Sept. 28, 1937. E. P. HERRMANN 2,094,241

PAPER CONTAINER

Filed Sept. 17, 1936

Fig. 1

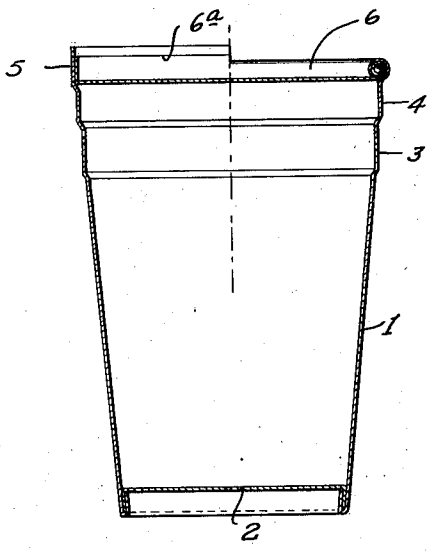
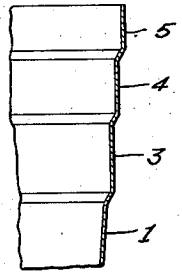


Fig. 2.



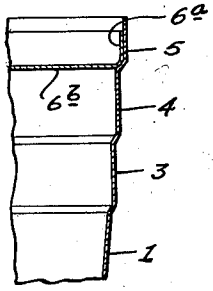


Fig. 3.

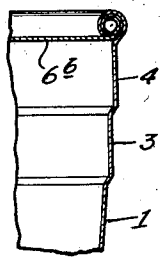


Fig. 4.

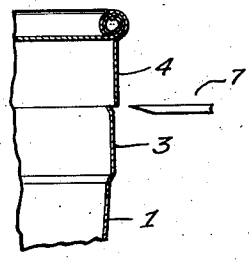


Fig. 5.

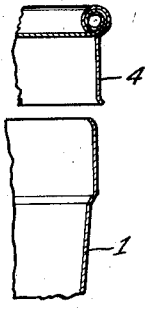


Fig. 6.

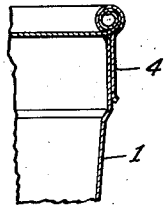


Fig. 7.

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Patented Sept. 28, 1937

2,094,241

UNITED STATES PATENT OFFICE

2,094,241

PAPER CONTAINER

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Application September 17, 1936, Serial No. 101,240

1 Claim. (Cl. 93—39.1)

The invention herein disclosed relates to paper containers and containers of like material of the type which are provided with a slip-over lid or cover. Particularly, the invention relates to a method for making a container of this type and the slip-over cover therefor and comprehends the container formed by the method.

A slip-over lid or cover of the type referred to herein consists of a closure member or disc and a side wall or flange, generally at right angles to the closure member. The flange may vary in size but its purpose is to retain the cover on the container by frictional engagement with the side of the container. Heretofore, the containers and these slip-over covers have been manufactured separately and in addition to the fact that the cost of manufacturing the covers when made in the usual way equals the cost of manufacturing the containers, difficulty is encountered in the variations in the stock between the container and the covers which renders it difficult to secure an accurate and tight fit of the cover on the container.

It is an object of this invention to provide a method of manufacturing such paper containers and slip-over lids or covers therefor, such that there may be a positive control of the fit of the lid on the container. In addition, the invention provides a container and slip-over lid that is cheaper to manufacture and that has the advantage that the stock of the container and the lid match in texture and color of material.

By this invention, the flange of the slip-over lid is formed as an integral part of the wall of the container and after the wall of the container is formed the added portion to form the flange of the slip-over lid is severed. The end closure member of the slip-over lid may be inserted and sealed before the lid is severed from the container or after it is severed from the container. The operations of inserting the closure member and severing the lid may, if desired, be performed at the machine in which the container is filled. When performed at the filling machine, the lid can, of course, be placed on the filled container such that there is a perfect match of printing matter on the lid and container.

The several steps in the method and a container formed in accordance with the method are illustrated in the accompanying drawing in which:

Fig. 1 is a sectional elevation of a container embodying the invention; the left half illustrating the container before the lid is completed, and the right half illustrating the completed container and lid; and

Figs. 2 to 7 inclusive are fragmentary sectional elevations illustrating the several steps in the method of making the container illustrated in Fig. 1.

The container illustrated in Fig. 1 has a side wall which includes a frusto-conical section 1 in the smaller end of which there is sealed a closure member 2 that forms the bottom of the container. The upper end of the container wall has three integral, cylindrical sections 3, 4 and 5, each of which is slightly larger in diameter than the contiguous inner section. The outer section 5 receives a cup-shaped closure member 6 which is inserted in the inverted position and abuts against the shoulder between the sections 4 and 5. The flange 6*a* of this closure member is rolled with the section 5 as shown at the right side of the center line of Figure 1.

In making the container, the side of the container is rolled to form the frusto-conical section 1 and integral therewith the cylindrical sections 3, 4 and 5 as shown in Figure 2. The section 4 is such that the inner diameter thereof is equal to, or substantially so, the outer diameter of the section 3, and the inner diameter of the section 5 is substantially the same as the outer diameter of the section 4. Next the closure member 6 is inserted such that the disc 6*b* rests on the shoulder between the sections 4 and 5 and the flange 6*a* lies along the inner surface of the section 5 as shown in Figure 3. The section 5 and the flange 6*a* of the closure member 6 are rolled together as shown in Figure 4, and the slip-over lid consisting of the section 4 and the closure member 6 is formed. The next operation is the severing of the lid which as shown in Figure 4 is integral with the container. This is done by a cutter 7 (Figure 5) applied to the container at the junction of the sections 3 and 4, preferably while the container is being rotated about its axis. Figure 6 shows the severed slip-over cover above the mouth of the container, the section 4 of the container now constituting the flange of the cover. In Figure 7, the cover is shown in place on the container. The fit is perfect because the flange of the cover and the container are made from the same material.

As stated heretofore, the steps of the method herein described may be varied in the order in which they are performed and obviously in the manner in which they are performed. The container may be treated as by coating or waxing or printing before or after the section 4 is severed,

but preferably before. The container illustrated in the drawing is of the type known as a nested container, but the invention is equally applicable to convolute wound cylindrical and other types of containers.

I claim:

The method of making a paper container and a slip-over lid therefor, which method includes forming a container having a wall with a frusto-conical section and two cylindrical sections at the larger end of the conical section, the outer cylindrical section being slightly larger in diameter than the inner cylindrical section, and severing the outer cylindrical section to form the flange of a slip-over lid.

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