

R. G. WATTS.
WATCHMAKER'S TOOL.
APPLICATION FILED APR. 13, 1909.

964,347.

Patented July 12, 1910.

Fig. 1.

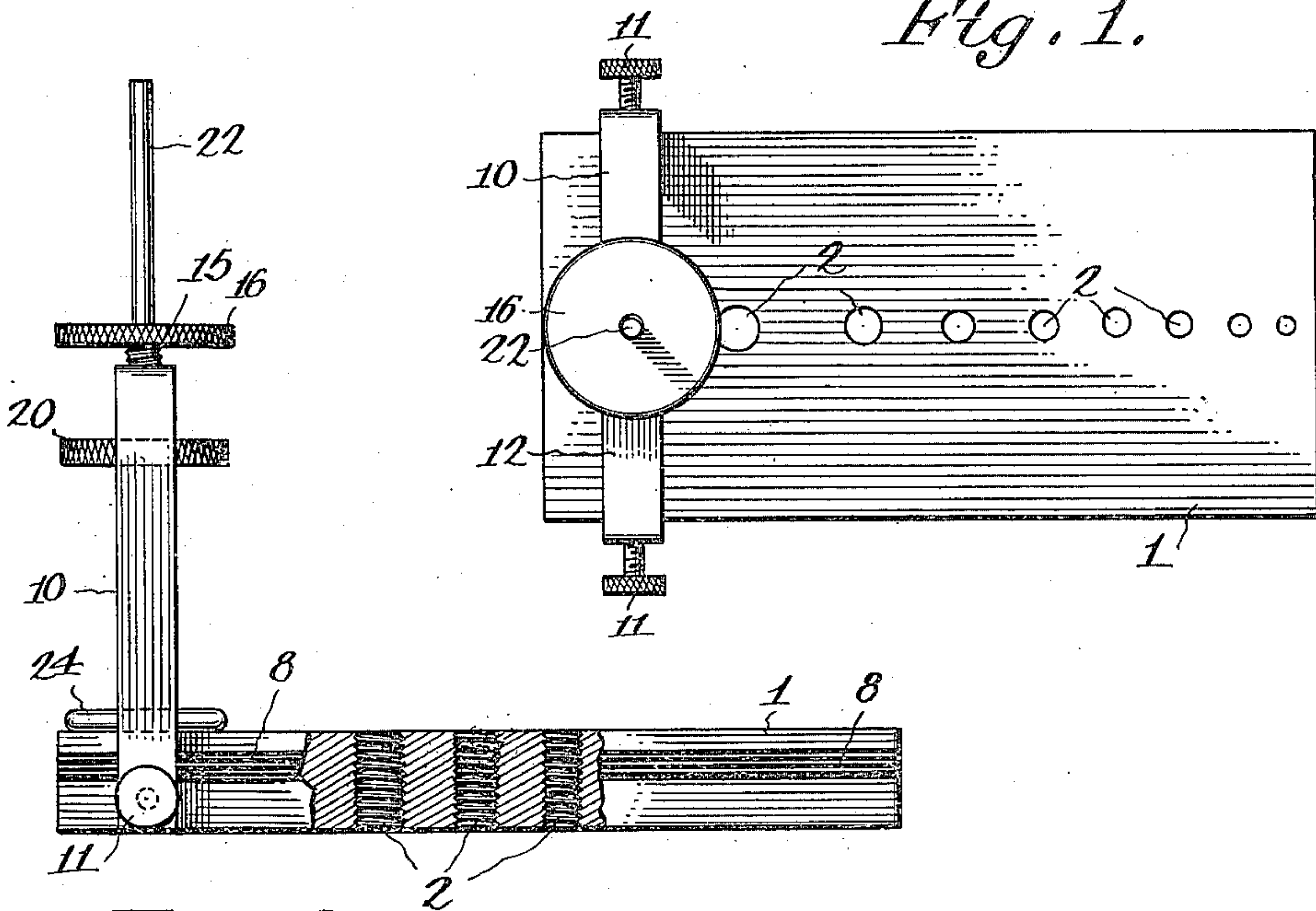


Fig. 2.

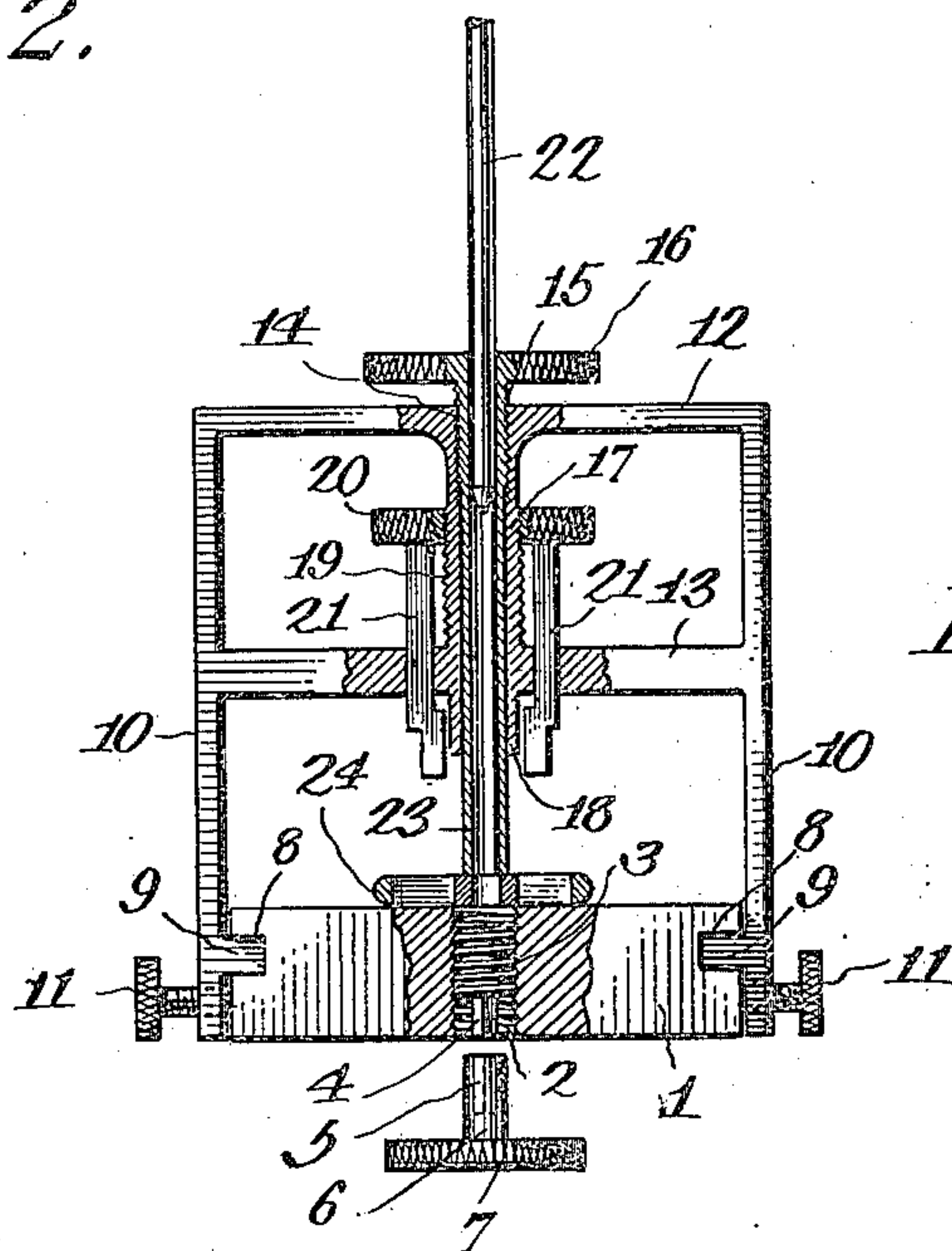


Fig. 3.

Witnesses:

Alex. Scott
W. A. Edlin.

Inventor:

Rufus G. Watts
by Cochran & Co.
Attorneys

UNITED STATES PATENT OFFICE.

RUFUS GROVER WATTS, OF JONESBORO, TENNESSEE.

WATCHMAKER'S TOOL.

964,347.

Specification of Letters Patent.

Patented July 12, 1910.

Application filed April 13, 1909. Serial No. 489,725.

To all whom it may concern:

Be it known that I, RUFUS G. WATTS, of Jonesboro, in the county of Washington and State of Tennessee, have invented certain
5 new and useful Improvements in Watchmakers' Tools, of which the following is a specification.

This invention relates to certain new and useful improvements in watchmakers' and
10 repairers' tools and it has for its objects among others to provide a simple, cheap, yet efficient and durable tool for use in holding and clamping balance wheels while driving out the stave without injury to the same.

15 It has for a further object to provide a device of this character embodying an anvil or base having longitudinal grooves in its opposite side walls in which are adjustably mounted the legs of a supporting frame, so that the staking punch may be moved
20 over the appropriate screw stump, provision being made in the base or anvil for the reception of screw stumps of different sizes as may be required. Means are provided
25 for adjusting the screw stumps, and the supporting frame carries a clamp for clamping the wheel, with means for adjusting said clamp and means for receiving and guiding the staking punch.

30 The construction of the device is such that a watchmaker or repairer can quickly and easily and accurately drive out the old staff and replace it with a new one and have every balance wheel perfectly true.

35 Other objects and advantages of the invention will hereinafter appear and the novel features thereof will be particularly pointed out in the appended claims.

40 The invention is clearly illustrated in the accompanying drawings, which, with the numerals of reference marked thereon, form a part of this invention, and in which—

45 Figure 1 is a plan view of my improved watchmaker's tool. Fig. 2 is a side elevation thereof, with a portion of the anvil broken away and shown in section. Fig. 3 is an end view with a portion of the anvil broken away and in section and other parts in section with portions broken away.

50 Like numerals of reference indicate like parts in the several views.

Referring to the drawings, 1 designates a suitable base plate or anvil of metal having disposed longitudinally thereof and substantially at its longitudinal center a plu-
55 rality of screw-threaded openings 2 for the

reception of removable screw stumps 3, which may vary according to the character of the balance wheel to be operated upon, said stumps having each a stem 4, polygonal
60 in form, adapted to be received within a similarly shaped socket 5 in a stem 6 of a key or the like 7, whereby the stumps may be adjusted within their screw-threaded openings within the base or anvil. These
65 stumps are of different sizes, corresponding to the size of the screw-threaded openings 2 in the base or anvil, the proper sized stump being used as required by the size of the staff or the character of the balance
70 wheel.

The outer faces of the sides of the base or anvil are formed with longitudinal grooves 8 in which are fitted and designed to slide the inwardly extending lugs 9 projecting
75 from the inner faces of the vertical portions or legs 10 of a vertical frame, as seen clearly in Fig. 3. Thumb screws 11 are provided in the lower ends of the legs 10 for holding the frame in any adjusted position.
80 The upper ends of the legs 10 are connected by the cross bar 12, and intermediate their ends, the said legs are connected by the cross bar or brace 13.

The upper cross bar 12 is provided with
85 a screw-threaded opening 14 in which is connected the hollow screw-threaded shank 15 of the press or clamping screw 16. The cross bars 12 and 13 are connected by the tubular member 17, which ex-
90 tends somewhat below the lower cross bar, as seen at 18, and within this tubular portion extends the shank 15 of said screw. The tubular member 17 is exteriorly threaded for a portion of its length, as seen at 19,
95 and thereupon is threaded a screw nut 20 which serves to force downward the clamping arms 21.

22 is the staking punch movable through the tubular shank 15 and through the tubu-
100 lar member 17. The hollow screw 16 serves as a guide for the staking punch, and may have a tubular member as an extension to guide the lower end of said punch. This screw may also press upon the hub of the
105 balance wheel to clamp the same. The clamping arms 21 are movably guided through suitable openings in the cross member 13, as seen clearly in Fig. 3.

24 designates the balance wheel in posi-
110 tion to be operated upon.

In practice, the operation is as follows:

The supporting frame is adjusted along the anvil or base until the tubular member thereof is brought into alinement with the proper opening 2 in the base. The appropriate screw stump is then placed in position and properly adjusted by means of the key 7. The balance wheel is then placed in position. The pressing screw is then turned down and the screw 20 adjusted so as to force the clamping legs 21 down against the arms of the balance wheel, and then the operator takes a hammer and by driving on the staking punch 22, he forces the same downward enough to drive out the staff. The parts are then loosened and the staff removed and a new staff put in, a suitable staking tool being used but without the balance wheel clamp and the block which are used only for driving out the staffs. When operating upon balance wheels that are not oval but flat, a correspondingly shaped screw stump should be employed.

From the above, it will be seen that I have devised a simple, yet easily operated and efficient form of adjustable device for the purposes specified, and, while the structural embodiment of the invention as hereinbefore disclosed is what I at the present time consider preferable, it is evident that the same is subject to changes, variations and modifications without departing from the spirit of the invention or sacrificing any of its advantages. I therefore do not wish to be restricted to the exact details, proportions of parts etc., as hereinbefore disclosed, but reserve the right to make such changes, variations and modifications as come properly within the scope of the protection prayed.

What is claimed as new is:—

1. In a watch maker's tool, a base having

openings for the reception of removable stumps of varying sizes, a vertical frame longitudinally adjustable on said base, a tubular member supported vertically in said frame and internally and externally screw threaded, a tubular screw having its shank received in said tubular member and exteriorly threaded, a nut on said tubular member, clamping arms actuated by the nut, and a tubular member for guiding the lower end of the staking punch.

2. In a watchmaker's tool, a base having screw threaded openings, removable stumps for coöperation therewith, a vertical frame longitudinally adjustable on the base, cross bars connecting the legs of the frame, a tubular member connecting the cross bars, said tubular member being externally and internally screw threaded, a clamping screw having its shank received in said tubular member and exteriorly threaded, a nut thereon, clamping arms actuated by said nut and a tubular member for guiding the lower end of the staking punch, said clamping arms being guided through one of the cross bars.

3. In a watch maker's tool, a base, a vertical frame, a tubular member supported vertically in said frame and internally and externally screw threaded, a tubular screw with tubular extension and having its shank received in said tubular member and exteriorly threaded, a nut on said tubular member, clamping arms actuated by the nut, and a staking punch guided through said tubular extension.

RUFUS GROVER WATTS.

Witnesses:

ROBERT ALLEN LONEGROVE,
GEORGE ROBERT WALSH.