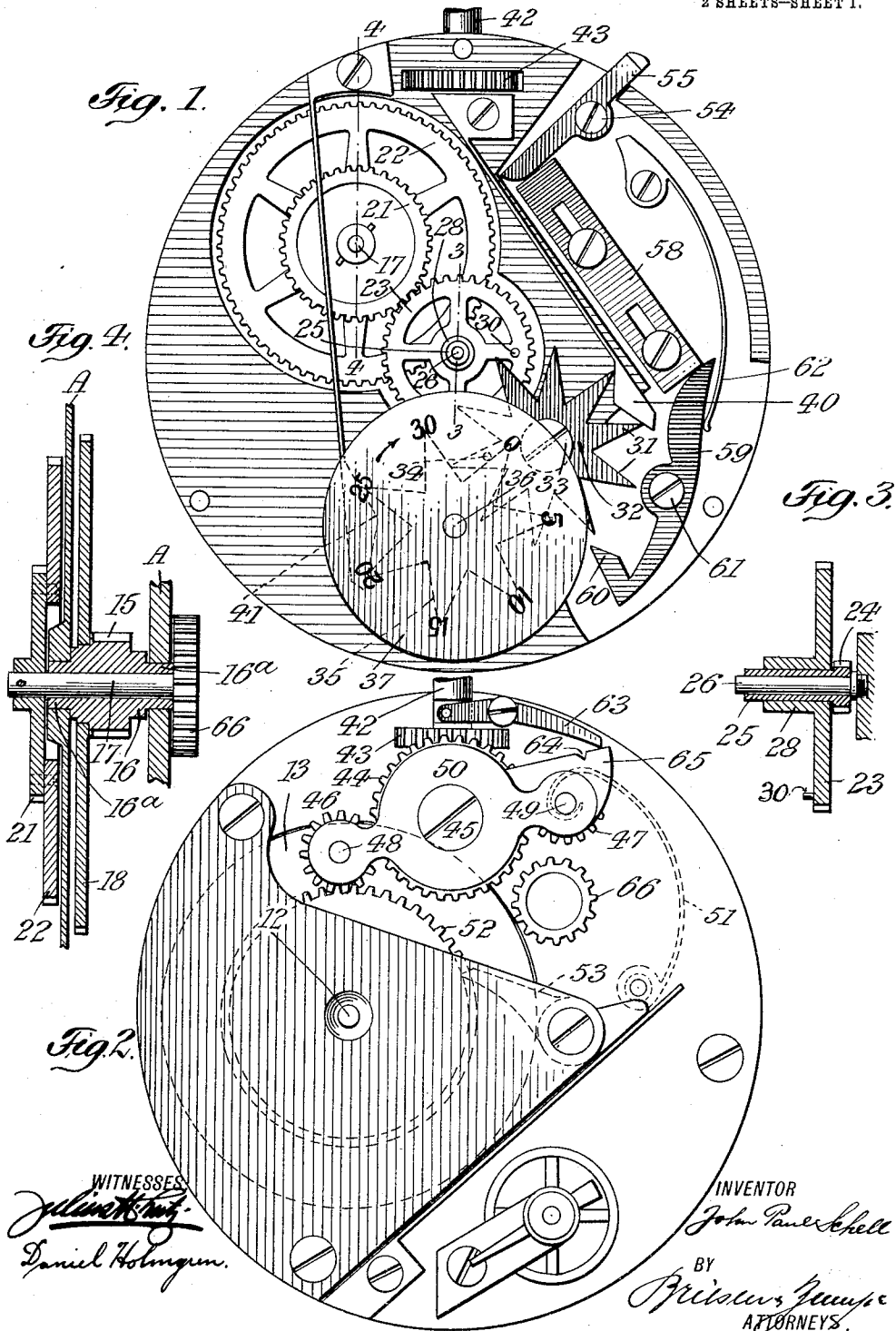


J. P. SCHELL.
WATCH WINDING INDICATOR.
APPLICATION FILED MAR. 6, 1912.

1,056,126.

Patented Mar. 18, 1913.

2 SHEETS—SHEET 1.

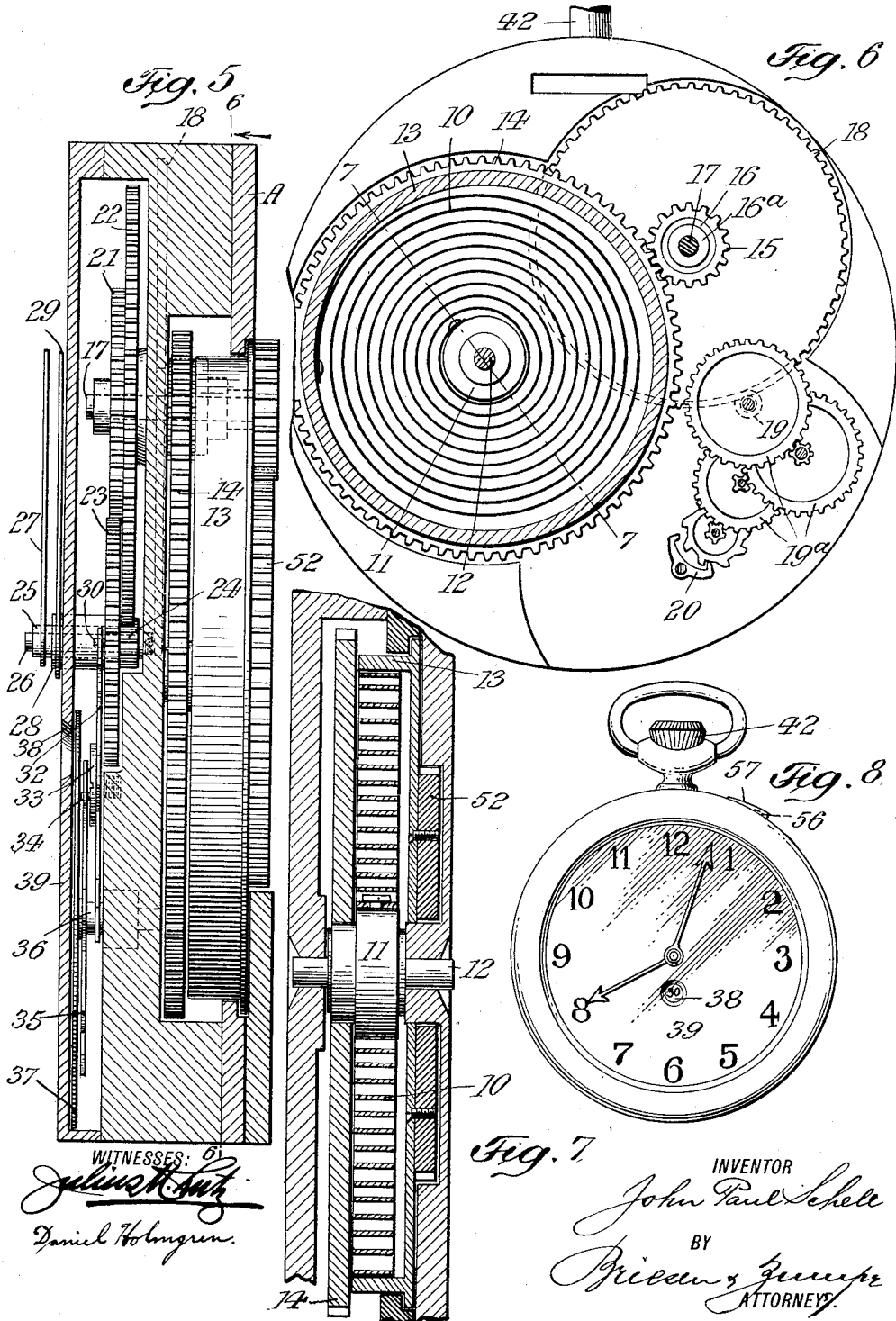


J. P. SCHELL.
WATCH WINDING INDICATOR.
APPLICATION FILED MAR. 6, 1912.

1,056,126.

Patented Mar. 18, 1913.

2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

JOHN PAUL SCHELL, OF NEW YORK, N. Y.

WATCH-WINDING INDICATOR.

1,056,126.

Specification of Letters Patent.

Patented Mar. 18, 1913.

Application filed March 6, 1912. Serial No. 681,896.

To all whom it may concern:

Be it known that I, JOHN PAUL SCHELL, a citizen of Germany, residing at New York city, county and State of New York, have
5 invented a new and Improved Watch-Winding Indicator, of which the following is a specification.

This invention relates to a watch movement which is so constructed that the running time of the watch is greatly prolonged so that daily rewinding is obviated. Means are provided for displaying the number of days which the watch has still to run before it is to be rewound, so that a timely warning is given.
15

The invention further relates to various novel features of construction, all as hereinafter more fully pointed out.

In the accompanying drawing: Figure 1 is a front view of my improved watch movement; Fig. 2 a rear view thereof; Fig. 3 a cross section through the central arbor on line 3—3, Fig. 1; Fig. 4 a cross section on line 4—4, Fig. 1; Fig. 5 a cross section through the watch movement; Fig. 6 a cross section on line 6—6, Fig. 5; Fig. 7 a cross section on line 7—7, Fig. 6, showing the casing in position, and Fig. 8 a face view of a watch embodying my invention.
20

The numeral 10 indicates the main spring of my improved watch movement, one end of said spring being hooked or otherwise secured to a collar 11 of arbor 12, while its other end is secured to a rotatable spring barrel 13. On arbor 12 is fast a gear wheel 14 which meshes into a pinion 15 forming part of a sleeve 16 that turns with its gudgeons 16^a in corresponding perforations of the plates A. Sleeve 16 is centrally perforated for the reception of a spindle 17 hereinafter referred to which participates in the rotation of the sleeve by frictional contact. To sleeve 16 is firmly secured a toothed wheel 18 which by pinion 19 and the usual train of gears 19^a is connected to the escapement 20.
30 On spindle 17 is fast a toothed wheel 21 which in turn carries a similar wheel or ring 22, wheel 21 meshing into a toothed wheel 23, while ring 22 engages a pinion 24. The sleeve 25 of the latter turns loosely on a fixed arbor 26 and carries the minute hand 27, while the sleeve 28 of wheel 23 turns loosely on sleeve 25 and carries the hour hand 29. Wheel 23 which completes one revolution in every twelve hours carries a pin 30 which is adapted to engage the teeth
35 40 45 50 55

31 of a star wheel 32 loosely mounted on screw 33, wheel 32 having 10 teeth as illustrated in Fig. 1. One of these teeth carries in turn a pin 34 adapted to engage a star wheel 35 loosely turning on a stud 36 and firmly secured to a disk 37. Star wheel 35 is shown to be provided with seven teeth, while disk 37 is provided with a like number of characters, which comprise the numbers 0, 5, 10, 15, 20, 25, 30 as illustrated in Fig. 1. These characters are adapted to be consecutively displayed through a window 38 formed in the dial plate 39 of the watch. Star wheel 32 is engaged by a spring 40 which maintains the wheel in the position to which it has been set by pin 30. In like manner wheel 35 is engaged by a spring 41 that properly centers one of the characters behind window 38.
60 65 70 75

The above described device is designed for a watch which requires a rewinding every thirty days. As wheel 23 performs a complete revolution every twelve hours and as star wheel 32 has ten teeth, this star wheel completes a revolution every five days. If the character 30 is originally displayed through window 38 thereby indicating that the wound up watch has 30 days to run, star wheel 35 must be advanced for six teeth in the direction of the arrow (Fig. 1) until zero appears below said window. As wheel 35 is advanced every five days for one tooth owing to its engagement with the pin 34 of star wheel 32, it will thus consume the desired thirty days for displaying the zero thereby indicating that the watch requires a rewinding. It is obvious that the movement can be constructed to run any selected number of days at the expiration of which the signal is displayed to remind the wearer that the watch is to be rewound. This rewinding is effected by means of a headed stem 42 carrying a pinion 43 and axially displaceable in the usual manner. Pinion 43 is in mesh with a toothed wheel 44 loosely mounted on a screw 45, said toothed wheel being in mesh with a pair of diametrically opposed pinions 46, 47. The latter turn loosely on arbors 48, 49 carried by a swinging beam 50 fulcrumed on screw 45. Normally a spring 51 engaging arbor 49 turns beam 50 in such a direction that pinion 46 engages a toothed wheel 52 fast on spring barrel 13, said wheel being also engaged by a spring-influenced retaining pawl 53. By the rotation of stem 42 in the
80 85 90 95 100 105 110

proper direction, motion will thus be imparted through the parts 43, 44, 46 and 52 to barrel 13, thereby rewinding spring 10. After the watch has thus been rewound, it is obvious that the previously displayed zero mark should be replaced by the character 30 to indicate that the watch has been wound up and has thirty day to run. For this purpose the following construction has been devised:

To the watch casing is fulcrumed at 54 a two arm lever 55 the outer arm of which projects beyond the periphery of the casing into a notch 56 of a finger piece 57 slidable on the rim of said casing. The inner arm of lever 55 abuts against a slide 58 which in turn engages a dog 59 which is provided with a hook-shaped end 60 adapted to engage the teeth 31 of star wheel 32. Dog 59 is pivoted at 61 while a spring 62 tends to withdraw hook 60 from teeth 31 so as to permit an unobstructed rotation of wheel 32 during the normal run of the watch. It will be seen that by operating finger piece 57, hook 60 will be caused to engage one of the teeth 31, thereby advancing wheel 32 for one tooth, while spring 62 subsequently returns the parts to their original positions. This manipulation is repeated until the pin 34 engages one of the teeth of star wheel 35 and thereby causes the latter to be tilted for displaying the desired character 30 through window 38.

For setting hands 27, 29, stem 42 is slightly pulled outward, which movement will be transmitted to beam 50 by a two arm lever 63 adapted to engage a notch 64 formed in an extension 65 of said beam. In this way, pinion 46 will be withdrawn from wheel 52, while pinion 47 will be brought into engagement with a similar pinion 66 fast on spindle 17. By properly rotating stem 46 motion will thus be transmitted to wheels 21, 22 and consequently to the hands,

while sleeve 16 and wheel 18 will not participate in the rotation of spindle 17. After depressing stem 46, pinion 47 will be withdrawn from pinion 64 and spindle 17 will be taken along by sleeve 16 through frictional contact, so that the normal operation of the movement is resumed.

I claim:

1. In a watch movement, a main spring, a retarding gear actuated thereby, a twelve hour wheel operable by said gear, a first pin on the hour wheel, a first star wheel having a plurality of points adapted to be consecutively engaged by said first pin, a second pin on the first star wheel, a second star wheel having a plurality of points adapted to be consecutively engaged by said second pin, means on said second star wheel for indicating the number of days which the watch has been running, and manually operable means adapted to engage the first star wheel for setting the indicating means to the zero position upon the rewinding of the main spring.

2. In a watch movement, a main spring, a retarding gear actuated thereby, a twelve hour wheel operable by said gear, a first pin on the hour wheel, a first star wheel having a plurality of points adapted to be consecutively engaged by said first pin, a second pin on the first star wheel, a second star wheel having a plurality of points adapted to be consecutively engaged by said second pin, means on said second star wheel for indicating the number of days which the watch has been running, a pivoted spring-influenced dog adapted to engage the first star wheel, a slide engaging said dog, means for guiding the slide, and a pivoted finger piece engaging the slide.

JOHN PAUL SCHELL.

Witnesses:

FRANK V. BRIESEN,
KATHERYNE KOCH.