H. R. GETTLE AND C. S. SCOTT.

RATCHET MECHANISM.

APPLICATION FILED APR. 1, 1920.

1,386,400.

Patented Aug. 2, 1921.

Fig. 1.

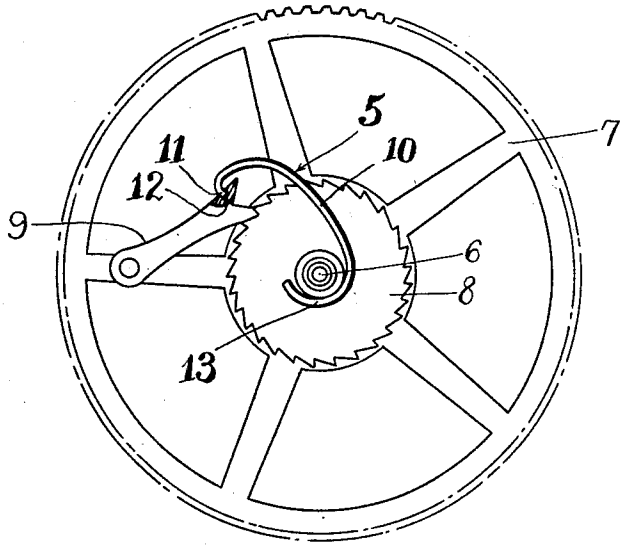


Fig. 2.

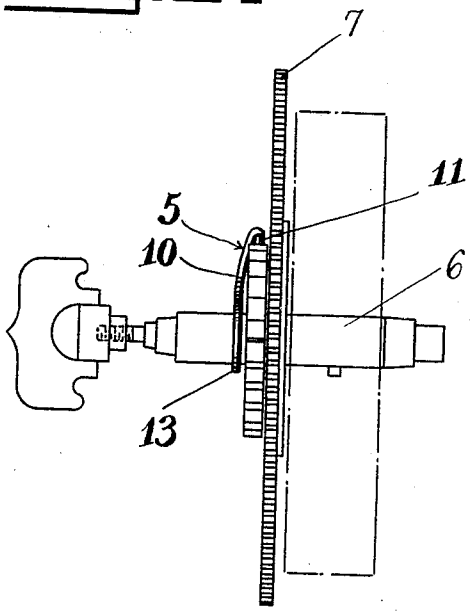
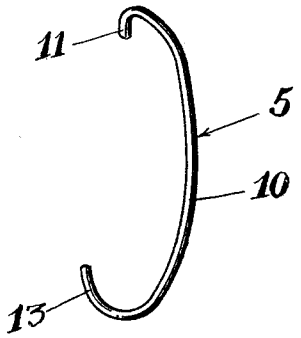


Fig. 3.



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RATCHET MECHANISM.

1,386,400. Specification of Letters Patent. Patented Aug. 2, 1921.

Application filed April 1, 1920. Serial No. 370,388.

To all whom it may concern:

Be it known that we, HOMER R. GETTLE and CHARLES S. SCOTT, citizens of the United States, residing at Bluffton, in the county of Wells and State of Indiana, have invented certain new and useful Improvements in Ratchet Mechanism, of which the following is a specification.

This invention relates to horological instruments, and consists in the combination and arrangement of parts hereinafter described and particularly set forth in the accompanying claims.

The primary object of the present invention is to provide a means whereby a time piece may be wound in an easy and expeditious manner.

A further object of the invention resides in the provision of a time piece having an improved winding mechanism connected therewith and operated thereby for winding the main spring of a watch, clock and the like instruments.

It is a further object of the invention to produce, in a horological instrument, means of an extremely simple nature coöperating with and designed to impart motion to means for winding the spring of the instrument, where a spring of a comparatively great length may be quickly wound so that the instrument will run for a comparatively great length of time, in accordance, of course, with the length of the spring employed.

Heretofore the spring employed in retaining the ratchet in engagement with the usual ratchet disk of the main spring winding mechanism of the instruments has been so connected with the main gear wheel, to necessitate considerable labor upon the part of the jeweler as well as the maximum expense to the customer or public, when it became necessary to replace such spring by a new one.

We therefore employ a novel construction of spring constructed for use in association with the main spring winding mechanism of horological instruments, for holding the pawl in engagement with the ratchet disk, to facilitate the removal from or attachment of the spring to the winding shaft in a durable and efficient manner.

Another object of the invention is the provision of a device of the above referred to character which is simple in construction, durable, thoroughly efficient and reliable in operation, and inexpensive to manufacture.

Preceding a detailed description of the invention, reference is made to the accompanying drawing of which:—

Figure 1 is a face view of the main gear of a clock mechanism illustrating this invention in operative association with the pawl thereof;

Fig. 2 is a view at right angles to Fig. 1;

Fig. 3 is a detail perspective view of the spring comprising this invention.

We have purposely omitted the illustration of my improvement in connection with any specific type of instrument, because we wish here to state that the same is not to be limited in its useful application as the device may be employed in connection with wrist watches, clocks, motor clocks, and in fact any horological instrument found desirable.

Referring more particularly to the accompanying drawing in which like characters of reference refer to corresponding parts in the several views and wherein is illustrated one embodiment of the invention, and in order that a clear understanding of the invention may be had, we have illustrated the pawl retaining means 5 in association with the well known conventional parts of an instrument comprising the winding mechanism and such parts deemed necessary for a practical operation of the invention here illustrated constitute the winding shaft 6, a main gear wheel 7, a ratchet disk 8 and a pivoted pawl 9.

The spring 5 is primarily designed and constructed to facilitate a loose and detachable connection thereof with the mainspring winding mechanism of the instrument, for reasons heretofore specifically pointed out. To this end, use is made of a spring constructed from a single piece of material providing a bowed shank 10, formed at its outer end with a bill 11 adapted for engagement in the seat or notch 12 provided in the pawl 9 of the winding mechanism. The opposite or inner end of the spring 5, is bent to provide a substantially cylindrical resilient hook shaped end 13 detachably embracing the winding shaft 6 and frictionally engaging therewith. It will therefore be obvious to those skilled in the art to which the invention relates that the spring may be readily attached or removed, when necessary, without

the necessity of employing one skilled in the trade, and furthermore the construction of spring facilitates its manufacture and sale at a comparatively low cost.

From the foregoing description, taken in connection with the accompanying drawing, the construction, and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention, as defined in the appended claims.

Having thus described the invention, what we claim as new is:—

1. In combination with a shaft, a ratchet wheel fixedly mounted thereon, a wheel journaled thereon and a pawl pivotally mounted upon the journaled wheel and provided at the outer side edge of its free end portion with a notch, a spring comprising a longitudinally curved body provided at its ends with inturned extremities one of which is engageable about the shaft and the other seated in the notch of the pawl whereby the intermediate portion of the body of the spring is disposed beyond the free end of the pawl and the extremities of the spring body are disposed in directions opposite to each other and the tensional strain of the spring body is exerted transversely through the free end of the pawl and toward the center of the shaft.

2. In a ratchet mechanism including a shaft, a ratchet wheel and a pivoted pawl, a spring comprising a longitudinally curved body provided at its ends with inturned extremities one of which is engageable about the shaft and the other engaged with the free end portion of the pawl.

In testimony whereof we affix our signatures.

HOMER R. GETTLE.
CHARLES S. SCOTT.