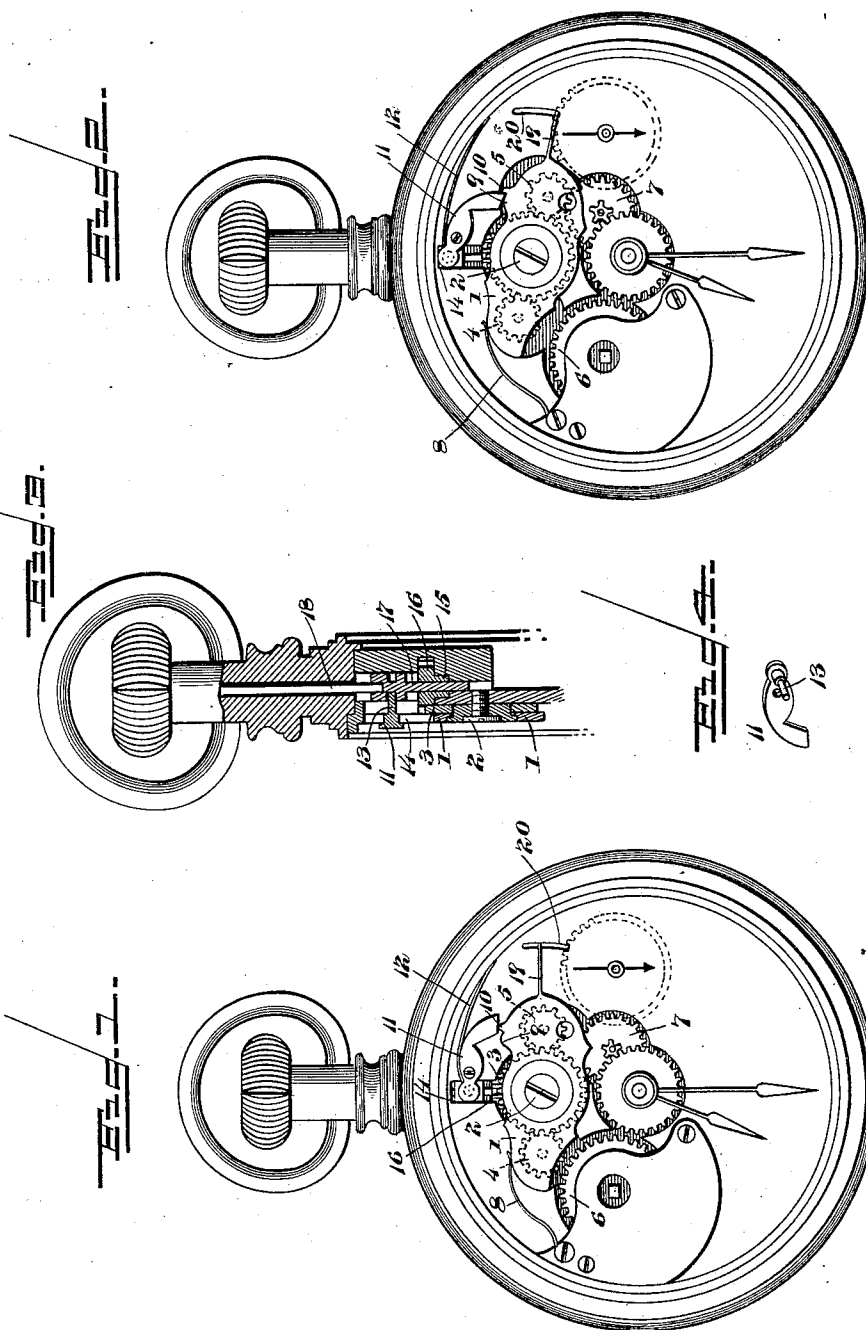


(No Model.)

G. A. & J. E. LOCKWOOD.
STEM WINDING AND SETTING WATCH.

No. 563,777.

Patented July 14, 1896.



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GEORGE A. LOCKWOOD AND JAMES E. LOCKWOOD, OF CHARITON, IOWA.

STEM WINDING AND SETTING WATCH.

SPECIFICATION forming part of Letters Patent No. 563,777, dated July 14, 1896.

Application filed July 3, 1895. Serial No. 554,870. (No model.)

To all whom it may concern:

Be it known that we, GEORGE A. LOCKWOOD and JAMES E. LOCKWOOD, citizens of the United States, residing at Chariton, in the county of Lucas and State of Iowa, have invented a new and useful Stem Winding, Setting, and Stop Watch, of which the following is a specification.

This invention relates to an improvement in watches of that class known as "stem winding and setting."

The object of the present invention is to simplify and improve the means for shifting the winding and setting train for adapting the latter to be employed either for winding the watch or for setting the hands thereof.

A further object of the invention is to provide simple and novel means for checking the movement and holding the seconds-hand stationary while setting the hour and minute hands.

Other objects and advantages of the invention will appear in the course of the subjoined description.

The invention consists in certain novel features and details of construction and arrangement of parts whereby advantages in point of simplicity and efficiency are attained, as hereinafter fully described, illustrated in the drawings, and finally embodied in the claim.

In the accompanying drawings, Figure 1 is a plan view of a watch, the dial thereof being removed to show the improved winding and setting mechanism and seconds-stop, constructed in accordance with this invention, the parts being shown in position for winding. Fig. 2 is a similar view showing the parts in position for setting the hands, the seconds-stop being shown in operative engagement with one of the wheels of the watch. Fig. 3 is an enlarged detail sectional view through a portion of the watch adjacent to the pendant. Fig. 4 is a detail perspective view of the shifting-lever.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

This invention contemplates locating the stem winding and setting attachment just beneath the dial, thereby rendering it necessary only to remove said dial for giving access to such mechanism when required, thus

obviating the necessity of taking down or apart the entire watch in a manner that has been necessary in watches as heretofore constructed.

Referring to the accompanying drawings, 1 designates a yoke, which is pivotally secured to the front frame-plate by means of a screw 2, which passes centrally through the same and also centrally through a revoluble cog-wheel 3 and into the frame of the watch. The yoke 1 is provided, at or near each end, with an inwardly-projecting pin or stud, upon each of which is mounted a pinion, one of said pinions, 4, being arranged to engage with the winding cog-wheel 6, while the other pinion, 5, is adapted to be thrown into engagement with one of the face-wheels 7. These pinions 4 and 5, together with the central cog-wheel 3, are arranged in recesses in the watch-frame, the recesses in which the pinions are arranged being sufficiently large to permit the same to be moved into engagement with their respective gear-wheels upon the vibration of the yoke in the proper direction.

The yoke 1 is held normally in the position shown in Fig. 1 by means of a curved leaf-spring 8, which bears upon that end of the yoke which carries the pinion 4, and serves, when pressure is removed from the opposite end of the yoke, to force said pinion into mesh with the winding-gear 6. The yoke at its opposite end is formed with a shoulder 9 and a spur 10, which together form a notch which is adapted to receive the swinging end of a lever 11. This lever is pivoted at a point intermediate its ends between the yoke 1 and the rim of the watch adjacent to the stem, and the extremity of the longer arm of said lever is pressed normally against the spur 10 of the pivoted yoke by means of a curved leaf-spring 12, which is secured at one end to the outer edge of said lever, and bears at its opposite end within the surrounding annular flange of the front plate of the watch-frame, as shown in the drawings. The opposite or short arm of the lever 11 is formed with an inwardly-extending stud or pin 13, which projects into the stem-passage and oscillates within a radially-elongated slot 14 in the front plate.

15 designates the winding-arbor, which comprises a hollow spindle, disposed radially and

at right angles to the axis of the yoke 1, the same carrying a pinion 16, which meshes with and is adapted to rotate the gear 3, which revolves around the yoke pivot or screw. The
 5 bore in the arbor 15 has a cross-sectional shape corresponding to the shape of the winding-square 17, the latter being adapted to fit therein and to be capable of a radial sliding movement relatively thereto. The winding-
 10 square 17 is formed at its outer end with an annular groove, which is adapted to receive the inner extremity of the pin or stud 13 on the lever 11 in such manner that when said winding-square is moved inward or outward
 15 it will move said pin or stud in such manner as to vibrate the lever 11, the winding-square being at the same time prevented by said pin or stud from escaping from the movement. The outer end of the winding-square is
 20 formed with a socket having a cross-sectional shape corresponding to that of the stem 18, and said stem is mounted within the pendant in such manner that it is adapted to be moved radially inward or outward and into
 25 or out of engagement with the winding-square. By means of this construction, when the winding-stem is thrust inward, the lever 11 is vibrated in such manner as to remove the pressure of the long arm thereof from the
 30 yoke, which allows the opposite end of the yoke, carrying the pinion 4, to move toward the winding-wheel, thereby throwing said pinion into mesh with the winding-gear for winding up the mainspring. By drawing
 35 the stem outward the lever 11 is vibrated in such manner as to cause the long arm thereof to push that end of the yoke inward, whereupon the extremity of said lever will pass behind the spur 10 of the yoke, thereby locking
 40 said yoke in the position indicated in Fig. 2, wherein the pinion 5 is in engagement with one of the face-wheels 7. Under this adjustment the hands may be manipulated and brought to the desired point.
 45 The yoke 1 also carries a finger 19, made from a piece of steel or other wire, which is brazed or otherwise secured to that end of the yoke which carries the pinion 5. This finger extends laterally a short distance,
 50 where it is provided with an inward bend or extension which passes through and works within an elongated slot 20 in the frame of the movement, said bend or extension being disposed in such relation to one of the cog-
 55 wheels of the train that when the yoke is vibrated into the position for setting the hands this finger 19 will serve as a stop, the bend or extension 20 thereof being adapted to rest with spring-pressure against the teeth
 60 of the wheel referred to. In this manner the

seconds-hand and the entire movement will be held stationary as the hour and minute hands are being turned to the desired points, thus allowing the seconds-hand to be set to correspond exactly with another timepiece
 65 as accurately as the hour and minute hands.

It will be apparent from the foregoing description that by simply removing the dial access is at once obtained to the operative
 70 parts of the winding and setting mechanism without the necessity of taking down the watch, as has heretofore been found necessary. The construction described also provides for stopping the seconds-hand in order
 75 to make the same agree with another timepiece, and this constitutes an important advantage in the present day, owing to the time systems prevalent among railroad people, on account of which it becomes necessary to frequently adjust all of the hands of the watch,
 80 the seconds-hand as often as the hour and minute hands. As far as the stop-finger 19 is concerned, it will be apparent that the same may be employed in connection with the yoke of any watch, whether the same be
 85 a lever-set or a pendant-set. The mechanism for accomplishing the ends described consists of but very few parts, is extremely simple, not liable to get out of order, and will be found thoroughly efficient and reliable for
 90 the purpose specified.

It will be apparent that changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the
 95 advantages of this invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

In a watch-setting mechanism, the combination with the yoke and the winding and setting train carried thereby, of the longitudinally-movable winding-stem, means interposed between the stem and yoke for oscillating the latter, and a spring-finger integral with and carried by said yoke and adapted to engage one of the wheels of the movement simultaneously with the throwing
 105 of the setting-train on the yoke into engagement with the setting-wheel, substantially
 110 as described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

GEORGE A. LOCKWOOD.
 JAMES E. LOCKWOOD.

Witnesses:

F. R. CROCKER,
 W. B. BEEM.