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I. NEWMAN

1,805,003

FLANGIBLE SEAL FOR RECEPTACLES

Filed Oct. 5, 1929

Fig. 1.

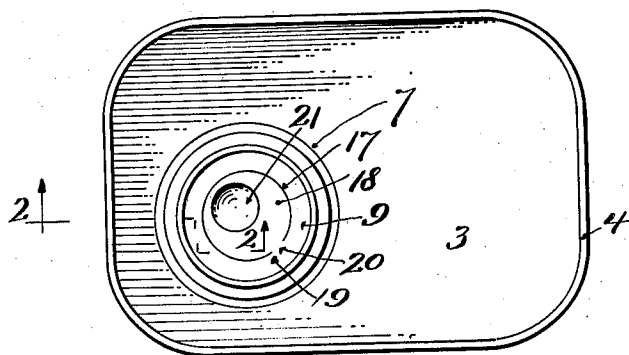


Fig. 2

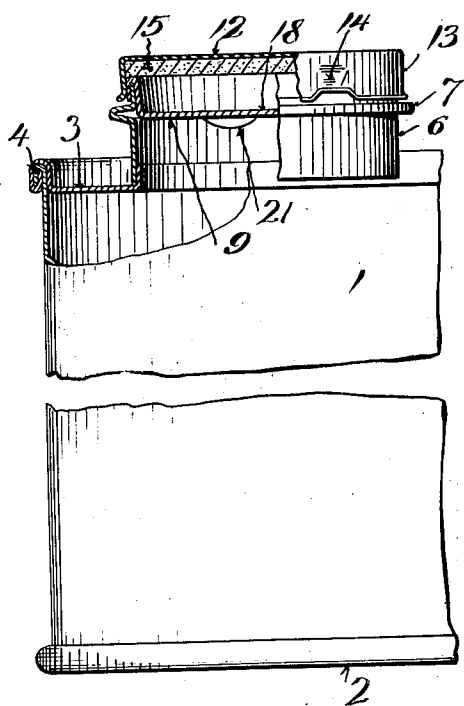


Fig. 3.

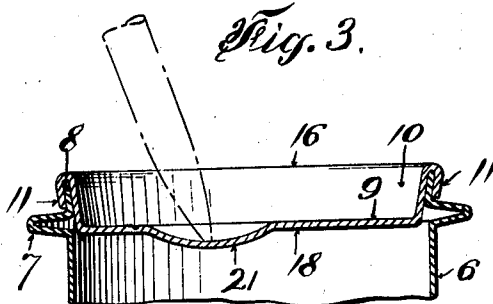
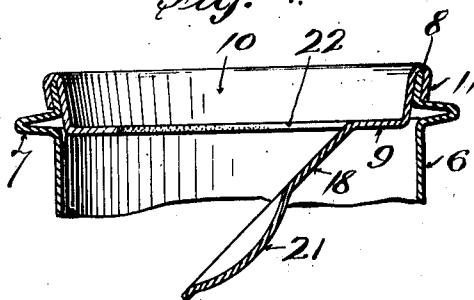


Fig. 4.



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FRANGIBLE SEAL FOR RECEPTACLES

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My present invention relates to a frangible seal for receptacles. The object is to provide a seal or closure for metal containers such as cans, in which paints, varnishes and other materials are shipped, which seal embodies a member which may be readily fractured or broken to provide an opening for pouring of the contents of the receptacle. The frangible member is preferably a part of a closing cap. The frangible member is partially encircled by a weakened line or crease forming an incomplete circle, so that when the member is fractured to form an opening the piece which is bent downwardly remains attached. There is a depression to be engaged by a tool or implement to fracture the seal, and this is so located with respect to the tongue with which the disc remains attached that maximum lever action for breaking the seal is obtained. Other advantages will appear in the following detailed description of my invention.

In the drawing forming part of this application,

Figure 1 is a plan view of a receptacle containing my invention,

Figure 2 is an elevation thereof with portions broken away, on the line 2—2 of Figure 1,

Figure 3 is an enlarged, sectional view of the frangible seal member showing the same about to be broken by the application of a suitable implement, and

Figure 4 is a similar view showing the seal fractured.

The present invention may be applied to any receptacle or can and in the drawing I have chosen to illustrate the invention as applied to a metal can having a raised spout portion projecting on the permanent top or cover, the frangible seal being applied to the spout portion. In the drawing the can or receptacle illustrated comprises a rounded body portion 1 having a bottom 2 and a permanent or fixed top or cover 3, the latter being shown as applied to the body by means of a double seam 4 around the edges of the body and cover. The cover is shown as formed with an upstanding flange 5 of circular form drawn or stamped upwardly from

the cover member, and this receives over it a cylindrical spout member 6 which is sealed to the flange 5 in any desired way, such as by solder applied to the lower edge of the member 6. The spout member 6 projects upwardly from the cover member and it is relatively small in diameter as compared with the cover itself, in order to provide a pouring spout for the contents of the can; and it is preferably located near one corner of the can as illustrated in Figure 1. I have shown the spout member as formed with an outwardly extending bead 7 to form an abutment for a tool in prying off the temporary or removable cover. The spout member extends upwardly at 8 above the lateral flange 7 and to this portion the frangible sealing member is applied. If desired, the sealing member or cap may be applied in the manner illustrated in my U. S. Patent No. 1,266,519. This cap or sealing member consists of a horizontal disc portion 9 with an upwardly extending wall 10 the upper edge of which is turned over at 11 and pressed tightly against the upper portion 8 of the spout member, the several parts being slightly flared outwardly in the sealing operation, as shown in Figure 3, and in accordance with my aforesaid Letters Patent.

By this I do not wish to be understood as limiting the present case to the particular method shown of applying the frangible seal to the spout member.

There is a detachable cap comprising a disc portion 12 with a downwardly extending flange 13 adapted to fit over the sealed rim 11 and it may be provided with a suitable friction lock 14 corresponding with the device shown in my co-pending application Serial No. 396,598. I have shown a disc 15 of cork, rubber or other suitable material for engaging the top edge 16 to form a liquid-tight joint to prevent the discharge of the contents of the receptacle after the frangible seal has been broken.

The portion 9 of the frangible seal is provided with a line 17 of scoring, i. e., the material of the disc is partially cut through on this line to weaken the material so that in the operation of fracturing the seal the wall

9 will be fractured along this line. Preferably this line is circular, so that it partially surrounds the disc 18, which is to be forced from the wall 9. This line of scoring does not form a complete or closed ring because the two ends 19 thereof terminate at points spaced from each other, so that the intervening metal at 20 remains unscored for the purpose of providing a connecting tongue to prevent the fractured disc from entirely breaking away and falling into the receptacle.

The disc portion 18 which forms the frangible member is provided with means for forming an abutment for the fracturing tool and in the particular form illustrated in the drawing this consists of a circular depression 21 formed by depressing the metal of the disc 18. This depression is formed in the disc at a remote point from the portion 20 which is to form the connecting tongue between the cap 18 and the top wall 9, as shown in Figure 1.

The receptacle is shipped in the condition shown in Figures 1 and 2, the contents having been supplied before the member 9 was sealed on the upper edge of the spout member. When shipped, the contents are hermetically sealed within the container and the detachable cap 12 is applied as shown in Figure 2, although it serves no particular purpose until the frangible seal has been fractured. When the consumer desires to use the contents of the receptacle, any instrument such as a screw driver, the handle of a brush, or any other implement, is pressed into the depressed portion 21 of the disc 18, preferably at the angle illustrated in Figure 3. As pressure is applied to the implement the disc 18 will commence to break away from the wall 9 at some point adjacent the depression 21 remote from the portion 20. As the pressure continues, the fracture will follow around the weakened or scored line 17, so that the member 18 will be turned downwardly within the spout portion, as shown in Figure 4, so that an opening 22 is formed in the wall 9, substantially as large as the circle defined by the score line 17 but the disc of metal which is forced downwardly will remain attached to the wall 9 by reason of the tongue 20 formed between the ends 19 of the scoring 17. The fractured member will, therefore, not drop into the contents of the receptacle, but will remain attached, as shown in Figure 4. If desired, an instrument may be inserted through the opening 22 and the member 18 may be drawn upwardly through the aperture, so that it may be grasped and twisted to break the tongue 20 and thereby permit the member 18 to be entirely detached and thrown away. Whether the member 18 is merely bent down, as shown in Figure 4, or is raised and removed, the

contents of the receptacle may be poured out through the opening 22.

If only part of the contents of the receptacle are used at one time, the removable cap 12 may be applied to the top of the pouring spout, as shown in Figure 2, to protect the remainder of the contents until such time as it is to be used. Where the member 18 remains turned down as shown in Figure 4 it does not interfere with the operation of pouring the contents out of the opening 22 as the member 18 is opposite the side of the opening 22 from where the liquid is poured.

The principal features of my invention reside in the incomplete circular scoring which permits the seal to be fractured by downward pressure, but to remain attached to the wall and also to the depression for the reception of the fracturing instrument and the positioning of this at a remote point from the tongue portion 20, so that the leverage for starting the fracturing operation is most effective.

Having described my invention, what I claim is:

In an article of the class described, a receptacle, a sealing member forming a closure for said receptacle, said sealing member having a scoring for weakening the same, disposed in the form of a ring whereby the disk enclosed by said ring may be fractured, said disk having a depression disposed eccentric to said disk and adapted to be engaged by an implement for fracturing said sealing member along said scoring.

Signed at the city, county and State of New York, this 4th day of October, 1929.

ISIDOR NEWMAN.