Dec. 24, 1940. J. V. FLOOD 2,226,340

CONTAINER

Filed June 3, 1936

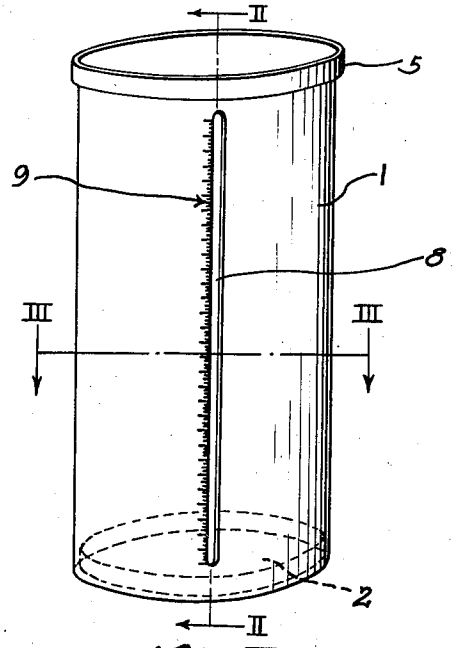


Fig. I

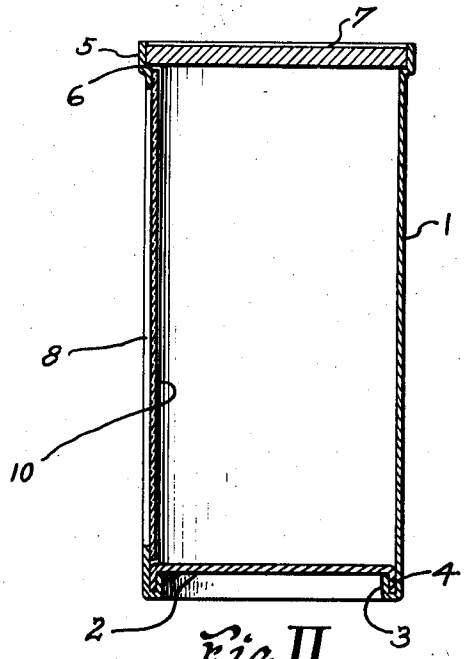


Fig. II

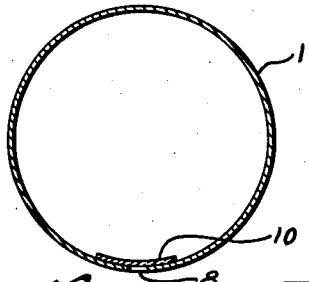


Fig. III

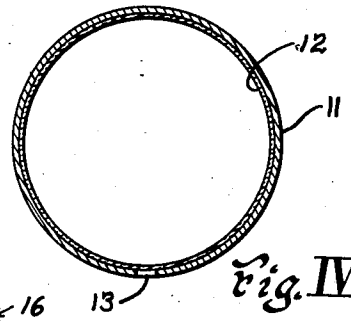


Fig. IV

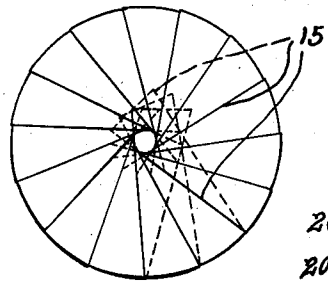


Fig. VI

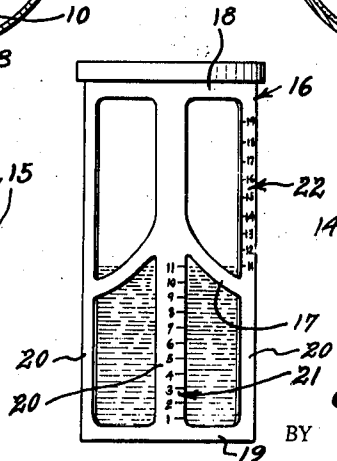


Fig. V

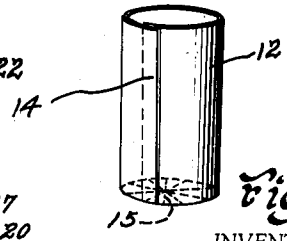


Fig. VII

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2,226,340

CONTAINER

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4 Claims. (Cl. 229—14)

This invention relates to containers and has particular reference to improved means and method of making the same.

One of the principal objects of the invention is to provide containers of a disposable nature, that is, which may be destroyed after use, or containers of the type having a portion thereof disposable.

Another object of the invention is to provide a measuring cup which may be cheaply manufactured and which in its entirety will be disposable, or having portions thereof which will be disposable after use.

Another object of the invention is to provide a container having removable lining means which may be disposed of after use.

Another object of the invention is to provide a lining formed of transparent material which is resistant to acids, and which is also resistant to corrosion, discoloration, tarnish, etc. so that its transparency will not be impaired thus rendering the device impractical for use.

Another object of the invention is to provide a measuring cup having a longitudinal slot in a side wall thereof and having scale means adjacent one of the longitudinal edges of the slot, and transparent means internally of the cup and overlying the slot to provide means for sealing said longitudinal slot so that liquids may be placed internally of the measuring cup and be visible through said transparent means so that the amount of said liquids may be determined by the scale means adjacent the slot.

Another object of the invention is to provide improved methods of making containers of the above character, and more particularly the method of forming lining means of a tough, pliable, and transparent nature.

Another object is to provide a frame support having a relatively thin, walled container formed of materials which are of a disposable nature, and arranging the structure of said container so that scale means may be associated therewith, and the levels of liquids in said containers may be measured by said scale means.

Other objects and advantages of the invention will become apparent from the following description taken in conjunction with the accompanying drawing without departing from the spirit of the invention as expressed in the accompanying claims. I therefore do not wish to be limited to the exact details of construction and methods shown and described, as the preferred forms only have been shown by way of illustration.

Referring to the drawing:

Fig. I is a perspective view of a device embodying the invention;

Fig. II is a longitudinal sectional view taken on line II—II of Fig. I;

Fig. III is a sectional view taken on line III—III of Fig. I;

Fig. IV is a view similar to Fig. III illustrating a modification of the invention;

Fig. V is a side elevation of another modification of the invention;

Fig. VI is a bottom plan view of the inner lining of the container illustrated in Fig. II, showing a step in the process of manufacture;

Fig. VII is a perspective view of the completed lining, illustrating a further step in the process of manufacture.

It has been usual in the past to form devices of the nature set forth herein of glass or other washable materials. Such devices are adapted for use primarily by chemists, druggists, painters, or for any other uses wherein it is desirable that the containers be clean and free from any foreign matter, acids, liquids, coloring, etc., when selected for use.

It is quite obvious that in instances where the containers and measuring devices are formed of glass, great care must be taken after each use that all of the prior contents are completely removed. For example, this is of particular importance in containers used by druggists in prescription work, where such a container might be used for mixing a formula containing poisonous ingredients and thereafter used in preparing other prescriptions containing different ingredients. It will be obvious that there is more or less danger in this procedure and there have been occasions in the past where serious injury, and even death, has been caused by the accidental mixing of poisonous ingredients in prescriptions.

It is, therefore, one of the primary objects of this invention to provide containers, with measuring devices, which may be disposed of after use, or having a lining which may be disposed of after use.

Referring more particularly to the drawings wherein like characters denote like parts throughout the several views, the device embodying the invention, as shown in Figs. I to III inclusive, comprises a cylindrical shaped member 1 formed of pressed paper such as cartridge paper, or other relatively light and inexpensive material, and may or may not be treated with

resins or resinoids or other suitable means for rendering it moisture-proof.

This cylindrical shaped member is provided with a bottom 2 adjacent one end thereof which is shown in Fig. II, secured adjacent one end thereof by turning the end 3 of the cylindrical shaped member inwardly about the flanged edge 4 of the bottom portion 2. The said flange may be secured inwardly of the turned edge 3 by means of any suitable adhesive such as resinoids, resins, or other acid resisting means. This assemblage forms a cup shaped supporting member. The cylindrical shaped member adjacent its opposite end is flared outwardly as indicated at 5 to provide a shoulder 6 adapted to receive a cap member 7 for sealing the contents internally of said cup shaped member. The cap 7 is preferably pressed into the end of the cylindrical member 1, and is held therein by friction.

The cylindrical shaped member 1 is provided with a longitudinal slot 8 having suitable scale means 9 adjacent an edge thereof by means of which the amount of the contents may be measured.

In this particular instance the container thus formed is provided internally thereof with a strip of transparent material 10 which forms a lining adapted to overlie the slot 8 and to be sealed about said slot to form a window in said wall, adjacent the scale, through which means placed in said container may be viewed and measured. This strip of transparent material 10 is preferably formed of artificial resin, such as polymerized acrylic esters, but it is to be understood that resin, resins, resinoid and/or resinoids having the properties of a vitreous body such as polymerized vinil compounds, polymerized acrylic ester compounds, meta-styrene, formaldehyde-urea condensation products, phenol-formaldehyde condensation products, polymerized methyl methylacrylate, or esters of the acid

$$CH_2{:}C(CH_3)\cdot COOH$$

referred to as "methacrylates" and other compounds having similar general properties may be used.

It is to be understood that the compounds hereinbefore mentioned have been set forth only by way of illustration and any materials that will be clear and free from haze, exceptionally light in weight, resistant to chemical or physical attack may be used. These substances differ from the usual celluloid compositions in that they overcome the difficulties usually encountered in such celluloid compositions, such as having the composition become hazy, distorted, discolored and/or corroded during use.

Another advantage of such compositions over cellulose compositions is that they are less susceptible to scratching and are not readily inflammable.

The cylindrical member itself may, if desired, be filled or treated with such substances, said substances in this particular instance being preferably rendered liquid. In this instance instead of securing the strip 10 of said material internally of the container, the said container itself may be dipped or otherwise treated with solutions of substances of the character described above, and the slot may in this manner be filled with said substance to form the transparent window.

The containers above described are adapted for general use by druggists, chemists, and painters for mixing paints, etc., and are adapted to be disposed of after use in a manner similar to the commonly used paper drinking cups. It is essential, however, that the container be formed in this particular instance fairly rigid and resistant to moisture, chemicals, etc.

I do not wish to be limited to any specific materials used in forming the body portion of the cylindrical member 1, the only essential feature being that all the materials shall be relatively cheap so that the finished containers may be supplied in great numbers, for disposal after use.

In Figs. IV, VI and VII there is shown another modification of the invention wherein the outer cup member 11 is adapted to be preserved and is provided with a replaceable lining 12 of transparent material such as that from which the strip 10 is formed. In this particular instance the outer cup member 11 is provided with a longitudinal slot 13 having scale means along one of its longitudinal edges similar to that shown at 9 in Fig. I.

The outer cup shaped member may be formed of sheet metal such as aluminum, or other suitable means, pressed into the shape desired.

The lining 12 is preferably formed of sheet material, as illustrated in Figs. VI and VII, rolled into a cylindrical shaped member and sealed throughout its overlapping edges, as indicated at 14, by the application of a suitable adhesive or by the application of heat. The bottom of said container is produced by forming a plurality of overlapping folds such as indicated at 15 in Fig. VI, and by applying to said folds a suitable adhesive, or heat of a sufficient temperature to cause the overlapping material to adhere or integrally join together. This lining is preferably formed very thin and inexpensive, and is adapted to be slid into the outer container 11, and not only provides disposable means but also forms the transparent window longitudinally of the slot 13.

In Fig. V there is illustrated a different type of outer support 16 which is in the form of a skeleton-like framing having suitable brace members 17 intermediate its ends and tie members 18 and 19 adjacent its opposite ends for connecting a plurality of spaced vertical braces or supports 20. The skeleton-like framing is formed cylindrical in contour so as to receive a lining similar to the lining 12. In this particular instance the scale for indicating the quantity of contents in the container is preferably divided into two sections 21 and 22, the section 21 being extended longitudinally of one of the supports 20, and the section 22 continuing longitudinally of another adjacent support 20.

The brace members 17 are preferably formed at an angle other than normal to the axis of the longitudinal supports 20, as illustrated in Fig. V, so that the level of liquid or other substance visible through the transparent lining in said framing may be measured without obstruction from said brace members 17. This permits the level of the contents of the container to be measured throughout the entire length of said container.

After use the lining is adapted to be removed and disposed of in a manner similar to the lining 12.

It is apparent that although the containers are described primarily for use as measuring means, a suitable outer cup-shaped or skeleton-like member may be provided in which a disposable lining such as that indicated at 12 may be used, and that said container may be provided with an outwardly flared upper edge such as shown at 5 in

Fig. II, in which a suitable cap 7 or other means for sealing the contents internally of the container may be provided. In this particular instance the lining 12 would be sealed between the circumferential edge of the cap 7 and the inner surface of the outwardly flared edge, such as indicated at 5 in Fig. II.

It is also to be understood that instead of providing the container with an outwardly flared portion in which a cap-like member 7 may be pressed and be frictionally held therein, the outer wall of the container may be continuous and a suitable flanged cover member may be fitted over the end of the container to seal the contents therein.

It is also to be understood that my invention is not limited to any specific uses, but is directed more particularly to the provision of means which may be disposed of after use, which will serve not only to avoid cleansing after use but also as a safeguard against contamination of one ingredient by its accidentally coming in contact with the remainder of other ingredients previously used in the container, and as a hygienic measure to safeguard health.

Having described my invention, I claim:

1. A container comprising a frame support formed of a plurality of spaced substantially parallel members connected by tie members extending at an angle other than normal relative to the longitudinal axes of said parallel members, one of said parallel members having scale graduations adjacent a portion of one of the longitudinal edges thereof and terminating adjacent the point of connection of the tie member to said parallel member and another of said parallel members having a portion of its longitudinal edge toward the longitudinal edge of the first parallel member having the scale graduations thereon provided with a continuation of said scale graduations from a point adjacent the connection of said tie member to said last named parallel member, the graduations of said scale means cooperating with each other to produce a continuous scale substantially throughout the length of said parallel members.

2. A container comprising a frame support formed of a plurality of spaced substantially parallel members connected by tie members extending at an angle other than normal relative to the longitudinal axes of said parallel members, one of said parallel members having scale graduations adjacent a portion of one of the longitudinal edges thereof and terminating adjacent the point of connection of the tie member to said parallel member and another of said parallel members having a portion of its longitudinal edge toward the longitudinal edge of the first parallel member having the scale graduations thereon provided with a continuation of said scale graduations from a point adjacent the connection of said tie member to said last named parallel member, the graduations of said scale means cooperating with each other to produce a continuous scale substantially throughout the length of said parallel members and a transparent lining of relatively thin vitreous material of the nature of methacrylates internally of said container.

3. A container comprising a supporting frame having a plurality of spaced members extending in a direction longitudinally thereof and connected by spaced tie members located adjacent their opposed ends and intermediate their ends and extending at an angle relative to said longitudinal members, one of said longitudinally extending members having scale graduations adjacent a portion of one of the edges thereof and terminating adjacent the point of connection of an intermediate tie member connecting said longitudinal members and another of said longitudinal members having a portion of its edge toward the edge of the first member having the scale graduations thereon provided with a continuation of said scale graduations from a point adjacent the tie member to said last named longitudinal member, the graduations of said scale means cooperating with each other to produce a continuous scale substantially throughout the length of said parallel members.

4. A container comprising a supporting frame having a plurality of spaced members extending in a direction longitudinally thereof and connected by spaced tie members located adjacent their opposed ends and intermediate their ends and extending at an angle relative to said longitudinal members, one of said longitudinally extending members having scale graduations adjacent a portion of one of the edges thereof and terminating adjacent the point of connection of an intermediate tie member connecting said longitudinal members and another of said logitudinal members having a portion of its edge toward the edge of the first member having the scale graduations thereon provided with a continuation of said scale graduations from a point adjacent the tie member to said last named longitudinal member, the graduations of said scale means cooperating with each other to produce a continuous scale substantially throughout the length of said parallel members and a lining of relatively thin transparent material internally of said frame support.

JOSEPH V. FLOOD.