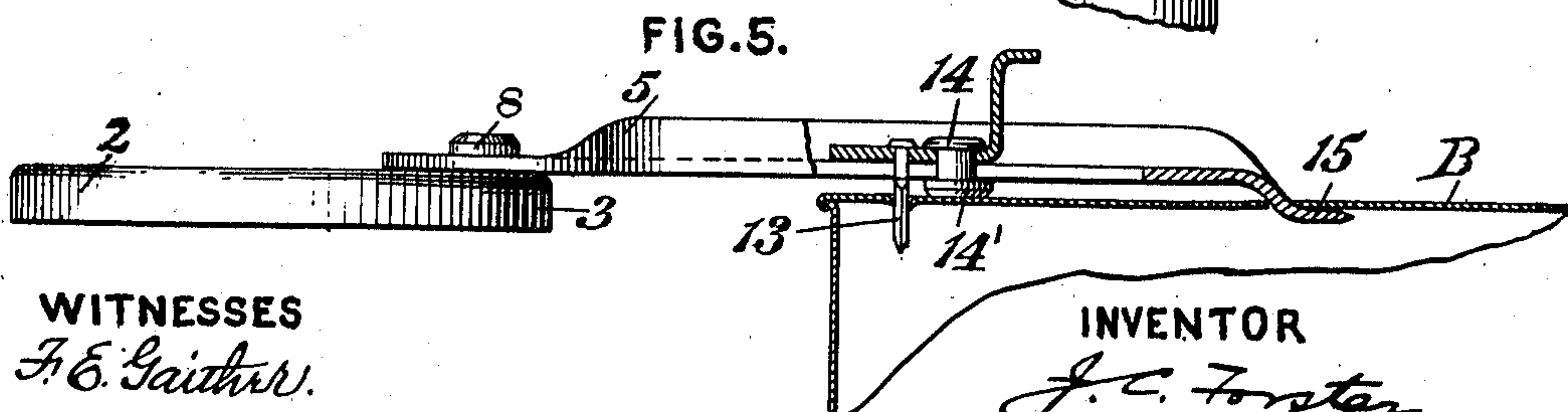
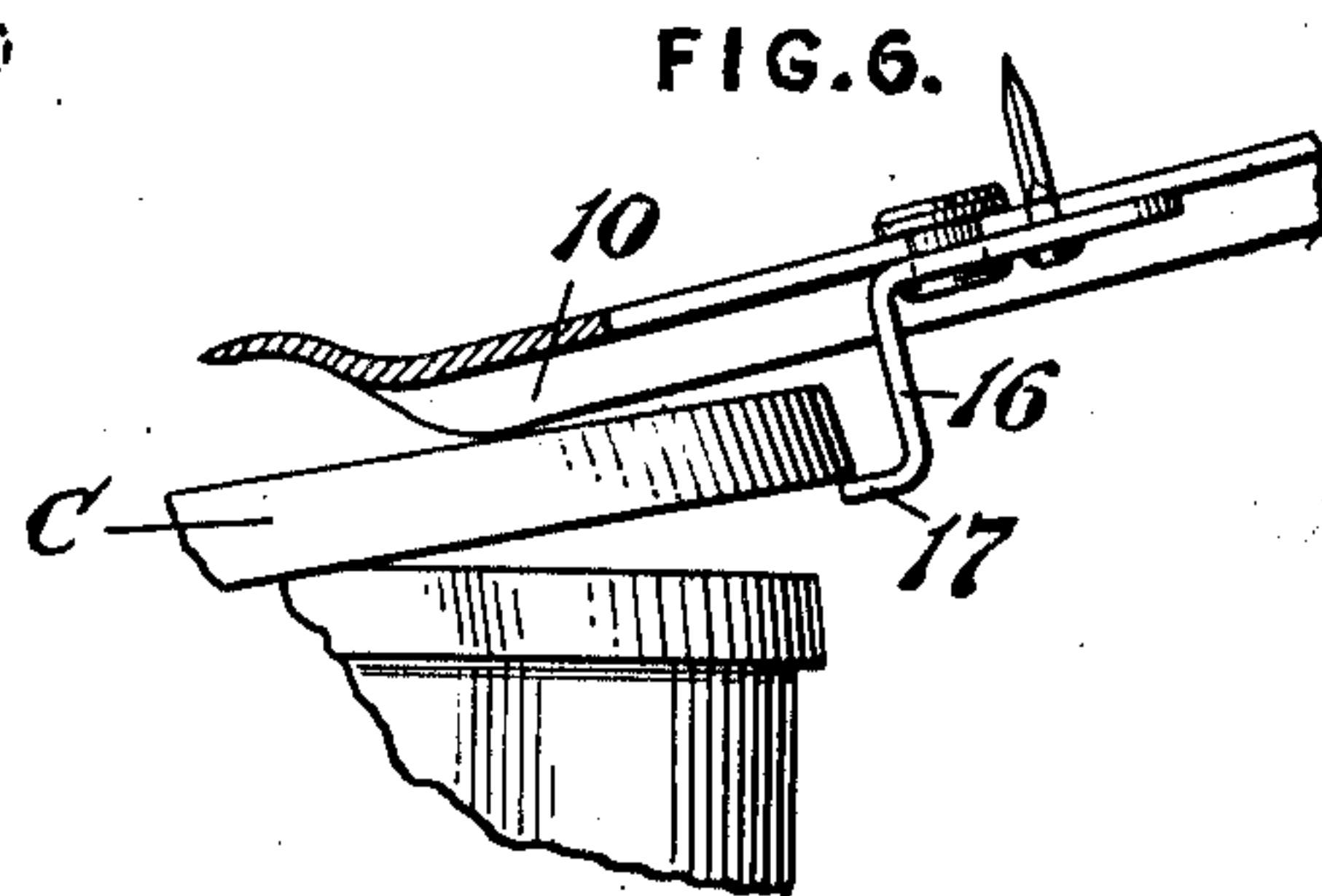
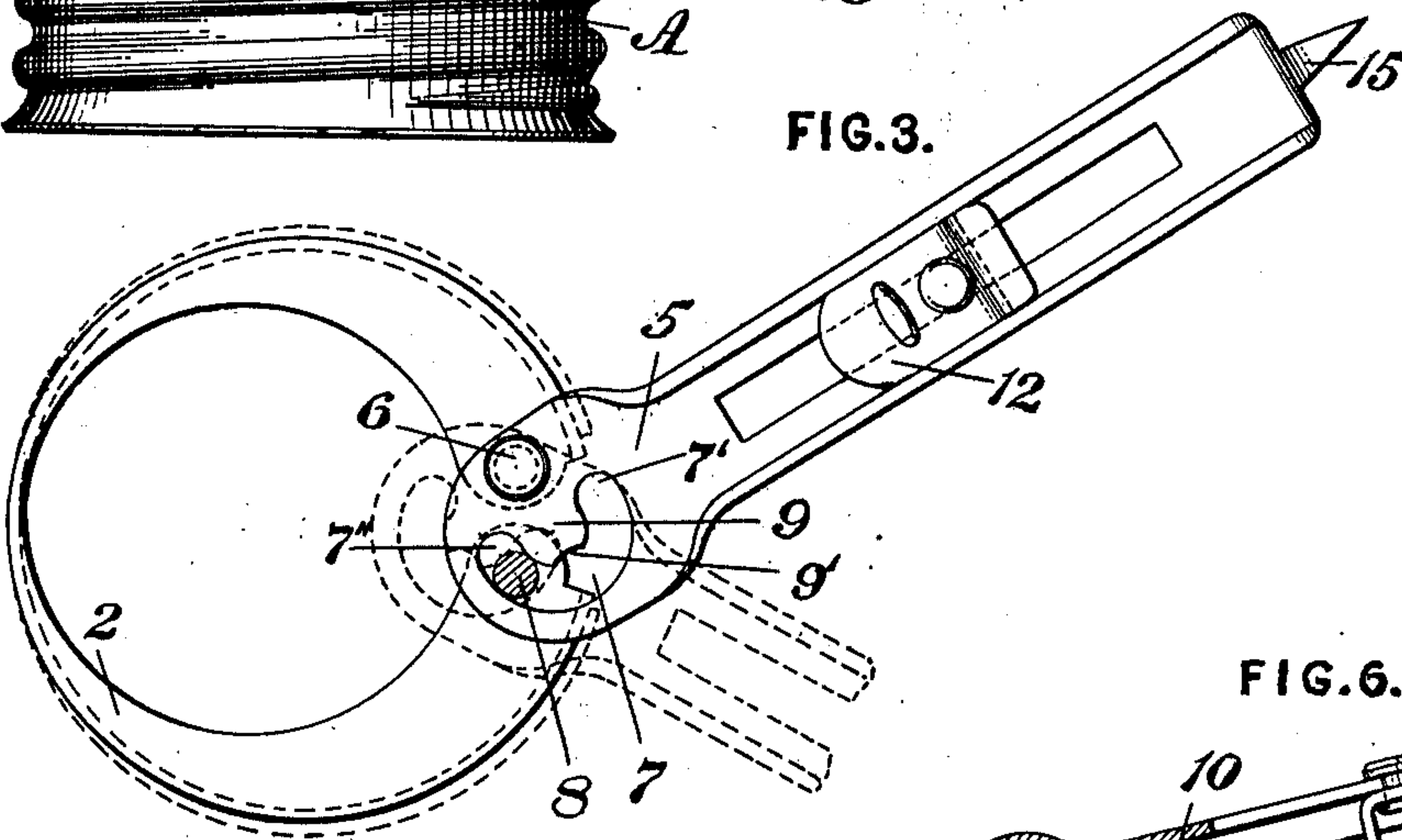
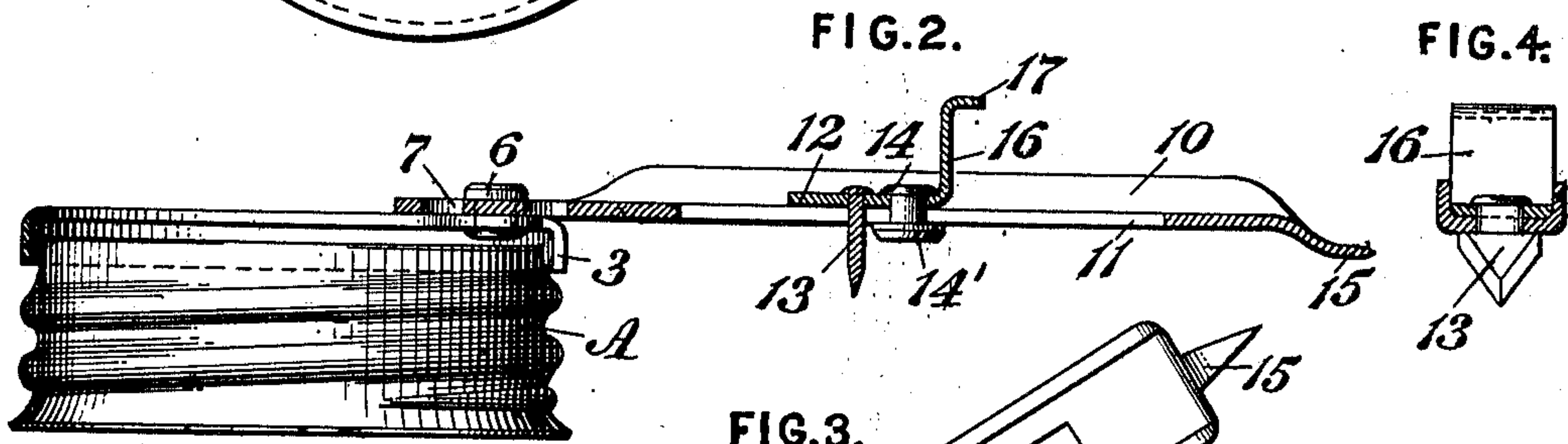
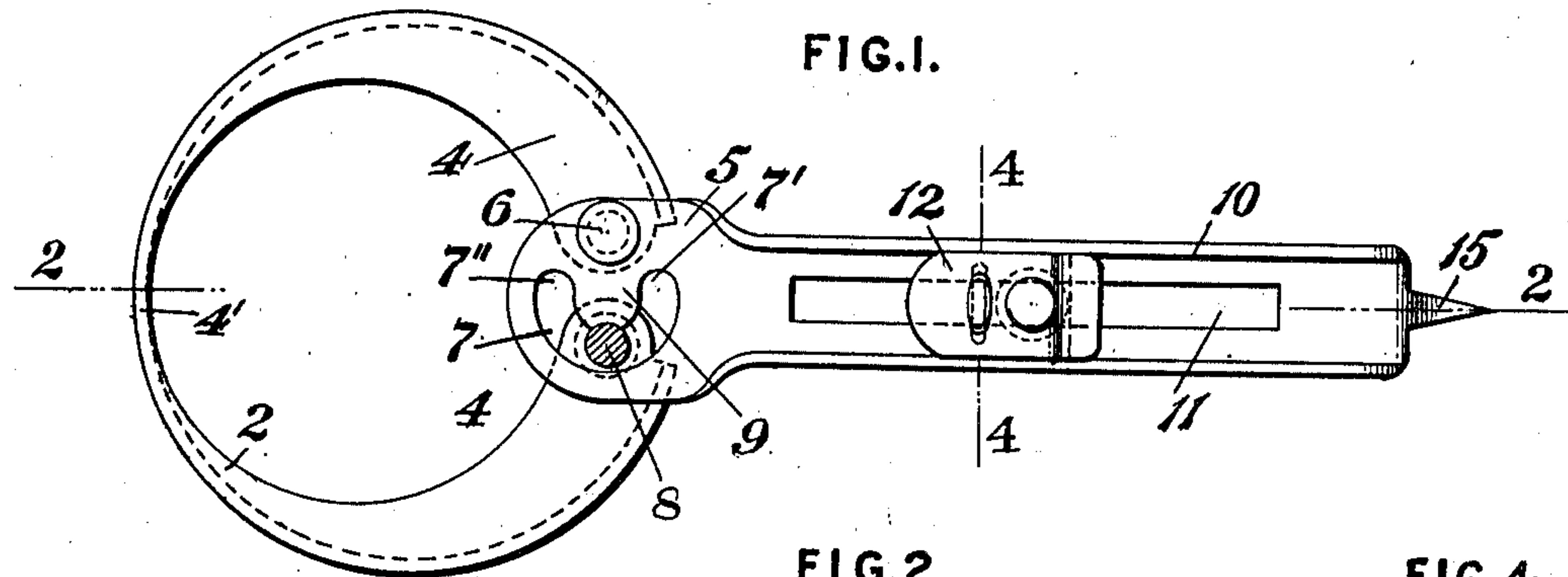


J. C. FORSTER.
HOUSEHOLD TOOL.
APPLICATION FILED DEC. 18, 1909.

970,206.

Patented Sept. 13, 1910.



WITNESSES
J. E. Gaither.
Edw. M. Cornell.

INVENTOR
J. C. Forster.
By J. C. Forster atty.

UNITED STATES PATENT OFFICE.

JOHN C. FORSTER, OF PITTSBURG, PENNSYLVANIA.

HOUSEHOLD-TOOL.

970,206.

Specification of Letters Patent. Patented Sept. 13, 1910.

Application filed December 16, 1909. Serial No. 533,414.

To all whom it may concern:

Be it known that I, JOHN C. FORSTER, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Household-Tools, of which the following is a specification.

The invention provides a wrench for jar caps of novel construction which is adapted for use interchangeably in tightening and loosening the caps, with means holding the cap-embracing member normally open and ready to be applied to a cap, said member also serving as a ring for hanging the tool on a nail or hook when not in use.

In the accompanying drawings, Figure 1 is a view in top plan of the improved tool, the wrench being in normal position for embracing a jar cap. Fig. 2 is a section of the tool on line 2—2 of Fig. 1. Fig. 3 is a top plan showing the handle turned in full lines for gripping a cap as when unscrewing the same, and in dotted lines when gripping the cap for tightening it on the jar. Fig. 4 is a cross-section on line 4—4 of Fig. 1. Fig. 5 shows the tool in use as a can opener, and in Fig. 6 when removing a cap closure.

Referring to the drawings, the cap-embracing member 2 of the wrench consists of a single band of resilient metal of ring-like form, with its ends adjacent each other and its outer edge flanged downwardly at 3 to grip the cap A. The band is preferably provided with flat top portions 4 which are of decreasing width toward the center of the band where it is relatively narrow, as indicated at 4'. This formation provides a gripping device of desirable resiliency without impairing its strength, and the flat top portions provide surfaces for the handle connections.

In the present adaptation one extremity of handle 5 is flattened as shown and adjacent one edge is secured to one end of member 2 by pivot 6. Formed in the handle extremity is the U-shaped slot 7, the opposite extremities 7' 7'' of which are equal distances from pivot 6 and nearer thereto than the other portions of the slot, the latter being thus eccentric to pivot 6. Entered in the slot is pin 8 carried by the other extremity of member 2.

The U-shaped slot, in conjunction with pin 8, provides a double cam connection, member 2 being contracted on the cap for unscrewing the same when the handle is

turned as in full lines of Fig. 3 with slot extremity 7'' extended toward pin 8, while the reverse movement of the handle, as in dotted lines in Fig. 3, contracts the pin for tightening the cap, it being understood that by either use the requisite pressure for loosening or tightening the cap is applied to the handle in the direction in which the handle is moved for clamping member 2 thereon. The curvature of the slot provides a cam connection which is much more effective and more nearly devoid of friction on pin 8 than is possible with a slot having straight lines.

The tongue-like projection 9 formed by the slot is provided at its extremity with a depression 9' which is engaged by pin 8, as in Fig. 1, and holds the contracted member 2 normally expanded ready to embrace the cap and with the handle projecting straight out. Thus the device is always in position to be applied without making it necessary to manipulate it with both hands prior to placing it on the cap, and the ring-like member 2 may be conveniently used for hanging the tool on a nail or hook when not in service.

The tool handle 5 is preferably formed of a piece of plate-like metal, and is reinforced by turning the longitudinal edges upwardly as indicated at 10. The handle is slotted longitudinally at 11, and slidable on the top surface thereof between edges 10 is the plate-like carrier 12, from which a can-cutting knife 13 projects through slot 11 as shown. The carrier is slidably held on the handle by rivet 14 with head 14' at the under side of the handle adapted to bear on the can top B, as in Fig. 5, thus holding the handle properly spaced therefrom and forming a runner-like member which facilitates the circular movement of the tool on the can. Projection 15 at the extremity of the handle pierces the can top as shown and provides a turning center, as is usual in this type of device. A projection 16 extending upwardly from carrier 12, being preferably an extension of the carrier, is provided with a hook-like extremity 17 for engaging the flange of a glass-jar or bottle closure C, as in Fig. 6, in such use the handle being reversed from the position shown in Fig. 5 and serving as a lever for the cap removing movement.

I claim:—

1. The combination of a curved one-piece cap-embracing member having its ends ad-

jacent each other, said member having a top portion which bears on the top surface of the cap with said top portion flanged downwardly to grip the side face of the cap, the end portions of said member being inflexible and its intermediate portion resilient, a handle pivoted to one end of the member, and a cam-slot and pin connection between the handle and the other end of the member.

2. The combination of a cap-embracing band of resilient contractile material, the band being curved in ring-like form with the ends thereof adjacent each other, a handle pivoted to one end of the band, a cam-slot and pin connection between the handle and the other end of the band, the wall of the slot having a seat for engaging the pin of said connection for setting the said band in an expanded inoperative position.

3. The combination of a cap-embracing member shaped from a single piece of metal with its ends adjacent each other, said member having flat top portions decreasing in width backwardly from said ends and also formed with a depending cap engaging flange, a handle pivoted to the flat surface at one end of said member, and a pin and slot connection between the handle and the flat top surface of the other end of said member.

4. The combination of a cap-embracing member formed of resilient contractile material and of ring-like form with its ends adjacent each other, a handle pivoted to one end of the member, the handle formed with a double cam-slot, both ends of the slot being nearer the handle pivot than the other

portions of the slot with the slot forming a tongue-like projection, the end of said projection being formed with a seat, and a pin carried by the other end of said member and entered in the slot and adapted to be engaged by said seat for setting said cap-embracing member in an expanded inoperative position.

5. The combination of a cap-embracing member shaped from a single piece of metal with its ends adjacent each other, the metal being widest adjacent its ends and decreasing in width from said ends to form the resilient intermediate portion, a handle pivoted to one of said ends, and a cam-slot and pin connection between the handle and the other of said ends.

6. The combination of a cap-embracing member shaped from a single piece of metal with its ends adjacent each other, the metal being widest adjacent its ends and decreasing in width from said ends to form the resilient intermediate portion, a cap engaging flange depending from said member, a handle pivoted to one end of the member, and a cam slot and pin connection between the handle and the other end of the member.

7. The combination of a contractile cap-embracing member adapted to expand for embracing a cap, means for setting the member in an expanded and inoperative position, and means for contracting said member and causing it to grip the cap.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN C. FORSTER.

Witnesses:

J. M. NESBIT,
F. E. GAITHER.