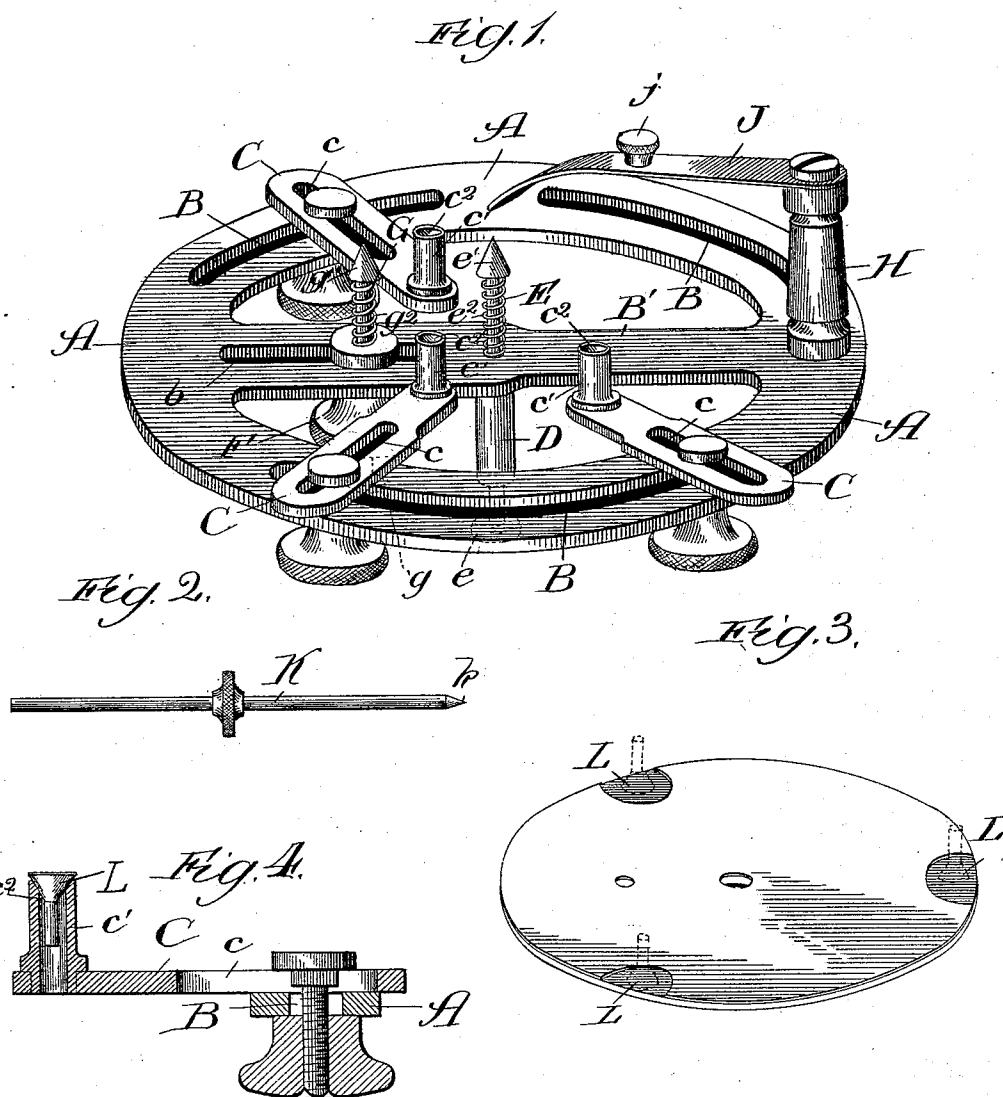


(No Model.)

U. W. FRINK.
WATCHMAKER'S TOOL.

No. 488,069.

Patented Dec. 13, 1892.



Witnesses:
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Att'y

UNITED STATES PATENT OFFICE.

URBAN W. FRINK, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO
CHARLES W. SPALDING, OF SAME PLACE.

WATCHMAKER'S TOOL.

SPECIFICATION forming part of Letters Patent No. 488,069, dated December 13, 1892.

Application filed January 22, 1891. Serial No. 378,670. (No model.)

To all whom it may concern:

Be it known that I, URBAN W. FRINK, a citizen of the United States, residing at Chicago, in the county of Cook, State of Illinois, have
5 invented a certain new and useful Improvement in Watchmakers' Tools; and I declare the following to be a full, clear, and exact description of the invention, such as will enable
10 others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention is designed to produce a tool for watchmakers' use whereby the workman
15 in placing onto a pillar or bed-plate can readily and accurately place the parts into their relative positions; and it consists of a combination of devices and appliances hereinafter described and claimed.

20 In the drawings, Figure 1 is a view of my tool. Fig. 2 is a view of the pin K for causing the parts to register. Fig. 3 illustrates the dial with the feet thereon. Fig. 4 is a vertical section through one of the arms C.

25 In carrying out my invention, A represents a suitable frame, preferably circular, as shown, with open spaces to reduce the weight, although a suitable plate might be employed, if desired. Around the edge are the circular
30 slots B, and across the middle the arm or support B', in which is the slot b.

C are arms provided in one end with the slot c and on the other with the post c', having the through-orifice c². There are as many
35 of these arms as there are dial-feet, (usually three,) and each is provided with a thumb-screw extending through the slots B c, whereby the arm, after being set as desired, may be firmly locked in place. It will be observed
40 that, because of the slots B c, the arms can be adjusted horizontally in any desired position to fit any-sized watch.

D is an upright post located on the arm B and provided with a through-orifice in which
45 is carried the pin E. A thumb-screw F, engaged in the slot b, also carries a pin G. The pins E G, which I will hereinafter term "male centers," that being the technical term, are provided on their ends with heads e g, where-
50 by they may be easily grasped, and on their opposite ends they are coned or beveled to a

point, as at e' g'. Springs e² g² serve to keep the pins normally with a pressure on the point.

H is an upright post on the frame, to which is pivotally engaged the end of the spring J. This spring is provided with the knob or projection j, whereby it may be moved to any desired position. 55

I will now describe the manner of using my tool or holder. 60

The operator, we will assume, has a watch in which he desires to place a new dial or to solder new feet onto an old dial. The new dials seldom if ever have the feet by which they are attached to the pillar or bed-plate in the proper position, for if there are any feet on the dial at all they will not register with the orifices for their reception in the plate, and consequently new locations must be fixed for the feet and the latter soldered on in the exact spot fixed for them. In order to thus properly locate the positions of the feet, I first take the pillar-plate, with its centers and dial feet orifices already fixed, and place it on my frame, with the pointed end of the male center E entering the hand-orifice in the plate. The thumb-screw F is then loosened and properly adjusted, so that the male center G will enter the fourth-wheel center or orifice in the plate. This point is then fixed by tightening the thumb-screw F and the spring J swung around, so that the free end will bear upon the plate and hold it snugly in place. The thumb-screws which hold the arms C are then loosened in order that the free end carrying the post c' may be adjusted, so that it will register exactly with the orifice in the plate, through which the dial-foot will pass. This may be ascertained in any suitable way, as by the pin K, which has a beveled end k, which enters the orifice in the plate, and thus causes the orifice in the post c' and that in the plate to accurately register with each other. The position of the arm is then fixed by means of the thumb-screw. The other arms C are similarly adjusted with their corresponding orifices in the plate. We now have our frame or holder so adjusted that it will accurately indicate the relative positions of the dial-feet orifices in the plate with respect to the hands and fourth-wheel orifices, and also the two latter with respect to each other. The plate is 100

then removed and the dial put onto the frame, with the male centers E G entering their respective orifices in the dial. Any suitable marker is now employed—as, for instance, the reverse end of the pin K is dipped into a suitable coloring and passed through the orifice c^2 until it strikes the dial, thus indicating thereon where the foot should go. When this has been done for each of the other feet, the dial is removed and the enamel on the dial scraped or cleaned off at the points where the feet are to go, as indicated by the marking. The feet, as shown at L, are then placed in the orifices c^2 in the posts c' , the beveled heads of the feet fitting in the conical mouth of the post, as in Fig. 1, thus bringing the feet exactly in the center of the post. Each of the feet has previously been provided on its head with solder. Now when the dial is replaced on the holder it will be seen that the feet will rest where the enamel has been scraped from the dial. By the aid of a blow-pipe or other suitable heating apparatus, the feet are soldered to the dial, and are, of course, in the exact position necessary for them to register with their corresponding orifices in the plate.

It is, of course, obvious that the general arrangement of the parts might be varied without departing from the spirit of my invention, the essential object of which is to provide a suitable frame or holder, by means of which the fixed points on the pillar-plate of a watch may be accurately indicated on or transferred to the dial.

I have herein shown the frame as carrying three of the arms C to provide for three of the dial-feet; but the number might be increased or diminished, as desired.

What I claim is—

1. A watchmaker's tool or holder, whereby the location of points in the pillar-plate may be accurately indicated on the dial, consisting of a frame having male centers adjustable toward or from each other and adapted to engage orifices of the dial, and adjustable points adapted to indicate the dial-feet locations, substantially as described.

2. A watchmaker's tool or holder for the purpose described, consisting of a frame having male centers adjustable toward or from each other and adapted to engage the hand center and wheel center of the plate and dial, adjustable points for indicating the location of the dial-feet orifices, and means for holding the plate or dial in place, substantially as described.

3. A watchmaker's tool or holder for the purpose described, consisting of a frame hav-

ing a fixed male center and an adjustable male center, said centers adapted to be set for and to engage the hand-orifice and wheel-orifice in the plate and dial, and adjustable arms having orifices c^2 on their ends, adapted to register with the dial-feet orifices in the plate and to hold the dial-feet while being attached to the dial, substantially as described.

4. A watchmaker's tool or holder for the purpose described, consisting of a frame carrying a fixed male center adapted to engage the hand-orifice of the plate and dial, and an adjustable male center adapted to engage the wheel-orifice, and adjustable arms having orifices c^2 in their ends adapted to register with the dial-feet orifices in the plate, substantially as described.

5. A watchmaker's tool or holder for the purpose described, consisting of a frame having two spring-impelled male centers adjustable toward or from each other, and adjustable arms having orifices c^2 in their ends, substantially as described.

6. A watchmaker's tool or holder for the purpose described, consisting of a frame carrying the male centers E G, and adjustable arms C, having orifices c^2 , and in connection therewith the pin K for causing the orifices c^2 to register with the dial-feet orifices in the plate, substantially as described.

7. A watchmaker's tool or holder for the purpose described, consisting of a frame carrying spring-impelled adjustable male centers E G, adjustable arms C to indicate the dial-feet locations, and spring J for holding the plate or dial to the frame, substantially as described.

8. A watchmaker's tool or holder for the purpose described, consisting of a frame provided with means for engaging the center orifices in the pillar-plate and dial, adjustable arms C, having posts c' , the latter provided with through-orifices c^2 , adapted to hold the dial-feet, and means for holding the dial against the feet in soldering the latter to the dial, substantially as described.

9. A watchmaker's tool or holder for the purpose described, consisting of a frame carrying the spring-impelled male centers E G, adjustable arms C, having posts c' , and orifices c^2 , and spring J, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

URBAN W. FRINK.

Witnesses:

W. H. CHAMBERLIN,
F. S. AMICK.