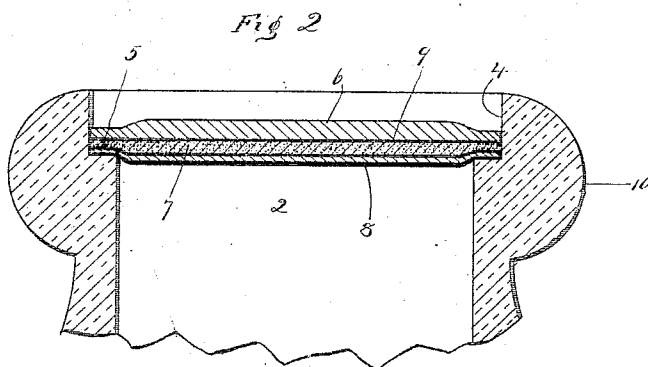
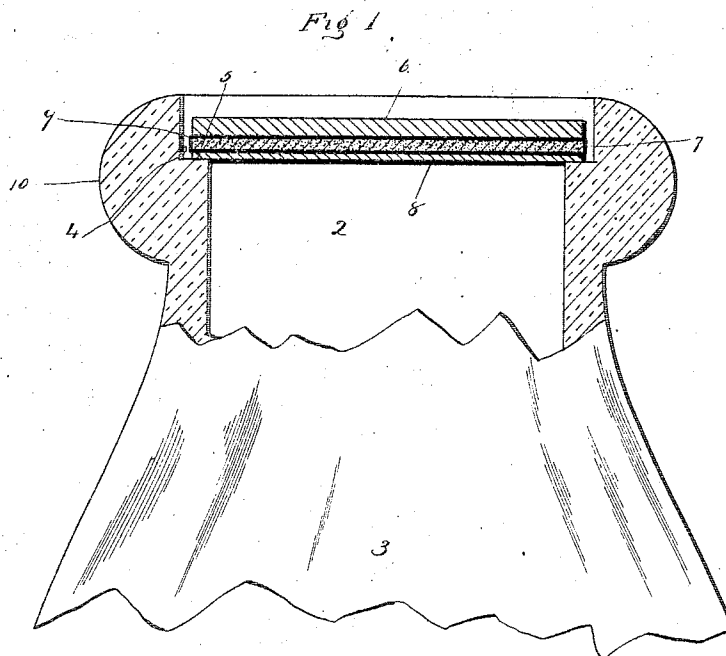


R. ZASTROW.
CLOSURE FOR WIDE MOUTHED BOTTLES.
APPLICATION FILED JULY 6, 1908.

953,730.

Patented Apr. 5, 1910.



Witness
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UNITED STATES PATENT OFFICE.

RICHARD ZASTROW, OF NEW HAVEN, CONNECTICUT.

CLOSURE FOR WIDE-MOUTHED BOTTLES.

852,730.

Specification of Letters Patent.

Patented Apr. 5, 1910.

Application filed July 6, 1902. Serial No. 442,210.

To all whom it may concern:

Be it known that I, RICHARD ZASTROW, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Closures for Wide-Mouthed Bottles; and I do hereby declare the following, when taken in connection with the accompanying drawings, and the numerals of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1 a broken sectional view of a bottle provided with my improved closure which is shown before its subjection to the pressure which enlarges its diameter. Fig. 2 a corresponding view in which the closure is shown as stretched and enlarged in diameter so as to fully occupy its seat by subjecting it to pressure after it has been placed in position in the bottle.

My invention relates to an improvement in closures for wide-mouthed bottles, such in particular as are used for containing pickles, catsup and the like, the object being to provide at a low cost, closures to be depended upon to exclude air from the bottles and not be injuriously affected themselves by the contents thereof even though the bottles may not be opened for many months after being filled and sealed.

In carrying out my invention as herein shown, the neck 2 of the bottle 3 is reinforced by a bead 10 formed just within its edge with a circular recess having a vertical wall 4 and an annular horizontal seat 5 and designed to receive a composite or laminated circular seal composed, as shown, of three disks 6, 7 and 8, all of the same diameter and all adhered together so as to be handled as one piece. The top disk 6 is designed to form the body of the closure and is by preference made of heavy pulp board. The middle disk 7 is designed to form the seal proper of the closure and by preference is made of thinner material than the body disk 6, but whether made of thick or thin paper the material employed should be chosen in character with reference to being coated, preferably by passing it through a bath, with some proofing substance 9 forming a continuous coating over its upper and lower surfaces and also soaking into its very body so that when the closure is subjected to pres-

sure some of this proofing substance will exude upon the edges of the closure and heighten its effectiveness as a seal. The proofing substance will be chosen with reference to the character of the contents of the bottle and is designed to render the closure impervious to water and capable of resisting acids in the brine or "pickle." I do not limit myself to the use of any particular proofing substance, but have secured admirable results by using a composition largely of pitch. The bottom or seal protecting disk 8 is by preference made of a very thin paper, coated in the usual way with paraffin. This disk 8 of paraffin paper is in no wise detrimental to the sealing and resisting qualities of the middle disk which it protects; it also prevents a number of the closures from adhering together which would otherwise result. I should add that the three disks are themselves adhered together into one composite laminated closure by the coatings or films of the adhesive proofing substance which covers the upper and lower faces of the middle disk.

I do not limit myself to making the three disks 6, 7 and 8 of any predetermined thickness or of any particular quality of paper; nor to the method herein described of applying the proofing substance which might, for instance, be applied to the inner face of the top disk or to the inner face of the bottom disk which in that case would probably be made of thicker paper than paraffin paper, so called.

The recess in the bottle will always be a trifle larger in diameter than the initial diameter of the closure, that is to say, the diameter of the closure before it is subjected to pressure. After the closure has been placed in the said recess, it is subjected around its entire circumference to sufficient pressure to laterally stretch or expand it so that it will be enlarged in diameter and its edge crowded against the vertical wall 4 of the recess as shown in Fig. 2 as well as down upon the horizontal seat 5. The pressure thus applied must be heavy enough to drive the paper of the closure into any fine cracks or inequalities or imperfections in the vertical wall 4 or in the horizontal seat 5, whereby a very perfect exclusion of the air from the bottle is effected and indefinitely maintained. Moreover the proofing 9 is forced into such intimate contact with the wall 4 and seat 5 that it greatly heightens

the value of the closure as an air-excluding agency. The coating also prevents the brine or "pickle" of whatever character, from attacking and softening the paper which is thus preserved indefinitely and rendered impervious to air as well as to fluids.

When the closure is subjected to pressure for the purpose of expanding it from its initial diameter to its final diameter in which it fully occupies the recess in the bottle, some of the proofing substance will be caused to exude from the edge of the closure and crowd and find its way into all interstices and inequalities in the vertical wall and horizontal seat of the recess so as to "seal the seal," as it were.

I am aware that a wide-mouthed bottle formed just within its edge with a circular recess having a vertical wall and an annular horizontal seat for the reception of a laminated paper inclosure, is old, and also that it is old to close jars by means of superimposed laminated closures having a paraffin layer. I am also aware that a closure designed to be superimposed upon the edge of the mouth of a jar and consisting of a disk enveloped as to edges, as well as sides, with paraffin, is old. I do not therefore claim any of these constructions broadly.

I claim:—

1. A laminated or composite closure for sealing wide-mouthed bottles having circular recesses in their mouths for the reception of such closures, the said closure consisting of a top disk or body, a middle disk or seal, and a bottom or seal-protecting disk, the said middle disk being treated with a proofing substance resistant to the contents of the bottle and sufficing to adhere the three disks together and exuding from the edge of the closure.

2. The combination with a bottle having its neck formed with a recess having a vertical wall and a horizontal annular seat, of a laminated or composite closure located within the said recess and resting upon the said seat and having its edge expanded to abut against the said vertical wall and the said closure being treated with a proofing substance resistant to the contents of the bottle and exuded from the edge of the closure against the vertical wall of the said recess.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

RICHARD ZASTROW.

Witnesses:

FREDERICK C. EARLE,
CLARA L. WOOD.