional view taken substantially along a vertical plane indicated by lines 4—4 in Fig. 1; and

Fig. 5 is a perspective view of one form of cover for the container.

The container shown on the drawing and which constitutes the embodiment of the invention at present preferred is formed of fibrous material which has been suitably treated with paraffine or other water resisting substance to make it liquid proof. It consists primarily of a rectangular body 11 and bottom and top closures 12 and 13.

The body 11 consists of or may consist of a single sheet of material folded at right angles to provide the four side walls 14. Each of the vertical edges of the sheet is provided with a flap 15 adapted to engage and be secured to the adjacent face of the adjacent wall by a suitable adhesive to form a liquid tight side seam. Each of the bottom and top end closures 12 and 13 consists or may consist of a disk of fibre material interlocked with the adjacent end of the body. The body is bent obliquely inwardly at 16 adjacent each end to produce a shoulder for the end and to effect an inwardly inclined reenforcing truss portion. This body wall is thence bent outwardly in a relatively sharp corner to provide a horizontally outwardly extending ledge on which the end rests. The sharply bent outwardly extending portion or ledge 17 cooperates with the inwardly inclined truss portion 16 to constitute a rigid non-collapsible structure which resists outward and inward movement of the body wall and insures against vertical collapse due to any longitudinal strains at the ends of the container. The relatively sharp angle formed by bending outwardly the body wall at the upper end of the inwardly inclined truss portion 16 is such that the plane of the outwardly extending portion 17 intersects the plane of the inclined truss portion 16 substantially within the material of the body wall of the container.

The upper end closure 13 is seated upon the ledge 17 and the extreme edge of the body is then folded down at 18 to provide a horizontally extending body part or terminal portion 19 above or outside the end closure. The lower end closure is similarly seated and held.

The parts 17 and 19 of the body define an inwardly opening horizontal channel in which the edge of the closure is engaged and is held by a suitable liquid proof adhesive connecting the interengaging faces. The aforesaid reen-

forced truss construction at the ends of the container insures against any tendency of the latter when filled to collapse due to longitudinal strains such for example as might be caused by stacking the filled containers.

The bottom closure 12 is or may be of simple, imperforate sheet construction. The top closure 13 is preferably comprised of two plies conveniently formed by folding two opposite sides of a sheet of suitable dimension along lines of fold 21 and 22 located respectively at the front and rear of the container.

Scorings are provided in the two ply sheet thus formed to set off a severable flap which may be opened to provide a filling and dispensing opening. The upper ply indicated by reference character 23 is scored or cut through or nearly through along lines 24 and 25 (Fig. 1) converging to and meeting adjacent one of the corners of the container, these lines preferably being in parallelism with the side edges of the closure.

The lines 24 and 25 are preferably extended into parallel cuts 26, as may be observed in Figs. 1 and 3. The lower ply 27 is similarly scored upwardly from its lower face along lines of score 28, spaced inwardly, however, somewhat from the lines of score 24 and 25 to provide a shoulder 29, which is offset vertically or upwardly in respect to the marginal portion of the end closure, the purpose of which shoulder will be presently more fully explained. That is to say the opening through the inner ply of the top is a little smaller than the opening through the outer ply (Fig. 3). Likewise also the inner scoring extends along parallel lines 31 to adjacent the ends of the parallel scores 26 of the top ply and across score line 32 is provided in the lower ply to connect the rear ends of the score lines 31. The scoring may be accomplished before the sheet forming the top closure is folded, in which event it is desirable that sufficient material be left at the bottoms of the scores to permit the material to be folded and secured in final relationship or the folding may be accomplished and the plies lightly held together with adhesive and the scoring then acaccomplished, in which event the scoring may extend completely through the plies in which it is provided.

At the rear the material of the top closure is preferably extended upward and outside of the adjacent overlying part 19 of the body and is bent up at 33 to provide an upwardly extending tab 34 which may be perforated at 35. This tab provides a convenient hand hold to be grasped to lift the container from its storage position or from the carrier, and the container may be hung upon a nail. A staple may be used at the bend 33 to hold the plies together and to strengthen the parts connected to the tab 34.

In the use of the container for milk it is intended that the container thus described shall be completely closed by the can manufacturer and shall be received by the dairyman with the opening flap unsevered from the remainder of the end closure. Immediately before putting the milk into the container it is intended that the dairyman complete the severance along the score lines and lift the flap about the unsevered and unscored connection between the rear ends of the score lines 26 of the top ply. The severance along the score lines may conveniently be accomplished by any prying instrument 30, as may be observed in Fig. 1. Thus opened the can is filled and thereafter the flap is swung back to its initial closed position so that its edges rest upon the shoulder 29, already described.

It may be secured in this position by a sticker or paper sheet 36 arranged across the flap, the adjacent surfaces of the end closure and over and about the adjacent channel parts of the body which enter into the end seam, as may be observed in Fig. 2. The sticker or paper sheet 36 forms a seal which is removable or may be torn away by the customer to permit reopening of the flap and the pouring of the milk.

It will be apparent that a container constructed and filled in accordance with the foregoing will be wholly or substantially wholly sanitary and may be delivered by the can manufacturer to the dairyman in sterile condition. The can may be opened just before filling and quickly closed, with minimum opportunity for contamination of the contents, and after closing maintained in sanitary condition until delivery to the consumer.

By arranging the pouring opening at a corner of the container, the milk may be poured in a controlled and even stream through the opening and with minimum opportunity for the soiling of the sides of the container when the pouring is interrupted.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. A container, comprising a body, an end closure seamed to the top of the body, a part of an edge of said closure being folded upon itself in the seam and extending up to provide a protruding part for supporting said container.

2. A container for liquids, comprising a folded body portion of fibrous material sealed along vertical overlapping edges and formed at one opposite end into an inwardly opening horizontal channel partially defined by a substantially horizontal and inwardly extending terminal portion of the body wall material, and an end closure consisting of a disk of fibre folded upon itself to provide a reenforced closure of double thickness having its folded marginal portions disposed in tight engagement within said body channel, said folded end closure being offset upwardly adjacent the said terminal portion of the body wall material and thence extending across the end of the container, whereby the entire end surface of the closed container is disposed in a common plane.

3. A container for liquids, comprising a folded body portion of fibrous material sealed along vertical overlapping edges to be impervious to liquid, and formed at its opposite ends into inwardly opening horizontal channels partially defined by a substantially horizontal and inwardly extending terminal portion of the body wall material, and an end closure consisting of a disk of fibre impervious to liquid folded upon itself to provide a reenforced closure of double thickness having its folded marginal portions disposed in liquid tight engagement within one of said body channels, said folded end closure being offset upwardly adjacent the said terminal portion of the body wall material and thence extending across the top of the container, whereby the entire end surface of the closed container is disposed in a common plane.

4. A container for liquids, comprising a folded body portion of fibrous material sealed along vertical overlapping edges and formed at its opposite ends into inwardly opening horizontal channels partially defined by a substantially horizontal and inwardly extending terminal portion of the body wall material, and a cover member consisting of a disk of fibre folded upon itself to provide a reenforced closure of double thickness having its folded marginal portions disposed in liquid tight engagement within one of said body channels, said folded end closure being offset upwardly adjacent the said terminal portion of the body wall material and thence extending across the top of the container, whereby the entire end surface of the closed container is disposed in a common plane, said cover closure being cut through both thicknesses in staggered relation to provide an integrally hinged opening flap adapted to seat upon shoulders provided by the staggering of the cuts, to provide a filling and dispensing aperture for said container in said cover member.

5. A container, comprising a body and an end closure of fiber material seamed to said body, said seam including an inwardly turned extremity of the body wall, said end closure being formed of parallel upper and lower plies cut to provide an integral opening flap converging to a point at a corner of said end closure, said end closure being offset vertically adjacent its periphery to provide a marginal depression for receiving said inwardly turned extremity of the body wall, whereby the entire end surface of the closed container is disposed in a common plane, and means engaging over the cuts and on said flap for securing the flap in closed position.

6. A container, comprising a body, a fibre end closure permanently seamed to said body and comprising upper and lower plies, said seam including an inwardly turned extremity of the body wall, said end closure being cut through said plies in staggered relation to provide an integrally hinged opening flap adapted to seat upon shoulders provided by the staggering of the cuts, said end closure being offset vertically adjacent its periphery to provide a marginal depression for receiving said inwardly turned extremity of the body wall, whereby the entire end surface of the closed container is disposed in a common plane.

7. A container, comprising a body, a fibre end closure permanently seamed to said body and comprising upper and lower plies, the wall of said body terminating in an inwardly turned portion, said end closure being cut through said plies in staggered relation to provide an integrally hinged opening flap adapted to seat upon shoulders provided by the staggering of the cuts, said end closure being offset vertically adjacent its periphery to provide a marginal depression for receiving said inwardly turned portion of the body wall constituting a part of said seam, whereby the entire end surface of the closed container is disposed in a common plane, and means re-sealing the flap in closed position upon said shoulder.

8. A fibre container for liquids, comprising a liquid proof tubular fibre body having a lapped vertical side seam, said body at one end being bent obliquely inward, horizontally outward, vertically, and then horizontally inward to form an end closure supporting shoulder and receiving channel and a fibre end closure comprising a separate one piece web member folded upon itself to form a rigid disk of double ply web material, the outer annular marginal portion of said disk being held in said channel to make a liquid tight end seal for said container.

9. A fibre closure for containers, comprising a one piece web member folded upon itself to form a rigid disk having an inner ply and an outer ply of integral web material, said inner ply being scored, said outer ply being scored along lines parallel with but outwardly spaced from the score lines of said inner ply, whereby when said plies are broken along said score lines said broken plies form a hinged flap and said inner ply provides a seating shoulder for said flap.

10. A fibre closure for containers, comprising a one piece web member folded upon itself to form a rigid disk having an inner ply and outer ply of integral web material, said plies of web material being scored to define a hinged opening flap and to produce a pouring opening in said disk when the web material is severed along said score.

11. A fibre closure for containers, comprising a one piece web member folded upon itself to form a rigid disk of double ply web material, one free marginal portion of the outer ply being bent and projected beyond the plane of said outer ply to provide a holding tab.

12. A fibre container for liquids, comprising a liquid proof tubular fibre body, said body at one end being bent obliquely inwardly to form a rigid supporting truss portion to brace the body wall against inward and outward movement, then being bent horizontally outward in a relatively sharp corner and thence horizontally inward in spaced relation to the said horizontal outward wall to form an end closure supporting shoulder and receiving channel, and a fibre end closure member for the end of said tubular body, said end closure having its outer annular marginal edge firmly held in said receiving channel and providing a liquid tight end seal for said container.

13. A fibre container for liquids, comprising a rectangular liquid proof tubular fibre body, said body at opposite ends being bent obliquely inwardly to form a rigid supporting truss portion to brace the body wall against inward and outward movement, then being bent horizontally outward in a relatively sharp corner and thence horizontally inward in spaced relation to the said horizontal outward wall to form end closure supporting shoulders and receiving channels, and a fibre end closure member for each end of said tubular body, said end closures having their outer annular marginal edges firmly held in said receiving channels and providing liquid tight end seals for said container.

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