

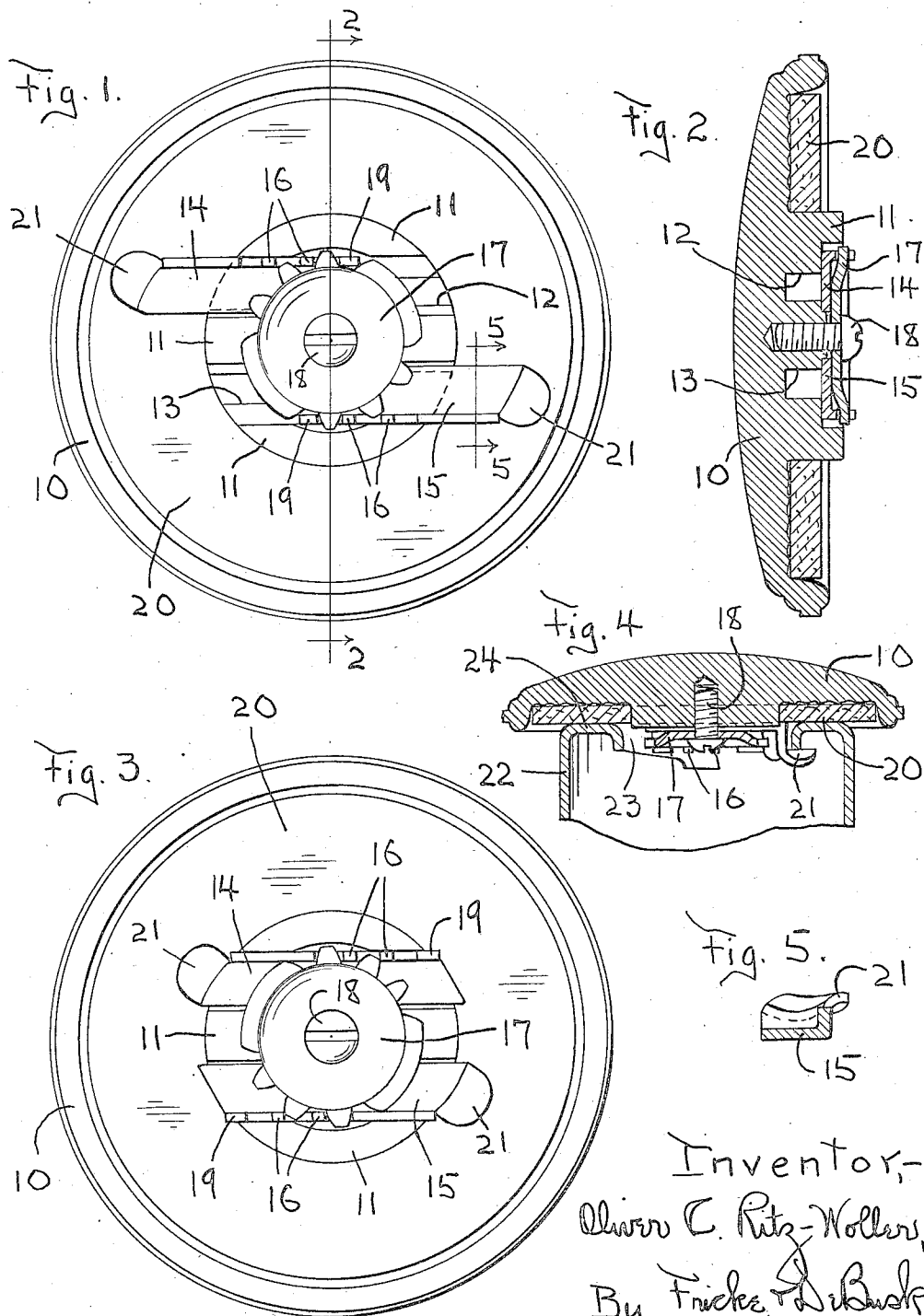
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2,038,003

ADJUSTABLE CAP

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2,038,003

ADJUSTABLE CAP

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4 Claims. (Cl. 220—40)

My invention relates to caps for use as closure means for the filling spouts of gasoline tanks of automobiles and the like. The filling spouts for the gasoline tanks of many automobiles are made in the form of tubular members of sheet metal having inwardly and downwardly turned flange portions at their upper ends, such flange portions being notched at opposite sides for the insertion of clamping lugs, the cap being tightened in position by the engagement of the clamping lugs with the under edges of the flange portions which are in the form of cams at opposite sides of the spout. These tubular members for a considerable number of cars are substantially standardized, but there is nevertheless a slight difference in the size and shape of the devices furnished with different makes of cars. It is the principal object of my invention to provide in a cap of this type a new and improved form and arrangement of parts by which the necessary adjustment may be effected for providing the desired close fit of the clamping means with the flange portions of the spouts of slightly different size and shape on different cars.

It is another object of my invention to improve devices of this type in sundry details hereinafter pointed out. The preferred means by which I have accomplished my several objects are illustrated in the drawing and are hereinafter specifically described. That which I believe to be new and desire to cover by Letters Patent is set forth in the claims.

In the drawing,—

Fig. 1 is an inside face view of the preferred form of my improved cap;

Fig. 2 is a cross sectional view taken substantially at line 2—2 of Fig. 1;

Fig. 3 is a view similar to Fig. 1 but showing a changed position of the adjustable clamping bars;

Fig. 4 is a vertical sectional view through my improved device shown upon a reduced scale and in position upon the upper end of a filling spout; and

Fig. 5 is a cross sectional view through one of the clamping bars, being taken substantially at line 5—5 of Fig. 1.

Referring now to the several figures of the drawing, in which corresponding parts are indicated by the same reference characters, 10 indicates a closure member in the form of a cast metal plate having a central boss 11 on its inner face in centered position thereon. As is best shown in Fig. 2, the boss 11 is provided with oppositely disposed grooves 12 and 13 across its inner face providing slideways for clamping bars

14 and 15 respectively along which said bars are slidable inwardly and outwardly longitudinally of the bars.

Each of the bars 14 and 15 is in the form of an angle, as is best shown in Fig. 5, one of the angular portions of which is provided with teeth 16 thereon adapted to mesh with the teeth of a segmental gear 17 which is revolutely mounted between the bars 14 and 15 as is best shown in Fig. 1. The segmental gear 17 is secured in position upon the inner face of the boss 11 by means of a set screw 18 which is mounted in a tapped opening in the face of the boss. The arrangement is such that when the set screw 18 is tightened against the gear, the gear is held against rotary movement, serving to hold the clamping bars 14 and 15 in their adjusted position so as to be immovable longitudinally. When, however, the set screw 18 is loosened, the segmental gear 17 can be rotated causing the clamping bars 14 and 15 to move inwardly and outwardly in unison with respect to the closure member 10.

In the arrangement shown, the end tooth 19 of the rack bar portion of each of the clamping bars is of increased size as compared with the teeth 16 so as to prevent complete meshing of such tooth with the tooth notch of the segmental gear, whereby the gear serves to limit the outward movement of the bars with respect to the plate. The arrangement is such that when the bars are moved inwardly the engagement of the untoothed portion of the gear with the flange on the bar beyond the teeth 16 serves to limit such inward movement.

About the boss 11 underneath the bars 14 and 15, I have provided a ring gasket 20 of any approved type which is held from removal by engagement with the bars 14 and 15.

At the outer end of each of the bars 14 and 15, the metal of the body portion of the bar is offset slightly to provide an outwardly projecting lug 21 as is best shown in Fig. 5. Each of the lugs 21 is pressed into rounded form for increasing the strength of the structure and for providing substantially single line engagement with the flange of the filling spout.

In Fig. 4, my improved plate is shown in position upon the usual filling spout 22, with the lugs 21 of the clamping bars in engagement with the obliquely disposed bottom faces of the backwardly turned flange portions 23 of the spout, such flange portions 23 being formed integrally with the spout 22 through inwardly turned flange portions 24 at opposite sides of notches through which the engaging lugs of the slide bars are in-

sertable into position for engagement with the backwardly turned flange portions. In this arrangement, the rounded lugs 21 of the clamping bars have effective engagement with the oblique-
 5 ly disposed bottom faces of the cam portions 23 of the filling spout for holding the cap securely in position regardless of the extent of the rotary motion of the cap with respect to the filling spout.

By the use of my improved construction, in
 10 which the clamping bars 14 and 15 are adjustable for locating the lugs 21 to precisely the desired positions with respect to the backwardly turned flange of the filling spout, I have provided a device which can be used to the best possible ad-
 15 vantage for holding the cap firmly in effective closure position, while at the same time being capable of being quickly and easily removed when a moderate force is applied directly to the cap for turning it out of its clamped position.
 20 By my arrangement, whenever it is desired the bars 14 and 15 can be quickly and easily adjusted to changed position to fit a different filling spout, the bars being held automatically in similarly adjusted position for maintaining the two bars
 25 together in centered position with respect to the cap.

While I prefer to employ the form of device as shown in my drawing and as above described, it is to be understood that my invention is not
 30 limited thereto except so far as the claims may be limited by the prior art, it being understood that changes might well be made in the arrangement as shown without departing from the spirit of my invention.

35 I claim:—

1. A closure cap comprising in combination a closure member, clamping bars movable inwardly and outwardly on the inner face of the closure

member, and means comprising gearing connecting said two bars for adjusting them in unison and for securing the bars fixedly in adjusted position.

2. A closure cap comprising in combination a 5 closure member, clamping bars movable inwardly and outwardly on the inner face of the closure member, a member rotatably mounted between said bars and having toothed engagement there-
 10 with for causing said bars to move inwardly and outwardly in unison, and means for clamping said rotary member fixedly in position for holding said bars against movement with respect to the closure member.

3. A closure cap comprising in combination a 15 closure member, clamping bars movable inwardly and outwardly on the inner face of the closure member, racks carried by said bars longitudinally thereof, a segmental gear rotatably mounted be-
 20 tween said bars adapted by engagement with said racks to cause the bars to move inwardly and outwardly in unison and to limit such movements, and means for clamping said segmental gear
 25 against rotary movement for holding said bars fixedly in adjusted position.

4. A closure cap comprising in combination a closure member in the form of a plate grooved across its face, clamping bars in the form of an-
 30 gles slidable transversely of the closure member at opposite sides thereof with rack teeth formed in the angular portions at the outer edges of said bars, a gear meshing with said rack teeth and
 35 engaging the faces of said clamping bars, and means for releasably clamping said gear on said plate in gripping relationship to said bars for holding the bars from longitudinal movement.

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