June 10, 1941. V. H. SEVERY 2,245,532

CONTAINER CLOSURE

Filed Jan. 26, 1938

Fig. 1.

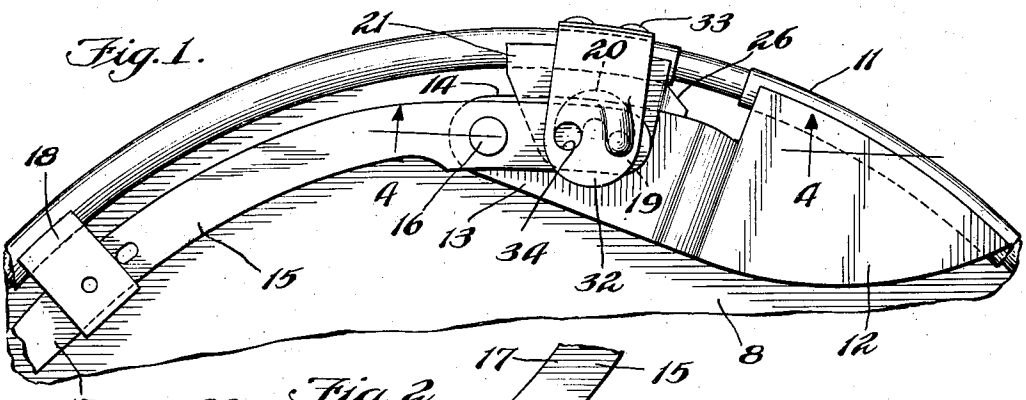


Fig. 2.

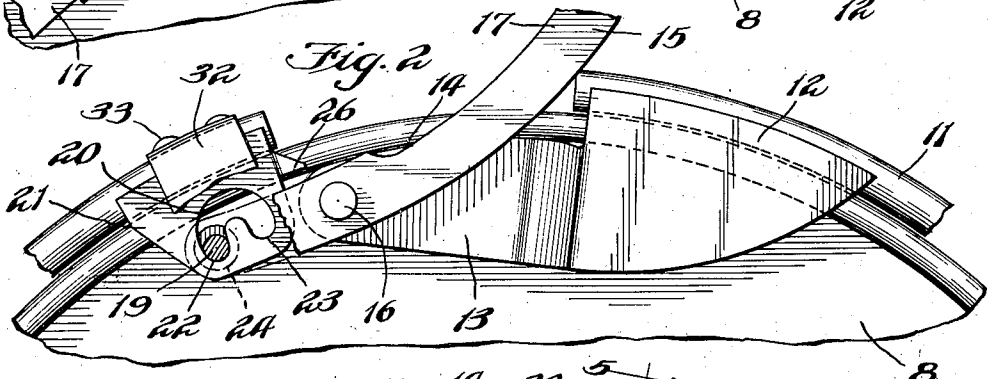


Fig. 3.

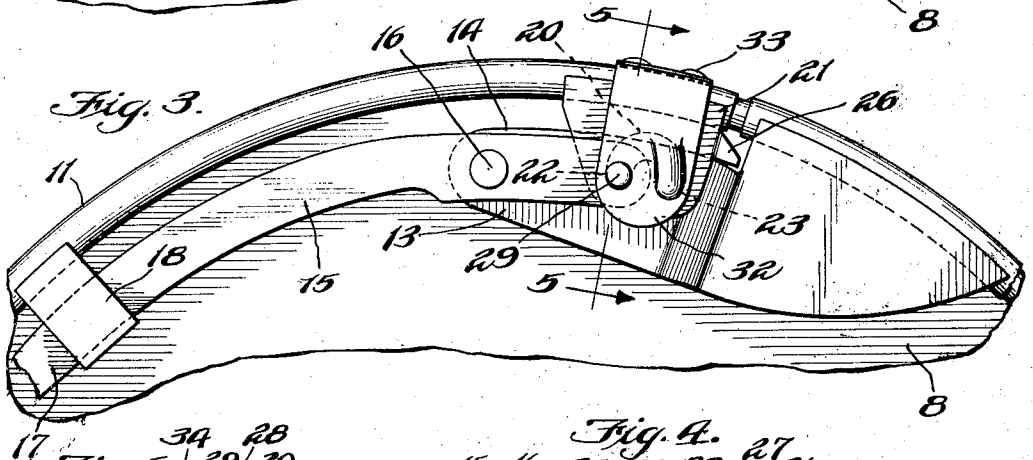


Fig. 5.

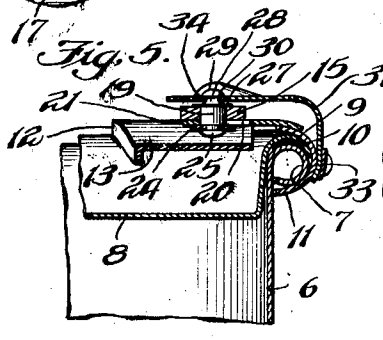
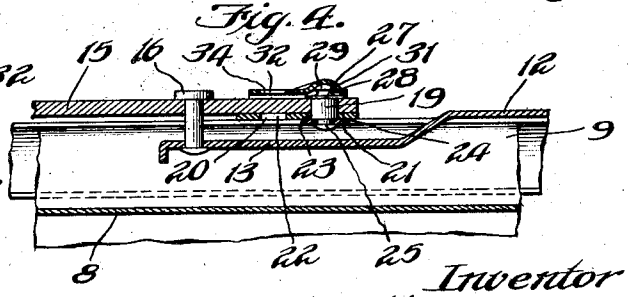


Fig. 4.



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2,245,532

CONTAINER CLOSURE

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Application January 26, 1938, Serial No. 186,960

2 Claims. (Cl. 220—61)

This invention pertains to metallic containers of the full open head type having covers with projecting flanges and closing rings for fastening the covers in position. These containers are usually provided with gaskets to be inserted between the container bead and the flange of the cover. When the containers are shipped from the manufacturers to the users it is desirable to have the covers mounted on the containers in order to keep the containers clean and to hold the parts together but it is not desirable to have the covers tightly closed as this tends to unduly compress the gaskets. This compression is apt to deform the gaskets or to put them in unsuitable condition for use when the containers have been filled and the covers more permanently applied. When they are finally applied after filling it is of course necessary to tightly close the covers and to compress the gaskets in order to prevent leakage. While it is desirable to have two different closing positions for the ring, it is also desirable to provide means whereby the closing mechanism, after it has been closed to the first or partially closed position, will be automatically placed in condition so that at the next closing operation the ring will be tightly closed or in its shipping position. This automatic arrangement is desirable in order to prevent unskilled workmen from negligently failing to properly close the ring after the container has been filled and the cover is to be applied as for storage or shipping.

Accordingly the objects of this invention are to provide an improved closure for containers having a plurality of closing positions for the closing ring and means for automatically shifting the closing mechanism to insure the proper closure at different times.

Other objects and advantages will appear more fully from the following description taken in connection with the accompanying drawing, in which

Fig. 1 is a plan view of a portion of a container, such as a pail, barrel, or the like, showing my improved closure with the locking ring in first or partial closing position;

Fig. 2 is a similar view showing the position of the parts when the closing lever is swung to open the ring to permit it to be raised over the bead and flange of the cover to remove the cover;

Fig. 3 is a similar view showing the final or tight closing position;

Fig. 4 is a sectional view taken on the line 4—4 of Fig. 1; and

Fig. 5 is a sectional view taken on the line 5—5 of Fig. 3.

The container 6 is shown with the usual bead or curl 7 at the top. The cover 8 fits in the top of the container in the usual manner and has a flange 9 that extends out over the bead. A gasket 10 of any suitable material is interposed between the bead and flange. A contractible split closing ring 11 engages with the flange and bead as shown in Fig. 5, so that when the ring is contracted it will force the flange toward the bead and make a tight closure with the gasket, all of this being in accordance with more or less common constructions now in use.

In order to open and close the ring 11, one end is provided with a lug or projection 12 which may be secured thereto in any desired manner, as by welding. This projection extends circumferentially beyond the end of the ring and has a downwardly bent portion 13 having an outer edge 14 that is adapted to engage with the side wall or rim of the cover during the closing operation.

A closing lever 15 is pivoted at 16 to the outer end of the projection 12 and has a long handle portion 17 which is preferably curved to conform to the curvature of the ring and which may be held in closed position by a catch 18 fastened to the ring 11. The outer or short end of the lever 15 is provided with a somewhat peculiarly shaped combined pivot and catch member 19 which is spaced a short distance from the pivot 16. The lower end of the pivot 19 engages with a substantially U-shaped slot 20 in a lug or projection 21 extending inwardly from the opposite end of the ring 11 and which may be formed integrally therewith or secured thereto in any well known manner. The ends of the slot 20 provide two notches 22 and 23 which serve to define or locate the different closing positions of the ring. The inner end of the pivot 19 is provided with a washer 24 and the pivot is riveted or headed over the washer as shown at 25 to hold or guide these parts during the closing operation. The lug or projection 21 extends inwardly and overlies a portion of the projection 12 when in closed position as shown in Fig. 1 and this lug is also preferably provided with a stop or detent 26 which is engaged by the closing lever 15 to stop or limit the outward movement thereof, when the ring is opened.

The opposite or upper end of the pivot 19 has a flange or washer 27 which fits against the upper surface of the lever 15 to hold the pivot against longitudinal movement and has an ex-

tension 28 with a rounded head 29 and an annular groove 30. The rounded head 29 fits in a recess 31 formed in the lower surface of a resilient or yielding plate or bearing member 32 which is fastened at 33 to the ring 11 and which extends inwardly and over the short end of the closing lever and positioned closely thereto as best shown in Fig. 5. The recess or depression 31 is substantially hemispherical at one end so that the button or rounded head 29 will fit freely therein when the ring is closed to its first or partly closed position. The recess however is of somewhat arcuate form and is tapered or gradually disappears toward its opposite or outer end. The plate or bearing member 32 also has a hole 34 for receiving the grooved end of the pivot 19 as shown in Fig. 5. The hole 34 is sufficiently large so that the head 29 will pass therethrough and the edge of the hole will engage with the groove 30 in order to make a bearing for the pivot and tending to hold the same in engagement with the hole.

When the ring is to be closed to first or "partly open" position as shown in Fig. 1, the plate or catch 32 is raised to free the head 29 of the pivot 19 so that the pivot is free to move into the notch 23 when the lever is swung to closing position. This is the closing position intended to be used when the containers are shipped from the factory and the ring will hold the cover and gasket on the container without unduly compressing the gasket.

When the user receives the containers and is about to fill the same, the closing lever 15 is swung to full opening position as shown in Fig. 2. During this swinging movement the pivot 19 passes out of the notch 23 and moves around in the U-shaped groove 20 into the notch 22. During this movement the head 29 passes out of the recess 31 and gradually raises the resilient catch 32 so that when the head enters the hole 34 the catch or plate 32 will spring down to engaging position over the head as shown in Fig. 5, so that the pivot will be automatically locked in the notch 22. It will be noted that the parts are so proportioned, as indicated in Fig. 2, that the lever 15 must be swung to substantially full open position or so that the pivot 19 engages with the second notch before the ring can be raised out of engagement with the bead and cover of the pail, thus insuring the full automatic adjustment of the pivot from one notch to the other. When the pivot is held in engagement with the second notch 22 the parts are in proper position for the final or complete closing of the ring as shown in Fig. 3, which is done in the usual manner. The pivot being thus held in position in the second notch will avoid any possibility of improperly closing the ring as might be done by careless workmen if no means were provided for positively shifting the pivot from one notch to another and holding it in such adjusted position. Of course if it is desired to again partly close the ring as in the first position, the operator may raise the plate or catch 32 and release the head of the pivot and shift it back to the first notch or to its original closing position. This however will require the intentional change or adjustment by the operator and will not be inadvertently made.

I believe that it is broadly new to provide closing devices of the kind set forth with means for automatically shifting a notch engaging or adjustment device from one position to another or to provide means for locking such pivot or notch engaging member in different positions and therefore I desire to cover such construction or mechanism as broadly as possible without limitation to the specific form thereof shown and described herein.

Having thus described a preferred embodiment of my invention, what I claim is:

1. The combination with a split closing ring for containers, of a lug secured to one end of the ring, a closing lever pivoted to the lug and having a handle portion, a pivot carried by the opposite end of the lever, a lug extending inwardly from the opposite end of the ring and having a U-shaped slot providing two notches positioned at different distances from the end of the ring for receiving and positioning the pivot for different closing positions, and a spring plate secured to the end of the ring and projecting over the pivot and having a recess and a hole which coact with the pivot as the pivot is moved about in its U-shaped slot to pass from one notch to the other, said recess tending to releasably hold the pivot in one position and the hole holding the pivot securely in another position

2. The combination with a closing ring of the character set forth, of a lever having pivotal connection with one end of the ring and having a pivot at its shorter end, a projection extending from the other end of the ring having a U-shaped slot which is engaged by said pivot, said slot being positioned so that the ends thereof are at different distances from the end of the ring, said pivot also having an upwardly extending bearing portion, and a resilient catch secured to the ring and adapted to engage with said bearing portion, said catch having a recess for receiving the bearing portion when the ring is closed to partially closed position, and a hole for receiving the bearing portion and holding it in such position when the lever is moved to bring the ring to its completely closed position.

VICTOR H. SEVERY.