E. M. BARY.

WATCHMAKER'S PLIERS.

APPLICATION FILED APR. 5, 1920.

1,397,614. Patented Nov. 22, 1921.

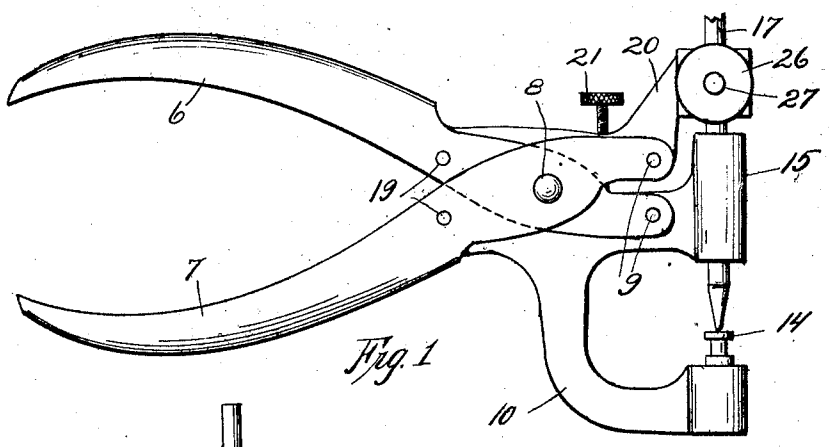


Fig. 1

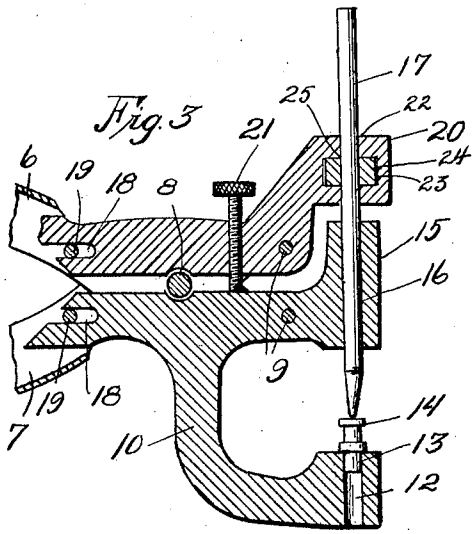


Fig. 3

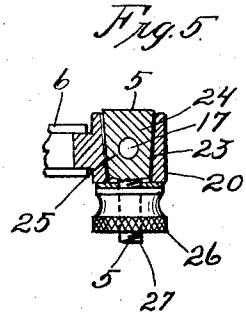


Fig. 5

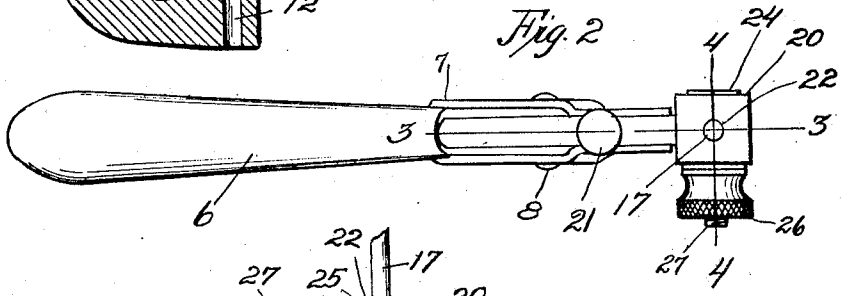


Fig. 2

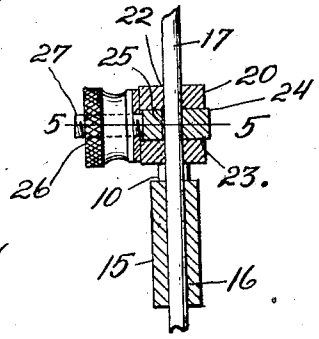


Fig. 4

Witness:

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WATCHMAKER'S PLIERS.

1,397,614. Specification of Letters Patent. Patented Nov. 22, 1921.

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To all whom it may concern:

Be it known that I, EDWARD M. BARY, a citizen of the United States, residing at Kansas City, in the county of Jackson, State of Missouri, have invented a certain new and useful Improvement in Watchmakers' Pliers, of which the following is a complete specification.

The present invention relates to tools for watchmakers' use, and aims to provide an improved pliers construction and particularly pliers for use with staking tools of the type adapted especially for watch making or repairing operations. Accordingly I have devised an improved pliers structure which comprises a pair of relatively movable jaws one of which is formed with a stump receiving socket and also with a plunger guiding passage, and the other of which jaws is provided with an improved clamping means adapted for the detachable clamping of a punch or staking tool in sliding relation to the plunger guiding passage.

In carrying out the invention I provide a pair of jaws having the improved features of construction already indicated, and operated by means of a pair of pivoted handle members each of which is pivotally connected to one of the jaws at one side of the handle pivot and also provided with a sliding pivotal connection with the other jaw at the rear of the pivotal connection between the handles. The said improved pliers construction is also provided with suitable and adjustable stop means for limiting the relative closing movement of the pliers.

With these objects in view the invention will now be described with reference to the accompanying drawing illustrating one form of construction for embodying the improvement, after which the novel features therein will be particularly set forth and claimed.

In the drawing:

Figure 1 is a side view illustrating a pliers construction embodying the present invention;

Fig. 2 is a plan view of the same;

Fig. 3 is a sectional detail view taken on the line 3—3 of Fig. 2;

Fig. 4 is a similar sectional view taken on the line 4—4 of Fig. 2; and

Fig. 5 is a transverse section taken on the line 5—5 of Fig. 4.

Referring now to the drawing in detail, the improved pliers construction is illustrated as comprising a pair of handle levers 6 and 7 which are pivotally connected intermediate their ends by means of a suitable pivot pin 8. At its front end the lever 6 is pivotally connected, as by means of a pivot pin 9, to the lower jaw member 10 of substantially C-outline, the lower portion of which is formed with a socket 12 adapted for the reception of the shank portion 13, of one of the anvil or stump elements 14 comprising a part of the usual watchmakers' staking tool kit or outfit. The upper portion of the jaw member 10 is formed with a sleeve 15 providing a plunger passage 16 (see Fig. 3) for slidingly accommodating one of the staking tools or punches 17 in alinement with the passage or socket 12 and the stump or anvil element 14 mounted therein. Besides this pivotal connection 9 with the front end of the handle lever 6, the lower jaw member 10 is also provided with a sliding pivotal connection with the other handle lever 7 at the rear of the pivot pin 8, as by means of a slot 18 formed in the rear portion of the jaw 10 and engaging a pin 19 extending transversely through the lever 7 to the rear of the pivot pin 8.

Pivotally connected to the forward end of the other handle lever 7 is a second jaw member 20, the pivotal connection being made by means of a pivot pin 9 and the jaw 20 being also provided with a sliding pivotal connection with the handle lever 6 at the rear of the pivot pin 8 by means of a slot 18 and pin 19 is the same manner as already described with reference to the lower jaw member 10. The relative closing movement of the jaw members 10 and 20 is limited by means of a suitable stop screw 21 adjustably mounted in the upper jaw 20 in front of the pivot pin 8 in position for engagement with the upper edge of the lower jaw 10.

Part of the upper jaw member 20 which overlies the plunger passage 16 of the lower jaw is formed with a punch receiving opening 22 in substantial alinement with said passage 16, and intersecting the opening 22 is a transverse tapered passage 23 (see Fig. 5) adapted for receiving a similarly tapered block 24 provided with an opening 25 for the passage of the punch or tool 17. The block 24 is for the purpose of clamping the tools 17 in the relation shown in the drawing, the clamping action being effected by means of a knurled nut 26 mounted upon a threaded stem 27 provided on one of the

outer faces of the block 24, the said nut 26 being of a size larger than the mouth of the opening 23 so as to coöperate with the margin of said opening in effecting the clamping action of the block 24.

A simple and yet efficient improved pliers construction is thus provided for carrying out the desired object of the invention, that of enabling the same pliers to be employed interchangeably with any and all of the staking tools or plungers of the watchmaker's kit, the same being easily and quickly applied by simply inserting the same through the openings 22 and 16 as well as the passage 25 in the block 24, and then securely clamping the same in this position by means of the nut 26. Arrangement of the handles 6 and 7 and of their pivotal connections with the jaw members 10 and 20 insures an easy but effective operative movement in the use of the instrument for effecting the desired operation of the tool 17, the alinement of which with the central point on the stump or anvil element 14 is maintained constant by the fixed alinement of the plunger or guiding passage 16 in the sleeve 15. By adjustment of the screw 21 the amount of closing movement permitted the jaws 10 and 20 may be conveniently varied and adjusted to any desired extent.

While I have shown and described what I now regard as the preferred form of construction for embodying the improvement, I desire to reserve the right to make such changes as may fairly fall within the scope of the following claims.

What I claim is:

1. Staking tool pliers comprising a pair of relatively movable jaws, one of said jaws having a stump receiving socket and a plunger guiding passage in alinement with said socket, the other of said jaws having a punch receiving opening and a passage intersecting said opening, a block fitting said second passage and provided with an opening for accommodating the punch and means for securing said block in clamping engagement with the punch with the latter in sliding relation to said guiding passage.

2. Staking tool pliers comprising a pair of relatively movable jaws, one of said jaws having a stump receiving socket and a plunger guiding passage in alinement with said socket, the other of said jaws having a punch receiving opening and a passage intersecting said opening, and a block fitting said last passage and provided with an opening for accommodating the punch and also with a threaded stem having a nut embracing the side of said other jaw for securing said block in clamping engagement with the punch with the latter in sliding relation to said guiding passage.

In witness whereof I hereto affix my signature.

EDWARD M. BARY.