Oct. 16, 1956 E. S. TUPPER 2,766,796

VACUUM AND SEAL TYPE OF RECEPTACLE

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Fig. 1

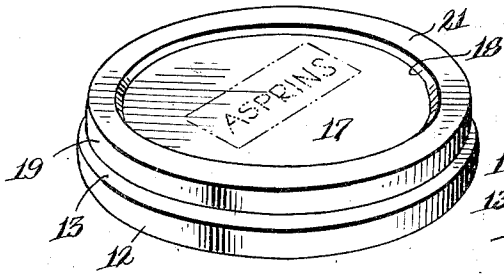


Fig. 2

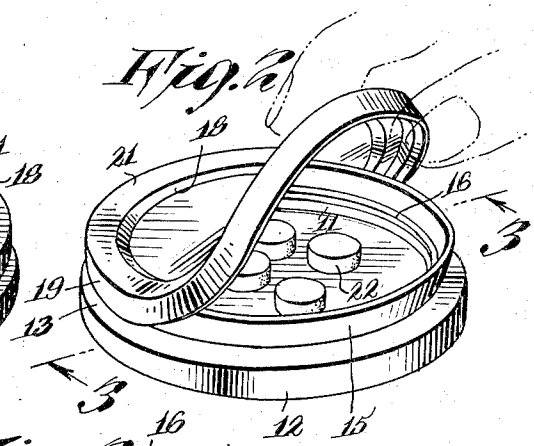


Fig. 3

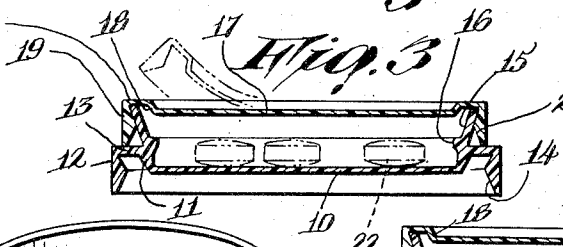


Fig. 4

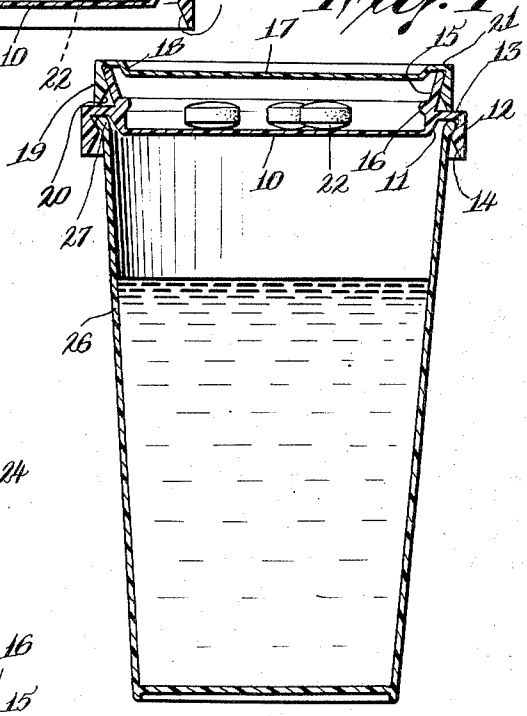
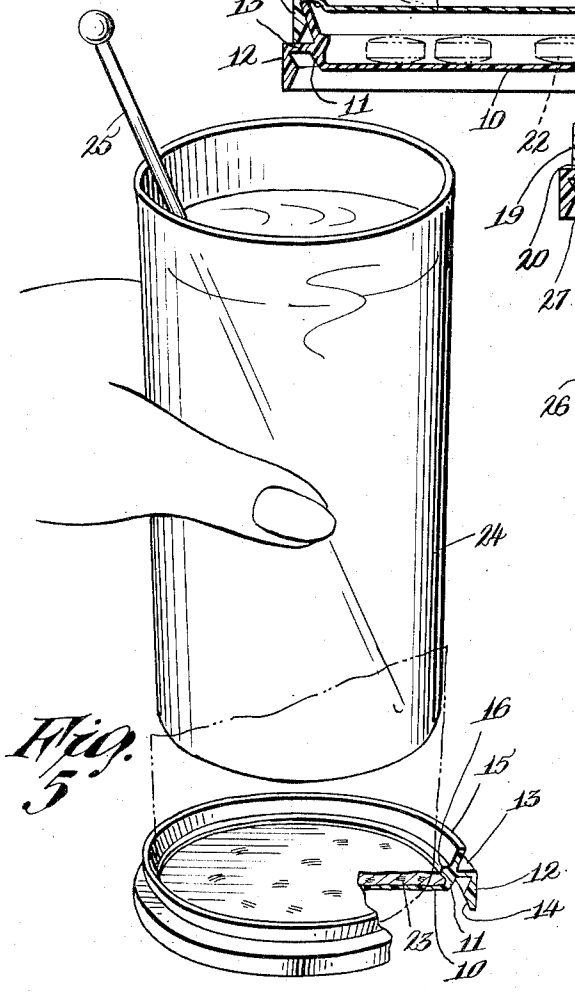


Fig. 5



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VACUUM AND SEAL TYPE OF RECEPTACLE

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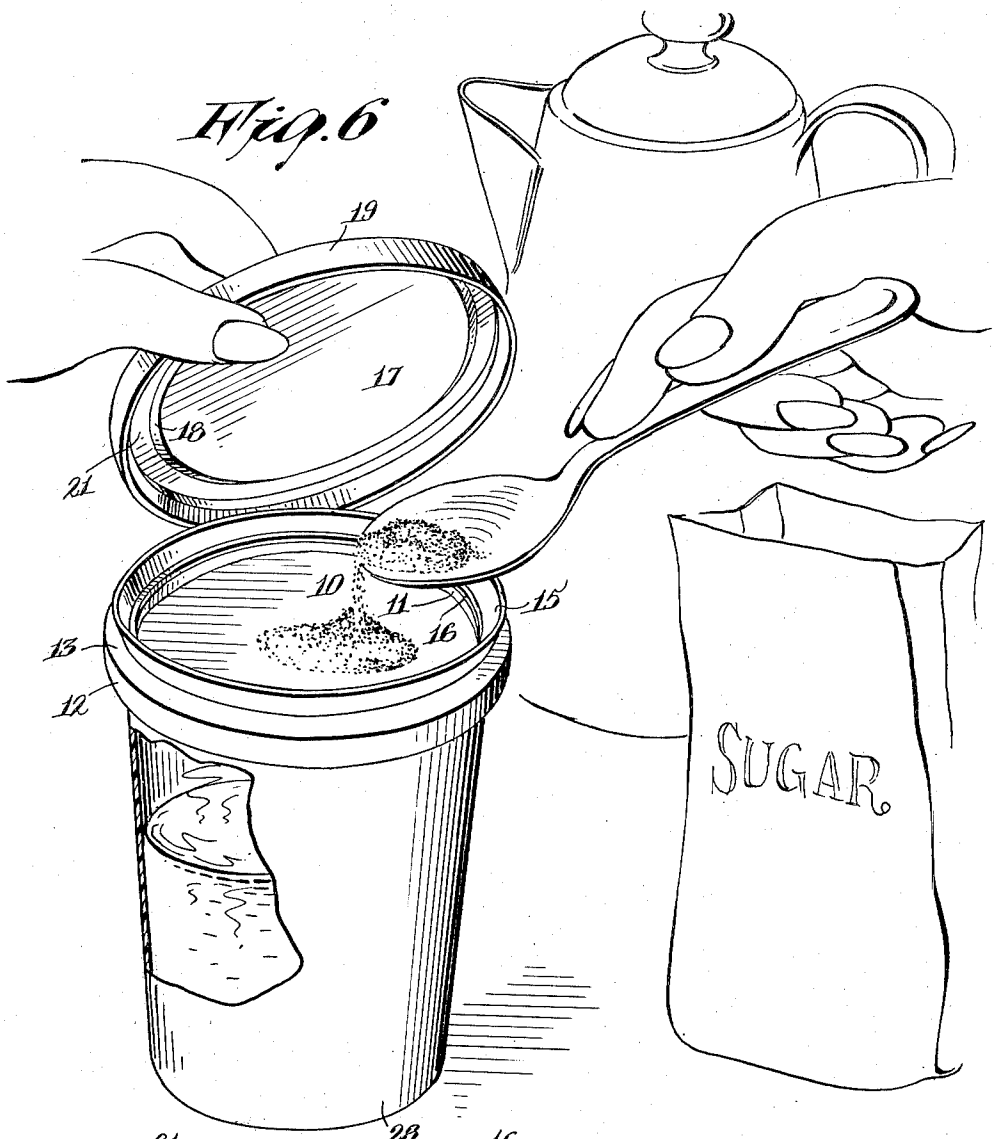
Fig. 6



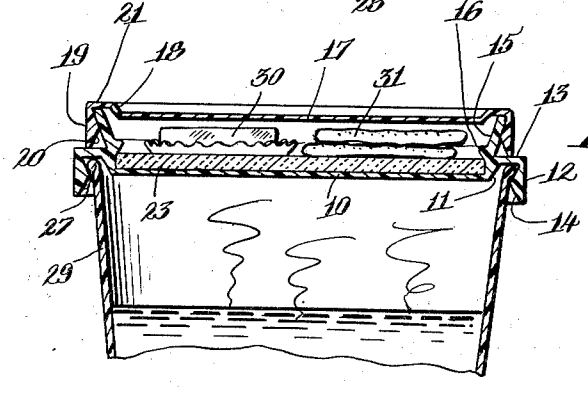


Fig. 7

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VACUUM AND SEAL TYPE OF RECEPTACLE

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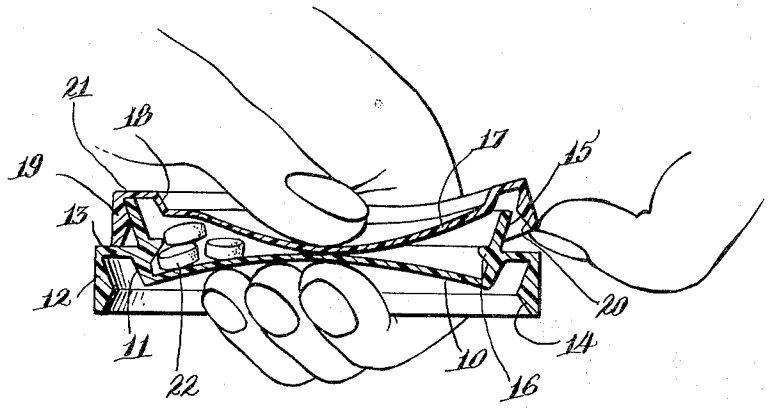

Fig. 8

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2,766,796

VACUUM AND SEAL TYPE OF RECEPTACLE

Earl S. Tupper, Upton, Mass.

Application January 12, 1953, Serial No. 330,715

5 Claims. (Cl. 150—.5)

This invention relates generally to a type of combined seal and receptacle, but more specifically to a device capable of simultaneous or selective service as a receptacle and as a vacuum type of seal.

The main object of the invention resides in the provision of a flat type of vessel having a removable cover, the said vessel and cover when in assembled form serving as a double-walled vacuum type of closure for containers of any type and further serving as a vacuum type of receptacle per se.

The combined seal and receptacle in parts embodies structure shown in U. S. Patent No. 2,487,400 granted to the applicant herein on November 8, 1949.

Another object of the invention herein resides in the use of material helpful to functioning of specified structure, said material being polyethylene or other plastic material having similar characteristics, said material having resiliency with local distortability and does not absorb and is not readily wetted by water, is odorless, resistant to acids, solvents and other chemicals, will not soften at ordinary temperatures, is unbreakable, has flexibility, is frictional and waxy to the touch, is light in weight, is unaffected at working temperatures and affords a sterile medium for and consequently is resistant to mildews, micro-organisms and insects.

A further object of the invention resides in the provision of a double-walled type of vacuum seal also serviceable as a receptacle and wherein the walls are capable of being compressed for formation of a partial vacuum and wherein assembly and disassembly of the parts are made simple and wherein the parts are moldable by compression or injection, the device and its parts being economical to manufacture, durable, easy to clean, and sanitary and efficient in operation.

These objects and other incidental ends and advantages of the invention will hereinafter appear in the progess of the disclosure and as pointed out in the appended claims.

Accompanying this specification are drawings showing the device and uses thereof and wherein:

Figure 1 is a view in perspective of the combined seal and receptacle shown in operative position as a vacuum type of sanitary and sealed pharmaceutical container.

Figure 2 is a view in perspective of the receptacle of Figure 1 shown in partially open position and exposing pharmaceutical tablets.

Figure 3 is a sectional view of Figure 2 across the plane 3—3 thereof.

Figure 4 is a longitudinal sectional view of the combined seal and receptacle functioning as a double-walled vacuum type of seal for a tumbler having liquid contents therein, the said receptacle also serving as a container for pharmaceutical tablets.

Figure 5 is a view in perspective of a cocktail or high-ball glass and a coaster wherein the main part of the receptacle serves the function of said coaster.

Figure 6 is a composite view of a coffee assembly showing a tumbler containing hot coffee with the main part of the receptacle affixed thereto for sealing purposes, the cover portion for the said main part being shown in removed position for introduction of sugar on said main part, the said two portions forming the receptacle when in assembled relationship.

Figure 7 is a partial sectional view showing a tumbler closed by the double-walled and vacuum-type receptacle wherein the latter contains crackers and butter for soup contained in the tumbler.

Figure 8 is a view in section showing the receptacle assembly in engagement and wherein the central walls thereof are squeezed together either for purposes of removal of the cover part from the receptacle part of for purposes of creating a partial vacuum between the respective walls prior to complete engagement.

In accordance with the invention and the preferred form shown, the vacuum type receptacle also serviceable as a closure member comprises a main part having a central wall 10 and an upwardly extending peripheral rim in the form of a groove. The latter has an inner wall 11, an outer wall 12 and a connecting wall 13, the outer wall 12 on a part of the inner face being offset as indicated at numeral 14 for engagement by the thumb for removal purposes from the neck of a container to which the said portion is applicable. The inner diameter of wall 12 is preferably less than the outer diameter of a tumbler or vessel rim to which the said receptacle part may be affixed.

The receptacle part thus far described and functioning as a seal is shown in U. S. Patent No. 2,487,400 granted to the applicant as herein stated on November 8, 1949 but is herein modified by the provision of a concentric wall 15, upwardly and outwardly inclined and disposed inwardly of the groove top wall 13. Wall 15 as shown is substantially continuous with wall 11 and an intermediate and inner peripheral bead 16 may be formed if desired to provide a holding means for an insulating lining 23 of cork, blotter or other absorbent material for central wall 10.

There is provided an auxiliary seal or cover for the main receptacle part and comprises a central wall 17 and an upwardly extending peripheral rim in the form of a groove, the latter having an inner wall 18, an outer wall 19 with an offset portion 20 at the inner face and a connecting wall 21. The inner lateral dimension of outer wall 19 along the surface thereof is less than the outer lateral dimension of inclined wall 15 along the surface thereof to effectuate proper sealing.

When the auxiliary seal or cover engages the receptacle part as best seen in Figure 3, a spacing is provided between walls 17 and 10 for the receipt of any desired article such as a pharmaceutical product 22 or any other type of material required to be carried on the person or in conjunction with a fluid container for which the receptacle assembly serves as a closure member such as the vessel 26 engaging the closure member at peripheral edge 27 as shown in Figure 4.

The receptacle portion of the device bearing lining 23 may serve as a coaster as shown in Figure 5 wherein the bottom of tumbler 24 showing a stirrer 25 therein is adapted to sit on the lining member while the outer wall 12 serves as a spacer between the wall 10 and the supporting surface.

In Figure 6 the receptacle portion of the closure member is applied to a coffee tumbler 28 and is shown acting as both a seal and as a receptacle for sugar, while in Figure 7 the receptacle portion has therewithin butter 30, and crackers 31, said receptacle portion serving as a closure for soup tumbler 29 while the receptacle portion

itself is closed by the cover portion indentified by central wall 17.

The main receptacle portion by itself may be applied to a tumbler or vessel for hermetically sealing the same and is applied thereto so that the groove formed of walls 11, 12 and 13 engages the rim or beaded edge of the vessel at a preselected area. Final sealing engagement is accomplished by running the finger from said area along the groove top wall 13. To effect a partial vacuum in a vessel when made of polyethylene or other material having similar physical characteristics, it is merely necessary to press the vessel along the side wall adjacent the disengaged portion of said sealing member and thereafter completing full engagement. The cover is applicable to the receptacle portion sealing the vessel at the rim of wall 15 in the same manner except that wall 17 is depressed before full engagement to create a partial vacuum within the receptacle assembly.

To remove the assembled vacuum type receptacle serving as a closure for a vessel such as 26, the thumb of the user presses against the bottom of wall 12 at the offset part 14 and another finger is applied or pressed against central wall 17. At this time, the vessel wall adjacent the thumb is depressed causing partial disengagement between wall 12 and rim 27 and the vacuum within the vessel broken. Thereafter the receptacle is peeled off the rim of the vessel.

In connection with the removal of the auxiliary seal or cover having central wall 17 from the receptacle portion when the assembly is not serving as a closure for a vessel, a finger-nail is pressed against the bottom edge of wall 19 at offset portion 20 and at the same time the fingers of the other hand of the operator squeeze the central portion of walls 17 and 10 toward each other. In this way disengagement of wall 19 from inclined wall 15 is started adjacent the said finger-nail thereby breaking the vacuum within the receptacle. Thereafter, the auxiliary seal or cover is removed in a peeling-off manner as shown in Figure 2. Figure 8 is illustrative of the squeezing operation.

The auxiliary seal or cover is applied at the groove part to the receptacle portion at wall 15 when said assembly is not serving as a closure for a vessel by applying initial and then sliding finger pressure along top wall 21 and before complete engagement, the space between wall 17 of the auxiliary seal and wall 10 of the receptacle portion is compressed by squeezing after which engagement is completed. In this way the receptacle is in condition of a vacuum.

Both the auxiliary seal or cover and the receptacle portion making up the assembly are made of polyethylene or other material having the same physical characteristics.

It is to be noted that in this way a live seal is effected between the cover portion and the wall 15 of the receptacle portion. It is further to be noted that because of the taper on the inner face of groove wall 12, disengagement of the receptacle portion from vessel 26 becomes progressively more difficult; and because of the taper on the inner face of groove wall 19, disengagement of the cover portion from wall 15 becomes progressively more difficult. These features are advantageous in securing hermetical and strong joints.

It is understood that the vessels or containers cooperating with the vacuum type receptacle described need not be of polyethylene or substance having similar physical characteristics.

I wish it understood that minor changes and variations in the integration, size, shape, material and location of parts of the invention may all be resorted to without departing from the spirit of the invention and the scope of the appended claims.

I claim:

1. A combined seal and receptacle comprising a lower shallow article-receiving member of resilient plastic material having a central, flat horizontal wall and having an upwardly offset peripheral and inverted groove relative thereto and capable of being removably, frictionally and sealably engageable with the rim of another vessel to serve as a seal therefor, said groove having an inner, an outer and a top wall, a peripheral shallow side wall outwardly inclined and extending upwardly from said groove inner wall to form with said groove inner wall and said central, flat horizontal wall a shallow chamber, an upper member of resilient plastic material to serve as a closure for said lower shallow article-receiving member comprising a central wall and a depending peripheral side wall the inner face thereof being in removable, frictional and sealable engagement with the rim of said peripheral shallow side wall and the lower edge of said depending peripheral side wall being in abutting and sealable engagement with the upper face of the groove top wall.

2. A combined seal and receptacle as set forth in claim 1 wherein at least either the lower shallow article-receiving member or the upper member is formed of polyethylene or other material having similar physical characteristics.

3. A combined seal and receptacle comprising a lower shallow article-receiving member of resilient plastic material having a flat central horizontal wall and having an upwardly offset peripheral and inverted groove relative thereto and capable of being removably, frictionally and sealably engageable with the rim of another vessel to serve as a seal therefor, said groove having an inner, an outer and a top wall, a peripheral shallow side wall outwardly inclined and extending upwardly from said groove inner wall to form with said groove inner wall and said central horizontal wall a shallow chamber, an upper member of resilient plastic material to serve as a closure for said lower shallow article-receiving member and comprising a central wall and an upwardly offset peripheral inverted groove formed of an inner, outer and top wall, the inner face of the outer wall of the groove of the upper member being in removable, frictional and sealable engagement with the rim of said peripheral shallow side wall of said article receiving member and the lower edge of the outer wall of the groove of the upper member being in abutting and sealable engagement with the upper face of the top wall of the groove of said article-receiving member.

4. A combined seal and receptacle as set forth in claim 3 wherein at least either the lower shallow article receiving member or the upper member is formed of polyethylene or other material having similar physical characteristics.

5. A combined seal and receptacle as set forth in claim 3 wherein an inner reinforcing peripheral bead is provided on the inner face of the said peripheral shallow side wall.

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