

April 24, 1928.

**1,667,284**

A. J. CHAMBERLAIN

METAL CONTAINER

Filed Aug. 9, 1924

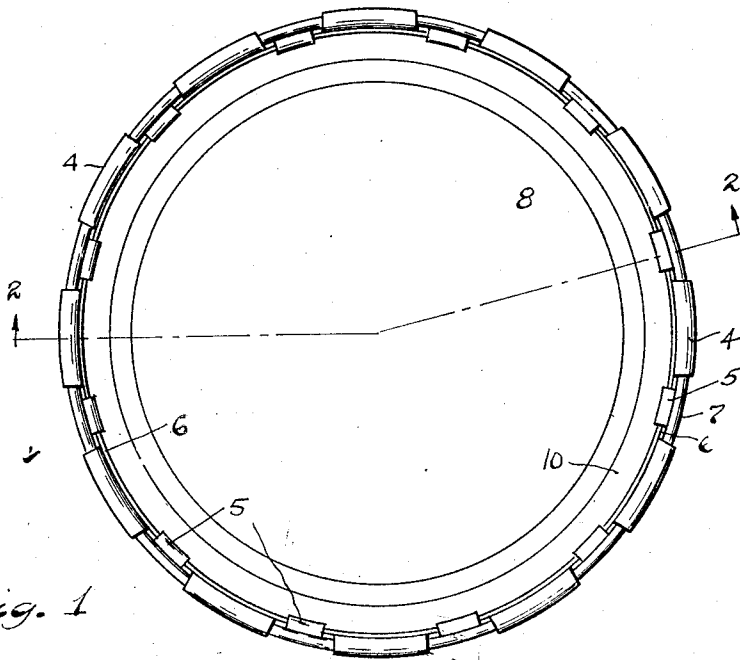


Fig. 1

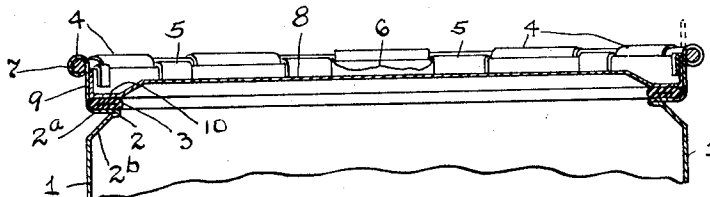
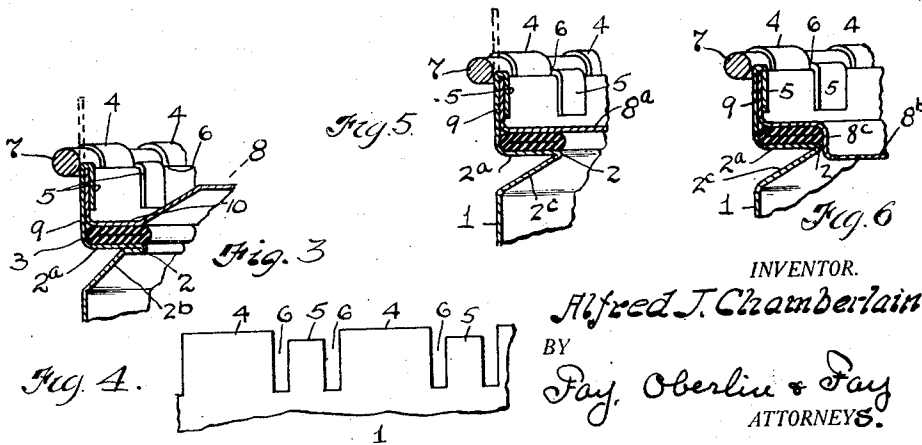


Fig. 2.



INVENTOR.

Alfred J. Chamberlain

BY

BY  
Fay, Oberlin & Fay  
ATTORNEYS.

**ATTORNEYS:**

## UNITED STATES PATENT OFFICE.

ALFRED J. CHAMBERLAIN, OF LAKEWOOD, OHIO.

## METAL CONTAINER.

Application filed August 9, 1924. Serial No. 731,229.

In the construction of metal containers of the type having a removable top or closure, such as are finding a more or less extensive field of use in connection with the paint trade, for example, the prevailing construction utilizes a body having an integrally formed folded flange extending inwardly adjacent one end thereof, the cover fitting closely in said end and having a peripheral flange with its lower face substantially parallel to the upper face of said first-named flange. However, such folded flange on the container body is subjected to considerable downward pressure when the cover is seated, with the result that the flange is not infrequently bent from its normal horizontally projecting position so that an imperfect seal is secured.

One object, accordingly, of the present invention is the provision of a reinforced or rather strengthened form of such flange in a container of the type in question. A further object is the incorporation of a protecting wire bead in the end of the container body above such flange, whereby it is rendered unnecessary to form such body with outwardly projecting beads below the can, this being a more or less expensive operation and resulting at the same time in the formation of an annular groove in the inner surface of the can body.

To the accomplishment of the foregoing and related ends, the invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims, the annexed drawing and the following description setting forth in detail certain mechanism embodying the invention, such disclosed means constituting, however, but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawing:—

Fig. 1 is a top plan view of a container constructed in accordance with my present invention; Fig. 2 is a central vertical section of the upper portion of such container, the plane of the section being indicated by the line 2—2, Fig. 1; Fig. 3 is a section of a detail on a somewhat larger scale than is shown in Fig. 2; Fig. 4 is a developed elevation showing a portion of the side wall of the container in a preliminary stage of fabrication; and Figs. 5 and 6 are views similar to that of Fig. 3, but showing slight modifications in construction.

The body 1 of the container is of cylindrical form, as usual, and aside from the features herein referred to as of special interest may be of any familiar construction both as to the form of the side seam, if one be employed, and as to the manner in which the bottom is secured in place.

As shown in Figs. 2 and 3, the side wall of such body portion is formed adjacent its upper open end with an inwardly directed flange 2. This flange is formed by folding the metal inwardly, the upper portion 2<sup>a</sup> thereof lying substantially at right angles to such wall, i. e. in a substantially horizontal plane, while the lower portion is in close contact with such upper portion for a short distance only, the remainder portion 2<sup>b</sup> inclining downwardly and outwardly to where the flange joins the body 1. The horizontal portion 2<sup>a</sup> of the flange 2 constitutes a seat for a gasket 3 which is shown as consisting of a rubber tube collapsed or flattened by the compressive action of the cover, as will be presently explained. It will be understood, however, that depending upon conditions and the character of the contents of the can, various kinds of gaskets may be employed, or for that matter the cover may contact directly with the seat 2<sup>a</sup>.

As shown in Fig. 4, the side wall of the container is initially formed with two series of circumferentially spaced projections 4 and 5, the latter being smaller than the former and alternating therewith, a series of slots 6 being left between the adjacent projections so as to provide against interference therebetween. The projections 4 are bent outwardly around a circular, reinforcing wire 7 that is held thereby closely against the upper edge of the container's side wall, as defined by the bottoms of the slots 6. However, as shown in Figs. 2 and 3, said reinforcing wire is located somewhat above the edge in question and thus above the edge of the top or closure 8 when the latter is secured in place.

Such top or closure is of general circular shape and is provided with an upturned peripheral flange 9 having an external diameter slightly less than the internal diameter of the container above the flange 2. Contiguous with such upturned or vertical flange 9 such top or closure is provided with a horizontal flange 10 in the form of construction shown in Figs. 2 and 3, such horizontal flange lying below the main body of

the closure. However, as shown in Fig. 5, such flange and main body may lie in the same plane, thereby forming a cover plate 8<sup>a</sup> that is entirely flat save for the vertical flange 9, instead of having an annular channel about its periphery as in the first described form. Or, as shown in Fig. 6, the cover plate 8<sup>b</sup> may be still further depressed so as to provide a pilot end 8<sup>c</sup> on the cover.

In Figs. 5 and 6, I show a further modification in that the lower portion 2<sup>c</sup> of the inwardly directed flange 2 on the can body slopes downwardly and outwardly from the inner edge of such flange instead of from a point intermediate of such inner edge and the outer edge of the horizontal portion 2<sup>a</sup>.

Prior to the insertion of the top or cover 8 in place in the open end of the container body, the projections 5 thereon extend upwardly, as indicated in dotted outline in Figs. 3 and 5, but after insertion of such cover these projections are bent inwardly and downwardly so as to force such cover downwardly and thereby compress the gas-ket 3 between the horizontal portion 2<sup>a</sup> of the flange 2 and the horizontal flange 10 of the cover 8 or else the body of the cover 8<sup>a</sup> where the flange in question is continuous with such body.

As a result of the formation of the flange 2 with the lower portion 2<sup>b</sup> or 2<sup>c</sup>, as the case may be, inclining inwardly from the can body to the inner edge of such flange or to a point slightly removed therefrom, the horizontal portion 2<sup>a</sup> of such flange is braced or supported as by a continuous bracket. Accordingly, such horizontal portion 2<sup>a</sup> will be maintained in position under much more severe compression strains when the cover 8 is forced into place than if the flange 2 were of familiar folded form. The reinforcing wire 7, as need not be explained in detail, provides an entirely adequate protection for the end of the can and prevents injury to such end and distortion of the seat 2<sup>a</sup> on account of externally applied blows or bumps.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, provided the means stated by any of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:—

1. In a metal container, the combination of a body portion provided adjacent its open end with an inwardly directed flange formed by folding the material of said body inwardly, the upper portion of said flange lying at substantially right angles to said body portion to form a seat and the lower portion of said flange lying in close contact with such upper portion for a short distance adjacent its inner edge and then inclining downwardly and outwardly whereby to form an intermediate buttress for the seat, and a cover adapted to fit within such end of the container body and having a complementary seat.

2. In a metal container, the combination of a body portion provided adjacent its open end with an inwardly directed flange formed by folding the material of said body inwardly, the upper portion of said flange lying at substantially right angles to said body portion to form a seat and the lower portion of said flange lying in close contact with such upper portion for a short distance adjacent its inner edge and then inclining downwardly and outwardly whereby to form an intermediate buttress for the seat, a cover adapted to fit within such end of a container body and having a complementary seat, and spaced projections on said body end adapted to secure said cover.

3. In a metal container, the combination of a body portion provided adjacent its open end with an inwardly directed flange formed by folding the material of said body inwardly, the upper portion of said flange lying at substantially right angles to said body portion to form a seat with an angular buttress immediately below, a circular wire reinforcing said body-end, the latter being formed with integral, circumferentially spaced projections on said body-end bent outwardly and around said wire to hold the same in place, a cover adapted to fit within such end and formed with a complementary seat, and means for securing said cover in place, said means comprising integral, circumferentially spaced projections on said body-end lying between said first-named projections and adapted to be bent inwardly into engagement with said cover.

Signed by me this 6th day of August, 1924.

ALFRED J. CHAMBERLAIN.