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CONTAINER

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Fig. 1

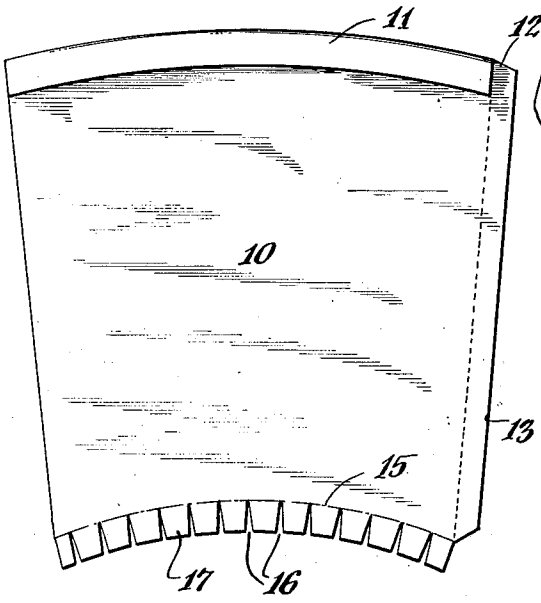


Fig. 9

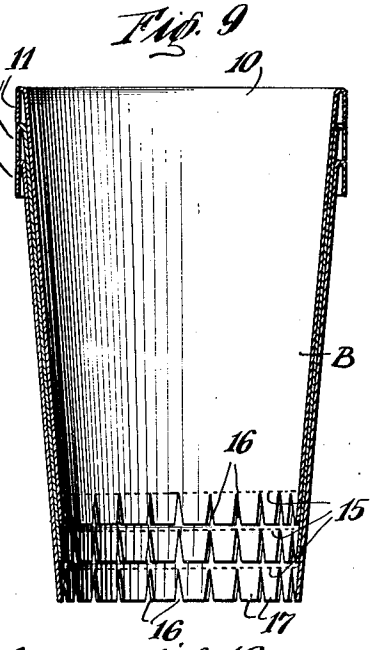


Fig. 2

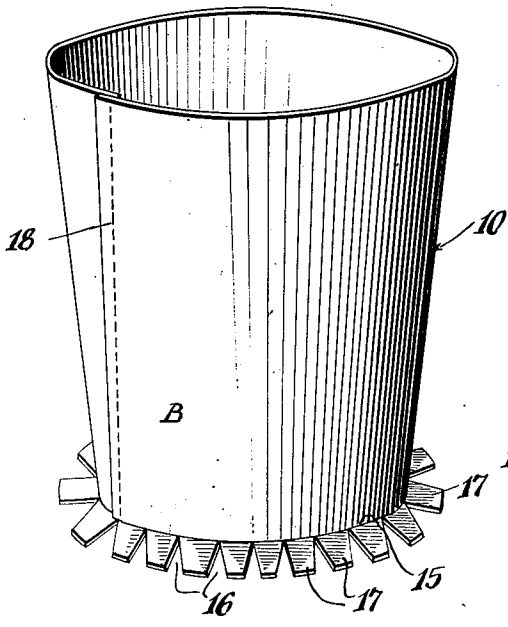


Fig. 10

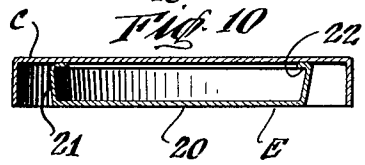
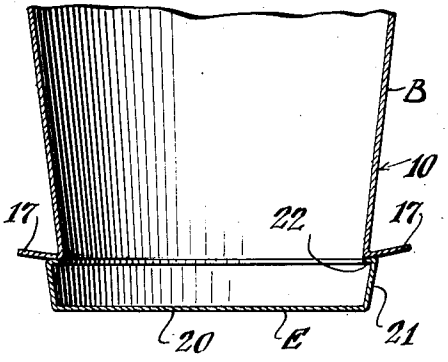


Fig. 3



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Fig. 4

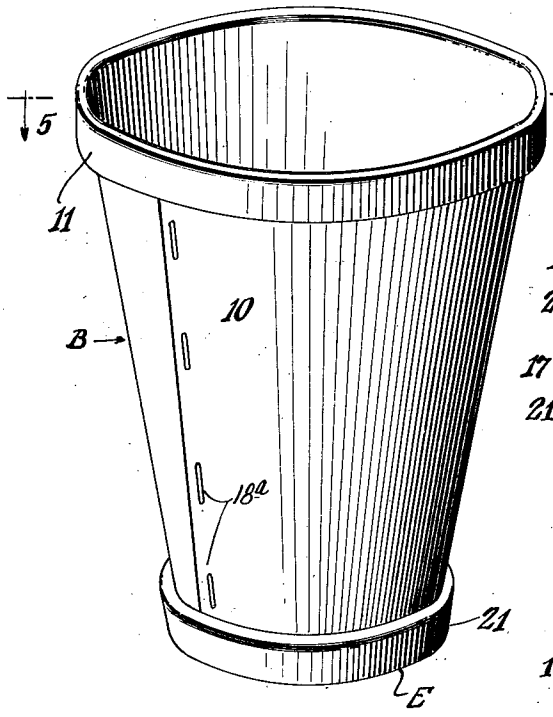


Fig. 5

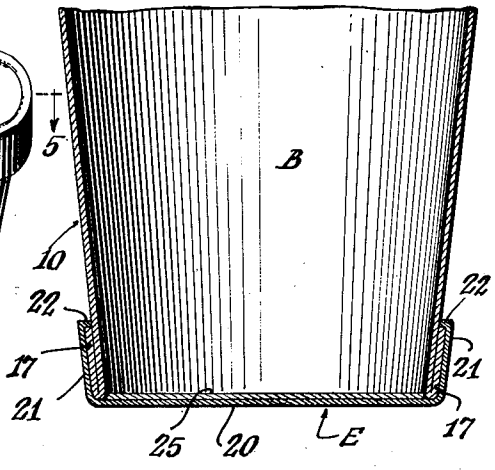


Fig. 6

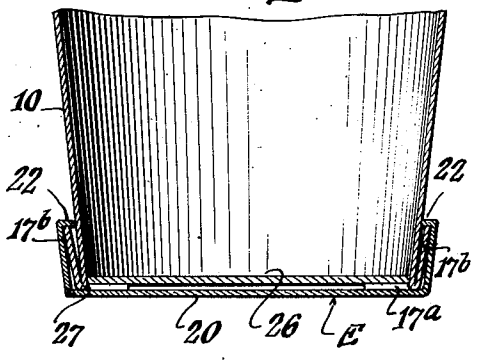
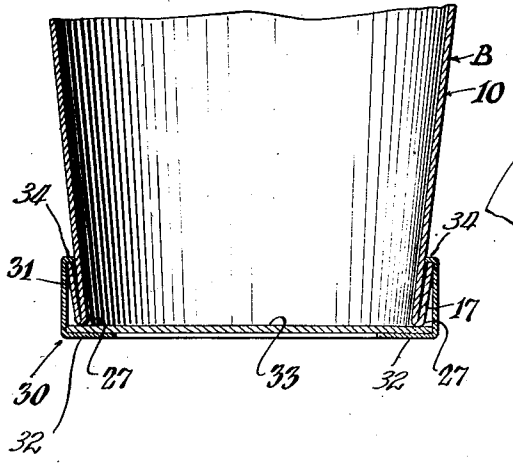


Fig. 8



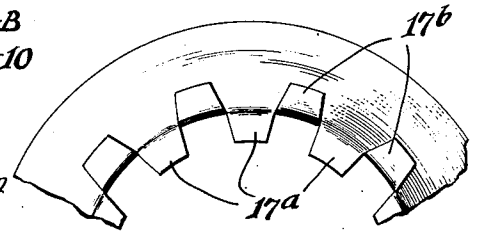


Fig. 7

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Patented Sept. 8, 1936 2,053,678

UNITED STATES PATENT OFFICE

2,053,678

CONTAINER

John Ernest Page, Sydney, Australia, assignor, by mesne assignments, to President and Directors of The Manhattan Company, New York, N. Y., a corporation, as trustees

Application March 24, 1932, Serial No. 600,843

10 Claims. (Cl. 229—5.5)

This invention relates to improvements in containers, and more particularly to a container adapted to contain ice cream and like products which may be shipped in nested form.

The well known metal can as a packaging medium for ice cream and like bulky semi-liquid products has serious drawbacks, since this type of packaging medium is expensive in first cost, heavy and cumbersome to transport, it must be collected for reuse, is unsanitary, attracts flies, dirt and vermin, and it requires expensive washing and cleansing equipment to put the same in condition for reuse. Canisters and containers of paperboard material possess attractive qualities as regards sanitation, but heretofore have presented certain objections which have prevented their adoption. To permit the container to be discarded after the first use, it must be economical to produce; it must also be strong and sturdy to withstand rough handling; convenient to grasp, and carry, substantially liquid-tight so as to hold the liquid cream prior to freezing; adapted to withstand moisture without weakening or collapsing; free from any harmful or contaminating influences on the contents; offer full protection to the contents, and so made as to be economical to transport and store.

With the above requirements in view, it is an object of this invention to produce a container especially adapted for the packaging of bulk ice cream and similar food products which is eminently economical, improved and advantageous over other packaging devices heretofore used.

Another object of my invention is to provide a container held together by the interlocking of the parts without the use of staples, glue or similar securing means.

Another object of this invention is to provide an improved container of generally circular or polygonal shape, having separable bottom, cover and body parts which can be nested together for transport and storage in either assembled or partly assembled condition and thereby effecting great economy of space and facility in handling.

Another object of my invention is to provide a low cost container, which is strong and sturdy in construction, which will not weaken or deteriorate through contact with moisture, which can be easily and quickly made by unskilled labor with inexpensive equipment and which can be assembled complete either by the maker or the user, which is leakproof for all practical purposes which is sanitary and attractive in appearance and can be discarded after first use with economy.

These and other desirable objects and advantages of the present invention will become apparent as the disclosure proceeds.

Certain preferred embodiments of the invention are disclosed in the accompanying drawings for purposes of example only, for, since the underlying concepts may be embodied in other specific constructions, it is not intended to be limited to the ones here shown, except as such limitations are clearly imposed by the appended claims.

In the drawings, like numerals refer to similar parts throughout the several views, of which—

Fig. 1 is a plan view of a blank from which the body of a conical container is made;

Fig. 2 is perspectve view of the lower portion of the blank as it appears when shaped into conical form;

Fig. 3 is a vertical cross sectional view of the conical body in process of being inserted into the bottom end member;

Fig. 4 is a perspective view of the complete set up container;

Fig. 5 is a vertical cross sectional view of the container with the top portion broken off and illustrating particularly the bottom construction thereof, this view being taken on line 5—5 of Figure 4.

Fig. 6 is a vertical cross sectional view of a container having a modified bottom construction;

Fig. 7 is a fragmentary end view of the container shown in Figure 6;

Figure 8 is a vertical cross sectional view of another container showing a further modification in bottom construction;

Fig. 9 is a vertical cross sectional view of a plurality of container bodies in nested assembly to facilitate shipping, handling and storage; and

Fig. 10 is a vertical cross sectional view through a bottom end member and cover member shown nested together for shipping and storage purposes.

Referring now in detail to the drawings, the invention will be described in particular detail with respect to the use of a frusto-conical container. The container may comprise generally a body or barrel member B, a bottom end member E with or without a cover member C. The body or barrel portion may be formed from a suitably shaped blank 10 provided with an outturned, depending top flange 11 formed at the top thereof. The flange is preferably cut away at 12 to permit attachment of the tab 13 to the opposite edge 14 of the blank. The bottom edge of the blank is scored as at 15 to provide an

out-turned flange or shoulder portion, which flange may comprise a series of tongues 17 defined by cuts 16 which interlock with the bottom end member when forced into engagement therewith. The body portion is bent to the desired shape, as shown in Figure 2 and held together by thread stitching 18, staples 18a, as shown in Fig. 4 or other suitable means.

The bottom end members E are preferably made of fibrous or metallic material and comprise a bottom portion 20 and an upstanding side wall or rim portion which may be inclined to conform to the body portion of the container, or vertical as desired. The rim portion is provided with an inwardly extending lip 22, as clearly shown in Figures 3, 4 and 5.

In assembling the container the flanged end of the body portion B is forced into the bottom end member E, as shown in Figure 2. When the tongues 17 clear the flanged edge 22 of the bottom end member, they expand or spring outwardly, due to their natural resiliency, and remain pressed against the inside surface of the rim portion 21 and seat under the inturned lip 22, thus firmly and permanently securing the body member to the bottom end member of the container. If the container bottom member or bottom rim member is made of metal, it may be desirable to place a paper insert disc 25 into the container, as shown in Figure 5, to protect and support the contents. If the disc 25 is made of relatively stiff paperboard material, the bottom of the container may be additionally reinforced by an insert disc, and the disc may be so positioned that the periphery thereof abuts and holds the lower end of the body member pressed against the rim portion 21, thus preventing inward buckling of the body member prior to insertion of the contents. After the container has been filled, the contents prevents inward collapse and buckling of the body portion.

I have shown in Figures 6 and 7, a somewhat modified bottom construction. In this type of container, some of the tongues or tabs 17 are, at intervals, turned inwardly so as to abut the bottom portion 20 of the bottom end member. In such construction certain tabs 17a may be turned inwardly and intermediate tabs 17b turned outwardly to interlock with the inwardly turned lip 22. A disc 26 of paperboard material is then preferably fitted within such a container so as to seat against the turned-in tongues 17a. The disc 26 also engages the lower end 27 of the body portion and forces the out-turned tongues 17b into tight locking engagement with the rim portion 21 of the bottom end member. The bottom end member shown in Figure 6 may be made of one piece metal or fibrous material as before.

In the construction shown in Fig. 8 there is provided a continuous metal rim or hoop 30 having a side wall portion 31 and an inwardly extending seating flange 32. A bottom piece 33 of strong, relatively stiff material, such as paperboard, rests upon the seating flange 32 and forms a bottom portion of the container. The bottom piece 33 is sufficiently flexible, however, to be flexed over the inturned lip 34 and telescoped into the rim. The lower end 27 of the body member B abuts against the bottom piece 33 and holds the same in place. The resilient tongues 17 spring outwardly and engage the inturned lip 34 of the rim member 30, as heretofore described.

An insert disc 25 or 26, as shown in Figures 5 and 6 respectively, may also be inserted into the body member, as shown in Figure 8, so that the disc's periphery will abut and hold the lower end of the body member pressed against the rim portion 31, thus preventing inward buckling of the body member prior to insertion of the contents.

It will be noted that the conical body portion of the container need have no vertical lines of weakness, and thus maintains its shape to a marked degree. Furthermore, the downwardly extending top flange 11, as shown in Figure 4, greatly strengthens and reinforces the body portion to resist inward collapse or change in shape. The flange 11 also forms an excellent seat for the cover member C and provides a hand grip by means of which the container may be lifted about. The cover member C may be of any suitable material and made in any well known manner.

For convenience and economy in shipping, handling and storage, the containers may be stacked in nested relationship. If desired, the containers may be shipped to the user unassembled by nesting the body members together as shown in Figure 9 and nesting the body end member within the cover member, as shown in Figure 10. Desirable economies in shipping, storage and handling charges are thus effected. The body member and bottom end member may be quickly assembled by the user to provide a complete set up container as heretofore stated without special machinery or skilled labor. The body member B is preferably made of relatively stiff, strong moisture-resisting fibreboard or paperboard material, while the bottom end member C may be made entirely of paperboard, fibreboard or metal, as shown in Figures 5 and 6, or partly of metal and partly of fibreboard, as shown in Figure 8. The rim portion of the container may be inclined, as shown in Figures 5 and 6, to more clearly conform to the conical body, or on the other hand, the rim portion may be made vertical with respect to the bottom portion, as shown in Figure 8. The container itself is preferably circular or ovate in cross section, and conical in elevation, but it is understood that I do not limit myself to these particular shapes, since the principles of my invention may be embodied in any shape of container.

It will now be seen that there has been provided an improved container construction comprising a body member provided with locking flange or shoulder which may comprise tongues which are adapted when free to spring outwardly to interlock with the inturned lip provided on the rim portion of the bottom end member. This type of bottom construction is unusually strong and sturdy and is fully as strong as the material of the container itself. No securing means, such as glue or staples, are needed, and for this reason, the container is very economical to manufacture and assemble. Furthermore, the container contains a very small amount of material per unit of capacity.

The reinforcing upper rim 21 greatly strengthens the container and prevents inward sag or collapse of the side walls before filling and also when the contents are partially removed. A very serious objection to paperboard containers is thus successfully overcome.

The containers herein disclosed are particularly suited for shipment in nested form whereby the shipping and storage space required for a given quantity is very appreciably reduced. If the container is shipped knockdown the bottom end member and cover member may also be nested, effect-

ing further economies in shipping and storage. While paperboard or fibreboard has been specified as a desirable material, it will, of course, be appreciated that any suitable fibrous, metallic or fabricated material may be used where the condition of the material to be packaged permits of such use.

While certain novel features of the invention have been disclosed and are pointed out in the annexed claims, it will be understood that various omissions, substitutions and changes may be made by those skilled in the art without departing from the spirit of the invention.

What is claimed is:

1. A body member for a knockdown container comprising a continuous conical shaped tubular portion adapted to be stacked in nested relationship, said tubular portion having a vertically extending depending flange at one end and a serrated extensible edge at the other end.

2. A body member for a knockdown container comprising a continuous conical shaped tubular portion adapted to be stacked in nested relationship, said tubular portion having a vertically extending depending flange at one end and outwardly extensible tabs at the other end.

3. An improved container comprising a body member having a smooth unbroken side wall and a continuous unbroken edge, a plurality of locking tongues extending from said unbroken edge, certain of said tongues being turned inwardly and the remainder of said tongues being turned outwardly, an end member having an inwardly extending lip portion seated over said out-turned tongues, and an insert piece resting on said inturned tongues and forming a smooth bottom for the container.

4. An improved container comprising a body member having a smooth unbroken side wall and a continuous unbroken edge, a plurality of locking tongues extending from said unbroken edge, certain of said tongues being turned inwardly and the remainder of said tongues being turned outwardly, a bottom end member having an inwardly extending lip portion interlocked with said outturned tongues, and an insert piece resting on said inturned tongues, said insert piece having the periphery thereof in frictional pressing engagement with the unbroken edge of said body member to maintain said out-turned tongues in fixed engagement with the inturned lip of said bottom end member.

5. A compact assembly of containers comprising a plurality of conical members nested one within the other, said members having a reinforcing flange at the larger end thereof positioned in vertical alignment and resting upon one another, and a series of free end tongues at the other end of said members and extending downwardly into the adjacent nested container.

6. An improved ice cream container including, an end closure member having an end wall portion, a rim portion of relatively rigid material surrounding said end wall portion, a lip portion extending inwardly from said rim portion, a body member having a side wall with a smooth unbroken inner surface and a continuous and unbroken edge seating against said end wall portion, a shoulder portion secured to said body member providing a support for said rim, and a disc member disposed within said body member forming a smooth bottom for the container.

7. A set up container including, in combination, a bottom end closure including a rim member of metallic material having an inwardly extending bottom portion at one end thereof and a relatively rigid preformed inwardly extending lip portion at the other end thereof, a body member of paperboard material having a generally circular cross-section with a shoulder portion positioned within said rim member and interengaging the said lip portion, and a separate bottom piece positioned within said rim member and supported by said inwardly extending bottom portion.

8. A container for ice cream or the like adapted to be shipped and stored in knockdown condition and set up by the user including, a tubular body member of paperboard material having generally a circular cross-section, a continuous rim piece formed of relatively rigid material adapted to be applied to one end of the body member by the user, a separate insert piece of paperboard material telescoped into the tubular body portion and pressing the same outwardly into gripping engagement with said rim piece, said rim piece and insert piece maintaining the body member in tubular form, said rim piece further reinforcing and protecting the end of the container and providing a support for said insert piece.

9. A container for ice cream or the like adapted to be shipped and stored in knockdown condition and set up by the user including, in combination, a continuous rim member of metallic material, an inwardly extending bottom portion at one end thereof, a preformed inwardly extending lip portion at the other end thereof, a body member of paperboard material having locking tongues positioned within said rim member and interengaged with said inturned lip portion, and a separate bottom piece of paperboard material adapted to be inserted into said body member and supported by said inwardly extending bottom portion.

10. A container for ice cream or the like adapted to be shipped and stored in knockdown condition and set up by the user including in combination, a tubular body member of generally circular cross-section and of generally truncated conical form permitting nesting thereof during shipment and storage, a top and bottom end closures for the open ends of said body member adapted to be applied by the user, said top and bottom end closures each including an end wall portion and a rim portion, said closures being formed of different diametrical size so as to permit the rim portion of one closure to nest within the rim portion of the other closure during shipment and storage thereof.

JOHN ERNEST PAGE.