(No Model.)

F. J. DEVERALL.

REVERSIBLE STOPPER FOR CANS, BOTTLES, &c.

No. 342,338. Patented May 25, 1886.

Fig. 1.

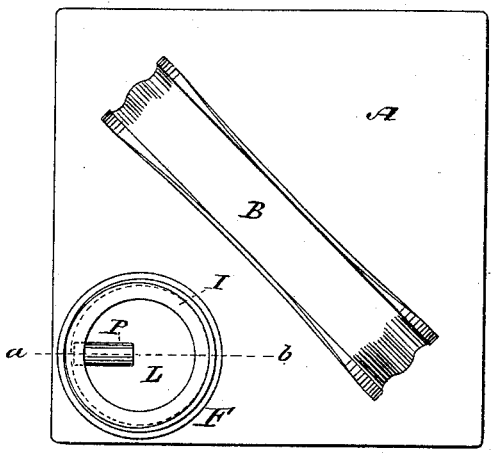


Fig. 2.

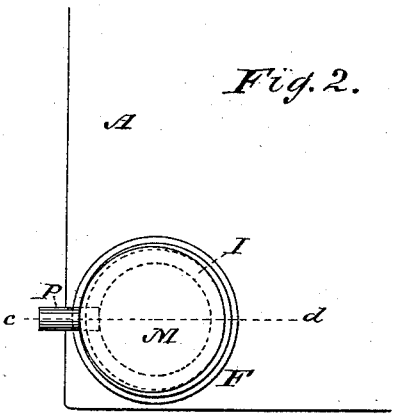


Fig. 3.

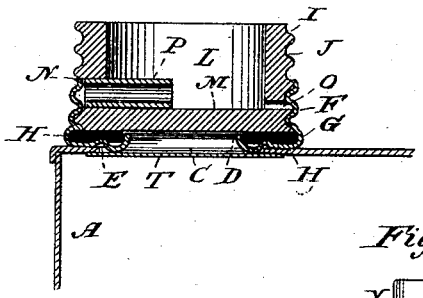


Fig. 4.

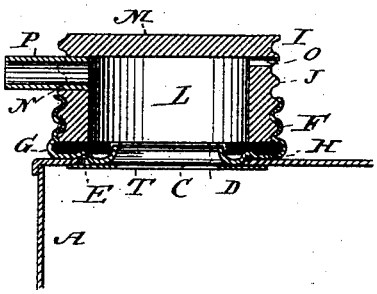


Fig. 7.

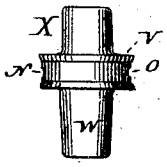


Fig. 5.

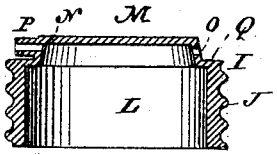


Fig. 6.

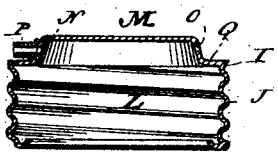
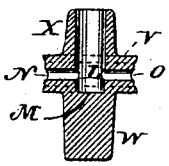


Fig. 8.



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UNITED STATES PATENT OFFICE.

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REVERSIBLE STOPPER FOR CANS, BOTTLES, &c.

SPECIFICATION forming part of Letters Patent No. 342,338, dated May 25, 1886.

Application filed October 23, 1885. Serial No. 180,702. (No model.) Patented in England March 17, 1885, No. 3,463, and in Canada October 7, 1885, No. 22,598.

To all whom it may concern:

Be it known that I, FREDERICK J. DEVERALL, a citizen of the United States, and a resident of Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Reversible Stoppers for Cans, Bottles, and other Receptacles, of which the following is a specification.

It is intended to embody a description of the invention claimed herein in a "complete specification" to be filed in the British Patent Office on or before November 16, 1885, the provisional specification having been filed March 17, 1885, and officially numbered 3,463, and the specific stopper shown in Figures 7 and 8 are, in addition to the above-mentioned British application, embodied in Canadian Letters Patent No. 22,598, dated October 7, 1885.

The invention relates to improvements in reversible stoppers for cans, botties, and other receptacles; and it consists, essentially, of a novel device or stopper, which, when applied to the mouth of the receptacle, will either seal the same or permit the contents to be poured therefrom, according to which end of the stopper is uppermost, as hereinafter particularly described, and pointed out in the claims.

The invention sought to be protected hereby embodies certain advances made with the stopper described and claimed in Letters Patent of the United States issued to me March 17, 1885, and numbered 313,926, and is illustrated in the accompanying drawings, in which—

Fig. 1 is a top view of a can or receptacle the mouth of which contains a stopper made according to the invention claimed herein, the position of the stopper being such as to seal the can. Fig. 2 is a similar view of same, illustrating the position of the stopper when arranged to permit the contents of the vessel to be poured therefrom. Fig. 3 is an enlarged central vertical section on the dotted line *a b* of Fig. 1. Fig. 4 is a like view on the dotted line *c d* of Fig. 2. Fig. 5 is a central vertical section of the preferred form of the stopper when it is to be cast. Fig. 6 is a like view of the stopper as made from sheet metal. Fig. 7 is a side elevation, and Fig. 8 a central vertical section, of a modified form of reversible stopper.

In the drawings, A designates the can or vessel, which in the present instance is rectangular in form, and provided with a convenient handle, B. At one corner, in the top of the vessel, is provided a circular opening, C, beyond which is soldered to the top of the vessel the circular vertical threaded flange or mouth, F, having at its lower portion the groove G, to receive and retain the flexible washer H, and having also its lower edges turned inward and bent to form the bead E and annular shoulder D, as indicated in Figs. 3 and 4. The washer H rests upon the bead E, and is caught at its inner edges by the shoulder D. The threaded flange or mouth F will be of sufficient height to snugly receive a proper portion of the stopper I, which is in the form of a screw-cap provided with an exterior thread, J, and having its center removed, forming a bore or chamber, L, one end only of the cap being closed. The chamber L, adjacent to its upper end and directly below the closed end M of the cap, is provided with the transverse channels N O, passing through the opposite side walls of the cap, the channel O serving as an air-vent, while the channel N, either alone or in connection with an outlet-tube, P, operates as an escape for the contents of the receptacle.

In Figs. 1 to 4, inclusive, the tube P is represented as adjustable laterally within the channel N, and in Figs. 5 and 6 it is a permanent fixture, that shown in Fig. 5 being represented as cast with the cap or stopper, and that in Fig. 6 as soldered thereto.

The operation of the stopper is illustrated in Figs. 3 and 4, the former showing the receptacle sealed and in condition for shipping, and the latter the position of the stopper when the receptacle is in use. When the closed end M of the cap or stopper is to be inserted into the threaded flange or mouth F, the tube P will be pressed inward, as shown in Fig. 3, so as to be out of the way, and when the stopper is thus inserted its exterior thread, J, will engage the thread on the flange, and its closed end will impinge upon the washer H, pressing it firmly against the bead E, and forming a liquid-tight joint. It will be observed that the threaded flange F, when the closed end of the stopper is introduced therein, covers the outer ends of the channels N O. The position

of the stopper or cap in the flange F will be reversed when it is desired to pour out a portion of the contents of the vessel, as shown in Fig. 4, the open end thereof being inserted into the flange, and the tube P being previously pressed outward to serve as a spout. Under this condition of the stopper the vent O is exposed, and the liquid, upon the vessel being properly tilted, will first enter the chamber L, and then escape through the tube P. The lower edges, also, of the sides of the cap press upon the washer H, and form a liquid-tight joint.

The stopper above described, when made of wood, will preferably be boiled in wax or oil, so as to render it impervious to moisture and add to its durability.

The stopper shown in Fig. 5 is of a form adapted to be constructed of cast metal. The closed end M is somewhat smaller in diameter than the body of the stopper, whereby is formed a shoulder, Q, above which on one side is the vent O, and upon the other the outlet-tube P, which is cast with the stopper, and does not interfere with the reversal thereof, owing to the fact that its outer end does not extend beyond the screw-threads J.

In Fig. 6 is illustrated the stopper as constructed from sheet metal, the only material difference between this stopper and that shown in Fig. 5 being that the tube P is soldered in position, instead of being cast with the stopper.

Where the stopper above described is to be employed on shipping-cans, a piece of "taggers tin" or other thin sheet metal, T, may, during the construction, be soldered on the under surface of the edges of the opening C, as an additional precaution against leakage, although I do not consider the same necessary, except, perhaps, in exceptional cases.

When the can has reached its destination, the user thereof may either cut the center from the sheet metal, T, as shown in Fig. 4, or break its contact with the can. The portion removed will fall into the can, and not interfere with the use of the same or the reversal of the stopper.

Figs. 7 and 8 illustrate a modification of the stopper, being a form thereof which will be employed in instances where the vessel does not usually have screw-threads to receive it. The body V of this form of stopper has a central bore, L, an air-vent, O, on one side, and an outlet-channel, N, on the opposite side, and as a means of attaching it to the vessel it has on its closed end the post W and on its open end the tube X, connecting with the bore L and outlet-channel N.

When it is desired to seal the vessel, the post W is inserted to fill the mouth thereof, and when the contents are to be poured out the position of the stopper will be reversed and the tube X introduced into the said mouth.

I do not limit myself to the exact position shown of the tube P, since by increasing the height of the screw-cap or stopper I the said tube would be at about the center of the cap, and would be above the flange F, no matter which end of the cap were inserted therein.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A reversible stopper for receptacles, adapted to either seal the receptacle or form an outlet therefrom, consisting of a body of suitable size, having a central bore or chamber, L, transverse channels N O, extending through opposite sides of said body, and a closed end, the other end opening into the bore or chamber L, substantially as and for the purposes set forth.

2. A reversible stopper consisting of a body of suitable size, having a central bore or chamber, L, transverse channels N O, extending through opposite sides of said body, and a tube connecting with the channel N, one end of the body being closed and the other opening into the chamber L, substantially as and for the purposes set forth.

3. A reversible stopper consisting of an externally-threaded body having the central bore or chamber, L, the transverse channels N O, and closed end M, in combination with a receptacle having around its mouth a threaded flange to receive either end of the stopper, substantially as and for the purposes set forth.

4. A reversible stopper consisting of a body having the bore or chamber L, the transverse channels N O, and closed end M, in combination with the receptacle having around its mouth a flange, F, and means, substantially as described, for retaining either end of the body within the flange, substantially as and for the purposes set forth.

5. A reversible stopper consisting of the externally-threaded body having the bore or chamber L, the transverse channels N O, and closed end M, in combination with the receptacle having around its mouth the washer H and threaded flange F, substantially as and for the purposes set forth.

6. A reversible stopper consisting of the externally-threaded body having the chamber L, transverse channels N O, and closed end M, in combination with the receptacle having around its mouth the shoulder D, head E, washer H, and threaded flange F, substantially as and for the purposes set forth.

7. A reversible stopper consisting of an externally-threaded body having the bore or chamber L, a transverse outlet-channel extending from said chamber and communicating with a delivery-tube, P, and a closed end, M, in combination with a receptacle having around its mouth a threaded flange to receive either end of the stopper, and a washer, H, substantially as set forth.

Signed at New York, in the county of New York and State of New York, this 3d day of October, A. D. 1885.

FREDERICK J. DEVERALL.

Witnesses:
CHAS. C. GILL,
A. L. SHAW.