No. 723,123. PATENTED MAR. 17, 1903.

A. AUNE.

STEM WINDING WATCH.

APPLICATION FILED JUNE 2, 1902.

NO MODEL.

Fig. 1.

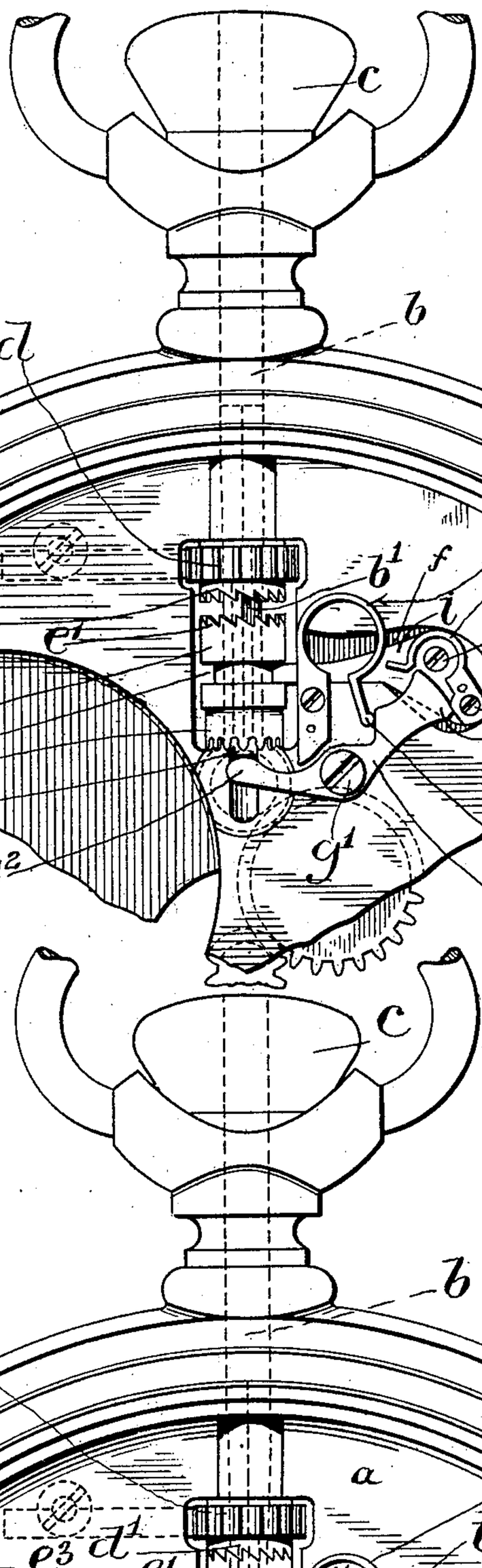
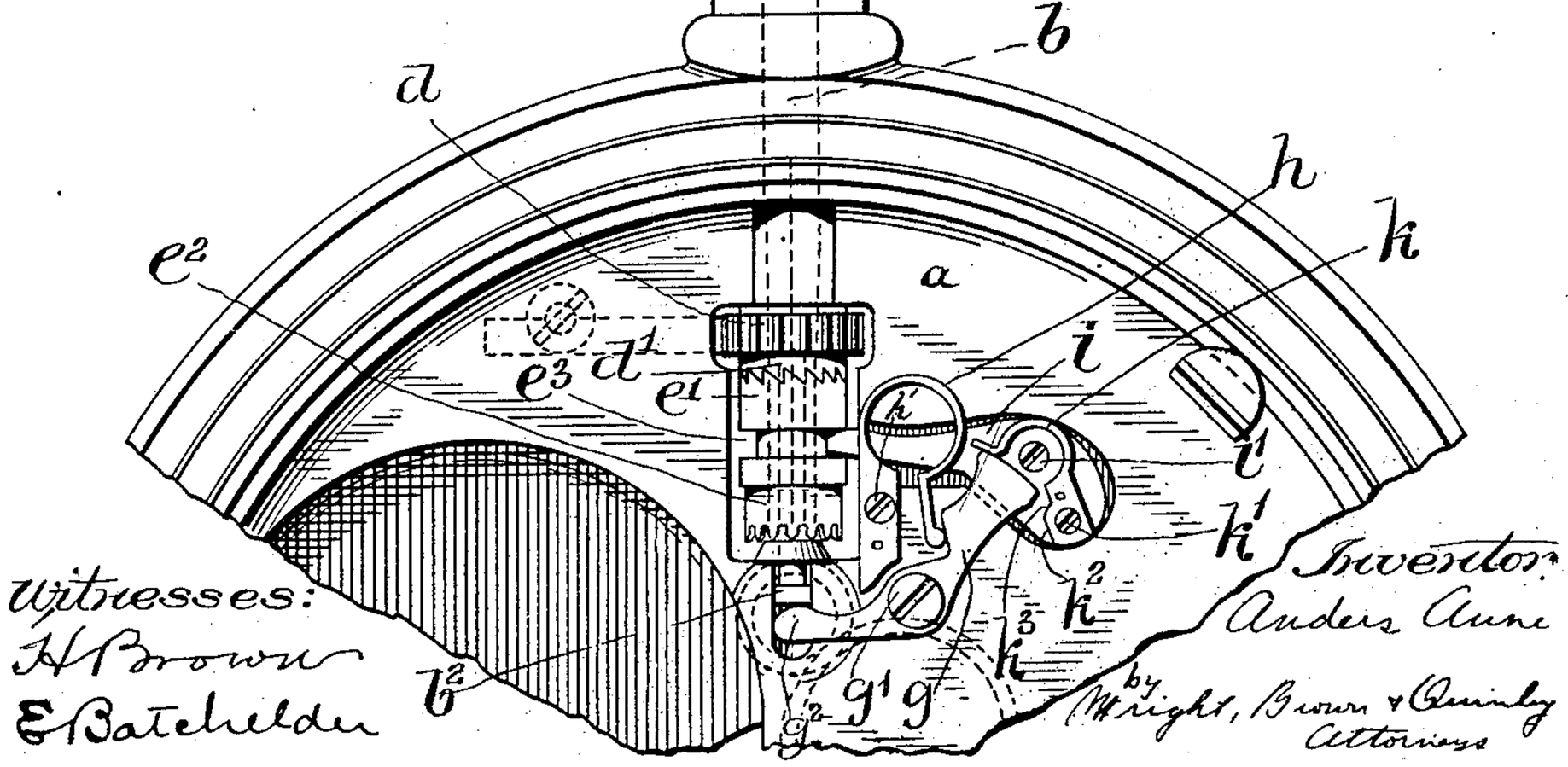


Fig. 2.



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UNITED STATES PATENT OFFICE.

ANDERS AUNE, OF WALTHAM, MASSACHUSETTS.

STEM-WINDING WATCH.

SPECIFICATION forming part of Letters Patent No. 723,123, dated March 17, 1903.

Application filed June 2, 1902. Serial No. 109,834. (No model.)

To all whom it may concern:

Be it known that I, ANDERS AUNE, of Waltham, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Watch-Setting Attachments, of which the following is a specification.

This invention relates to stem-winding mechanism for watches, and has for its object the production of a simple, compact, and ornamental mechanism, all the parts of which may be mounted upon one side of the front plate of the watch-movement and which will provide for positively holding the clutch when in gear with the setting-train, so that if any member of the latter should be tight there will be no liability of the resulting friction causing a slipping of the clutch.

To these ends the invention consists in the construction and combination of parts substantially as hereinafter described and claimed.

In the drawings, Figure 1 represents a plan of my improved mechanism and of so much of a watch-movement as is necessary to illustrate the adaptability and the operation of the invention, the parts being in position for setting. Fig. 2 represents a similar view with the parts in position for winding.

Similar reference characters indicate similar parts in both the figures.

The front plate of the watch-movement is indicated at a, and said plate supports the winding and setting mechanism, as hereinafter described. The arbor b, having a square portion b' for the sleeve, is provided with the usual crown c and has its inner end or head b^2 adapted to operate the sleeve-shifting mechanism, as will presently appear. The pinion for the winding-train is indicated at d and is provided with teeth d', adapted to mesh with the teeth e' at the outer end of the sleeve e, said sleeve having teeth e^2 at its inner end and a peripheral groove e^3.

All of the parts so far described are or may be of an ordinary construction, as indicated in the drawings.

It is to be understood that in practice the arbor b will be suitably supported in a bearing, such as two half-bearings formed by oppositely-arranged grooves in the pillar and top plates. As such arrangement forms no part of the present invention, I have omitted an illustration of it in order that the parts which do embody my invention and which will now be described may appear more clearly in the drawings.

A lever g, pivoted at g' to the front plate, has its inner end g^2 projecting into the path of movement of the end or head b^2 of the arbor and has its outer end g^3 formed with a preferably curved surface, as indicated, said lever having also a shoulder g^4. A spring h is secured by means of a screw h' to the front plate a and is preferably steadied in position by means such as a dowel-pin. The outer or free end of the spring bears against the shoulder g^4 of the lever g and normally acts to hold the lever g in the position shown in Fig. 1. A sleeve-operating lever i is pivoted to the plate a at i' and has its longer end entering the peripheral groove e^3 of the sleeve. This lever i is located in a recess f, formed in the plate a, said recess being of such a depth that the lever i will be substantially flush with the said plate a, so that all the parts will occupy a very small space. Secured to said lever i, as by a screw k' and a suitable dowel-pin, is a spring k, having its intermediate portion curved or bent, so that no contact will be made with the end of the lever g excepting at the fixed and free ends of said spring k. The fixed end of the spring k is formed to present an abutment k^2 for the end of the lever g, and adjacent to said abutment is a cam-surface k^3. When the crown is pushed inward so that the end or head b^2 swings the lever g to the position shown in Fig. 2, the outer end of said lever g engages the free end of the spring k, and through said spring yieldingly moves the sleeve-operating lever i, so as to slide the sleeve into position where its outer teeth e' will engage the teeth d' of the pinion d. When the parts are in this position and the arbor is being rotated backward, the spring k permits the lever i to yield with the sliding movements of the sleeve-clutch. Upon pulling the arbor outward the spring h causes the lever g to swing, so that its end g^2 follows the movement of the arbor, and the outer end g^3 of said lever g is carried from the position shown in Fig.

2 to the position shown in Fig. 1, its outer end acting against the cam-surface k^3, and consequently oscillating the lever i, and finally coming to a stop behind the abutment k^2, entirely leaving the free end of the spring k. The swinging of the lever i throws the sleeve to a position so as to disengage it from the teeth of the pinion d of the winding-frame, and carries the teeth e^2 of said sleeve into engagement with the teeth of one of the pinions of the setting-train in the usual manner. Since the outer end of the lever g is opposite the abutment k^2, which, as above stated, is fixed on the lever i, the said lever i is held positively in the position shown in Fig. 1, so that if any member of the setting-train tends to catch or stick the resistance afforded thereby cannot cause a slipping of the clutch-teeth e^2, for the reason that the sleeve e is held firmly by said lever i.

Having now described my invention and set forth one embodiment thereof, I wish it to be understood that I do not limit myself to the specific construction illustrated and described, as the same may be modified to more or less extent without departing from the spirit of my invention.

I claim—

A stem winding and setting mechanism for watches, comprising a longitudinally-movable stem-arbor, a sleeve-clutch thereon adapted to alternately engage the winding and setting trains, the lever g having one end in the path of movement of the stem-arbor, and having a shoulder g^4 between its end and the pivot, the lever i engaging the sleeve-clutch to reciprocate it and provided with an abutment and an adjoining cam-surface to be engaged by the adjacent end of the lever g, said lever i being provided with a spring extending from the abutment to the opposite side of the pivot and adapted to be engaged by the end of the lever g alternately with the engagement with said abutment.

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

ANDERS AUNE.

Witnesses:

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