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CONTAINER

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Fig. 1

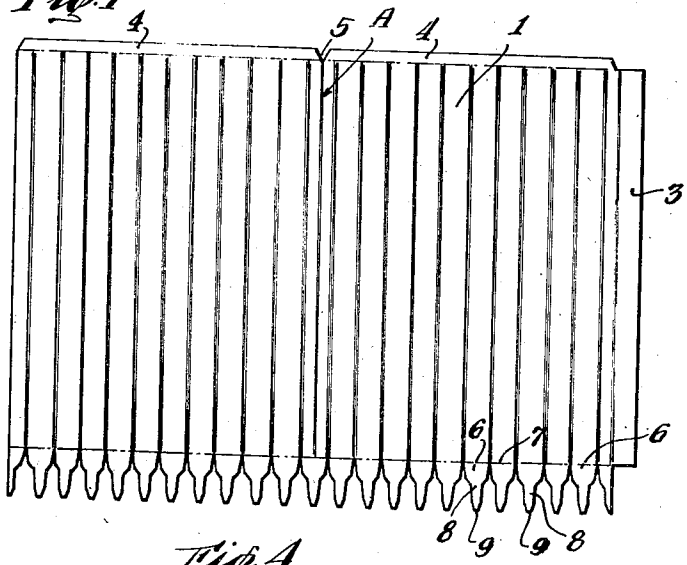


Fig. 2

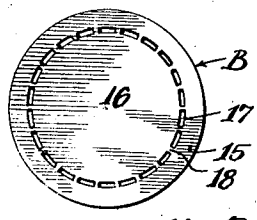


Fig. 3

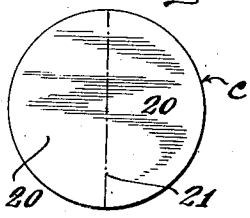


Fig. 4

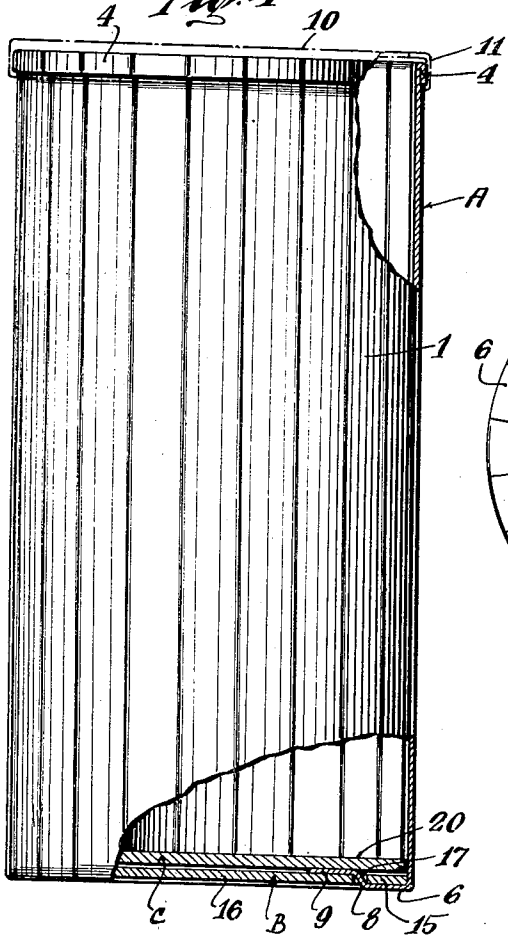
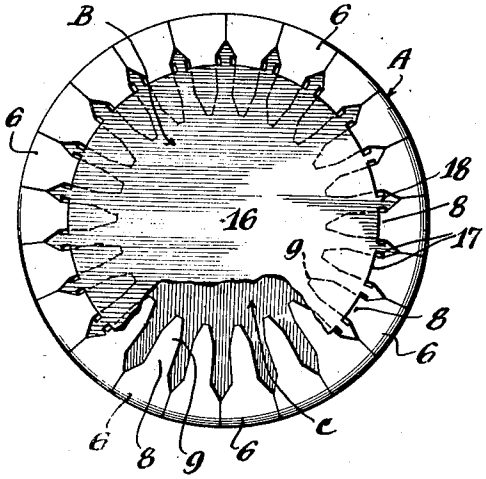


Fig. 5



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Fig. 6

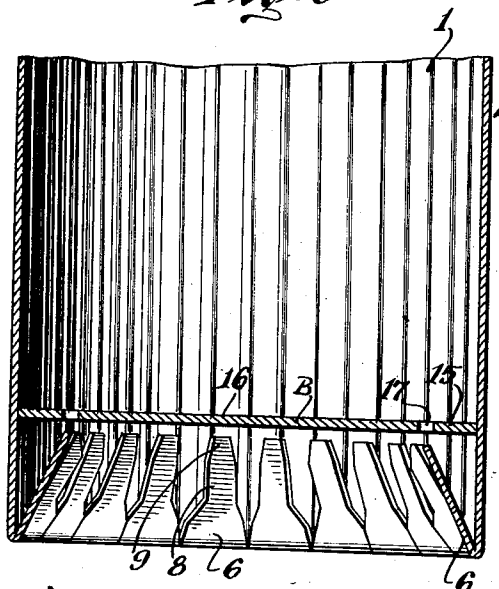


Fig. 7

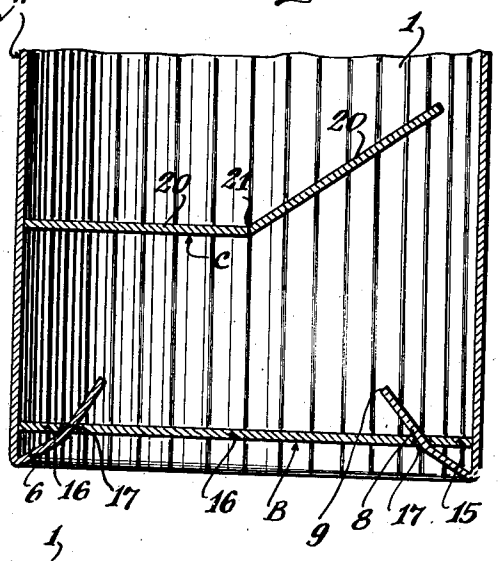


Fig. 8

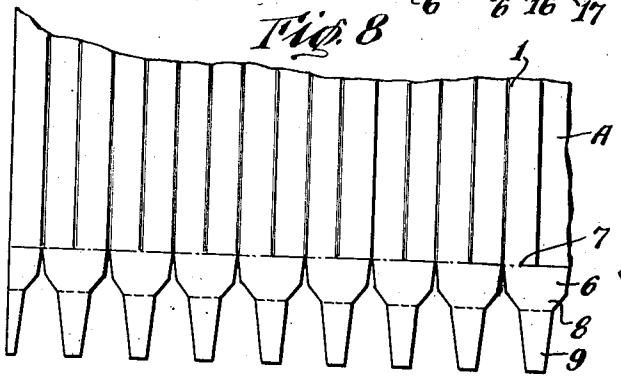


Fig. 10

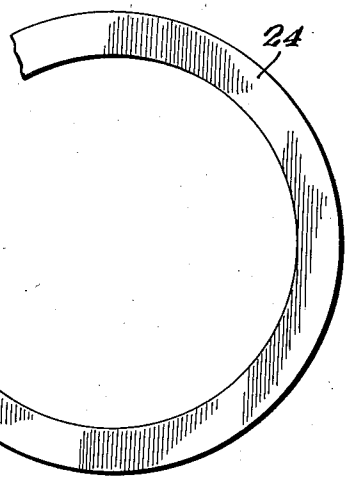
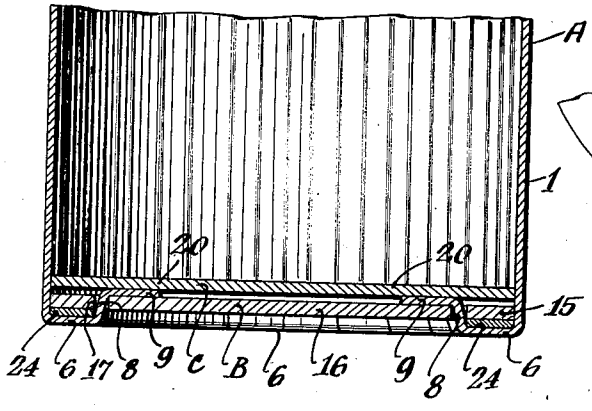


Fig. 9



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UNITED STATES PATENT OFFICE

2,115,745

CONTAINER

John Ernest Page, Sydney, New South Wales, Australia, assignor to President and Directors of The Manhattan Company, a corporation of New York, as trustee

Application August 11, 1934, Serial No. 739,408
In Great Britain October 30, 1933

6 Claims. (Cl. 229—5.5)

This invention relates to containers and more particularly to an improved box or container of paperboard material adapted to be shipped and stored in knockdown form.

The improved container of the present invention comprises a tubular body portion which may be formed from a blank of paperboard material. The body portion is provided with a series of fingers at one end thereof which are inserted into corresponding spaced apertures or slots provided in the end closure member. An insert disc of strong paperboard material is inserted into the body of the container and seats against the end portions of the fingers which project through the apertures, thus firmly securing the body member and end closure in fully assembled, set-up condition. The body member and end closure are thus firmly locked together without the use of glue, staples or other securing means. The body member may be stacked in collapsed, flat condition during shipment and storage, requiring a minimum of space. The end closure and the insert piece are simple flat pieces of paperboard material and are adapted to be stacked in a minimum space until ready for assembling. The body member and insert piece may be quickly assembled together by means of a simple jig tool as the containers are needed. The body member, end closure and insert piece may be cut and scored to the desired shape and form by automatic machinery in common use.

The container presents a strong and durable construction and can be made without hand operation from a minimum of material. The body member and end closure are joined together by the interlocking of the parts and held in this position by the insert disc without use of glue, staples, metallic rims or other securing means. The container is most economical to manufacture and produce. It presents a substantially leakproof container.

An object of this invention is to provide an improved knockdown container which may be assembled in finished form without the use of glue, staples, metallic bands or similar securing means.

Another object of this invention is to provide an improved container comprising a body member and an end closure member maintained and set up in an assembled condition by interlocking of the parts.

Another object of this invention is to provide a container comprising parts which can be economically made by means of automatic machinery in common use, which can be shipped and stored in a minimum of space and which may be quickly and effectively set up at the place of use as needed or desired.

Still another object of this invention is to provide an improved knockdown container which may be made entirely of paperboard material with a minimum of waste, which is strong and durable in construction, and which affords an economical and efficient packaging medium for a large variety of different products.

Other objects of this invention will become apparent as the disclosure proceeds.

In order that a clearer understanding of my invention may be had, attention is hereby directed to the accompanying drawings, forming a part of this application and illustrating certain possible embodiments of my invention.

Referring to the drawings,

Fig. 1 is a plan view of a blank of paperboard material from which the tubular body member of the container is formed;

Fig. 2 is a plan view of the end closure for the container;

Fig. 3 is a plan view of the insert piece;

Fig. 4 is a side view of the complete set up container, certain parts being broken away to illustrate various features of the construction;

Fig. 5 is a bottom end view of the container shown in Fig. 4, parts being broken away to more clearly illustrate certain features of the construction;

Fig. 6 is an enlarged vertical cross sectional view through the body member and the end closure as they appear at one stage of the assembling operation;

Fig. 7 is an enlarged vertical cross sectional view through the body member end closure and insert piece as they appear at another stage of the assembling operation;

Fig. 8 is an enlarged fragmentary plan view of the lower portion of the body member illustrating more particularly the shape and arrangement of the locking fingers;

Fig. 9 is an enlarged vertical cross sectional view of a container of modified construction; and

Fig. 10 is a plan view of a ring member comprising a part of the modified container shown in Fig. 9.

Similar reference characters denote similar parts throughout the drawings and specification.

The structural members comprising the container include a body member A, an end closure B and an insert disc C which may be formed of paperboard or fibreboard material. The body member A is formed from a blank of relatively

tough yet flexible paperboard material cut and scored in the manner shown in Figs. 1, 6, 7 and 8. The body member comprises more particularly a body portion 1 having a plurality of vertically extending score lines therein causing the body portion when assembled to assume a substantially cylindrical or arcuate cross sectional configuration. The body blank is provided with a tab portion 3 along a vertical side thereof which may be suitably secured by stitching, staples or by a crimping operation, to the other vertical side edge of the blank so as to form a tubular member. The body member A may be provided with a flange portion 4 which may be turned downwardly to provide a reinforcing and stiffening rim for one end of the container. A notch 5 is preferably cut in the rim portion 4 to permit the body member when assembled in tubular form to be collapsed into flat condition. The body member may comprise any form of collapsible tubular member within the purview of this invention.

The other end of the body portion is provided with a plurality of laterally extending fingers which are hinged to the body portion 1 along the score line 7. The fingers each comprise a rim portion 6, a neck portion 8 and an end portion 9. When the fingers are turned inwardly, as shown more particularly in Fig. 5, the rim portions 6 closely abut one another so as to provide a substantially continuous rim around the end of the container.

The end piece B is provided with a series of spaced apertures 17 dividing the same into an outer section 15 and an inner section 16, as shown more particularly in Figs. 2 and 5. The outer section 15 and the inner section 16 are connected by the web portions 18 between the spaced apertures 17.

An insert piece, as shown more particularly in Figs. 3 and 4, is provided which is adapted to be inserted into the body of the container. The insert piece preferably comprises the half portions 20 hinged together along the score line 21 to facilitate insertion thereof, but the score line may be omitted in many cases.

In setting up the container, the fingers at one end of the tubular member are turned angularly upwardly and inwardly, as shown more particularly in Fig. 6. The end closure B is then telescoped into the tubular body member and the end closure and the fingers relatively adjusted so that the end portions 9 of the fingers are inserted into the respective apertures 17 provided in the end closure. The end closure is then forced downwardly until the end portions 9 project upwardly through the apertures 17 and the end closure comes to rest on the neck portion 8 of the fingers. When so arranged, it will be noted that rim portions 6 of the fingers, as illustrated more particularly in Fig. 5, closely abut one another and form a substantially continuous rim at the end of the container.

The insert piece C is then telescoped into the body member as shown in Fig. 7. The insert piece is preferably slightly oversize with respect to the tubular body member. One of the half portions 20 is advanced downwardly into seating position against the inwardly projecting end portions 9 of the fingers. The other half portion 20 is then forced down into seating position against the end portions 9 of the fingers. When fully assembled the piece C clamps the end portions against the end closure B and offers great resistance to the withdrawal of the fingers from the apertures 17. Resistance to the withdrawal of the fingers is further increased when the container is filled with contents, since the weight of the contents further increases the clamping force exerted by the end closure B and the insert piece C upon the fingers.

The body member A and the associated fingers are preferably formed of strong, tough, fibreboard material so as to withstand bending without rupture. The end closure B and the insert piece C are preferably formed of relatively stiff paperboard material which will remain substantially rigid under considerable pressure. The container thus formed is strong and durable and will carry considerable weight without weakening. The rim portions 6 of the fingers form a substantially continuous rim upon which the container may rest, thus holding the end closure B out of contact with the floor. The end closure B is thus maintained out of contact with wet surfaces upon which the container may rest.

There is shown in Fig. 9 a slightly modified end closure construction providing a container having a more pronounced rim at the end thereof. In making this container a ring member 24 of relatively thick paperboard material is provided. The ring member is inserted into the body member prior to the insertion of the end closure B. The ring member rests upon the inturn portions 6 of the fingers, as clearly shown in Fig. 9. The end closure B is then telescoped into the body member and the inturn fingers threaded through the spaced apertures 13 therein, in the manner above described. The insert piece C is then forced into the body member against the inturned end portions 9 of the fingers. This construction provides a container having a pronounced rim portion. The ring member 24 may be waxed or otherwise waterproofed to further strengthen the construction and make the same more resistant to the attacks of moisture.

If moist material such as ice cream and other liquid or semi-liquid products are packed in the container, it may be found desirable to coat the end portion of the container with a layer of wax, paraffin or other waterproofing material. The waterproof material above described may be applied either on the outside or on the inside of the container or both, as found desirable.

There is shown in dotted lines in Fig. 4, for purposes of illustration only, a cover member which may comprise a top piece 10 and a rim portion 11 telescoped over the downturned flange 4. It is understood, however, that the end closure above particularly described may be used to form either the bottom end of the container or the top end of the container, or both.

The containers may be formed entirely of paperboard material which may be cut and scored entirely by automatic machinery. The container may be assembled either by hand or by a simple jig tool. The body member may be assembled into tubular form and then shipped and stored in flat collapsed condition. The end closure and the insert piece may be stacked one upon the other during shipment and storage, occupying a minimum of space. The setting up of the container may be performed by the packer as needed.

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 knockdown container of the character de-

scribed, comprising a tubular body member, an end closure snugly fitting within said body member, said end closure having a series of spaced openings therein entirely surrounded with the material of said end closure, tabs extending from one end of said body member, all of said tabs extending inwardly against the outside face of said end closure with the free ends thereof extending through said openings, and a flat relatively stiff oversize disc positioned within said body member operative to retain the body member and end closure in assembled set up position, said tabs having an exterior portion the side edges of which substantially abut one another when said tabs are turned inwardly.

2. A knockdown container of the character described comprising, a tubular body member, an end closure for said body member, said end closure having a series of spaced openings therein defining an outer section and an inner section, said openings being entirely surrounded with the material of said end closure, locking fingers extending from the body member and securing the body member and end closure in assembled set up position, said locking fingers having a portion the side edges of which substantially abut one another when said fingers are turned inwardly thereby providing a substantially continuous rim for the container, said fingers having a neck portion extending through said openings, and an end portion seated against the inside face of the inner section.

3. A knockdown container of the character described comprising, a tubular body member, an end closure for said body member, said end closure having a series of spaced openings therein defining an outer section and an inner section, a ring member positioned within said body member, and locking fingers extending from the body member and securing the body member and end closure in assembled set up position, said locking fingers having a rim portion extending inwardly across said ring member and outer section forming a rim for the container, a neck portion extending through said openings, and an end portion seated against the inside face of said inner section.

4. A knockdown container of the character described comprising, a collapsible tubular body member, an end closure for said body member, said end closure having a series of spaced openings therein defining outer and inner sections, a ring member positioned within said body member, and locking fingers extending from the body member and securing the body member and end closure in assembled set up position, said locking fingers having a rim portion extending inwardly across said ring member and outer section and forming a raised rim for the container, a neck portion extending through the openings, and an end portion seated against the inside face of said end closure, and an insert disc positioned within said body member and seated upon the end portions of said locking fingers resisting withdrawal thereof.

5. A knockdown container of the character described including, a tubular body member having tabs projecting from one end thereof, a ring member telescoped within said body member providing together with said tabs a rim for said container, means for locking said tabs in fixed position, and a relatively stiff, slightly oversize insert disc telescoped into said body member providing a smooth inside bottom surface for the container.

6. A knockdown container of the character described including, a tubular body member, an end wall member, tabs extending from said body member for securing the body member and end wall member in assembled position, a ring member telescoped within said body member providing together with said tabs a rim for said container, and a relatively stiff, slightly oversize insert disc telescoped into said body member providing a smooth inside bottom surface for the container.

JOHN ERNEST PAGE.