

C. M. EVANS.
WATCH MOVEMENT HOLDER.

No. 562,516.

Patented June 23, 1896.

FIG. 1.

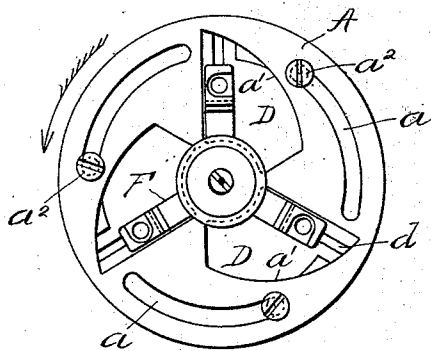


FIG. 3.

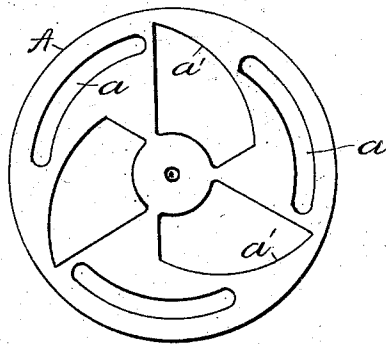


FIG. 2.

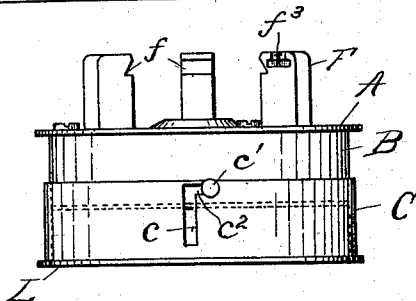


FIG. 4.

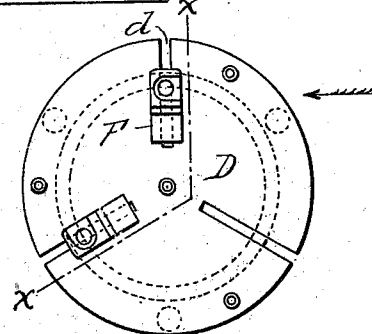


FIG. 5.

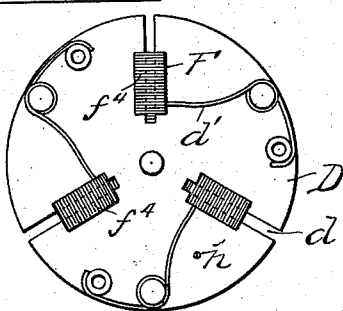
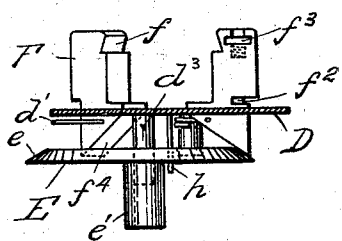


FIG. 6.



Witnesses

Garrie Kelly
L. Monroe Kelly.

Charles M. Evans, Inventor

By Attorney E. J. Kelly.

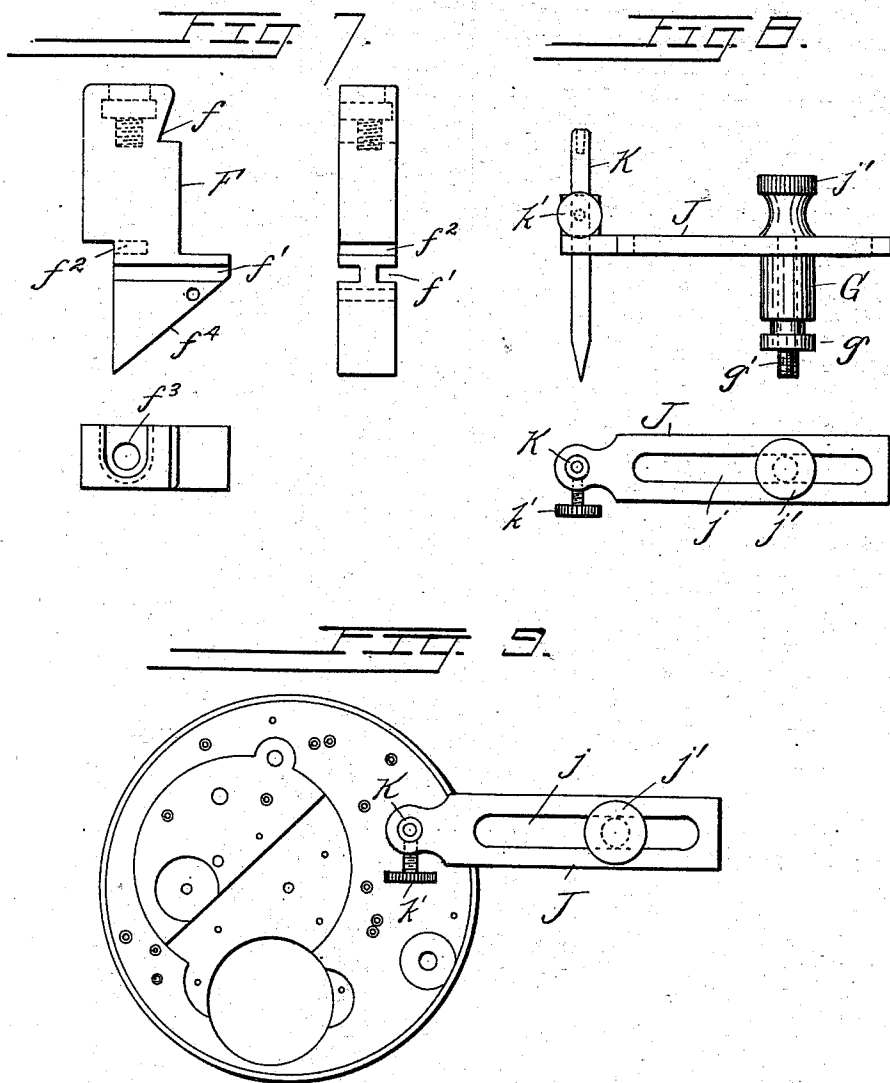
(No Model.)

2 Sheets—Sheet 2.

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Witnesses

Carrie Kelly
Thomas Kelly.

Charles M. Evans. Inventor

By Attorney

E. A. Kelly.

UNITED STATES PATENT OFFICE.

CHARLES M. EVANS, OF READING, PENNSYLVANIA.

WATCH-MOVEMENT HOLDER.

SPECIFICATION forming part of Letters Patent No. 562,516, dated June 23, 1896.

Application filed January 29, 1896. Serial No. 577,294. (No model.)

To all whom it may concern:

Be it known that I, CHARLES M. EVANS, a citizen of the United States, residing at Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Movement-Holder and Escapement-Depthening Tools; 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.

This invention relates to improvements in movement-holder and escapement matching and depthening tools.

The object of the invention is to facilitate the matching of the escapement and the depthening of the gear-meshes without removing the watch-plate from the tool and at the same time to provide a tool which will be simple in construction.

Tools have been made heretofore for this purpose; but it will be seen from the description of my present invention that this tool has been constructed on a labor-saving plan, whereas those now on the market have been constructed in such a manner that accurate results could only be accomplished by patient and repeated adjustment.

In my tool the jaws intended to hold the watch-movement are operated and locked collectively and not individually, as has been the case heretofore.

The depthening attachment is composed of removable posts instead of stationary ones, thus overcoming the annoyance of their presence when not in use.

The invention is fully described in the following specification and clearly shown in the accompanying drawings, in which—

Figure 1 is a plan view of the tool, the depthening-points and holders being removed. Fig. 2 is an elevation of the same. Fig. 3 is a detail view of the locking-plate. Fig. 4 is a plan view of the guide-plate, showing one jaw removed. Fig. 5 is a bottom view of the same. Fig. 6 is a sectional view of the guide-plate on line xx of Fig. 4. Fig. 7 is an enlarged detail of three views of the movement-holder jaw. Fig. 8 is an enlarged detail of two views of the depthening-point holder and

post. Fig. 9 is an enlarged view of a watch-plate, showing the depthening-point in position.

Reference being had to the drawings and the letters thereon, A is the locking-plate for locking the jaws F against any outward movement. This plate is pivotally fastened at its center to the guide-plate D, and is provided with three equidistant circular slots a , in which travel pins a^2 . It is also provided with three eccentric-openings, the edges a' of which bear against the grooves f^2 of the jaws F.

B is the casing in which the guide-plate D is secured and which works in telescope fashion in the main casing C. It is provided with guide-pins c' , which travel in grooves c in the casing C, these grooves being provided at their upper ends with projections c^2 for locking the tool against downward movement.

D is the guide-plate and is provided with three equidistant slots d , in which travel the movement-holder jaws F in their grooves f' .

E is the operating-plate for opening the jaws F. It is circular in form and is provided with a tapering edge which bears against the tapering ends of the jaws F. It is provided with an opening for the guide-pin h and also with a hollow stem e' , which rides on the pin d^3 of the guide-plate.

The jaws F are formed with grooves f' on either side in which they travel in the guide-plate D, grooves f^2 at their back faces in which the eccentrics a' slide, and tapered grooves f at their upper front faces for holding the watch-plate. Their lower ends are tapered on one side f^4 , and their heads are provided with suitable openings f^3 for the lower ends g of the point-holder posts.

The posts G are grooved circumferentially near their lower ends, thus leaving a ring g , which enters the opening f^3 of the jaw F.

The point-holder J is slotted at j , in which slot rides the post-pin g' , which is provided with a thumb-screw j' for fastening it.

The pin or point K is provided with male and female points, and is removably held in the end of the holder by means of a boss and set-screw k' .

The operation of the machine is as follows: When it is desired to place a watch-plate in

position to work thereon, the tool is pressed down, and as the lowest point thereof is the stem e of the operating-plate, the downward pressure will cause it to ride upward on the pin d^3 , being guided by means of a guide-pin h . The tapering edge e of the plate will bear against the tapered ends f^4 of the jaws F and cause them to ride outward in their respective slots, each the same distance from the center, until they have been opened sufficiently to take the watch-plate, when the downward pressure is released and the jaws are again forced toward the center, each by a spring d' . (See Fig. 5.) The plate is now securely held in the jaws. The locking-plate A is then turned in the direction of the arrow, Fig. 1, and the jaws are securely locked against outward movement by means of the eccentrics a' . At the same time the inner casing B is pulled up in the main casing C and turned in the same direction, when the pins c' enter the grooves c^2 , thus locking the inner casing against downward movement and raising the stem e' and allowing the tool to rest upon its base L . The deepthening attachment can now be placed in position by entering the end g of the post in the opening f^3 of the jaw F , and by turning the thumb-screw j' it will secure it against rotary movement by reason of the screw end g' entering the jaw, and it will at the same time secure the point-holder, after the pin has been properly adjusted, from longitudinal movement. The pin can now be taken out by turning the set-screw k' and reversed, with the female end down, thus allowing the test of the escapement or other movement to be made in proper position without removal.

It will be seen that the operation of this tool is very simple and that a watch-plate

can be removed and replaced in a few seconds and with no adjustment.

When the deepthening attachment is not desired, it can be readily removed, thus leaving the plate to be operated upon and the entire tool clear of any obstruction.

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

1. In a movement-holder and escapement-depthening tool, the movement-holder jaws, sliding in one guide-plate and operated collectively by an operating-plate E , in combination with a locking-plate A for locking said jaws, substantially as set forth.

2. In a movement-holder and escapement-depthening tool, the movement-holder jaws, each traveling in a separate groove in the same guide-plate and operated collectively by means of an operating-plate E , a pin for guiding said plate, springs for holding said jaws toward the center and a telescope-casing inclosing the same, substantially as set forth.

3. In a movement-holder and escapement-depthening tool, the movement-holder jaws, each traveling in a separate groove in the same guide-plate and operated collectively, the deepthening-point holders removably attached to the heads of said jaws, a plate A for locking and unlocking said jaws, and a telescope-casing inclosing the said guide-plate and jaws, said casing being provided with right-angled slots and pins, for opening and locking the tool, substantially as set forth.

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

CHARLES M. EVANS.

Witnesses:

ED. A. KELLY,
H. Y. YOST.