J. F. U. JURGENSEN.

Stem-Setting Watch.

No. 161,239. Patented March 23, 1875.

Fig. 1.

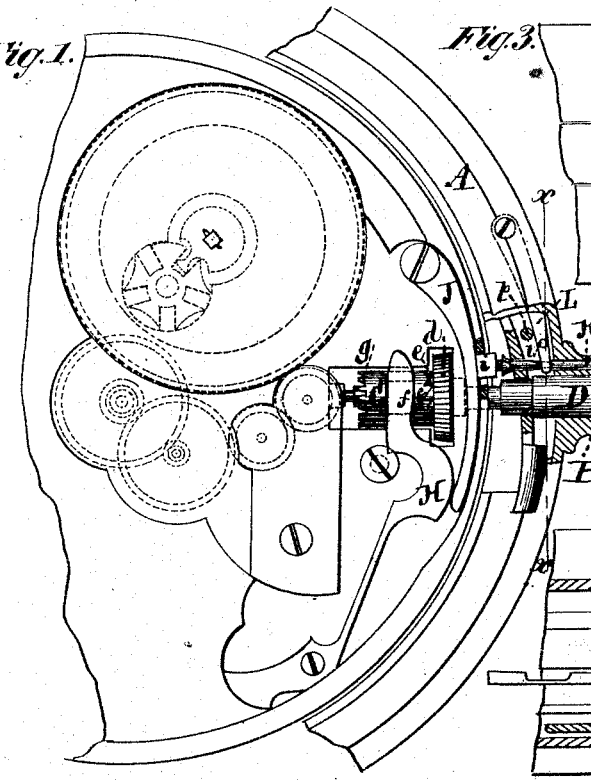


Fig. 3.

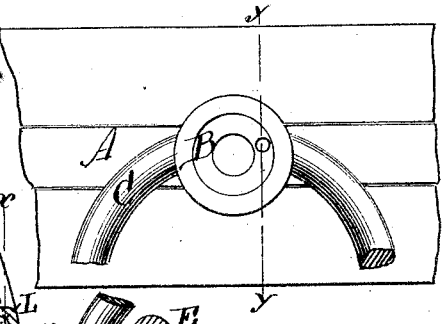


Fig. 4.

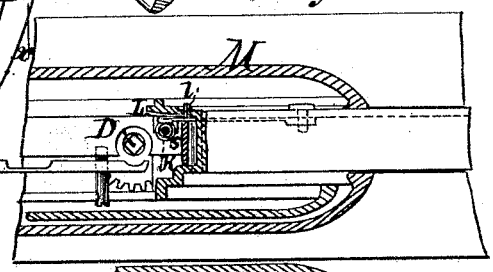


Fig. 2.

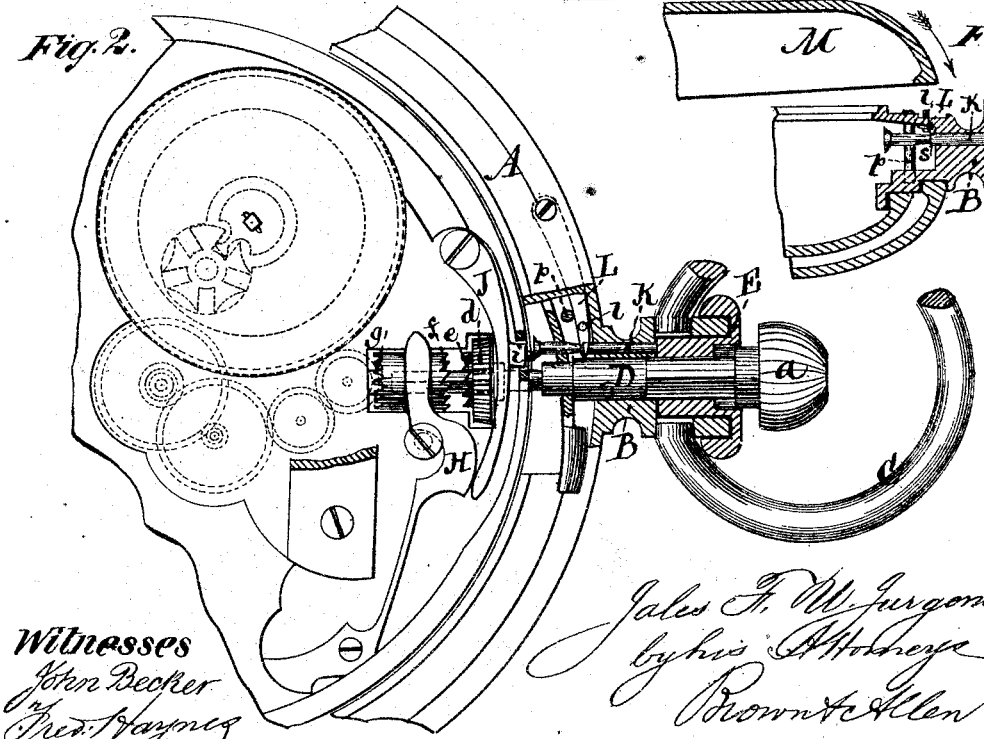
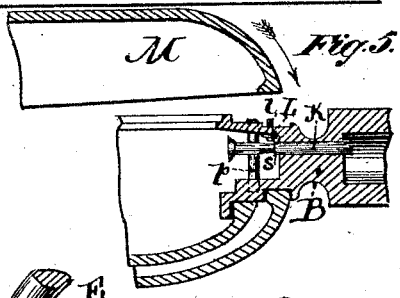


Fig. 5.



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JULES F. U. JURGENSEN, OF LOCLE, SWITZERLAND.

IMPROVEMENT IN STEM-SETTING WATCHES.

Specification forming part of Letters Patent No. **161,239**, dated March 23; application filed November 19, 1874.

To all whom it may concern:

Be it known that I, JULES F. U. JURGENSEN, of Locle, in the Republic of Switzerland, have invented certain Improvements in Stem-Setting Watches, of which the following is a specification:

My invention consists in a novel means for putting in operation the setting mechanism of a stem-setting watch, and also in a means for preventing said mechanism from being operated when the case is closed.

In the accompanying drawing, Figure 1 is a sectional view of a watch embodying my improvements, showing the setting mechanism out of gear. Fig. 2 is a similar view, showing the setting mechanism in gear. Fig. 3 is a view of the stem with the spindle and head removed. Fig. 4 is a sectional view taken in the line *x x* of Fig. 1. Fig. 5 is a sectional view taken in the line *y y* of Fig. 3.

A represents the rim of the case; B, the pendant or stem, and C the bow or pendant-ring. The bow C is divided where it is hung in the stem, to admit the spindle D passing through said stem. On the exterior end of the spindle is a head, *a*, between which and the rim A is a ring, E, which is fitted to the spindle with a square or otherwise, so as to turn therewith, but to be capable of sliding thereon in the direction of the length thereof. The spindle D passes through the rim into the body of the case, and is supported by suitable bearings in the stem. Near its inner end it passes through a pinion, *d*, which communicates, through suitable gearing, with the winding mechanism. On the inner side of the pinion *d* is a ratchet, *e*, which engages with a similar ratchet, *f*, on the outer side of a clutch, G, which is fitted to the inner portion of the spindle D with a square or otherwise, so that both will turn together, but each may move longitudinally independently of the other. On the inner side of the clutch G is formed a series of contrate or crown-gear teeth, *g*, which engage, through a train of spur-wheels or pinions, with the setting mechanism. On the periphery of the clutch G is formed a groove, with which engages the forked end of a spring-lever, H, the tendency of which is to keep the the ratchet *f* engaged with the ratchet *e*, as shown in Fig. 1. The spring-lever H has one end rigidly secured to any fixed part of the watch movement, and at a suitable point near its free end it engages with the free end of a lever, J, the other end of which is attached at a fixed point to the movement on the opposite side from the point of attachment of the lever H. On the outer side of the lever J, about midway of its length, is a projection, *i*, against which presses the inner end of the sliding pin K, which passes through the stem B and rim A, extending outward about as far as the point of attachment of the bow to the stem, where it is pressed upon by the inner face of the ring E, which enters into the stem, the latter being bored to receive it. The outer portion of the ring E is larger than the inner portion, and extends over the outer end of the stem after the manner of a cap, and has its periphery milled that it may serve as the winding-button, either alone or in conjunction with the head *a* of the spindle D. The ring works loosely on the spindle and stem, so as to be readily moved lengthwise thereof. When the parts are in the position shown in Fig. 1, the contrate gearing is held out of engagement with the setting mechanism by the action of the spring-lever H, which action also presses outward the lever J, sliding pin K, and ring E. When it is desired to use the setting mechanism, the ring E is taken between the thumb and fingers, and pressed inward, which action, through the sliding pin K, lever J, and spring-lever H, throws the gearing *g* into engagement with the setting mechanism, as shown in Fig. 2, when, by turning the ring to the right or left, the hands are set as desired. Upon releasing the ring the parts immediately resume the position shown in Fig. 1.

In order to prevent the accidental engagement of the setting mechanism, the following-described devices are employed, whereby the parts can only be manipulated when the case is open. On the inner side of the rim A is a spring, L, one end of which is secured by a screw, *n*, passing through the rim. On the free end of this spring, on the side nearest the face of the watch, is a stud or projection, *l*, which works in a hole in the rim A. The spring L is slightly curved toward the face of the watch, so that, when the cap M is open, the stud *l* protrudes through the side of the

rim, as shown in Fig. 5. On the under side of the spring L, or the side opposite the stud *l*, is a slight projection for engagement with a groove or shoulder, *s*, on the sliding pin K. When the cap M is closed, it presses upon the outer end of the stud *l*, forcing it inward, and causing the end of the spring L to engage with the shoulder *s*, and prevent it from being moved inward by pressing upon the ring E. A pin, *p*, passing through the rim prevents any lateral displacement of the spring L. Thus it will be seen that it is impossible to operate the setting mechanism while the case is closed, and therefore said mechanism cannot be thrown into engagement accidentally or unintentionally without opening the cap M. When said cap M is opened, the spring L is released from the pressure of the cap through the stud *l*, and allowed to spring upward away from the groove or shoulder *s*, leaving the pin K free to slide in its seat when pressed upon by the ring E.

When the parts are in the positions shown in Fig. 1, with the ratchets *e* and *f* engaged with each other, the winding mechanism can be operated by turning the spindle, but when in the positions shown in Fig. 2, the winding mechanism is disengaged. Thus it will be seen that the two operations of winding and setting are performed independently of each other.

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

1. In a stem-setting watch, the combination of a sliding pin working in the stem and a ring surrounding said stem, substantially as herein described, whereby the setting mechanism is thrown into gear by pressure upon said ring transmitted through said sliding pin.

2. In combination with the cap M and sliding pin K, the spring L provided with the the projection *l*, whereby the setting mechanism is prevented from being operated when the case is closed, substantially as shown and described.

JULES F. U. JURGENSEN.

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