Sept. 8, 1925. 1,553,192

K. SHAYA ET AL

WATCH

Filed Oct. 1, 1924

Fig. 1.

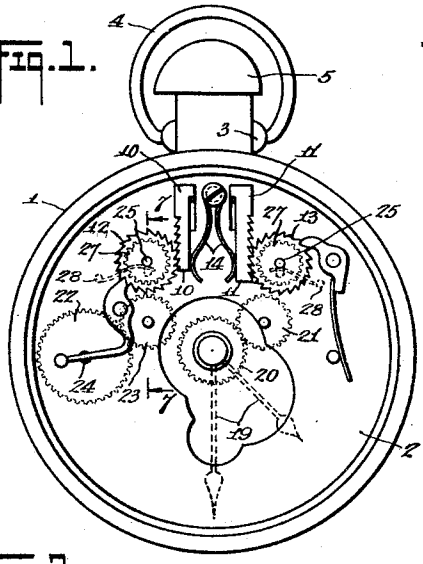


Fig. 2.

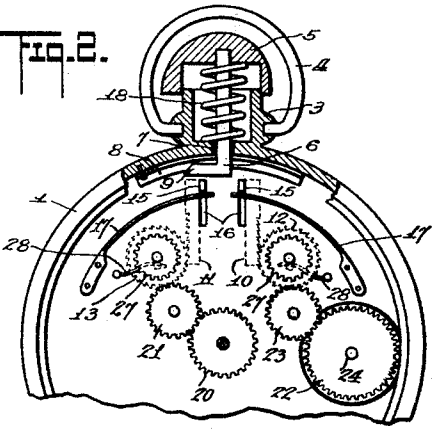


Fig. 3.

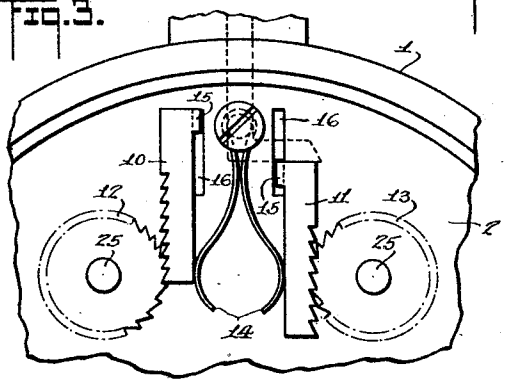


Fig. 4.

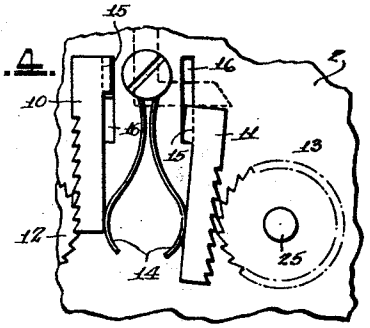


Fig. 6.

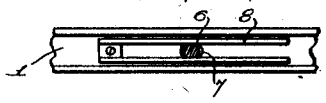


Fig. 5.

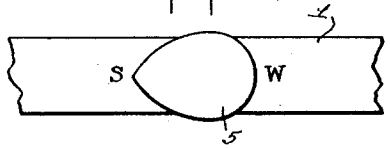
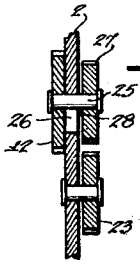


Fig. 7.



WITNESSES

Frank L. Fagan

E. W. Hoster

INVENTOR

Kaufman Shaya,
Morris Shaya,

BY Munn & Co.

ATTORNEYS

Patented Sept. 8, 1925. 1,553,192

UNITED STATES PATENT OFFICE.

KAUFMAN SHAYA AND MORRIS SHAYA, OF NEW YORK, N. Y.

WATCH.

Application filed October 1, 1924. Serial No. 740,997.

To all whom it may concern:

Be it known that we, KAUFMAN SHAYA and MORRIS SHAYA, citizens of Poland, and residents of the city of New York, borough of the Bronx, in the county of Bronx and State of New York, have invented a new and Improved Watch, of which the following is a full, clear, and exact description.

This invention relates to improvements in watches, and while we shall hereinafter refer to the device specifically as a "watch" it is obvious that the invention may apply with equal facility to a clock or any other timepiece.

An object of the invention is to provide a watch in which the hands are set and the spring wound by a longitudinal reciprocation imparted to a plunger connected to a knob or button which corresponds in appearance to the ordinary knob in general use.

Heretofore watches have almost universally been wound and set by the turning movement of a knob, and it is the purpose of our invention to carry out this operation by a reciprocation or longitudinal movement of the knob.

With these and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts which will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings—

Figure 1 is a view in elevation of a watch with the back plate of the watch case removed and illustrating somewhat diagrammatically our invention;

Figure 2 is a view taken from the opposite side of the watch, showing portions in section for clearness;

Figure 3 is an enlarged fragmentary view illustrating the downward position of one of the ratchet racks;

Figure 4 is a similar view illustrating the position of the rack in its upward movement;

Figure 5 is a fragmentary edge view of the watch;

Figure 6 is a fragmentary view showing in detail the position of the plunger controlling spring;

Figure 7 is a fragmentary view in section on the line 7—7 of Figure 1.

1 represents the case of our improved watch in which a plate 2 is secured, this plate constituting the ordinary support for the works of the watch. The case 1 is provided with a sleeve 3 and a ring 4 for connecting the same to a watch chain.

5 represents a cap or knob which is adapted to move longitudinally on the outer end of the sleeve 3. This knob 5 has a plunger 6 fixed thereto, the inner end of said plunger projecting through an opening 7 in the case 1 and also through a bifurcated spring 8 fixed in the case.

A finger 9 is fixed to the lower end of the plunger and located at right angles thereto, and said plunger throughout a portion of its length, at least, is angular in cross section so that by reason of its engagement with the bifurcated spring it will be resiliently held in either of the operative positions, as is clearly illustrated in Figure 6.

10 and 11 represent longitudinally movable ratchet racks, which engage ratchet wheels 12 and 13, respectively. These racks are held in contact with the ratchet wheels by a double bowed spring 14 and are provided with lugs 15 projecting through slots 16 in plate 2 and in the path of movement of the finger 9.

Springs 17 exert pressure against the lugs 15 to hold the latter in one extreme position and return them to such position when permitted. Also it will be noted that a coil spring 18 is provided in the sleeve 3 around the plunger 6 and exerts an outward pressure on the knob or cap 5 to hold the plunger in its outward position.

The ratchet wheel 12 controls the winding of the spring of the watch and the ratchet wheel 13 controls the setting of the hands of the watch, the latter being illustrated in dotted lines in Figure 1 and given reference numeral 19.

It is, of course, to be understood that we do not limit ourselves to any particular construction of watch works as our invention is capable of use with any type of works, but for purposes of illustration we have shown intermeshing gears 20 and 21 operatively connected with the hands 19 and gear wheels 22 and 23 operatively connected to the arbor 24 of a watch spring (not shown).

The ratchet wheels 12 and 13 are fixed to shafts 25. The latter are projected through slots 26 in plate 2 and have pinions 27 on their opposite ends. Springs 28 hold the parts in normal position with the pinions 27 removed from the gears with which they are engaged so as not to interfere with the

ordinary watch movement, but when the racks 10 and 11, respectively, are moved downwardly they not only turn the ratchet wheels 13 and the pinions fixed thereto but they also move the pinions into mesh with their respective gear trains so that the watch may be wound or the hands set as the case may be.

The knob or cap 5 may, preferably, be somewhat oval-shaped, as indicated in Figure 5, so that one portion thereof constitutes a pointer and may register with letters or captions on the edge of the case to indicate whether the knob is in position for setting or winding the watch, as indicated in Figure 5.

Assuming the parts to be in the position shown in Figure 2, a reciprocation of the plunger 6 due to the inward and outward movement of the knob 5 will cause the finger 9 to engage the lug 15 of ratchet bar 11 and through the medium of the parts described above will cause the hands of the watch to turn to set the hands at the position desired. This operation or reciprocation can be repeated as often or as little as desired, the springs 18 and 17 causing the parts always to return to normal position after inward movement.

If it is desired to wind the watch, the knob 5 is given a turn of 180° to bring the finger 9 in position to engage the lug 15 of rack 10, and a similar operation imparted to this rack will wind the spring of the watch through the medium of the mechanism above pointed out.

Various slight changes and alterations might be made in the general form of the parts described without departing from our invention, and hence we do not limit ourselves to the precise details set forth but consider ourselves at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of the appended claims.

We claim:

1. A watch, comprising a case, a pair of ratchet wheels in the case, one of which operatively controls the setting of the hands of the watch and the other operatively controls the winding of the spring of the watch, ratchet racks engaging the respective ratchet wheels, a reciprocating plunger, and a finger on said plunger adapted to be positioned to operatively engage either of said racks.

2. A watch, comprising a case, a pair of ratchet wheels in the case controlling the winding of the spring and the setting of the hands respectively, ratchet racks in the case operatively engaging the respective ratchet wheels, lugs on said racks, springs engaging the lugs and holding them in one extreme position, a sleeve on the case, a knob having reciprocating movement on the sleeve, a plunger fixed to the knob and projecting into the case, and a finger on the plunger adapted to engage either of said lugs when the knob is turned to properly position the same.

3. A watch, comprising a case, a pair of ratchet wheels in the case controlling the winding of the spring and the setting of the hands respectively, ratchet racks in the case operatively engaging the respective ratchet wheels, lugs on said racks, springs engaging the lugs and holding them in one extreme position, a sleeve on the case, a knob having reciprocating movement on the sleeve, a plunger fixed to the knob and projecting into the case, a finger on the plunger adapted to engage either of said lugs when the knob is turned to properly position the same, a spring exerting outward pressure on the knob, and a spring engaging the plunger and resiliently holding the same in either of its operative positions.

4. A watch, comprising a case, a pair of ratchet wheels in the case controlling the winding of the spring and the setting of the hands respectively, ratchet racks in the case operatively engaging the respective ratchet wheels, lugs on said racks, springs engaging the lugs and holding them in one extreme position, a sleeve on the case, a knob having reciprocating movement on the sleeve, a plunger fixed to the knob and projecting into the case, a finger on the plunger adapted to engage either of said lugs when the knob is turned to properly position the same, a spring exerting outward pressure on the knob, and a spring engaging the plunger and resiliently holding the same in either of its operative positions, said last-mentioned spring comprising a bifurcated member engaging an angular portion of the plunger.

5. A watch, comprising a case, a pair of ratchet wheels mounted in the case, ratchet racks engaging the ratchet wheels, pinions fixed to turn with the ratchet wheels, said pinions and ratchet wheels having a predetermined movement in the case and elastically held in one extreme position, gear trains operatively connecting the respective pinions with the hands and the spring respectively of the watch, and ratchet racks engaging the respective ratchet wheels and imparting rotary movement to the ratchet wheels and lateral movement to the pinions to force the latter in mesh with their gear trains when operated by the racks.

6. A watch, comprising a case, a pair of ratchet wheels mounted in the case, ratchet racks engaging the ratchet wheels, pinions fixed to turn with the ratchet wheels, said pinions and ratchet wheels having a predetermined movement in the case and elastically held in one extreme position, gear trains operatively connecting the respective pinions with the hands and the spring respectively of the watch, ratchet racks engag-

ing the respective ratchet wheels and imparting rotary movement to the ratchet wheels and lateral movement to the pinions to force the latter into mesh with their gear trains when operated by the racks, a sleeve on the case, a knob on the outer end of the sleeve, a plunger fixed to the knob, and a finger on the plunger adapted to be moved in position to engage either of the racks, and said knob constituting a pointer whereby the position of the finger is indicated on the case.

KAUFMAN SHAYA.
MORRIS SHAYA.