

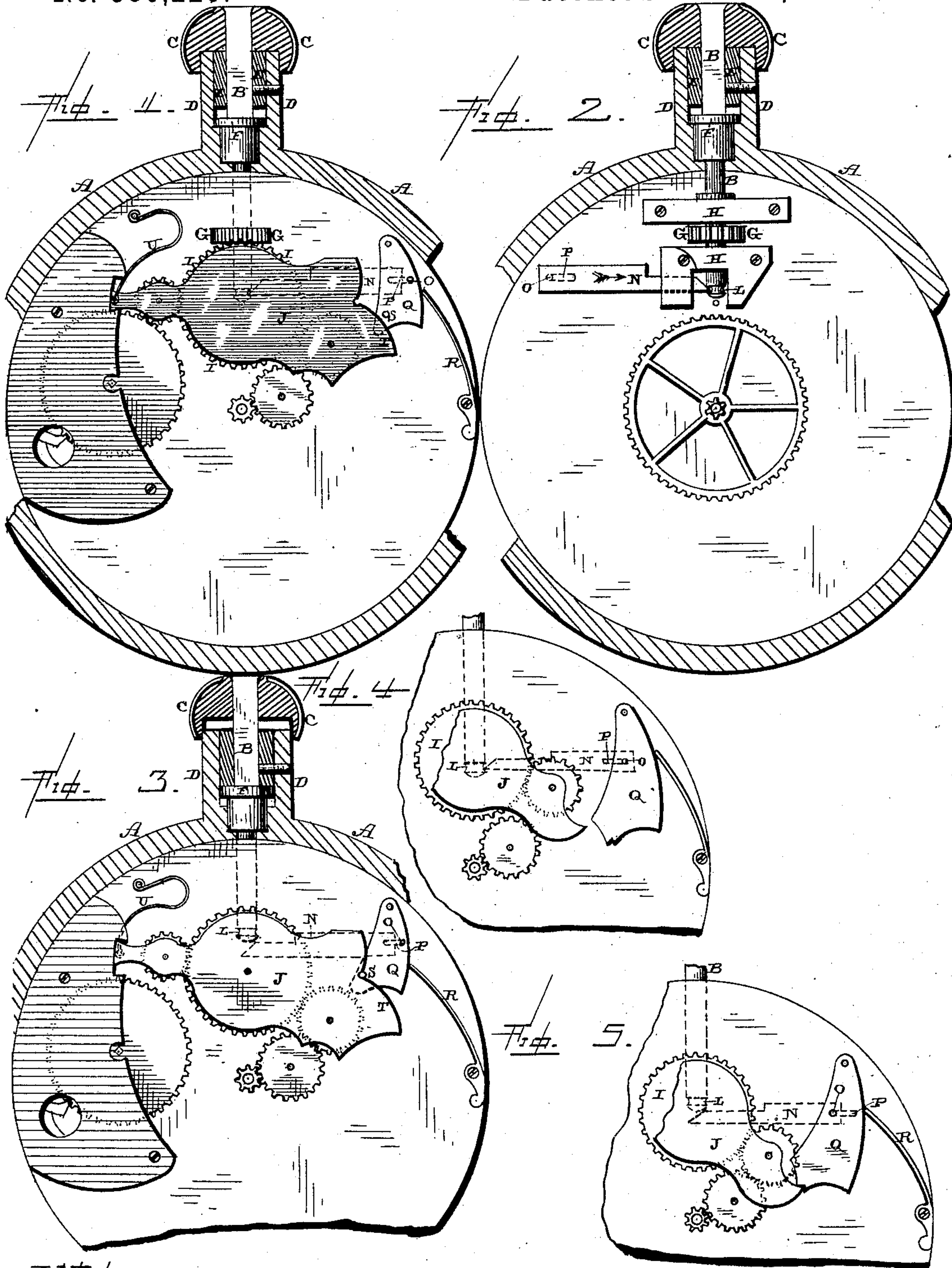
(No Model.)

O. F. STEDMAN.

STEM WINDING AND SETTING WATCH.

No. 380,225.

Patented Mar. 27, 1888.



Witnesses.

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# UNITED STATES PATENT OFFICE.

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## STEM WINDING AND SETTING WATCH.

SPECIFICATION forming part of Letters Patent No. 380,225, dated March 27, 1888.

Application filed December 2, 1887. Serial No. 256,800. (No model.)

*To all whom it may concern:*

Be it known that I, OSCAR F. STEDMAN, of Cuyahoga Falls, in the county of Summit and State of Ohio, have invented certain new and useful Improvements in Stem Winding and Setting 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in stem winding and setting watches; and it consists in, first, the combination of an endwise-moving winding-stem with the endwise-moving bar, having its inner end beveled, and which is connected with a swinging spring-actuated cam for the purpose of moving the vibrating yoke, which carries the intermediate winding and setting wheels; second, the combination of the vibrating yoke carrying the intermediate winding and setting wheels, a spring which moves the yoke when left free to move into contact with the winding-wheel, and a spring-actuated swinging plate which moves the vibrating yoke into position for setting the hands; third, the combination of the endwise-moving winding-stem provided with a collar or stop in order to limit its endwise movement with a sleeve which is placed in the stem of the case, and through which the winding-stem has its movement; fourth, the arrangement and combination of parts, which will be more fully described hereinafter.

The object of my invention is to provide a stem winding and setting watch in which both the winding and setting mechanisms are operated by an endwise-moving winding-stem, to operate the vibrating yoke by a spring-actuated plate at one end and by a spring at the other, the spring connected to the plate being more powerful than the one which is applied directly to the yoke, to provide a hand-setting mechanism which can be applied to any of the stem-winders of American manufacture without any material alteration and at a very slight expense.

Figure 1 is a plan view of the parts which embody my invention taken from the face side of the pillar-plate. Fig. 2 is a similar view

taken from the opposite or inner side. Fig. 3 is a similar view to Fig. 1, the parts being shown in a different position. Figs. 4 and 5 show a modification, the parts being shown in different positions, and the cam being formed upon the swinging plate instead of upon the vibrating one.

A represents the watch-case, B the endwise-moving winding-stem, and C the crown attached to its outer end in the usual manner. Inside of the pendant D of the watch-case is fastened, by means of a screw or any other suitable device, the sleeve E, through which the endwise-moving winding-stem B moves. Upon the winding-stem is formed the stop or collar F, which, as the winding-stem is drawn outward, strikes against the inner edge of the sleeve E and limits its movement. When the winding-stem is forced inward, the crown strikes against the end of the sleeve and stem and limits the distance that the winding-stem may be forced inward. Near the inner end of the winding-stem is formed a square portion which passes through the main winding-pinion G, which is held in position between the two blocks H on the pillar-plate, and by the slot in the plate itself. This pinion G meshes with the gear-wheel I, which is placed upon the same pivot or journal as the vibrating yoke J. When the winding-stem is turned in either direction, motion is communicated to the main winding-pinion, and this in turn communicates the motion to the gear-wheel I and the intermediate winding and setting wheels in the usual manner.

The inner end of the winding-stem B has its end slightly beveled, and near this beveled end is made a groove, L, for the purpose of making a slight connection with the endwise-moving bar N, which has its end beveled, so that when the winding-stem is forced inward and strikes against this beveled end the bar will be moved endwise outwardly, as shown in Fig. 2. The inner end of this sliding bar N passes through a groove in the under side of the inner block, H, and the bar is held in position at its inner end by the block H and at its outer end by the pin or projection O. The outer end of this bar is connected by this pin or projection, which passes through a slot, P, in the pillar-plate and makes connection with the



swinging plate Q upon the opposite side of the pillar-plate. This swinging plate Q is pivoted to the pillar-plate at one end, and is operated in one direction by the endwise-moving bar N and in the opposite direction by the spring R, which is secured to the pillar-plate at one end. Projecting from the inner side of the swinging plate Q is a stud or projection, S, which is located near its free end, and which 10 stud acts upon the cam T, formed upon the end of the vibrating yoke J, when the winding-stem is drawn outward, so as to leave the plate Q free to be moved by its spring R. When the winding-stem is forced inward and 15 the endwise-moving bar N is forced outward, the spring-plate Q is moved into the position shown in Fig. 1, for the purpose of allowing the vibrating yoke J to be forced by the spring U into position for winding. The spring U is 20 weaker than the spring R, and hence when the winding-stem is moved outward the spring R causes the stud or projection S on the swinging plate Q to overcome the pressure of the spring U, and thus move the vibrating yoke into 25 position for setting the hands. Just as soon as the vibrating yoke is left free to move by forcing the winding-stem inward, the spring U instantly forces the vibrating yoke into position for winding. When the winding-stem is drawn 30 outward, the spring R instantly forces the swinging plate Q inward toward the vibrating yoke, and at the same time forces the endwise-moving bar N into the position shown in Fig. 3. While the swinging plate is forced inward by 35 the spring R the stud or projection S catches in the notch in the end of the vibrating yoke at the heel of the cam, so as to lock the vibrating yoke rigidly in position for setting the hands. When the winding-stem B is forced 40 inward and the endwise-moving bar N has been forced outward, the end of the bar catches in the groove L in the winding-stem, and thus holds the winding-stem so that it can only be drawn outward by exerting a pull upon it. 45 This endwise-moving bar serves both to lock the winding-stem and to operate the swinging plate Q. By locking the winding-stem it can only be drawn outward so as to set the hands by exerting a pull upon it sufficient to dis- 50 place the end of the endwise-moving bar from the groove.

With the exception of lengthening the vibrating yoke, no material change is made in the winding mechanism which is employed in 55 all of the American-made watches. By lengthening this yoke slightly and using the swinging plate, the spring R, and the endwise-moving bar and giving the winding stem an endwise movement, a hand setting and stem-winding

mechanism is produced and which is applicable to all of this class of watches, and which can be applied with very little trouble and with no increase of cost over the present construction.

In Figs. 1 and 3 a cam is shown formed upon 65 the end of the vibrating yoke J; but if so desired this cam can as well be formed upon the swinging plate Q, as shown in Figs. 4 and 5. In this case the end of the vibrating yoke 70 is made pointed, as shown, and when the swinging plate is forced inward by the spring R the point of the yoke catches over the end of the swinging plate and the yoke is locked in position for setting the hands.

Having thus described my invention, I 75 claim—

1. The combination of an endwise-moving winding-stem, an endwise-sliding bar which is forced outward by the winding-stem when the winding-stem is forced inward, a swinging 80 spring-actuated plate which is moved by the endwise-moving bar in one direction, the vibrating yoke carrying the intermediate winding and setting wheels, and a spring which is applied to one end of the vibrating yoke, substantially as shown. 85

2. The combination of the endwise-moving winding-stem, the endwise-sliding bar provided with a pin or projection, the swinging 90 plate, a spring for operating the plate in one direction, the vibrating yoke, and the spring which is applied to one end of the yoke, the yoke being locked in position by means of a cam for setting the hands, substantially as described. 95

3. The combination of the endwise-moving winding-stem provided with a groove, L, in its inner end, the endwise-moving bar N, which has its inner end so shaped as to be moved by the winding-stem and to engage 100 therewith, a stud or projection formed upon the outer end of the bar and extending through the slot in the pillar-plate, the pivoted swinging plate provided with a stud or projection near its free end, the spring R, the vibrating 105 yoke carrying the setting and winding wheels and having a cam formed upon one end, and a spring, U, substantially as set forth.

4. The combination of the pendant D of the case and the sleeve E which is secured therein, 110 with the endwise-moving winding-stem provided with a stop, substantially as specified.

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

O. F. STEDMAN.

Witnesses:

F. A. LEHMANN,  
EDM. P. ELLIS.