

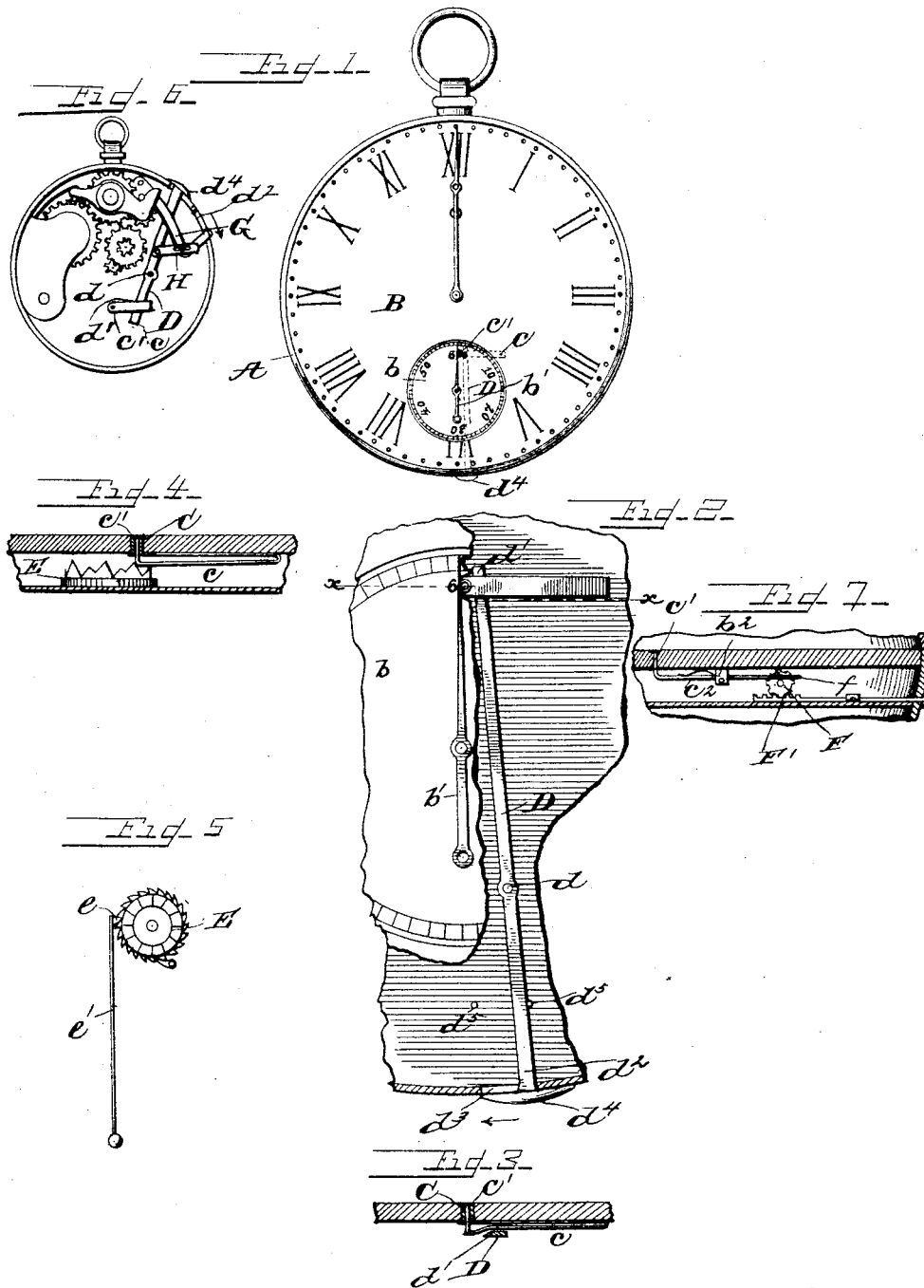
(No Model.)

N. JENSEN.

SECONDS HAND DEVICE FOR STEM SETTING WATCHES.

No. 458,459.

Patented Aug. 25, 1891.



Witnesses

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SECONDS-HAND DEVICE FOR STEM-SETTING WATCHES.

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To all whom it may concern:

Be it known that I, NICHOLAY JENSEN, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Watches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention is an improvement in watches; and it consists in the novel features of construction and combination of parts, which are hereinafter fully described.

In the accompanying drawings I have illustrated several forms in which I have contemplated applying my invention, and said invention is fully disclosed in the following description and claims.

Referring to said drawings, Figure 1 is a plan view of a watch, showing my improvement embodied therein. Fig. 2 is an enlarged view of part of a watch, the dial being broken away. Fig. 3 is a section on line *x x*, Fig. 2. Figs. 4 and 5 are detail views of a modified arrangement of parts. Fig. 6 is a detail of another form in which my invention can be employed. Fig. 7 is a detail of another form of operating means.

In setting watches of ordinary construction it is a very difficult matter to stop the works of the same while the hands are being set to the proper position, and it is also difficult to set the minute-hand so that it will agree perfectly with the seconds-hand of the watch. In setting the hands of a watch without stopping the movement the works are frequently injured and a fine movement is almost invariably strained in some degree.

My invention provides a device whereby the movement of the watch can be stopped to allow the hands to be set, and which will operate in connection with the seconds-hand and stop the same upon the 60-point, so that the minute-hand can be set upon the minute and the two hands will run exactly together when the movement is released.

My invention contemplates, further, the application of this device to watches having a device for throwing the setting apparatus into and out of gear whereby the act of throwing the mechanism in gear before setting the

watch will also operate the stopping mechanism and stop the seconds-hand on 60, thereby permitting the watch to be set while the movement is not running.

My invention consists, essentially, in providing a pin or projection which is located at the 60-point on the seconds-dial, and which may be forced upward into the path of the seconds-hand and made to stop the same exactly at the 60-point, and I have shown several means for operating this pin or projection, it being understood that any desired means may be employed to enable the device to be applied to watches of different or varying construction.

In the drawings, A is a watch provided with a dial B, having the seconds-dial *b* and seconds-hand *b'*, of usual form. A hole or aperture is formed in the dial B in any desired way in such a position that a pin placed in such aperture will arrest the seconds-hand exactly at the 60-point. This hole is preferably provided with a bushing C, which is pressed into the same, and to the bushing is attached a leaf-spring *c*, which is provided at its end with a fine pin or projection *c'*, engaging the bushing C, as clearly shown in Fig. 3. The parts may be formed and secured together in any desired way, and the spring *c'* will hold the pin normally below the surface of the dial or flush therewith, so that the seconds-hand will normally pass above the same without interruption. When, however, the pin is raised against the force of its spring, it will be in the path of the seconds-hand, and when it comes around will arrest the same exactly at 60, thus stopping the movement of the watch. The bushing C is preferably concave at the top, in order that it will offer no raised surface to obstruct the seconds-hand.

In Figs. 1, 2, and 3 I have shown a pivoted lever D for actuating the pin *c'*. This lever is pivoted at *d*, Fig. 2, to some rigid part, and has one end *d'* extending beneath the spring *c* and the other end *d''* extending without the case, which is slotted, as shown at *d'''*, and said lever is provided, if desired, with a finger-piece *d''''*, as shown. It will be seen that if the finger-piece be moved to the right, as shown in Fig. 2, the end *d'*, which is preferably beveled, as shown in Fig. 3, will raise the pin *c'* above the dial and stop the seconds-hand

at 60. I may provide stop-pins d^5 d^6 , Fig. 2, to limit the movement of the lever D, if desired.

In Figs. 4 and 5 I have shown a different arrangement for operating the said pin c' , which consists of a ratchet-pinion E, having teeth upon its periphery engaged by a part e on a push-rod e' . Said pinion E has upon its upper face a series of ratchet-teeth alternating long and short, as shown in Fig. 4, and when the push-rod is pressed toward the ratchet-wheel the latter will move to bring either a long or a short tooth beneath the pin c' , the long teeth raising said pin and the short teeth allowing the spring c to lower the same out of the path of the seconds-hand.

In Fig. 7 I have shown another means for operating said pin. In this instance I dispense with the bushing and form the pin c' on the end of an arm c^2 , which is pivoted in a stud or pin b^2 , formed on the dial or secured thereto, preferably during the process of manufacturing the dial. This arm extends beyond the stud b^2 and into the path of a crank-pin f on a pinion F, suitably mounted in bearings and engaged by a rack-bar F', which is shown in Fig. 7 as extending outside the case, where it terminates in a finger-piece. It will be seen that if this rack-bar is drawn out the pinion will be rotated and the crank-pin f will depress the end of arm c^2 , thus raising the pin c at the opposite end. I also contemplate using my stopping device in connection with stem-winding watches which have a setting mechanism which is thrown into and out of gear.

In Fig. 6 I have shown a method of operating my improved stopping device in connection with the form of setting-lever which is used in the "Waltham" and some other watches. The setting-lever G is shown as connected to the lever D, of the form shown in Figs. 1, 2, and 3, by a slotted link H, so that when said setting-lever G is drawn out to throw the setting mechanism into gear the lever D is operated simultaneously and the watch stopped before it is set.

In all cases I prefer to make the construction such that the pin c' can be operated either by such setting-lever or equivalent device or independently, as clearly indicated in Fig. 6.

My present invention does not contemplate any particular form of setting and winding devices and they are therefore not herein described, as my improved construction can be applied to any watch and connected, if desired, to the device for throwing the setting and winding mechanism into and out of gear, no matter what form of setting or winding mechanism is employed. The mechanism illustrated in Fig. 6 is shown merely to illustrate a lever for throwing the setting mechanism into and out of operation, and the particular form of such mechanism is not material.

I do not desire to be limited to my exact construction, herein shown and described, as it is obvious that the same may be and must in some cases be varied to suit the particular form of watch to which my improvement is applied.

As before stated, I may dispense with the bushing and secure the spring-arm, to which the pin is attached, to the dial itself, or to some other fixed part, if desired, and I may use a supplemental spring for retracting the pin, if found convenient or desirable.

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

1. In a watch, the combination, with the seconds-hand and mechanism for moving it continuously around its dial, of a movable stop adapted to be thrown into operative position to arrest the movement of the said hand by said actuating devices when it has reached a predetermined point on its dial, substantially as described.

2. In a watch, a device for engaging the seconds-hand and arresting it, substantially as described.

3. In a watch, a stopping device for engaging the seconds-hand and arresting the same and a retracting means for said stopping device, substantially as described.

4. In a watch, a device for engaging and arresting the seconds-hand at a particular point, means for operating said device, and a retracting-spring, substantially as described.

5. In a watch, a device for engaging and arresting the seconds-hand, and means for operating said device, extending outside of the watch-case, substantially as described.

6. In a watch, the combination, with the seconds-hand, of the stop-pin, the operating-lever, and the retracting-spring, substantially as described.

7. In a watch having setting mechanism, the combination, with the seconds-hand and mechanism for moving it continuously around its dial, of a movable stop co-operative with the setting devices, adapted to be thrown into operative position to arrest the seconds-hand at a predetermined point on its dial, substantially as described.

8. In a watch, the combination, with a movable part for throwing the setting devices into and out of operative position, of the seconds-hand and a movable stop connected with said movable part for controlling the setting mechanism, said stop being adapted to arrest the movement of the seconds-hand at a predetermined point on the dial, substantially as described.

9. In a watch, the combination, with a movable part for throwing the setting mechanism into and out of operative position, of a seconds-hand and a movable stop connected with said movable part for controlling the setting mechanism, said stop being adapted to arrest the movement of the seconds-hand at a predetermined point on the dial, and

means for operating said stop independently of said movable part and setting mechanism, substantially as described.

10. In a watch, the combination, with the
5 dial provided with an aperture, of a pin adapted to pass through said aperture and engage the seconds-hand when raised into operative position and means for raising and

lowering said pin to cause it to arrest and release said hand, substantially as described. 10

In testimony whereof I affix my signature in presence of two witnesses.

NICHOLAY JENSEN.

Witnesses:

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