Dec. 22, 1942. H. A. SCOTT 2,306,255

CONTAINER STRUCTURE

Filed Oct. 22, 1940

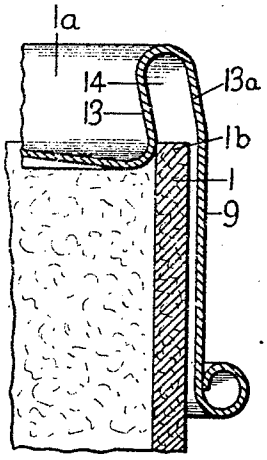


Fig. 1

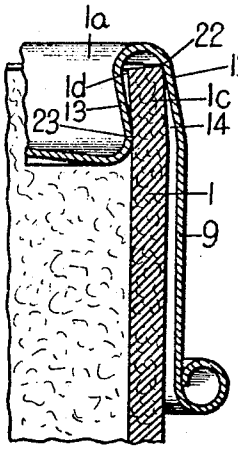


Fig. 2

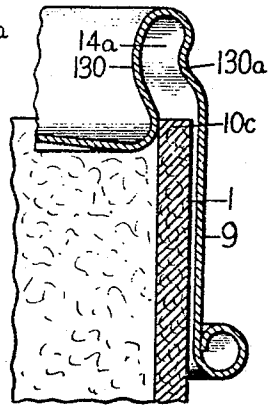


Fig. 3

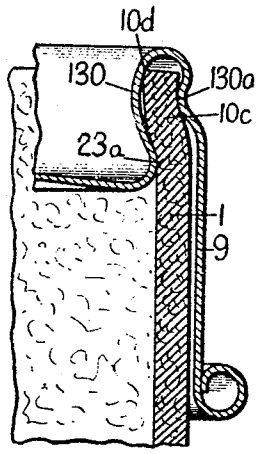


Fig. 4

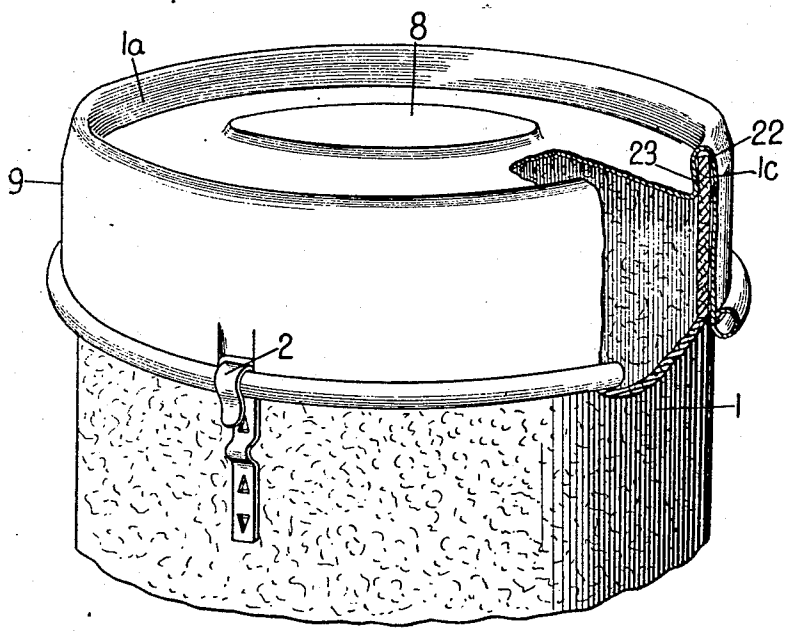


Fig. 5

INVENTOR
Harry A. Scott.
BY Corbett & Mahoney
ATTORNEYS

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CONTAINER STRUCTURE

Harry A. Scott, Van Wert, Ohio, assignor to Hans A. Eggers, Van Wert, Ohio

Application October 22, 1940, Serial No. 362,255

4 Claims. (Cl. 229—5.5)

My invention relates to a container structure. It has to do, more particularly, with a container structure of the general type disclosed in the patent to Hans A. Eggerss, No. 1,815,970, which issued July 28, 1931.

One of the objects of my invention is to provide a container structure of the general type indicated which has a novel type of end structure of such a nature that a very effective and sift proof seal will be obtained.

Another object of my invention is to provide a container end structure of such a nature that when the closure member is applied to the end of the container, the seal will be obtained automatically.

Another object of my invention is to provide a container end structure of such a nature that the closure member will tend to remain in position when it is once positioned on the container.

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 vertical sectional view taken through the upper portion of a container made according to my invention, showing the cover member being positioned on the container.

Figure 2 is a similar view but showing the cover member in its final position.

Figure 3 is a view similar to Figure 1 but illustraitng a modification of my invention.

Figure 4 is a view showing the structure of Figure 3 after the cover member has been forced into its final position.

Figure 5 is a perspective view, partly broken away, of the upper end of a container in which my invention has been incorporated.

With reference to the drawing, in Figure 5 I have illustrated a container which in its general structure is substantially the same as that disclosed in Patent No. 1,815,970. It comprises a body portion 1 of tubular form which may be open at one or both ends. This body portion 1 is preferably made of fiber board, paper board, strawboard or similar material. The end of the body portion is adapted to be closed by a metallic closure member 1*a*. This closure member 1*a* comprises a disk-like portion 8 having a peripheral flange 9 extending downwardly substantially at right angles thereto. The disk-like portion 8 is connected to the flange 9 by means of an annular substantially vertical portion 13. Between the portion 13 and the upper portion of the flange 9 is formed an annular groove 14 which is adapted to receive the upper end of the body portion 1. The closure member 1*a* is held in position on the container by means of securing means 2 of the type disclosed in said patent. The structure described thus far is substantially the same as that disclosed in said patent.

It will be noted from Figure 1 that the section 13 of the closure member is bent inwardly. Also, a section 13*a* of the flange 9 is similarly bent inwardly in substantially parallel relationship to the section 13. Consequently, the vertical annular groove 14 extends slightly inwardly towards the center of the container structure at an angle to the vertical wall of the body portion 1. Thus, as indicated in Figure 2, when the closure member 1*a* is forced downwardly on the body portion 1, the outermost corner 1*b* of the upper edge of the wall of the body portion 1 will engage the outer wall 13*a* of the groove, the wall 13*a* serving as a cam or inclined plane which will bend and direct the upper section 1*c* of the wall of the body portion inwardly. The wall of the body portion will be comparatively resilient and there will be a tendency for the section 1*c* to spring back into vertical position. Consequently, there will be a very tight seal formed at the points 22 and 23.

It will be apparent that with this structure a very effective and sift proof seal will be obtained automatically at the points 22 and 23 merely by forcing the closure member 1*a* downwardly into position on the container. Furthermore, because the inner corner 1*d* of the upper edge of the wall of the body portion has been moved inwardly beyond the point 23, the closure member will be automatically held in position on the container and considerable positive force will be required to remove it.

In Figures 3 and 4, I have illustrated a modification of my invention. In this instance the groove 14*a* extends inwardly at an angle as before. The inner wall 130 of the groove is curved inwardly. The outer wall has a rib 130*a* formed therein which projects into the groove 14*a*. It will be apparent that when the closure member is forced into position, the upper portion 10*c* of the container wall will be bent inwardly. The wall will be wedged between the points 23*a* and the inner surface of the rib 130*a*. Thus, there will be effective seals at these two points. Also, the inner corner 10*d* of the upper edge of the wall of the body portion will be forced into tight contact with the inner wall 130 of the groove 14*a*. Consequently, there will also be an effective seal at this point. The rib 130*a* will be forced into the outer surface of the wall of the body portion. Consequently, it will serve to lock

the closure member in position on the container.

It will be apparent from the above description that I have provided a closure end structure having many advantages. A number of important advantages have been discussed and others will be apparent.

Having thus described my invention, what I claim is:

1. A container structure comprising a cylindrical body portion of fiber board or the like having an open upper end, the wall of the open upper end of the body portion being preformed into annular form and being normally substantially vertically disposed, a preformed closure member adapted to be applied removably to said open upper end, said closure member being formed of substantially rigid metal and comprising a central disk-like body portion and a peripheral depending substantially vertically disposed annular skirt, said disk-like portion and said annular skirt being joined by an annular portion which is of substantially inverted U-shape in cross-section having spaced inner and outer walls which extend inwardly toward the center of said fiber body portion at an angle relative to said wall of the open upper end of said fiber body portiton, the lower end of said inverted U-shaped portion being in substantially the same plane as that in which the upper edge of said end of the fiber body portion is normally disposed and the upper end of said inverted U-shaped portion being spaced inwardly from said plane so that as the closure member is forced downwardly on said end of said body portion and said end is forced into said inverted U-shaped portion the wall of said end of said fiber body portion will be distorted inwardly, thereby causing the outer surface of the upper portion of said wall to contact with the outer wall of said inverted U-shaped portion adjacent its upper end and the inner surface of said wall of the fiber body portion to contact with the inner wall of said inverted U-shaped portion at a point adjacent the lower end thereof.

2. A container structure according to claim 1 wherein said inner wall of said inverted U-shaped portion is also curved inwardly and wherein the outer wall of said portion has an inwardly projecting rib formed therein.

3. A container structure comprising a body portion of fiber board or the like having an open end, the wall of said open end being preformed and normally being substantially vertically disposed, a preformed closure member adapted to be applied removably to said open end, said closure member being formed of metal or similar rigid material and being provided with a substantially vertically disposed continuous groove for receiving the end of the body portion, the walls of said groove extending inwardly towards the center of said body portion at an angle relative to the wall of said body portion, the lower end of said groove being in substantially the same plane as that in which the upper edge of said end of the fiber body portion is normally disposed and the upper end of said groove being spaced inwardly from said plane so that as the closure member is forced downwardly on said end of said body portion and said end is forced into said groove the wall of said end of said fiber body portion will be distorted inwardly.

4. A container structure according to claim 3 wherein the inner wall of the groove is also curved inwardly and wherein the outer wall of the groove has an inwardly projecting rib formed therein.

HARRY A. SCOTT.

CERTIFICATE OF CORRECTION.

Patent No. 2,306,255. December 22, 1942.

HARRY A. SCOTT.

It is hereby certified that error appears in the above numbered patent requiring correction as follows: In the grant, lines 2 and 12, and in the heading to the printed specification, lines 3 and 4, name of assignee, for "Hans A. Eggers" read --Hans A. Eggerss--; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 2nd day of February, A. D. 1943.

Henry Van Arsdale,
Acting Commissioner of Patents.

(Seal)