June 8, 1926.

1,587,544

A. MOORE

PAPER CONTAINER

Original Filed Oct. 12, 1921

Fig. 1.

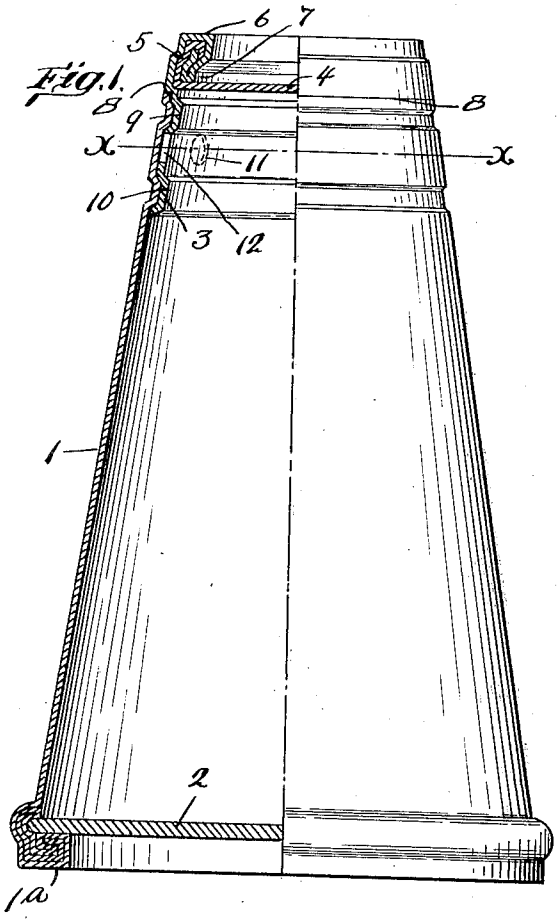
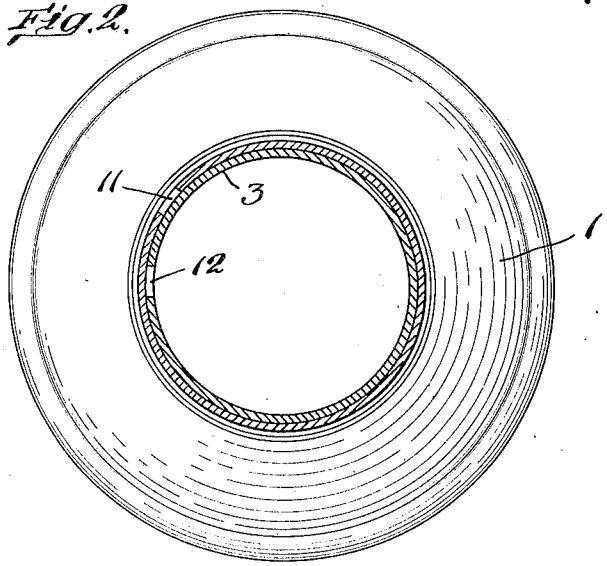


Fig. 2.



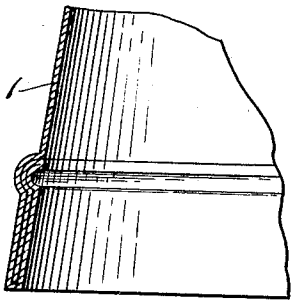


Fig. 3.

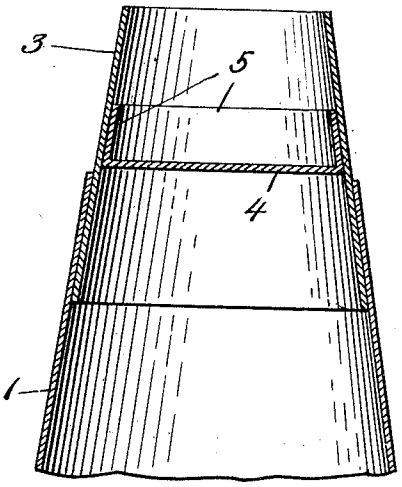


Fig. 4.

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UNITED STATES PATENT OFFICE.

ARLINGTON MOORE, OF BOSTON, MASSACHUSETTS.

PAPER CONTAINER.

Application filed October 12, 1921, Serial No. 507,371. Renewed September 17, 1925.

This invention particularly relates to that class of paper containers which are more especially designed to be filled with liquids, as milk, and to be destroyed when emptied, and which are provided with a top or cap having a swivel connection with the main body of the container, to permit the same to be turned to open a discharge port through which the container may be emptied.

The present invention has for its object to provide a form of container which is adapted to be compactly nested with others of similar shape, and to provide a construction which is capable of being rapidly produced by automatic machinery, and which will answer all requirements as to durability and tightness of the joints.

I accomplish these objects by the means illustrated in the accompanying drawings in which:

Fig. 1 is a side elevation, partly in longitudinal, central section, of a preferred embodiment of this invention.

Fig. 2 is a cross-sectional view at line X—X of Fig. 1.

Fig. 3 is a detail sectional view of the bottom rim before the bottom is placed in position.

Fig. 4 is a detail view illustrating the manner of assembling the parts of the container cap.

As shown in the drawing, the side-wall 1 of the container tapers uniformly from its bottom to its top, and its bottom portion is inwardly folded, preferably in the manner disclosed in my pending application, Serial #454,770, and the folds are pressed together to form a re-inforced multi-ply rim 1^a. This rim is moulded to form an internal groove adapted to receive a bottom 2 of stiff pulp board.

In the formation of the closure for the top of the container, I provide a conical shell 3 which is open at both ends and has the same angle of taper as the side-wall 1, and which, when inserted through the larger end of the container, will seat against the interior thereof, throughout what may be considered its neck portion, and will extend beyond the end of said neck portion, a suitable distance, as illustrated in Fig. 4. A cap piece or end wall 4 is provided, having an edge-flange 5 formed thereon, the external diameter of which corresponds to the internal diameter of the conical shell 3, in the portion thereof which extends beyond the smaller end of the side-wall. Said cap piece is inserted in the shell 3, as shown in Fig. 4, and then, by means of certain forming tools and dies, exteriorly and interiorly applied, the end portion of the shell 3 and the flange 5 are folded together and the folds pressed into close contact, to form a solid rim 6 and a liquid-tight connection between the shell 3 and the cap 4. The construction is such that the forming tools may be simultaneously operated at each side of the cap 4 against the interior surfaces, in conjunction with the tools which operate on the exterior. These forming tools operate to form an internal recess 7 in the rib, and, at the same time, to press the folds outwardly so as to form a shoulder 8, which engages the extreme end of the side-wall, or neck portion, and to form a pair of inwardly extending, annular grooves and complemental ribs 9 and 10 in the side wall and shell 3, a swivel connection being thereby provided between the cap and side-wall. A discharge opening 11 is formed in the side-wall between said ribs 9 and 10, and a similar opening 12, similarly located, is formed in the shell 3, so that said apertures may be brought into register by rotation of the cap, to permit the discharge of the contents of the container, and may be carried out of register so as to close the same.

The above described container is designed to be delivered to the consumer for filling, with the swivel cap formed thereon, as shown in Fig. 1, and the bottom rim 1^a in the form shown in Fig. 3. In this form, similar containers may be closely nested, the beveled shoulder 13 of one bearing against the internal rib 10 of another, when in nested position. All the portions of the exterior of the container are flush, except at the bottom rim, and this portion of one will be held outside the bottom end of the other, in which it may be nested.

The container is designed to be filled through its bottom end, while in inverted position, and, after filling, the bottom 2 is inserted in its groove and, by means of a suitable implement, or machine for the purpose, the bottom rim 1^a is bent inward and pressed firmly down against the bottom 2, as shown in Fig. 1, so that the bottom will be tightly closed. After the bottom rim has been pressed into this position it can only be displaced with difficulty, and displace-

ment will, in most instances, result in such damage thereto as to make it impractical to re-seal it at the bottom. That is, after the container has been emptied through the discharge port, it will be impractical to refill it, so that the container will ordinarily be destroyed after having been filled once.

I claim:

1. A paper container having its neck portion continuous with its side wall and tapering from its bottom end, a closure for said neck comprising a conical shell seated against the interior surface of said neck throughout the length thereof, extending therebeyond and having a shoulder arranged to engage the end of the neck, whereby said shell is held against longitudinal movement relative to the neck and is adapted to be moved rotatably therein, an end wall located in said shell and having an edge flange extending outwardly therefrom, said edge flange and the end portion of said shell beyond said shoulder being inwardly folded and pressed together to form a tight joint and a re-inforcing rim, and the contacting portions of said neck and shell each having a discharge port arranged to be brought into and out of register upon relative rotation thereof.

2. A paper container having its side-wall and neck portion extending continuously and tapering from bottom to top, a correspondingly tapering shell seated against the interior surface of said neck portion throughout the length thereof, and having an extended portion provided with a shoulder arranged to engage the end of said neck to hold said shell against longitudinal movement therein and permit relative rotation thereof, an end wall located in said shell and having an edge flange extending outwardly therefrom, said flange and extended shell portion being inwardly folded and pressed together to form a tight joint and a reinforcing rim, and said shell and neck portion having annular, inwardly extending, complemental grooves and ribs and correspondingly disposed discharge ports adapted to be brought into register to permit discharge of the contents of the container.

In testimony whereof, I have signed my name to this specification.

ARLINGTON MOORE.