

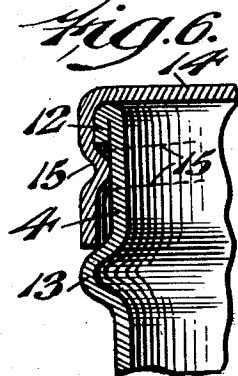
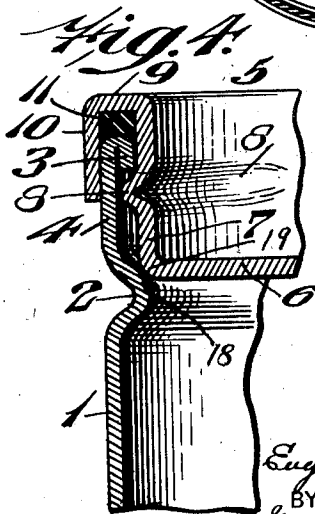
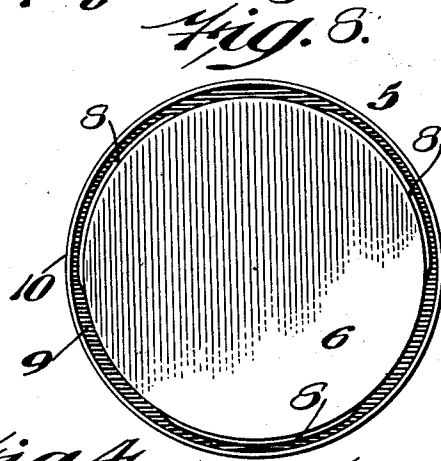
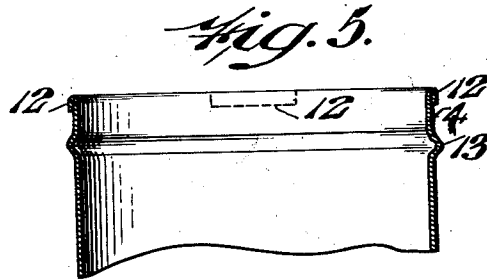
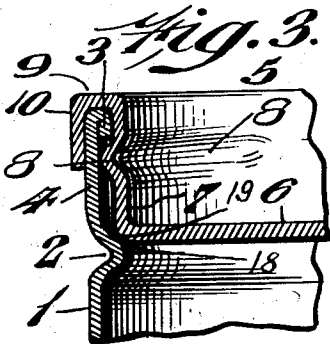
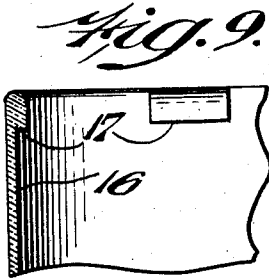
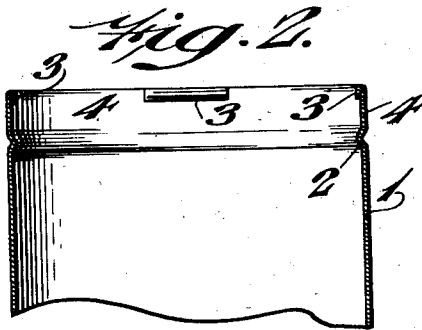
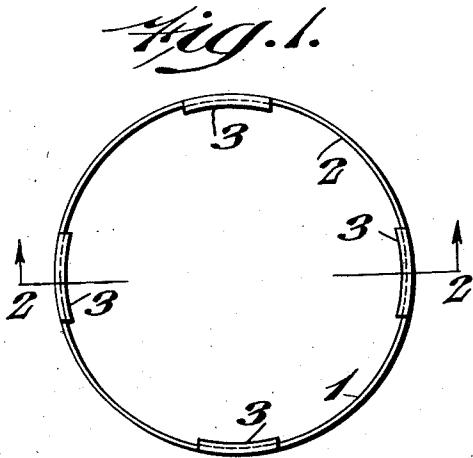
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1,687,887

E. M. PLETCHER

SCREW FRICTION LOCK FOR CANS

Filed Aug. 11, 1926



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SCREW FRICTION LOCK FOR CANS.

Application filed August 11, 1926. Serial No. 128,535.

My invention relates to a novel construction of a screw friction lock for tin cans, glass containers and the like, which have detachable covers and bottoms and my object is to provide novel locking and coacting means between the cover and an end of the top or bottom of the container, so as to cause the cover or bottom after turning in the proper direction to remain firmly attached to the container body by a novel construction of deflected lips or flanges arranged on the container end in the same horizontal plane, in contradistinction to inclined beads on the container which have heretofore been employed, my novel construction not only serving to force the end when turned in the appropriate direction tightly upon the edge of the body, but also enables the cover to be quickly released or unlocked from the container body when it is rotated in the proper direction.

To the above ends my invention consists of the herein-described novel construction or formation of deflected locking lips on the outer end of a container in combination with a cover having inclined beads on the wall thereof adapted to coact with the bottom edges of said lips.

It further consists of other novel features of construction and advantage, all as will be hereinafter pointed out in the specification and claim appended hereto.

For the purpose of illustrating my invention I have shown in the accompanying drawings forms thereof which are at present preferred by me, since they will give in practice satisfactory and reliable results, although it is to be understood that the various instrumentalities of which my invention consists can be variously arranged and organized and that my invention is not limited to the precise arrangement and organization of these instrumentalities as herein shown and described.

Figure 1, represents a top plan view of a container having thereon lips or projections adapted to coact with a screw friction lock, embodying my invention.

Figure 2, represents a vertical section on line 2-2 of Figure 1.

Figure 3, represents on an enlarged scale a vertical sectional view of a container, similar to Figure 2, but showing the cover in position.

Figure 4, represents on an enlarged scale

a view similar to Figure 3 but showing a packing ring or gasket employed.

Figure 5, represents a vertical sectional view of a container showing a modification.

Figure 6, represents on an enlarged scale a vertical sectional view of the upper portion of the container seen in Figure 5 with the cover therefor in position.

Figure 7, represents a side elevation of the cover in detached position.

Figure 8, represents a bottom plan view of the cover.

Figure 9, represents a vertical sectional view of my invention, as applied to a glass jar or container.

Similar numerals of reference indicate corresponding parts.

Referring first to Figures 1 and 2, 1 designates the body of the can or container, which may be of tin or similar material of the usual rolled type customarily employed in making tin cans, the bottom (not shown) being closed in the customary manner or in the same manner as the top and the upper portion or top 4 of the container being provided with the stiffening bead 2, and with the upper inwardly and downwardly deflected spaced apart lips 3, which are shown preferably as four in number, and are spaced evenly apart around the periphery or mouth of the container. In the construction shown in Figs. 1, 2, 3 and 4, the lips 3 are preferably formed integral with the container body 1 and consist of the integral downwardly deflected members which are pressed inwardly and downwardly by any suitable dies or other stamping or forming means. The lips 3 further serve somewhat to reinforce the upper peripheral portion 4 of the container, which is slightly flexible and extends from the bead 2 to the top of the container. 5 designates the cover, which comprises the bottom wall 6, from which extends upwardly the annular wall 7. The inclined beads 8, which may be four in number, are formed in the wall 7, which latter at its top is deflected outwardly as at 9 and thence downwardly, so as to provide an outer annular rim or flange 10, the lips 3 and the upper periphery of the wall 4 when the cover is assembled occupying the annular space between the wall 7 and the flange 10.

It will be apparent that when the cover 5 is inserted within the body of the can and given a slight rotation, the tops of one or the

other of the integral inclined beads 8 will engage the bottoms of certain of the lips 3, so that when the cover is given a slight axial rotation, the frictional contact between the top surfaces of the beads 8 and the bottom walls of certain of the lips 3, will firmly lock the cover in position as will be understood from Figure 3. As the top 4 of the container is slightly flexible, the upper outer peripheral portion of the top 4, will tightly engage the inner wall of the flange 10. In the construction shown in Fig. 4 I have shown the packing, sealing ring or gasket 11 as being interposed between the bottom of the wall 9 and the top of the deflected lips 3 and the periphery of the portion 4 whereby a tight and efficient seal is obviously attained. In the construction seen in Figures 5 and 6 I have shown the upper lips 12 as being deflected outwardly and thence downwardly against the upper outer periphery of the portion 4 and I have shown the annular stiffening bead 13 as being deflected outwardly instead of inwardly as in the case of the bead 2. The cover 14 seen in Figure 6 is provided with the inclined inner deflected beads 15, so that when the cover 14 is placed in position and rotated the tops of certain of the beads 15 will engage the bottoms of the lips 12, as will be understood from Figure 6. The inclination of the beads 15 will be understood from the dotted lines in Figure 6. In Figure 9 I have indicated the container 16 as being of glass and the bottom shoulders 17, which are cast or moulded integral with the glass body 16, obviously serve the same function as the bottom of the lips 3 already described.

It will be apparent that in the constructions seen in Figures 3, 4 and 6 the cover in each case is provided with an outer annular pendant rim or flange and owing to the upper end of the container as 4 being slightly flexible when the cover is turned into the locking position the upper end of the portion 4 as well as the outer periphery of the deflected lips 12 will tightly engage the inner surfaces of the outer annular pendant flange in all cases, so that an effective seal will obviously be attained. I am aware of the Patent No. 1,443,682, wherein there is employed at the top of the container a plurality of inclined beads, and my invention is differentiated therefrom, since in lieu of such inclined beads I employ the downwardly deflected lips 3 or 12 or their equivalents whereby a quicker locking action is attained and a tighter joint

is effected than in the construction of the prior art and to none of the constructions of the prior art do I herein make my claim.

As will be apparent from Figures 3 and 4, I preferably construct the parts so that the inner surface 18 of the annular bead 2 contacts with the surface or corner 19 of the cover 5. By this means an additional joint or seal is obtained within the upper portion of the container thereby increasing the efficiency of the device as is evident.

It will now be apparent that I have devised a novel and useful screw friction lock for cans which embodies the features of advantage enumerated above, and while I have in the present instance shown and described forms thereof which are at present preferred by me, since they will give in practice satisfactory and reliable results, it is to be understood that such forms are susceptible of modification in various particulars without departing from the spirit or scope of the invention or sacrificing any of its advantages.

It is deemed important that the helically-disposed surfaces be disposed substantially at or above the lower edge of the annular flange of the cover and contacting wedgingly with the wall of the container to insure a tight seal when the cover is in place. By this means an exceedingly tight seal is produced, the flange of the cover and the wall of the container being firmly held so as to not only form a tight seal but this guards against any accidental loosening of the cover by vibrations or other causes.

Having thus described my invention what I claim as new and desire to secure by Letters Patent, is:—

A closure structure comprising a container, provided with a mouth opening having a cylindrical wall, spaced lips depending from the edge of said wall, said lips having lower edges disposed parallel with the peripheral edge of said wall, the junction between the wall and the lips being convexly curved, and a cover having an annular flange contacting with the outer wall of the container, said cover having projecting beads provided with helically-disposed surfaces adapted to engage under the parallel edges of the lips, said surfaces being disposed substantially at or above the lower edge of the annular flange of the cover and contacting wedgingly with the lips of the container to insure a tight seal when the cover is in place.

EUGENE M. PLETCHER.