CLOSURE FOR BOTTLES AND OTHER RECEPTACLES

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The present invention relates to closures for bottles and other receptacles and has for its chief object to provide an improved bottle or the like closure of such a nature that, within limits, it will tend to seal the receptacle to which it is applied more securely as the pressure within the receptacle rises due to any cause such as changes in temperature.

To this end and for other purposes the present invention consists in a closure for bottles or other receptacles comprising a sealing medium and means adapted to ensure that the marginal or peripheral edge of the sealing medium is maintained in contact with the edge of the orifice when the pressure within the receptacle rises.

More specifically the present invention consists in a closure for bottles or other receptacles comprising a sealing medium adapted to be applied across the orifice to be sealed a cap adapted entirely to cover the sealing medium and to be secured about the orifice and a ring-like member positioned between the sealing medium and cap adapted to ensure that the marginal or peripheral edge of the sealing medium is maintained in contact with the edge of the orifice when the pressure within the receptacle rises.

In order that the present invention may be more clearly understood and readily carried into effect, reference may now be had to the accompanying drawings in which one embodiment of the invention is illustrated by way of example and in which:

Figs. 1 and 2 are sectional elevational views of one form of the closure device, and

Fig. 3 is a similar view of a modification thereof.

As shown in Figs. 1 and 2 the neck 1 of the bottle or other receptacle is closed by a disk 2 of cork cardboard or like material of approximately the same diameter as the overall diameter of the neck 1, said cork disk being backed by a congruent disk 3 of thin sheet metal or other flexible appropriate material. Over the whole sealing medium so constituted is placed a cap 4 of cup-like form having a depending skirt 5 adapted to surround the neck 1 of the bottle, said skirt being attached thereto as by having formed around it a recess 6 of screw thread form engaging with a corresponding projection 7 on the bottle neck 1. In lieu of being secured upon the bottle or other receptacle as above described the cap 4 may be secured thereto in any other manner forming either a permanent connection or a connection permitting ready removal and replacement of the cap.

The cap portion 4 has formed concentrically upon it a ring-like member or formation 8 which is preferably of a diameter slightly less than the interior diameter of the bottle neck and which presses downwardly upon the sheet metal backing disk 3 when the cap 4 is screwed home thereby sealing the bottle.

It will be appreciated that with such an arrangement when the pressure within the bottle or other receptacle rises due to any cause, such as an increase of temperature, there is a tendency for the sealing disk 2 and its metal backing disk 3 to be belled out centrally (see Fig. 2) under the action of the increased pressure within the receptacle and owing to the fulcrum-like action of the ring-like member 8 which remains stationary on account of the cap 4 being secured upon the bottle the periphery of the sealing disk 2 tends to be maintained in contact with the edge of the orifice of the neck 1 and may even engage therewith more firmly as the pressure rises.

The ring-like member or formation 8 between the sealing disk 2 and the cap 4 may be a continuous formation integral with the cap 4 as shown in Figs. 1 and 2 or with the disk 3 or may be in the form of a separate ring or metal, porcelain, wood, or other suitable material as indicated in Fig. 3. Further, instead of being of continuous form it may be composed of two or more separated portions.

It is to be understood that the invention is not limited to the specific construction herein illustrated and described but may be embodied in other forms without departure from its spirit as defined by the following claims.

I claim:—

1. A closure for a receptacle having an orifice with a rim, comprising in combination, a sealing medium including a rigid but resilient normally flat disc adapted to close the orifice, a cap adapted to completely cover the sealing medium and to be secured over the orifice, and a fulcrum member positioned above the orifice and said sealing medium and below said cap and adapted to engage the sealing medium, said fulcrum member being disposed sufficiently close to the rim of the orifice that pressure within the receptacle operating on the central portion of the disc will cause the portion of the sealing medium outward of the fulcrum to be held in sealing contact with the rim of the orifice.

2. A closure for a receptacle having an orifice...
with a rim, comprising in combination, a sealing medium including a rigid but resilient normally flat disc adapted to be applied across the orifice, a cap adapted to cover the sealing medium and to be secured over the orifice, and an annular member of a diameter slightly less than the diameter of said orifice positioned below said cap and above said sealing medium and in contact therewith, the relationship of the diameter of said annular member to the diameter of said orifice being such that pressure within the receptacle operating on the central portion of the disc will cause the portion of the sealing medium outward of the annular fulcrum to be held in sealing contact with the rim of the orifice.

3. A closure for a receptacle having an orifice with a rim, comprising in combination, a sealing medium including a rigid but resilient normally flat disc adapted to be applied across the orifice, a cap adapted to completely cover the sealing medium and to be secured over the orifice, and an annular member of slightly less diameter than the orifice positioned below the top of the cap, said annular member serving as a fulcrum for said disc whereby pressure within the receptacle operating on the central portion of the disc will cause the portion of the sealing medium outward of the annular fulcrum to be held in contact with said rim.

4. A closure for a receptacle having an orifice with a rim, comprising in combination, a sealing medium including a rigid but resilient normally flat disc adapted to be applied across the orifice, a flanged cap adapted to cover the sealing medium and to be secured over the orifice, and an annular fulcrum member of a diameter slightly less than the diameter of said orifice positioned below the top of said cap and above said sealing medium and in contact therewith, said cap having a relatively stiff portion extending entirely across the top of said sealing medium to rigidly support said annular fulcrum member, the relationship of the diameter of said annular fulcrum member to the diameter of said orifice being such that pressure within the receptacle operating on the central portion of the disc will cause the portion of the sealing medium outward of the annular fulcrum to be held in sealing contact with the rim of the orifice.

5. A closure for a receptacle having an orifice with a rim, comprising in combination, a flat sealing medium including a rigid but resilient normally flat disc devoid of marginal stiffening flanges and adapted to close the orifice, a flanged cap adapted to cover the sealing medium and to be secured over the orifice, and an annular fulcrum member of a diameter slightly less than the diameter of said orifice positioned below the top of said cap and above said sealing medium and in contact therewith, said cap having a relatively stiff portion extending entirely across the top of said sealing medium to rigidly support said annular fulcrum member, the relationship of the diameter of said annular fulcrum member to the diameter of said orifice being such that pressure within the receptacle operating on the central portion of the disc will cause the portion of the sealing medium outward of the annular fulcrum to be held in sealing contact with the rim of the orifice.

6. A closure for a receptacle having an orifice with a rim, comprising in combination, a sealing medium including a rigid but resilient normally flat disc adapted to be applied across the orifice, a cap adapted to completely cover the sealing medium and to be secured over the orifice, and an annular member integral with said cap and of slightly less diameter than the orifice, said annular member serving as a fulcrum for said disc whereby pressure within the receptacle operating on the central portion of the disc will cause the portion of the sealing medium outward of the annular fulcrum to be held in contact with said rim.

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