

*F. A. Giles,
Winding & Setting Watches*

No 49,397, *Fig: 1.* Patented Aug. 15, 1865.

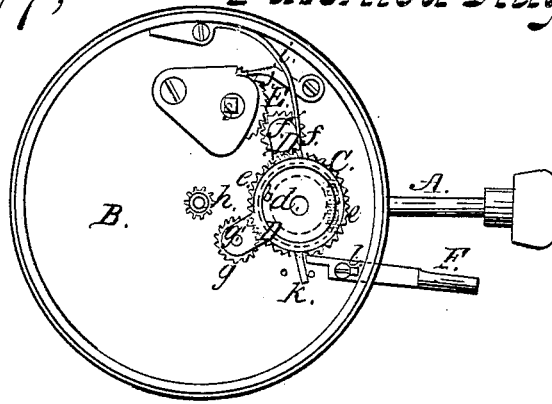


Fig: 2.

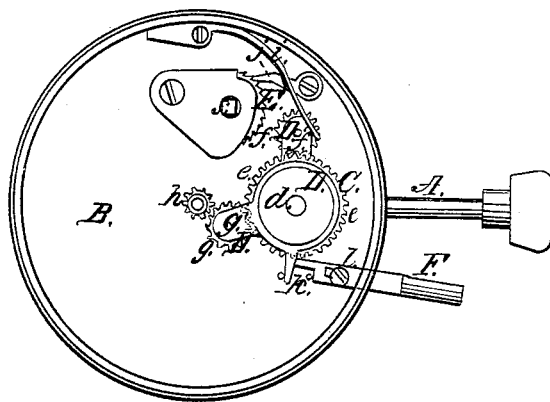
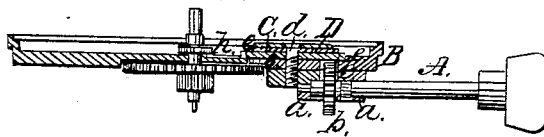


Fig: 3.



Witnesses.

A F Schlegel

Carroll Reed.

Inventor

T A Giles

UNITED STATES PATENT OFFICE.

F. A. GILES, OF NEW YORK, N. Y.

IMPROVEMENT IN WINDING AND SETTING WATCHES.

Specification forming part of Letters Patent No. 49,397, dated August 15, 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, showing them in position for winding. Fig. 2 is a similar view, showing the parts in position for setting. Fig. 3 is a sectional view of the same, perpendicular to Figs. 1 and 2.

Similar letters of reference indicate corresponding parts in the several figures.

This invention consists in a novel and very simple device, whereby either the ratchet on the arbor of the mainspring-barrel or the cannon-pinion of a watch may be brought at pleasure into gear with a spindle passing through the stem or pendant for the purpose of winding or 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 drawings.

A is the spindle, passing freely through the stem or pendant of the watch and turning in suitable bearings, *a a*, Fig. 3, attached to the plate B, but being prevented from moving longitudinally by any suitable means. This spindle carries a spur-wheel, *b*, which gears with a circular series of contrate teeth, *c*, on the back of a wheel, C, which is arranged to turn freely on a fixed pivot, *d*, secured in or to the plate B. This wheel C has on its periphery a series of teeth, *e*, which gear with the teeth of two smaller toothed wheels, *f* and *g*, which turn freely on pivots *f'* and *g'*, secured in the two arms of a yoke-plate, D, which is arranged to vibrate upon the pivot *d*. These wheels *f* and *g* are so arranged that *f* may be brought into gear with the ratchet-wheel E, which is commonly attached to the arbor *s* of the spring-barrel, and *g* may be brought into gear with the cannon-pinion *h*, or any pinion on the center spindle of the watch to which the minute-hand

is attached, but that *f* cannot be in gear with E and *g* in gear with *h* at the same time. The same spring, *i*, which serves to keep the click *j* in gear with the ratchet-wheel E is also made to press upon the yoke-plate D to bring the wheel *f* into gear with E.

F is a pin fitted to slide longitudinally through one side of the rim of the plate B and through the case of the watch, one end of it protruding through the exterior of the case and the other being opposite to a projection, *k*, on the yoke-plate D. This pin is for the purpose of bringing the wheel *g* into gear with the cannon-pinion *h* for setting the hands of the watch, which is effected by simply pressing the thumb or finger against its outer end with sufficient force to overcome the pressure of the spring *i*, which, when there is no pressure on the pin F, holds the wheel *f* in gear with E, and so keeps the wheel *g* out of gear with *h*. The pin F is prevented from sliding farther than is necessary by having a slot cut in it for the reception of a stop-pin, *l*, which is screwed into the plate B.

When it is desired to wind the watch the pin F is left free, as shown in Fig. 1, and the spindle A is turned. The wheel *b* then gives motion to the wheel C, and that wheel gives motion to the ratchet-wheel E and mainspring-arbor through the wheel *f*. When it is desired to set the hands the pin F is pressed inward, as shown in Fig. 2, and the wheel *f* is brought out of gear with E, and the wheel *g* brought into gear with *h*. By then turning the spindle A in one direction or the other the hands are turned either backward or forward.

The arrangement of the wheel *f* relatively to the pivot *d* is such that in turning the spindle in the proper direction for winding the wheel *f* is drawn toward the center of the ratchet-wheel, and thus prevented from slipping out of gear by the pressure of the teeth of the wheel *f* against those of the wheel E. By this means the necessity for making the spring *i* of a strength greater than is necessary to keep the teeth of *f* entered between those of E is obviated.

The teeth of the wheel E, instead of being sloping or of the ordinary form of ratchet-teeth, may be straight, like those of an ordinary spur-wheel.

I do not claim, broadly, the employment, in

a stem-winding watch, of a vibrating frame to carry any portion of the wheel-work through which motion is transmitted to the winding-arbor and to the hands from the spindle passing through the stem; but

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

The combination, with the vibrating yoke-plate D, carrying two wheels, *f* and *g*, one of which is arranged to gear with the wheel E on the winding-arbor and the other with the

cannon-pinion, of a wheel, C, having a series of teeth, *e*, on its periphery, which gear with the wheels *f* and *g*, and a series of contrate teeth, *c*, which gear with a spur-wheel, *b*, on the spindle passing through the stem, the whole arranged and operating substantially as herein described.

F. A. GILES.

Witnesses:

J. W. COOMBS,

GEO. W. REED.