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H. A. EGGERS
CONTAINER STRUCTURE
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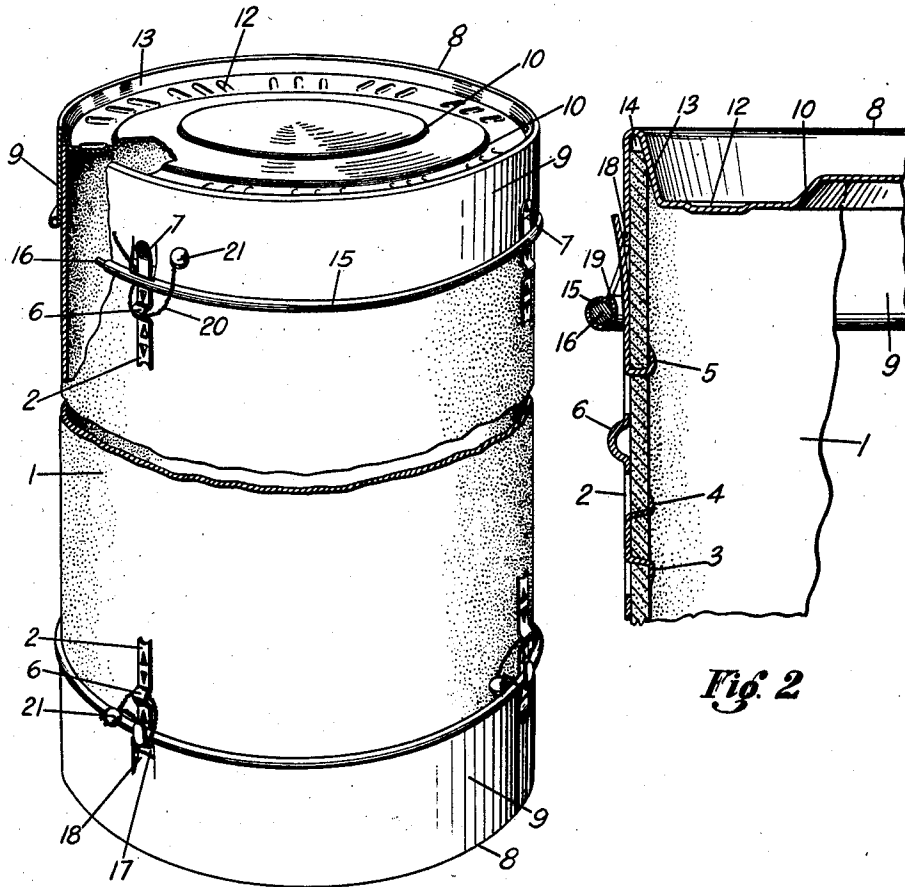


Fig. 2

Fig. 1

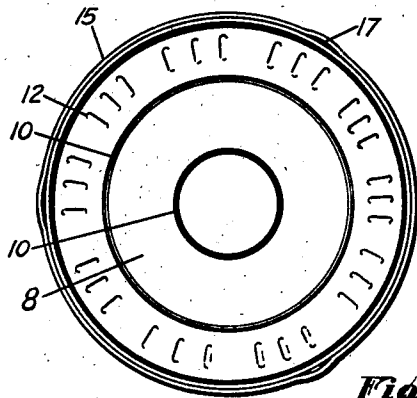


Fig. 4

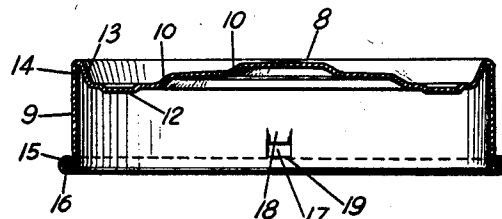


Fig. 3

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CONTAINER STRUCTURE

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My invention relates to container structures. It has to do particularly with the provision of a novel type of end closure in conjunction with a means for securing such end closure in position upon the body portion of the container.

In the past, devices of this type have involved unnecessary complication of structure. This has been true of the closure itself but has been especially true of the means for securing this closure in position upon the container. Various types of securing means have been provided and many of these have been so constructed or of such a fragile nature as to be readily mutilated or distorted in shipment or handling that their utility has been impaired.

One of the objects of my invention is to provide a closure for the end of a container of simple form but which is of rugged structure and capable of resisting heavy strains or shocks which inevitably arise in handling, particularly where the container is utilized for the shipment of comparatively heavy material.

Another object of my invention is to provide a closure for a container and a securing means therefor, with both of these elements so constructed and related that they may be brought into proper cooperative relation with maximum ease, and when in such relation, may be adequately locked against separation with a minimum of difficulty.

Another object of my invention is to provide a closure for a container and a securing means therefor, which securing means is of such construction that the closure may be sealed in position upon the container with a minimum of difficulty and in such a manner that the maintenance of the closure upon the container will impose no strains upon the sealing means.

The preferred embodiment of my invention contemplates the provision of a container closure which is adapted to for application to the tubular body portion of a container of fiber board, straw board or pulp board. This closure is preferably formed in one piece with a circular body portion and with an annular flange which is connected to the

circular body portion by a grooved formation designed to receive the end of the tubular body portion of the container in such a way as to effect a cooperative bracing action. The circular body portion of the closure is preferably provided with reenforcing ribs to increase the strength thereof.

In this preferred form of my invention, the means for securing the closure in position upon the end of the container comprises a plurality of substantially flat metallic strips vertically secured to the exterior wall of the container at several places throughout the circumference thereof. Each of these metallic strips has its upper extremity unsecured and bent outwardly so that it is slightly spaced from the container wall. The closure is provided in its flange with an opening for the reception of each of the securing elements and each opening is so designed that it will readily receive the upper extremity of a securing element when the closure is placed in position upon the container. Furthermore, the cooperative securing elements of my device are so designed that they provide convenient apertures for a sealing wire and at the same time protect the sealing wire from any strain due to any tendency of the closure to separate from the container.

The preferred embodiment of my invention is shown in the accompanying drawings wherein similar characters of reference designate corresponding parts and wherein:

Figure 1 is a perspective view of a container with my end closures applied thereto.

Figure 2 is a section taken through an upper corner of my container with my end closure thereon.

Figure 3 is a vertical sectional view taken through one of my end closures.

Figure 4 is a top plan view of the structure shown in Figure 1.

In the drawings, I have shown a container comprising a body portion 1. This body portion is preferably of tubular form and open at both ends, these ends being designed to be closed by a metallic member.

Disposed at spaced intervals about the tubular body portion 1 are securing means which

may be generally designated 2. Each securing means is preferably formed from a flat strip of metal with a plurality of prongs stamped inwardly therefrom as indicated at 3, 4 and 5. Intermediate the prongs 4 and 5, each metallic strip is preferably provided with a rib 6. When applied to the container, the prongs 3, 4 and 5 are passed through the wall thereof and then bent sufficiently to clinch the securing strip firmly to the container wall.

The upper extremity of each securing device is preferably bent outwardly at the line 7, so that this extremity lies in spaced relation to the exterior surface of this container wall.

The end closure of the container preferably comprises a circular disk-like portion 8 and a flange 9 extending substantially at right angles thereto. This circular disk-like portion is preferably provided with a plurality of annular ribs 10. It is also provided with a plurality of radial ribs 12. These annular and radial ribs are preferably stamped in the disk-like portion.

The disk-like portion 8 is connected to the flange 9 of the closure by means of an upwardly bent annular section 13 which cooperates with the annular flange 9 to form a groove 14 of annular form which is designed to receive and closely embrace the end of the tubular body portion of the container.

The lower end of the flange 9 of the closure is bent as at 15 to completely enclose a wire 16. At spaced intervals around the flange 9, openings 17 are provided in this flange. These openings are preferably produced by stamping and the stamping action is such that the upper wall 18 of each opening is bent inwardly so that it lies close to the outer surface of the container body portion 1. In fact, it preferably lies closer to this outer surface than the remainder of the flange 9. It will also be noted that the lower wall 19 of each opening 17 is bent outwardly away from the outer surface of the body portion 1 of the container and this is also preferably true of the bead 15.

From this structure, it will be obvious that the placing of an end closure upon the body portion of the container with its opening 17 in proper alignment with the securing strips 2 and the forcing of this container firmly into position upon the body portion will cause the wall 18 of each opening to wedge into position beneath the upper extremity 8 of each strip. The wall 19 of each opening and the bead 15 immediately therebeneath, being spaced from the container wall will pass on the outside of the extremity of the strip and this extremity will then be in such position that it may be readily bent over, as are the fasteners shown in connection with the bottom closure in Figure 1. When these strips are thus bent, the closures will be

firmly retained in position against all possibility of accidental removal.

When the closure is once in position, a sealing wire which may be designated 20 is passed through the groove produced by the rib 6 and is then passed upwardly through the opening 17 in the closure, whereupon its ends may be secured by a lead seal of usual form as indicated at 21. The structure is such that the securing means is effective to hold the closure upon the container without imposing any strain whatsoever upon the sealing means, while this securing means is so designed as to permit the ready application of a sealing means which will not be liable to breakage due to any tendency of the closure to separate from the container.

It will be seen that I have provided an unusually simple structure which is, nevertheless, readily assembled and which, when assembled, produces a container with a rigid end formation with the container and the closures bracing each other and well calculated to resist any strains or shocks to which they are likely to be subjected. Furthermore, it will be noted that the securing means for the container closure does not project into a position where it is liable to become distorted or bent either before or after application of the closure. Nevertheless each of these securing devices is in such position that the application of the container closure to the container will automatically position these securing devices in such relation to the container closure that they need only be bent to effect a rigid locking of the closure upon the body portion of the container.

Having thus described my invention, what I claim is:

1. A container structure comprising a body portion, a closure having a disk-like portion and a substantially vertical annular flange designed to embrace said body portion and lie in contact with and in substantial parallelism thereto, said annular flange having an opening formed therein with its upper edge closely adjacent the outer surface of said body portion and its lower edge spaced from said body portion, and a securing means carried by said body portion and having an upstanding leg which is bent outwardly to such an extent that it will ride over said first-named edge and under said second named edge when said cover is applied.

2. A container structure comprising a body portion, an upstanding securing means mounted on the outer surface of said body portion and having its upper end initially divergent from the plane of surface on which said securing means is mounted, a closure having a disk-like portion and a substantially vertical annular flange designed to embrace said body portion and lie in contact with and in substantial parallelism thereto, said annular flange having an opening formed therein

at such an angle that the placing of the closure on the container and downward movement of the closure with such opening in alignment with said securing means will
5 cause the lower wall of the opening to pass on the outside and the upper wall of the opening to pass on the inside of said securing means.

3. A container structure comprising a body
10 portion, an upstanding securing means mounted on the outer surface of said body portion and having its upper end initially divergent from the plane of surface on which said securing means is mounted, said
15 securing means terminating within the height of said body portion, a closure having a disk-like portion and a substantially vertical annular flange designed to embrace said body portion and lie in contact with and
20 in substantial parallelism thereto, said annular flange having an opening formed therein at such an angle that the placing of the closure on the container and downward movement of the closure with such opening in
25 alignment with said securing means will cause the lower wall of the opening to pass on the outside and the upper wall of the opening to pass on the inside of said securing means.

30 4. A container structure comprising a body portion, a securing means on said body portion embodying a flat strip secured to the outer surface of said body portion and having an outwardly bent portion intermediate
35 its length for the reception of a sealing wire, a closure for one end of said body portion, and a sealing means, said securing means being constructed to maintain said closure upon said body portion without imposing
40 any strain upon said sealing means.

In testimony whereof I hereby affix my signature.

HANS A. EGGERS.

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