Aug. 10, 1943. H. A. EGGERSS 2,326,209

CONTAINER

Filed Aug. 15, 1941

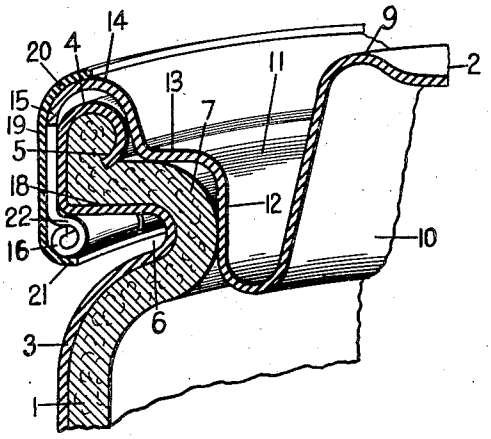


Fig. 1

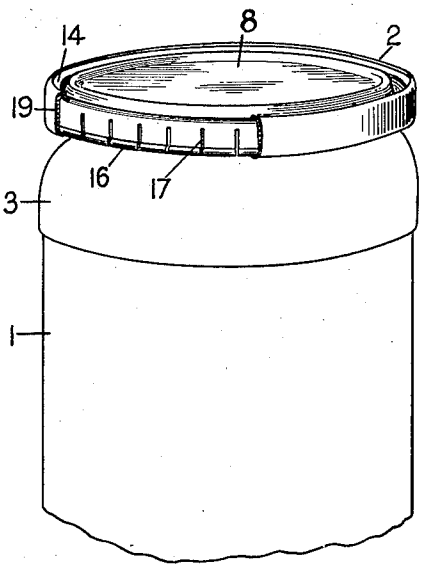


Fig. 2

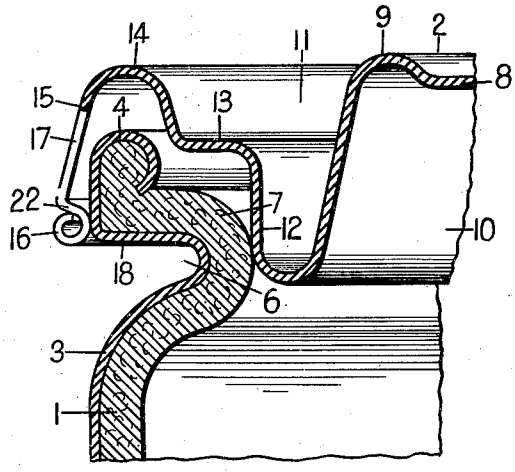


Fig. 3

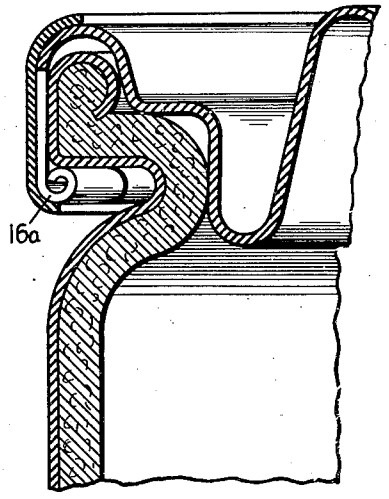


Fig. 4

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CONTAINER

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Application August 15, 1941, Serial No. 406,984

2 Claims. (Cl. 229—5.7)

My invention relates to containers. It has to do, more particularly, with a barrel or container that is formed primarily of such material as fiberboard, pulpboard, paper or strawboard, although it is not necessarily limited thereto. More specifically, it relates to the top head structure of such a container.

One of the objects of my invention is to provide a container or barrel of the type indicated which has an upper end so constructed and a cover cooperating therewith in such a manner that the container will be effectively sealed.

Another object of my invention is to provide a container of the type indicated wherein the cover may be quickly and easily applied thereto in sealing relationship or removed therefrom.

Another object of my invention is to provide a container of the type indicated having an upper end structure and cooperating cover of such a nature that when the cover is positioned on the end of the container, it will automatically lock itself in position.

Another object of my invention is to provide a container of the type indicated wherein the cover is effectively held in position so that there will be no danger of the cover accidentally slipping off of the container when subjected to the forces normally encountered in the use of such a container.

Another object of my invention is to provide a container of the type indicated having an upper end structure and cooperating cover of such a nature that a chime structure will be produced at the upper end of the container which will effectively withstand all shocks to which the container might be subjected.

In its preferred form my invention contemplates the provision of a container comprising a substantially cylindrical body portion which is made of fiberboard or other similar material and which has an open upper end. The extreme upper end of the fiber body portion is embraced by a metal band. The end of the body portion together with the metal band are bent to form a continuous cover supporting rib projecting inwardly from the body portion at a point spaced from the end thereof and a continuous external groove in alignment therewith. A cover, preferably of metal, is positioned on the end of the body portion. This cover is provided with a main portion which rests on the internal rib and a flange which extends over the end of the body portion and downwardly along the outer surface thereof. The flange has a bead on its lower edge which is adapted to snap into said external groove, when the cover is positioned on the end of the body portion, in order to retain the cover in position. If desired, a locking band may be provided in embracing relationship to said flange in order to prevent the flange from being flexed outwardly to permit withdrawal of said bead from said groove and removal of the cover.

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

Figure 1 is a detail, partly in perspective and partly in vertical section, of a container having an upper end structure and cooperating cover constructed according to my invention.

Figure 2 is a perspective view, partly broken away, of the upper end of a container made according to my invention.

Figure 3 is a detail similar to Figure 1 showing the cover being slipped into position.

Figure 4 is a vertical sectional view of the upper end of the container and cooperating cover illustrating a slight modification of my invention.

With reference to the drawing, I have illustrated the container comprising a body portion or shell 1. This body portion may be made of fiberboard or other similar material and is preferably of cylindrical form having an upper open end. The lower end of the body portion may be closed by any suitable means. The upper end of the container may be closed by means of a cover 2 which is preferably of metal.

In order to reinforce the upper end of the container and to provide means for securing the metal cover 2 in position, a metal band 3 is preferably applied to the end of the container. This metal band 3 is preferably a continuous annular band and is preferably comparatively wide. It is applied in surrounding relationship to the outer surface of the container and its upper edge is curled inwardly, as at 4, over the extreme edge of the body 1. The extreme upper edge of the metal band 3 is bent inwardly until it is forced into the inner surface of the fiber wall of body portion 1, as indicated at 5. After the metal band 3 is applied to the body portion, both the band and the body portion are bent simultaneously to form an external continuous groove 6 and an inwardly projecting continuous rib or sholder 7. Thus, it will be apparent that the metal band 3 will reinforce the end of the fiber body portion. Furthermore, the metal band 3 is applied to the body portion in such a manner that there will be no danger of its coming off the body portion.

The metal cover 2 comprises a central disk-like portion 8. At the edge of this portion an annular rib 9 is formed in the cover. This rib 9 is connected by means of a downwardly extending and outwardly inclined portion 10 to an inner annular flange 11. This flange 11 is so formed that it has a vertical portion 12 adapted to contact with the inner surface of rib 7 and a horizontal portion 13 adapted to contact with

the horizontal upper portion of the rib. The flange 11 extends around the upper end of the body of the container and is spaced therefrom, as indicated at 14, and is connected to an annular depending peripheral outer flange 15. This flange 15 has a beaded inwardly extending portion 16 on its lower edge adapted to snap into the external groove 6, when the cover is positioned on the upper end of the container, in order to retain the cover in position. In order to facilitate flexing of the flange 15 outwardly, as indicated in Figure 3, when positioning the cover on the container, the flange 15 is slit at circumferentially spaced intervals, as indicated by the numeral 17 in Figure 2. When the cover is positioned on the container, it will be apparent that the beaded edge 16 will frictionally engage the band 3 and the flange 15 will be flexed outwardly, until the bead 16 snaps into the groove 6. The bead 16 is at such a vertical position relative to the portion 13 of the inner flange 11 that the portion 13 will rest on rib 7 when the bead 16 snaps into the groove 6. The portion 13 will be held firmly on the rib 7 due to cooperation of bead 16 with the groove 6. It will be noted that the upper wall or shoulder 18 of the groove with which the bead 16 cooperates is substantially horizontally disposed. The container will be effectively sealed by contact of the portions 12 and 13 of the cover with the rib 7. It will be noted that the annular rib 9 of the cover is higher than the point 14 of the cover. Therefore, if the container is turned upside down or if another container is stacked on it, a force will be exerted on rib 9 which will tend to force portion 12 more firmly into contact with rib 7. The rib 7 will prevent inward movement of the cover while the bead 16 cooperating with shoulder 18 will prevent outward movement of the cover.

Formation of the rib 7 will provide a resilient chime structure which will withstand the shocks to which it is subjected. A force transmitted to the outer end of the container will merely cause the walls of the groove 6 to approach each other and will be absorbed without injury to the container. In fact, this will also force the inner surface of the rib 7 into more firm contact with portion 12 of the container. Any force applied to the portion 14 of the cover will also force portion 13 into more firm contact with the rib 7.

For some uses it may be desirable to provide a split contractible metal ring 19 in surrounding relationship to the flange 15 to prevent outward flexing thereof for removal of the cover. This locking ring 19 has an upper edge 20 which extends around the portion 14 of the cover and has a lower edge 21 which extends beneath the bead 16 of the cover. A suitable locking device may be provided at the adjacent ends of the split ring for contracting the ring and locking it in position. This locking device may be similar to that disclosed in the patent to Harry A. Scott, No. 2,236,302, issued March 25, 1941.

The bead 16 of Figure 1 is formed by bending the flange inwardly substantially at right angles, as at 22, and then curling the metal outwardly. However, the bead may be formed as indicated at 16*a* in Figure 4 where it is merely curled inwardly and upwardly.

It will be apparent from the above description that the cover may be readily slipped into position on the container and will be locked thereon automatically by snapping of the bead 16 into the external groove. Furthermore, the cover may be easily removed by flexing the flange 15 outwardly to permit withdrawal of the bead portion 16 from the groove. In normal use, the cover will be held on the container by the engagement of the bead with the groove. However, for some uses, it may be desirable to employ the ring 19 as an additional means for locking the cover in position. The container will be very effectively sealed by this cover.

Various other advantages will be apparent from the preceding description, the drawing and the following claims.

Having thus described my invention, what I claim is:

1. A container structure comprising a cylindrical body formed from fibrous material or the like, an annular metal band for reinforcing an end portion of said body in which said end portion has a vertical outer face, said end portion and said band being pressed inwardly to provide a continuous internal rib and a continuous external groove located at a point spaced from one extreme end of said body, said rib having a substantially horizontal annular sealing surface and a substantially vertical annular sealing surface formed thereon, the end portion of said body and said reinforcing band together providing a substantially horizontal upper defining wall for said continuous external groove, and a removable metal cover positioned on the said extreme end of the body and having an inner depending annular flange, said flange having a substantially horizontal sealing portion resting on the horizontal sealing surface of said rib and a substantially vertical annular sealing portion contacting the vertical sealing surface of said rib, said cover having a substantially U-shaped portion extending around said extreme end of the body and extended downwardly over the vertical outer face of said body end portion to provide a vertically disposed external annular flange embracing said vertical outer face and having an annular bead formed at its terminal end, said bead being adapted to snap into place within said continuous groove and into gripping relation with the upper defining wall of said groove to maintain said cover in position upon said cylindrical body, said external flange and bead having circumferentially spaced slits formed therein, said removable cover also having a centrally disposed disk-like portion provided with a depending annular flange merging with the lower end of said inner annular flange and an upstanding force receiving and transmitting annular bead formed therein and projecting beyond the upper surface of said disk-like portion and the other portions of said removable cover.

2. A container structure according to claim 1 wherein a split contractible locking band having upper and lower inturned flanges is disposed in surrounding gripping relationship to said external cover flange and wherein said lower inturned locking band flange contacts and embraces the annular bead formed on said external cover flange.

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