

July 14, 1936.

D. H. SHAPIRO

2,047,804

FOLDING BOX

Filed Oct. 8, 1934

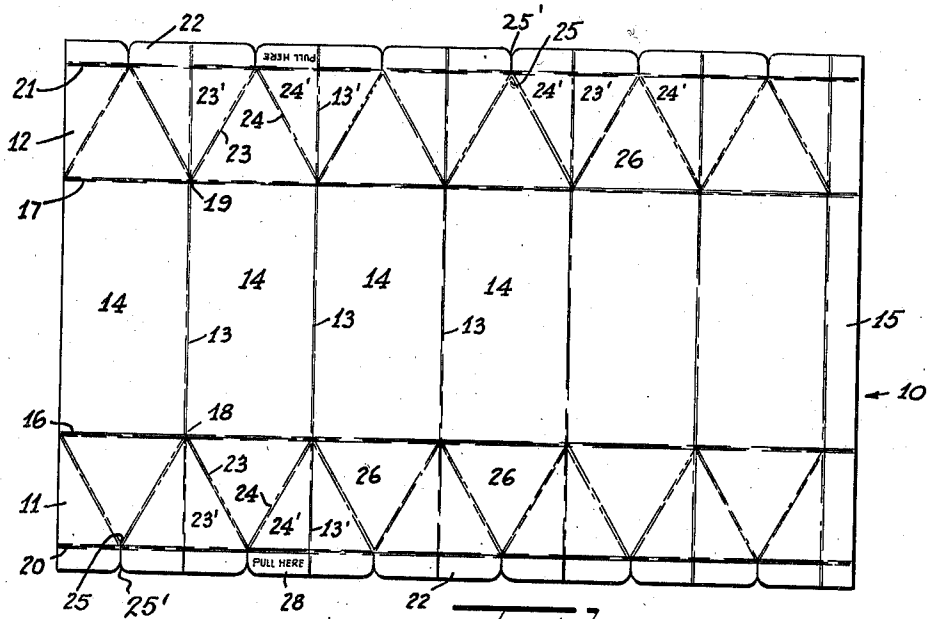


Fig. 1.

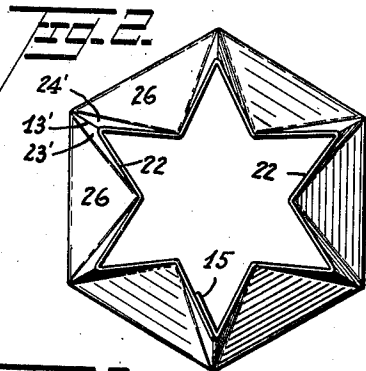


Fig. 2.

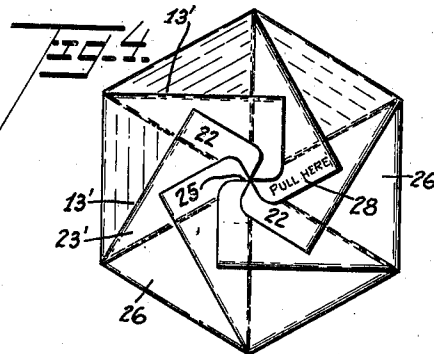


Fig. 4.

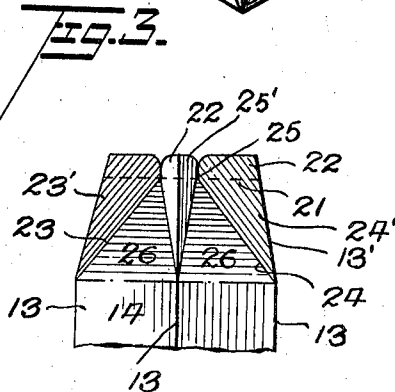


Fig. 3.

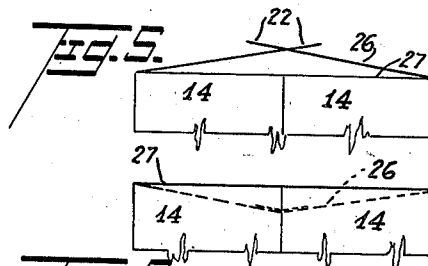


Fig. 5.

Fig. 6.

INVENTOR
David H. Shapiro.
Maxwell E. Shapiro
ATTORNEY

UNITED STATES PATENT OFFICE

2,047,804

FOLDING BOX

David H. Shapiro, Montreal, Quebec, Canada

Application October 8, 1934, Serial No. 747,381

4 Claims. (Cl. 229—37)

This invention relates to a collapsible container made of sheet material such as cardboard, etc. which is formed into a tubular body having both end extensions creased in such a way as to form a novel and tight closure.

One object of this invention is to provide improved means for fastening the end closing extensions against displacement.

Another object of this invention resides in the improved construction of the ends of such a container, which will effectively seal the container against leakage and at the same time permit easy operation of the opening and closing of the same.

Another object of this invention is to provide a box suitable for shipment of substances in powder form such as cleanser, soap, talcum as well as larger articles, such as hats, etc.

This invention accordingly consists in the features of construction, combination of parts and in the unique relations of the members and in the relative proportioning and disposition thereof; all as more completely outlined herein.

To enable others skilled in the art so fully to comprehend the underlying features thereof that they may embody the same by the numerous modifications in structure and relation contemplated by this invention, a drawing depicting a form of the invention has been annexed as a part of this disclosure, and in such drawing, like characters of reference denote corresponding parts throughout all the views, of which:—

Fig. 1 is a plan view of a blank employed in producing the container.

Fig. 2 is a top view of one end, after the container has been formed, the end being shown open.

Fig. 3 is a side elevational view of Fig. 2.

Fig. 4 is a similar view as Fig. 2, but illustrating the end of the container in the closed position.

Fig. 5 is a diagrammatic view of Fig. 4, with the folded ends in the position prior to the final closing location.

Fig. 6 is a diagrammatic view of Fig. 4, with the folded ends depressed past the neutral point and thereby remaining locked until pulled out again.

In the embodiment illustrated in Fig. 1, the body 10 and both end closing extensions 11 and 12, respectively, are made out of one rectangular blank of paper, cardboard or other suitable material capable of being bent to the required shape. The blank is scored along lines 13 to form body panels 14. The form illustrated is of a hexagon shape, but any polygon shape may be usefully applied. Along one end of the blank is a strip 15 used for pasting or otherwise securing the box

in the tubular shape. The top and bottom edges of panels 14 are defined by upper and lower score lines 16 and 17 intersecting the score lines 13 at 18 and 19, respectively. Score lines 20 and 21 form end tabs or flaps 22. End portions 11 and 12 are provided with diagonal score lines 23 and 24 which, when folded as in Fig. 4 provide the closing means.

Intersection point 25 of flap 22 and score lines 23 and 24 are the closing contact points. Triangular portions 26 form the real ends and are designed such, that the radius of the tube is slightly less than the length of the triangular piece 26, which will bring the same into the position as illustrated in Fig. 5, diagrammatically. This position is the closed, but not the locked position. Each of the extensions 11, 12 has its outer free end cut substantially intermediate or midway between the vertical score lines 13' which may provide a slit or notch 25' or shoulders which may have 20 rounded corners.

To lock the end, triangular pieces 26 have to be pushed downward, past the neutral line 27 into the position illustrated in Fig. 6. To open one end, pull on tab 22, which may be marked 25 as indicated at 28.

End portions 11 and 12 will look as shown in Fig. 2 when the tube end is open. Score lines 13' will permit portions 23' and 24' to fold closely and then push over sideways along score lines 23 and 24. The tabs will find their respective location automatically and the placing of each individually will not be necessary.

The notches or slits 25' permit the end extensions 11 to intersect with each other and the end extensions 12 to intersect with each other at the notches or slits to retain the said respective end extensions 11, 12 in their closing positions. The rounded corners of notches or slits 25' facilitate interlocking of the notches or slits when the blank is folded to provide a container.

The cut or cut-out (one embodiment of which is shown as the slit or notch 25') produces an abutment or abutments on each extension, the abutments being adapted, when the extensions are folded on the horizontal score lines beyond the neutral line, to cooperatively interlock to produce a closure.

While the seal of the ends as provided is tight and secure sufficiently as shown, it may be desirable at times to seal the ends with pasters or labels, which are not shown in the drawing.

It is believed from the above description that those skilled in the art will have no difficulty in understanding the construction, the method of

use and operation of the device herein disclosed and a detailed discussion thereof is unnecessary. The invention is of simple and practical construction and is adapted to accomplish among others all of the objects and advantages herein set forth.

Without further analysis, the foregoing will so fully reveal the gist of this invention that others can by applying current knowledge readily adapt it for various applications without omitting certain features, that, from the standpoint of the prior art, fairly constitute essential characteristics of the generic or specific aspects of this invention, and therefore, such adaptations should and are intended to be comprehended within the meaning and range of equivalency of the following claims.

I claim:

1. A foldable blank provided with a series of vertical score lines extending between its upper and lower edges, upper and lower horizontal score lines extending between the remaining edges, notches formed in each of the first-mentioned edges at points intermediate the vertical score lines and a diagonal score line extending from each notch to each adjacent intersection of the vertical and horizontal score lines, said notches having round corners to facilitate interlocking of the notches when the blank is folded to provide a container.

2. A container comprising a tubular structure presenting angularly related side panels of rectangular configuration and inwardly foldable end panels of similar configurations at opposite ends of each side panel, each end panel having a score line near its end forming an end tab, said tab having its outer transverse edge

notched at a point between its side edges, each of said end panels being provided with a diagonal score line extending from the notch to each one of the inner corners of said panel.

3. A foldable blank provided with a series of vertical score lines extending between its upper and lower edges, upper and lower horizontal score lines extending between the remaining edges, each horizontal score line forming with the vertical score lines end extensions between the latter, cuts formed in said first mentioned upper and lower edges at points midway between the vertical score lines, and a diagonal score line extending from each cut to each adjacent intersection of the vertical and horizontal score lines, said cuts permitting the said end extensions when folded together along score lines to intersect with each other at the said cuts to retain the said end extensions in closing positions.

4. A foldable blank provided with a series of vertical score lines extending between its upper and lower edges, upper and lower horizontal score lines extending between the remaining edges each horizontal score line forming with the vertical score lines, end extensions between the latter, abutments at said first-mentioned edges at points substantially midway between the vertical score lines, and at least one diagonal score line in each end extension extending from the abutment to an adjacent intersection of the vertical and horizontal score lines, said abutments being adapted, when the extensions are folded on the diagonal score lines and the horizontal score lines beyond the neutral line, to cooperatively interlock to produce a closure.

DAVID H. SHAPIRO.