

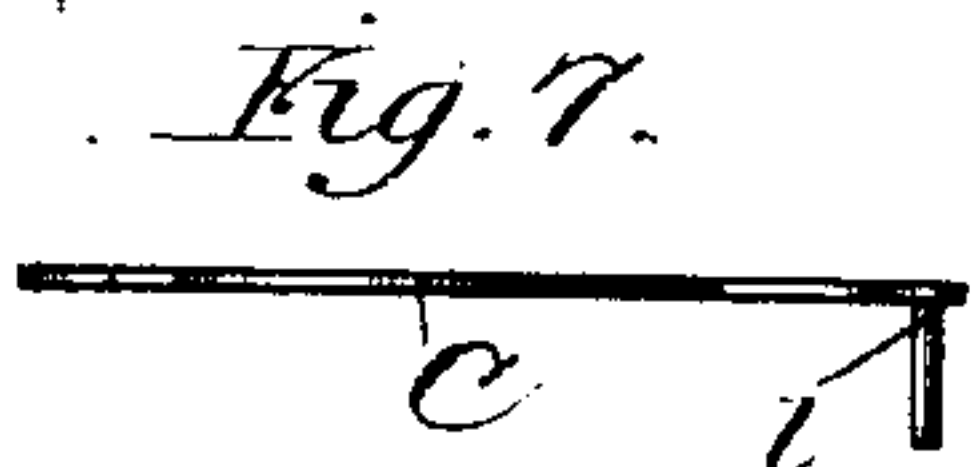
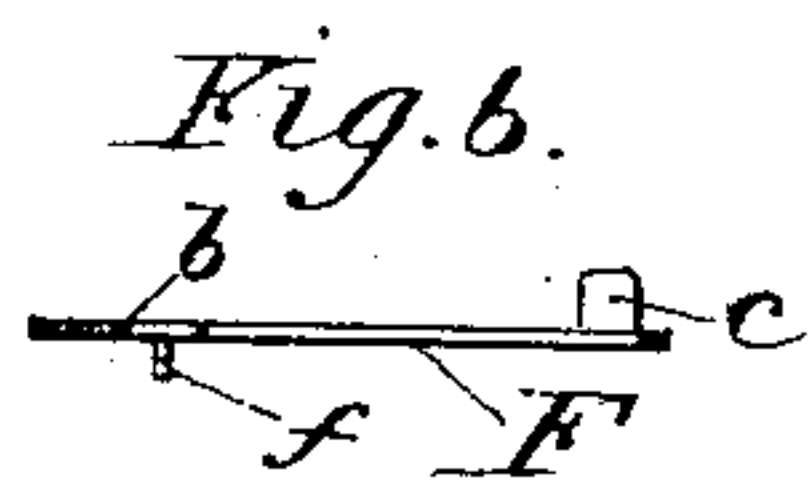
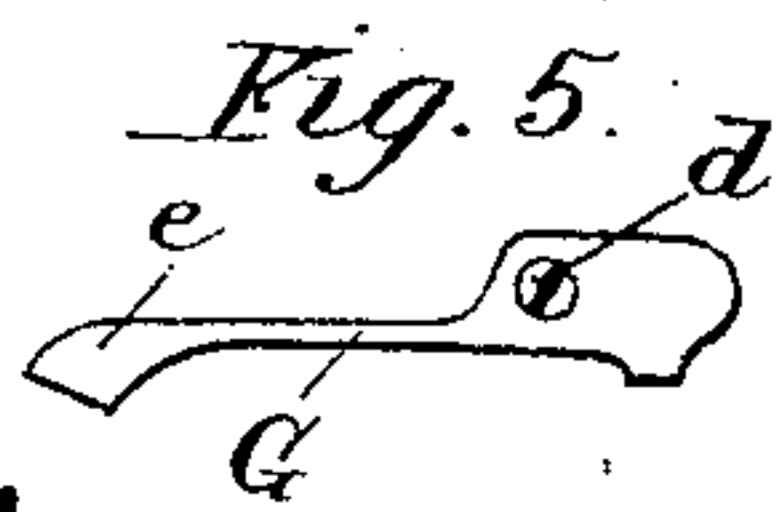
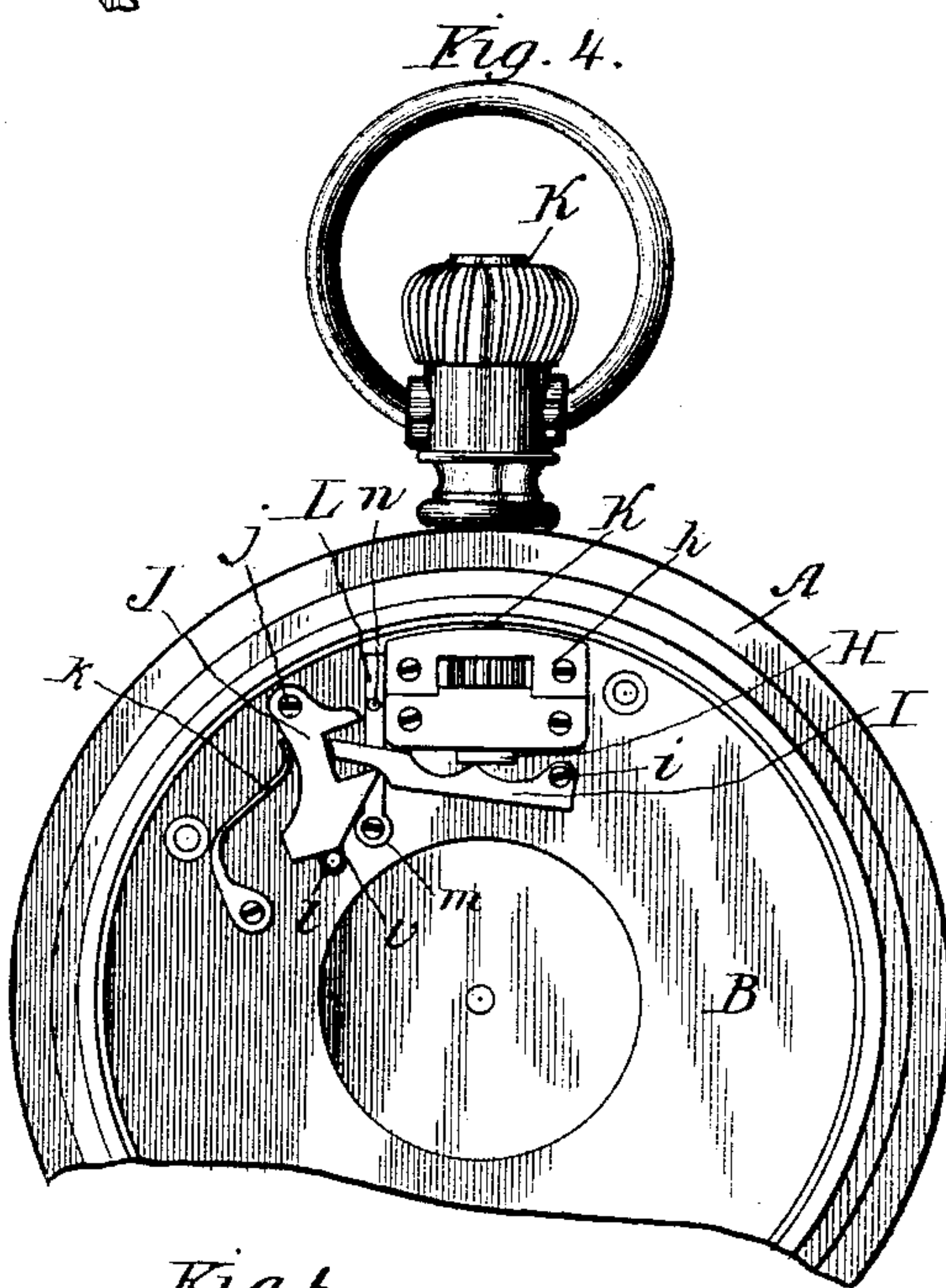
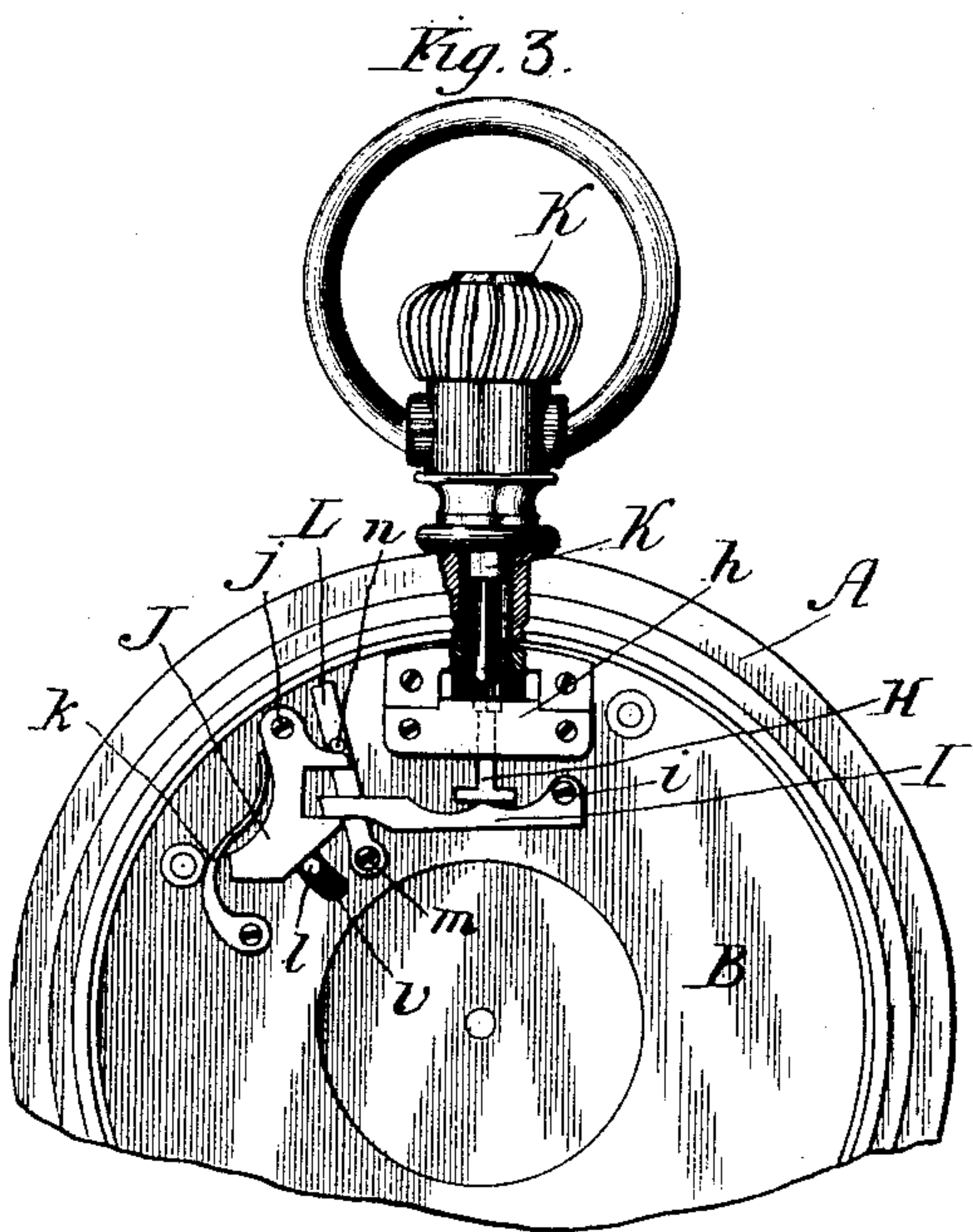
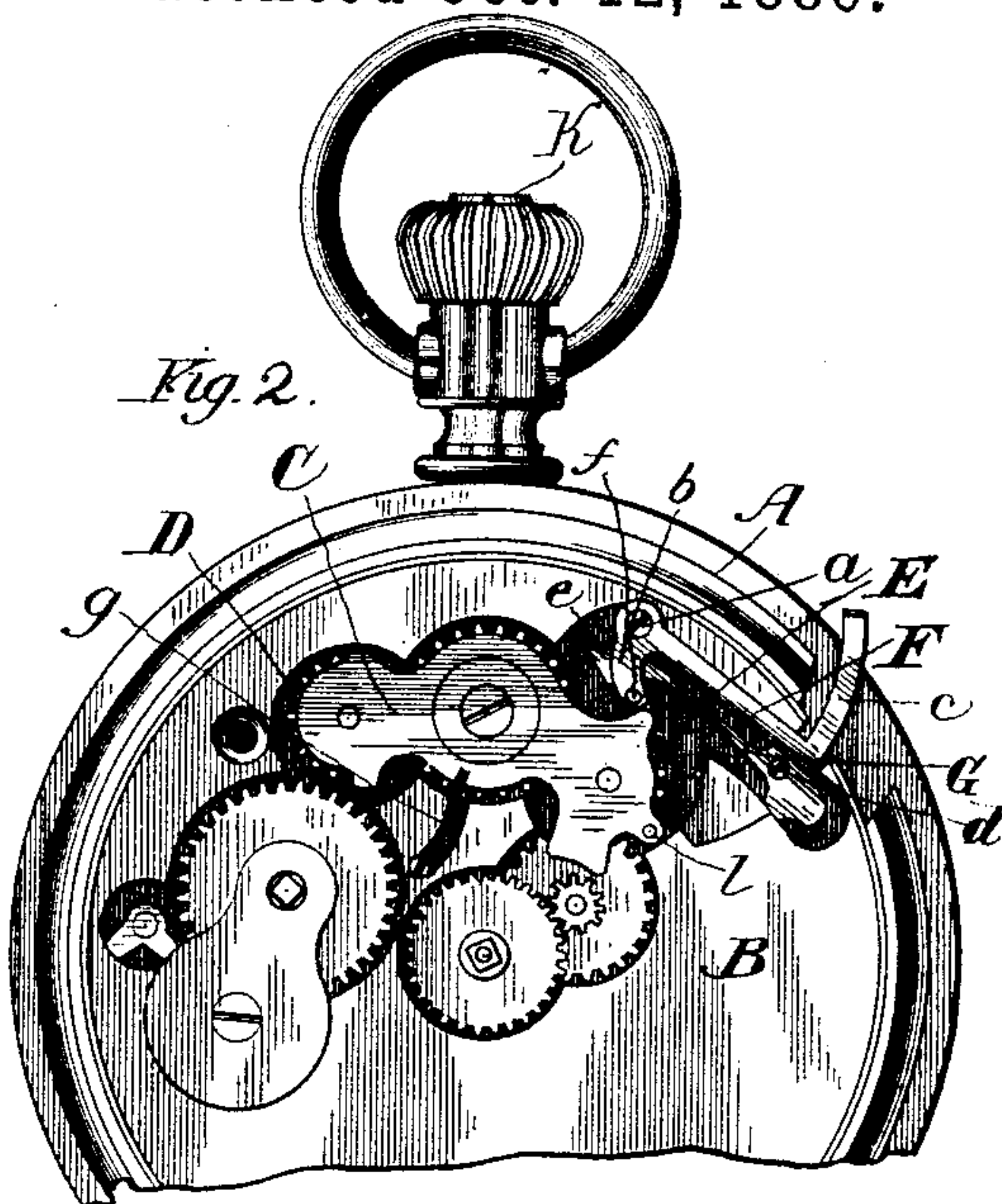
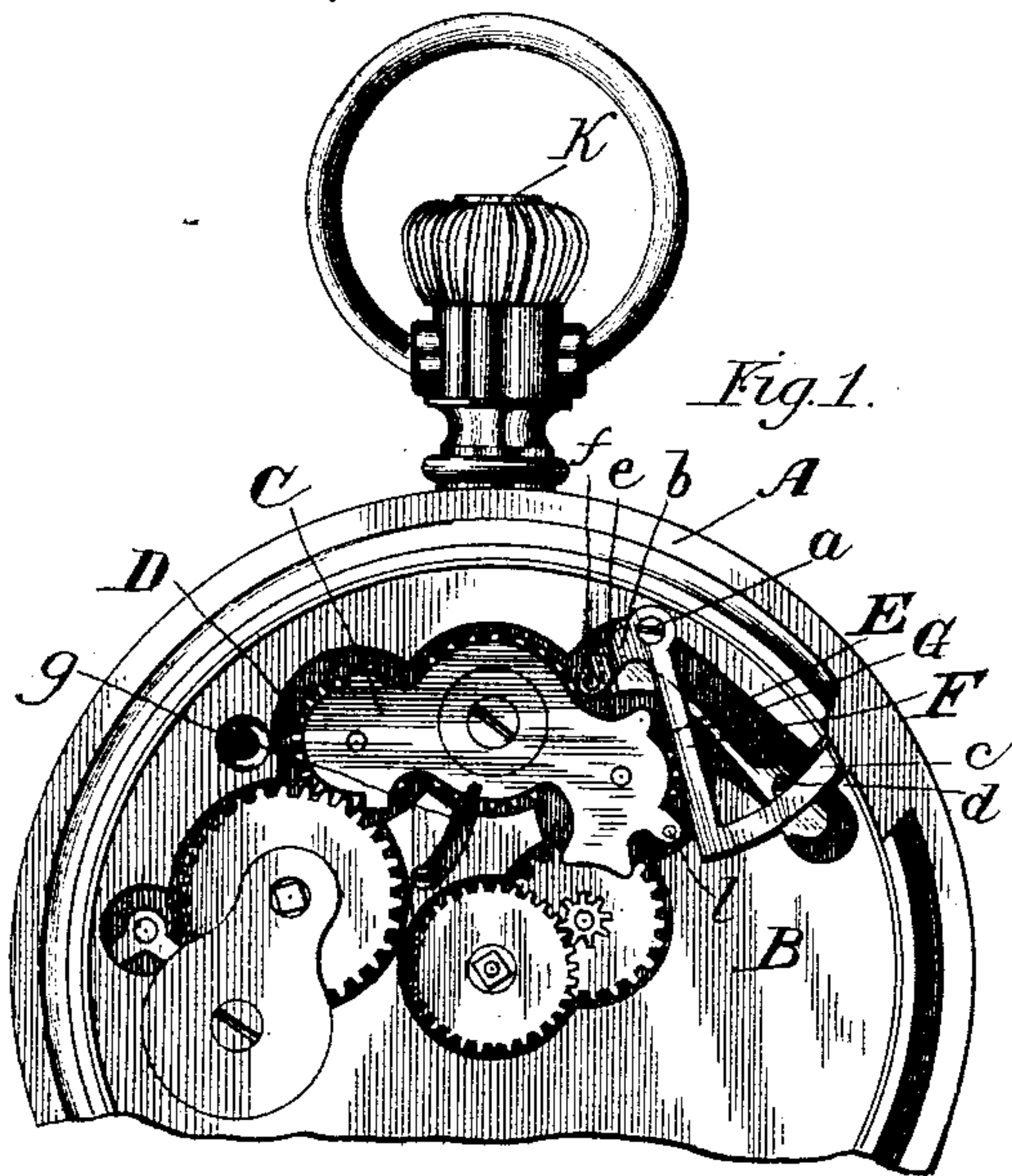
(No Model.)

A. TROLLER.

STEM WINDING AND SETTING WATCH.

No. 350,904.

Patented Oct. 12, 1886.



Witnesses:

Albert H. Adams.

Harry T. Jones.

Inventor.

Albert Troller

By West & Bond

Attorneys



# UNITED STATES PATENT OFFICE.

ALBERT TROLLER, OF ROCKFORD, ILLINOIS, ASSIGNOR TO THE ROCKFORD WATCH COMPANY, OF SAME PLACE.

## STEM WINDING AND SETTING WATCH.

SPECIFICATION forming part of Letters Patent No. 350,904, dated October 12, 1886.

Application filed March 8, 1886. Serial No. 194,375. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT TROLLER, residing at Rockford, in the county of Winnebago and State of Illinois, and a citizen of the United States, have invented a new and useful Improvement in Stem Winding and Setting Watches, of which the following is a full description, reference being had to the accompanying drawings, in which—

10 Figure 1 is a plan showing a part of a watch and the dial side of a pillar-plate, with other parts, including my cam-spring, which, with the stem-driven mechanism, are in position for winding the spring. Fig. 2 is the same as Fig. 1, except that the set-lever and cam-spring and stem-winding mechanism are in position for setting the hands. Fig. 3 is a plan showing the under side of the pillar-plate and such of my winding and setting devices as are in view  
20 in position to wind the spring. Fig. 4 is the same as Fig. 3, except that the parts are in position for setting the hands. Figs. 5, 6, and 7 are details, Fig. 5 being a plan of the cam-spring, Fig. 6 a side elevation or side view of the setting-lever F, with pin *f*, and Fig. 7 a side view of the yoke with pin attached.

Winding and setting devices which can be brought into position and operated by a rotating and longitudinally-movable stem-arbor or stem-key are common, and cases for such movements are called "pendant-set" cases. A stem-key which is not longitudinally movable is frequently used for winding and setting, the setting devices being brought into position by a lever operated by hand, and cases for such  
35 movements are known as "lever-set" cases.

My invention consists, first, in providing a watch-movement with a cam-spring adapted to hold the setting-lever in place when in position for setting the hands, and also to hold such lever in place when out of position for setting.

It further consists in a novel construction of devices by means of which a stem-driven train in a pendant-set case is brought into engagement with a dial-wheel or with a winding-wheel at pleasure.

It further consists in providing a watch-movement having a winding and hand-setting train adapted to be operated by a stem-key, with a lever to lock the devices used for bring-

ing the parts in position for setting by means of the stem-key, so that they cannot be operated by such stem-key, and in providing such movement with a lever operated by hand adapted to act on the yoke and bring the intermediate wheel at one end of the yoke into engagement with a dial-wheel, so that the same movement can be used in a pendant-set case or in any exclusively lever-set case.

In the drawings, A represents a portion of the center-band of a watch-case provided with a pendant and a longitudinally-movable stem-arbor, which may be constructed in any known suitable manner, and therefore I have not shown them in detail, nor given any description thereof, they being no part of my invention.

B is the upper plate of a watch-movement, which is fitted and secured in the case as usual.

C is a yoke pivoted upon a hub, and held in position by a cap and screw, as usual. At one end of this yoke is a wheel, D, arranged so that it can be made to engage with the wheel attached to the mainspring-arbor. At the other end of the yoke is pivoted another wheel, E, which can be made to engage with one of the dial-wheels. These two wheels D E are driven by a wheel located between them, as usual.

F is a lever for the purpose of moving the yoke so that the wheel E will engage with the dial-wheel, and for this purpose it is pivoted at *a*, and is provided with an arm, *b*, which can be made to act upon the yoke by drawing out the arm *c* at the other end of the lever.

G is a spring, one end of which is pivoted at *d* to the plate B. The other end of this spring is provided with a cam, *e*, arranged to engage with a pin, *f*, which extends downward from the free end of the arm *b*. When the parts are in the position shown in Fig. 1, the lever F will be held in the position there shown by the cam *e* and pin *f*; but the arm *c* can be drawn out by using some force, when the pin *f* will force the cam back, and the pin will pass over its point, and then the cam and spring will be returned to their former position. When this is done, the free end of the arm *b* will engage with the yoke C and bring the wheel E into engagement with the dial-



wheel, and the cam will hold the lever in that position, as shown in Fig. 2, until the arm *c* is again pushed in.

*g* is a spring, one end of which is secured to the plate B, and the other end engages with the yoke C, for the purpose of bringing the wheel D into engagement with the winding-wheel when the yoke is released from the action of the lever F.

I will now describe my improved devices by means of which a stem-driven train in a pendant-set case can be brought into engagement with a dial-wheel or the winding-wheel.

*h* is a stem-bridge.

H is a T-shaped sliding pin, so located and arranged in one wall of the stem-bridge that the stem-arbor comes in contact with the outer end of such pin.

I is a shifting-bar, pivoted at one end to the plate B, as shown at *i*, the other end being free.

J is a locking-bar, one end of which is pivoted to the plate B at *j*. This locking-bar is provided with a long notch, into which one end of the shifting-bar I passes.

*k* is a spring, one end of which is secured to the plate B, and the other end engages with and acts upon the locking-bar J.

*l* is a pin secured to that end of the yoke next to the dial-wheels. This pin passes through a slot, *v*, in the plate B, and is arranged to come in contact with it and be acted upon by the locking-bar J.

K is the stem-arbor or stem-key.

L is a bar or lever pivoted at *m* to the plate B, the other end being free. This bar or lever is provided with a pin, *n*, arranged to engage with and act upon some part of the locking-bar J and hold it out of action.

The operation of the cam-spring G will be fully understood from the previous description.

The operation of the other devices is as follows: When the stem arbor or key K is pushed in, the T-pin H will also be pushed in, and will bear against the shifting-bar I, bringing it into the position shown in Fig. 3, in which such bar I has forced back the locking-bar J into the position shown in Fig. 3, and so long as the stem-key remains pushed in the parts H, I, and J will remain in the position shown in Fig. 3, in which the wheel D will be engaged with the winding-wheel. When the stem-key

is drawn out a little, the action of the spring *k* on the locking-bar J will bring the parts J, I, and H into the position shown in Fig. 4, and at the same time the action of the lower end of the locking-bar J on the pin *l* will force the yoke into a position which brings the wheel E into engagement with a dial-wheel, and the hands can then be set by the stem-key. If it be desired to place this movement in a pendant-set case, the lever L is to be left in the position shown in Fig. 4. By bringing the lever L into the position shown in Fig. 3 it can be made to permanently hold the locking-bar J in the position shown in Fig. 3, and the movement may then be placed in an exclusively lever-set case, the hand-setting devices being brought into proper position by the lever F, instead of by the movement of the stem key. When this lever L is in the position shown in Fig. 3, the locking-bar J cannot act upon the pin *l*, and through it bring the yoke into proper position for setting the hands. When the lever L is in the position shown in Fig. 4, it is wholly inoperative, and the stem-winding and stem-setting devices can be operated by means of the longitudinally-movable stem-key, as before described. I am thus able to use the same movement, either in a pendant-set case or in an exclusively lever-set case.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a stem winding and setting watch, the combination of a pin, H, adapted and arranged to be acted on by a stem-key, a pivoted shifting-bar, I, a locking-bar, J, a spring to act upon the locking-bar, and a yoke provided with a pin which passes through a slot in the plate B, and is arranged so that it can be acted on by the bar J, substantially as and for the purposes specified.

2. In a stem winding and setting watch, the combination of a locking-bar, J, which acts on the yoke C, and a lever, L, for the purpose of holding the locking-bar J permanently out of action when desired, whereby the same watch-movement is adapted to be used either in a pendant-set case or in an exclusively lever set case, substantially as specified.

ALBERT TROLLER.

Witnesses:

E. A. WEST,  
HARRY T. JONES.