

F. A. GILES.
WINDING AND SETTING WATCHES.

No. 47,412.

Patented Apr. 25, 1865.

Fig. 1.

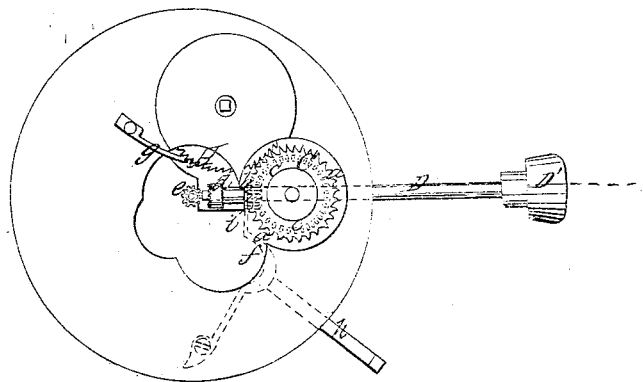
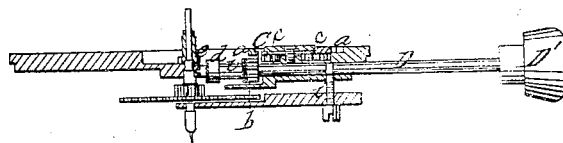


Fig. 2.



Witnesses:
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FREDERICK A. GILES, OF NEW YORK, N. Y.

IMPROVEMENT IN WINDING AND SETTING WATCHES.

Specification forming part of Letters Patent No. 47,412, dated April 25, 1865.

To all whom it may concern:

Be it known that I, FREDERICK A. GILES, of No. 13 Maiden Lane, in the city, county, and State of New York, have invented a new and Improved Mode of Winding and Setting Watches at the Stem or Pendant; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan view on a scale larger than the real size of the winding and setting parts of a watch. Fig. 2 is a side view of the same partly in section.

Similar letters of reference indicate corresponding parts in both figures.

The object of this invention is to provide for the winding and setting of watches at the stem by means which are simpler and more durable than those heretofore employed for the purpose; and to this end it consists in a novel system of gearing for this purpose, in which there are but one wheel and two pinions in addition to the ordinary wheel-work of the watch, and by which I dispense with the ratchet-clutch, commonly employed, and avoid using the minute-wheel and the breakage to which the teeth of that wheel are liable in using it for setting the watch.

To enable others skilled in the art to construct and apply my invention, I will proceed to describe it with reference to the accompanying drawings.

A is the ratchet-wheel commonly employed upon the mainspring-arbor for the reception of the point of the click *g*, which retains the mainspring as fast as wound. C is a wheel turning on a fixed pivot, *n*, screwed into one of the plates of the watch, having upon its periphery a circular series of teeth, *a a*, gearing with the teeth of the ratchet-wheel A, and upon its back or under side a circular series of contrate teeth, *c c*, to gear with the teeth of an ordinary pinion, *b*, which is fitted to slide longitudinally upon a square portion of the winding arbor D. This arbor passes through the stem or pendant of the watch, in which it is capable of being turned freely by applying the thumb and finger to a knob, D', at its outer end, but it is prevented from moving longitudinally by a screw, *j*, entering a groove turned in it.

The pinion *b* has rigidly attached to or formed in the same piece with it a contrate or crown pinion, *d*, which is of proper pitch to gear with the ordinary cannon-pinion *e* of the watch. The pinions *d* and *b* are so combined and arranged relatively to each other, to the contrate teeth *c c* of the wheel C, and to the cannon-pinion, that when the pinion *b* is in gear with the said contrate teeth *c c* the pinion *d* is out of gear with the cannon-pinion, and that when *d* is in gear with the cannon-pinion *b* is out of gear with the contrate teeth *c c*. A groove, *i*, is turned in the pinion *b* for the reception of the forked end of a spring, *f*, which, when left free, holds the said pinion in gear with the contrate teeth *c*, and consequently keeps the pinion *d* out of gear with the cannon-pinion.

h is a longitudinally-sliding pin, one end of which protrudes through one side of the case of the watch and the other end of which bears against the spring *f* in such manner that by pressing the said pin inward with the thumb or finger it is made to push the said spring toward the center of the watch, and so push the pinions *b* and *d* along the square portion of the winding-arbor, to which they are fitted, in such manner as to bring *d* into gear with the cannon-pinion and *b* out of gear with the contrate teeth *c c*.

When there is no pressure applied to the protruding end of the pin *h*, and the spring holds the pinion *b* in gear with the contrate teeth *c c*, the turning of the winding-arbor causes the pinion *b*, which turns with it, to turn the wheel C, the teeth *a a* of which turn the ratchet-wheel A and main spring-arbor, and so wind the watch without moving the hands, the pinion *d* being out of gear with the cannon-pinion.

When it is desired to set the hands of the watch, the sliding pin *h* is pushed inward far enough to cause the spring *f* to carry the pinion *b* out of gear from the contrate teeth *c c* and carry the pinion *d* into gear with the cannon-pinion *e*, so that by turning the winding-arbor D the hands may be turned without disturbing the winding-train.

The teeth *a a*, on the periphery of the wheel C, are represented as of curved or hook form, but they may be of ordinary spur form. Spur-teeth may also be substituted for the ratchet-teeth of the wheel A, as the click *g*, Fig. 1,

which acts to hold the mainspring as fast as wound may be so formed as to act on such teeth as well as upon ratchet teeth.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the wheel C, having two series of teeth, *a* and *c*, turning on a fixed pivot, *n*, the two pinions *b* *d*, movable length-

wise upon the arbor, the spring *f*, and the sliding pin *h*, the whole arranged and applied in relation to the wheel A and the cannon-pin-ion substantially as herein specified.

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Witnesses:

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