

C. R. KEERAN.
TOP FOR JARS.
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957,064.

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Fig. 1.

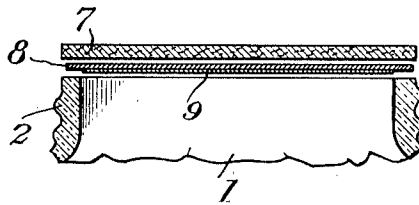


Fig. 2.

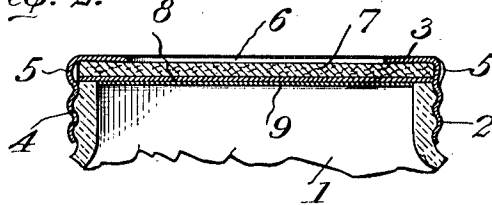


Fig. 3.

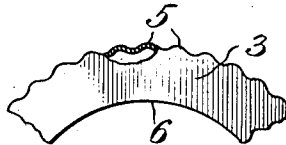
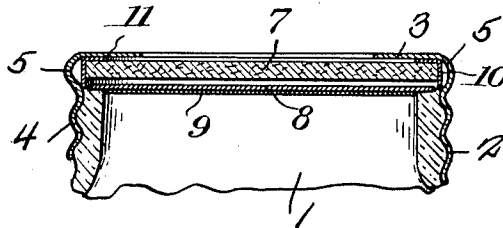


Fig. 4.



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UNITED STATES PATENT OFFICE.

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TOP FOR JARS.

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Specification of Letters Patent.

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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 Tops for Jars, of which the following is a specification.

This invention relates to a seal or closures for fruit jars and other bottles, jars and similar containers.

The main object of the invention is to provide a closure of the screw cap and sealing disk type in which an improved construction of seal is employed to hermetically close the bottle or jar without undue compression of the seal.

Another object is to provide a seal which is inexpensive of construction and free from the objections incident to the use of rubber seals, and which obviates the necessity of employing enameled or porcelain-lined caps in order to prevent corrosion, thus decreasing the cost of manufacture.

Still another object is to provide a seal having improved means for maintaining a waxed disk out of contact with the cap, whereby the cap is prevented from becoming fastened to the jar by the wax and is adapted to be removed without first heating the jar to melt the wax.

In the accompanying drawing:—Figure 1 is a vertical section through the neck of a jar showing the seal in position for application. Fig. 2 is a similar view showing the neck sealed by the seal and cap. Fig. 3 is a top plan view of a portion of the cap partially broken away. Fig. 4 is a sectional view through the seal as employed in conjunction with a flanged guard ring.

Referring to the drawing, 1 designates the neck of a jar, bottle or other container having external screw threads 2, and 3 designates a metal cap having a threaded flange 4 to engage said threads 2, above its threads the flange of the cap is formed with comparatively coarse external corrugations 5, providing a milled grip for convenience in applying and removing the cap, and which corrugations also serve an additional function, as hereinafter described. The construction of seal employed allows a cap having an open center top to be employed without detriment, i. e., a top having an

opening 6 and consisting simply of a circular rim.

The seal employed in conjunction with the cap comprises an upper disk or liner 7 and a lower disk or liner 8. The disk 7 which forms a yielding backing for the disk 8, is formed of comparatively soft pulp board or its equivalent, while the disk 8 is composed of some soft porous material, such as blotting paper saturated with sealing wax, rubber or any of the compositions of the latter which melt at a temperature somewhat higher than normal atmospheric temperature. The disks 7 are coextensive in diameter with each other and with the internal diameter of the milled portion of the cap and external diameter of the rim edge of the neck 1. Both disks are thus adapted to fit snugly within the upper portion of the cap with the disk 7 bearing against and closing the opening 6 in the top of the cap, so that the disk 8 may rest upon the rim edge of the neck with the edges of both disks flush with the outer surface of said neck. To the under side of the disk 8 is secured a steam and water-proof disk 9 of oiled paper or any suitable material which is coextensive in diameter to the internal diameter of the neck and is adapted to fit within and bear peripherally against the same.

In use, the fruit or other substance to be preserved is poured while hot into the jar, the disks placed upon the edge of the neck as shown, the cap screwed on as far as it will go easily, and the jar allowed to stand a few minutes. The heat from the contents of the jar will soften the wax or other equivalent material saturating the disk 8, and then the cap is screwed on tightly thus embedding the rim of the neck in the waxed disk by which a perfect hermetic seal is secured. In this operation the disk 7 will also be caused to adhere to the disk 8 by the wax, and the latter named disk will adhere so strongly to the neck that the cap may be removed and the vessel inverted and roughly handled without breaking the seal. In putting up cold goods, the waxed disk is heated in some other suitable manner prior to application and the cap screwed fully on. The disk 9 not only prevents any portion of the fused wax from entering the jar but also prevents contact of the contents

of the jar with the disk 8, and coöperates with the latter to form a more perfect seal.

It will be observed that the disks 7 and 8 completely close the joint between the neck and cap, so that no portion of the contents of the jar can come into contact with the cap. Hence, the necessity of employing an enameled or porcelain-lined cap to prevent corrosion is obviated with resulting economy. By forming the outwardly projecting corrugations on the cap the edges of the disks are allowed to lie flush with the exterior of the neck, so that they finally cover the rim edge thereof. Of course, this could be accomplished by making the cap smaller at the top and leaving off the corrugations. However, if this were done, when a wax seal is used the cap would become sealed so tightly that it would almost defy removal without heating, but even though some of the wax will stick the edges of the disks 7 and 8 to the inside points of these corrugations the portions of the wax will break loose much easier when it is desired to unscrew the cap. It will also be observed that by using a seal of the character described, the necessity of compressing the seal to an objectionable degree by a very tight screwing on of the cap as is necessary in using ordinary paper or rubber gaskets, is avoided with manifest advantages, and accordingly the cap may be made of thinner metal and with an open center, as before described, as a very strong cap is not necessary. The cost of producing the cap is therefore decreased without impairing the strength of the seal.

If desired, the annular rim or top of the cap may be depressed by inclining it slightly downward toward the opening 6, as shown in Fig. 2, thus adapting it to more effectively confine the center of the seal and sustain it against any internal pressure.

The name or trade-mark of the manufacturer or any desired printed matter may be suitably arranged on the disk 7 for display through the opening 6.

If desired, a guard ring 10 of metal or other preferred material may be provided to inclose the edges of the disks 7 and 8 said ring having an inturned flange 11 to project over upon the upper surface of the disk 7, so as to prevent contact between said disks and the cap and sticking of the disks to the cap by the sealing wax or other material. This will obviate the necessity of heating the cap to soften the wax to allow the cap to be removed and enable a cap without the corrugations to be used if so desired. Hence the cap may be easily screwed off and the seal cut away by a knife without injury or heated to soften the wax, when it may be easily removed.

Having thus fully described the invention, what I claim as new is:—

1. A closure for receptacles comprising an inner sealing disk of compressible material saturated with a sticky fusible material and adapted to rest directly upon the rim of the receptacle, an outer sealing disk backing the same, and a cap to inclose said disks and adapted to engage the receptacle. 70

2. A closure for receptacles comprising a sealing disk of porous compressible material saturated with a sticky fusible substance, said disk adapted to rest directly upon the rim of the receptacle, and a cap to inclose said disk and adapted for engagement with a receptacle. 75

3. A closure for receptacles comprising an inner sealing disk of porous compressible material saturated with a sticky fusible substance, and adapted to rest directly upon the rim of the receptacle, an outer sealing disk of compressible material backing said inner disk, and a cap inclosing said disks and adapted for engagement with a receptacle. 80 85

4. A closure for receptacles comprising an inner sealing disk of porous compressible material saturated with a sticky fusible substance and adapted to rest directly upon the rim of the receptacle, an outer sealing disk of compressible material backing said inner disk, a moisture-proof disk upon the inner face of said inner disk and of less diameter than the same, and a cap to inclose said inner and outer disks and adapted for engagement with a receptacle. 90 95

5. A closure for receptacles comprising a cap having an open center top and a threaded flange, the wall of the top being inclined inwardly and downwardly, an inner disk of porous compressible material saturated with a sticky fusible material and adapted to fit within the cap and rest directly upon the rim of the receptacle, and an outer disk of compressible material adapted to fit within the cap and to bear against said inclined wall. 100 105 110

6. A bottle seal comprising a cap having a flange threaded at its lower portion and provided above the threads with annular corrugations, an outer sealing disk formed of soft compressible material having its peripheral edge contacting with the corrugations, and an inner sealing disk coextensive in diameter with said outer sealing disk and composed of a porous material saturated with a sticky fusible substance and adapted to rest directly upon the rim of the receptacle. 115 120

7. A bottle seal comprising a cap having a flange threaded at its lower portion and provided above the threads with annular corrugations, the top wall of the cap being formed with a central opening and being inclined inwardly and downwardly toward said opening, an outer sealing disk formed of soft compressible material having its pe- 125 130

ripheral edge contacting with the corrugations and an inner sealing disk coextensive in diameter with said outer sealing disk and composed of a porous material saturated with a sticky fusible substance and adapted to rest directly upon the rim of the receptacle.

8. A bottle seal comprising a cap having a flange threaded at its lower portion and provided above the threads with annular corrugations, an outer sealing disk formed of soft compressible material having its peripheral edge contacting with the corrugations, an inner sealing disk coextensive in diameter with said outer sealing disk and composed of a porous material saturated with a sticky fusible substance and adapted to rest directly upon the rim of the receptacle, and a waterproof disk secured to the lower face of said inner sealing disk and of less diameter than the same.

9. A bottle seal comprising a cap having a flange threaded at its lower portion and provided above the threads with annular corrugations, the top wall of the cap being formed with a central opening and being inclined inwardly and downwardly toward said opening, an outer sealing disk formed of soft compressible material having its peripheral edge contacting with the corrugations, an inner sealing disk coextensive in diameter with said outer sealing disk and composed of a porous material saturated with a sticky fusible substance and adapted to rest directly upon the rim of the recep-

tacle, and a water-proof disk secured to the lower face of said inner sealing disk and of less diameter than the same.

10. A seal for receptacles comprising a cap containing a porous disk saturated with a fusible material and a guard between said disk and the walls of the cap.

11. A seal for receptacles comprising a cap containing a porous disk saturated with a fusible material, and a flanged guard between said disk and the walls of the cap.

12. The combination with a receptacle having external screw threads, of a cap having a flange formed at its lower portion with engaging threads and between said threads and its crown portion with outstruck corrugations, a porous disk disposed within the cap and resting directly upon the rim of the receptacle and saturated with a sticky fusible material, a second disk arranged between said porous disk and the crown of the cap, said disks having their peripheral edges terminating in line with the outer edge of the rim of the receptacle and arranged to face the corrugations of the cap, and a waterproof disk on the under side of the porous disk and disposed within the mouth of the receptacle.

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

CHARLES R. KEERAN.

Witnesses:

F. E. BAILEY,
IRMA BUFFHAM.