

J. L. DINSMOOR.
 SANITARY SEALED CLOSURE FOR CONTAINERS.
 APPLICATION FILED OCT. 16, 1913.

1,237,876.

Patented Aug. 21, 1917

Fig. 1.

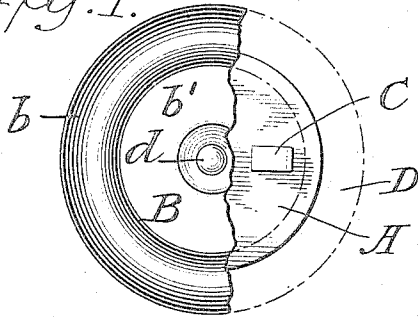
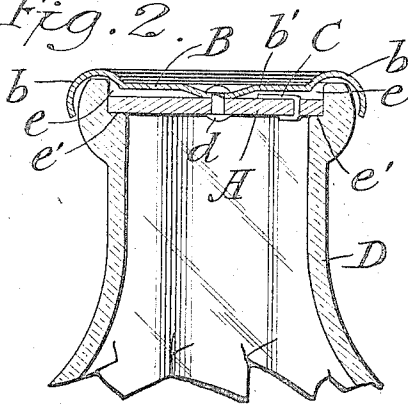


Fig. 2.



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SANITARY SEALED CLOSURE FOR CONTAINERS.

1,237,876.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN L. DINSMOOR, a citizen of the United States, residing at the city of New York, borough of Brooklyn, county of Kings, and State of New York, have invented a certain new and useful Sanitary Sealed Closure for Containers, of which the following is a specification.

This invention is a sanitary closure for containers, such as fluid milk bottles or the like, and the object in view is to seal the closure in such manner as to secure infallible detection should the bottle be unwarrantably opened, thus resulting, substantially, a guarantee to the purchaser that the contents of the container are when opened the same as when said container was filled at the dairy or other filling station.

For the purpose of meeting sanitary and hygienic conditions, as well as complying with the legal requirements of some State governments, it is now the practice to transport fluid milk, or other commodities, in original packages; but so far as I am aware, such packages are not of such nature as to prevent tampering with the contents.

Furthermore, the ordinary fluid milk bottle now in extensive use is closed by a fibrous cap or disk, positioned in the bottle mouth below the top edge of the bottle, thus affording a space or recess for the accumulation of free liquid upon the cap or disk, which space also permits the lodgment of foreign matter, besides exposing the edge of the bottle, all of which is objectionable for the reason that the cap and bottle are liable to become dirty from handling or other causes and provide for the lodgment of disease germs.

The bottle closure of my invention embodies a seal which remains intact until the user removes the closure, thus securing in effect a warranty as to the genuineness of the contents.

In one practical embodiment of the invention, the closure is a fibrous disk, with which is combined a sealing member composed of a readily breakable material of a suitable nature. This sealing member is attached to the closure, preferably centrally thereof, by a pin or rivet, so as to become an inseparable part of the closure, but an important feature of the sealing member in this form of the device is that the edge portion overhangs and covers the edge of the bottle with-

out however necessarily coming into contact therewith, although it is obvious that the sealing member may contact with the bottle.

In all forms of the invention, and particularly in the primary form, the seal is attached to or associated with, the closure directly, and such seal is independent of the container in so far as concerns the efficiency of the seal.

In the drawings,

Figure 1 is a plan view of one form of sealed closure applied to a milk bottle, the sealing member being partly broken away.

Fig. 2 is a vertical section of the device shown in Fig. 1.

In Figs. 1 and 2, the closure consists of a cap or disk A and a sealing member B. This cap or disk may be, and preferably is, composed of a single flat piece of fibrous material, such as paper. Said cap is provided, preferably though not necessarily, with an extractor C, such as a tongue of metal or paper attached to the cap and adapted to be grasped by the fingers for the purpose of pulling the cap out of the bottle.

The sealing member is composed of suitable material, such as paper, celluloid, or any other material or composition of materials suitable for the purpose. It is preferred to employ as the sealing member a material of a different character from that of the cap or closure member A, said sealing member being of a readily frangible nature. As shown, this member B is somewhat larger than the cap, it is provided with a curled edge *b*, and the central part *b'* thereof is depressed or sunken with respect to said curled edge. The central part *b'* of said sealing member is in contact with the cap, resting directly upon it and covering or incasing extractor C. Said member B is attached to the cap, so as to form an inseparable part thereof, the attachment of the parts A B being secured by any means suitable for the purpose, such as by the pin or rivet *d*.

When manufacturing the article, the cap A and sealing member B are cut or stamped from suitable materials selected for the purpose, the part B being manipulated or treated at the same time to produce the curled edge, after which the two parts are assembled and united by the rivet or pin, it being evident that the foregoing operations are or may be carried on continuously by appropriate automatic machinery with a view to

the rapid and economical production of the completed article.

When the closure is to be used, it is placed on the bottle D, see Fig. 2, so that the edge portion of cap A will spring into position within recess *e* and be seated upon shoulder *e'*, the closure A having sufficient frictional engagement with the bottle mouth to retain itself in position. The sealing member B thus covers the cap A and the extractor C, the curled edge *b* of said sealing member extending over the top edge of the bottle and down the outside thereof for a suitable distance. When made of relatively stiff material, the sealing member B does not necessarily contact with the edge of the bottle, but should this member be composed of pliable material, then the curled edge *b* thereof may rest upon the edge of said bottle; in either event, the sealing member is not dependent for its efficiency upon engagement with the bottle.

It is to be noted that the sealing member covers and incases the cap when the latter is applied to the bottle so as to occupy the recess therein, and, further, that the edge portion of said member covers the edge of the bottle itself. The sealing member thus prevents any one from obtaining access to the cap, unless said member is broken or disrupted, thus giving an infallible indication to the purchaser that unauthorized persons have tampered with the contents of the bottle. Furthermore, the sealing member covers the space between the edge of the cap and the recessed part of the bottle, and covers, also, the edge of the bottle, thereby preventing the lodgment of dirt and foreign substances upon the cap itself and upon the edge of the bottle, so that upon the removal of the closure there will be very little, if any possibility of the dirt passing in the bottle and the edge of said bottle, at the mouth thereof, will be in a clean sanitary condition when the liquid content is poured out of the bottle.

Assuming that the bottle has been delivered to the consumer with the closure and the seal intact, it is only necessary for the user to break the seal member to obtain access to extractor C, whereupon the cap and the seal may be pulled out of position, thus removing the closure easily and quickly.

Referring to Fig. 2, it is apparent that the closure member A is composed of comparatively thick material, such as paper, whereas the seal member B consists of material the thickness of which is much less than that of the material composing member A. Furthermore, the material of member B is of a different character from that of closure A, it being preferred to use a thin non-absorbent frangible material, such as celluloid. Said sealing member is pro-

vided, as a result of the form imparted thereto, with a line of weakness along which the material of member B will be easily broken or torn in any effort at removing said closure from the bottle, whereby the material and the form of member B are contributing factors to the destructibility of the seal member, the sole purpose of which is to infallibly indicate to the consumer that an attempt was made to tamper with the original contents of the bottle, which result has heretofore not been attained by prior constructions which have come to my knowledge.

As shown, the seal member embodies a circular central portion and a rim portion deflected from the plane of the central portion, said rim portion being curved in cross section and extending upwardly from the plane of said central circular portion. Said seal member, composed of thin frangible material and having the particular form given thereto as shown and described, produces a line of weakness in the material composing said seal member, which line of weakness is at the junction of the central circular portion with the curled or rolled rim portion.

It is apparent that the article, when applied to a bottle, is retained securely in position by the engagement of the comparatively stiff closure member A with the shouldered part of the bottle mouth, said member A although composed of relatively stiff material being still sufficiently yieldable to spring into position for holding itself within the bottle. The seal member at this time is not attached to the bottle, nor is it required that there shall be such engagement between the bottle and the seal member as will tend to preclude dislodgment or displacement of said seal member, for the reason that the closure member acts as the means for positioning and retaining the seal member in operative relation to the bottle. At the same time, the seal member performs the important function of precluding dislodgment or removal of the closure member without first destroying, or at least mutilating, the seal member to such an extent as to afford an infallible means of detecting the surreptitious attempt to extract the contents of the bottle. The seal member covers the closure member and embraces or fits around the mouth portion of the bottle so that the closure member cannot under any circumstances be dislodged or pulled out without first breaking through or mutilating the seal member. Ordinarily, the person attempting to open the bottle, grasps the curled rim of the seal member and pulls it away from the bottle. Owing to the frangible nature of the material composing this seal member, and the line of weakness at the junction between the curled rim and the

central part of the seal member, any pull or stress exerted on the member B at once results in the material tearing or breaking along the line of weakness. With the seal destroyed, the material composing said seal can be lifted or pried up so as to obtain access to the closure A, and thereupon the closure can be removed in the usual way or by the aid of the extractor C.

In my device the seal member is composed of material the character or nature of which differs from that of the closure member; *e. g.* whereas the closure member is composed of stiff paper, the seal member consists of thin yieldable material non-absorbent in character, such as celluloid. This non-absorbent material prevents ice or water, lodging in the pocket or cavity at the top of the bottle, from leaking or penetrating to the closure member or past said closure member into the bottle. Furthermore, the non-absorbent seal member extends over and around the edge portion of the bottle to afford a sanitary protection thereto, and when the cover is removed the seal member throws off the water or ice so as to prevent the latter from flowing into the contents of the bottle, the edge or mouth portion of which is in a clean sanitary condition, *i. e.* free from dirt and germs.

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

1. A closure for bottles and other containers embodying a relatively stiff closure member and a sealing member composed of readily frangible pliable material which is attached substantially centrally to said closure member, said sealing member being provided with a curled edge extending outwardly from the plane of the closure member and occupying a spaced relation to the edge thereof, there being an appreciable line of weakness at the junction of said edge with the central portion, and said curled edge of the sealing member being unattached to the closure member and being adapted for frictional engagement with the exterior portion of a container and said sealing member operating to preclude access to the closure member without first mutilating or disrupting said sealing member.

2. A closure for bottles and other containers embodying a relatively stiff closure member and a readily-frangible sealing member attached substantially centrally to the closure member and having its edge portion disconnected therefrom with an appreciable line of weakness at the junction of said edge portion with the central portion, the free unconfined edge portion of said sealing member occupying such relation to the edge portion of the closure member that said free edge of the sealing member is adapted to embrace, and to have frictional contact with,

the exterior surface of the container, whereby access to the closure member is precluded without first mutilating or disrupting said sealing member.

3. A closure for bottles and other containers embodying a closure member composed of relatively stiff material and a sealing member attached substantially centrally to the closure member and composed of readily frangible material, said sealing member having a free edge portion extended beyond the corresponding edge portion of the closure member with an appreciable line of weakness at the junction of said edge portion with the central portion, said sealing member being positioned to substantially incase the closure member, said extended edge portion of the frangible sealing member extending outwardly beyond the closure member so as to embrace the container exteriorly thereof and to contact therewith for precluding access to, or the removal of, the closure member without first disrupting or mutilating said sealing member.

4. A closure embodying a closure member and a readily frangible seal member attached substantially centrally thereto, said seal member having a free edge portion deflected away from the plane of the closure member with an appreciable line of weakness at the junction of said edge portion with the central portion, and said deflected edge portion being free from attachment to a container whereby displacement of the closure member relative to a container cannot be effected without disrupting the sealing member.

5. A bottle closure embodying a closure member and a seal member cooperating directly with the closure member and having a deflected rim portion which is free from direct attachment to the bottle with an appreciable line of weakness at the junction of said rim portion with the central portion, said sealing member being composed of readily frangible material which normally is so related to the closure member as to preclude displacement thereof from the bottle without first disrupting or mutilating the seal.

6. A closure for bottles and other containers comprising a relatively thick closure member and a seal member composed of non-absorbent frangible material the thickness of which is appreciably less than that of the closure member, said seal member being attached to the closure member and having a curled rim portion free from attachment to the closure member with an appreciable line of weakness at the junction of said rim portion with the central portion.

7. A closure for bottles and other containers embodying a relatively stiff closure member and a non-absorbent seal member com-

posed of readily frangible material attached centrally to said closure member, said seal member comprising a central portion and a curled rim portion with an appreciable line
5 of weakness at the juncture of the central portion with the rim portion.

In testimony whereof I have signed my

name to this specification in the presence of two subscribing witnesses.

JOHN L. DINSMOOR.

Witnesses:

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M. C. RODRIGUEZ.