

ALLEN & BANTA.
Watch Regulator.

No. 100,246.

Patented March 1, 1870.

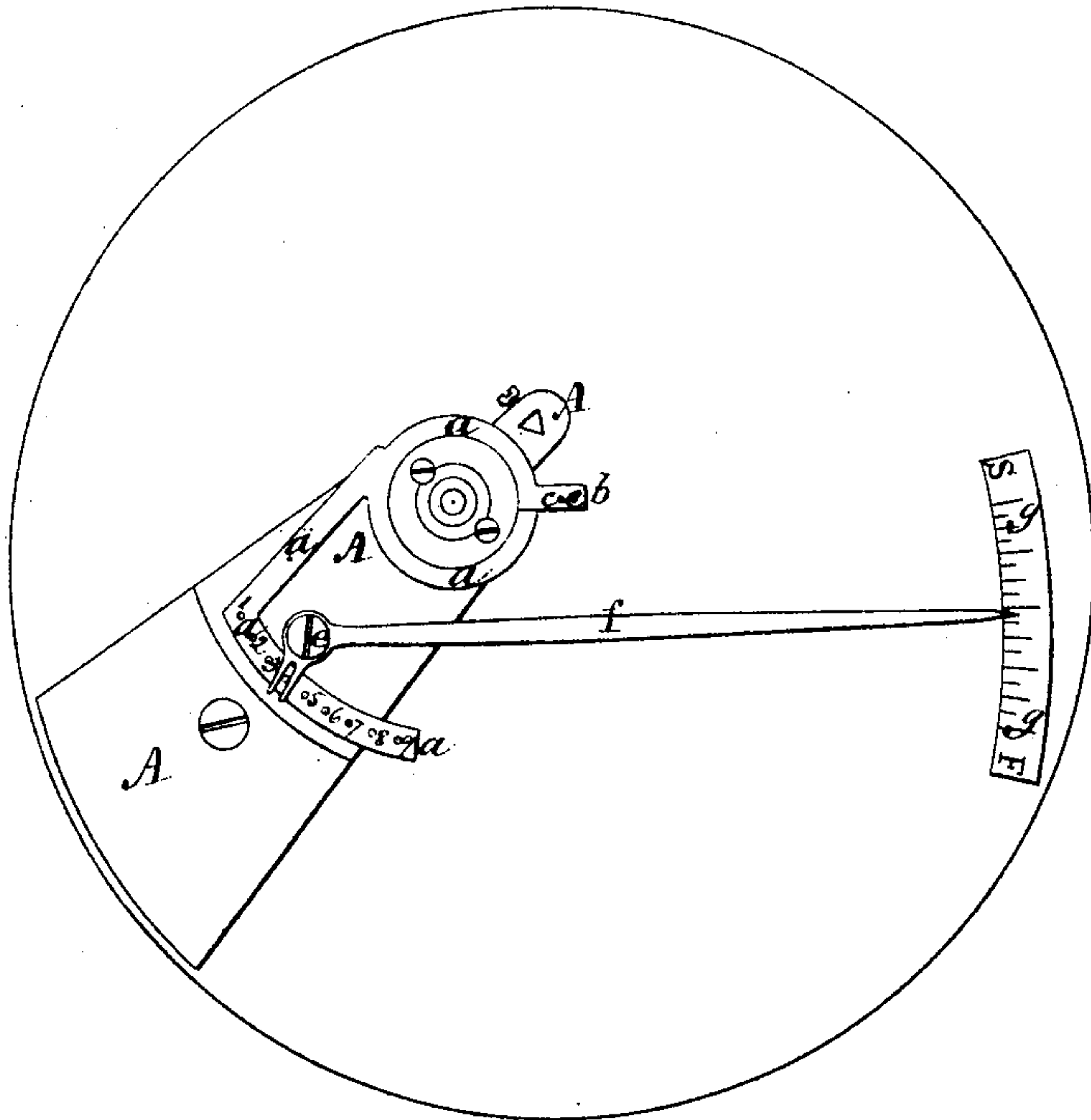


Fig. 2.

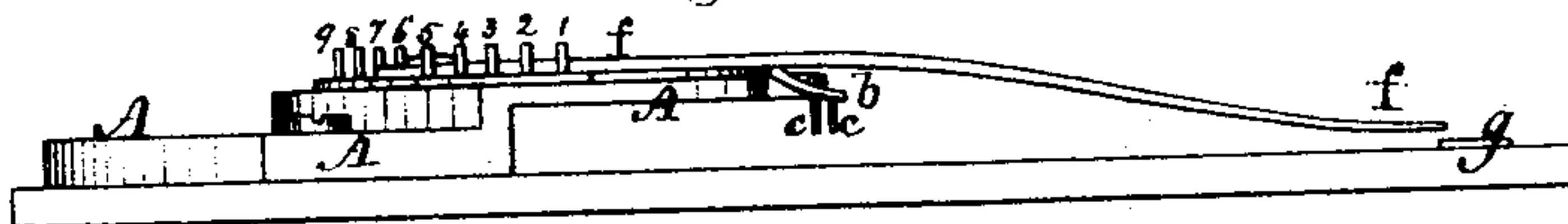


Fig. 3.

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Witnesses.
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United States Patent Office.

JOHN P. ALLEN AND WILLIAM E. BANTA, OF SPRINGFIELD, OHIO.

Letters Patent No. 100,246, dated March 1, 1870.

IMPROVEMENT IN WATCH-REGULATORS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, JOHN P. ALLEN and WILLIAM E. BANTA, of Springfield, in the county of Clark, and State of Ohio, have invented certain new and useful Improvements in Regulators for Watches, and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings making a part of this specification, in which—

Figure 1 represents a top plan, and

Figure 2 represents a side elevation, both on an enlarged scale, to better show the construction.

Figure 3 represents the screw for holding the regulator to the bridge and regulating the friction thereof.

Similar letters of reference where they occur in the separate figures, denote like parts in all of the drawings.

We are aware that cogged segments have been used for operating a watch-regulator, but all cogged gearings must have the necessary play to allow them to go into and out of mesh with each other, without cramping or binding. When cogged teeth that for instance, say, have been moving to right, have to be reversed and moved to the left, as in a watch-regulator, all the play between the cogs to allow them to run in and out of mesh, becomes lost or shackle motion, and the indicator hand is moved along on the scale, until all this lost or loose motion is taken up before it has any effect upon the hair-spring. Or, in other words, when ordinary cogged teeth are used, the moving of the indicator does not always affect or move the clamp on the hair-spring, and therefore is inexact for its use or purpose.

The object and purpose of our invention is to so contrive that every, and the least, movement of the indicator shall at once and invariably move or affect the hair-spring, and not be taken up in the lost or shackle motion that must be in ordinary cogged gears, so that they may roll into and out of mesh; and

Our invention consists in the use of round teeth in the segment, and forked spring projections on the indicator hand which clasp and embrace the tooth on its opposite sides, and so that the tooth may roll be-

tween said jaws or projections, without any lost motion, as will be explained.

To enable others skilled in the art to make and use our invention, we will proceed to describe the same with reference to the drawings.

On the bridge *A* is pivoted in the usual well-known way, the segment *a*, which has in it, or projecting from it, a series of round pins, 1, 2, 3, &c.; and also upon it the arm *b* and pins *c c*, that straddle the hair-spring and regulate its beat.

To the bridge is also pivoted by a friction screw, *e*, the regulator or indicator arm *f*, which at its remote free end sweeps over a marked scale, *g*.

On the hub of the indicator hand or arm *f* are made forked or spring projections or fingers, which take between them one of the round pins in the segment *a*, and bear upon the two diametric sides of said pin, and as the regulator arm is moved the pin grasped by its fingers or fork rolls or turns against said fingers without a particle of lost or shackle motion, whether turned in one direction and reversed, or not.

The effect of the moving of the indicator or regulator hand on the hair-spring is thus always certain, and no part of it taken up in play or lost motion, as in ordinary cogged gears.

Having thus fully described our invention,

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

In combination with the regulator indicator of a watch, and the segment that operates upon the hair-spring, the spring fork or fingers on the former, and the round pins upon the latter, so that every movement of the indicator shall be positively transmitted to the segment, without lost motion or play between them, as in ordinary cogged segments, as described and represented.

JOHN P. ALLEN.
WILLIAM E. BANTA.

Witnesses:

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