(No Model.) 2 Sheets—Sheet 1.

S. SCHISGALL.

WATCH WINDING.

No. 526,871. Patented Oct. 2, 1894.

Fig. 1.

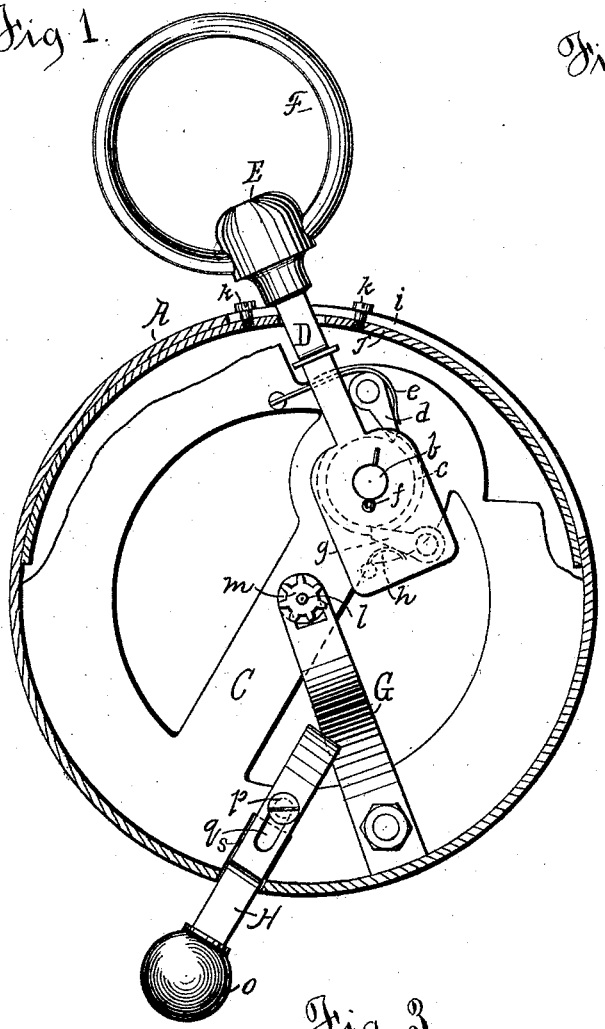


Fig. 2.

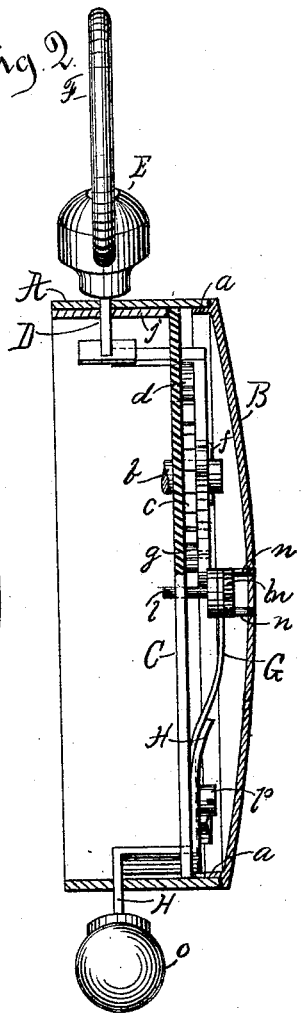
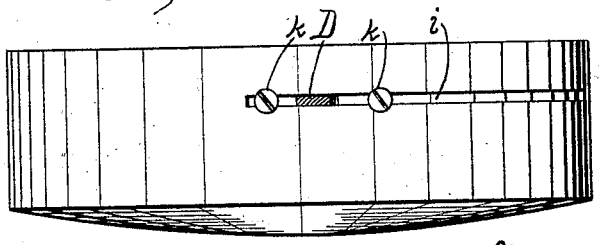


Fig. 3.



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(No Model.) 2 Sheets—Sheet 2.

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WATCH WINDING.

No. 526,871. Patented Oct. 2, 1894.

Fig. 4.

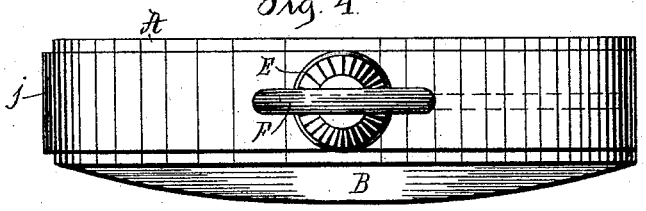


Fig. 5.

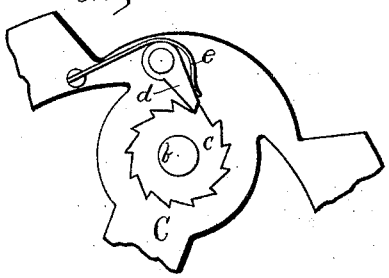
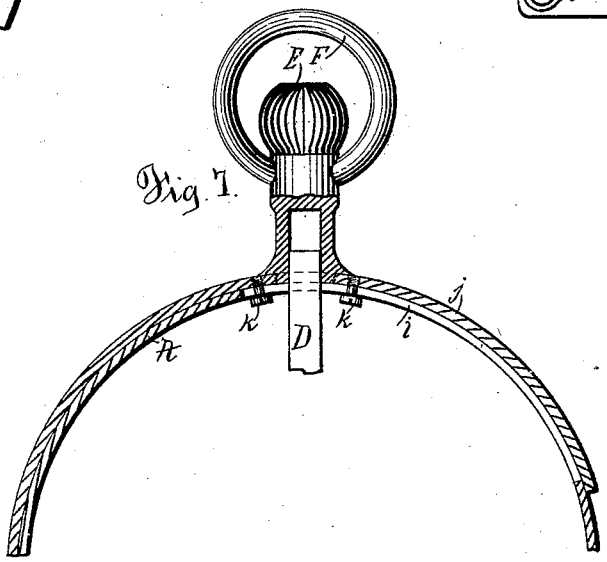


Fig. 6.

Fig. 7.



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UNITED STATES PATENT OFFICE.

SOLOMON SCHISGALL, OF WATERBURY, CONNECTICUT.

WATCH-WINDING.

SPECIFICATION forming part of Letters Patent No. 526,871, dated October 2, 1894.

Application filed November 3, 1893. Serial No. 489,923. (No model.)

To all whom it may concern:

Be it known that I, SOLOMON SCHISGALL, a citizen of the United States, and a resident of Waterbury, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Watches, which improvements are fully set forth in the following specification and accompanying drawings, the respective views of the latter being on an enlarged scale, and in which—

Figure 1 is a rear view of a watch having my improvements applied thereto, the back portion of the case being removed to better show the form and disposition of the parts. Fig. 2 is a central, transverse section of same. Fig. 3 is a plan view of Fig. 1, a portion of the winding-stem being removed. Fig. 4 is a plan view of Fig. 7. Fig. 5 is a detailed view showing the barrel-arbor and adjacent parts, as they appear in the absence of my improved winding elements. Fig. 6 is a view showing my improved winding-lever detached, together with certain parts used in connection therewith. Fig. 7 is a side view, partly in section, showing manner of applying a stem of ordinary form to a watch constructed in accordance with my invention.

Similar reference-letters denote like parts in the different views.

This invention relates to improvements in watches, and similar time-pieces, and its object is to provide a time-piece the construction of which shall embody simple, novel and efficient means for winding the same, and for setting the hands thereof when desired.

It consists of the employment of certain peculiarly-formed parts, of the novel disposition of same, of certain combinations, and of certain details of construction, all of which will be specifically referred to hereinafter.

Having reference to the drawings, the letter A denotes the main portion of the case, which may be of any suitable material; and the letter B denotes the back portion of the case, which is provided with the peripheral flange *a*, (see Fig. 2,) the latter being adapted to enter telescopically and fit snugly within the rear side of A, thus inclosing the interior mechanism of the time-piece, and preserving the same free from dust, dirt and other foreign elements.

I employ a train of ordinary watch mechanism, contained in a common frame-work of which C is the rear bearing-portion. There is firmly mounted upon the barrel-arbor *b*, a ratchet-wheel *c*, which is held against reverse motion by the pawl *d*, the latter being held to engagement with the ratchet-wheel *c* through the medium of the spring *e*. The ratchet-wheel *c*, upon the parts being assembled, occupies a position adjacent to the outer face of the frame-piece C, and intermediate of said frame-piece and the winding-lever D, the latter being fulcrumed upon the barrel-arbor *b* and retained in place in any suitable manner, as by means of the pin *f*. The pawl *g* is pivotally secured to the lever D, at the inner end thereof, and the same is held to engagement with the ratchet-wheel *c* through the medium of the spring *h*, which is also suitably secured to the lever D at the inner end thereof. (See Fig. 5.)

The lever D extends outward, parallel with the frame-piece C, to a point near the case A, where it is bent at right angles and extends inward a suitable distance, (the frame-piece C being cut away, as shown in Fig. 1, to admit of its so doing), whereupon it is again turned at right angles and projects out through a circumferential slot *i*, formed in the case A. The slot *i* is clearly shown in Fig. 3. A suitable head and ring, as E, F, may be applied in any convenient manner, to the outer end of the lever D.

To avoid the passage of dust and dirt through the slot *i*, to the interior of the watch, I make use of the plate *j*, which coincides in curvature with the peripheral face of the case A, and is provided with a suitable opening through which the lever D may pass. The screws *k* pass through the slot *i* and take into the plate *j*, thereby serving to hold the plate *j* closely to contact with the peripheral wall of the case A, though permitting circumferential movement of the same, upon the lever D being actuated, as will be hereinafter explained. It will be readily understood that the plate *j*, when in position, serves to close the slot *i* at all times; and it will be further understood that the plate *j* may be applied to the outside of the peripheral face of the case A, when preferred or occasion makes advisable. For instance, where it is deemed pref-

erable or advisable to use the ordinary, hollow stem, the same may be secured, as by soldering or in any other convenient manner, direct to the plate *j*, when the latter is applied to the outside of the case A. The manner of assembling the parts in question is clearly illustrated in Figs. 4 and 7, and it will be noted that the outer end of the lever D is simply let into the hollow stem.

In winding a watch to which my improvements, as herein described, have been applied, it is only necessary to grasp the head E of the lever D, and work the latter to and fro upon its fulcrum *b*, which operation, through the medium of the pawl *g*, causes the ratchet-wheel *c* to properly rotate, and the same is held against reverse movement by the pawl *d*, as hereinbefore explained.

I will now describe the parts I employ for setting the hands of the time-piece.

The setting-arbor *l* carries the usual elements of a train of watch-mechanism, together with the minute-hand of the watch, the said minute-hand being secured to the front end of said arbor in a manner to properly indicate upon the dial. The rear end of the arbor *l* bears in the frame-piece C, at the center thereof, and projects outward therefrom a slight distance. This outwardly-projecting end of the arbor *l* is given a many-sided form, to the end that the pinion *m*, which is provided with a many-sided, central opening and disposed thereupon, may admit of longitudinal displacement with reference thereto.

The outer end of the spring G is secured to the frame-piece C, in any well-known manner, and the inner end thereof is forked or bifurcated to allow it to straddle the pinion *m* and take into the annular recess with which the latter is provided.

The back portion B of the case A is provided with two inwardly-projecting pins *n*, so located that the points thereof, when the said portion B is in place, will engage the teeth of the pinion *m*, upon the latter being moved a suitable distance along the arbor *l*, away from the frame-piece C; and the function of the spring G is to thus displace the pinion *m*. The condition of the parts being such as to secure engagement of the pins *n* with the teeth of the ratchet-wheel *c*, it will be easily seen that by turning the portion B, within the case A, the hands may be readily set.

To overcome the action of the spring G, as above defined, and thereby disengage the pinion *m* from the pins *n*, I make use of the arm H, the form of which is clearly shown in Fig. 2 of the drawings. This arm projects outward through a suitable opening formed in the case A, and may be provided at its outer end with a knob or head, as *o*. The screw *p* passes through the longitudinal slot *q*, with which the arm H is provided, and takes into the frame-piece C; and the latter is cut away, as shown at *s*, (Fig. 1) to obtain suitable play for the arm H. The inner end of the arm H is curved outward, as shown in Fig. 2, and slightly overlaps the spring G, when the arm H is withdrawn. It will now be seen that the pinion *m* may be moved along the arbor *l*, toward the frame-piece C, by simply urging the arm H inward, and that the effect will be to disengage the pinion *m* from the pins *n*. When it is desired to set the hands of the time-piece, it is only necessary to withdraw the arm H, and turn the portion B, of the case A, as hereinbefore explained; after which the arm H should be returned to its normal position.

It will be understood that my improvements, as herein described, are applicable to certain kinds of clocks, particularly those commercially known as "marine;" and therefore I do not limit myself to the use of my improvements in connection with watches, solely.

I am aware that it is not broadly new to provide a watch with a winding lever fulcrumed upon the winding arbor and carrying a pawl constructed and arranged to engage with the teeth of a ratchet wheel secured to said arbor, and I do not, therefore, claim that construction broadly.

Having fully described my improvements, what I claim as new, and desire to secure by Letters Patent, is—

1. In a time-piece, the combination with a case constructed with an elongated peripheral opening, of a movement located within the case and including a barrel or winding arbor having a ratchet-wheel secured to it, a winding-lever fulcrumed at its inner end upon the said barrel or winding arbor, and extending outward through the slot in the case, and adapted at its outer end to have the stem of the watch applied to it, a pawl mounted upon the inner end of the lever in position to engage with the said ratchet wheel, and means combined with the wheel for preventing its retrograde movement, substantially as described.

2. In a time-piece, the combination with a case constructed with an elongated peripheral opening, of a movement located within the case and including a barrel or winding arbor, having a ratchet-wheel secured to it, a winding-lever fulcrumed at its inner end upon the said barrel or winding arbor, and extending outward through the slot in the case, and adapted at its outer end to have the stem of the watch applied to it, a pawl mounted upon the inner end of the lever in position to engage with the said ratchet-wheel, means combined with the wheel for preventing its retrograde movement, and a segmental dust-guard located within the case, adapted in length to close the peripheral slot formed therein and connected with the said lever with which it moves back and forth, substantially as described.

3. In a time-piece, the combination with a case composed of a front and back portion constructed for the rotation of the latter in

the former, of a time-movement located within the case and including a setting arbor, a pinion movably mounted upon the inner end of the said arbor, a spring-carrier in which the said pinion is mounted so as to slide upon the said setting arbor, and which exerts a constant effort to slide the pinion toward the end of the arbor, an operating lever arranged to engage with the spring-carrier for normally forcing the same inward, and means located upon the inner face of the rotary back-portion of the case for engagement with the said pinion for rotating the same when the operating-lever is moved to relieve the spring-carrier and permit it to lift the pinion outward toward the end of the arbor, substantially as set forth.

4. In a time-piece having a setting-arbor, in combination, the pinion *m*, slidably mounted upon the rear end of said arbor, the case-portion B, provided with pins *n*, and the spring G, the latter tending to hold the said pinion in engagement with the said pins, all substantially as described and for the purposes as set forth.

SOLOMON SCHISGALL.

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WM. HENDERSON.