C. W. BASSETT

COMBINATION VENT AND CLOSURE FOR CANS

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Inventor:

D. CHARLES W. BASSETT
This invention relates to receptacle stoppers and has for its primary object the provision of a device of this character which will be exceedingly useful as a combined vent means and closure for vessels or receptacles of various well known types; one which is capable of adjustment to securely seal the opening when desired; one which, when it is intended to pour the contents from the receptacle, can be quickly adjusted to a second position where the vent opening will be uncovered to permit the atmospheric air to take the place of the evacuated contents and thereby induce free or uninterrupted pouring of said contents, and one, which when adjusted to said second position will be positively held against accidental displacement from the receptacle.

My invention is designed particularly for use in connection with cans or receptacles of the class employed in the sale of evaporated milk, cream, olive oil, various salad oils and the like wherein it is customary to punch holes in one head of the can, one near one edge of the crown and the other near the opposite edge thereof, so that the former can be used as a vent and the latter for dispensing or discharging the contents from the can, and a further object of the invention is to provide a device of this character consisting of a single piece of material having stopper portions joined together by a weakened line that will permit these portions to be broken apart or severed one from the other when it is intended to put them to the uses aforementioned.

A still further object of the invention is to provide a device of this character which is simple of construction, positive of operation, inexpensive of manufacture, and one which can be turned out by means of a suitable lathe or which can be molded, as choice may be found most expedient.

With the above and other objects in view which will appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangements of parts which will hereinafter be fully described and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a single and preferred form of the invention, it being, however, understood that no limitations are necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the claims may be resorted to when desired.

Figure 1 is a perspective view of a can showing the manner of using my device when pouring the contents from the can.

Figure 2 is a vertical section through the can showing both stoppers in sealed engagement with their respective openings.

Figure 3 is a section through a portion of the can showing the vented stopper in a position to uncover the vent opening.

Figure 4 is a side elevation on an enlarged scale of the device before the stopper portions thereof are separated, and

Figure 5 is a view similar to Figure 4, illustrating a slightly modified form of the invention.

On reference to Figure 4 it will be observed that my invention consists as an article per se of a single piece of material such as wood, compressed fiber or any suitable well known composition of matter, preferably that which is somewhat elastic and which will be conducive to the creation of friction to adequately fulfill the requirements aforementioned. There may be occasions where glass or metal might be employed, but when the device is used in connection with cans made of tin or metal, it is very desirable in such instances to construct the invention of non-metallic material.

The body or piece of single material may be turned out on a lathe, molded or produced in any well known commercial manner so as to provide a stopper and a stopper 8, the latter joined to the former axially thereof by a reduced or weakened joiner, so characterized that the stoppers 7 and 8 are relatively rigid normally, but capable of being broken apart when the two stoppers are held in the hands of the operator and lateral pressure forced there against, at or near the joiner 9. Each of these stoppers is cork-shaped or flared, so that the reduced end is lowermost.

The stopper 8 is formed at its reduced end with a substantially truncated portion 10, which is considerably smaller at its horizontal center than at any other point. Terminally this portion 10 is joined to a spur 11 which extends to a sharp point. This spur may be cemented or otherwise suitably secured to said portion 10.

The device as shown in Figure 4 may be sold as a part of the milk can, it may be given away as an advertisement, or it may
be sold in the open market as a stopper per se. When it is desired to use same parts 7 and 8 are broken away from each other at the line 9. However, before this is done, the entire device may be used as a punch, the barb or spur 11 being placed point-end against the crown A of the can B near one edge of the crown so that both stoppers 7 and 8 are vertically disposed. The large end 12 of the stopper 7 may now be struck with a mallet or suitable tool so as to drive the barb 11 through the crown and thereby produce a vent opening C. The device is then shifted to the opposite edge of the crown and the operation repeated to thereby produce a pouring opening D. The body 6 is now ready to be severed and it is found that the openings C and D are of diameters capable of co-acting with the diameters of the respective stoppers 7 and 8, and that these stoppers can be driven into these respective openings to securely seal them. The diameter of the openings C and D is each slightly less than the diameter of the barb or spur 11, where it joins the portion 10, so that when the stopper 8 is driven into its opening the resiliency of the walls of the opening will permit the large end of the barb to pass through said opening, while serving to prevent accidental displacement of the stopper therefrom during the operation of venting the can.

When it is desired to pour the contents from the can, the stopper 7 is removed from its opening B. The stopper 8 is drawn in an upper direction so that the truncated portion 10 projects into the opening C with the large end of the barb 11 directly at the back of the opening. The can is then tipped at an angle to effect pouring of its contents through the opening D, and as a result of this tipping, the stopper 8 gravitates to a downward angular position where it sufficiently uncovers the opening C to permit atmospheric air to enter the can.

In Figure 3 a somewhat modified form of my invention is illustrated. In this form I employ stoppers 13 and 14 respectively precisely the same as stoppers 7 and 8 and normally joined together in the same manner. The stopper 14 is also very similar to the stopper 8, but in lieu of the barb 11 the truncated portion 15 is formed with an engaged flare projection 16, which serves as a stop to hold the stopper 8 from accidental displacement from its opening during the venting operation. I have described that the entire device may be constructed of wood or suitable materials, and it may be well to include therein material such as cork.

I claim:

1. The combination of a can having an outlet opening and a vent opening in an end thereof, with a tapered plug in the outlet opening and a second tapered plug in the vent opening, said second plug comprising two tapered sections joined by a reduced section, the lower of said tapered sections being adapted to puncture the can, both of said plugs tightly stopping the respective openings, the reduced portion between the sections of the second block being normally below the top of the can.

2. The combination of a can having an outlet opening and a vent opening in an end thereof, with a tapered plug in the outlet opening and a second tapered plug in the vent opening, said second plug comprising two tapered sections joined by a reduced section, the lower of said tapered sections being adapted to puncture the can, both of said plugs tightly stopping the respective openings and extending sufficiently above the end of the can to be grasped by the fingers, the reduced portion between the sections of the second block being normally below the top of the can.

3. A puncturing and plugging device for cans comprising a rigid body of three sections substantially in axial alignment with reduced portions between the sections, the lowermost section being adapted to puncture a can, the uppermost and middle sections being tapered and the uppermost section being separable from the middle section at the reduced portion between them.

4. The combination described in claim 3 wherein the lowermost section is tapered.

CHARLES W. BASSETT.