

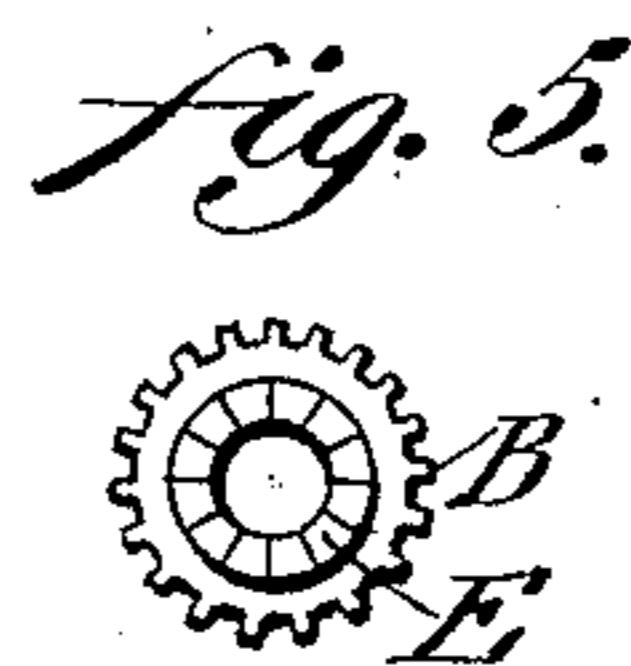
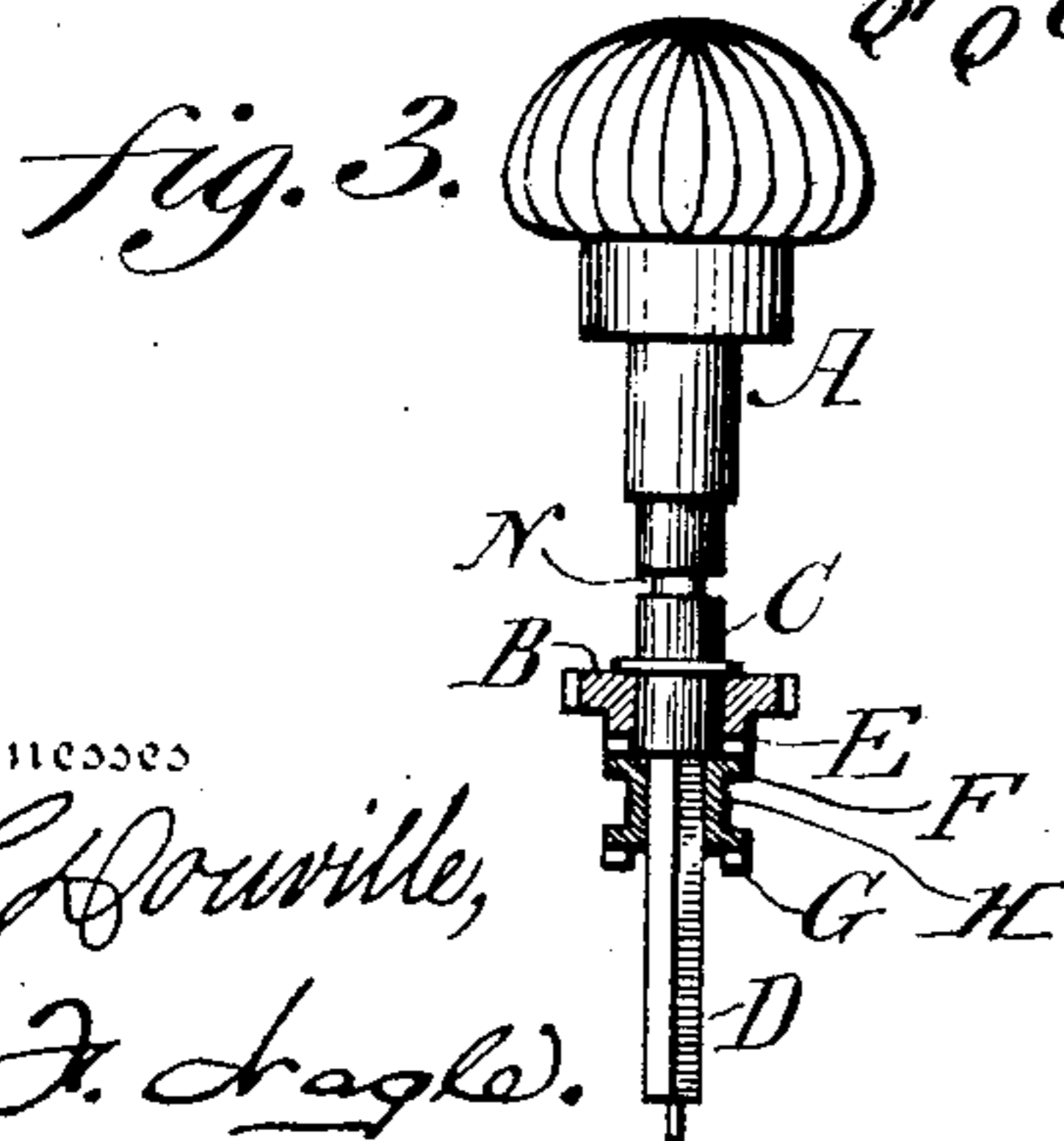
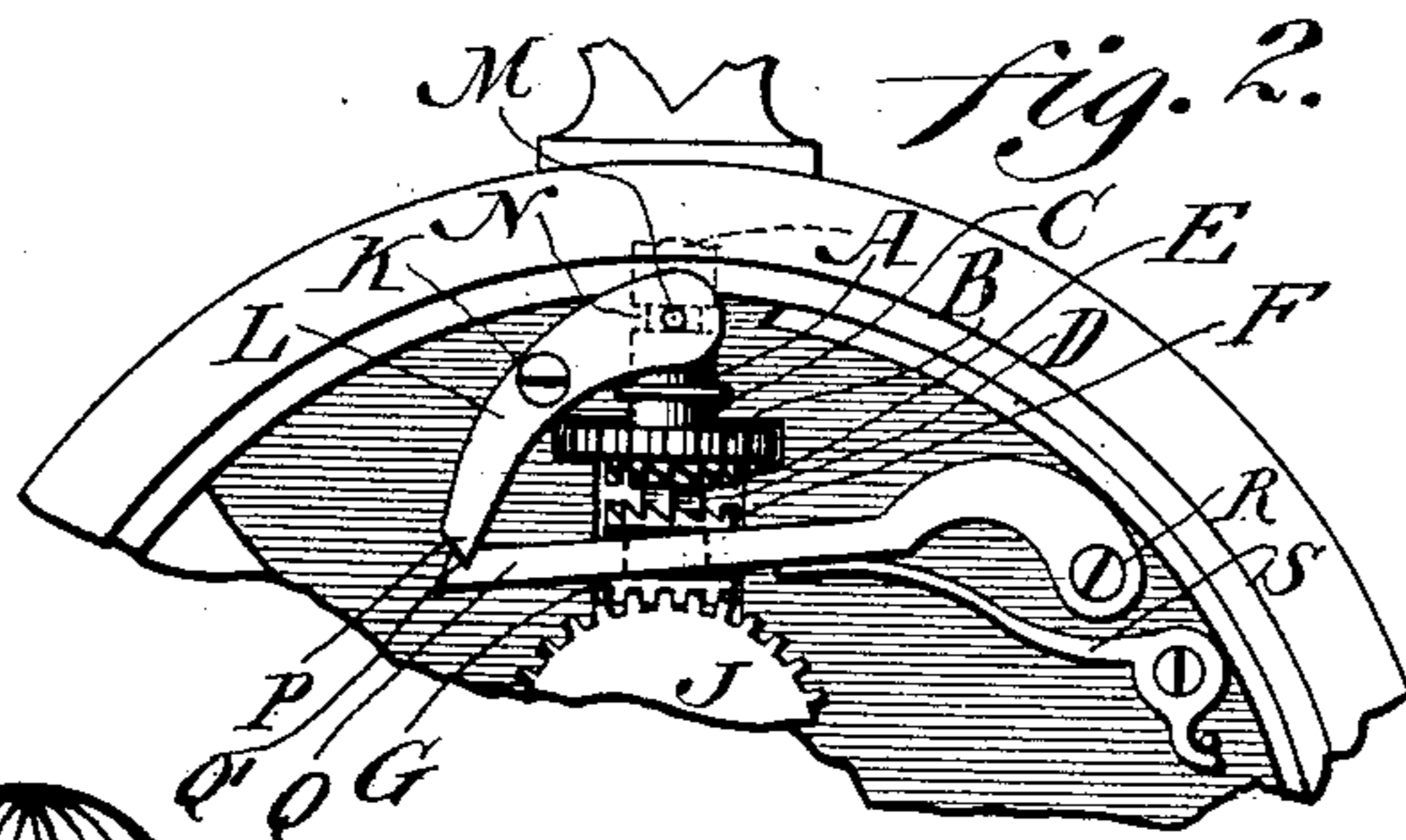
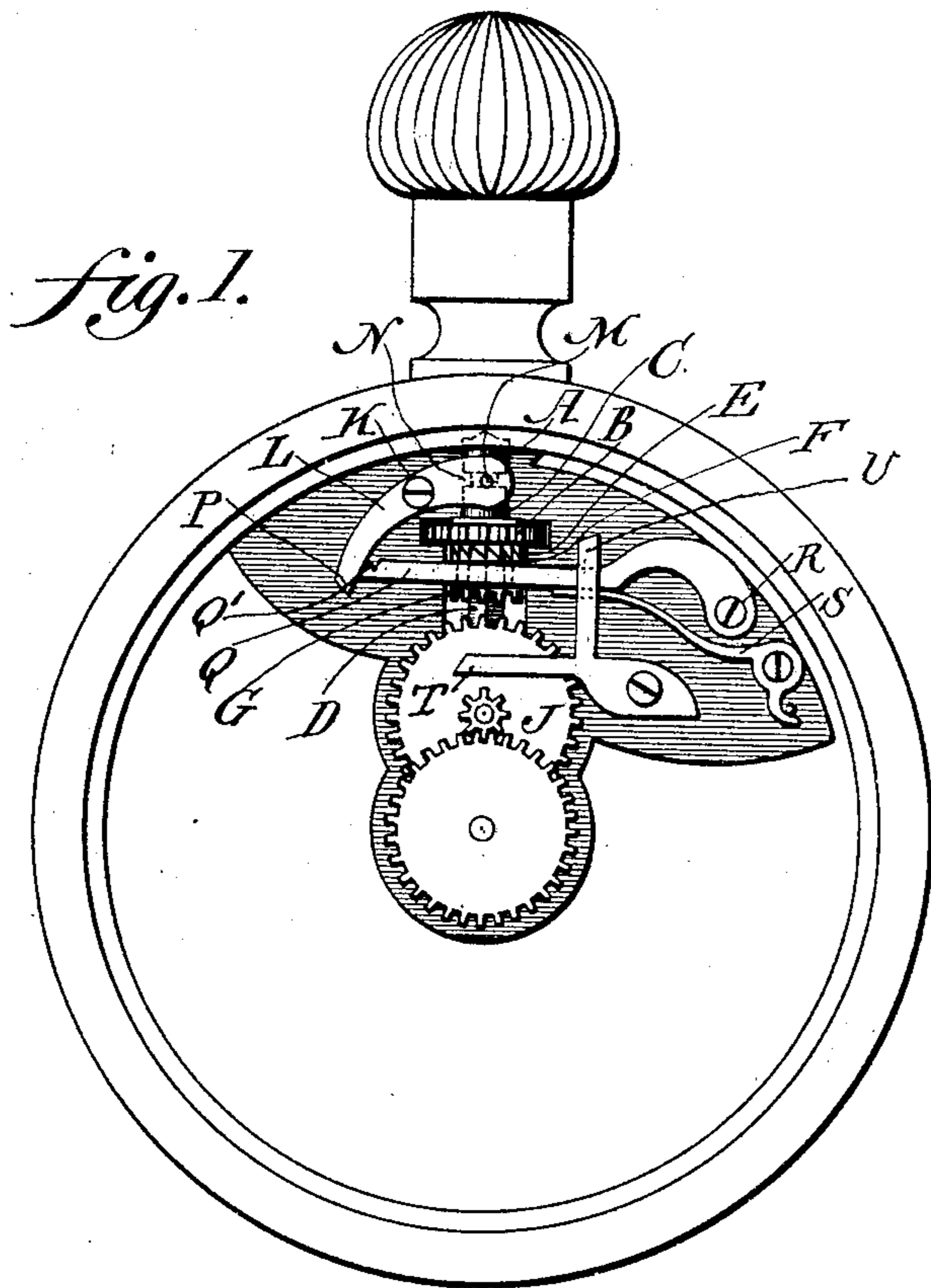
No. 660,855.

Patented Oct. 30, 1900.

C. A. KORTENHAUS.  
STEM WINDING AND SETTING WATCH.

(Application filed Nov. 27, 1899.)

(No Model.)



Witnesses

L. Howville,

P. J. Lagle.

Charles A. Kortenhau  
Giedersheim & Farnbauer  
Attorneys

# UNITED STATES PATENT OFFICE.

CHARLES A. KORTENHAUS, OF PHILADELPHIA, PENNSYLVANIA.

## STEM WINDING AND SETTING WATCH.

SPECIFICATION forming part of Letters Patent No. 660,855, dated October 30, 1900.

Application filed November 27, 1899. Serial No. 738,315. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES A. KORTENHAUS, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Stem Winding and Setting Watches, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists in providing a watch or timepiece with novel means for setting the hands thereof, the same being operated by the winding-arbor through the medium of the pendant of the watch, the adjacent bridge being utilized to carry a limb which bears freely against the side of a member of the device to prevent outward displacement, said means being hereinafter described, and the novel features of the same pointed out in the claim that follows the specification.

Figures 1 and 2 represent side elevations of a watch-setting device embodying my invention, certain parts thereof being in different positions. Fig. 3 represents a partial side elevation and partial vertical section of a detached portion. Figs. 4, 5, and 6 represent plan views of detached portions.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates the winding-arbor of a watch, and B designates a pinion which is mounted on the portion C of the same and adapted to gear with the winding mechanism, these parts, *per se*, being well known in the art, it being noticed that the arbor is cylindrical at said portion and squared or angular, as at D, the pinion B being loosely mounted on said cylindrical portion, so that it will not rotate with the same unless clutched or coupled with other mechanism, as will be hereinafter described.

On what may be termed the "lower" side of the pinion is the ratchet or toothed rim E, and below the same is a sliding sleeve, carrying the ratchet or toothed rim F and the crown or toothed wheel G, which are carried on opposite ends of the hub or neck H of said sleeve, the latter having a squared or angular opening which receives the angular portion D of the arbor A so as to be capable of sliding thereon and receive rotary motion therewith, it being noticed that the ratchet F is

above and may be geared with or removed from the ratchet E and the crown-wheel is below and may be geared with or removed from one of the gear-wheels or members of the hand-setting mechanism J, the latter, generally considered, being usual in the art.

Mounted within the casing of the watch, as at K, is the detent or lever L, one limb of which is provided with the stud M, which freely enters the neck N on the arbor A, and the other end has the beveled nose P, which is adjacent to the free end of the arm or yoke Q, which is pivotally mounted within the casing of the watch, as at R, a portion of said yoke freely engaging the neck H of the ratchet F and crown-wheel G, the free end of the yoke having therein a notch or recess Q', with which the nose of the lever L may engage while the setting of the watch is being accomplished, as will be hereinafter again referred to. Bearing against said yoke is the spring S, whose tendency is to move said yoke in the direction toward the ratchet E.

It will be seen that the arm Q freely enters the neck H of the ratchet-sleeve, the walls of said neck being properly inclined to permit the play of said arm in said neck without loss of motion, avoiding also the use of an elongated slot on the arbor and a pin on the arm to enter such slot, the latter, if employed, materially weakening the arbor. In order to retain the arm in said neck, I attach to the adjacent bridge T the limb U, the latter extending at an angle from said bridge, forming an elbow, said limb freely bearing against the side of the arm Q and controlling the same against outward displacement from the sleeve, it being noticed that said bridge T is doubly armed or limbed, one limb bearing freely against the side of the toothed wheel of the said mechanism J, the crown-wheel G being adapted to be engaged with and disengaged from said toothed wheel while the other limb bears freely against the side of the arm Q, whereby while said toothed wheel and arm are subjected to considerable strain due to the quick and abrupt motions imparted by the arbor while being pushed in and pulled out said toothed wheel and arm are prevented from being strained laterally or having side motions imparted to them, owing to the controlling ac-

tion of the respective members of the duplex bridge.

When the parts are in their normal positions, (see Fig. 1,) the ratchet F is engaged  
 5 with the ratchet E and the crown-wheel S removed from the setting mechanism J, it being noticed that the arbor has been pushed in and the spring S has pressed the yoke Q upwardly, so as to shift the ratchet F and  
 10 crown-wheel so as to effect the engagement of said ratchet with the ratchet E and the disengagement of the crown-wheel from the setting mechanism, as above referred to. The inward motion of the arbor removes the  
 15 nose of the lever L from the recess Q' of the yoke Q and places said nose free over the adjacent end of said yoke, as shown in Fig. 1. Now when it is desired to wind the watch the arbor is rotated without disturbing the  
 20 setting mechanism; but the ratchet F rotates with said arbor, and as it meshes or clutches with the ratchet E the wheel B will be rotated and the motion communicated to the winding mechanism. When it is desired to set  
 25 the watch, the arbor is pulled out. As the stud M follows the motions of the same, the opposite limb of the lever L is lowered and so bears downwardly against the yoke Q, whereby the ratchet F and crown-wheel G  
 30 are shifted, the nose of the detent then entering the recess Q'. This removes said ratchet from the ratchet E and clutches the

crown-wheel with the setting mechanism, the parts being in position as shown in Fig. 2. Now the arbor is rotated, whereby the crown-  
 35 wheel G moves with the same and the motion is imparted to the setting mechanism; but the winding wheel or pinion B is not operated, as it remains loose on the arbor and rests pas-  
 40 sive in the adjacent portion of the frame or inner plate of the watch. As the nose of the detent or lever L occupies the recess Q' of the yoke Q, the latter is locked and remains so until the arbor is again pushed in, when the parts are released and then resume their  
 45 normal positions, as previously described.

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

In a stem-winding and watch-setting de-  
 50 vice, an arbor, shifting gearing thereon, an arm engaging said gearing, and means for operating said arm, in combination with a double-limbed bridge, one limb of the same  
 55 freely engaging the side of a wheel of the hand-setting mechanism, and the other limb projecting angularly from the first-named limb and bearing freely against the side of said arm.

CHARLES A. KORTENHAUS.

Witnesses:

JOHN A. WIEDERSHEIM,  
 E. H. FAIRBANKS.