G. W. REMINGTON.

Watch Key.

No. 54,257. Patented April 24, 1866.

Fig: 1.

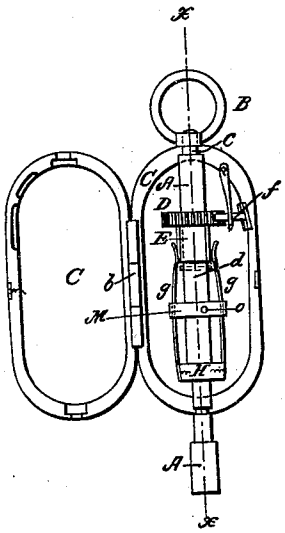


Fig: 2.

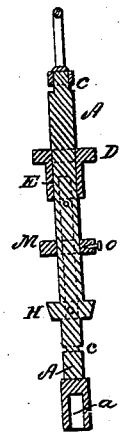


Fig: 3.



Fig: 4.



Fig: 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE W. REMINGTON, OF NORTH PROVIDENCE, RHODE ISLAND, ASSIGNOR TO HIMSELF AND GEO. H. REMINGTON.

IMPROVEMENT IN WATCH-KEYS.

Specification forming part of Letters Patent No. **54,257**, dated April 24, 1866.

To all whom it may concern:

Be it known that I, GEORGE W. REMINGTON, of the city of Providence, Providence county, Rhode Island, have invented new and useful Improvements in Watch-Keys; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

In the winding up of the movements of a watch much damage and injury are often occasioned, not only by carelessly turning the key in the wrong direction, but also by winding up the mainspring beyond its limit or tension, the latter frequently causing the spring to break, thus requiring the insertion of a new one at a considerable expense, and it has therefore long been desired to produce a watch-key which would avoid both of the above difficulties and defects attendant upon the use of the ordinary watch-key; and by the present invention a watch-key possessing such features is obtained, it being simple and compact in construction, and increasing but very little the expense of the key beyond that of the ordinary keys, as will be apparent from the following description thereof.

In accompanying plate of drawings my improved watch-key is illustrated, Figure 1 being a view of the key upon an enlarged scale, with the casing surrounding its spindle swung open; Fig. 2, a central section taken in the plane of the line X X, Fig. 1; Fig. 3, a similar view to that in Fig. 1, but with the casing closed, and the key shown in full size, without being enlarged, as in the two preceding figures; Figs. 4 and 5, detail views of portions of the key to be hereinafter referred to.

A in the drawings represents the spindle of the key, having a ring, B, swiveled upon one of its ends, the other end, A, being bored out in a square shape to turn the square head of the watch-spindle when applied thereto, so as to wind up its spring, as with ordinary watch-keys.

C is a casing made in two parts or sections, hinged together at *b*, so as to be opened from or closed upon each other, through which casing in the direction of its length the key-spindle A loosely passes, so that the casing can be turned around thereon, shoulders *c c* being formed in the said spindle to retain the casing in position and prevent it from sliding up and down upon the same, the two parts or sections of the casing when closed together being held by means of a spring-catch or any other suitable manner that will allow the casing to be opened, if so desired.

D is a ratchet-wheel placed loosely upon the key-spindle A within the casing C, but prevented from moving up and down upon the spindle by means of a shoulder-pin, *d*, on which the end of the square-shaped collar E of the said ratchet D rests. With this ratchet D a spring-pawl, F, upon the inside of the casing C engages, so that by turning the said casing in the proper direction around upon the key-spindle the said ratchet-wheel will be revolved thereon, but which, in lieu of revolving independent of the said spindle, is, by means of two bent springs, *g g*, respectively bearing at one end upon opposite sides of its square-shaped collar E, and secured at their other ends to a fixed collar-ring, H, of the key-spindle, made to turn the said spindle, and thus, when placed upon the proper spindle of the movements of a watch, winding up the mainspring of the same as desired, and, as is obvious without further explanation, the turning of the key-spindle through the said ratchet, as above explained, so continuing until the force exerted upon such ratchet exceeds the tension of the springs bearing upon its collar, when, as is manifest, the ratchet will then relieve itself from the pressure of the springs and turn loosely upon the spindle without affecting or in the least degree moving the same.

By this arrangement it is plain to be seen that if the springs *g g* are adjusted to the proper tension of the mainspring of the watch for which the key is intended, the instant any force is exerted upon the key to wind such mainspring beyond the limit of its tension the ratchet will immediately release itself and cease to act upon the key-spindle, thereby obviating all posibility of the watch mainspring being wound up beyond its limit or tension, the importance of which is obvious to all; and, furthermore, it may be here remarked that as the ratchet-pawl of the key-casing can only act upon the key-spindle when the casing is turned in one direction, (the pawl sliding

over the the teeth of the ratchet when turned in the opposite direction,) the danger of winding a watch in the wrong direction is entirely obviated, and thus injury to it from that cause prevented.

In order to enable the pressure of the springs *g g* upon the ratchet of the key-spindle to be adjusted so as to adapt a key to the varying tensions of the mainsprings of watches, I have so arranged upon the key-spindle A sliding collar M, with regard to the said springs *g*, that by moving it either toward or away from the ratchet, and then setting by a set-screw, *o*, at the proper point of the spindle A, the said springs will be either made to bear with a greater or lesser degree of pressure, as the case may be, as is obvious, without further explanation, by an inspection of Fig. 1 in the drawings.

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

1. The combination, with the key-spindle A, having a loosely-turning casing, C, or its equivalent, operating upon its ratchet D by a spring-pawl, F, of one or more pressure-springs so arranged upon it as to bear and operate upon the collar of its ratchet, substantially in the manner described, and for the purpose specified.

2. In combination with the above, the sliding collar M of the key-spindle, arranged with regard to the pressure-springs *g g* thereof so as to operate substantially as and for the purpose specified.

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Witnesses:
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