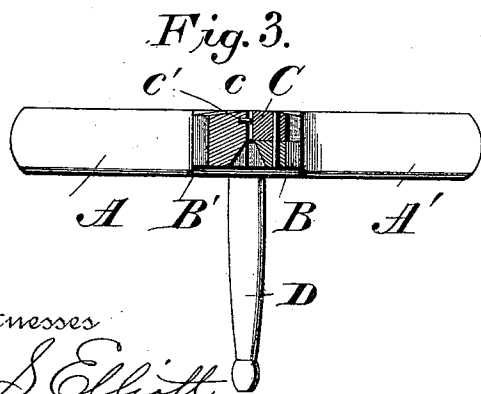
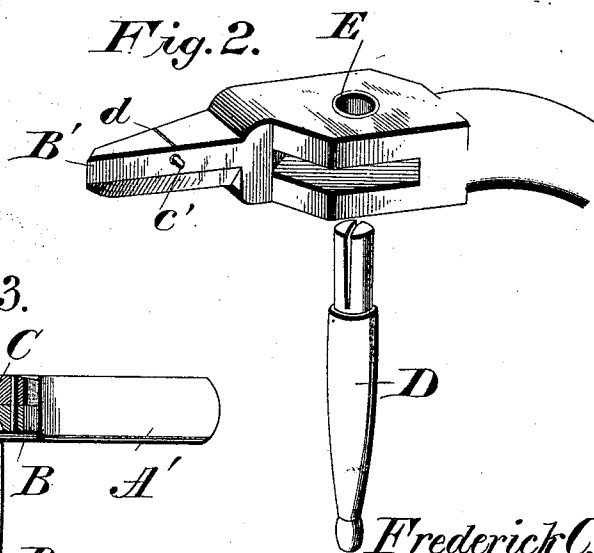
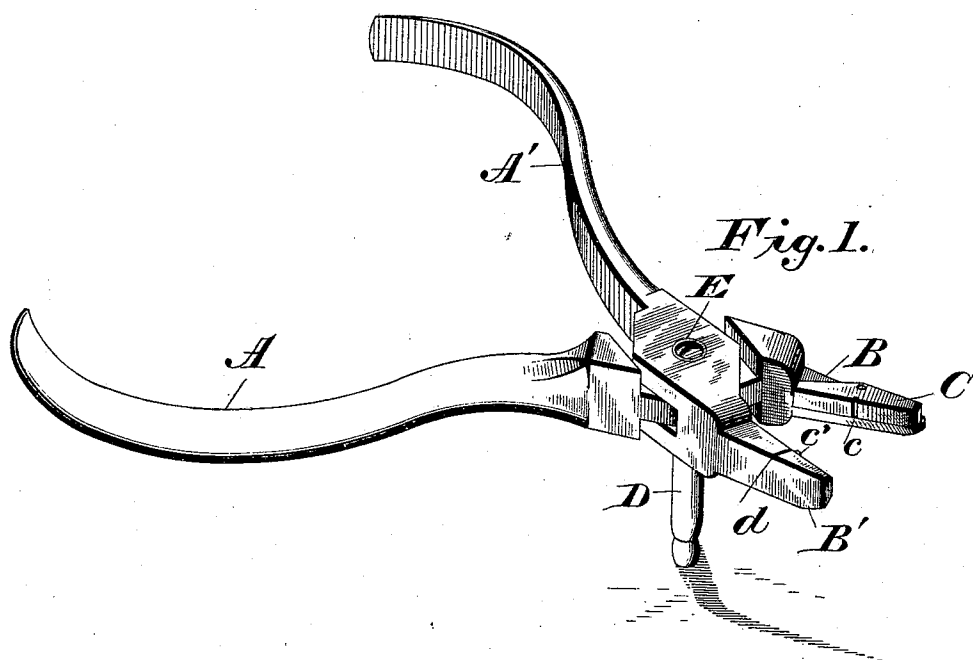


(No Model.)

F. C. RIES.
WATCH MAKER'S BALANCE PLIERS.

No. 461,393.

Patented Oct. 13, 1891.



Witnesses
L. S. Elliott.
H. L. Beal.

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Inventor
by *[Signature]*
Attorney

UNITED STATES PATENT OFFICE.

FREDERICK C. RIES, OF MACON, GEORGIA.

WATCH-MAKER'S BALANCE-PLIERS.

SPECIFICATION forming part of Letters Patent No. 461,393, dated October 13, 1891.

Application filed May 7, 1891. Serial No. 391,907. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK C. RIES, a citizen of the United States of America, residing at Macon, in the county of Bibb and State of Georgia, have invented certain new and useful Improvements in Pliers; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in pliers which are adapted for watch-makers' use.

The object of the invention is to provide pliers with means for properly holding watch-balances, especially that class of balances known as "compensating," while changing the screws or weights in the rims or operating upon the segments in adjusting to temperature; also for truing the balances by bending the rim or segments, as well as in marking the segments for new screw-holes and poising the balances; and the invention consists in the construction and combination of the parts, as will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a perspective view showing a pair of pliers with my improvement attached thereto. Fig. 2 is a detail perspective view showing one of the jaws with the supporting leg or rest detached. Fig. 3 is a sectional view.

A and A' designate the handles of the pliers, which are pivoted to each other, preferably, by a tubular or hollow pivot, and these handles have jaws B and B', which are undercut, as shown. The jaw B carries a pivoted block C, which is provided with a vertical recess c, while the jaw B' opposite said recess has a pin or projection c'. The face of the jaw B' on a line with the pin c' has a gage mark or indentation d, which will properly locate the position of the pin and the fulcrum or center of the pivoted block C. The pin c' is adapted simply to rest the segment or rim of the balance on when such alterations are to be made, as turning the quarter or timing screws in or out, or marking and

drilling additional holes for screws or weights, or such other repairs as it is desired to make when the balance is held so as to be positioned between the two jaws. The notch d acts as a guide, so that the point of the segment or rim of the balance to be operated upon will always be held in proper position opposite the notch. The recess c in the opposite jaw is to prevent injury to the pin or projection when the jaws are brought together.

The pliers thus constructed are provided with an adjustable leg or rest D, the upper portion of which is bifurcated to provide a spring member which will enter and be held within the hollow pivot-pin E of the pliers. This leg or rest not only serves as a support for the pliers, but also prevents injury to the balance-wheel by contact with the work-bench, and when it is not desired to use the same in connection with the pliers it can be readily removed therefrom.

The utility of this implement will be obvious to watch repairers and adjusters.

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

1. In combination with a pair of pliers, one of the jaws thereof having a projecting pin c', a gage-mark on the outer face of the jaw on a line therewith, for the purpose set forth.

2. The combination, in a pair of pliers, of a jaw B', having a projecting pin c' and gage-mark d on a line therewith, the opposite jaw having a recess c, substantially as set forth.

3. The combination, in a pair of pliers, of a support or rest, substantially as shown.

4. The combination, with a pair of pliers, of a support or rest removably secured thereto, for the purpose set forth.

5. The combination, with a pair of pliers having a hollow or tubular fulcrum-pin, of a leg or rest having a bifurcated spring portion and a shoulder adjacent thereto, for the purpose set forth.

6. In combination with a pair of pliers, for the purpose set forth, a jaw B', provided on its inner face with a projecting pin c', a guide or notch on a line with said pin, and a rest D, carried by the pliers to extend at right angles with the jaws, the opposite jaw of the pliers having a recess c, into which the projecting pin c' of the opposite jaw may pass when said

jaws are closed upon each other, for the purpose set forth.

7. The combination, with a pair of pliers connected to each other by a hollow or tubular rivet or fulcrum, of a rest or leg D, adapted to be held removably within the tubular rivet, so as to project at right angles with the movement of the jaws, substantially as set forth.

8. The combination, with a pair of pliers having jaws B and B', one of the jaws being of greater width than the opposite one and

provided with a projecting pin *c'*, of a block C, pivoted to the opposite jaw and provided with a vertical recess *c*, the jaws being undercut below the face of the pivoted block C, substantially as set forth.

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

FREDERICK C. RIES.

Witnesses:

W. W. WILLIAMS,
JOS. H. CUTLIFF.