Sept. 2, 1941. M. SCHARMETT 2,254,453

CONTAINER

Original Filed March 25, 1938

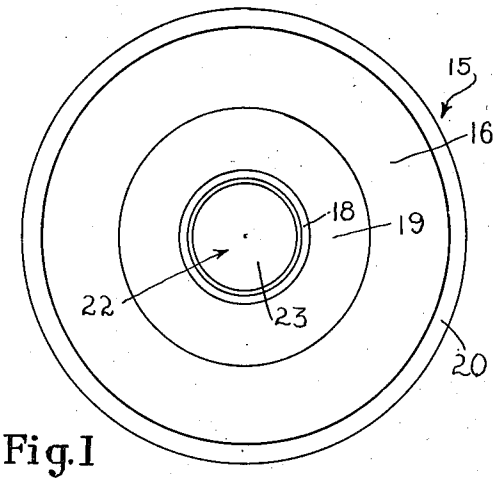


Fig. 1

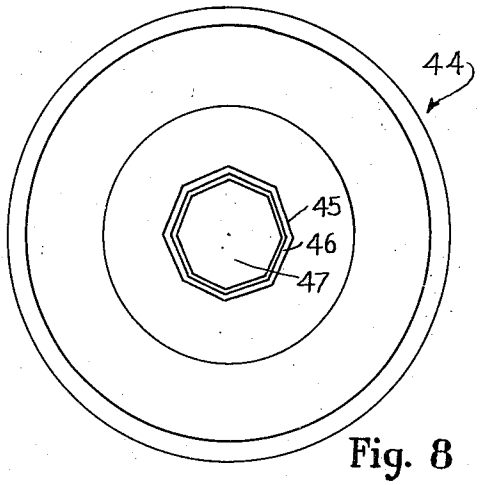


Fig. 8

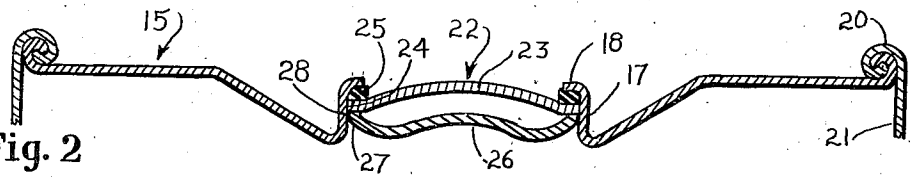


Fig. 2

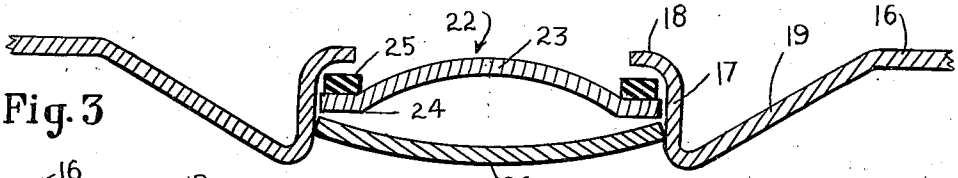


Fig. 3

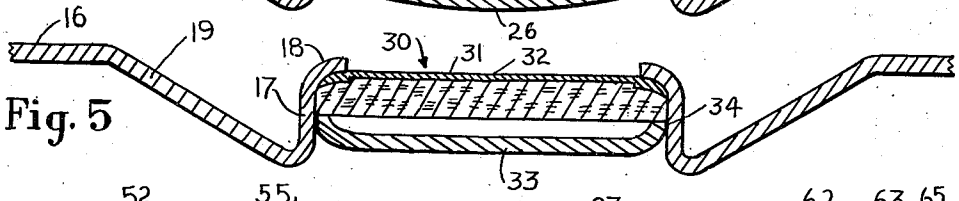


Fig. 5

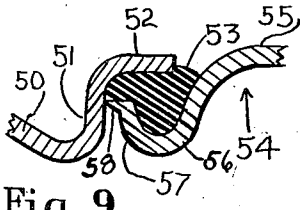


Fig. 9

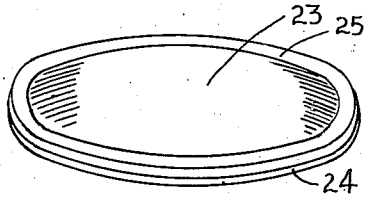


Fig. 4

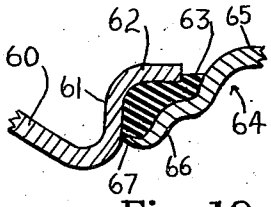


Fig. 10

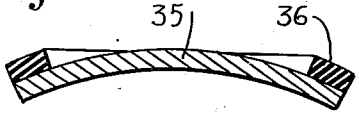


Fig. 6

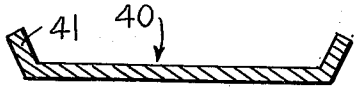


Fig. 7

INVENTOR
MAX SCHARMETT
BY John A. Hanrahan
ATTORNEY

Patented Sept. 2, 1941 2,254,453

UNITED STATES PATENT OFFICE

2,254,453

CONTAINER

Max Scharmett, Ansonia, Conn., assignor to George E. Scharmett, Ansonia, Conn.

Substituted for abandoned application Serial No. 197,996, March 25, 1938. This application January 15, 1941, Serial No. 374,527

6 Claims. (Cl. 220—24)

This invention relates to new and useful improvements in containers and has particular relation to a container which while sealed in an air tight manner and thus being adapted for the holding of liquids may be opened for the discharge of its contents without the use of any kind of opener or tool.

This application is a substitute for applicant's application Serial No. 197,996 filed Mar. 25, 1938.

The objects and advantages of the invention will become apparent from a consideration of the following detailed description taken in connection with the accompanying drawing wherein satisfactory embodiments of the invention are shown. However, it is to be understood that the invention is not limited to the details disclosed but includes all such variations and modifications as fall within the spirit of the invention and the scope of the appended claims.

In the drawing:

Fig. 1 is a top plan view of a container constructed in accordance with the invention;

Fig. 2 is a sectional view through the upper portion of the container of Fig. 1, the view being on an enlarged scale and showing the improved sealing or closing means;

Fig. 3 is a view somewhat similar to Fig. 2 but showing the sealing means just prior to the final step of applying the same;

Fig. 4 is a perspective view of one member of the sealing means;

Fig. 5 is a view similar to Fig. 2 but showing a modification;

Fig. 6 is a sectional view showing a modified construction of sealing member;

Fig. 7 is a sectional view showing another modification of sealing member holding means;

Fig. 8 is a top plan view of a container, the view showing a slight modification;

Fig. 9 is a detailed sectional view on an enlarged scale and showing a modification; and

Fig. 10 is a similar view showing another modification.

Referring in detail to the drawing and at first more particularly to Figs. 1 through 4 at 15 is shown a metal container including a top wall 16 having a centrally arranged neck-like portion 17 provided at its outer end with a bead or inturned flange 18. Obviously the neck when open gives access to the interior of the container. The portion 19 of wall 16 inclines from the lower or inner end of the neck 17 whereby the latter is arranged centrally of a depressed portion of the wall.

The arrangement is such that the depth of the depression in the wall 16 is such that the upper or outer side of the bead or flange 18 is below the upper or outer surface of the outer edge portions of the wall. Thus the bead 18 is also below or inwardly of the bead or seam 20 between the wall 16 and the side wall 21 of the container. The purpose of this construction will later be fully set forth.

Within the neck 17 is a container sealing means generally designated 22 and including a disc-like metal member 23 the center portion of which is bowed upwardly while the edge portions 24 thereof are flat. The bowed center portion provides a button-like part to be pressed to unseal the container as will appear. On the flat edge portions 24 of the member 23 is a gasket 25 of compressible material as gum rubber or the like. When the container is in sealed condition the gasket 25 is being pressed tightly against the bead 18 and is compressed between the bead and the member 23 whereby to form a seal between said parts and to seal the container.

The member 23 is held in place by a metal disc-like means 26. Means 26 is applied as suggested in Fig. 3 wherein the parts are shown prior to the sealing. There it will be noted that gasket 25 is not compressed and that the means 26 has its edges engaging the inner surface of the neck 17 and its intermediate or center portion bowed downwardly or inwardly of the container. With the parts positioned as in Fig. 3 the means 26 is forced in place by pressure applied to its center portion with the result that as such center portion attempts to straighten under the applied pressure its edges are forced against the inner surface of the neck 17.

As a result of the application of such pressure the means 26 assumes the shape shown in Fig. 2 wherein its edge portions 27 have straightened to engage the inner surface of the neck 17 over a slight area as at 28 and the center portion of the means 26, when viewed in Fig. 2, is bowed outwardly or the reverse of its bow as viewed in Fig. 3. Thus the means 26 as it is being fully applied forces the member 23 to a position wherein the gasket 25 is compressed and the means when fully in position holds the member 23 in position keeping the gasket compressed and the container sealed in an air-tight manner.

From the above it will be apparent that the container of the invention is adapted for the reception of liquids as well as solids or semi-solids. When it is desired to gain access to the contents of the container it is but necessary to

press inwardly on the center portion of the member 23, such portion of the member being, as shown best in Figs. 1 and 2, exposed through the open end of the neck 17.

The construction described is such that the seal 22 may be pressed into the container so as to open the neck 17 to give access to the contents of the container, merely by pushing on the member 23 with the thumb or finger. The seal is held in place due to the forced fit of the means 26 in the neck portion of the container. It is noted that all portions of the seal are below the plane of the peripheral portion of wall 16 and particularly below the plane of the seam or bead between such wall and the side wall of the container. Therefore when the containers are stacked there is no danger of the seal 22 being casually engaged and loosened.

Fig. 5 shows a modification wherein the container includes the top wall 16, neck 17 and bead 18 as previously described. In the modification the seal generally designated 30 includes a cork or other compressible sealing member 31 having a covering of metal foil or the like 32 thereon. Member 31 is held with its edge portion pressed against the inner surface of bead 18 by a means 33 comprising a disc-like piece of metal and being the same as the means 26 above described. In Fig. 5 means 33 is shown as when holding the cork disc-like member 31 in sealed position and it is noted that the center or intermediate portion of the means is straight across and not concave as in the case of the means 26 of Fig. 2. Whether this means is straight across as in Fig. 5 or concave as in Fig. 2 depends on the pressure exerted in forcing it to position. Means 33 has forced frictional engagement with the inner surface of the neck 17 as at 34 and thus is held in position and serves to hold the member 31 in position with its edge portions compressed between the means and the inner surface of bead 18 whereby the container is sealed.

Fig. 6 shows a metal disc-like member 35 which may be used in place of the member 23 above described. Member 35 is curved for its entire diameter and is not provided with a flat edge portion but otherwise it functions for the purpose and in the manner of the member 23. About the edge portion of member 35 is located or arranged a gasket 36 of rubber or other compressible material to function as and for the purpose set forth in connection with the gasket 25 of Figs. 1 through 4.

Fig. 7 shows a means 40 designated to be used in place of the means 26 of Figs. 1 through 4 or the means 33 of Fig. 5. Means 40 comprises a metal disc-like piece having a flaring peripheral portion 41 designed to be forced into a tight frictional engagement with the inner surface of a neck portion of a container as will be understood whereby to secure sealing members as in Figs. 1 through 6 against an inturned flange or bead on said neck portion.

The purpose of Fig. 8 is simply to illustrate that the sealing means of the invention need not be circular but may be provided with straight edge portions as in the mentioned figure wherein the edge portions of the sealing means are octagonal. Other shapes may be used as desired and it is intended to cover such other shapes in such claims as specify the sealing member or the sealing means as "disc-like." The container of Fig. 8 is generally designated 44 and includes a neck portion 45 having an octagonal bead or flange 46 at the outer end of said neck. Obviously the edges of the sealing or closing member 47 and any securing means employed therewith as well as the inner surface of the neck 45 may be octagonal or other configuration as desired.

In the modification of Fig. 9 the top wall 50 of a container is provided with a neck 51 corresponding with the neck 17 above described and at its outer end the neck 51 includes an inturned flange or bead 52. Held compressed against the inner surface of bead 52 is a compressible gasket 53 of rubber or the like. Gasket 53 together with a disc-like metal member 54 serves to close the neck 51 in an air tight manner. Member 54 includes a button-like center portion 55 to be engaged by the thumb for the purpose of pushing the closure or seal into the container when the contents thereof are to be discharged.

Also member 54 includes an annular depressed portion 56 from the upper edge of the outer portion 57 of which projects a feather edge 58. When the member and gasket are placed in the neck 51 the portion 56 of the member is engaged with any suitable tool and pressure applied through the tool. This applied pressure tends to flatten the portion 56 with the result that the feather edge 58 is forced against the inner surface of the neck 51 whereby the member is frictionally held in the neck and maintains the gasket in compressed condition. That is, the gasket is compressed between the inner surface of the bead and the outer peripherial edge portion of member 54. Thus the container is sealed in an air tight manner. To open the container no tools are needed as by pressing the portion 55 of the member 54 with the thumb the entire seal or closure may be pushed into the container.

Referring now to Fig. 10 the modification there shown comprises a substantial reversal of the construction shown in Fig. 9. In Fig. 10 the container top wall 60 is provided with the neck 61 having the bead 62 at its outer end. Within the neck is a seal including the compressed gasket 63 of rubber or the like and a metal disc-like member 64 supporting the gasket and maintaining it in compressed condition against the inner surface of the bead 62. Member 64 includes a button-like portion 65 to be engaged by the thumb and pressed when it is desired to push the closure or seal into the container for the purpose of gaining access to its contents.

In addition the member includes a portion 66 which has been engaged by a suitable tool through which pressure has been applied to the member whereby its feather edge portion 67 has been forced against the inner surface of the neck 61 of the container. Obviously the gasket 63 forms a seal between the edge portion of member 64 and the bead 62 whereby the container is sealed in an air-tight manner. To open the container no tools are required as it is but necessary to engage the button-like portion 65 and press the sealing means into the container in order to gain access to the contents of the container.

From the above it will be understood that in the device disclosed in the various forms of the invention the use of can openers and the like is not necessary for the opening of the container of the invention. The present container is adapted for the holding of liquids as well as semi-solids and solids. When the parts are properly in pace the container is tightly sealed and as the sealing means is in each instance below the upper surface of the container there is no danger of the container being casually opened and yet it

may be opened simply by pressing the seal into the container through pressure applied by the thumb or finger.

Having thus set forth the nature of my invention, what I claim is:

1. In a container, a body comprising a neck portion having a pouring opening surrounded by an inturned bead, a closure within said portion and comprising a compressed gasket seated against the inner surface of said bead, a stiff metal disc-like member at the inner side of said gasket and pressing the same against said bead and closing said pouring opening, and a spring metal disc frictionally engaging said neck and holding said member in position to maintain said gasket compressed between the member and bead whereby to seal the container and permit of the opening thereof by pressing the member into the container.

2. In a container, a body including a portion having side walls and an inturned bead on said walls, a closure within said portion and comprising a compressible element seated against the inner surface of said bead, a stiff metal disc-like member at the inner side of said element, and a spring metal disc at the inner side of said member and frictionally engaging said side walls and supporting said member in position compressing said element against the bead whereby to seal the container and whereby the latter may be opened by pushing the member to dispose it and the means inwardly of the container.

3. In a container, a body comprising a portion having side walls and an inturned bead on said walls, a closure within said portion and comprising a gasket seated against the inner surface of said bead, a stiff metal disc-like member at the inner side of said gasket in position spanning the space between the inner portions of said bead, and a spring metal disc at the inner side of said member and frictionally engaging said side walls and supporting said member in position compressing said gasket against the bead whereby to seal the container and whereby the latter may be opened by pushing the member to dispose it and the means inwardly of said bead.

4. In a container, a body comprising a neck portion having a pouring opening surrounded by an inturned bead, a closure within said portion and comprising a compressed gasket seated against the inner surface of said bead, a stiff metal disc-like member at the inner side of said gasket and pressing the same against said bead and closing said pouring opening, a normally concavo-convex spring metal disc which is normally of the same diameter as the interior of said neck portion, said disc having its center portion forced out of normal whereby its diameter is increased and its edges forced against the inner surface of said neck portion at the inner side of said member, and said disc thereby holding the member in position maintaining the gasket compressed between the member and bead whereby to seal the container and yet permit of the opening thereof by pressing of the member into the container.

5. In a container, a body comprising a neck portion having a pouring opening surrounded by an inturned bead, a compressed gasket seated against the inner surface of said bead, a rigid metal disc member at the inner side of the gasket and pressing the same against the inner surface of said bead and closing said pouring opening, means located at the inner side of said member and engaging the under side edge portion thereof and holding the member in position to maintain the gasket compressed, said means including a peripheral portion which normally has a snug fit in said neck portion, said means including a normally concavo-convex portion, and said concavo-convex portion forced out of normal whereby the diameter of the means is increased and the periphery thereof forced into locking engagement with the inner surface of the neck portion.

6. In a container, a body comprising a neck portion having a pouring opening surrounded by an inturned bead, a compressed gasket seated against the inner surface of said bead, a rigid metal disc member at the inner side of said gasket and pressing the same against the bead and including a portion closing said pouring opening, means located inwardly of said portion closing said pouring opening and holding the member in position to maintain the gasket compressed, said means including a peripheral portion which normally has a snug fit in said neck portion, said means including a portion normally concavo-convex in cross section, and said last named portion forced out of normal whereby the diameter of the means is increased and the periphery thereof forced into locking engagement with the inner surface of said neck portion.

MAX SCHARMETT.