

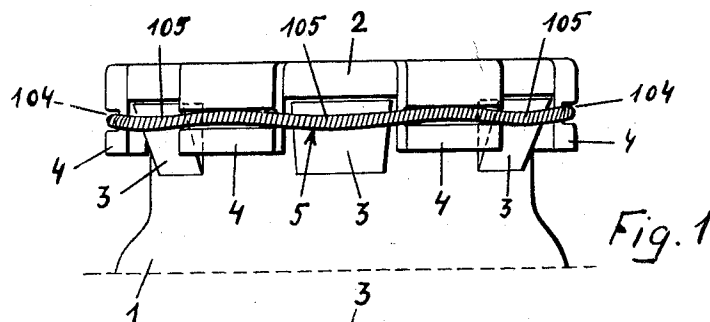
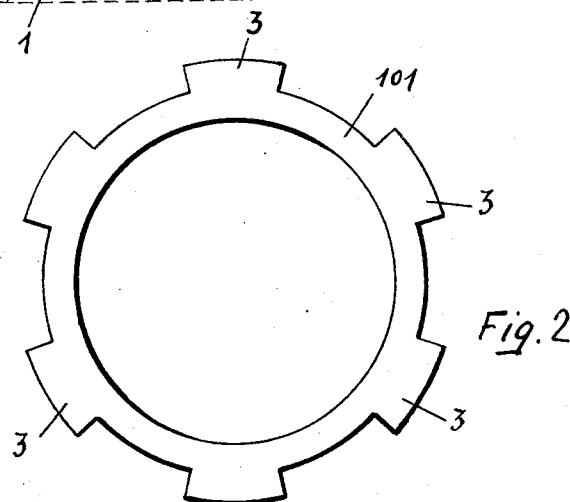
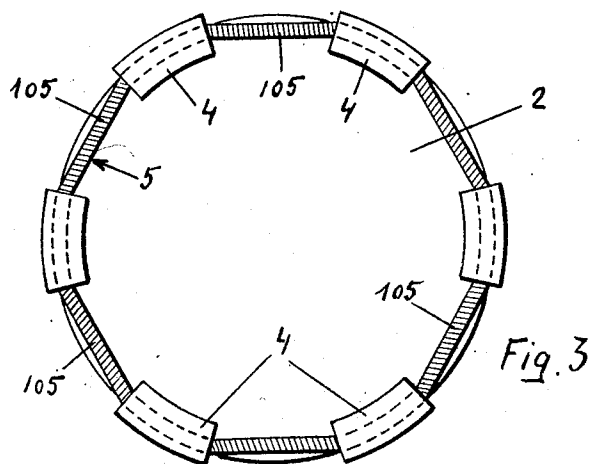
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REUSABLE CLOSURE FOR JARS AND LIKE
CONTAINERS AND JAR THEREFOR

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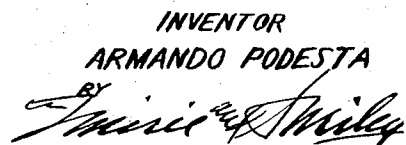
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REUSABLE CLOSURE FOR JARS AND LIKE CONTAINERS AND JAR THEREFOR

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6 Claims. (Cl. 215—96)

This invention relates to reusable closures for containers and particularly to closures made of rigid materials such as glass or synthetic resin, to be used on glass containers such as pots or jars which are modified in such a manner as to be easily closed by said closures.

According to the invention, the cover comprises a bottom plate or disk provided with angularly spaced depending laps, which are preferably grooved in a direction which is parallel to the disk, in such a manner as to receive and hold an elastic ring whose sections between each or any lap pair come to lie below the level of the bottom of the said grooves, whereby the container has under its mouth a number of projecting parts which may fit between each pair of cover laps, the whole being so arranged that, when the cover is fitted on the container mouth, the free elastic ring sections between the cover laps snap on the said projecting parts on the container neck and hold the cover tightly pressed against the container mouth.

The above and other features of the invention and the advantages appertaining thereto will appear from the following description of some preferred embodiments shown by way of non-limiting example in the annexed drawings, in which:

Figure 1 shows in elevation the mouth of a glass jar provided with a closure according to the invention.

Figure 2 is a plan view of the jar mouth.

Figure 3 is a bottom view of the cover.

Figure 4 is a section through the mouth shown in Figure 1.

Figure 5 shows a further embodiment of the invention, one half in elevation and one half in section along line V—V of Figure 6.

Figure 6 is a section on line VI—VI of Figure 5 and

Figure 7 shows in elevation a jar provided with a closure according to the invention, with its cover secured to the container by supplementary means.

With reference to Figures 1 to 4, the reference numeral 1 indicates a glass jar which may be closed by means of the cover 2, which is also made of glass. The mouth 101 of the jar 1 is provided at its exterior with a crown of inwardly inclined projections 3, whose outer surfaces thus come to lie along the surface of a reversed frustum of cone.

The cover comprises a plate or disk 2 provided with depending laps 4 which are dimensioned and spaced so as to fit between the pairs of projections 3 of the mouth and are provided with aligned grooves 104 cut in the outer surface of said laps 4 along a plane that is parallel to the plane of the cover disk 2. On said laps 4 an elastic ring 105 is fitted under tension and caused to snap into the said grooves 104, so that between each lap pair elastic cords, which are formed by the free sections 105 of the elastic ring 5, are tensioned under the level of the bottoms of said grooves. On the other hand the projections 3 on the container neck project slightly above the bottoms of said grooves, when the cover is fitted on the mouth 101 of the container mouth. In this condition the free sec-

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tions 105 of the elastic ring 5 snap above the upper edges (which for this purpose are rounded) of the corresponding projections 3 of the container neck, and embrace with a certain tension the said projections 3 as shown in Figures 1 and 4 and, due to the inclination of the outer surfaces of said projections 3 tend to slip downwardly, thus tensioning the whole elastic ring 5 and tightly compressing the cover 2 on the mouth. On the other hand this co-operation between the inclined outer surfaces of the projections 3 and the elastic retaining ring 5 permits slight elastic liftings of cover 2, which are particularly advantageous in the case of jars or containers which must be subjected, after their filling, to a successive heating, for example for sterilisation purposes. In this case the cover 2 may be lifted slightly by the internal pressure, thus permitting the venting of the gas, without being disconnected from the container mouth, on which it is again tightly pressed immediately thereafter, by the action of the said elastic ring 5.

The opening of the closed container according to the invention may be effected by hand, if no internal depression exists, or also, if this is not possible, with the aid of a knife or the like, which is inserted between the cover 2 and the mouth 101, for example in correspondence of one of the projections 3 of this latter. The cover 2 may be utilized again in any case for a successive tight closure of the container 1.

In the embodiment according to Figures 5 and 6, the mouth 101 of the jar 1 presents an outer continuous annular shoulder 3' which terminates with an inclined surface 3'' merging into the jar body. A like arrangement may be obtained by providing under the mouth 101 an outer annular groove 7, which is connected to the upper mouth edge by means of a surface 3'' which is inclined upwardly towards the exterior.

The cover plate 2' presents few (3 to 5) regularly spaced depending laps 4' provided with grooves 104' in which is tensioned an elastic ring 5, which thus assumes a polygonal shape, comprising sides formed by the free sections 105 of the elastic ring 5 and which, when the cover is fitted on the jar, intersect the periphery of the annular shoulder 3' on the mouth 101 and, when the cover is pressed downwardly, snap under the outer edge of the annular shoulder 3' and embrace the mouth with a certain tension, bearing against the inclined surface 3'' of the said shoulder 3', or inserting themselves in the said annular groove 7 of the container neck (see Fig. 6) and pulling the cover plate edges against the container mouth.

In any cases the elastic ring 5 may be constituted, either by an annular helical spring, or by a ring made of rubber or of an elastic synthetic material, or also by a closed or open ring made of steel or like resilient wire. In some cases, and particularly in the case of covers made of synthetic resins, instead of an elastic ring 5, incomplete rings, for example split steel wire rings or even single sections of elastic cords anchored to two suitable laps could be used.

The closure according to the invention permits the fitting of any packing gasket between the cover and the mouth. Preferably however the packing is constituted by a ring 8 made of rubber or like material, having a substantially rectangular section and arranged edgewise in a groove provided under the cover plate 2 and is pressed in a groove provided on the container mouth 101 and possibly bearing against a shoulder 9 constituting one of said groove walls. Thus, as the packing 8 is engaged for the most part in the groove of the cover 2, in which it may be further compressed, and as the shoulder 9 on the mouth functions as spacing member between the cover and said mouth, an excessive compression of the packing and its possible sticking to the mouth are avoided although a

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perfect tightness is ensured. This form of packing permits further to easily open the container with the help of a blade inserted between the cover 2 and the said mouth 101, as above described, thus avoiding damage to the packing which remains fastened to the cover 2 and serves also for a successive utilization thereof.

Figure 7 shows one manner for employing a longer elastic ring 5 for anchoring the cover plate 2 to the container. The elastic ring is tightened by pressing one of its ends through a small ring 10 and the resulting loop 5' of the elastic ring might be anchored to a button-like projection 201 of the jar.

The invention is not limited to the embodiments just described and shown, but it may be amply varied and modified without departing from its spirit as set out above and claimed hereinafter.

What I claim is:

1. In combination with a jar-like container provided with a plurality of circumferentially spaced projections beneath and about its mouth, said projections having downwardly and inwardly inclined surfaces, a rigid closure cap comprising a plate-like cover provided with a crown of depending laps, said laps each being of a size to fit between spaced projections, a groove in each of said laps, and an elastic member positioned in said grooves and tensioned in such a manner as to engage the inclined surfaces of the projections, thus pulling tightly the said cover plate against the container mouth.

2. A closure according to claim 1, in which the said elastic member is constituted by a resilient ring fitted under tension on the said crown of depending laps, whereby the ring sections between said laps depending from the cover plate engage the said projections under the container mouth.

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3. A closure according to claim 1, in which the said elastic member is constituted by a helical spring with joined ends fitted under tension on the said crown of depending laps, whereby the spring sections between said laps depending from the cover plate when the cover is fitted on the container, engage the said projections provided under the container mouth.

4. A closure according to claim 1 in which the elastic ring forms at least a loop which may be hooked to a part projecting outside of the container.

5. A closure according to claim 1, in which a rubber or like packing ring is inserted in part in an annular groove formed under the cover and bears with its projecting part against the top of the container mouth.

6. A closure according to claim 1, in which under the cover plate an annular groove is formed in the container mouth and in said groove a resilient packing ring is inserted so as to project in part thereout, while on the container mouth an axially projecting annular shoulder is provided which, when the cover is fitted on the container, is embraced by said projecting part of the said packing ring.

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