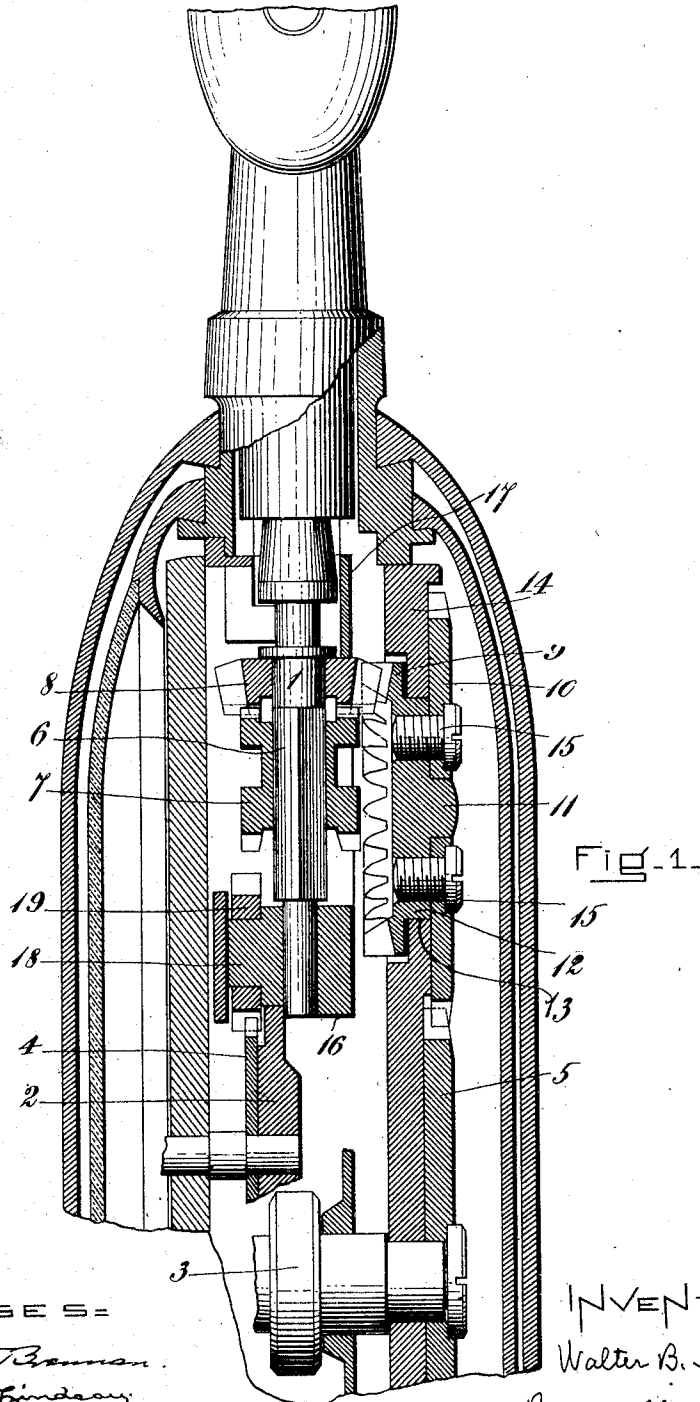


W. B. MEHL.
WATCH MOVEMENT.
APPLICATION FILED APR. 14, 1910.

977,321.

Patented Nov. 29, 1910.

2 SHEETS—SHEET 1.



WITNESSES=

Joseph T. Brown
Anna D. Fendley

INVENTOR=

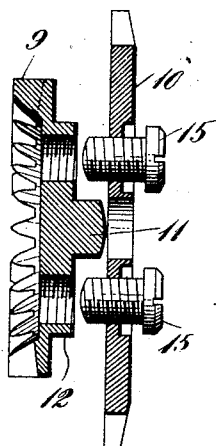
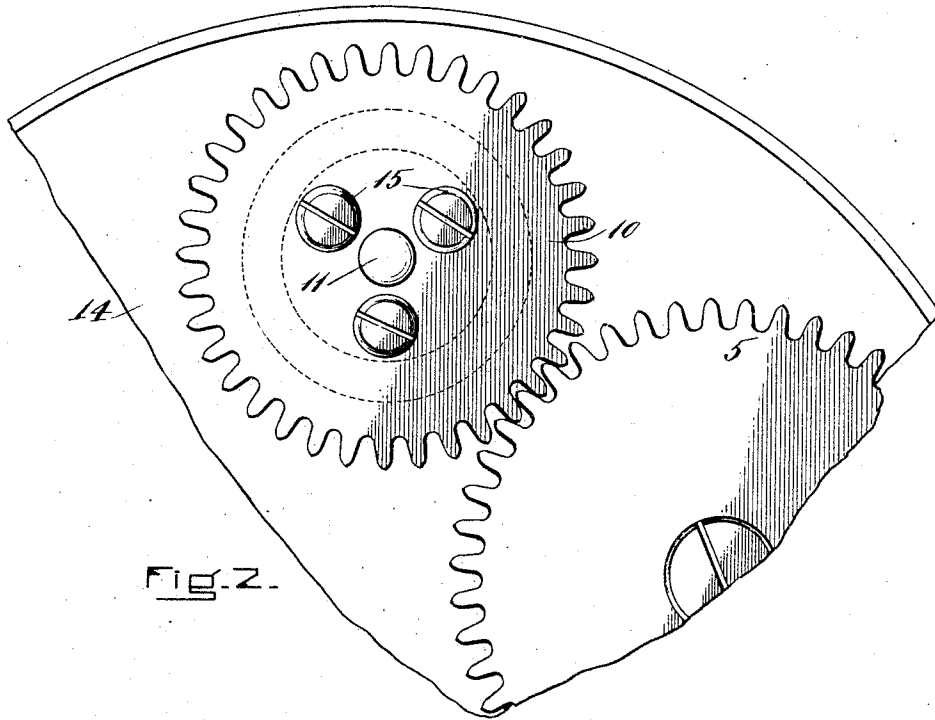
Walter B. Mehl,
By E. D. Chadwick,
Attorney.

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2 SHEETS-SHEET 2.



WITNESSES=

Joseph T. Brennan
Anno B. Lindsey

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Walter B. Mehl,
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Attorney.

UNITED STATES PATENT OFFICE.

WALTER B. MEHL, OF NEWTON, MASSACHUSETTS, ASSIGNOR TO THE KEYSTONE WATCH CASE COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

WATCH-MOVEMENT.

977,321.

Specification of Letters Patent.

Patented Nov. 29, 1910.

Application filed April 14, 1910. Serial No. 555,402.

To all whom it may concern:

Be it known that I, WALTER B. MEHL, a citizen of the United States, and a resident of Newton, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Watch-Movements, of which the following is a specification.

This invention relates more particularly to those parts of a stem winding and setting watch movement which comprise the crown and winding wheels and that portion of the ton plate or barrel bridge on which said wheels are mounted, being intended to simplify and otherwise improve upon prior constructions of these parts. Heretofore it has been the usual practice to make the crown wheel and the winding wheel integral with each other and to place the same in position from the upper or outer side of the barrel bridge, and this has required the barrel bridge to be made of such thickness and provided with recesses of such a nature that much time and expense and a large amount of machine work have been requisite in order to construct these parts and secure the necessary accuracy of fit of the same.

According to my invention, the crown wheel and the winding wheel are constructed from separate pieces of metal and are secured together after they have been placed in position on the barrel bridge, said wheels being applied respectively to the under and upper sides of the bridge and being so constructed that when secured together they are accurately centered with respect to each other. By virtue of this arrangement I am able to simplify the construction of the barrel bridge and to materially reduce the cost of the same and of said wheels, and also to secure other advantages which will hereinafter appear.

In the accompanying drawings, Figure 1 illustrates a portion of a watch containing my improvements, as preferably constructed, this figure being a central longitudinal section through the movement from front to back; Fig. 2 shows the winding wheel and adjacent parts, as viewed from the outer side of the barrel bridge; and Fig. 3 is a sectional view showing the parts which constitute the combined crown and winding wheels.

Of the parts shown in Fig. 1 of the draw-

ings, the dial plate 2, the barrel arbor 3, the minute wheel 4, the ratchet wheel 5, the winding stem 6, the clutch 7 and the winding pinion 8, together with the parts which constitute the case, may be constructed and arranged in any manner which is suitable for watch movements of the type illustrated.

The numerals 9 and 10 indicate respectively the crown wheel and the winding wheel, one of these parts, preferably the crown wheel, being provided with a central stud 11 which passes through a perforation formed in the other part, in this instance the winding wheel 10, whereby said wheels are accurately centered with respect to each other when fitted together. One of these wheels, preferably the crown wheel 9, is also provided with a hub 12 which is accurately turned on the same center as the stud 11 and fits in a circular bearing provided by forming a perforation 13 in the barrel bridge 14, the hub 12 being of such thickness as to prevent undue friction between the laterally-extending under and upper faces of the winding wheel and crown wheel and the adjacent surfaces of the barrel bridge. Said winding wheel and crown wheel are secured together, after being placed in position, by means of screws 15, as shown in Fig. 1, the winding wheel 10 being meshed with the ratchet wheel 5 and the crown wheel 9 being meshed with the winding pinion 8 in the usual manner.

It will be observed that in the construction above described the barrel bridge needs to have but little thickness in order to provide efficient support and a suitable bearing for the combined crown and winding wheels, so that said barrel bridge may have substantially the form of a relatively thin, flat plate, as shown, so far as the crown and winding wheels are concerned. Heretofore, it has been customary, in order to provide for the reception and support of the crown wheel and winding wheel when formed in one piece, to make the barrel bridge of considerably greater thickness and to utilize the inner portion thereof as a bearing for the inner end of the winding stem, but with my construction the bearing for the inner end of the winding stem may be independent of the barrel bridge, with advantageous results. Thus in the construction illustrated, the bearing for the inner end of the winding

stem 6 is formed in the inner end portion 16 of a yoke-piece 17 which is secured to the dial plate 2, said end portion 16 being also provided with a circular stud 18 on which the setting wheel 19 is mounted in position to mesh with the minute wheel 4. As thus constructed, the parts which support and provide the requisite bearings for the winding stem are entirely independent of the barrel bridge and connected parts, so that it is possible not only to construct the barrel bridge from a thin plate, as above described, but also to remove said barrel bridge and the parts carried thereby without in any way disturbing the winding stem and connected parts, or permitting the same to be displaced or thrown out of adjustment. This is of great advantage in assembling the various parts of the watch movement, since it enables the setting mechanism to be adjusted and tested while the barrel bridge and connected parts are wholly removed, thus leaving the remaining parts of the movement exposed to view.

The arrangement above described for supporting the winding stem and setting wheel and providing the requisite bearings for the same forms the subject matter of another application for Letters Patent filed by me on the same date herewith, and is not specifically or separately claimed herein, as it will be evident that various other means may be employed for the same purpose without affecting the advantages gained by virtue of my improvements in the crown wheel and winding wheel.

I claim as my invention:

1. In a watch movement of the character described, the combination with the barrel bridge of separately-formed crown and winding wheels located respectively on the under and upper sides of said bridge, one of said wheels being provided with an integral hub journaled in the barrel bridge and with an integral stud projecting from said hub, concentric therewith, and entering a central opening in the other wheel, and attaching means passing through the latter wheel and into said hub.

2. In a watch movement of the character described, the combination with the dial plate of a winding stem having a winding pinion and a sliding clutch mounted thereon, a supporting bearing carried by the dial plate for the inner end of the winding stem, a barrel bridge having the form of a relatively thin flat plate, overlying and independent of the bearing for the inner end of the winding stem, a crown wheel located on the under side of the barrel bridge opposite said clutch and meshing with the winding pinion, and a winding wheel located on the upper or outer side of the barrel bridge and secured to the crown wheel, one of said wheels being provided with a hub journaled in said barrel bridge.

In testimony whereof, I have hereunto subscribed my name this twelfth day of April, 1910.

WALTER B. MEHL.

Witnesses:

J. A. FREUND,
E. R. SNOW.