

Dec. 28, 1937.

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2,103,389

CONTAINER FOR FLUIDS

Filed Aug. 21, 1936

2 Sheets-Sheet 1

FIG. 1

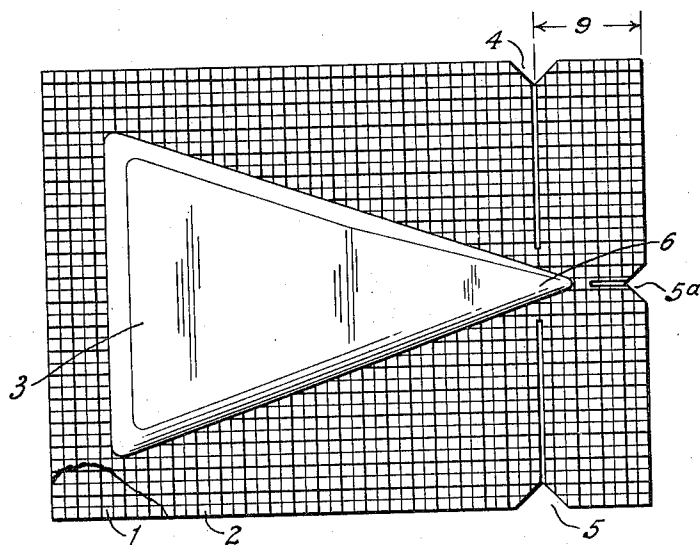


FIG. 2

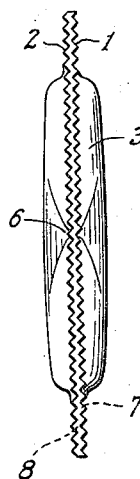


FIG. 3

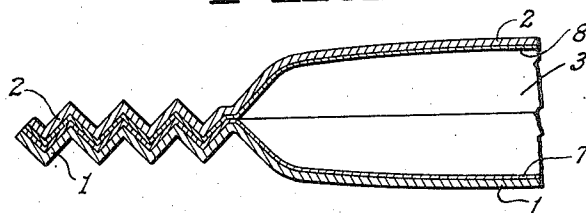
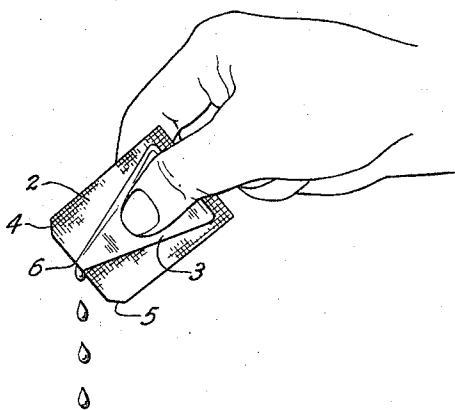


FIG. 4



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Fig. 5

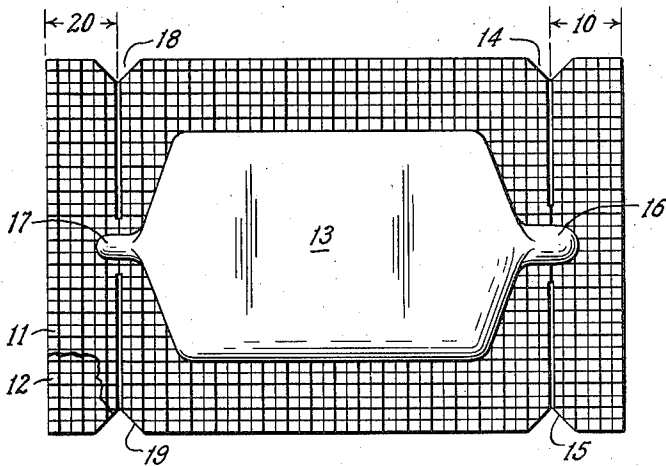


FIG. 6

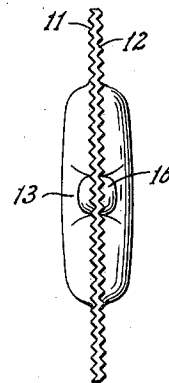


FIG. 7

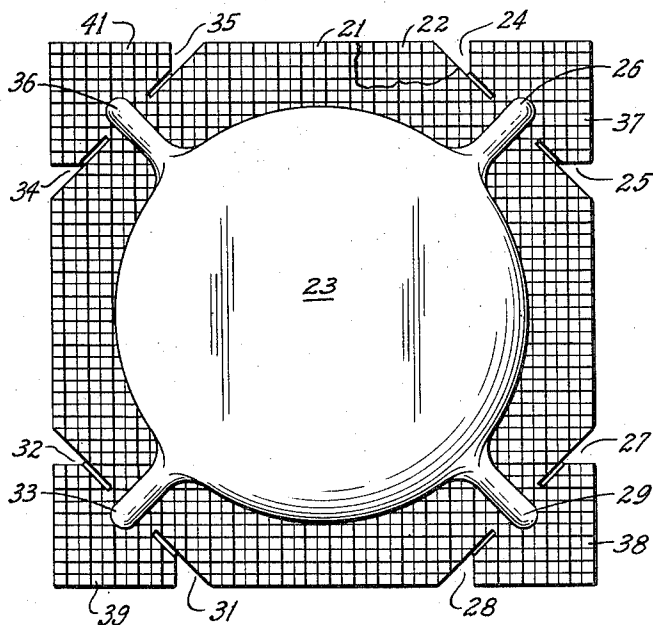
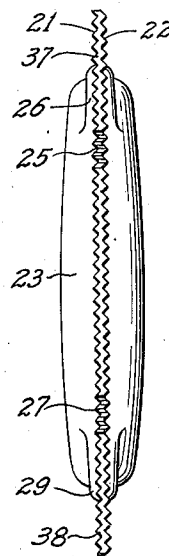


FIG. 8



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UNITED STATES PATENT OFFICE

2,103,389

CONTAINER FOR FLUIDS

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Application August 21, 1936, Serial No. 97,105

10 Claims. (Cl. 221-60)

My invention pertains in general to fabricated enclosures and specifically relates to a form of package for dispensing individual quantities of fluids and the like.

One of the objects of my invention comprises providing a dispensing envelope structure forming an inner pocket or receptacle to contain fluids such as cod liver oil, liquid dyes, iodine, and the like.

Another object consists in providing a transparent fluid container structure composed of regenerated cellulose material.

Another object comprises providing a fluid container the walls of which have a thermo-plastic fusible coating thereon to provide for the bonding and sealing of areas surrounding an inner pocket by a heating and pressure crimping process.

A further object consists in providing a fluid container structure forming an inner pocket of various forms and shapes, all of which have reduced ends providing an orifice for ejection of the fluid contents upon removal of a portion of the structure adjacent the orifice.

These and other objects will be apparent from the following, reference being had to the accompanying drawings in which like reference numerals designate corresponding parts and in which:

Fig. 1 is a front elevation of a container for fluids constructed in accordance with one embodiment of the invention;

Fig. 2 is an end view of the representation of Fig. 1;

Fig. 3 is a fragmentary longitudinal section of Fig. 1 enlarged to show the bonding and sealing arrangement;

Fig. 4 is an illustration of the fluid container in use after an edge is torn off to open the orifice through which the fluid is expelled;

Fig. 5 is a front elevation of another form of the fluid container, showing a small orifice at one end and a larger orifice at the other end to allow for either a slow or rapid discharge of the fluid contents;

Fig. 6 is an end view of the representation of Fig. 5;

Fig. 7 is a plan view of still another form of fluid container, with four orifices shown, one at each corner of the structure; and

Fig. 8 is an end view of the representation of Fig. 7.

The invention contemplates the provision of an envelope-like structure composed of two rectangular walls of regenerated cellulose material

that is chemically inert. This cellulose material is provided with a fusible coating that affords a bonding and sealing of the two walls, when subjected to a heat and pressure crimping process, in a way such as to form an inner pocket to contain fluids. The package so formed is of a size to allow for dispensing of individual quantities of fluids, and has means for discharging the fluid by tearing a portion of the package which opens a discharge orifice.

Referring to the drawings in detail, in Figs. 1 and 2 there are provided opposed layers of packaging material 1 and 2 preferably composed of a chemically inert regenerated cellulose having a thermo-plastic coating thereon. These layers are bonded together and sealed in a way to form an inner cone shaped pocket or receptacle 3 for containing fluids. The bonding and sealing is effected by heat acting on the fusible coating of the packaging material and by a pressure crimping of the flange areas adjacent the inner pocket or fluid receptacle 3, Fig. 1. The sealing of the two walls of the container structure is illustrated in detail in the enlarged view of Fig. 3. It will be seen that the layers 1 and 2 are joined in an interdigitated bond forming an inner lining envelope produced by the edge fusing of the thermo-plastic coatings 7 and 8 on the layers or walls 1 and 2.

The end portion of the sealed and crimped container package is provided with notches 4 and 5, Fig. 1, providing a flap 9 to indicate to the user where the packaging material is to be torn. The tearing of this portion of the package material is facilitated by partially perforating or scoring the material along a line extending between notch 4 and notch 5, Fig. 1. It will be seen that this guided tearing line extends to within a short distance from a reduced end 6 of the fluid receptacle 3. The tearing off of the flap 9 between the notches 4 and 5 opens an orifice in the receptacle 3 for discharging the fluid contained within the receptacle 3. The orifice may also be provided, when desired, by tearing the notch 5A, as shown.

Fig. 4 illustrates the use of the package structure of Fig. 1 in discharging a contained fluid. After the flap 9 has been removed by tearing, the package may be grasped between the fingers of the hand so that pressure is applied to the side walls of the envelope 3. In this way, the fluid is discharged at the orifice 6, as shown.

Fig. 5 shows another form of fluid containing package in accordance with the invention in which coated cellulose walls 11 and 12 are bonded and interdigitated to form an inner rectangular

receptacle 13 for fluids, provision being made for opening two orifices 16 and 17 of different sizes, one at each end of the receptacle. In this construction, the user can exercise the option of tearing off either of two flaps 10 or 20, depending on whether the user desires to discharge the fluid by drops from the smaller orifice, or in greater outflow at the larger orifice. The notches 14 and 15 indicate the line along which the packaging material is torn to open the larger orifice 16, while the notches 18 and 19 indicate the line along which the package material is torn to open the smaller orifice 17.

Fig. 7 discloses still another form of fluid containing package in which the coated cellulose packaging material forming the walls 21 and 22 is bonded together to form an inner circular shaped receptacle 23 for fluids. In this construction, provision is made for opening four orifices 26, 29, 33 or 36, any one of which will give access to the fluid contents of the receptacle 23. These orifices can be selectively opened by tearing off any of the corner flaps 37, 38, 39, or 41 along the scored or perforated lines between the notches 24—25, 27—28, 31—32, and 34—35, respectively. The tearing off of any corner flap opens an orifice through which the fluid may be expelled by pressure of the fingers against the side walls of the package.

Although a preferred form of the package container for fluids has been shown, it will be recognized that various changes and equivalent structures can be made without departing from the intended scope of the invention. Therefore, no limitation is intended except as imposed by the scope of the appended claims.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. A fluid container comprising, opposed layers of packaging material bonded together to form a fluid containing receptacle having an orifice maintained in closed condition by said layers of material, said layers of material including a flap structure adapted to be torn off to open said orifice for permitting the discharge of the fluid contents of said receptacle.

2. A fluid containing package comprising, opposed layers of packaging material bonded together to form a fluid containing envelope having a tearing flap extending across a diminished portion of said envelope for opening a discharge orifice when said flap is torn.

3. A fluid containing package comprising, opposed layers of packaging material bonded together to form a fluid containing receptacle with a discharge neck maintained in closed and sealed condition by said layers, said layers having a tearing flap for tearing across said neck to

produce an orifice for permitting the discharge of the fluid contents of said receptacle.

4. A fluid containing package comprising, opposed layers of packaging material joined together to form envelope-like fluid containing receptacle surrounded by a bonding flange, said receptacle having a necked portion extending into said flange area for producing a discharge orifice when said flange area is torn across said necked portion.

5. A fluid containing package comprising, layers of packaging material joined together in a bonded flange forming a surrounding edge seal for an envelope-like fluid receptacle, said flange having a tearing flap for opening a restricted area of said envelope to form a discharge orifice for fluid contained within said envelope.

6. A fluid containing package comprising, opposed layers of thermo-plastically coated regenerated cellulose material bonded together in sealing areas producing an envelope-like fluid receptacle, said material including a tearing structure adapted to open a restricted area of said envelope to produce a discharge orifice for the fluid contents thereof.

7. A package for containing fluids and the like comprising, opposed layers of regenerated cellulose material heat crimped together in a bonded flange area surrounding and forming an envelope-like container having a neck structure extending into said flange area, said flange area being provided with a notched tearing flap for tearing across said neck structure to produce a discharge orifice for said envelope.

8. A package structure for fluids and the like comprising, opposed layers of packaging material bonded together in a sealing flange forming an envelope-like receptacle having a plurality of necked portions extending into said flange area, said flange having a plurality of tearing flaps extending across said necked portions for producing a plurality of discharge orifices for said receptacle when said flaps are torn.

9. The package in accordance with claim 8 in which said necked portions are of different sizes for producing different sized orifices when said flaps are torn to permit selectively graduated discharge of the fluid contents of said package.

10. A structure in accordance with claim 6 in which the thermo-plastic coating on said layers of material faces in opposed directions and in which the bonding together of said layers causes an edged fusion of said coating to produce a completed inner envelope lining formed by said coating to prevent leakage of a contained fluid.

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