Dec. 28, 1937. W. KLINE ET AL 2,103,677

SPACED WALL RECEPTACLE

Filed Oct. 9, 1934 3 Sheets-Sheet 1

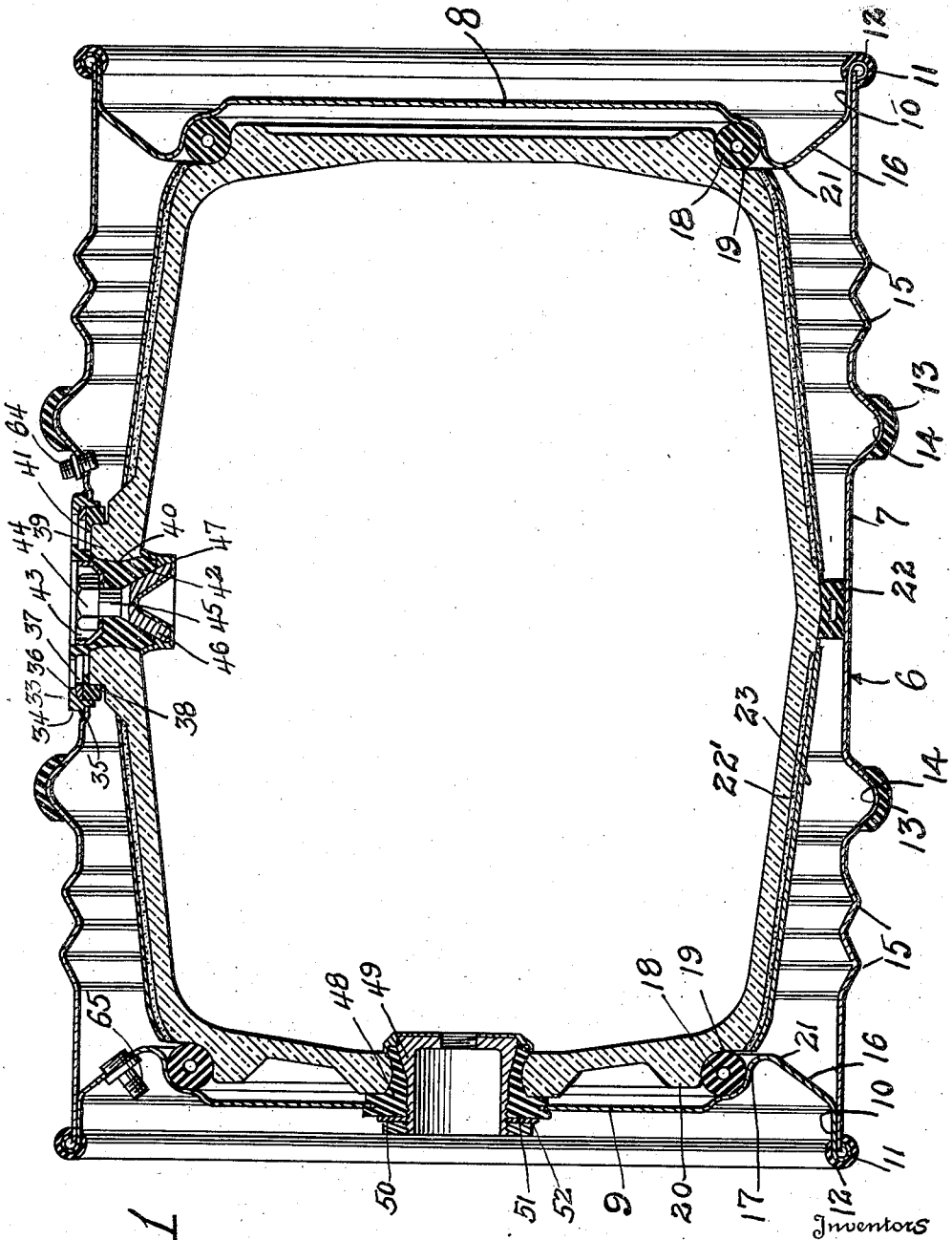


Fig. 1

Inventors

Walter Kline

and William A. Brubaker

By William N. Knight

Attorney

Dec. 28, 1937. W. KLINE ET AL 2,103,677

SPACED WALL RECEPTACLE

Filed Oct. 9, 1934 3 Sheets-Sheet 2

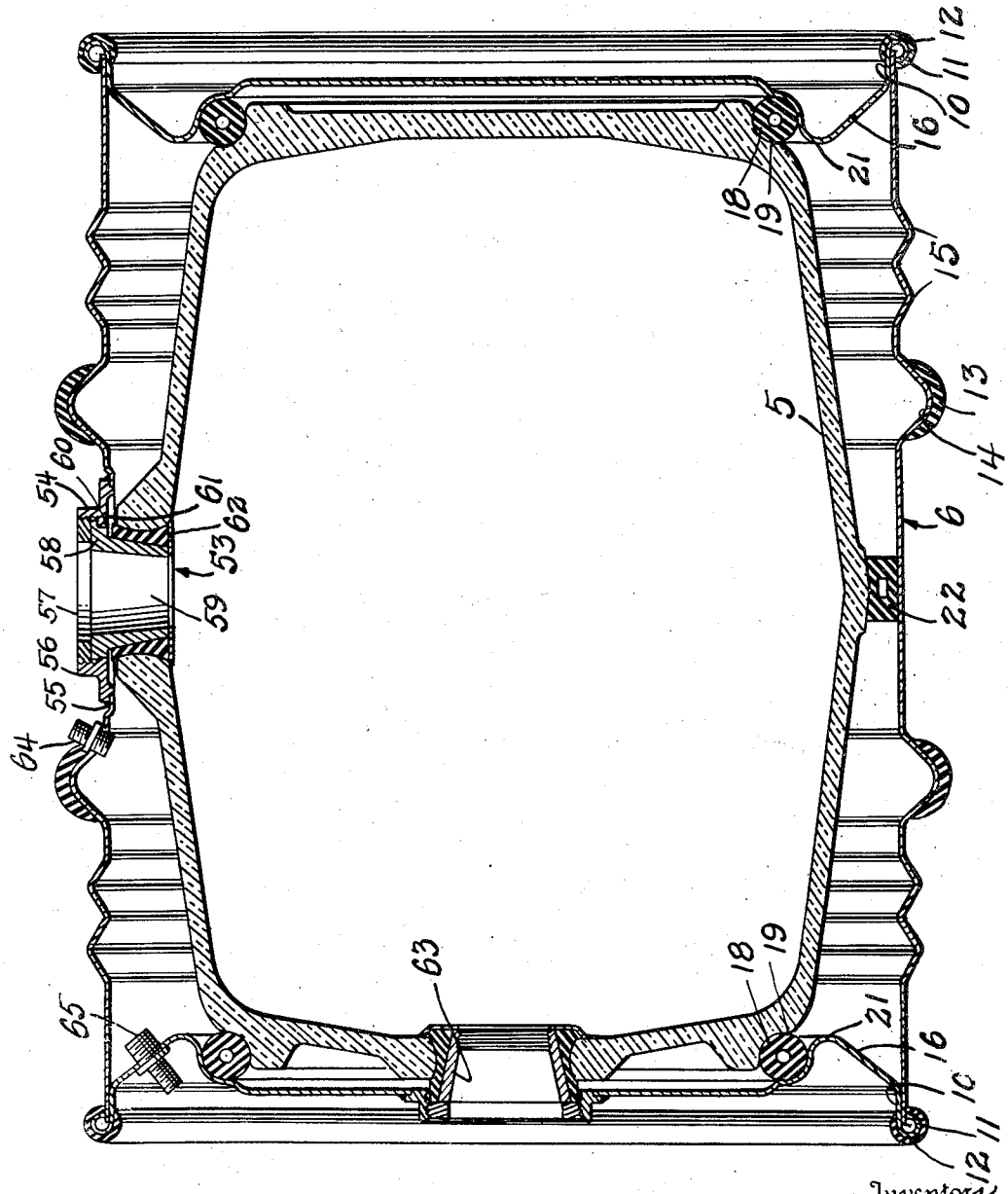


Fig. 2

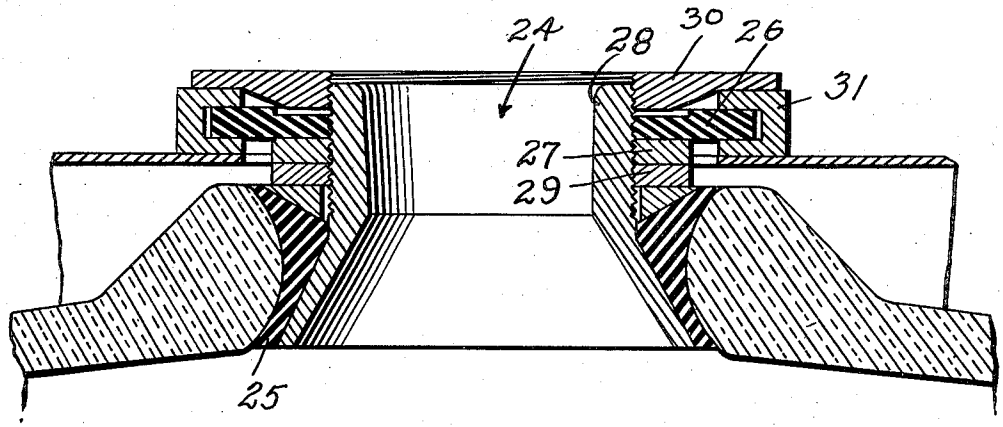
Inventors
Walter Kline
and William A Brubaker
By William N Vaught
Attorney

Dec. 28, 1937. W. KLINE ET AL 2,103,677

SPACED WALL RECEPTACLE

Filed Oct. 9, 1934 3 Sheets-Sheet 3

Fig. 3.



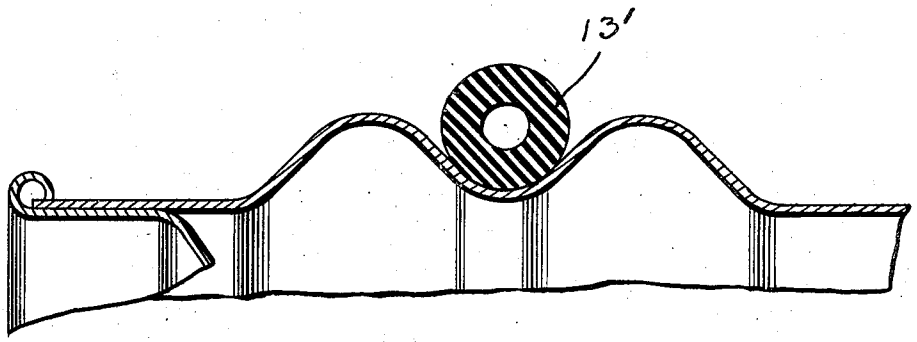


Fig. 4.

Inventors

Walter Kline

and William A. Brubaker

By William H. Kenyon

Attorney

Patented Dec. 28, 1937 2,103,677

UNITED STATES PATENT OFFICE

2,103,677

SPACED WALL RECEPTACLE

Walter Kline, Wellington, and William A. Brubaker, Akron, Ohio; said Kline assignor to Ethel H. Morrison, Wellington, Ohio

Application October 9, 1934, Serial No. 747,630

8 Claims. (Cl. 220—15)

Our present invention relates in general to spaced wall receptacles and has particular reference to a receptacle of this type in which a more or less fragile inner container is housed within an outer shell and protected thereby from the abuse to which the receptacle is ordinarily subjected as a result of transporting and otherwise moving the same about.

At this time the brewery trade has been found to offer the widest field of use for the invention, consequently particular attention has been given to the developing of the invention for this purpose. This accounts for showing a beer keg as the embodiment selected for the purpose of illustrating the invention in the accompanying drawings. It should be pointed out however, that the invention is susceptible to other different modified embodiments which may come equally within the scope of the appended claims.

The present invention is based on certain improvements in the beer keg construction described and claimed in our pending applications. The main object of the present case is to provide a spaced wall receptacle in which the inner container is fashioned from non-corrosive material and is housed within a protective outer shell, preferably fashioned from sheet metal. In making up the inner container we have taken into account the inherent qualities of a ceramic material and for this reason prefer to employ the same at least so far as beer kegs are concerned. In selecting a ceramic material such as pottery we are enabled to take advantage of the non-corrosive features that it offers, its more or less rugged qualities, as compared to the more fragile qualities of glass and the ease with which it can be molded. It also offers several additional features which enable the material to co-operate in the beer keg assembly to better advantage than glass or metal. We wish to explain, however, that notwithstanding our preference for a ceramic material in some instances a glass or metal or a metal treated material such as porcelain ware, may serve a useful purpose for the inner container and for this reason we have chosen the term non-corrosive in describing the material so as not to unnecessarily limit the scope of the invention.

In the accompanying drawings;

Fig. 1 is a section through a beer keg constructed in accordance with one form of our invention;

Fig. 2 is a similar view of another form;

Fig. 3 is a sectional view in detail of the preferred type of bung hole assembly, and

Fig. 4 is a view in detail of the preferred rubber band or tire used on the outside of the shell.

Before referring to the drawings in detail we wish to point out that we much prefer to employ that type of bung hole illustrated in Fig. 3, owing to the fact that it provides a more satisfactory floating connection for the inner container which is an added protection against breakage and other injury to the inner container.

Referring now to the drawings in detail and particularly Fig. 1, 5 represents the inner container and 6 the metallic outer protective shell. In all forms of the receptacle the walls of the container are spaced apart for insulating and protective measures. The outer shell 6 is fashioned with a barrel shaped body portion 7 having open ends which are closed by the separately formed end plates 8 and 9. The end plates are set within the body with their outwardly projecting and offset attaching flanges 10 laying parallel with the inside of the body portion with a close fit therein. The extremities of these flanges are curled back upon the body portion to leave a rim or head as at 11 at each end of the keg and upon which is fitted the rubber bumpers 12. As a result of this end assembly the end plates are inset relatively of the keg ends and being thus positioned they are amply protected. When the keg is up ended it is supported upon one or the other of the rubber bumpers 12. These bumpers also serve to absorb jars when the keg is dropped upon either of the ends and also provide a tire like wheel on which the keg can be rolled. As a further means of absorbing jars and also providing tires upon which the keg may be rolled a pair or more of intermediate rubber bands 13 are secured to the circular ribs 14. These ribs 14 together with the rib-like corrugations 15 add rigidity to the structure of the shell.

Referring further to the end plates 8 and 9. The inwardly slanting web portions 16 of these plates terminate in shoulders 17 providing circular slats for the hollow rubber suspension rings 18 which serve as end supporting and shock absorbing suspension means for the inner container. To enable the rings to co-operate in this capacity the inner container is molded with corresponding circular seats as at 19 for the rings. In order to cushion the end suspension on the container both as to end thrusts or shocks as well as side thrusts or shocks each seat 19 is formed with an outwardly projecting lip 20 which embraces its respective ring. This arrangement also prevents the rings

from leaving the seats especially when it is remembered that the peripheries 21 of the webs 16 lie in close proximity to the container.

In addition to the rings 18 the container 5 may be further supported within and spaced from the outer shell by a hollow rubber belly band 22. This band 22 is interrupted by the filling opening in the side of the receptacle. It should be understood that this band may or may not be used, depending on whether it is needed or not.

For insulating purposes as well as an additional protective measure the container 5 is coated, except at the ends, with an asphalt or the equivalent kind of composition 22' and the coating is enveloped in a relative thin jacket 23 of sheet metal. In Fig. 2, however, this coating and its co-operating jacket is omitted for no reason other than to show that it is not necessary to employ the same in every instance.

We now refer to the preferred form of bung opening which is shown in Fig. 3. In this preferred form the sleeve 24 has a flared outer wall which fits within the gasket 25. The gasket is made with a concave outside to fit the convex wall of the container opening. Gasket 26 is made to fit the slotted cavity of 31 with its inside opening to impinge against the threaded surface of 24. Between gasket 25 and gasket 26 a space is provided to accommodate the rings which are threaded on the protruding end 28 of the sleeve. Under the ring 27 is a washer 29. Threaded on the end 28 of the sleeve is a cap plate 30 which covers the opening over the gasket 26 with its outer periphery bearing upon the ring 31 which is seated in a circular depression in the shell. A wooden plug (not shown) can be driven into the sleeve 24 and since the cap 30 bears directly upon the shell the shock incident to driving the plug in place is transmitted to the shell and not imposed on the ceramic container. To wedge the gasket and sleeve in the opening of the container the threaded rings 27 are turned down which draws the sleeve up and causes it to spread the gasket. Another feature of this preferred type of bung hole assembly resides in the floating fit which, while making a perfectly tight closure, still is sufficiently flexible or resilient to compensate for restricted relative movement between the shell and container.

Referring to the bung hole assembly shown in Fig. 1, 33 represents a cover plate which has a slightly inset and downwardly depending skirt which occupies the opening in the outer shell. The edge of the opening makes a snug fit under the shoulder 34 of the skirt and impinges against the skirt. A welding operation is used as at 35 to anchor the cover plate to the shell. Seated under the inwardly extending flange 36 of the cover plate is a ring 37 which overlies the rubber ring like cushion 38. This cushion fits snugly around the reduced diameter 39 of the neck of the filling opening 40 of the container 5 and has an inwardly turned flange 41 which overlies the shoulder of the reduced diameter. As a result of this assembly a cushion is provided so as to protect the neck of the container 5 against injury since no metal parts come in direct contact with the same. Inserted in the bung opening is a rubber gasket 42 which is fashioned with concave sides to conform to the convex sides of the opening. The gasket is made with a central depression to admit a bearing plate 43 against which the nut 44 of the bolt 45 rests. The bolt end carries a wedging cone 46 which fits a corresponding space in the inserted end of the gasket. It now follows that by turning up on the nut 44 the wedging cone 46 will be pulled against the gasket causing the same to spread evenly outward in all directions so as to tightly wedge the same in the opening to seal it.

In order to protect the rubber gasket, which protrudes into the container, from the alcoholic content of the beer as well as to protect the metal wedging cone we propose to coat these parts with pitch as indicated at 47.

We wish to also bring out at this time that the entire inside of the container 5 may be coated with pitch if and when it is found desirable.

The dispensing or tap shown in Fig. 1 uses a rubber gasket 48 which is made with concave sides to conform to the convex opening in the container. A hollow tapered metal plug 49 is fitted into the gasket. The inner end of this plug is closed except for a restricted threaded opening made to accommodate the dispensing tap line. The outer end of the plug is externally threaded to receive a nut 50. The gasket is made with an outer flange 51 which embraces the outer area of the container around the opening to provide a cushioned seat for the nut 50 and the outer shell 6 is admitted in a groove in the flange.

By turning up on the nut the tapered plug will spread the gasket in the opening and make a tight fit. A washer 52 is used in conjunction with the nut. An ordinary wood plug may be used to close the dispensing opening until the beer is to be dispensed.

In Fig. 2 we have shown other forms of bungs and tap openings. The bung 53 is made up with a plate 54 which is welded as at 55 to the shell and the same has an internally threaded and upstanding rim 56. Threaded into this rim is a ring 57 which bears upon the head 58 of the tapered metal sleeve 59. This sleeve is undercut as at 60 to receive the radially and inwardly offset flange 61 on the plate. The tapered sleeve is fitted within the gasket 62. The inside of the gasket being also tapered to fit the sleeve with its outside concave to fit the convex wall of the opening in the container.

By turning the ring with a special wrench such as a spanner the sleeve can be forced into the gasket to spread the same and make a tight fit. The exposed ends of the gasket and sleeve may be covered with pitch to protect the same against the action of the alcoholic content of the beer. A wood plug is driven into the sleeve to close the opening.

The dispensing or tap opening in Fig. 2 is made substantially the same as the bung opening except that the sleeve 63 is internally threaded at its inner end to connect with the dispensing line.

It should also be explained that the inner container and outer protective metal shell are constructed the same in both Figs. 1 and 2. In this connection we wish to call particular attention to the cushioned suspension for the inner container as we find that this is most important in realizing a practical assembly.

The space between the walls of the inner container 5 and the outer protective shell 6 is substantially air tight. When filling the keg with beer an air line connection is made with the intake valve 64 and when dispensing the beer from the keg an air line connection is made with the valve 65. Our keg with this construction gives a balanced air pressure and forces the air pressure against the inside of the outer protective shell 6.

From the above it will be seen that we have devised a spaced wall receptacle of cheap but

rugged construction and particularly one which is unusually adopted for the brewery trade. The manner of cushioning the inner ceramic or pottery container within the shell assures all possible protection for the same. The beer will be preserved in a more sanitary and practical manner than in the heretofore known types of kegs. It will not be subjected to the deteriorating effects of temperature changes to the same extent as with ordinary beer kegs. These and other advantageous features are all the results of utilizing the salient features of construction described in the foregoing description.

We claim:

1. In a spaced wall receptacle, an outer metallic shell, an inner container of ceramic or the like material, complementary circular seats formed on the ends of the shell and container, hollow ring like resilient cushions occupying said seats for suspending the container within the shell in spaced relation thereto, a hollow circular radial band embracing the container around the middle thereof to assist the rings in the suspension of the container, resilient shock absorbing bands encircling the outside of the shell and at the ends thereof, said shell and container having registering openings for filling and dispensing the contents of the container and means joining the container and shell at said openings to permit a restricted floating movement of the container relative to said shell.

2. In a spaced wall receptacle, an outer metallic shell, an inner container of ceramic or the like material, complementary circular seats formed on the ends of the shell and container, hollow ring like resilient cushions occupying said seats for suspending the container within the shell in spaced relation thereto, a hollow circular radial band embracing the container around the middle thereof to assist the rings in the suspension of the container, resilient shock absorbing bands encircling the outside of the shell and at the ends thereof, said shell and container having registering openings for filling and dispensing the contents of the container and means joining the container and shell at said openings to permit a restricted floating movement of the container relative to said shell, comprising a rubber gasket having curved outer walls fitting the curved walls of the opening in the container, an inserted wedging member for said gasket, the inserted ends of said gasket and wedging member being coated to insulate the same from the contents of the container.

3. A spaced wall receptacle, comprising an outer protective barrel-like shell, an inner non-corrosive container within the shell, said container and shell having registering openings, and means joining the container and shell at said openings permitting a limited floating movement between the container and the shell while sealing the connection between the shell and container, comprising a metallic sleeve having a flared end fitting within the opening in the container, a resilient gasket surrounding the flared end of said sleeve having a concave outer surface to fit the convex surface in the container opening, an externally threaded extension on said sleeve projecting into the opening in the shell, a pair of ring nuts threaded on said extension adapted to draw the sleeve outwardly to spread the resilient gasket, a washer between the ring nuts and the top of the gasket, a tapered seat for said washer, a ring fixed to the outside of the shell having an undercut circular groove and a resilient washer fitting within said groove and overlying the ring nuts.

4. The combination as set forth in claim 3 and in which the thickness of the container around the opening therein is increased to elongate the depth of the gasket fitting.

5. In a spaced wall receptacle, an outer metallic protective shell, an inner container of ceramic or the like material, cushioning means suspending the container within the shell in spaced relation thereto, said shell and container having registering openings for filling and dispensing the contents of the container, and means locking the container and shell together at said openings and co-operating with the cushioning means permitting the container to have a restricted floating movement within the shell, comprising a rigid inserted sleeve surrounded by a resilient gasket.

6. In a spaced wall receptacle, an outer metallic protective shell, an inner container of ceramic or the like material, cushioning means suspending the container within the shell in spaced relation thereto, said shell and container having registering openings for filling and dispensing the contents of the container, and means locking the container and shell together at said openings and co-operating with the cushioning means permitting the container to have a restricted floating movement within the shell comprising a gasket of resilient material a sleeve-like member inserted within the gasket and means co-operating with said sleeve-like member and responsive to manual manipulation from the exterior of the shell for causing the sleeve-like member to wedge the gasket tightly within the opening.

7. In a spaced wall receptacle, an outer metallic protective shell, an inner container of ceramic or the like material, cushioning means suspending the container within the shell in spaced relation thereto, said shell and container having registering openings for filling and dispensing the contents of the container, and means locking the container and shell together at said openings and co-operating with the cushioning means permitting the container to have a restricted floating movement within the shell, comprising an inserted resilient gasket, non-resilient wedging means for said gasket and means responsive to manual manipulation from the exterior of the shell for causing the wedging means to spread the gasket within the opening which it occupies.

8. In a spaced wall receptacle, an outer metallic protective shell, an inner container of ceramic or the like material, cushioning means suspending the container within the shell in spaced relation thereto, said shell and container having registering openings for filling and dispensing the contents of the container, and means locking the container and shell together at said openings and co-operating with the cushioning means permitting the container to have a restricted floating movement within the shell comprising an inserted resilient gasket, non-resilient wedging means for said gasket and a member having a threaded connection with the outer shell and responsive to turning movement for causing the wedging means to spread the gasket within the opening which it occupies.

WALTER KLINE.
WILLIAM A. BRUBAKER.