March 2, 1926. 1,575,567

W. H. G. GEAKE

COLLAPSIBLE CONTAINER

Filed Sept. 11, 1924

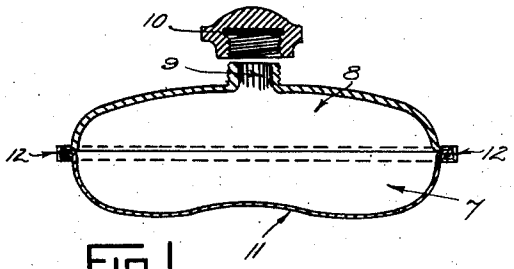


Fig. 1.

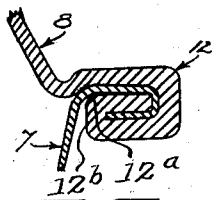


Fig. 2.

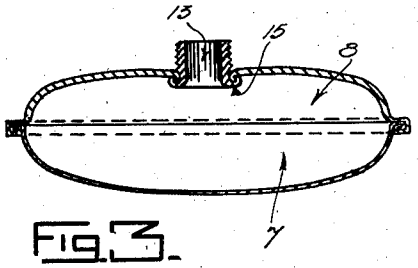


Fig. 3.

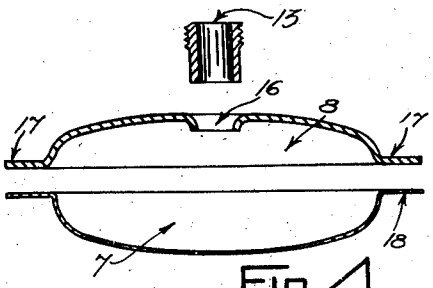


Fig. 4.

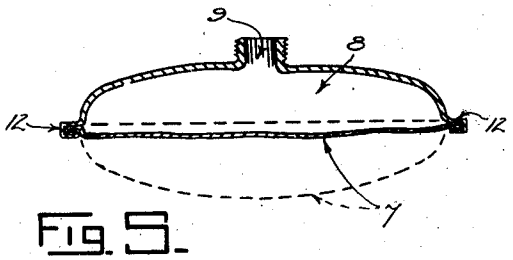


Fig. 5.

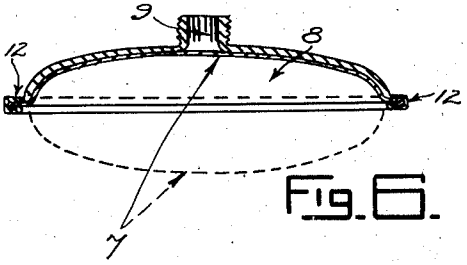


Fig. 6.

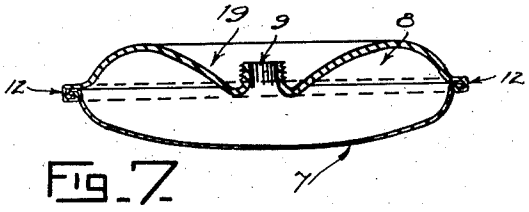


Fig. 7.

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UNITED STATES PATENT OFFICE.

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COLLAPSIBLE CONTAINER.

Application filed September 11, 1924. Serial No. 737,145.

To all whom it may concern:

Be it known that I, WILLIAM HENRY GREGORY GEAKE, a subject of the King of Great Britain, residing at Killara, near Sydney, in the State of New South Wales, Commonwealth of Australia, have invented certain new and useful Improvements in Collapsible Containers, of which the following is a specification.

This invention relates to collapsible containers for holding liquid substances, especially toilet preparations.

According to my invention, the container is composed of a comparatively rigid concave top part of sheet metal provided with a central filling and dispensing orifice, and a flexible non-resilient sheet metal concave lower or body part of approximately the same size. The two parts are readily formed by stamping and their adjoining edges are brought together and secured by a seaming machine so that the edges of the top part are turned over to envelop the opposite edges of the lower or body part. One or both parts may be formed externally with a slight concavity centrally. The liquid or substance is charged into the container through the dispensing orifice while the upper and lower walls are nested together as shown in Figure 6, the pressure of the invading substance progressively bulging the wall 7, excluding air from the container and finally testing the integrity of the seam when the container is completely filled, so that if the seam is defective it will burst at the time of the filling, and not later under pressure of the fingers of the user.

In forming the upper part, the neck of the discharge orifice may be integral therewith, or I may punch or make a hole in said part and secure a neck or the like therein, the orifice in the neck being closable by a cap or other means.

The container is substantially spherical or ellipsoidal or an oblate spheroid or ellipsoid, so that the lower part may rest on a table or flat surface and the content extruded through the opening on downward or upward pressure being applied. The upper or more rigid part does not become distorted and consequently the container never appears unsightly.

But in order that my invention may be more readily comprehended I will now describe same with reference to the accompanying drawings.

Figure 1, is a sectional elevation of one form of container, the cap or closure being shewn apart.

Figure 2, is a section in detail, on an enlarged scale, of the edges of the two parts joined by a seaming machine, the edges of the comparatively rigid top part 8 being doubled over the edges 12 of the lower part 7.

Figure 3, is a sectional elevation of a modified form of container, while

Figure 4, is a section of the two parts of a container before being joined together.

Figure 5 and Figure 6 are diagrammatic views illustrating the more flexible part of the container partially and fully collapsed respectively into the other more rigid part, the dotted lines illustrating the approximate size of the container when originally filled.

Figure 7, is a sectional elevation of a modified form of container in which the neck portion is formed with a depression adjacent the orifice, for use as a container for shaving cream or the like.

The same numerals indicate like parts throughout the drawings.

7 is the flexible part formed from thin sheet tin, and 8 the more rigid part of a harder or denser material, the latter having an orifice 9 closable by a suitable cap 10. The flexible part has preferably an indentation or concave bottom 11 in order to facilitate uniformity in the collapse of the walls. The edges of both parts 7 and 8 form flanges which are suitably joined at 12 by a double seam, as illustrated in Figure 2, the walls 7 and 8 of the container meeting angularly at the joint and the flanges being folded into interlocked relationship and compressed together so as to be fluid-tight. The edges of the folds are preferably rounded as shown at 12^a in Figure 2 to prevent cutting of the soft metal, and the flange of the rigid wall 8, which is on the outside of the seam, forms an abutment 12^b supporting the adjacent part of a flexible wall from excessive expansion and consequent spreading of the joint.

In the modified form of container illustrated in Figures 3 and 4 the more rigid part 8 has an opening 16 in which is inserted a neck or nipple 13 which is joined

or riveted at 15 in said opening, as illustrated in the drawings, the edges 17 and 18 being joined by a double seam as in Figure 2, when the lower part is nested or collapsed within the upper part.

In the form illustrated in Figure 7, the more rigid part 8 is formed with a depression 19 adjacent the orifice 9, in which depression a quantity of shaving cream or the like may lie after being extruded from the container.

It will be evident that a container constructed according to the invention may be made considerably larger than those at present in use, and can be completely discharged, the thin sheeting of one part being collapsed under or into the other part. My improved container also permits recharging which cannot at present be done satisfactorily with the existing forms.

I claim:—

1. A container for fluent substance comprising nested dished members peripherally joined, the superposed of said members being of relatively hard material and the other of relatively flexible and soft material, the latter being evertible by pressure of its contents when the receptacle is filled, to form with said superposed member, a chamber.

2. A container for fluent substance comprising dished members joined by a folded seam embracing the peripheral edges of both members, the superposed of said members being of relatively hard material and the other of relatively flexible and soft material, evertible by pressure of its contents when the receptacle is filled, to form with said superposed member, a chamber.

3. A container for fluent substance comprising dished members having peripheral flanges joined by a seam to form a chamber when filled, the wall of said chamber meeting angularly at said joint, one of said members being of relatively rigid material and the other of relatively flexible and soft material, said flanges being folded into interlocked relationship, the folded layers of the seam thus formed being compressed into fluid-tight contact at points remote from said joint.

4. A container for fluent substance comprising dished members having peripheral flanges joined by a seam to form a chamber when filled, the walls of said chamber meeting angularly at said joint, one of said members being of relatively rigid material and the other of relatively flexible and soft material, said flanges being folded into an interlocked seam in which the edges of the folds are rounded adjacent the line of juncture of said chamber walls.

5. A container for fluent substance comprising dished members having peripheral flanges joined by a seam to form a chamber when folded, the walls of said chamber meeting angularly at said joint, one of said members being of relatively rigid material and the other of relatively flexible and soft material, said flanges being folded into interlocked relationship, with the relatively rigid flange on the outside, a part of said rigid flange forming an abutment zone surrounding the flexible member adjacent said angular joint, supporting the wall of said member against excessive expansion and consequent spreading of said joint.

6. A container for fluent substance comprising upper and lower dished members peripherally joined to form a chamber when filled, one of said members being of relatively rigid material and the other of relatively flexible and soft material, the upper member being formed with means for discharging the contents of said container, and recessed to form a basin surrounding said discharge means.

7. A container for fluent substance comprising upper and lower dished members joined by a folded seam embracing the peripheral edges of both members, to form a chamber when filled, one of said members being of relatively rigid material and the other of relatively flexible and soft material, the upper member being formed with means for discharging the contents of said container and recessed to form a basin surrounding said discharge means.

In testimony whereof I have hereunto set my hand.

WILLIAM HENRY GREGORY GEAKE.