No. 783,257. PATENTED FEB. 21, 1905.

L. A. FOOTE.

MILK BOTTLE SEAL.

APPLICATION FILED SEPT. 24, 1904.

Fig. 1.

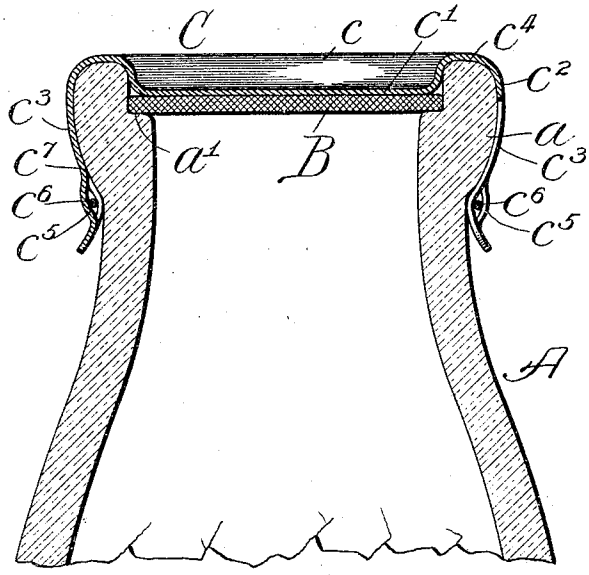


Fig. 2.

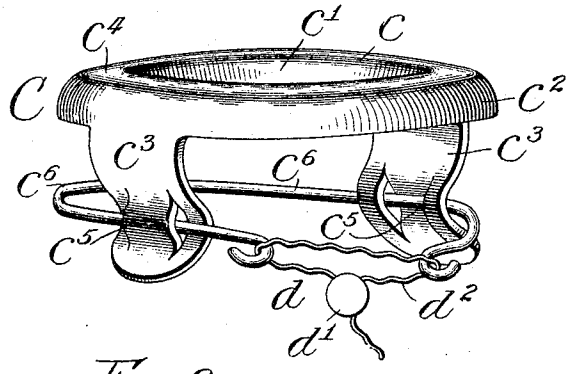
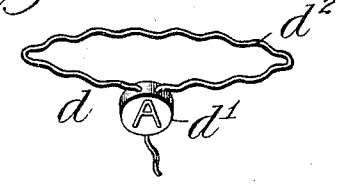


Fig. 3.



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UNITED STATES PATENT OFFICE.

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MILK-BOTTLE SEAL.

SPECIFICATION forming part of Letters Patent No. 783,257, dated February 21, 1905.

Application filed September 24, 1904. Serial No. 225,749.

To all whom it may concern:

Be it known that I, LEWIS A. FOOTE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Milk-Bottle Seals, of which the following is a specification.

My invention relates particularly to seals for use in connection with milk-bottles, which are ordinarily closed by means of a paper disk; and my primary object is to provide a seal which may be quickly applied and which will serve effectually to exclude impurities and also to prevent chipping of the bottle.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 represents a broken sectional view of a milk-bottle equipped with my improved seal; Fig. 2, a perspective view of my improved seal detached, and Fig. 3 a perspective view of the shackle-seal shown in Fig. 2.

In the construction shown, A represents a milk-bottle provided externally at its upper end with the usual flange or enlargement a and internally with an annular shoulder a'; B, the usual cardboard disk employed for closing the bottle, the same resting upon the shoulder a', and C my improved seal applied to the bottle. The seal in this form comprises, preferably, a metallic disk c, having its central portion struck down, as indicated at c', and a curved flange c^2, conforming to the curvature of the upper portion of the enlargement a of the bottle and equipped with depending ears c^3. As thus described, the member c has an annular raised portion c^4, which snugly receives that portion of the top of the bottle which lies above the shoulder a'. Each ear c^3 is incised along lines parallel with its edges and has its central portion c^5 struck outwardly and the flanking portions struck inwardly, affording circumferential channels for the shackle c^6, which preferably is of spring-wire.

As will be seen, the shackle is maintained in a substantially horizontal position. It comprises a ring with a cut-away portion, the extremities of the wire forming eyes or hooks. The ends of the ring turn inwardly slightly, and the ring has a diameter somewhat less than the diameter of the neck of the bottle which it is adapted to engage, so that a clamping action is secured. In practice the spring-shackle is located so as to clamp upon the downwardly-converging surface c^7 of the bottle-neck, so that there is a tendency to draw the cap or member c down closely upon its seat at the top of the bottle. The lower ends of the ears with which the shackle is connected are curved outwardly somewhat to facilitate the application of the device to the bottle and also to serve as a convenient means for its removal from the bottle. The device may be conveniently applied to the bottle by tipping it with relation to the bottle and first passing the central portion of the shackle beneath the enlargement of the bottle-top, which permits the device to be clamped with ease upon the bottle.

It is noteworthy that the central portion of the member c bears firmly upon the disk B and that the curved flange c^4 closely envelops the upper end of the bottle, so that if any water be dropped upon the bottle it will not enter the same. Moreover, the exposed surfaces are round, and the seal fits snugly, so that the bottles may be closely packed and placed upon the top of each other without injury. It is also an important consideration that my improved device serves to prevent chipping of the bottles at the tops thereof, thereby effecting a saving, which to a single dealer may amount to many dollars every day. This construction is peculiarly adapted for use by large dairies, where it is important to insure cleanliness to the milk and prevent breakage of the bottles, but where it is not indispensable that means should be provided for effectually sealing the bottle against tampering.

In cases where it is necessary to prevent tampering the spring-shackle has connected therewith a shackle-seal d. This comprises a sealing-disk d' and a small gage-crimped wire d^2, having one end cast in the disk and the other end passing through a perforation in the disk. In the sealing operation the loop

is caught over the hooks of the spring-shackle, the wire is then drawn taut, and the press applied to crush the sealing-block and clip the projecting end of the wire. After this operation it is impossible to remove the seal from the bottle on account of the enlargement a until the wire d^2 is cut or the seal broken in some other manner.

Changes in details of construction within the spirit of my invention may be made. Hence no undue limitation should be understood from the foregoing detailed description.

What I regard as new, and desire to secure by Letters Patent, is—

1. The combination with a bottle having an internal shoulder at its upper end, a disk upon said shoulder, and a seal comprising a disk having its central portion bearing upon said first-named disk and provided with a curved flange fitting snugly over the upper end of the bottle, ears depending from said flange, and a shackle connected with said ears and binding said second-named disk to the bottle, for the purpose set forth.

2. A device for closing milk-bottles, comprising a disk shaped to conform to the upper portion of the bottle, and a spring-shackle connected with the disk and adapted to clamp the device to the neck of the bottle, substantially as and for the purpose set forth.

3. The combination with a milk-bottle of a disk provided with an annular raised portion receiving the upper portion of the bottle and having depending ears, and a clampingly-acting shackle connected with said ears and comprising a portion of a ring adapted to engage the neck of the bottle, substantially as and for the purpose set forth.

4. A device for closing bottles, comprising a cap with depending shackle-supporting means, and a clampingly-acting, horizontally-disposed ring-section serving as a shackle, for the purpose set forth.

5. A device for closing and sealing bottles comprising a cap with depending shackle-supporting means, a clampingly-acting horizontally-disposed shackle provided at its end portions with means for receiving the loop of a seal, and a shackle-seal having its loop connected with said shackle, for the purpose set forth.

6. A device for closing and sealing bottles, comprising a cap with depending shackle-supporting means, a spring-wire ring-section serving as a shackle and having end hooks, and a shackle-seal having a loop engaged by said hooks, substantially as and for the purpose set forth.

LEWIS A. FOOTE.

In presence of—
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