C. R. KEERAN.

JAR SEAL.

APPLICATION FILED APR. 8, 1911.

1,040,211.

Patented Oct. 1, 1912.

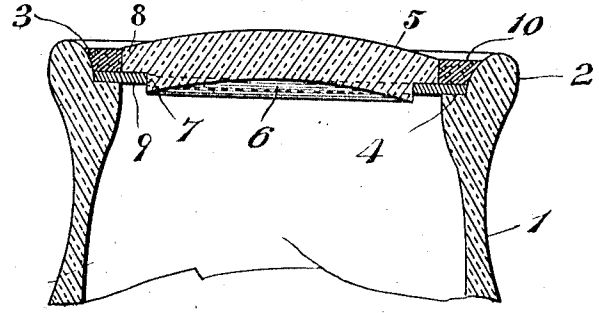

Fig. 1.

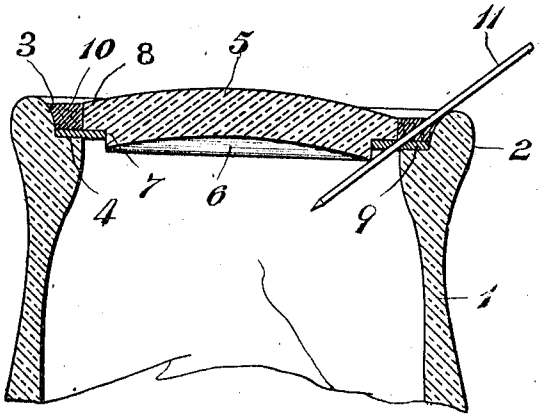

Fig. 2.

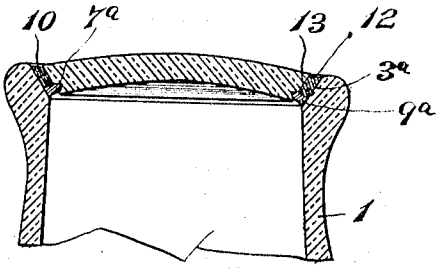

Fig. 3.

Witnesses

Thos. F. Knox,

C. C. Hines.

Inventor

Charles R. Keeran

By Victor J. Evans

Attorney

UNITED STATES PATENT OFFICE.

CHARLES R. KEERAN, OF BLOOMINGTON, ILLINOIS.

JAR-SEAL.

1,040,211. Specification of Letters Patent. Patented Oct. 1, 1912.

Application filed April 8, 1911. Serial No. 619,804.

To all whom it may concern:

Be it known that I, CHARLES R. KEERAN, a citizen of the United States, residing at Bloomington, in the county of McLean and State of Illinois, have invented new and useful Improvements in Jar-Seals, of which the following is a specification.

This invention relates to jar seals, and its object is to provide a simple, cheap and inexpensive type of seal susceptible of use in sealing jars, cans or other receptacles containing all kinds of substances of an acid character or otherwise and in which the material is poured in either a hot or cold condition.

A further object of the invention is to provide a seal which is safe and secure in use and at the same time readily penetrable to admit of the ready and convenient breakage of the seal when desired.

The invention consists of the features of construction, combination and arrangement of parts, hereinafter fully described and claimed, reference being had to the accompanying drawing, in which:—

Figure 1 is a vertical transverse section through the mouth of a jar closed by my improved seal. Fig. 2 is a similar view, showing the mode of breaking the seal. Fig. 3 is a similar view, showing a modified construction.

Referring to the drawing, 1 designates the mouth of a jar or receptacle, having a rim portion 2 cut away on its inner face to provide a recess 3 and an annular horizontal shoulder 4, the inner face of the portion of the rim forming the outer wall of the recess being preferably upwardly and outwardly curved or beveled, as shown.

A lid or cover 5 is provided for closing the mouth of the jar or receptacle, and is of a diameter less than that of the recess 3 and practically coextensive with that of the portion of the mouth immediately below the shoulder 4. This cover may be made of glass, porcelain, crockery ware, tin or other suitable material, and is preferably provided with a concave lower face 6 and is peripherally cut away at its base to provide an annular recess 7 and a flange 8 overhanging said recess.

The cover is adapted to be used in conjunction with a sealing ring or gasket 9 and a suitable fusible sealing material 10, such as paraffin, to hermetically close the mouth of the jar and form a seal of the vacuum type. The gasket may be made of pulp board, rubber, or any suitable porous or non-porous material according to contingencies of service and is arranged horizontally about the reduced portion of the cover with its inner portion disposed within the recess 7 and frictionally engaging the walls of the recess and flange to retain it normally in position upon the cover. As shown, the gasket is of greater width than the width of the recess so that it projects outwardly therefrom to rest upon the shoulder 4 and support the cover in position. When the parts are applied, as clearly illustrated in Figs. 1 and 2, the flange is arranged in spaced relation to the outer wall of the recess 3, thus providing an intervening space or chamber for the reception of the sealing material 10, which space or chamber is closed at its base by the projecting portion of the gasket.

In operation, the jar is filled with the material to be sealed substantially up to the level of the shoulder 4 and the cover with the gasket applied thereto fitted down into position, the outer edge of the gasket bearing snugly against the base of the outer wall of the recess 3. The melted sealing material 10 is then poured into said recess, so that it will entirely fill the same and close all the crevices between the walls of said recess, the gasket and the peripheral edge of the cover, whereby the jar will be tightly sealed. It will be observed that the construction described leaves a space between the inner edge of the shoulder and the inner edge of the flange of the cover, so that a suitable pointed instrument 11 may be inserted at a diagonal angle downwardly through the sealing material and gasket and arranged to bear against the rim and cover, whereby said instrument may be employed as a lever to release and lift the cover out of the jar.

In practice, the cover may be pressed down into position by hand or the jar may be equipped with some form of spring clamp for this purpose, but for ordinary use no clamp of any kind is required. If the contents of the jar are hot and a low melting wax, such as paraffin, is used as a sealing medium, then a gasket which is comparatively nonporous is used, but if the contents of the jar are cold an ordinary pulp board gasket will suffice. When the cover is made of glass or other acid-proof material, the jar

is adapted for universal use in putting up all kinds of substances, as the gasket and sealing material are also of an innocuous character and will remain unaffected by the acids of fruits and condiments.

In the use of a sealing wax, as paraffin, melting at a comparatively low temperature, such as 125°, it is desirable to make the receiving recess 3 of sufficiently ample size to receive a quantity of the wax, as the contents of the jar when hot shrink to some considerable extent and the vacuum formed thereby is liable to cause a portion of the wax to seep through the gasket before the wax solidifies. As the contents continue cooling after solidification of the wax, it will be apparent that their contraction will continue after the wax becomes hard and seals the jar, thus forming a complete vacuum in the top of the jar and furnishing an excellent seal. Substances which are filled into jars at temperatures ranging from 125° to 135° may, therefore, be preserved in an effective manner by my improved seal, as a vacuum will be formed without resort to the use of an exhausting machine.

In Fig. 3 I have shown a modified form of my invention in which the recess and seat or supporting shoulder for the gasket are formed by continuously beveling or sloping the walls of the rim downwardly and inwardly, as at 12, and in this construction the peripheral edge of the cover is correspondingly beveled, as at 13, to form the chamber or recess 3^a for the sealing material 10. In this construction the recess 7^a which receives the inner peripheral edge of the gasket is preferably V-shaped and the gasket 9^a is correspondingly shaped in cross section and has its reduced inner edge fitted within the recess, the recess and gasket being disposed in an inclined position to seal the base of the chamber 3^a. The operation with this construction will be readily understood, as well as the mode of removing the cover by the introduction of the instrument 11, as previously described.

Having thus described the invention, I claim:—

1. A jar having a gasket supporting portion, a cover of less diameter at its base than the mouth of the jar, said cover being adapted when applied to form an annular space or chamber between the same and said gasket supporting portion for the reception of a fusible sealing medium, and a gasket extending edgewise between and bearing upon the opposing surfaces of said gasket supporting portion and cover, said gasket projecting inwardly beyond the mouth of the jar and disposing the opposing surfaces of the jar and cover in such manner as to provide an intervening passage arranged obliquely to the plane of the jar, whereby an extracting tool may be rested at an angle against the rim of the jar and passed downward through the sealing medium and gasket so as to be brought beneath the cover to adapt the latter to be lifted by a rocking motion of such tool on the rim as a fulcrum.

2. A jar having a gasket supporting portion, a cover of less diameter at its base than the mouth of the jar, and a gasket resting upon said supporting portion and bearing at its inner edge against the cover, whereby an annular chamber is formed between the jar rim and cover for the reception of a sealing medium, the gasket engaging surfaces of the jar and cover being spaced to expose a portion of the gasket in a plane at an angle to the vertical plane of the jar, whereby an extracting tool may be inserted downward through the fusible material and gasket and between said surfaces of the jar and cover and arranged to be rocked upon the rim of the jar to enable the cover to be lifted out.

3. A jar having its rim portion cut away to form an outwardly and upwardly curved or inclined rim face, and a horizontal annular shoulder at the base of said rim face, a cover of less diameter than the mouth of the jar and having a base peripheral recess and a horizontal flange overhanging the same and having its peripheral edge in vertical alinement with the inner edge of the shoulder, said flange being adapted to form with the rim portion an annular chamber or space for the reception of a fusible sealing medium, and an annular penetrable gasket adapted to rest against said base shoulder and extend inwardly beyond the horizontal shoulder and beneath the flange of the cover to support the sealing medium and cover and close the base of said space or chamber, the said surfaces of the jar and cover being relatively arranged to permit of the downward insertion of a tool at an oblique angle through the sealing medium and gasket and beneath the basal edge of the recessed portion of the cover, whereby said toll may be rocked upon the rim portion of the jar and brought to bear against said basal edge to effect the extraction of the cover.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES R. KEELAN.

Witnesses:
J. A. RICE,
ISAAC L. WALTON.