March 5, 1929. H. J. LEBHERZ ET AL 1,704,295

BOTTLE CAPPING TOOL

Original Filed Jan. 4, 1927

Fig. 1.

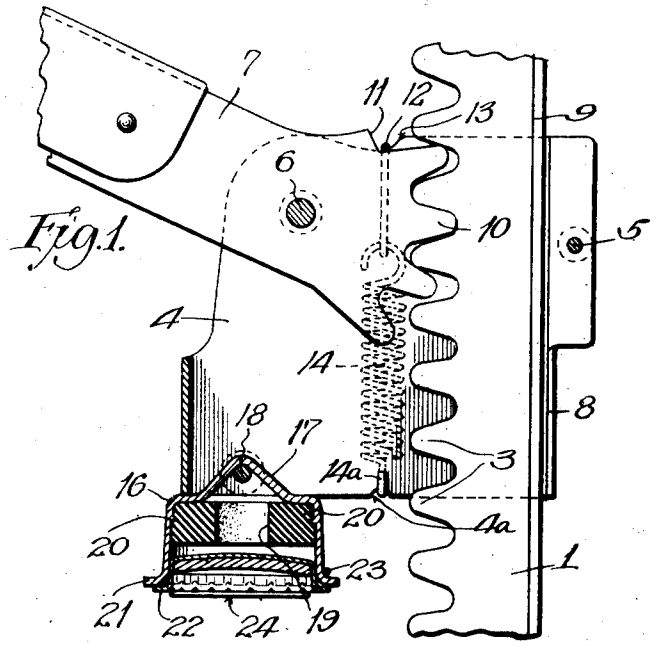


Fig. 4.

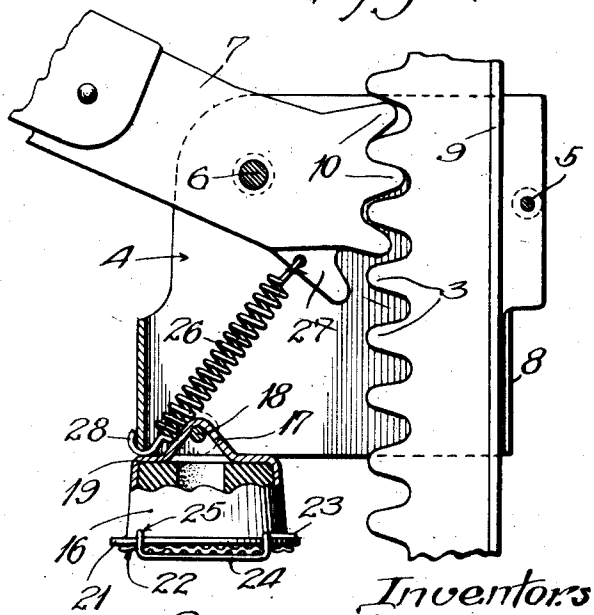


Fig. 2.

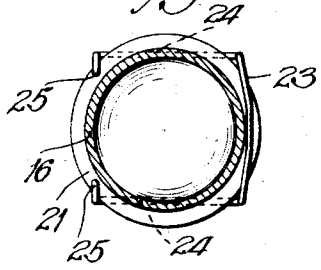
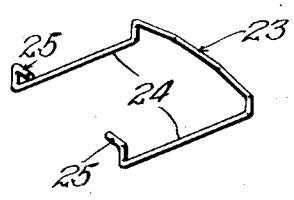


Fig. 3.



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UNITED STATES PATENT OFFICE.

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BOTTLE-CAPPING TOOL.

Original application filed January 4, 1927, Serial No. 158,908. Divided and this application filed September 14, 1927. Serial No. 219,521.

Our invention relates broadly to bottle capping tools and more particularly to an attachment for a capping throat on a bottle capping tool.

This application is a division of our application Serial Number 158,908, filed January 4, 1927, now Patent No. 1,643,076 dated September 22, 1927.

The broad object of our invention is to provide an attachment for a bottle capping throat in a bottle capping tool for supporting a crown cap in position with respect to the bottle capping throat ready for application to a bottle.

A specific object of our invention is to provide a construction of wire device which may be sprung over a bottle capping throat for carrying a crown cap in bottle capping position with respect to a bottle.

Other and further objects of our invention reside in the arrangement of wire carrier for the crown caps in a bottle capping throat as will be more clearly understood from the specification thereinafter following by reference to the accompanying drawings wherein:

Figure 1 is a fragmentary view of a bottle capping tool showing the application of the cap guide or carrier of our invention; Fig. 2 is a cross-sectional view taken through the bottle capping throat illustrating the wire attachment of our invention; Fig. 3 is a perspective view of the wire member; and Fig. 4 is a side view of the wire member in position on the bottle capper throat.

Our invention relates to that class of bottle capping tools shown in the copending application of Harry J. Lebherz, Serial No. 69,868, filed November 18, 1925. The details of construction of the bottle capping tool of our invention described more particularly in Letters Patent Nos. 1,356,161, dated October 19, 1920, granted to Harry J. Lebherz, Reissue 15,285, dated February 14, 1922, granted to Harry J. Lebherz, and 1,421,698, dated July 4, 1922, and granted to Harry J. Lebherz.

By the construction of the bottle capping tool described herein we reduce the number of parts required in the assembly of the bottle capper and thereby decrease manufacturing costs and yet secure a bottle capping tool which may be operated in quick succession for applying crown caps to bottles, the arrangement of parts being such that the bottle capping throat and operating lever are automatically returned to an elevated position after each capping operation. The spring means may be in the form of a bridge extending on opposite sides of a rider and engaging the segmental end of the operating lever which meshes with the vertically extending rack, normally maintaining the operating lever in an elevated position, as a result of which the bottle capping throat is normally elevated above the bottles to which crown caps are to be successively applied. The spring means may be housed between the side walls of the rider and engage the segmental end of the operating lever for maintaining the operating lever in elevated position. In order that the crown caps may be conveniently applied to the bottles we provide a spring member which maintains the crown caps in position while the rider and capping throat are elevated over the bottle and yet permits the crown cap to be pressed over the bottle during the capping operation.

Referring more particularly to the drawings, reference character 1 indicates the frame of the bottle capping tool. The frame 1 is provided with a rack 3 on which a rider 4 is mounted for slidable movement. The rider 4 consists of a plate member which is bent upon itself and the edges finally riveted as represented at 5. The plate member which constitutes the walls of the rider is in the form of an enclosure for the rack 3 and provides a pivot 6 for the operating lever 7. The rider 4 is shaped adjacent one edge as represented at 8 to embrace the sides 9 of the rack 3 so that the rider 4 is capable of reciprocatory movement along the rack 3. The lever 7 is provided with a segmental end which is toothed as represented at 10, the teeth of the lever 7 meshing with the teeth of the rack 3. The end of the lever 7 is notched as represented at 11 to receive a U-shaped bridge member 12 therein. The side walls of the rider 4 are notched as represented at 13 so that the bridge member 12 may be normally centered when the operating lever 7 is in its elevated position. The bridge member 12 extends over the side walls of the rider 4 and has portions thereof de-

pending on opposite sides thereof. The end portions of the bridge member 12 terminate in hook members which engage with spring members 14. The spring members 14 are provided with hook shaped ends 14^a which extend into notches 4^a in the side walls of rider 4. The spring members 14 are balanced against each other on opposite sides of the rider and tend to maintain the U-shaped member 12 in its lowermost position and in abutment of the segmental end of the hand operated lever 7. Pressure applied to the hand operated lever 7 serves to move the rider from the position shown in Figure 1 to the position illustrated in Fig. 2 for the application of a crown cap to a bottle.

The rider 4 carries a bottle capping throat 16 which is outstruck at its top 17 and secured to the rider 4 by means of a bolt member 18. The bottle capping throat has a resilient gasket 19 therein retained in position by means of spurs 20 as more fully explained in the copending application to Harry J. Lebherz, Serial No. 755,672, filed December 13, 1924. The bottle capping throat 16 is flared outwardly and terminates in an annular flange 21, permitting a crown cap 22 to be gripped in the capping throat for application to a bottle.

In order that the crown caps may be applied to the bottles in rapid succession, we provide a wire member 23 bent to shape as represented in Fig. 3, the wire member being secured around the peripheral flange of the bottle capping throat for retaining the crown cap 22 in position. The wire member 23 comprises a pair of parallel extending portions 24 which are bent upwardly as represented at 25 and secured over the flange 21. In effect the wire member forms a pair of parallel extending rails along which the crown caps may be slid in succession after each application of a cap to a bottle.

In Fig. 4 we have illustrated a modified arrangement of a spring return for the rider wherein a spring member 26 extends between the lower portion of the tooth segment of the hand lever 7 in a position indicated at 27 and hooks over the rider 4 as represented at 28, normally maintaining the rider in elevated position and ready for each successive bottle capping operation. The side portions 24 of the wire member 23 are shown as extending parallel with the edge of the skirt of the throat 16 with sufficient gap between the edge of the throat and the wire member to allow a crown cap to be readily slid and retained therein ready for application to a bottle. The parallel sides have such resiliency that they are readily sprung to allow the crown cap to be forced upon a bottle upon downward movement of lever 7. Thereafter the sides 24 return to normal position to receive another crown cap for a subsequent capping operation.

While we have described our invention in certain preferred embodiments, we desire that it be understood that modifications may be made and that no limitations upon our invention are intended other than are imposed by the scope of the appended claims.

What we claim as new and desire to secure by Letters Patent of the United States is as follows:

1. A bottle capping head for capping tools comprising a cylindrical body member, an annular flange integrally connected with said body member, a member supported from said annular flange and having a pair of parallel extending side portions and a pair of inwardly directed end portions, said side portions being positioned in a plane off-set from the plane of said inwardly directed end portions for maintaining a crown cap within said capping head preparatory to a capping operation.

2. A capping head for bottle capping tools comprising a cylindrical body member, an annular flange connected to said cylindrical body member, a wire member having a pair of parallel extending side portions supported from said annular flange and forming a slide along which a crown cap may be moved to a position within said cylindrical body member preparatory to the application of said cap to a bottle.

3. A capping head for bottle capping tools comprising a circular throat having an outwardly extending annular flange, a wire member having a pair of parallel extending arms suspended parallel to the edge of said flange for receiving and retaining a crown cap in position beneath said throat, said arms being arranged to move laterally with respect to each other for releasing the crown cap during a bottle capping operation.

4. A guide for crown caps comprising a wire member arranged to embrace the skirt of a bottle capping head, said wire member having a portion thereof hooked over the skirt of the bottle capping head and having a pair of arm portions extending beneath said bottle capping head with the ends of said arm portions off-set and directed toward each other engaging the skirt of said bottle capping head, said arm portions operating to guide and retain a crown cap beneath said bottle capping head and move laterally with respect to each other for releasing the crown cap during a bottle capping operation.

In testimony whereof we affix our signatures.

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ROBERT W. LEBHERZ.