J. MAZER.

WINDING INDICATOR.

APPLICATION FILED MAR. 1, 1913.

1,256,715.

Patented Feb. 19, 1918.

2 SHEETS—SHEET 1.

FIG. 1

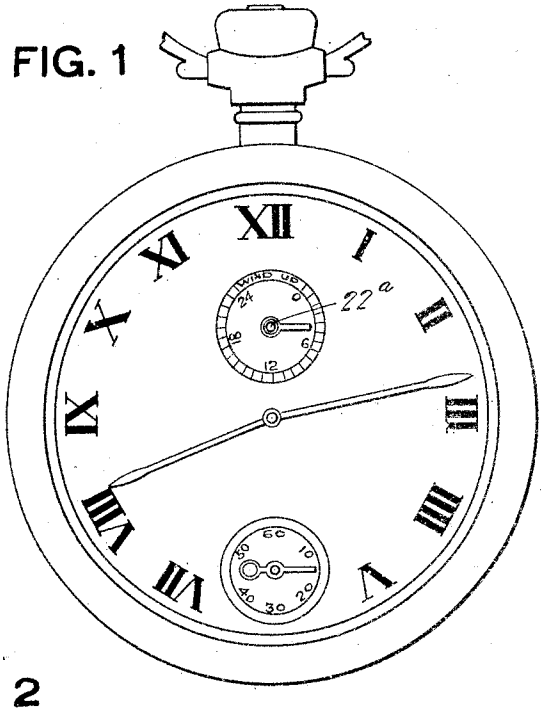


FIG. 2

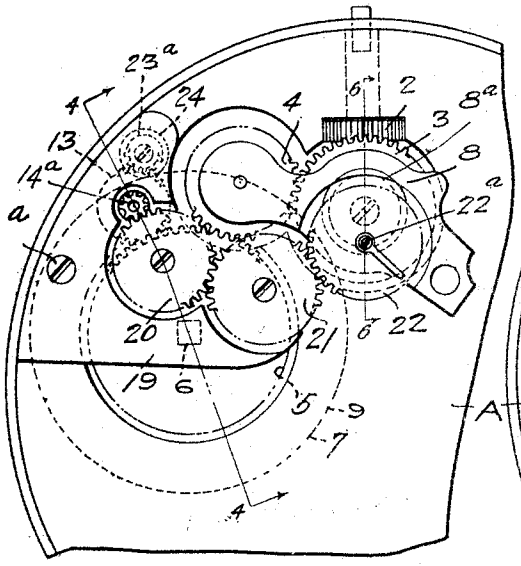


FIG. 3

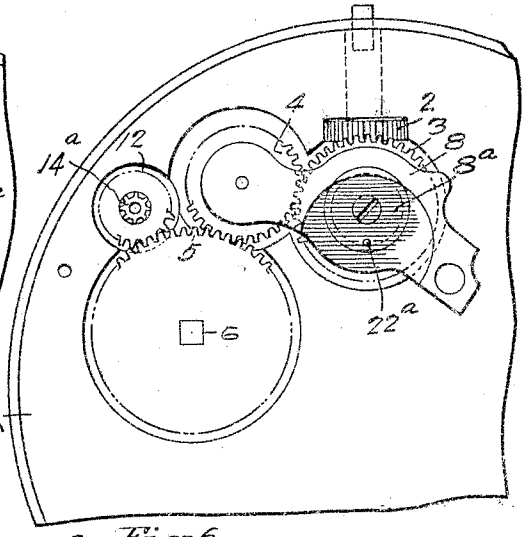
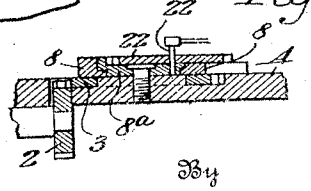


Fig. 6.



Witnesses

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2 SHEETS—SHEET 2.

FIG. 4

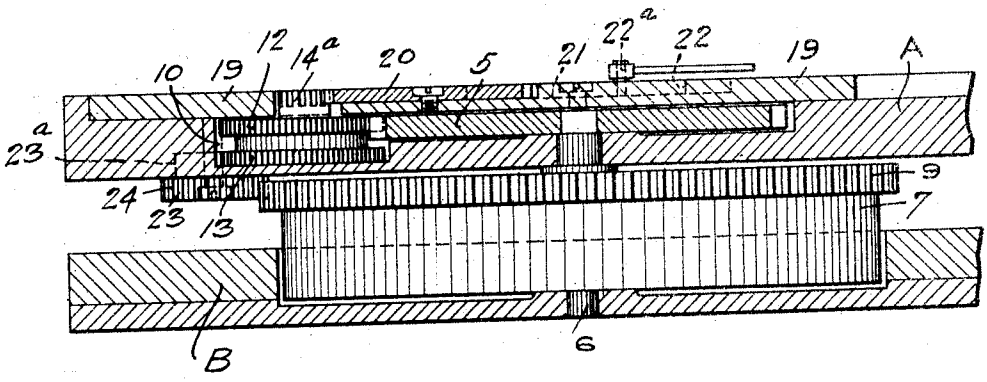
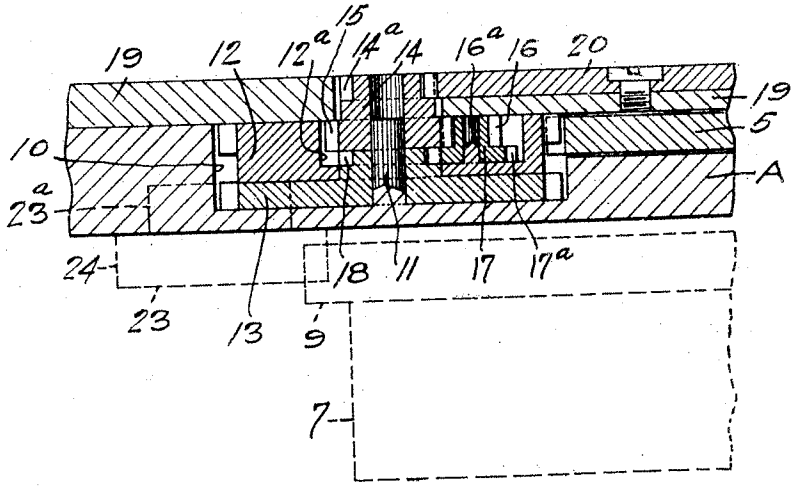


FIG. 5



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WINDING-INDICATOR.

1,256,715. Specification of Letters Patent. Patented Feb. 19, 1918.

Application filed March 1, 1913. Serial No. 751,474.

To all whom it may concern:

Be it known that I, JOSEPH MAZER, a citizen of the United States, and resident of McAlester, in the county of Pittsburg and State of Oklahoma, have invented a new and useful Improvement in Winding-Indicators; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to winding indicator mechanism for watches and more particularly to so-called lever-set watches.

An object of the invention is to provide a mechanism which can be installed in such watches without the necessity of changing or substituting parts of the standard movement.

A further object is to construct such mechanism which can readily be removed intact without separating the plates of the watch.

A further object is to employ the vibrating arm or yoke of the watch as a support for the indicator hand wheel.

To these ends my invention comprises the novel features hereinafter set forth.

In the accompanying drawings Figure 1 is a face view of a watch with my invention applied thereto; Fig. 2 is enlarged plan view on the dial side of the watch showing the arrangement of the indicating and setting mechanism; Fig. 3 is a similar view with the indicating hand train of gears removed; Fig. 4 is a section on the line 4—4 Fig. 2; Fig. 5 is an enlarged section through the reversing mechanism; and Fig. 6 is a section on the line 6—6, Fig. 2.

The numeral 2 indicates the winding pinion, 3 the crown-wheel, 4 an intermediate wheel connecting the crown-wheel with the ratchet-wheel 5 on the arbor 6 of the spring-barrel 7. The intermediate wheel 4 being mounted on the vibrating arm 8 is adapted to be thrown into engagement with the ratchet-wheel for the purpose of winding, or out of engagement when the watch is being set through lever mechanism not shown. The spring-barrel 7 is provided with the usual gear-wheel 9.

A indicates the dial or lower plate, B the upper plate into which the arbor of the spring-barrel is journaled. All of the above mechanism is common to a lever or pendant set type of watch.

The dial-plate A is recessed from the dial side as at 10 to receive the planetary reversing mechanism, the recess being formed with a central stud 11 integral with said plate and around which the reversing mechanism is adapted to rotate. This reversing mechanism comprises two gear members 12 and 13, the gear-member 12 engaging with the ratchet-wheel, and the member 13 connected to the spring barrel. The gear-member 12 is provided with an opening 12^a for the reception of a double pinion 14, and a planetary pinion 17. The double pinion 14 with its gear portion 14^a and 15 is mounted loosely on the stud 11, and its gear portion 15 forms a sun-gear around which the gear portion 16 of the double planetary pinion 17 revolves said double pinion being mounted on a stud 16^a secured to the gear 12. The gear-member 13 is provided with the pinion portion 18 forming a sun-gear around which the gear portion 17^a of the double planetary pinion 17 revolves.

Mounted on the dial plate A and secured thereto by the screw *a*, is the plate 19. This plate is provided as a support for the gear train comprising gears 20 and 21 leading from the reversing mechanism to the indicator hand wheel 22, the gear 20 meshing with the gear portion 14^a of the double pinion 14.

The indicator hand wheel 22 is mounted on a stud 22^a secured to the washer 8^a which holds down the vibrating arm 8.

On the under side of the dial plate I provide a double pinion 23 having the gear portions 23^a and 24, the plate being recessed to allow the gear-portion 23^a to mesh with the gear 13 of the reversing mechanism, the gear portion 24 meshing with the spring-barrel gear 9.

When the watch is being wound as indicated in Figs. 2 and 3, the pinion 2 through its engagement with the crown wheel turns the intermediate wheel 4 which in turn rotates the ratchet wheel 5 and winds up the spring by reason of the barrel being held against rotation through its engagement with other gears.

The ratchet wheel in revolving rotates the gear member 12. This gear member having the double planetary pinion 17 mounted loosely thereon causes said double pinion to roll around the then stationary sun-gear portion 18 of the gear 13, the gear 13 being held against rotation by reason of its engagement with the spring barrel. Through the pinion 17 motion is imparted to the double pinion 14, the gear portion 16 en-

gaging gear portion 15 rotating said double pinion 14 which in turn rotates through its gear portion 14^a the gear 20, said gear rotating gear 21, and gear 21 revolving indicator hand wheel turning indicator hand back to zero. When the watch is running, the double planetary pinion 17 remains stationary in its orbit, the gear 13 now being revolved by reason of its connection to the spring-barrel and a reverse direction of movement is imparted to the gears, moving the indicator hand forward, indicating the extent of time watch is running.

By my invention I provide means for removing the reversing mechanism for operating the indicator hand without separating the watch plates, it only being necessary to remove the plate 19. Furthermore, by the arrangement of the gear members of the reversing mechanism and the other parts, the gear wheels are so arranged that they rest on or overlap each other so as to be held in place.

What I claim is:

In indicating mechanism for watches or like devices, the combination of a main spring barrel, winding mechanism including a ratchet wheel, a winding stem, a train of gears interposed between said ratchet wheel and winding stem, a pendant set lever, said lever having a shouldered recess formed therein, a washer engaging said shouldered recess, means for securing said washer to the watch plate, a pin on said washer, an indicator hand wheel mounted on said pin, and connections between said indicator hand wheel and said barrel in unwinding and connections between said indicator and hand wheel and said winding mechanism in winding.

In testimony whereof, I the said JOSEPH MAZER have hereunto set my hand.

JOSEPH MAZER.

Witnesses:
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JOHN F. WILL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."