J. PETERSON.

FIBER BOARD CONTAINER.

APPLICATION FILED JULY 10, 1915.

1,212,147. Patented Jan. 9, 1917.

Fig. 1.

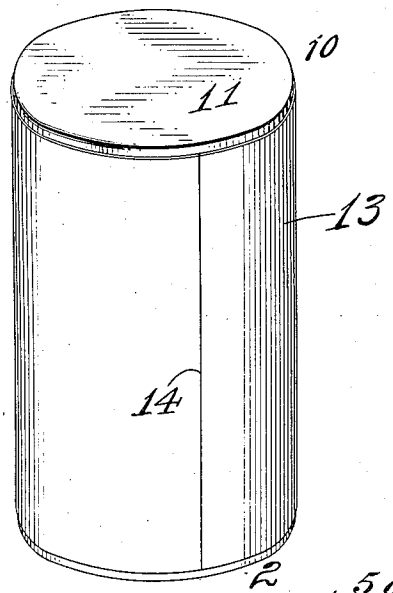


Fig. 2.

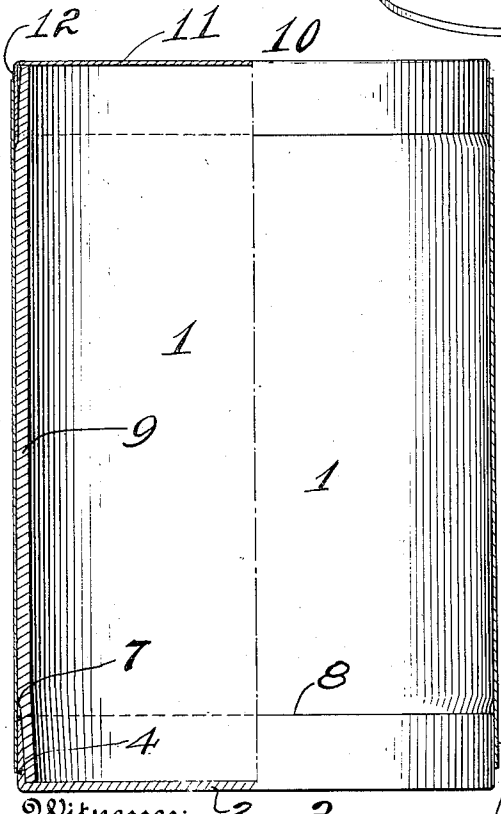
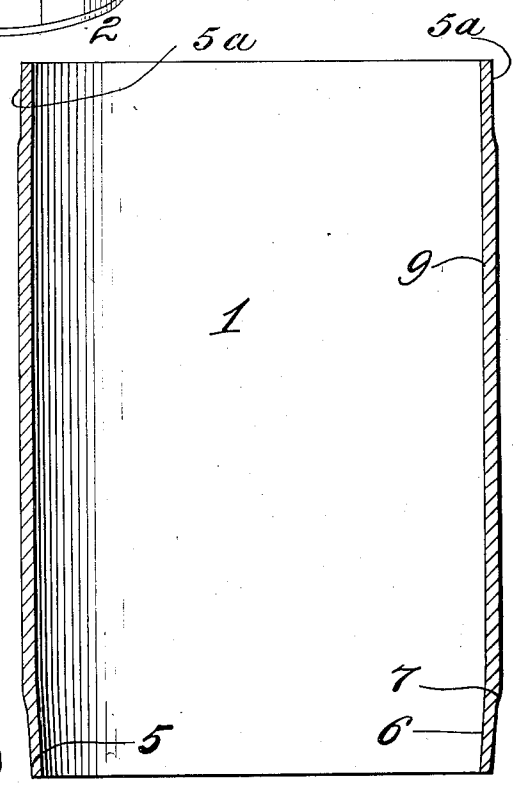


Fig. 3.



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Inventor
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UNITED STATES PATENT OFFICE.

JONATHAN PETERSON, OF BROOKLYN, NEW YORK, ASSIGNOR TO COMBINATION MACHINE COMPANY, A CORPORATION OF DELAWARE.

FIBER-BOARD CONTAINER.

1,212,147. Specification of Letters Patent. Patented Jan. 9, 1917.

Application filed July 10, 1915. Serial No. 39,150.

To all whom it may concern:

Be it known that I, JONATHAN PETERSON, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Fiber-Board Containers, of which the following is a specification.

This invention relates to containers or receptacles, and while certain features of the invention may be applicable to containers of different kinds, the invention has been described, by way of illustration, and is particularly useful in connection with cylindrical containers made of fiber board.

Fiber board containers usually have end caps which close the opposite ends thereof, one of said caps usually being immovably attached to an end of the container and the other being removably applied. These end caps generally have flanges engaging over the ends of the cylindrical body of the container. As usually constructed, the flanges of the end caps, when applied to the container, project beyond the side wall thereof at the opposite ends of the container; that is to say, the outer peripheral faces of the end flanges usually lie in a plane beyond the plane of the outer face or wall of the container, and obviously, the heavier the stock from which the end caps are made, the greater will be the projection of the flanges.

In some instances, as where the container has a flanged fiber board cap at one end and a flanged metal cap at the other end, owing to the difference in the thickness of the material of the said caps, the flange at one end will project beyond the outer wall of the container a greater distance than the flange at the other end; or in other words, the flanges will lie in different planes, and these planes will be different from or beyond the plane of the outer wall of the container. In applying a circumferential label to such a container, particularly when the container is a relatively short one, the label not only tends to apply itself askew, but it is practically impossible to apply the label smoothly and without wrinkles, because of the gaps produced between the circumferential edges of the caps and the outer edges of the side wall of the container, due to the flanges of the caps lying in a plane or planes different from the plane of the outer wall surface of the container. This is because one end of the label is being applied around a larger diameter than the other. The label which has a coat of adhesive material on one face thereof is applied at one end to the side of the receptacle and is then wrapped around it. The difference in diameter at the ends of the container causes the label to assume a skewed position, and when the free end is finally brought against the side of the receptacle, its side edge projects beyond the end of the container. When the labels are applied by hand, the operator must first fold over and tuck in this projecting edge, and this operation not only causes a considerable waste of time but often results in a poorly appearing receptacle.

In another class of containers of the type referred to, as for instance, where both of the end caps are made of fiber board cups having circumferential flanges which surround the opposite ends of the container, owing to the thickness of the stock from which the cups are made, the outer peripheral walls of the flanges at the opposite ends of the container will lie in a plane beyond the plane of the outer wall of the container. It is practically impossible to smoothly and neatly apply an encircling band or label to such a container, where it is desired to have the edges of the label encircle at least a portion of the end flanges, because of the gaps resulting by reason of the projections formed by the end flanges, the invariable result being much wrinkling of the band or label along and adjacent to the circumferential lines at the end of the flanges of the end caps. The ultimate result, therefore, is an unsightly appearing receptacle in so far as concerns its external wrapper appearance.

One of the objects of this invention is to overcome these difficulties and to produce a container especially adapted to receive such a label in a smooth, neat and even manner, and wherein no wrinkles will appear.

The invention is particularly useful for packages or containers of cylindrical form which must necessarily be inexpensive and which at the same time are repeatedly opened and closed while their contents are being consumed. One well known type of container falling within this class is that now commonly employed as a package for tobacco and snuff, and which is of relatively short cylindrical form having a fiber cap at one end and a metal cap at the other end. While it is desirable, for the sake of econ-

omy, to form such boxes of box board or fiber, difficulties arise in employing this material as the covers have a tendency to become loose before the contents of the box or receptacle have been consumed. Such containers embody heads having flanges and it has been found in practice that if one of the heads is made removable, the flange loses its holding power and becomes loose. If such a flange is made to fit tightly, it can not be readily replaced after having been once removed. The tendency of such a cover to become loose impairs the effectiveness of the container as a receptacle for many substances, and particularly such as should be maintained out of contact with the atmosphere.

A principal object of the present invention is to produce a container which is very simple in construction and inexpensive to manufacture but which will operate effectively as a container.

Further objects of the invention will appear more clearly hereinafter.

The invention consists in the features and details hereinafter described, all of which contribute to produce an efficient container.

A preferred embodiment of my invention will be particularly described in the following specification, while the broad scope of my invention will be pointed out in the appended claim.

In the drawings, Figure 1 is a perspective showing a container of the type referred to. Fig. 2 is a vertical section through the container illustrated in Fig. 1. Fig. 3 is a vertical section through the cylindrical shell of the container and showing the same removed from the other parts of the container.

Referring more particularly to the parts, 1 represents the body of the container which is preferably in the form of a substantially cylindrical shell open at both ends. The bottom head 2 preferably consists of a fiber disk 3 having an integral marginal flange 4. In order to facilitate the application of this head 2 to the shell 1, by machinery, I prefer to form the end of the shell with a slightly reduced neck or conical part 5 (see Fig. 3) which forms a seat receiving the flange 4; and the inner face of the flange 4 is also preferably slightly conical to correspond with the inclination of the conical seat 5 of the shell. These conical necks or seats 5 are very readily formed in the shells by machinery by pressing one end of a plain cylindrical shell between properly formed dies. Pressing the ends of the shells in this way may produce a slight inward offset or shoulder 6 on the inner side of the shell, as indicated, and may also result in producing a slight shoulder 7 on the outer side of the shell above which point the shell is preferably of uniform diameter. By so compressing the material at the ends of the shell, I not only produce end portions or necks which are of less thickness than the main body of the shell, but I avoid the necessity of removing any of the material at such end portions and thus obviate the weakening of the shell ends which would result if the reduced necks were formed by rabetting or cutting away the material, as is the usual practice. The shells 1, and the heads 2 are preferably formed of some inexpensive non-metallic substance such as fiber or cardboard, and the flange 4 preferably tapers slightly and thus decreases in thickness toward its edge 8.

When the bottom head 2 is placed in position it is permanently attached to the shell preferably by means of an adhesive applied between the inner face of the flange and the conical neck or seat 5 of the shell. The flange 4 is preferably of substantially uniform external diameter and when the bottom head is in place or seated as shown, the outer face of this flange is substantially in line with or in the plane of the outer cylindrical face 9 of the body portion of the shell, as more clearly shown in Fig. 2. The upper end of the shell which may also be reduced, more or less, as at 5^a, is normally closed by a removable head or cap 10 which may be of fiber board as in the case of the cap 3 or it may be made of metal in the form of a disk 11, having an integral cylindrical flange 12. This flange is of suitable diameter to slip easily over the shell and yet fit closely and neatly to the shell so as to be readily removed and applied. This cap 10, when made of metal, is very thin, and hence the upper end of the shell at 5^a need not be contracted or reduced to the same extent as it would be if a fiber cap were employed, the only consideration, in so far as the character of the reduced neck is concerned, being that it shall be reduced sufficiently to bring the outer cylindrical surface of the flange of the cap in a plane lying substantially in the plane of the outer circumferential wall of the container 9. When the cap 10 is of metal, it retains its shape and can be removed and re-applied to the container as often as desired, and it will always fit neatly and make a substantially tight closure for the upper end of the container.

A container constructed as herein described is particularly adapted for having an adhesive label applied neatly and smoothly to it, such as the label 13, Figs. 1 and 2. These labels are of elongated form when the shells of the containers are relatively short, and the labels are applied so that the longitudinal axis of the label extends circumferentially around the shell of the container. By reason of the inward offset or reduced necks at the ends of the shell which facilitate the manufacture of the

boxes, another desirable effect arises in connection with the labeling of the boxes, consisting in this, that the lines along which the upper and lower edges of the labels are wrapped are of equal length. This is due to the fact that the outer circumferential wall surfaces lie in substantially the same plane as the outer circumferential wall surface of the shell; this being true with containers constructed in accordance with the present invention, whatever may be the material from which the end caps are made. Were this not the case, the label would not register neatly nor would the ends meet squarely and the result would be an unsightly application of the label. Furthermore, if the flanges of the end caps should project appreciably beyond the plane of the outer circumferential wall of the container, then circumferential shoulders would result at the opposite ends of the container, and where such shoulders are present, it is practically impossible to apply a label without the presence of wrinkles. However, with the container constructed as herein described, the ends of the label may be made to abut neatly along a single line as 14, Fig. 1, while the label registers nicely on the side wall of the container. Inasmuch as the adhesive label 13 does not adhere well to the flange of the metal cap 10, when such a cap is employed, this enables the upper part of the label to be removed with greater facility, thereby exposing the flange so that it can be readily grasped to remove the cap.

I do not limit myself to the use of all the features of this invention together, but may employ the different novel features separately. It is also understood that the embodiment of the invention described herein is only one of the many embodiments or forms the invention may take, and I do not wish to be limited in the practice of the invention nor in my claim to the particular embodiment set forth. In the present case I have elected to claim that form of the invention wherein one end of the shell is reduced to a greater extent than the other, as in my co-pending application, Serial No. 85,542, filed Mar. 21, 1916, I have incorporated and reserved claims which are generic to the containers disclosed in such co-pending application and in the present case.

What I claim and desire to secure by Letters Patent is:

As a new article of manufacture, a container comprising a cylindrical shell of fiber board, the material at the end portions of the shell being compressed to provide necks of less thickness than the main body portion of the shell, one of said necks being reduced to a greater extent than the other, a flanged end-cap of fiber board having its flange fitted over and secured to that end of the shell having the neck of greater reduction, and a flanged metal cover removably fitted to the reduced neck at the other end of the shell, the outer peripheral faces of the said flanges at opposite ends of the shell lying in substantially the plane of the outer surface of the shell, whereby to provide a container having substantially the same cross-sectional diameter from end to end.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JONATHAN PETERSON.

Witnesses:
J. GRANVILLE MEYERS,
A. H. BUIRNEGHS.