No. 747,852. PATENTED DEC. 22, 1903.

A. F. BOYLAN & E. C. CHAMBERLIN.

WATCHMAKER'S PLIERS.

APPLICATION FILED MAY 16, 1903.

NO MODEL.

Fig. 1.

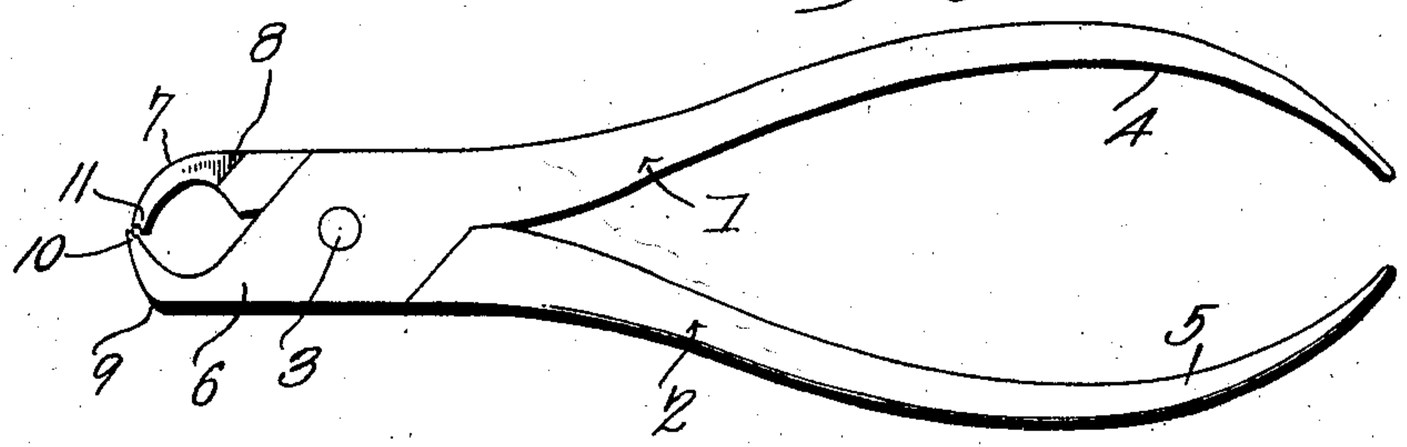


Fig. 2.

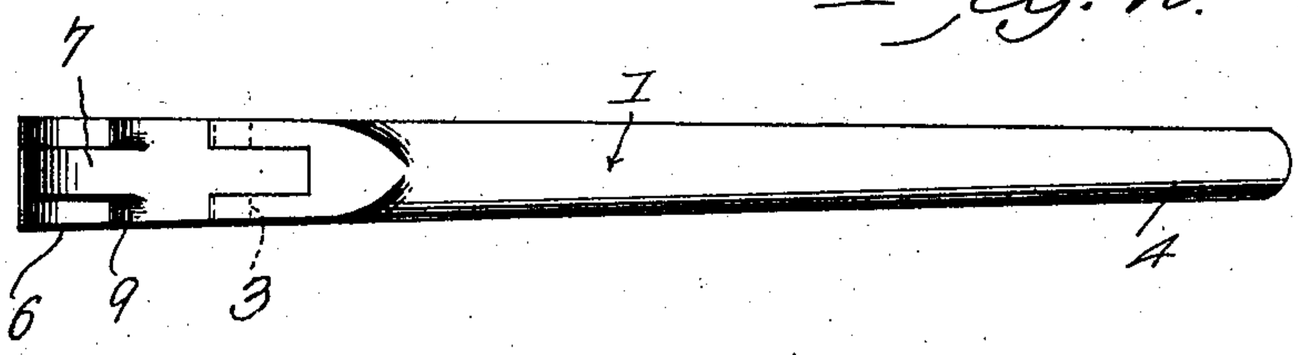
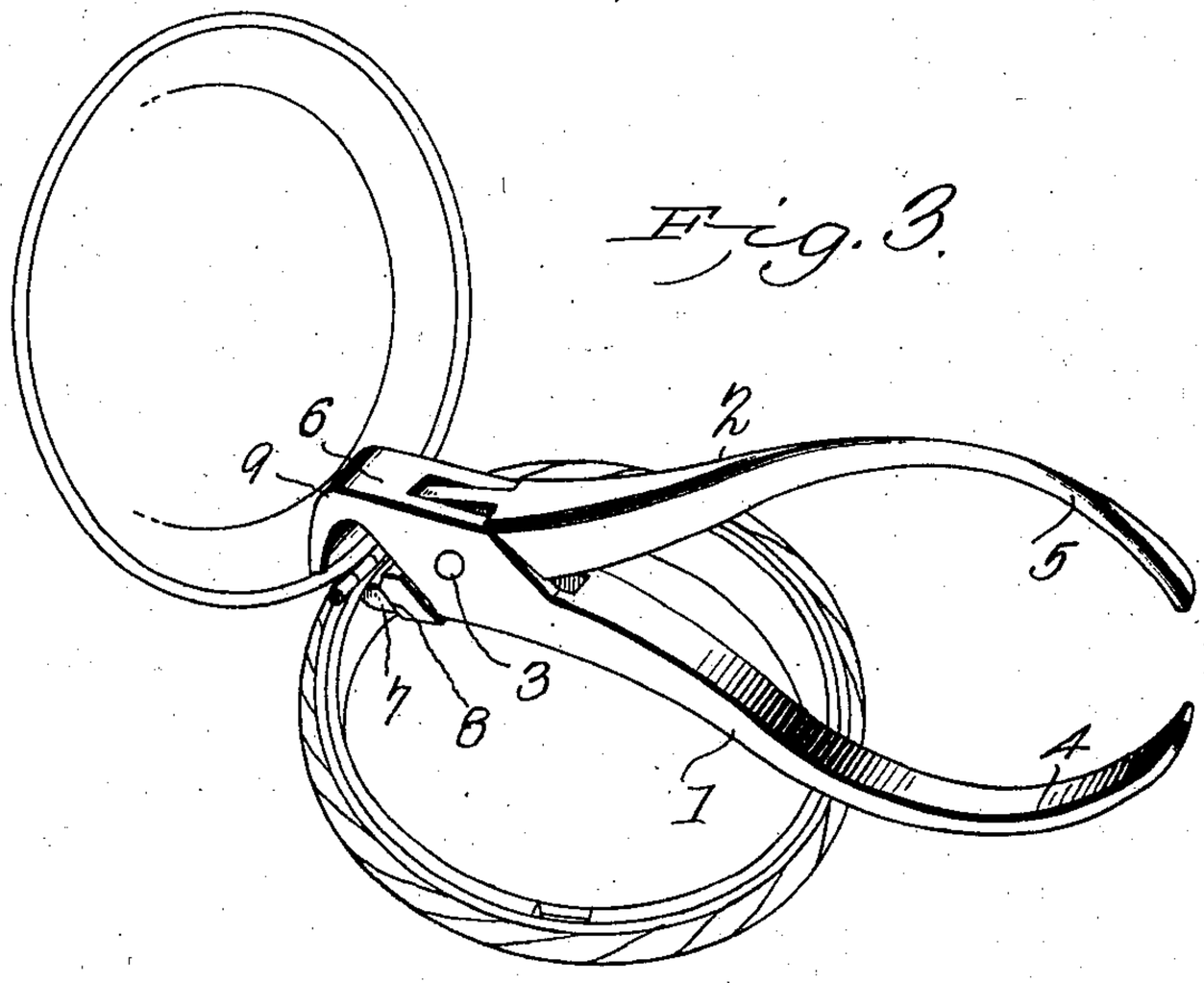


Fig. 3.



Witnesses
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No. 747,852. Patented December 22, 1903.

UNITED STATES PATENT OFFICE.

AARON F. BOYLAN AND ELZIE C. CHAMBERLIN, OF DENISON, IOWA.

WATCHMAKER'S PLIERS.

SPECIFICATION forming part of Letters Patent No. 747,852, dated December 22, 1903.

Application filed May 16, 1903. Serial No. 157,456. (No model.)

To all whom it may concern:

Be it known that we, AARON F. BOYLAN and ELZIE C. CHAMBERLIN, citizens of the United States, residing at Denison, in the county of Crawford and State of Iowa, have invented a new and useful Watchmaker's Pliers, of which the following is a specification.

This invention relates to watchmakers' pliers, and more particularly to a form of pliers for use by watchmakers in restoring to their original condition watchcases having hinged caps or lids which have become sprung in the joint, so that when the cap or lid of the case is opened it stands at an angle of more than ninety degrees to the plane of the watch-face instead of at the original angle of ninety degrees.

The methods hitherto used for restoring watchcases sprung in the manner above specified to their original condition are all unsatisfactory for various reasons, the principal one of which is that none of the methods hitherto used have reached the seat of the trouble, which lies in the joint itself and in the portions of the lid and the ring of the watchcase adjacent thereto. On account of the difficulties heretofore found in restoring sprung watchcases to their original condition it has been the common procedure of jewelers to return the watchcases to the makers for repairs instead of attempting the work themselves.

The principal object contemplated in this invention is to provide a simple tool by means of which any watchmaker may easily and quickly restore sprung watchcases to their original condition.

With the object above stated and others in view, which will appear as the invention is more fully disclosed, the same consists in the watchmakers' pliers hereinafter described, illustrated in the accompanying drawings, forming a part of this specification, and having the novel features thereof particularly pointed out in the appended claims.

In the drawings, Figure 1 is a side view of a pair of pliers constructed in accordance with this invention. Fig. 2 is an edge view of the pliers, and Fig. 3 is a view in perspective of a watchcase sprung in the lid-joint and of the pliers as applied to the case for restoring the joint to its original condition.

Corresponding parts are designated by the same characters of reference throughout the several views of the drawings.

Referring to the drawings by reference characters, 1 and 2 designate the two members of which the pliers are formed.

3 is the pivot connecting the members 1 and 2.

4 is the handle portion of member 1, and 5 is the handle portion of member 2. The member 1 terminates in a gripping-jaw 6, which is curved to present a concavity between the gripping-face of the jaw and the pivot.

7 designates the jaw of member 2, which is also curved to present a concavity between the gripping-face of the jaw and its pivotal point. Jaw 6 is longer and broader than jaw 7, and the curvature of the two jaws is somewhat different. Jaw 6 is disposed almost at right angles to the adjacent portion of member 1 and presents a shoulder 9 on the outer surface of the jaw at its point of juncture with the rest of member 1. Jaw 7, which is shorter and narrower than jaw 6, has a more gradual curve on its outer surface and is preferably formed with shoulders 8 at the base of the jaw. In order to cause the jaws to grip firmly the portions of the watchcase placed between them, there are provided grooves 10 and 11 upon the gripping-faces of jaws 6 and 7, respectively, and the jaws are preferably of such dimensions that when the pliers are closed the jaws do not come quite into contact.

In using the pliers jaw 7 is introduced into the watchcase, as shown, and placed beneath the flange of the watchcase-ring adjacent to the joint of the cap, as shown in Fig. 3, it being of course understood that the works must be removed from the watch before the pliers can be applied to the case. It is not necessary, however, in most instances for the springs of the watchcase to be removed in order to restore the joint to its original condition. Jaw 6 is brought into contact with the inner surface of the cap of the case adjacent to the joint and the case is firmly gripped. The watchmaker then presses with

his hand upon the cap at a point nearly opposite the joint and restores the cap to its original condition by pressure thereon.

The operation is one that may be performed in a few moments after the works of the watch have been removed, and after the operation the case will be completely restored to its original condition so far as the action of the joint is concerned. In some instances the cap may be bulged outward slightly at points adjacent to the joint, and this may be corrected by gently tapping the bulges with a watchmaker's mallet.

In order to adapt the pliers to grip the proper portions of the cap and the ring of the watchcase, it is necessary that the jaw which engages with the cap be longer than the jaw which engages with the ring of the case, and it is highly desirable in order to introduce the jaw which engages the ring into proper position that said jaw be considerably narrower than the jaw which engages the cap, as shown.

While we do not wish to be limited to the exact form of tool described and shown, we have found that shown the best suited to properly grip the case so it will be held firm during the act of bringing the cap (or lid) to its original shape.

Having thus described the construction and operation of our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination in watchmakers' pliers, of a pair of pivoted members, each comprising a handle and a gripping-jaw, said gripping-jaws terminating in oppositely and forwardly curved ends having different degrees of curvature, the jaw of most pronounced curvature being longer and wider than the other jaw.

2. In watchmakers' pliers, the combination of a pair of pivoted members, each comprising a handle and a forwardly-curved gripping-jaw, said gripping-jaws being of unequal length and width and limited in movement so that they can be closely approximated but cannot be brought into actual contact.

3. The combination in watchmakers' pliers of a pair of pivoted members each comprising a handle and a forwardly-curved gripping-jaw, one of said jaws being longer and wider than the other jaw, more sharply curved, and having on the exterior thereof a shoulder, the other jaw, which is shorter and narrower than its fellow, being more gradually curved and being held out of contact therewith.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

AARON F. BOYLAN.
ELZIE C. CHAMBERLIN.

Witnesses:
A. ORR,
J. O. OREM.