W. D. HALL.

JAR CLOSURE.

APPLICATION FILED APR. 15, 1914.

1,163,005. Patented Dec. 7, 1915.

Fig. 1.

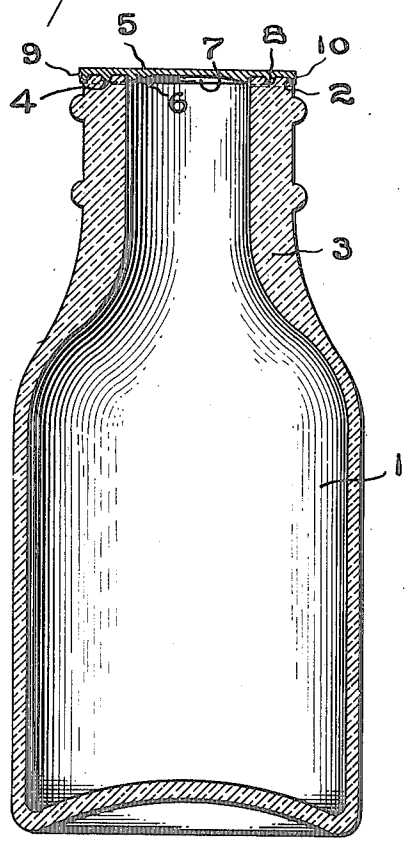


Fig. 2.

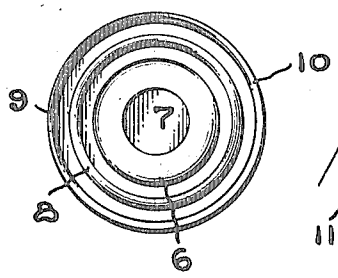


Fig. 3.

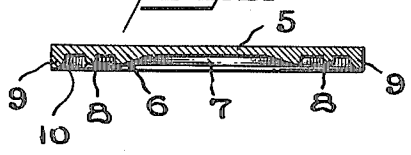


Fig. 4.

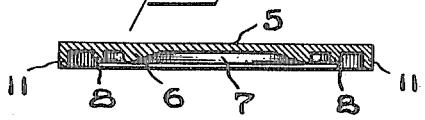


Fig. 5.

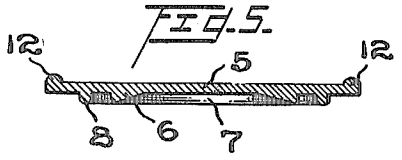


Fig. 6.

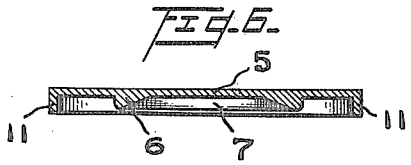


Fig. 7.

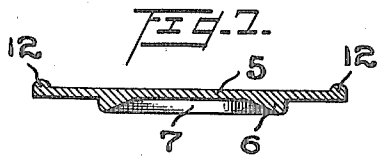


Fig. 8.

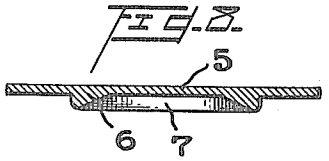
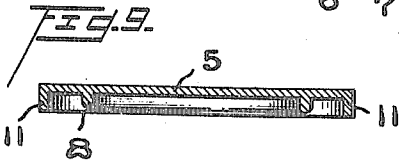


Fig. 9.



Inventor

William D. Hall,

Witnesses

L. R. Wenger

C. R. Ziegler.

By Joshua R. H. Potts.

Attorney

UNITED STATES PATENT OFFICE.

WILLIAM D. HALL, OF PHILADELPHIA, PENNSYLVANIA.

JAR-CLOSURE.

1,163,005. Specification of Letters Patent. Patented Dec. 7, 1915.

Application filed April 15, 1914. Serial No. 832,109.

To all whom it may concern:

Be it known that I, WILLIAM D. HALL, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Jar-Closures, of which the following is a specification.

My invention relates to improvements in jar closures, the object of the invention being to provide a closure consisting of a paper disk or cap having annular portions interlocking with the neck of the bottle, said annular portions and the body portion of the disk, constituting a single integral part formed by molding.

Heretofore in the manufacture of disk closures for bottles, it has been the common practice to stamp the disks with dies, the paper being supplied to the dies consisting of flat sheets, which always have a tendency to return to their normal shape, hence any attempt to form annular beads or enlargements by such method, results in failure because of the fact that the disks cannot be manufactured in such a manner at any cost within reason. It is the purpose of my improvement to form the cap or disk in a mold from a paper pulp, so that after the disk or cap is molded, it will maintain its shape and form indefinitely, and not change its shape or form as would be the case with a disk formed by a die.

A further object is to provide an improved jar closure which coöperates with the end of the jar or bottle to provide a sanitary cover, and which dispenses with the necessity of providing the ordinary inner recess within the neck of the bottle, as this recess is a means for catching and retaining particles which result in an unsanitary condition.

With these and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts as will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings: Figure 1 is a view in longitudinal section illustrating my improvements in connection with a milk bottle. Fig. 2 is a bottom plan view of the disk shown in Fig. 1. Fig. 3 is a view in section on an enlarged scale illustrating the disk shown in Figs. 1 and 2, and Figs. 4, 5, 6, 7, 8, and 9, are views similar to Fig. 3 illustrating modifications.

1 represents a milk bottle having an annular recess 2 at its outer edge at the extreme end of the neck portion 3. This end of the neck portion is also provided with a circular groove 4 located approximately midway between the outer and inner edges of the end of the bottle neck.

In Figs. 1, 2, and 3, I illustrate a preferred form of disk or cap 5, which is provided with a central circular enlargement 6, which fits within the mouth of the bottle and forms a snug closure therefor. This enlargement 6 is recessed centrally as shown at 7 to economize material, but it is to be understood that the enlargement will be of a sufficient depth to insure a tight lock or seal with the mouth of the bottle. The disk 5 is provided on its under face with a circular rib 8, spaced from, but concentric with the enlargement 6. This rib 8 fits in the groove 4 of the bottle neck and acts as a seal. At the outer edge of the disk 5, an annular flange 9 is provided. This flange 9 is spaced from and concentric with the rib 8, and has its inner face curved as shown at 10 to conform to the shape of the annular groove 2. While the flange fits snugly in the groove, the disk is of a slightly greater diameter than the end of the bottle neck, so that the edges of the flange portion 9 will project slightly beyond the sides of the bottle neck, and affords a gripping point for the fingers.

In the modification illustrated in Fig. 4, the disk 5 is constructed precisely like the preferred form with the exception that the outer flange 11, corresponding to the flange 9 of the preferred form, is made with sharp angles and not rounded. With this form, it would of course, be necessary to slightly change the shape of the groove 2 in the bottle.

The disk illustrated in Fig. 5, dispenses with the outer flanges 9 and 10 of the forms above described, and provides in lieu thereof, a circular bead 12 on the upper face of the disk at its outer edge.

The disk illustrated in Fig. 6, is precisely like the one shown in Fig. 4, with the exception that the circular rib 8 is dispensed with. The disk shown in Fig. 7 also dispenses with the circular rib 8, but utilizes the rib 12 on the upper face of the disk.

The disk shown in Fig. 8 dispenses with

all outer ribs and flanges, and relies solely upon the enlargement 6 as a locking means for the cap.

The disk shown in Fig. 9 dispenses with the enlargement 6, and utilizes the ribs 8 and 11 as indicated in Fig. 4.

With all forms of my improvement, the bottle engaging annular portions which project from the face of the disk, constitute integral parts of the disk, and are molded as a portion of the device.

While my invention is not limited to any particular material, I may use various forms of pulp which can be rapidly molded while in a liquid state, and when molded, the several parts of the disk will remain as molded and not change their form when subjected to moisture. This is always a defect of any disk which is stamped, because as soon as it is subjected to moisture and then dried, it will change its form and lose its efficiency. With my improved disk, I can use a composition which will resist the action of acids as well as ordinary liquids, and in which there is no tendency of the disk to change its form when subjected to moisture.

Various other slight changes might be made in the general form and arrangement of parts described without departing from my invention, and hence I do not limit myself to the precise details set forth, but consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. The combination with a receptacle having a smooth inner surface at its open end, and an annular groove in its outer surface at its open end, of a paper closure comprising a disk having an integral central enlargement fitting within the smooth open end of the receptacle, and having an integral annular flange located in the said groove, said flange of a greater thickness than the groove, whereby the flange projects beyond the outer surface of the receptacle, substantially as described.

2. The combination with a receptacle having an annular groove in its outer edge at its open end, of a paper closure comprising a disk having an integral central enlargement fitting within the open end of the receptacle and having an integral annular flange located in the said groove with the edges of the flange projecting slightly beyond the wall of the receptacle, substantially as described.

3. The combination with a receptacle having an annular groove in its outer edge at its open end, of a paper closure comprising a disk having an integral central enlargement fitting within the open end of the receptacle and having an integral annular flange located in the said groove with the edges of the flange projecting slightly beyond the wall of the receptacle, said receptacle having in its outer end a circular groove, and said closure having a circular rib fitting within the groove, substantially as described.

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

WILLIAM D. HALL.

Witnesses:
CHAS. E. POTTS,
M. E. DITTUS.