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CLOSURE FOR CONTAINERS

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Fig.1.

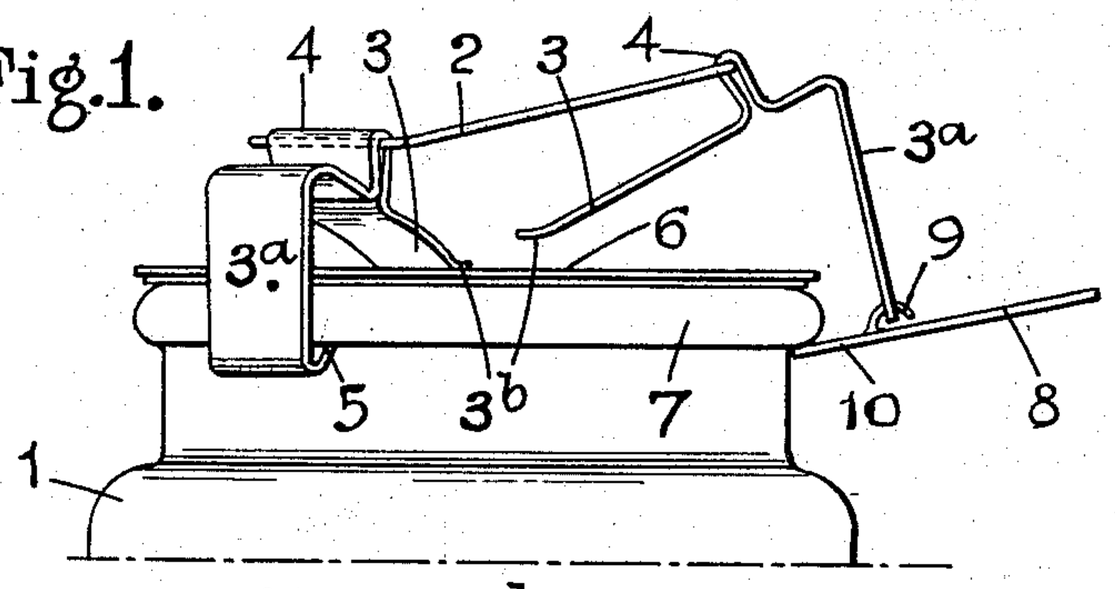


Fig.2.

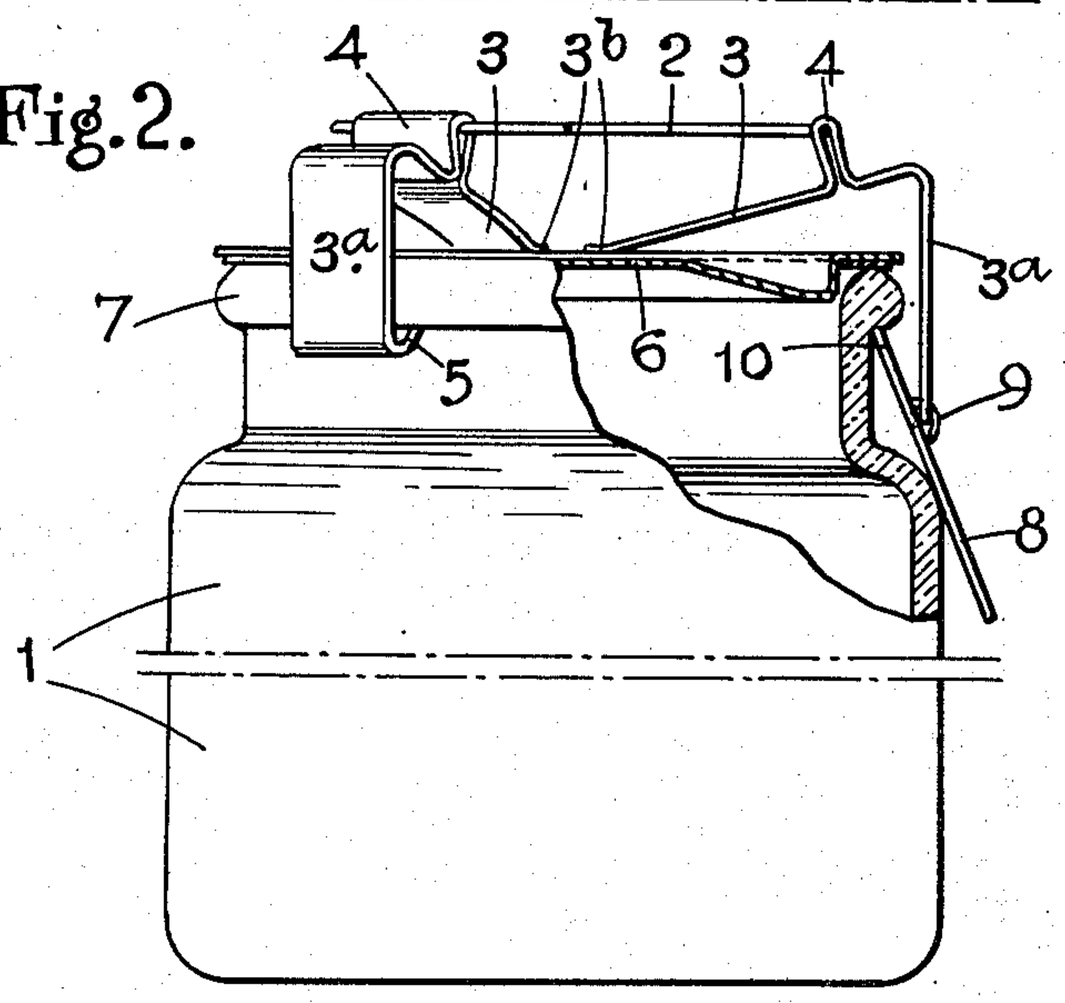
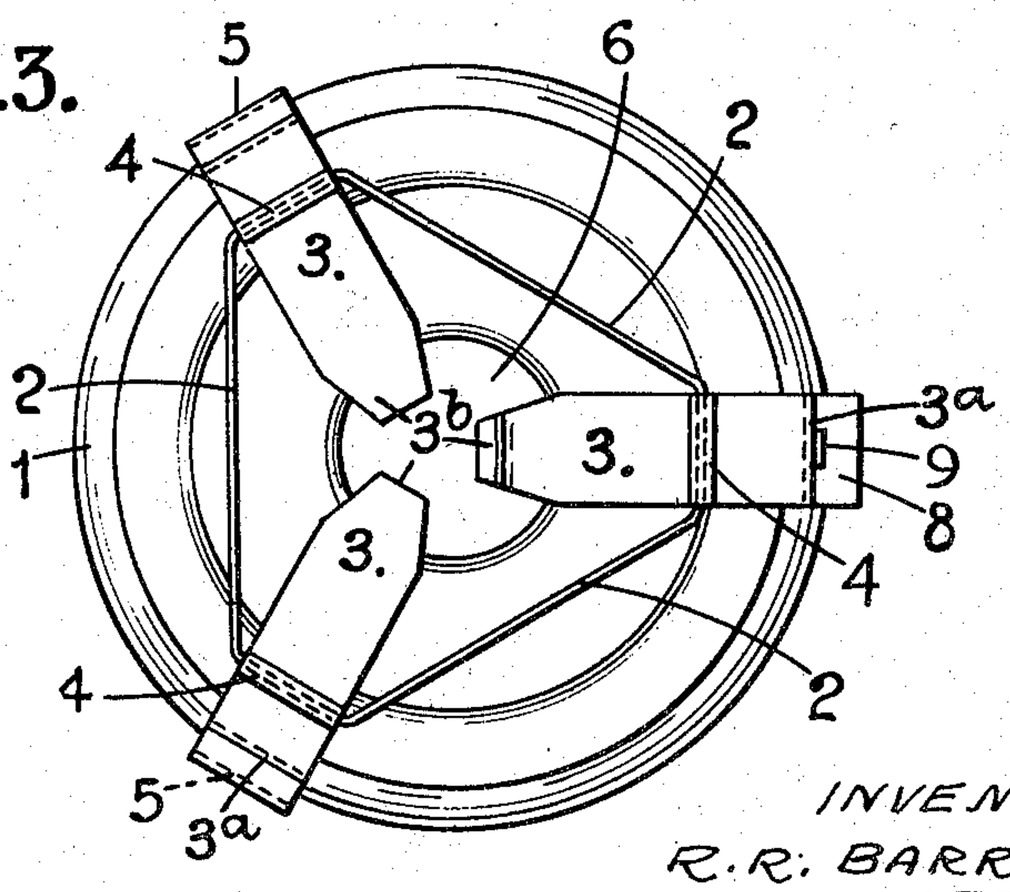


Fig.3.



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UNITED STATES PATENT OFFICE

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CLOSURE FOR CONTAINERS

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4 Claims. (Cl. 215—87)

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This invention relates to improvements in closure devices for jars, containers, pipes and the like which will ensure that a cover member, such as for example the lid of a container, will be held in a positively closed position, and in fact will help to form a hermetic seal.

The said invention concerns the known type of closure device wherein an endless frame, which is adapted to be disposed over the cover member, holds a plurality of elongated strips which radiate outwards therefrom, and which are each bent downwardly to form a leg having a clawed extremity or equivalent means to engage under a flange or other projection on the mouth of the jar or the like. The upper inwardly directed legs of the strips are by this means adapted to apply pressure to the cover.

The main object of the present invention is to improve and simplify constructions of this type mainly by permanently attaching all the components together to form a unitary structure which makes for convenience in handling. Another object of the invention is to provide an improved device constructed to facilitate the engagement and disengagement of the device. A further object is to enable pressure to be brought as near as possible on to the centre of the jar or the like cover. A still further object is to provide a closure device having locking and straining means for applying final pressure when the closure device as a whole has been fitted into position.

In the event of the closure device being employed to hold a cover firmly against the end of a pipe where there is no flange or other projection available, one may easily be formed, by binding wire or other suitable band tightly around the pipe near the end to be covered.

In order to overcome any difficulty of adapting the device to jars or like containers where the depth of the flanges vary, a recess may be cut out of the centre of the lid wherein may be placed discs that will increase the thickness of that part of the lid coming into contact with the inward extremities of the inwardly directed legs of the strips, or conversely the number of discs may be decreased.

In order that the invention may be more readily understood reference is made to the accompanying drawings which illustrate one embodiment of the invention. In said drawings:

Figure 1 shows a side elevational view of the device as attached to the top of a jar, prior to locking;

Figure 2 is also a side elevational view but this

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time the top half of the jar is shown partly in section and the closure device is in its final locked position;

Figure 3 is a plan view of Figure 2.

In this embodiment of the invention as applied to a flanged mouth jar 1 there is provided an endless wire frame 2 of symmetrical, but not regular hexagonal shape, that is, substantially triangular in shape but with flat truncated corners, and at each of these three corners are pivotally mounted elongated metal strips which are V-shaped. The strips comprise inwardly directed legs 3 and downwardly bent legs 3*a*, and the pivoting is at a suitable point intermediate of the leg 3. The wire of the frame 2 passes through a tubular channel 4 formed on or in each leg 3 so that the strip pivots as if on a hinge. The inward extremities 3*b* of the legs 3 are brought close together so that they can jointly press on a small area of the cover or lid 6 as illustrated. The respective ends of two of the legs 3*a* outside the frame are bent round to form clawed extremities 5 to engage underneath the flange 7 of the jar.

The flat inner ends 3*b* of the legs 3 are placed on the top of the lid 6 and the frame 2 pressed downwards until the claw ends 5 engage under the flange 7 around the mouth of the jar 1, whereupon pressure on the frame is released and the metal strips form springy metal clamps.

A straining and locking lever 8 is pivoted on the lower end of the third leg 3*a* by passing a hook 9 on said lever 8 through an opening in the third lever 3*a*. In operation, the two legs 3*a* which have clawed extremities 5 are engaged under the flange 7 whilst the other strip with the lever 8 is still disengaged. Then, as shown in Figure 2 of the drawings, the lever 8 is pulled downwards until its end 10 engages and locks under the flange 7. This will tighten the whole assembly down on top of the lid.

I claim:

1. A closure fastening device of the clasp type for clamping a closing lid in position against the end of a container having an annular outwardly projecting flange, said device, comprising, in combination, a tensionable wire frame of symmetrical hexagonal form consisting of three short sides alternating with three long sides; three resilient levers, each of approximately L-shape with a transverse channel on one arm of the lever constituting a socket for pivotally receiving a short side of the frame, whereby to mount the lever on the frame, said arm yieldingly engaging by its inner end the centre portion of a lid seated on the jar flange, and with a second and depending

arm, of which those of two of said resilient levers are formed with claws for engaging the jar flange; and a straining lever pivotally attached to the lower end of the depending arm of the third resilient lever, in such a manner that by engaging one end of said straining lever under the jar flange and by pivoting said straining lever toward the body of the jar the said frame is put under tension thereby causing all three resilient levers to press firmly upon the centre of the lid of the jar.

2. A closure fastening device of the clasp type for clamping a closing lid in position against the end of a container having an annular outwardly projecting flange, said device, comprising, a tensionable endless wire frame, and a plurality of resilient levers each having a fulcrum intermediate its ends for attachment of the lever to said frame, and each including a first arm extending inwards from the fulcrum for yieldably engaging the center of the lid, and a second arm extending outwards from the fulcrum to engage by its end the said flange on the jar when the frame is in tension.

3. A closure fastening device of the clasp type for clamping a closing lid in position against the end of a container having an annular outwardly projecting flange, said device, comprising, a tensionable endless wire frame of substantially triangular form with flat truncated corner portions, three resilient levers, each pivotally mounted by a fulcrum portion disposed intermediate its ends to a truncated corner portion of said frame opposite to one of the three sides thereof, each lever including a first arm extending toward the center of the frame for yieldably engaging the center of the lid, and a second arm extending outwards for

engaging at its end the said flange on the jar when the frame is in tension.

4. A closure fastening device of the clasp type for clamping a closing lid in position against the end of a container having an annular outwardly projecting flange, said device, comprising, a tensionable wire frame of symmetrical polygonal form, and a plurality of resilient levers each fulcrumed intermediate its ends to a side of said frame, each lever including an arm extending toward the center of said frame for yieldably engaging the center of the lid, and all except one of said levers having an outwardly extending second arm terminating in a claw for engaging the flange of the jar, and a locking lever pivoted intermediate its ends to the outer end of the second arm of the remaining lever for operatively engaging said flange, said locking lever being manipulatable to strain the frame and simultaneously force the inner ends of the resilient levers on the lid of the jar.

ROBERT ROSS BARRINGTON.

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