June 5, 1934. A. E. NUNES 1,961,382

REMOVABLE RECEPTACLE CLOSURE

Filed June 9, 1932

Fig. 1

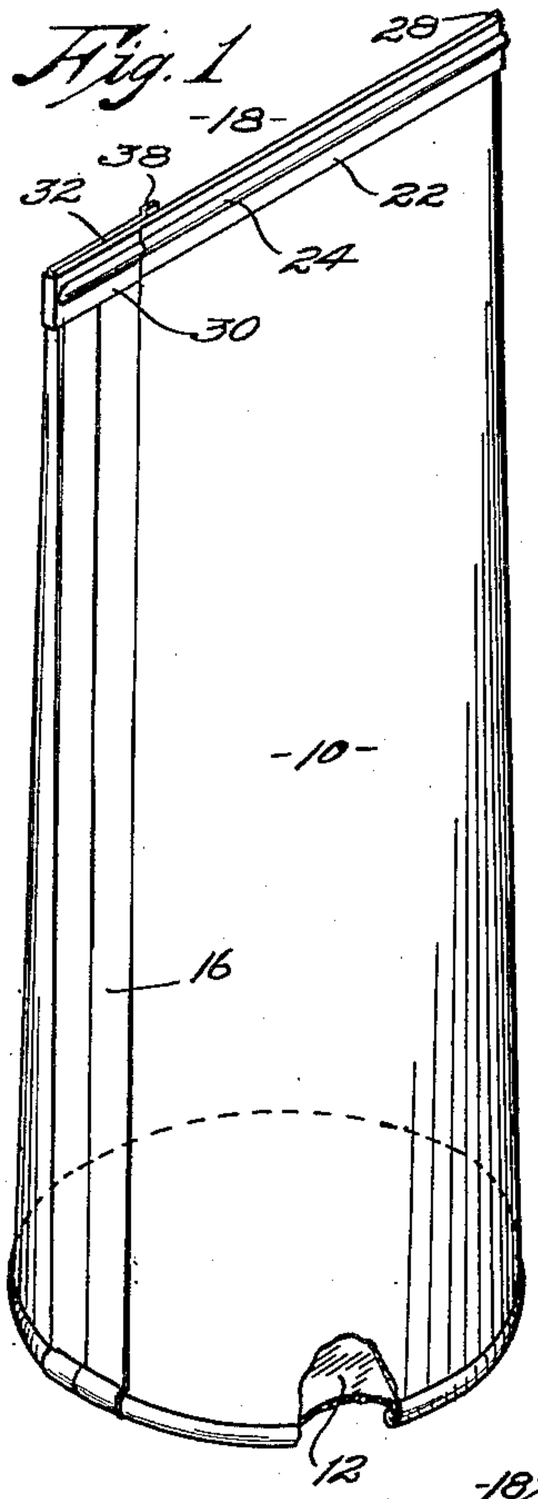
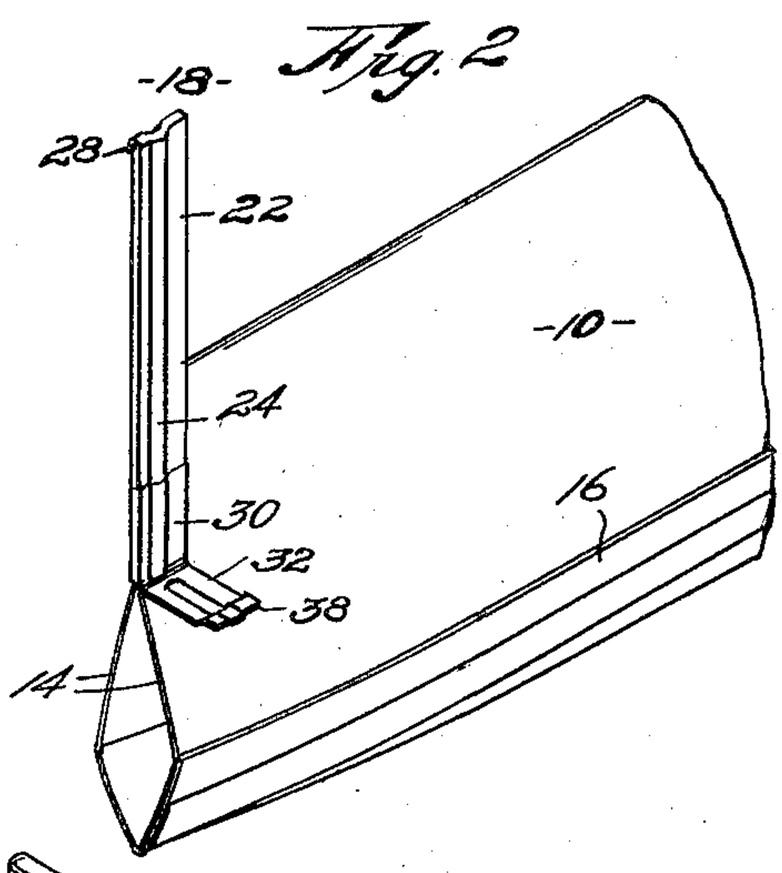


Fig. 2



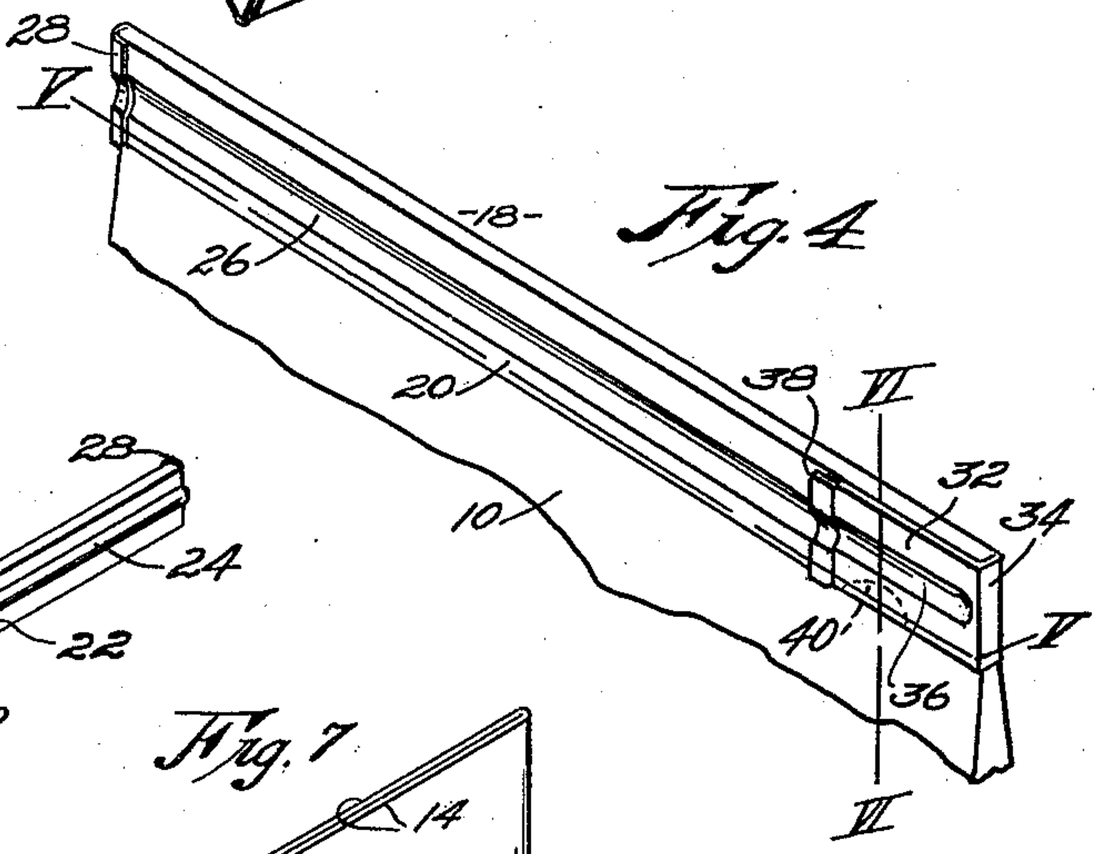


Fig. 4

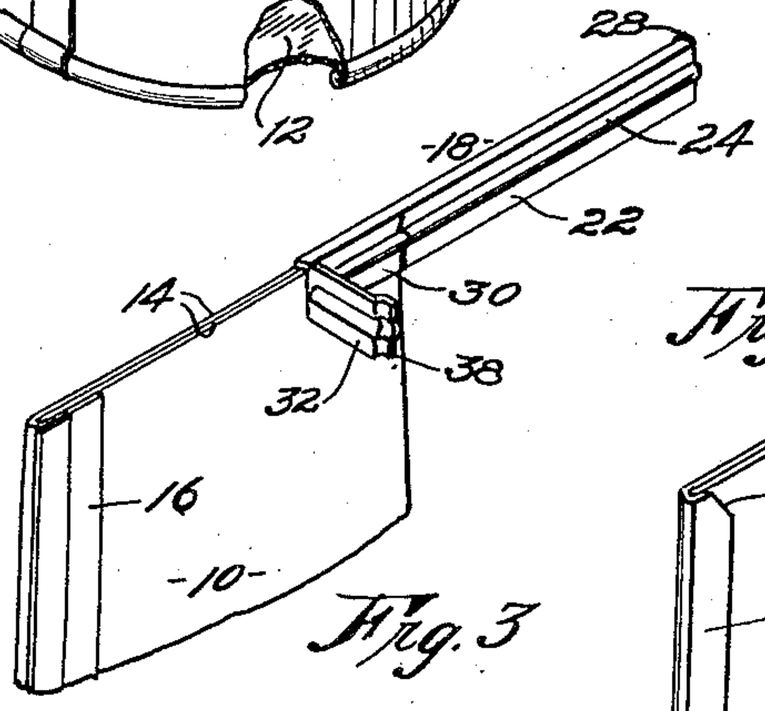


Fig. 3

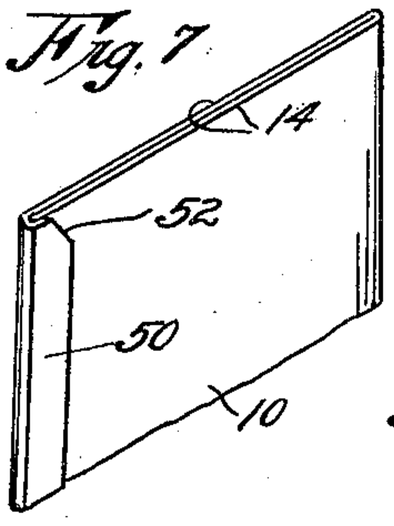


Fig. 7

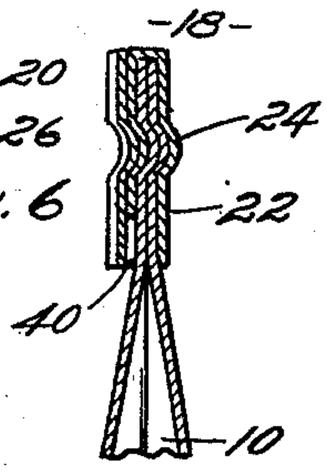


Fig. 6

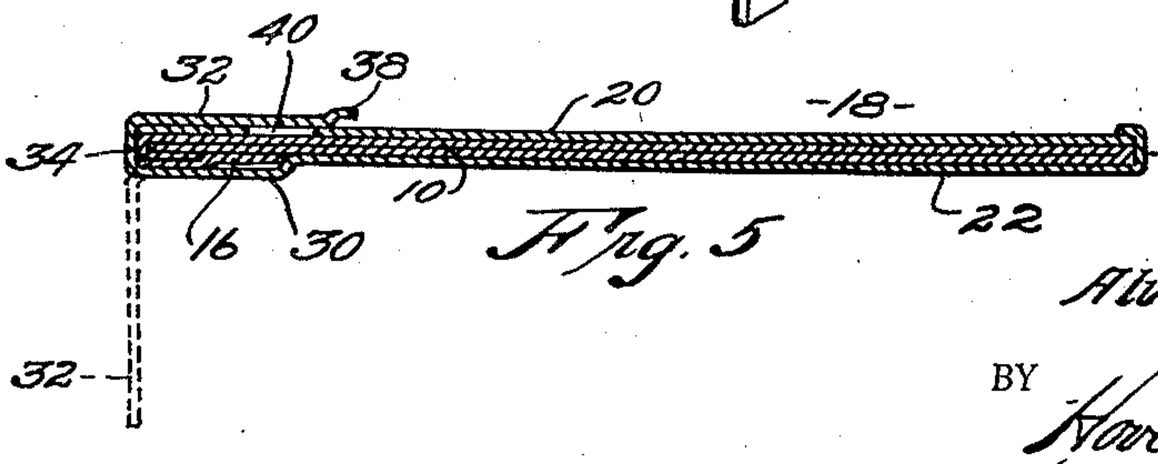


Fig. 5

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REMOVABLE RECEPTACLE CLOSURE

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6 Claims. (Cl. 229—1.5)

This invention relates to receptacles or containers of a type which may be collapsed at the filling mouth thereof so that the edges are moved to confronting relation, whereby a closure of very simple structure may be affixed for the purpose of sealing the receptacle liquid-tight.

The primary object of this invention is to provide such a closure, but which has the added advantage of being removable either partially or entirely from the receptacle for the purpose of pouring from the receptacle a quantity of liquid and then resealing in a manner which is just as effective as the condition of the parts presented before partially or wholly removing the closure as mentioned.

One of the objects of the instant invention is the contemplation of a new article of manufacture in the form of a closure for collapsible receptacles which may be preformed and placed upon the mouth of the receptacle by hand without the use of machinery or special equipment.

Further objects of this invention are to provide a closure which is of a size sufficient to present a grip by means of which the body of the closure may be drawn to and from an operative position with sufficient force to slightly offset the walls of the container so that a positive seal is created; to provide finger-nail space beneath said ear when it is in the operative position for the purpose of permitting the ear to be easily swung to or from the locking relation with one of the walls of the body.

A number of minor objects and the method of employing a removable closure such as contemplated by this invention will be referred to in the following specification, referring to the drawing, wherein:

Figure 1 is a perspective view of a receptacle showing a closure embodying the present invention in the operative position.

Fig. 2 is a fragmentary, perspective view of the upper portion of a receptacle employing the closure, but with the same partially removed, whereby liquid from the container may escape from the mouth thereof.

Fig. 3 is a perspective view of the mouth portion of the container and showing the closure being moved to the operative position.

Fig. 4 is an enlarged, fragmentary, perspective view of a closure embodying the features of this invention showing the same in place.

Fig. 5 is a sectional view taken on line V—V of Fig. 4.

Fig. 6 is a vertical cross sectional, detailed view taken on line VI—VI of Fig. 4, and,

Fig. 7 is a fragmentary, sectional view of the compressed mouth portion of a modified form of receptacle, with which the closure may be used.

It is well known in the art that a collapsible receptacle made of treated paper or the like includes a substantially cylindrical body 10 having one end thereof closed by a bottom wall 12, while the opposite end remains open to present a filling mouth, the edges 14 of which are in confronting relation so that when the mouth is compressed these edges will be in alignment to receive the closure as clearly illustrated in the several views of the drawing.

In the manufacture of such receptacles, the body thereof is usually made of a formed piece of flat stock lapped along a longitudinal seam and reenforced by a strip 16 to create a tight container. These receptacles are usually employed to transport milk or other liquids which it is desired to maintain absolutely clean, and in order to guard against the introduction of foreign matter, the mouth of body 10 must be thoroughly and effectively sealed.

Heretofore, such sealing has been done by machinery and the closure secured in such a manner that its removal by the housewife rendered impossible. To empty the receptacle, it became necessary to have to use a knife or other sharp instrument to cut through the walls of body 10, thereby opening the receptacle and positively preventing resealing.

As mentioned above, this invention contemplates the use of a removable closure for such receptacles as have been described, and the same may consist of an extended U-shaped body 18 having spaced apart, substantially parallel walls 20 and 22, each of which has formed longitudinally therealong, a concavo-convex crimp 24 and 26. The end of U-shaped body 18 is closed by a wall 28 which may be created by continuing wall 22 beyond the opposing wall 20 and the rebending to create end wall 28 as illustrated in Fig. 5. Crimp 24 extends uninterruptedly from one end of wall 22 to the other and crimp 26 likewise extends the entire length of wall 20. These crimps merge into a similar crimp formed in end wall 28 and when the confronting edges 14 and a portion of the body 10 is moved into position between walls 20 and 22 as illustrated in Fig. 3, opposed crimps 24 and 26 force a similar crimp into the two walls of body 10 as shown in Fig. 6. There need not be previous treatment to the walls of body 10, but since strip 16 makes a slightly greater thickness near one end of the closure when it is in the operative position, it becomes necessary to slightly offset the same as at 30 to compensate for this thickness.

An ear 32 is formed at one end of wall 22 simply by extending this wall a substantial distance beyond the opposing wall 20. When the article is produced ready for assembly ear 32 should project laterally as shown in Figs. 2, 3 and 5 so that a good grip might be afforded and the closure drawn along the confronting edges 14 to close the mouth of the receptacle.

In drawing the closure along in this fashion the walls of the mouth adjacent edges 14 are drawn snugly together and the crimp created between crimps 24 and 26 co-operates in a manner to prevent accidental displacement of the closure if a pull upwardly should be exerted thereon. As the closure is moved to the position where it extends clear across the mouth of body 10 ear 32 is bent around against wall 20 as clearly shown in Fig. 4.

A hinge portion 34 is created between the end of wall 22 and ear 32 and a crimp 36 is formed longitudinally along ear 32 from the free end thereof to a point close to hinge portion 34. This crimp 36 extends laterally in the opposite direction than crimp 24 when wall 20 and ear 32 are in the same plane. Obviously, it is clear that when ear 32 is swung around against wall 20 crimp 36 will nest with crimp 26 and produce an effective lock.

The free end of ear 32 is provided with an offset 38 and a notch 40 is formed in wall 20 adjacent its end and below ear 32 when the closure is in the operative position illustrated in Figs. 4 and 5. Thus a space beneath ear 32 is created whereby the insertion of a sharp instrument or simply the finger-nail may be effective in lifting the ear 32 to draw it around to the position shown in Fig. 2 so that the closure proper may be bodily moved longitudinally to open a predetermined amount of the compressed mouth of body 10. When the desired amount of liquid has been removed from body 10, closure 18 may be again drawn to the sealing position and ear 32 swung around hinge portion 34 and pressed into place. Obviously, the nature of the material from which this closure is made must permit flexing at hinge portion 34, yet be strong enough to maintain the parts of the closure in fixed position once they are pressed into place.

Fig. 7 illustrates a receptacle having merely the lapped edges and the lapped portion 50 is not reenforced by a strip as mentioned heretofore. In this instance it may be desired to angle the corners as at 52 so that when the closure is positioned it will not be retarded in its movement.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. A closure for the mouth of a container formed of compressible material; comprising an extended U-shaped body having spaced apart walls for slidably engaging said container to hold together the confronting edges of said mouth; opposed continuous longitudinal crimps formed in said spaced apart walls; an end wall closing one end of said U-shaped body; a crimp extending across said end wall and joining the crimp in said spaced apart walls; an ear formed by extending one of said spaced apart walls beyond the edge of the container mouth; a hinge portion at the line of juncture between said ear and adjacent wall positioned to contact the end of the container when in the operative position; and a crimp formed longitudinally of said ear and extending from said hinge portion to the free end thereof.

2. A closure for the mouth of a container formed of compressible material; comprising an extended U-shaped body having spaced apart walls for slidably engaging said container to hold together the confronting edges of said mouth; opposed continuous longitudinal crimps formed in said spaced apart walls; an end wall closing one end of said U-shaped body; a crimp extending across said end wall and joining the crimp in said spaced apart walls; an ear formed by extending one of said spaced apart walls beyond the edge of the container mouth; a hinge portion at the line of juncture between said ear and adjacent wall; a crimp formed longitudinally of said ear and extending from said hinge portion to the free end thereof; and an offset created at the said free end of the ear to form a grip for receiving force whereby to hinge the ear to and from the operative position.

3. A closure for the mouth of a container formed of compressible material; comprising an extended U-shaped body having spaced apart walls for slidably engaging said container to hold together the confronting edges of said mouth; opposed continuous longitudinal crimps formed in said spaced apart walls; an end wall closing one end of said U-shaped body; a crimp extending across said end wall and joining the crimp in said spaced apart walls; an ear formed by extending one of said spaced apart walls beyond the edge of the container mouth; a hinge portion at the line of juncture between said ear and adjacent wall; a crimp formed longitudinally of said ear and extending from said hinge portion to the free end thereof, said crimp formed by the ear and the crimp in the opposite wall of the U-shaped body being nested when the ear is in the operative position; and a notch formed in that portion of the U-shaped body wall underlying said ear when in such operative position.

4. As a new article of manufacture, a closure of the character described comprising an elongated body of U-shape cross section; opposed longitudinally extending continuous crimps formed in the walls of said body; a wall closing one end of said body; an ear formed at the end of said body by a longitudinal continuation of one of said walls; and a notch formed in the other wall adjacent the end thereof and positioned to underlie said ear when the same is rebent upon the body against said notch-forming wall.

5. As a new article of manufacture, a closure of the character described comprising an elongated body of U-shape cross section; a wall closing one end of said body; opposed longitudinal crimps formed in the walls of said body; an ear formed by one wall of said body and foldable against the other; a crimp formed by said ear and extending therealong a portion of its length, the crimp of said ear and the adjoining wall extending laterally in opposite directions when the wall and ear are in the same plane and a portion of said body walls being spaced apart a greater distance than the body portion thereof to receive the folded portion of a container.

6. As a new article of manufacture, a closure of the character described comprising an elongated body of U-shape cross section; a wall closing one end of said body; opposed longitudinal crimps formed in the walls of said body; an ear formed by one wall of said body and foldable against the other; a crimp formed by said ear and extending therealong a portion of its length; and a cut away in said body to create finger-nail space beneath the said ear when in the operative position against one wall of the body, said ear being long enough to form a grip whereby to slide said body to and from the operative position.

ALVIN E. NUNES.