

July 19, 1932.

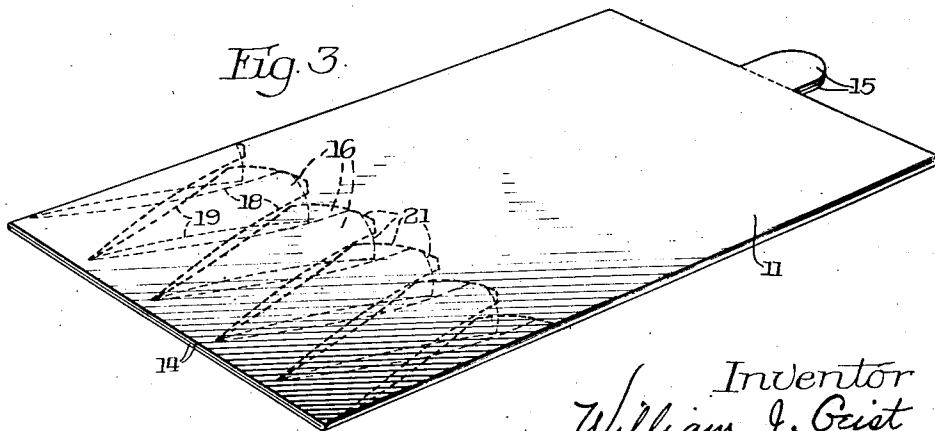
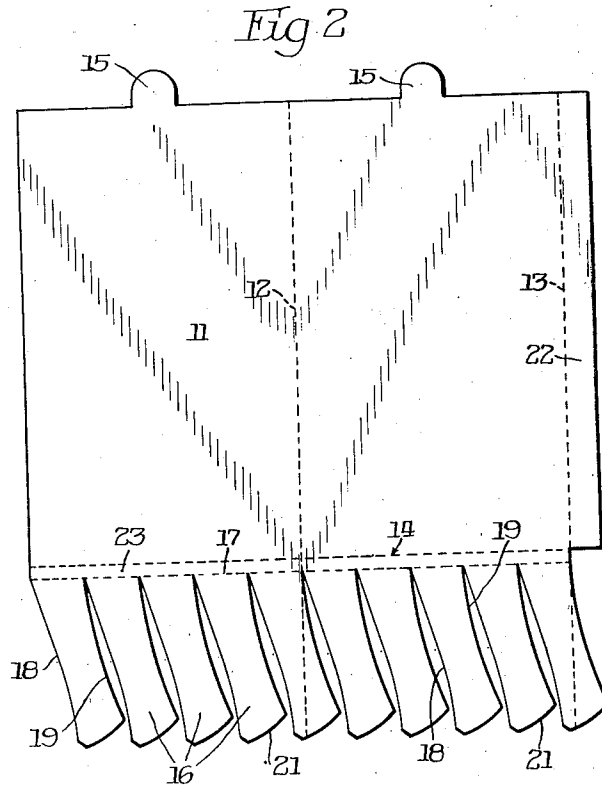
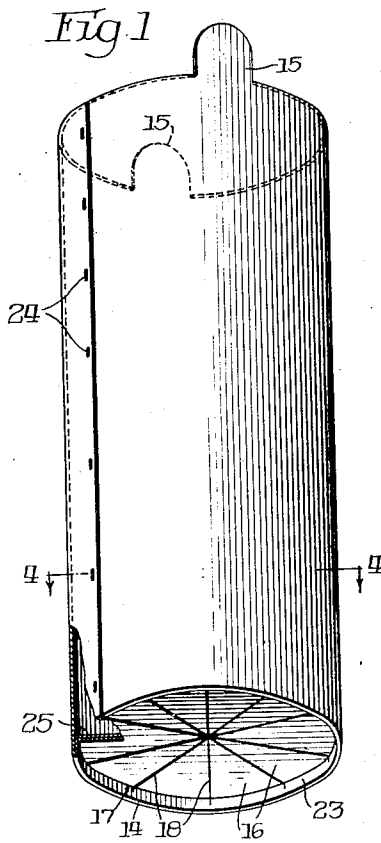
W. J. GEIST

1,867,914

COLLAPSIBLE CONTAINER

Filed Dec. 4, 1930

2 Sheets-Sheet 1



Inventor
William J. Geist
By Walter M. Puller atty

July 19, 1932.

W. J. GEIST
COLLAPSIBLE CONTAINER
Filed Dec. 4, 1930

1,867,914

2 Sheets-Sheet 2

Fig. 4

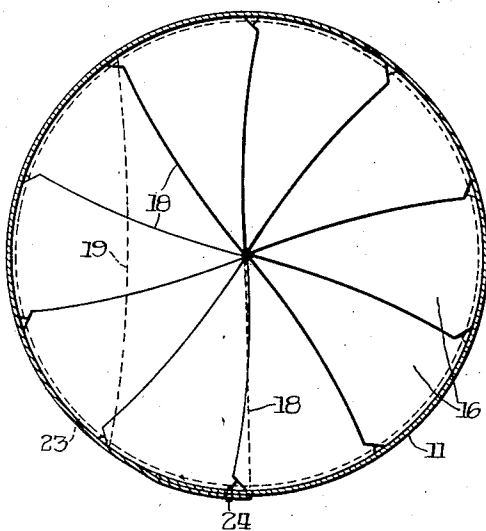


Fig. 6

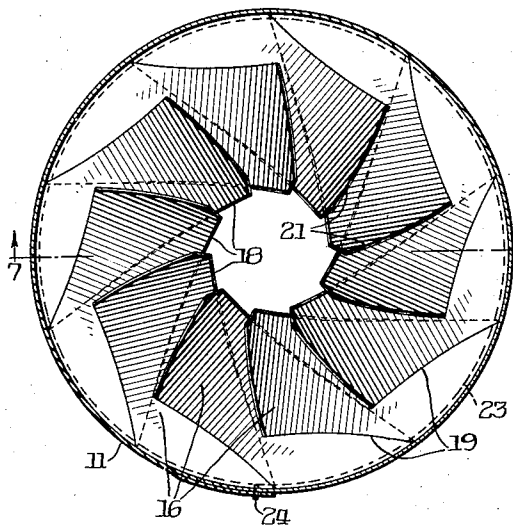


Fig. 5

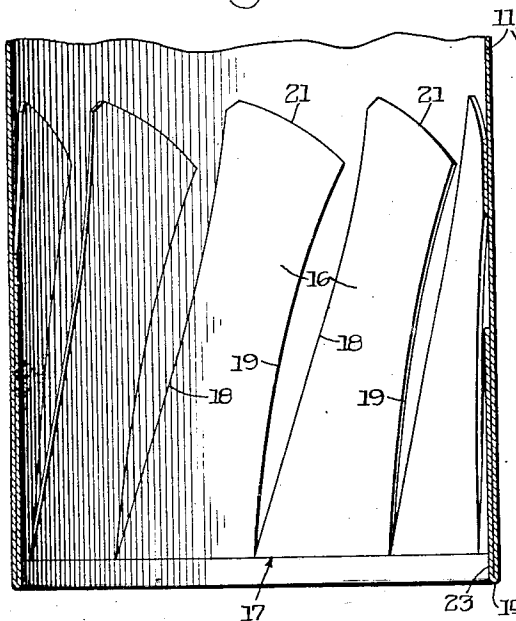
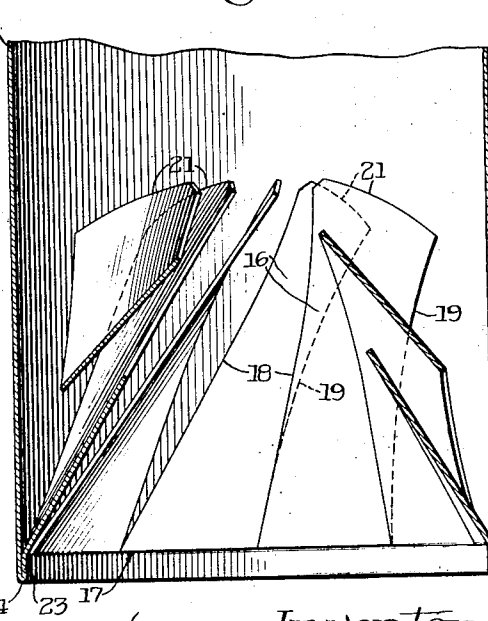


Fig. 7



Inventor
William J. Geist
By Walter M. Fuller atty.

UNITED STATES PATENT OFFICE

WILLIAM J. GEIST, OF LOCKPORT, ILLINOIS

COLLAPSIBLE CONTAINER

Application filed December 4, 1930. Serial No. 499,861.

My invention relates to containers or receptacles, such as those made of pasteboard, fibreboard, or similar material which can be shipped or transported in collapsed or flat condition, and which, when required for use, can be shaped to form with facility and dispatch.

One aim of the invention is to provide a structure of this kind which will not require any fastening or securing means to be applied to the collapsed body when the latter is opened to maintain it in its final form.

A further purpose of the invention is to supply a container of this character which will have no substantial tendency to collapse after it has once been shaped to form.

An added object of the invention is to furnish a receptacle of this type, the production of which requires but small waste of stock in its manufacture.

Still an added feature of the invention resides in the multiple stock thickness of the collapsible bottom of the container.

Whereas the invention is particularly adapted for use in the production of containers for handling substantially large bodies of ice cream, and whereas such improved receptacles are designed for single service, yet the invention is susceptible of satisfactory employment in structures intended for successive uses.

To enable those skilled in this art to have a full and complete understanding of the invention, both from structural and functional standpoints, in the accompanying drawings, forming a part of this specification and to which reference should be had in connection with the following detailed description, a present, preferred embodiment of the invention has been shown in detail, and, for simplicity, like reference numerals have been employed to designate the same parts throughout the several views.

Although a round or cylindrical container has been presented in such drawings, it is to be understood that the invention, as defined by the appended claims, is not necessarily limited to that form of structure.

In these drawings:—

Figure 1 is a perspective view of the finished container, cut away in one part to more clearly show its construction;

Figure 2 is a face view of the flat blank from which the container is formed;

Figure 3 is a perspective presentation of the container in collapsed, flat condition;

Figure 4 is an enlarged cross-section on line 4—4 of Fig. 1 showing the bottom of the container formed of a plurality of overlapping tabs or flaps.

Figure 5 is a fragmentary, longitudinal section through the lower portion of the expanded container before the tabs which are to constitute the bottom have been folded down into position.

Figure 6 is a view similar to that of Figure 4 with the tabs or flaps, which constitute the bottom of the receptacle, in the process of being pressed or forced down into place; and

Figure 7 is a fragmentary, longitudinal section on line 7—7 of Figure 6.

Referring to these several views of the drawings, it will be perceived that the flat pasteboard or other similar material blank comprises a main, substantially rectangular part 11 with two lengthwise creases 12 and 13 and one transverse crease or folding line 14 near its bottom end.

At its upper edge, such blank may or may not have a pair of tabs or ears 15, 15 for the handling of the container after it has been filled.

Along its bottom edge, such blank has a series of tabs or flaps 16, 16 integral therewith and with a folding line or crease 17 at their junctions with the part 11, such flaps being substantially parallel, at an oblique angle to the lengthwise dimension of the section 11 and present for substantially the full width of the blank.

To facilitate their folding around and over one another, the opposite longitudinal edges 18, 19 of the flaps are curved slightly inwardly, that is to say, they are concave in minor degree, as is clearly shown in Figure 2, and the ends of such flaps are bevelled off or rounded at 21 for a purpose hereinafter indicated.

It will be noted that two of such flaps are

foldable on extensions of the crease-lines 12 and 13 which extend downwardly the full length of such specified tabs.

It will be observed also that the long, narrow flap 22, bounded by one longitudinal edge of the blank and by the crease or folding line 13, terminates at its lower end in register with the cross crease-line 14.

The lower tab-equipped part of the plane blank is first folded over on the line 14 so that the narrow section 23 between the parallel crease-lines 14 and 17 and all of the tabs 16 will lie flat against the upper surface of the main body of the blank.

Thereupon the folded body is bent over on the longitudinal lines 12 and 13, thus causing the flap 22 to underlie the opposite marginal portion of the blank to which it is then secured or fastened in any approved way, as by metallic clips 24, 24.

The folded body now presents the appearance depicted in Figure 3, and it is in this flat condition that the collapsed container is shipped to the user, it being apparent that such member occupies a minimum of space and that it can therefore be transported with economy and ease.

When the purchaser desires to use the container to fill it with his product, he opens up such flat folded member into cylindrical shape and forces the then upright tabs or flaps 16 down into overlapped, horizontal position to form the bottom of the receptacle, such flaps bending easily along the crease line 17 and naturally and normally falling into the overlapped, interlocked relation shown in Figures 1 and 4.

Figures 6 and 7 show such tabs or flaps 16 in their intermediate, more or less spiral positions as they are being pressed or forced down into their final positions.

In such final or ultimate positions of the bottom flaps, each extends across the bottom of the container and its end 21 is shaped to conform to and it bears against the inner surface of the cylindrical main body of the receptacle, the center of the longer, inner curved edge of each flap coinciding substantially with the center of the bottom, which, of course, is the same as the axis of the cylindrical body.

The complete, final position of one such flap only has been shown in dotted lines in Figure 4 for clearness, but from this it will be readily understood how the companion flaps are located in superposed, interlaced relation.

From the foregoing, it will be apparent that the entire inner circumference of the cylindrical body is adequately maintained in its round shape against deformation or collapse by the united, complete, circular contact of the rounded ends of all of the flaps against it.

It should also be perceived that the inner,

narrow, round strip 23 and the corresponding or companion part of the outer wall of the container comprises a double-thickness, end flange below the composite bottom and that such flange protects the bottom and acts as a strengthening and stiffening means for that part of the structure.

In some cases, it may be desirable to use a round pasteboard or other reinforcing disc 25 inside of the container, after it is opened up, just above and resting on the plurality of flaps 16 forming the bottom.

In other instances, such a disc is not necessary or desirable.

This novel and improved collapsible container is ordinarily intended for single service only, after which it may be discarded, but, if desired, after having been used, it can be easily reduced to its flat condition again and used later after having been re-formed to usable shape.

The invention, as defined by the following claims, is not necessarily limited or confined to the precise and exact details presented above and shown in the drawings, and many minor or major changes may be resorted to without departure from the heart and essence of the invention and without the loss or sacrifice of any of its material or substantial benefits or advantages.

I claim:

1. A flat container blank having a main body-portion and a series of flaps extended at an oblique angle from an edge thereof, each of said flaps having a concave longitudinal edge.

2. A flat container blank having a main body-portion and a series of flaps extended at an oblique angle from an edge thereof, each of said flaps having a rounded end of a curvature conforming substantially to that of the completed container, each of said flaps being of a length whereby such rounded end will bear against and conform to the opposite inner surface of the sidewall of the completed container.

3. A flat container blank having a main substantially-rectangular body-portion and a series of practically-parallel flaps extended at an oblique angle from an edge thereof, each of said flaps having a concave longitudinal edge and a rounded end of a curvature conforming substantially to that of the completed container, each of said flaps being of a length whereby such rounded end will bear against and conform to the opposite inner surface of the sidewall of the completed container.

4. A double-thickness flat blank having its longitudinal edge portions secured together, each thickness of said blank having a plurality of flaps extended at an oblique angle from an end thereof and located between said thicknesses, each of said flaps having a concave longitudinal edge and a rounded end of

a curvature conforming substantially to that of the completed container, each of said flaps being of a length whereby such rounded end will bear against and conform to the opposite inner surface of the sidewall of the completed container.

5. A collapsible cylindrical container having an end wall composed of a series of overlapping flaps extended from the side-wall of the container, each such flap being non-radial to the axis of the container with the center of one of its longitudinal edges in substantial register with such axis and with its free end rounded to conform to and bearing against the opposite inner surface of said side-wall.

6. A collapsible cylindrical container having an end wall composed of a series of overlapping flaps extended from the container cylindrical side-wall, each such flap having the substantial center of its inner longitudinal edge in practical register with the container axis and with its free end rounded to conform to and bearing against the opposite inner surface of said side-wall, said container having below said bottom a downwardly extended double-wall marginal flange formed in part by said side-wall and in part by an upturned section inside of, integral with, and bearing against said side-wall part, said flaps extending inwardly from the upper end of said upturned inner section.

7. A collapsible container having an end wall composed of a series of overlapping flaps extended from the container side-wall, each of such flaps having the substantial center of its inner longitudinal edge in practical register with the container axis and with its free end shaped to conform to and bearing against the opposite inner surface of said side-wall, the specified free ends of said flaps unitedly bearing against substantially the entire inner contour of that end of the container.

8. A collapsible container having an end wall composed of a series of overlapping flaps extended from the container side-wall, each of such flaps having the substantial center of its inner longitudinal edge in practical register with the container axis and with its free end shaped to conform to and bearing against the opposite inner surface of said side-wall, said container having below said bottom a downwardly-extended double-wall marginal flange formed in part by said side-wall and in part by an upturned section inside of and bearing against said side-wall part, said flaps extending inwardly from the upper end of said upturned inner section.

9. A double-thickness flat blank having its longitudinal edge portions secured together, each thickness of said blank having a plurality of flaps extended at an oblique angle from an end thereof and located between said thicknesses, each of said flaps having a rounded end of a curvature substantially the

same as that of the completed container, each of said flaps being of a length whereby such rounded end will bear against and conform to the opposite inner surface of the sidewall of the completed container.

In witness whereof I have hereunto set my hand.

WILLIAM J. GEIST.

73

75

80

85

90

95

100

105

110

115

120

125

130