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R. W. WYNINGS

2,212,804

VACUUM JAR CAP SEAL

Filed Sept. 15, 1938

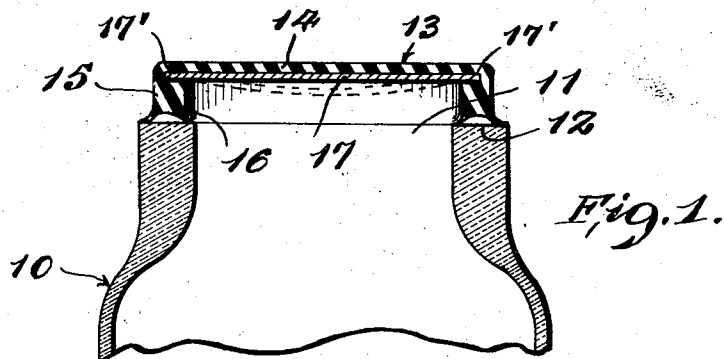


Fig. 1.

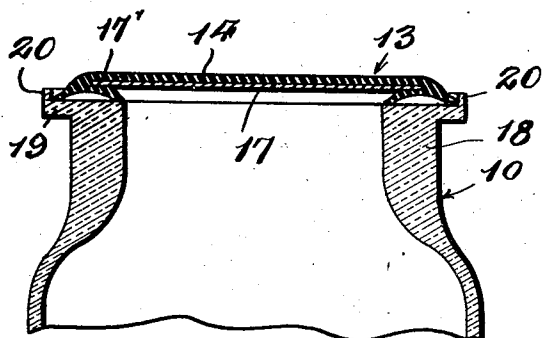


Fig. 2.

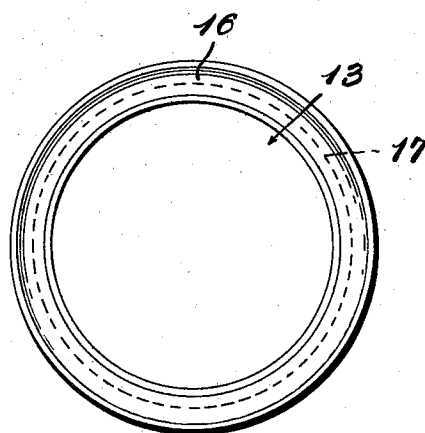


Fig. 3.

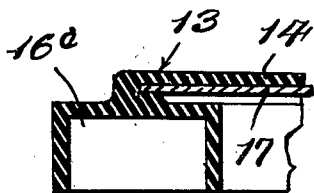


Fig. 4.

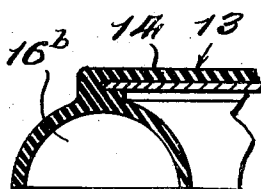


Fig. 5.

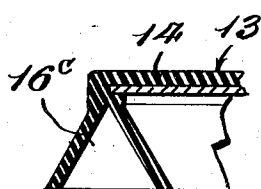


Fig. 6.

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2,212,804

VACUUM JAR CAP SEAL

Royal W. Wynings, Youngstown, Ohio; Etta Wynings, guardian of said Royal W. Wynings, incompetent, assignor, by direct and mesne assignments, to Elsie Keefer, Youngstown, Ohio

Application September 15, 1938, Serial No. 230,124

9 Claims. (Cl. 215—37)

This invention relates to a vacuum jar cap seal and it consists in the constructions, arrangements and combinations herein described and claimed.

It is an object of the invention to provide a jar cap in which a vacuous channel is formed cooperative with the mouth of a jar for effecting a hermetic seal.

It is also an object of the invention to provide a closure which may be quickly applied to a jar without employment of special tools for manipulating the closure proper, as has been required heretofore, and similarly the closure may be readily removed upon breaking of the suction seal, and this without damage to the closure so that it may be used repeatedly.

It is also an object of the invention to provide means for effectively centering the closure upon a jar.

Additional objects, advantages and features of invention will be apparent from the following description considered in conjunction with the accompanying drawing, wherein

Figure 1 is a fragmentary sectional view of a jar having a closure applied.

Figure 2 is a similar view of a modified form of jar.

Figure 3 is a plan view of the closure.

Figures 4 to 6 illustrate cross-sectional views of modified forms of suction channels.

There is illustrated a jar 10 having a mouth 11, the rim 12 of which is quite wide and has a smooth upper formation for a purpose presently to be explained.

The closure for the jar is indicated at 13, which as shown, is formed from rubber as an annular disk and comprises a top portion 14, a circumscribing edge 15, the lower edge of which is molded or otherwise shaped into a continuous circumscribing channel 16.

An annular flexible metal disk 17 is freely mounted in an annular kerf 17' formed in the cap, immediately below the top portion 14, the disk being of a diameter terminating on a line approximately through the vertical center of the channel 16.

It should be understood that the channel 16 is of lesser width than the rim 12 so that the channel 16 may spread laterally on the rim for effecting a vacuous state between the channel and the rim, and this without permitting the outer edges of the channel from projecting beyond the peripheral edge of the rim. Obviously, if the edge of the channel were permitted to

overlap the rim only slightly, an effective seal could not be obtained.

While I have shown the circumscribing edge 15 of substantial height, this is not essential, for it has been found in actual practice that the edge 15 may be of slight height, as shown in Figure 2, the suction action created by the channel upon compression thereof against the rim being ample to seal the cap to the jar. Also, in Figure 2 the neck 18 of the jar is shown as having an outwardly projecting flat flange 19, the outer edge of which is provided with an upstanding rim 20 of slight height. Thus, the flange 19 affords an ample surface for reception of the channel 16, and the rim 20 serves to center or guide placement of the closure cap thereupon, assuring proper sealing of the cap.

Obviously, the channel 16 may have various cross sectional contours, and in Figure 4, the channel 16a is illustrated of angular formation. In Figure 5, the channel 16b is shown as semi-circular, while in Figure 6, the channel 16c is of V-shape.

In use, after the jar has been filled with the contents, the closure cap 13 is presented to the rim 12 or flange 19, as the case may be, with the channel 16 centered thereon, and downward pressure exerted to the cap so as to compress the channel 16 to displace air therefrom. When pressure is released, the channel 16 tends to assume normal position, the edges of which firmly grip the rim or flange, effecting a hermetic seal between the rim or flange and the channel.

It has been found in actual practice that a downward slap directly upon the cap effects securement of the cap, and such a blow also causes a flexing of the disk 17 as indicated by dotted lines in Figure 1, thereby exerting an evenly distributed downward pressure directly above the channel 16. Also, where the contents are heated, as is usually the case in preserving, an internal suction is created within the jar for further securement of the cap upon the jar.

In order to remove the cap it is only necessary to raise the outer edge of the channel 16 so as to break the suction therewithin.

While I have shown and described certain preferred forms of the device, this is by way of illustration only, and I consider as my own all such modifications as fairly fall within the scope of the appended claims.

I claim:

1. In combination, a receptacle having a flat rim mouth, a cap, said cap having a suction channel upon the underside complementary to the

rim, and said channel being compressible to effect hermetic seal with the rim of the mouth.

2. In combination, a receptacle having a flat rim mouth, a rubber cap therefor, said cap having a circumscribing suction channel complementary to the rim, and a metallic disk carried by the cap, one face thereof being exposed to the interior of the receptacle when secured thereupon, the peripheral edges of the disk terminating on a line approximately medially of the channel.

3. In combination, a receptacle having a flat rim mouth, an upstanding rim circumscribing the mouth, a rubber cap therefor, said cap having a circumscribing suction channel complementary to the rim, and a metallic flexible disk carried by the cap, one face thereof being exposed to the interior of the receptacle, when secured thereupon, the peripheral edges of the disk terminating on a line approximately medially of the channel.

4. A suction closure cap comprising a disk-like body of rubber having a circumscribing suction channel, an annular kerf formed in the body, said kerf terminating on a line approximately medially of the suction channel, and a flexible disk seated within the kerf.

5. In combination, a receptacle having a flat rim mouth, a cap therefor, and said cap having a suction channel complementary to the rim, the

channel normally having a width less than the width of the flat rim mouth.

6. In combination, a receptacle having a flat rim mouth, a flexible cap, said cap having a suction channel complementary to the rim, said suction channel normally having a width less than the width of the flat rim mouth, and a metallic disk carried within the cap, said disk being of a size extending over the major medial portion of the cap.

7. A suction closure cap comprising a body of rubber or the like having a circumscribing suction channel upon the underside thereof and a disk within the body, the peripheral edges of the disk terminating on a line approximately medially of the channel.

8. A suction closure cap comprising a body member of rubber having a circumscribing suction channel upon its under side, a kerf formed in the body over the suction channel, and a disk seated within the kerf.

9. In combination, a receptacle having a rim mouth, a cap therefor, said cap having a circumscribing suction channel complementary to the rim, and said channel being compressible to effect a hermetic seal with the rim.

ETTA WYNINGS,

Guardian of Royal W. Wynings, Incompetent.