Feb. 3. 1925. 1,524,978

D. F. KIRK

WATCHMAKER'S TOOL

Filed May 29, 1923

Fig.1.

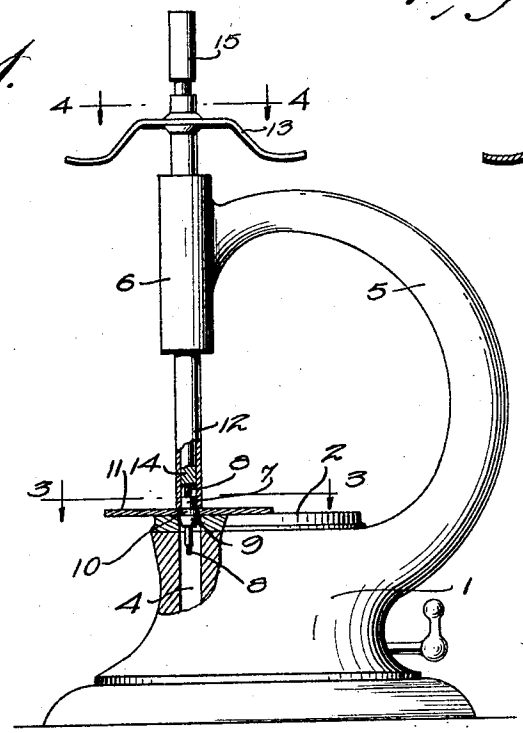


Fig.2.

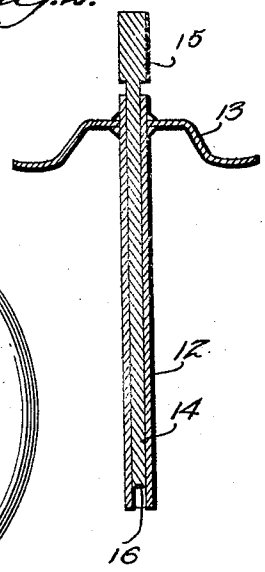


Fig.3.

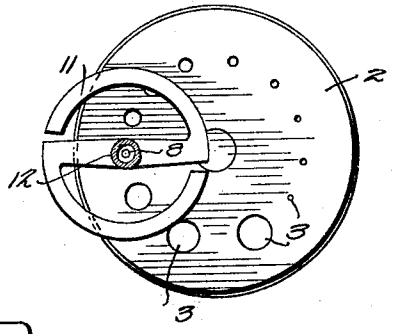
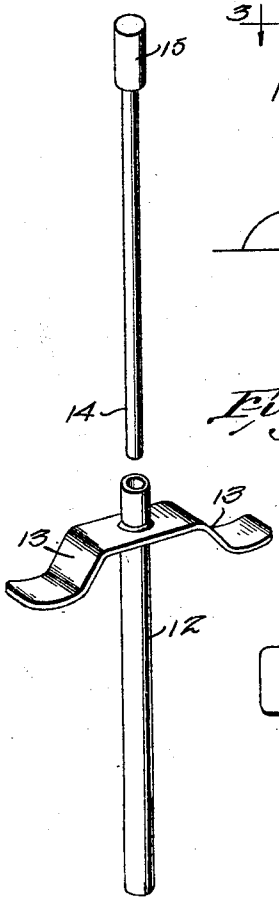


Fig.5.



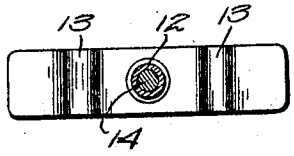


Fig.4

Inventor
D.F.KIRK

By

Attorney

Patented Feb. 3, 1925. 1,524,978

UNITED STATES PATENT OFFICE.

DELBERT F. KIRK, OF SAND SPRINGS, OKLAHOMA.

WATCHMAKER'S TOOL.

Application filed May 29, 1923. Serial No. 642,307.

To all whom it may concern:

Be it known that I, DELBERT F. KIRK, a citizen of the United States, residing at Sand Springs, in the county of Tulsa and State of Oklahoma, have invented certain new and useful Improvements in Watchmakers' Tools, of which the following is a specification.

This invention relates to watch makers' tools, and more particularly to a punch for removing balance staffs.

An object of the invention is to provide a punch having means to prevent it from injuring a balance wheel from which a staff is being removed.

In the preferred form of the invention, I provide a sleeve surrounding the punch and adapted to contact with the balance wheel, the sleeve being slightly longer than the punch to prevent it from contacting with the balance wheel.

In the accompanying drawings, I have shown one embodiment of the invention. In this showing:

Figure 1 is a side elevation of a staking tool with a balance wheel arranged thereon showing the punch in operative position, parts being shown in section,

Figure 2 is a vertical sectional view of the punch,

Figure 3 is a transverse sectional view on line 3—3 of Figure 1,

Figure 4 is a similar view on line 4—4 of Figure 1, and,

Figure 5 is a perspective view of the punch.

In removing balance staffs from balance wheels, the punch frequently strikes against the wheel and damages it and it is to prevent such occurrences that the present invention is designed. The balance wheel having the staff therein is shown placed on a tool known as a staking tool, the base of which is provided with a plurality of openings, and the staff is driven through one of the openings. In the accompanying drawings, the reference numeral 1 designates a staking tool. The staking tool is provided with a table 2 of the usual type rotatably mounted thereon. As shown, the table is provided with a plurality of concentric openings 3 of different sizes. One of these openings is adapted to be arranged over an opening 4 of the base of the tool. An arm 5 extends upwardly from the base of the tool and carries a vertical sleeve 6. This sleeve is arranged over the opening 4, as shown in Figure 1 of the drawings. As shown, the balance staff 7 is provided with pivots 8, a waist 9, and a hub 10. A balance wheel 11 is riveted on the hub of the staff.

The device forming the subject matter of the present invention comprises a sleeve or tube 12 having suitable hand grips 13 arranged adjacent its upper end. A punch 14 is arranged within the sleeve and the punch is provided with an enlarged upper end 15, of a greater diameter than the interior diameter of the sleeve. The punch is of greater diameter than the pivot of the balance staff and is provided with a depression 16 in its lower end, adapted to receive the pivot. The length of the punch from the bottom of the enlargement 15 to the lower end is less than the length of the sleeve 12.

In operation, the balance wheel and balance staff are placed on the staking tool with the waist and lower portion of the balance staff projecting through one of the openings 2. An opening of slightly greater diameter than the diameter of the larger portion of the waist is employed. With an ordinary form of punch, the punch is placed on the upper pivot and struck with a hammer. If the punch slips off of the end of the pivot, the balance wheel is frequently damaged. With the type of punch shown in the accompanying drawings, the sleeve is arranged over the projecting portion of the balance staff, and a blow is struck on the enlarged end of the punch. When the balance staff is driven out of the balance wheel, there is no danger of the punch striking the balance wheel and injuring it as its length is less than the length of the sleeve and the lower end of the punch does not project from the sleeve at any time.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same, and that various changes in the shape, size, and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. In a punch for removing balance staffs, a sleeve, and a member adapted to be received in said sleeve, said member being provided with an enlargement on its upper end,

the portion of said member beneath said enlargement being slightly shorter than said sleeve.

2. In a punch for removing balance staffs, a sleeve, a member having a portion adapted to be received in said sleeve, the portion of said member adapted to be received in said sleeve being slightly shorter than said sleeve, and means for limiting the movement of said member.

3. In a punch for removing balance staffs, a sleeve, a member adapted to be received in said sleeve, said member being provided with an enlarged upper end adapted to contact with the top of said sleeve to limit the movement of said member, the portion of said member beneath said enlargement being slightly shorter than said sleeve, and hand grips arranged on said sleeve adjacent its upper end.

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

DELBERT F. KIRK.

Witnesses:

LAURA STEVENS,

E. R. BRENNEMAN.