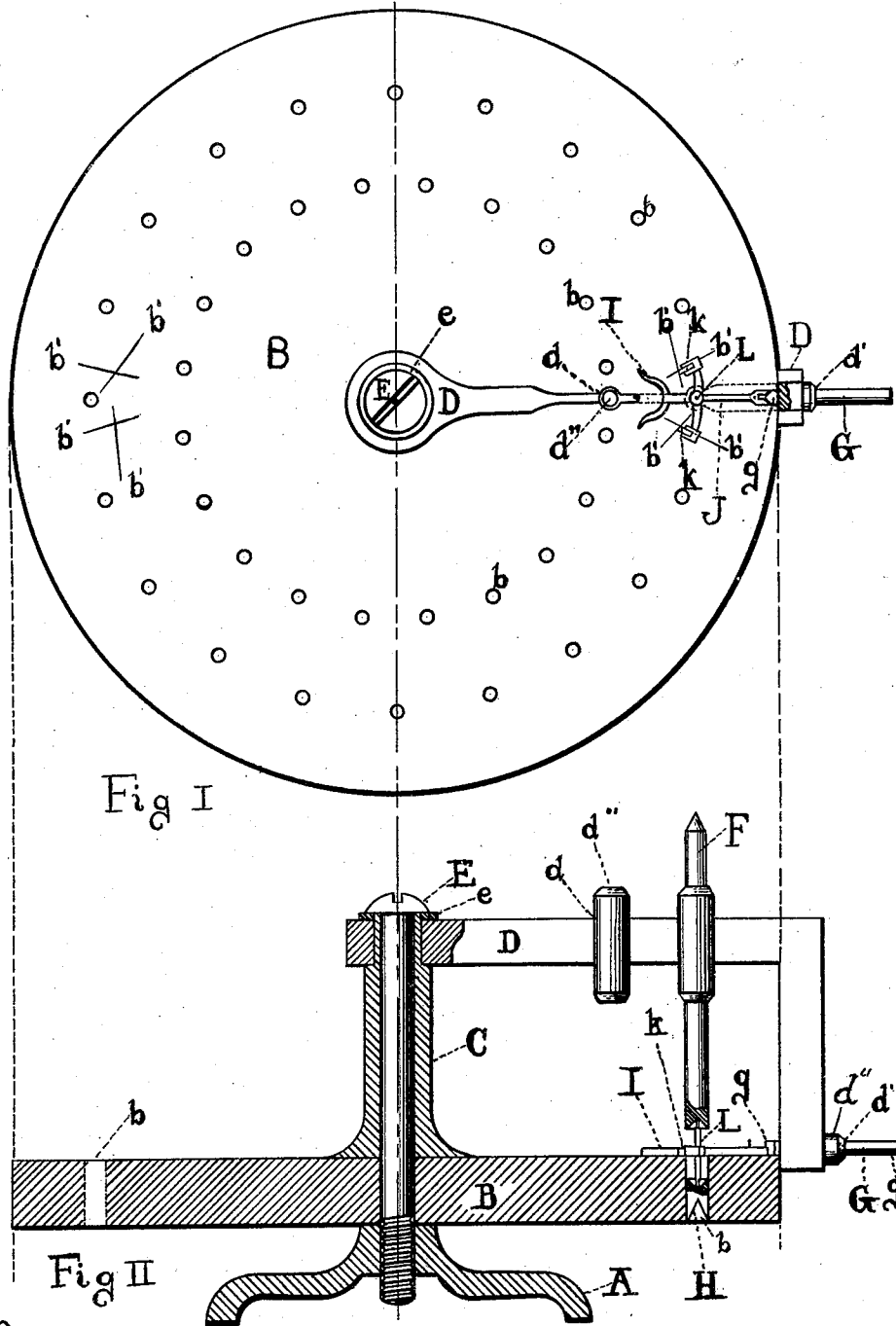


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WATCHMAKER'S TOOL.
APPLICATION FILED DEC. 28, 1908.

937,860.

Patented Oct. 26, 1909.



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WATCHMAKER'S TOOL.

937,860.

Specification of Letters Patent.

Patented Oct. 26, 1909.

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To all whom it may concern:

Be it known that I, CHARLES HENRY PRATT, a citizen of the United States, residing at the city of Helena, in the county of Lewis and Clark and State of Montana, have invented certain new and useful Improvements in Watchmakers' Tools, of which the following is a specification, reference being had therein to the accompanying drawing.

In the repair of watches, one of the common defects to be remedied lies in the action of the escapement lever. This may be due to the breaking or displacement of one or both of the pallets (jewels) or in the bending of the pallet-fork. The correction of either of these defects has heretofore been a slow and rather tedious work, and, in the hands of any but the most competent workman, generally lacked precision.

My invention supplies a tool by which this work is greatly simplified and the result is an escapement lever, as accurate in action as when it left the factory.

In the accompanying drawing, Figure 1 gives a plan view of the tool, with part of the arm removed. Fig. 2 gives an elevation view, in vertical section.

Similar letters refer to similar parts in all the drawings.

The mechanism consists of a hollow cylindrical base A, a plate B, a hollow standard C, an L-shaped arm D and a screw E, all of metal, preferably of brass. The plate B and the standard C are secured to the base A by the screw E. The screw E also carries the arm D, which can be moved thereon but which is held firmly at any point by the friction of the spring washer *e*.

In the plate B are a number of holes *b b*, arranged in concentric circles. About each hole *b b* are cut, upon the plate B, the lines *b' b'*, which correspond to the sides and facets of the master pallets (jewels) of the master escapement lever (the escapement lever preserved by the manufacturer as the standard or type) of one of the standard makes of American watches, when set in this tool as hereinafter described. There is a friction center H, which fits into any of the holes *b b*. Each hole *b* should be numbered or marked with some symbol to identify it with the particular make of watch from which its lines have been taken. I find it convenient to have a list of the different makes of watches represented on the plate

B, numbered, and to have the holes *b b* numbered to correspond.

In the horizontal part of the arm D are the holes *d d*, so drilled that each hole will fit exactly, center to center, with the holes in one of the circles on the plate B. A pump center F fits securely, friction tight, into the sleeve *d' d''*, in either one of these holes *d d*.

In the vertical section of the arm D is a horizontal hole *d'* fitted with a sleeve *d''* and a pump center G, the latter having a vertical beveled point *g* and a flattened side *g'*, at right angles with the beveled point and which just clears the upper surface of the plate B.

Having thus described my invention, its mode of operation is as follows: An escapement of a watch of known American manufacture is found not to work properly on account of some defect of the escapement lever I, either in the setting of the pallets (jewels) *k k* or in the "line" of the pallet-fork J. The friction center H is placed in the hole *b* in the plate B marked for that particular make of watch; the pallet-arbor L, of the escapement lever I to be adjusted, is then placed in the selected hole *b* and the friction center H is so adjusted to the arbor L as to bring the escapement lever I flat upon the plate B. Then the arm D is swung around so as to bring one of the holes *d* directly over the point of the arbor L and the pump center F is then inserted in the sleeve *d' d''* and pressed firmly down upon the point of the arbor L. Then the pump center G is pressed forward until its beveled end *g* presses firmly into the slot *j* in the end of the pallet-fork J. If the pallet-fork J is much out of line, this fact will readily appear by a comparison of the pallets *k k* with the lines *b' b'* upon the plate B at that point. The escapement lever I can then be removed from the tool and this defect in the pallet-fork J may be remedied as near as may be practicable by the eye. The escapement lever I is then again set in the tool as before and the pallets *k k* are carefully adjusted, while the escapement lever I is thus held firmly in place in the tool, to correspond with the lines *b' b'*. When this is done, the escapement movement of the watch will be perfect the escapement lever I having been made to correspond exactly with the master escapement lever of that particular make of watch. The work can be done by a workman of not unusual or rare

ability, as is now required for this work, yet the result will be perfect action.

The number of holes *b b* and their proper markings *b' b'* to be made upon the plate B will be determined by the manufacturer of the tool, in view of the number of standard watches, having what is known as the American movement. Some extra holes *b b* can be made and left unmarked, to be marked thereafter, to correspond with future makes of watches.

Modifications of the structural form of the tool may be made, embodying the same principles, such as casting the standard and arm in one piece with the base and having the plate revolve, but I prefer the form shown.

What I claim as new and desire to secure by Letters-Patent is:

1. A watchmaker's tool, consisting of a plate, marked with lines corresponding to the facets of the master pallets of certain makes of watches, in combination with an arm attached thereto, carrying mechanical devices for holding the pallet-fork in position, while the pallets are being adjusted to

said lines, substantially as shown and described.

2. A watchmaker's tool, consisting of a perforated plate marked with lines about the holes therein, corresponding to the facets of the master pallets of certain makes of watches, an arm secured above said plate, having holes therein centering with the holes in the plate, mechanical devices fitting in said holes for holding the pallet arbor in place and a mechanical device carried by said arm for holding the pallet-fork in proper line, all substantially as shown and described.

3. A watchmaker's tool, consisting of the base A, the plate B with holes *b b* therein and markings *b' b'* thereon, standard C, arm D, screw E and centers working in the holes in the plate B and the arm D, substantially as shown and described.

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

CHARLES HENRY PRATT.

Witnesses:

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