No. 795,102. PATENTED JULY 18, 1905.

E. W. CARNES.

FRICTION TOP CAN.

APPLICATION FILED DEC. 5, 1904.

Fig. 1

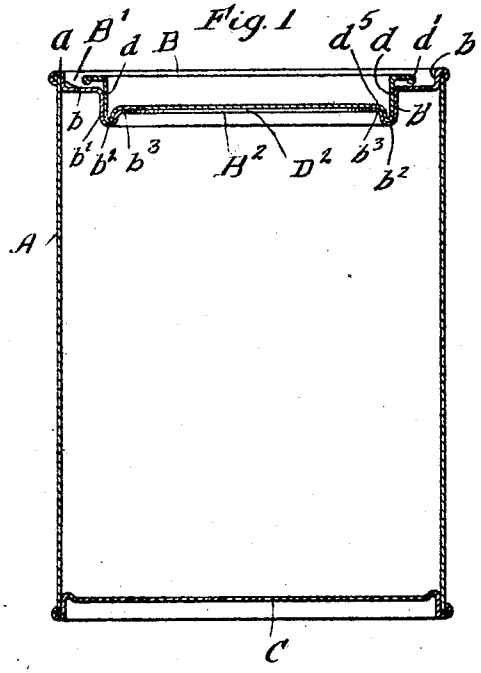


Fig. 2

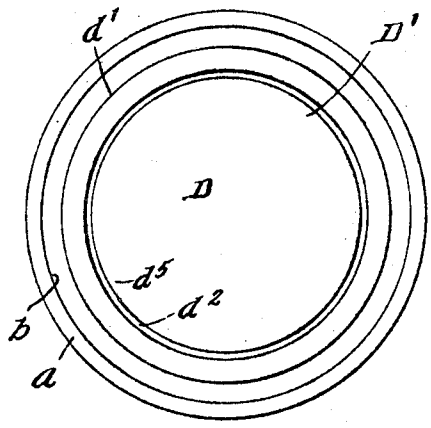


Fig. 3

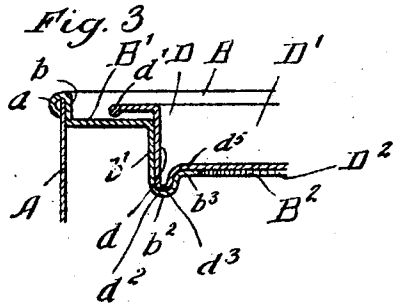
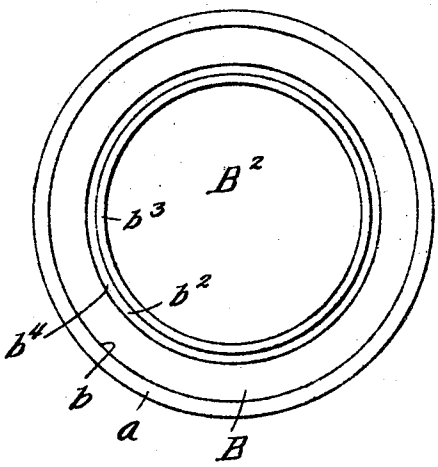


Fig. 4



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No. 795,102. Patented July 18, 1905.

UNITED STATES PATENT OFFICE.

EDWARD W. CARNES, OF CHICAGO, ILLINOIS, ASSIGNOR TO AMERICAN CAN COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

FRICTION-TOP CAN.

SPECIFICATION forming part of Letters Patent No. 795,102, dated July 18, 1905.

Application filed December 5, 1904. Serial No. 235,463.

To all whom it may concern:

Be it known that I, EDWARD W. CARNES, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Friction-Top Cans, of which the following is a specification.

My invention relates to improvement in cans of the kind or class commonly known as "friction-top" cans or cans which are designed to be opened and closed a number of times as the contents are being used and which have a top or head furnished with a friction-seat adapted to receive a friction or slightly-wedging cover that is forced into the seat to tightly close the can by the tight close metal-to-metal contact of the cover with the seat in the top or head of the can. Great difficulty has heretofore been experienced in cans of this kind or class in producing a liquid-tight closure or joint between the so-called "friction-top" of the can and its so-called "friction-cover," especially where the cans are filled with extremely permeable or fluid liquids, like turpentine, benzin, &c.

The object of my invention is to provide a so-called "friction-top" can of a simple, efficient, durable, and economical construction which may be readily closed and sealed by simply forcing the cover in place and readily opened by simply prying off the friction-cover and which at the same time may be closed liquid-tight with certainty and reliability, so that substantially none of the cans will in practice prove to be defective or leaky.

My invention consists in the means I employ to practically accomplish this object or result—that is to say, it consists in a can having a countersunk top furnished with the customary integral cover seat wall or flange and having a supplemental inwardly-projecting spring-acting flange provided at its inner edge with an inwardly and horizontally projecting flange in connection with a friction-cover having an integral friction seat wall or flange adapted to tightly engage the cover seat wall or flange of the countersunk top and provided on its under side with an annular projecting bead or rim which fits in the annular channel of the countersunk top formed by the supplemental inwardly and upwardly projecting flange thereof, the inner horizontally-projecting edge or rim of the supplemental flange of the countersunk top engaging with a spring-like action the under side of the cover, and thus producing a liquid-tight closure, while the tight wedging or friction engagement between the seat walls or flanges of the countersunk cover and friction-top holds the cover snugly and securely in place, the rim of the cover fitting within the countersunk top and the marginal countersink wall or flange of the top forming a fulcrum for the lever in prying off the cover.

My invention also consists in the novel construction of parts and devices and in the novel combinations of parts and devices herein shown and described.

In the accompanying drawings, forming a part of this specification, Figure 1 is a central vertical section of a friction-top can embodying my invention. Fig. 2 is a top plan view. Fig. 3 is an enlarged detail vertical section, and Fig. 4 is a plan view with the friction-cover removed.

In said drawings, A represents the can-body, and C its bottom head secured or seamed thereto in any suitable manner.

B is the top or head of the can, the same being secured to the body by a soldered or other seam, as desired. The top B is preferably countersunk or furnished with a marginal countersink wall or flange b, so that the friction-cover D may fit flush within the depression or countersink B′ of the friction-top and so that the raised rim a of the can may serve as a fulcrum for prying off or removing the friction-cover D. The top B has a large opening B^2 therein, which is closed by the friction-cover D and which is surrounded by an integral friction cover-seat wall or flange b' to receive the corresponding integral friction wall or flange d of the friction-cover D, the two interengaging seat walls or flanges b' d of the top and cover being preferably slightly flared or wedging and the outer diameter of the cover-seat wall d being slightly larger than the interior diameter of the fric-

tion-top seat-wall b', so as to insure a very close tight friction or metal-to-metal contact between the two seat-walls when the cover D is driven or pressed forcibly into the top B, and thus causing the cover to be securely held in place and to counteract the comparatively slight outward pressure of the interengaging spring-like-acting parts or devices on the friction-top and friction-cover and which while aiding materially in making the closure liquid-tight tends slightly to press the cover upwardly.

The friction-cover seat wall or flange b' of the top B is provided with an inwardly and upwardly projecting spring-like-acting supplemental flange b^2, having an inwardly and horizontally projecting edge or rim flange b^3, the flange b^2 being preferably curved or rounded and forming an annular channel b^4.

The friction-cover D has a marginal fold or roll d' at its rim, which serves to strengthen and stiffen the friction-cover and form a horizontally-projecting shoulder for prying off or removing the cover from the can. The friction-cover D has in addition to its friction seat wall or flange d a reverse annular flange d^2, forming a downwardly-projecting bead or annular shoulder d^3, which fits in the annular channel or groove b^4 of the friction-top and gives in connection with the friction seat-wall d a double or reverse countersink to the cover, the main countersink D' being an external countersink and formed by the depending seat wall or flange d and the other countersink D^2 being an internal countersink and formed by the annular flange d^2 of the cover. The inwardly and upwardly curved flange b^2 of the friction-top has a spring-acting engagement with the corresponding flange d^2 of the cover D, and this spring action of the flange d^2 is accentuated or increased to the extreme inner edge of the horizontal flange b^3, which bears against the inner side of the friction-cover at d^5, and thus aids in effecting a liquid-tight closure between the cover D and top B, while at the same time the upwardly and outwardly spring-like-acting pressure of the flanges b^2 b^3 of the friction-top against the cover are not sufficient to overcome the strong tight forcible grip between the seat-walls b' d or to render insecure the anchorage of the cover on the can.

By thus combining with the friction-cover and friction-top a supplemental spring-acting flange b^2 and a seat d^3 therefor on the cover I am enabled to produce liquid-tight closures in friction-top cans with certainty and reliability.

I claim—

1. In a friction-top can, the combination with the can-body and a top provided with a marginal countersink-wall to serve as a fulcrum in prying off the cover and having an integral friction-seat wall provided with a supplemental spring-acting inwardly and upwardly projecting flange, of a friction-cover provided with a marginal rim fitting within said marginal countersink-wall of the can-top and having a friction-seat wall tightly engaging the friction-seat wall of the can-top, and provided on its under side with a projecting annular shoulder engaging and forming a seat for said supplemental spring-acting flange of the can-top, whereby a liquid-tight closure is secured and the can adapted to be repeatedly opened and closed, substantially as specified.

2. In a friction-top can, the combination with a countersunk friction-top having a depending seat-wall, and an inwardly and upwardly curved supplemental elastic flange furnished with a horizontally-projecting flange at its inner edge, of a double or reverse countersunk friction-cover, having a seat-wall, and an upwardly and inwardly projecting flange d^2, substantially as specified.

3. In a friction-top can, the combination with a friction-top B, having a countersink B', opening B^2, seat-wall b', inwardly and upwardly projecting flange b^2 and horizontal flange b^3, of friction-cover D having external countersink D', internal countersink D^2, seat-wall d, and annular flange d^2, substantially as specified.

EDWARD W. CARNES.

Witnesses:
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