Sept. 10, 1946. J. F. MARKLEY 2,407,434

CAN PUNCH AND CLOSURE

Filed Oct. 28, 1943

Fig. 1.

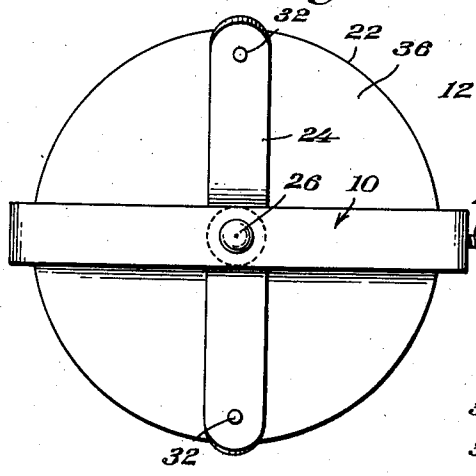


Fig. 4.

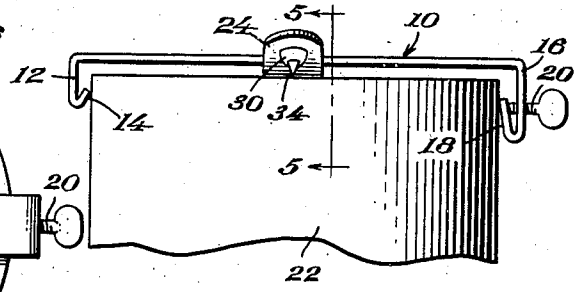


Fig. 5.

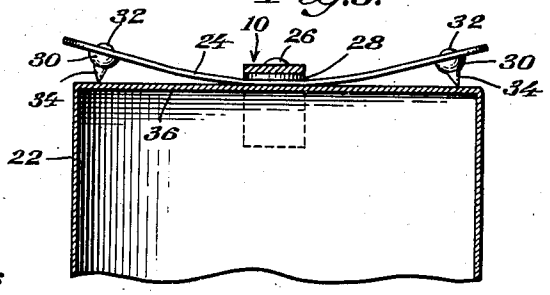


Fig. 2.

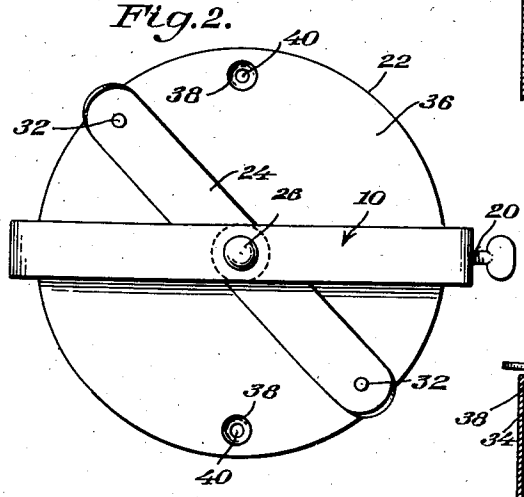


Fig. 6.

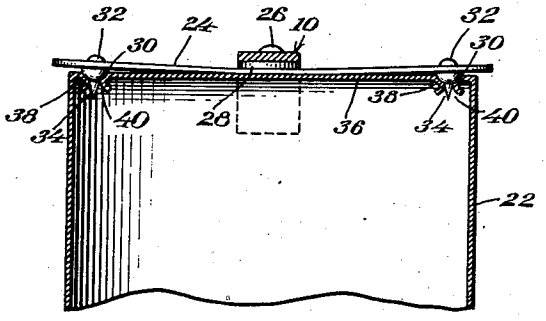
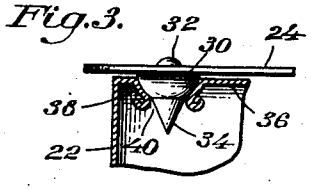


Fig. 3.



WITNESSES:

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CAN PUNCH AND CLOSURE

Joseph F. Markley, Camden, N. J.

Application October 28, 1943, Serial No. 508,011

1 Claim. (Cl. 220—51)

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My invention relates to containers such as cans for packaging liquids such as milk, fruit juices, oils and the like, and has among its objects and advantages the provision of an improved can punch and closure.

In the accompanying drawing:

Figure 1 is an end view of a can illustrating my invention applied thereto.

Figure 2 is a similar view illustrating perforations in the can.

Figure 3 is a sectional detail view illustrating one of the perforating and sealing means.

Figure 4 is a side view of the upper end of the can with the punch and closure arranged according to Figure 1.

Figure 5 is a view taken along the line 5—5 of Figure 4, and

Figure 6 is a view similar to Figure 5 but illustrating the manner in which the perforating elements perform a sealing function.

In the embodiment of the invention selected for illustration, I make use of a clamp member 10 comprising a metallic strap bent at one end to provide a right angular flange 12 partly bent back upon itself to provide a can engaging lip 14. The other end of the strap is also bent to provide a right angular flange 16 partly bent back upon itself to provide a can engaging wing 18 of considerably longer length than the lip 14. The flange 16 is somewhat longer than the flange 12.

The member 10 is of such length as to permit the lip 14 and the wing 18 to be positioned for engagement with the side of the can at diametrically opposite points. A screw 20 is threaded through the flange 16 and has end engagement with the wing 18 to flex the latter against the side of the can and firmly clamp the device to the can through the pressure engagement of the lip 14 and the wing with the can 22.

Located underneath the member 10 is a flexible metallic strap 24 pivotally connected with the member 10 by a rivet 26. A spacing washer 28 is mounted on the rivet and interposed between the member 10 and the strap 24. To the lower end margin faces of the strap 24 are attached semi-round closures 30, as by rivets 32. Each body 30 is provided with a tapered perforating prong 34 engageable with the can top 36 for punching holes therein when pressure is applied to the end margins of the strap.

Normally the strap 24 is straight and is bent

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to the position of Figure 5 when the device is attached to the can. With the device secured to the can, pressure is applied to the ends of the strap 24 for driving the prongs 34 through the can top and countersinking the margins of the top surrounding the openings to form flares 38 constituting seats for the bodies 30. Figure 6 illustrates the strap 24 as being under a slight flexure so that the bodies 30 are held firmly against the flares 38 to provide a sealed can condition.

The openings 40 are uncovered by lifting the ends of the strap 24 upwardly and then rotating the strap to one side of the two openings.

The member 10 constitutes a clamp which may be effectively secured to the can through mere tightening of the screw 20. The washer 28 spaces the strap 24 from the member 10 to insure a flexed condition of the strap when in a sealing position with respect to the pouring and vent openings 40.

Without further elaboration, the foregoing will so fully explain my invention, that others may, by applying current knowledge, readily adapt the same for use under various conditions of service.

I claim:

A combination can punch and closure comprising a clamp attached to the can, one end of said clamp provided with a depending right angular flange partly bent back upon itself to provide a can engaging lip, the other end of said clamp provided with a depending right angular flange of a greater length than said first mentioned flange and partly bent back upon itself to provide a can engaging wing of greater length than said engaging lip, a winged screw threadably received in said last named flange having engagement with said wing to flex said wing against the side of the can and firmly hold the clamp to the can through the pressure engagement of the lip and the wing with the can, a flexible means pivotally connected with said clamp to overlie an end of the can when said clamp is secured thereto, said clamp holding said flexible means in bowed condition on the end of the can to apply constant tension thereto and perforating means attached to said flexible means to perforate the end of the can when pressure is applied to said flexible means, said perforating means being held firmly in the perforations in said can by the flexed condition of said flexible means.

JOSEPH F. MARKLEY.