

E. N. MANN.
 TOOL FOR WATCH MAKERS AND REPAIRERS.
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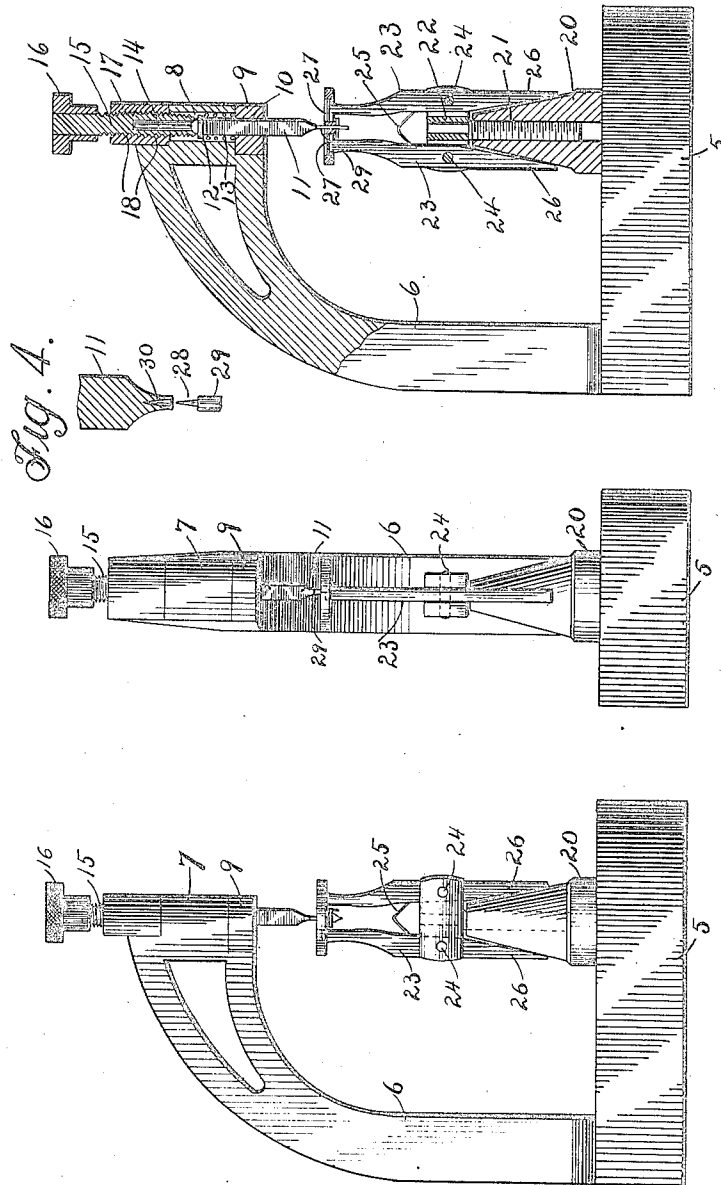


Fig. 3.

Fig. 2.

Fig. 1.

Witnesses

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TOOL FOR WATCH MAKERS AND REPAIRERS.

957,228.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EDWARD N. MANN, a citizen of the United States of America, residing at Alma, in the county of Wabaunsee and State of Kansas, have invented certain new and useful Improvements in Tools for Watch Makers and Repairers, of which the following is a specification.

This invention relates to tools for the use of watch makers and repairers and more particularly to a device for removing the hair spring and roller from the staff of the balance wheel, the object of the invention being to provide efficient means for imparting longitudinal movement to the staff with relation to the roller table while at the same time efficiently bracing and supporting these elements.

Further objects and advantages of the invention will be set forth in the detailed description which now follows.

In the accompanying drawing, Figure 1 is a side elevation of a tool of the character set forth, Fig. 2 is a front elevation thereof, Fig. 3 is a view partly in side elevation and partly in section, and Fig. 4 is a detail sectional view of a portion of the vertically movable presser bar.

Like numerals designate corresponding parts in all of the figures of the drawing.

Referring to the drawing, the numeral 5 designates a base from which a standard 6 rises. This standard is provided with a head 7 having a bore 8 formed therein. The lower end of this bore is closed by a block 9 which has an angular opening 10 formed therein. An angular presser bar 11 moves vertically through this opening. At its upper end, this presser bar terminates in a collar 12 and a coiled spring 13 bears between this collar and the block 9. Above this collar is a round extension 14 of the presser bar. A screw 15 which carries a knurled head 16 by which it may be rotated is threaded into a block 17, both the blocks 17 and 9 being rigidly secured by brazing or in any other desired manner to the head of the standard 6. The screw 15 is provided with a central bore 18 in which the extension 14 lies. The spring 13 normally tends to force the presser bar 11 upwardly. It is apparent however, that by rotating the screw 15, this presser bar may be forced downwardly against the tension of the spring 13.

The means for gripping the roller table and holding the same while the staff is be-

ing forced out of engagement therewith, will now be described. These means comprise a cone 20 in which a stem 21 is threaded. This stem carries a head 22 in which gripping levers 23 are pivoted at 24. A spring 25 normally tends to force the upper ends of these levers apart and to force the tails 26 thereof into engagement with the wall of the cone 20. The levers 23 are provided with inturned gripping ends 27 adapted to grip and hold the balance wheel of a watch, while the staff is being forced therefrom. By holding the head 22 against rotation and by turning the cone upon the screw 21, it is apparent that this screw may be caused to travel down inside of the cone to thereby spread the tails 26 apart and to force the gripping ends 27 together. After this is done, the watch wheel is firmly held and supported by these gripping ends, then the screw 15 is rotated to force the presser bar 11 downwardly at which time the bearing point 28 of the staff 29 enters a recess 30 (see Fig. 4) of the presser bar 11 and is protected thereby during the further downward movement of the presser bar. This further downward movement of the presser bar forces the staff out of the roller table and forces the wheel and the hair spring (not shown) from said staff. When the cone is screwed in the opposite direction, the spring 25 acts to force the upper ends of the levers 23 away from each other to thereby release the roller table. Since the gripping ends 27 approach the balance wheel from the side opposite the presser bar, it follows that these ends can enter beneath the hair spring to accomplish the objects sought. This is an important feature because the hair spring of a watch is ordinarily set down within the rim of the balance wheel to such an extent that any gripping members approaching the spring upon the same side of the wheel as the presser bar, would be unable to grasp the hair spring collet because the hair spring would be in the way. By locating the gripping ends 27 and the parts carried thereby beneath the presser bar, this difficulty is obviated.

From the foregoing description, it will be seen that simple and efficient means are herein provided for accomplishing the objects of the invention, but while the elements herein shown and described are well adapted to serve the purposes for which they are intended, it is to be understood that the inven-

tion is not limited to the precise construction set forth, but includes within its purview such changes as may be made within the scope of the appended claims.

5 Having described my invention, what I claim is:

1. In a device of the character described, the combination with a horizontal supporting base, of a vertical standard rising therefrom and a head in which said standard terminates, a screw threaded into said head and having an opening formed in the lower portion thereof, a presser bar comprising an angular body portion, a reduced upper end and a bearing collar between said body portion and said reduced upper end, said reduced upper end entering the opening formed in the lower end of the screw and the lower end of said screw bearing against said collar, and a spring disposed between the underside of said collar and a portion of the head, substantially as shown and described.

2. In a device of the character described, the combination with a horizontal supporting base, of a vertical standard rising therefrom and terminating in a vertical head, a screw threaded into said head and having an opening formed in the lower portion thereof, a presser bar comprising an angular body

portion, a reduced upper end and a bearing collar between said bearing portion and said reduced upper end, said reduced upper end entering an opening formed in the lower end of the screw and the lower end of said screw bearing against said collar, a spring disposed between the under side of said collar and a portion of the head, said spring normally tending to force the presser bar upwardly and the angular portion of said presser bar traveling in an angular opening formed in the lower portion of said head, a cone, the base of which rests upon said horizontal base, a vertical stem having threaded engagement with said cone, a transverse head carried by said threaded stem, a pair of levers pivoted intermediate their ends to the extremities of said head, the upper ends of said levers being inturned and the lower ends of said levers engaging the face of the cone, and a spring disposed between said levers and normally tending to force their ends apart.

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

EDWARD N. MANN.

Witnesses:

FRED. J. FREY,
OSCAR SCHMITZ.