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H. A. TRUESDALE.

TOOL FOR LOCKING CAPS OR SEALS IN CANS.

APPLICATION FILED AUG. 3, 1903.

NO MODEL.

Fig. 2.

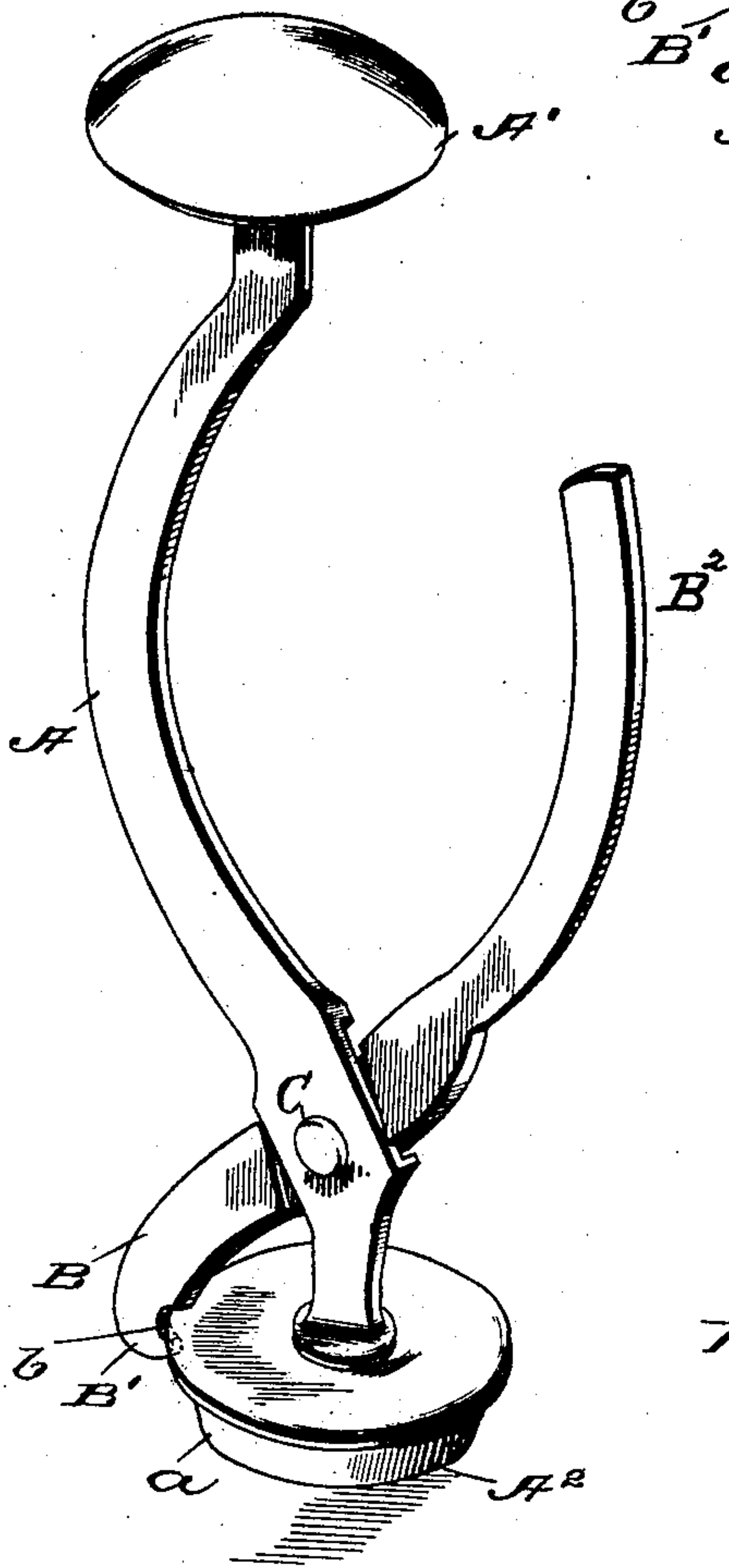
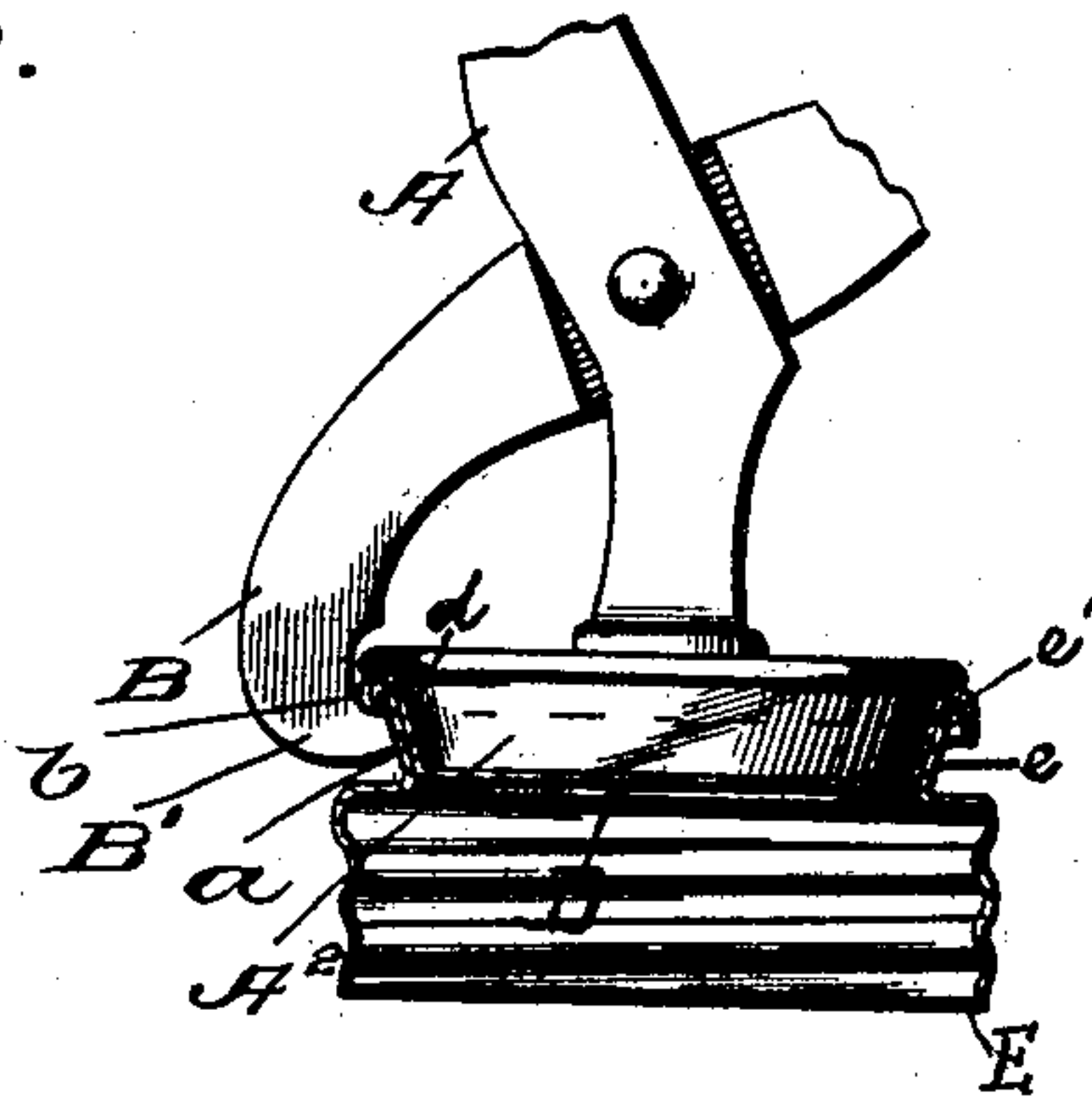


Fig. 3.

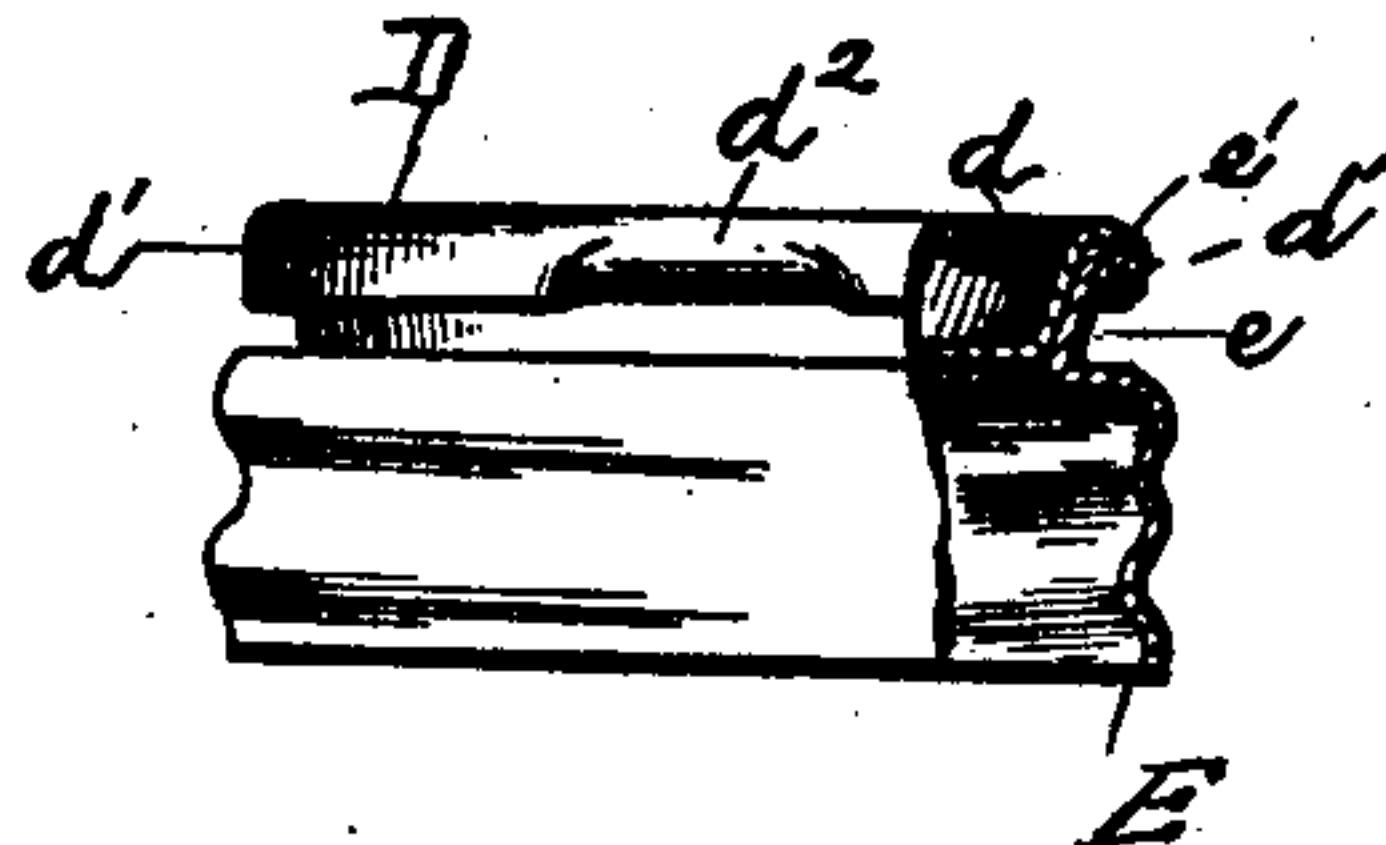


Fig. 7.

Witnesses:

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UNITED STATES PATENT OFFICE.

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TOOL FOR LOCKING CAPS OR SEALS IN CANS.

SPECIFICATION forming part of Letters Patent No. 763,937, dated June 28, 1904.

Application filed August 3, 1903. Serial No. 168,097. (No model.)

To all whom it may concern:

Be it known that I, HARRY A. TRUESDALE, a citizen of the United States, residing at Conneaut, in the county of Ashtabula and State of Ohio, have invented certain new and useful Improvements in Tools for Locking Caps or Seals in Cans; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of this invention is to provide a tool of the plier form or kind for locking a cap or seal in and to the screw-neck or tubular inlet of a can or other receptacle, such cap being adapted to fit within the mouth of the said inlet and having an external downwardly-extending annular flange which overlaps the rim thereof, and the said pliers being adapted to pinch or crimp the said flange on the said neck under the said rim at one or more places, so as to prevent the accidental dislodgment of the said cap.

This device is to be distinguished from appliances of somewhat similar form already known, which are intended and adapted to seal a cap on a can-neck in the sense of making it fluid-tight and which effect the result by rolling the external flange of the cap around and under the bead or rim at the edge of the can.

My cap or seal is fluid-tight in the neck before the application of the tool, and the latter is used, not to prevent leakage or the ingress of external fluid, but simply to lock the cap in its place by pinching the flange of the cap at one or more points.

To this end my invention consists principally in a tool of the plier kind, comprising two members pivoted together, said members being provided on their operative ends, respectively, with a disk adapted to fit into the depression in the top of the cap within the neck and a non-rotary jaw adapted to pinch or crimp the external downward flange of the cap against the can-neck and under the bead or outwardly-turned edge thereof at any point or points desired for locking the said cap to the said neck, substantially as hereinafter set forth and claimed.

In the accompanying drawings, Figure 1 represents a perspective view of a tool embodying my invention. Fig. 2 represents a side elevation of the said tool in the act of locking a cap, the cap and can-neck being shown in vertical section; and Fig. 3 represents a side elevation, partly broken away and sectioned, of the cap and neck after the former has been locked on the latter.

A designates the longer member of the pliers, having a knob or shield A' at its upper end to fit the palm of the operative hand and receive its pressure and a disk or block A² at its lower or operative end, the periphery of the said disk being tapered downward to fit the tapered wall *d* of a cap or seal D after the latter has been fitted within the correspondingly-flared wall *e* at the upper end of the screw-neck or inlet E of a can or other receptacle. (Not shown.) The other member B of the tool is pivoted to the member A on a stud or pintle C, has its upper end B² curved with the convexity outward for the convenience of grasping, and is provided at its lower end with an inwardly-bent jaw or die B', above which is formed a groove or recess *b* to leave room for the upper parts of the cap, the disk, and the can-neck.

The cap and neck herein shown for purposes of illustration are not claimed in this application. The said neck is provided externally at its rim with a hollow wire *e'* or turned-down edge, and the said cap is provided with a downward external flange *d'* overlapping the said hollow wire or turned rim of the neck and extending below the same. The cap D is then applied by hand to the neck E, its depressed body entering and closing the said neck, with its flange *d'* outside of and in contact with the turned rim or bead *e'*, while the inclined side walls *d* and *e* wedge closely together. Owing to the perfect fit of the parts D and E and the construction of the same above described, the can is now sealed, by the mere insertion of said cap, against the leakage or inflow of outside fluid, being liquid-tight, air-tight, and gas-tight. There remains, however, the risk that the cap may be dislodged accidentally. A positive mechan-

ical lock between the cap and the neck preventing this becomes, therefore, important. The function of the said tool is to provide reliable means for locking these two parts together in the most efficient and expeditious way.

The operation is as follows: The disk A^2 is placed in the hollow top of the cap, and so held by the pressure of the operator's palm on knob or shield A' , the tapered periphery a of the said disk being in contact with the correspondingly-formed wall d of the said cap and forming a solid backing or filling for it and for the contiguous wall e of the said neck at every point. The operator's hand then closes on the curved upper end or handle end B^2 of the member B , bringing its jaw or die B' against the flange d and pinching or crimping said flange against the neck E under the bead or turned-down rim e' , thereby making an impression d^2 , like that shown in full view in Fig. 3. One such impression will lock the cap reliably in many cases; but for better assurance I generally prefer to make at least a second impression, as shown in section in Fig. 3, and three or four such impressions are often preferred. There is no risk of deforming the body of cap or the neck by these pinchings or loosening their fit, so as to cause leakage, for the disk prevents this. The jaw B' has a direct radial die action and no other, being non-rotary and not in contact with the flange of the cap except during the pinching action. When another impression is to be made at another point, the said jaw or die B' is freed from the cap by moving outward the upper end B^2 of the member B and the tool is then turned until the jaw or die B' is at the point desired for the next impression. During this turning movement the die does not touch the flange d' , which remains in its normal condition, unrolled, uncrimped, and uncompressed except at the points where locking impressions d^2 have been made. The operation of this tool is therefore quite different from that of certain tools which use rollers to turn the flange of the cap continuously under the hollow wire or turned rim of the neck of the can for the purpose of

sealing against leakage. Neither kind of device can take the place of the other and do its work, and neither is intended to do so.

Of course each impression d^2 may be broader or narrower than that shown in full front in Fig. 2 and the form may otherwise vary, depending on the face of the die, which is susceptible of many changes, without affecting the operation of the tool or cap or going beyond the scope of my invention.

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

1. A tool for locking caps in the necks of cans, consisting of two members pivoted together and provided respectively with a disk or block which is adapted to fit the interior of the top of the cap, and a jaw or die, having simply a die action on the overlapping flange of the cap, to produce locking impressions at intervals substantially as set forth.

2. A tool for locking caps in the necks of cans, consisting of two members pivoted together and provided respectively on their operative ends with a disk or block and a non-rotary die having simply a die action on the overlapping flange of the cap, to produce locking impressions at intervals, the two members cooperating substantially as set forth.

3. In combination with member A , provided at one end with knob A' and at the other with disk A^2 , the member B provided at one end with curved handle end B^2 and at the other with jaw B' , said jaw being non-rotary and having a die action only in cooperation with disk A^2 to make locking impressions at intervals in the flange of a cap for a can-neck without otherwise deforming the cap or neck or loosening them to cause leakage substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HARRY A. TRUESDALE.

Witnesses:

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JAMES R. STOFFER.