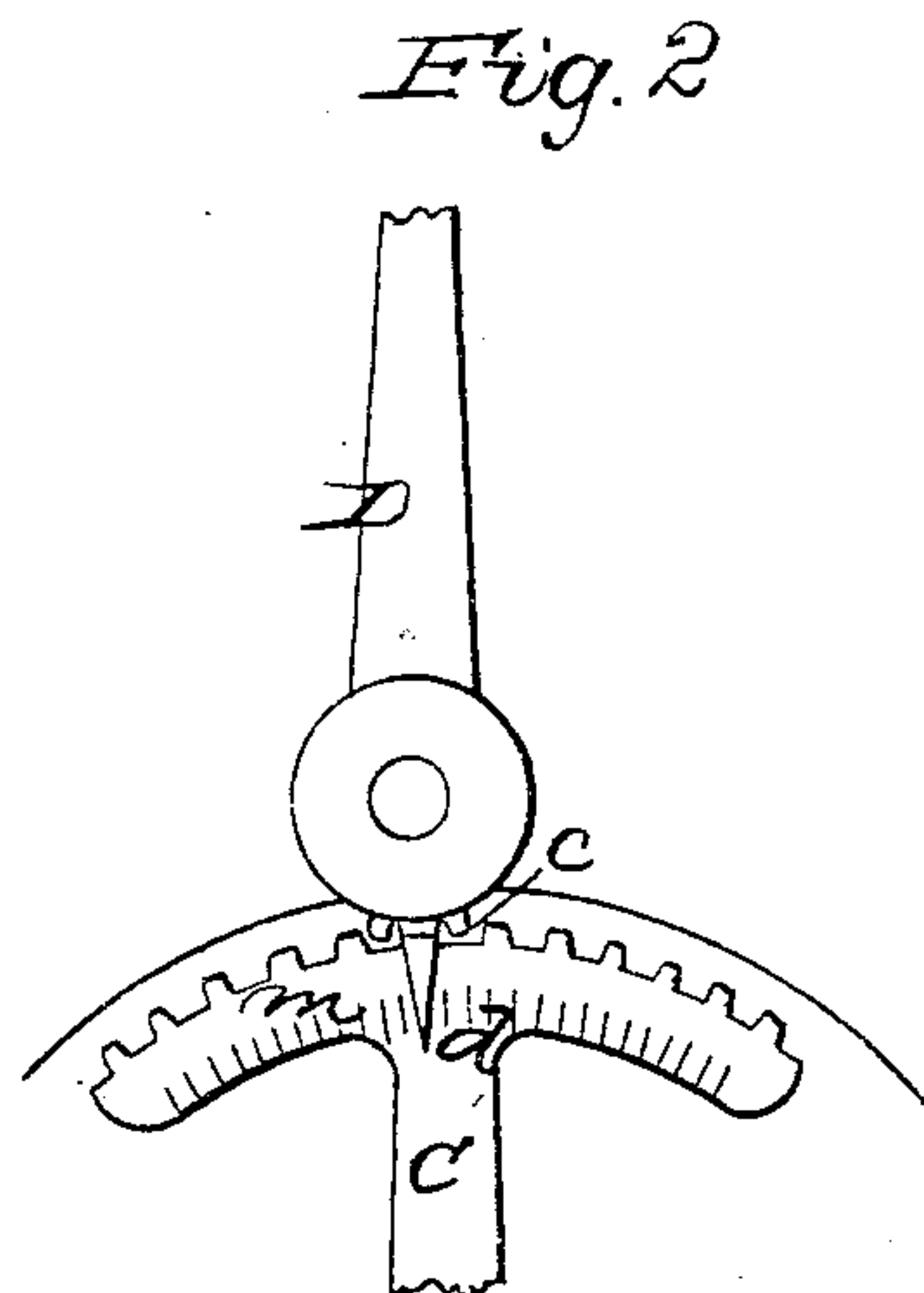
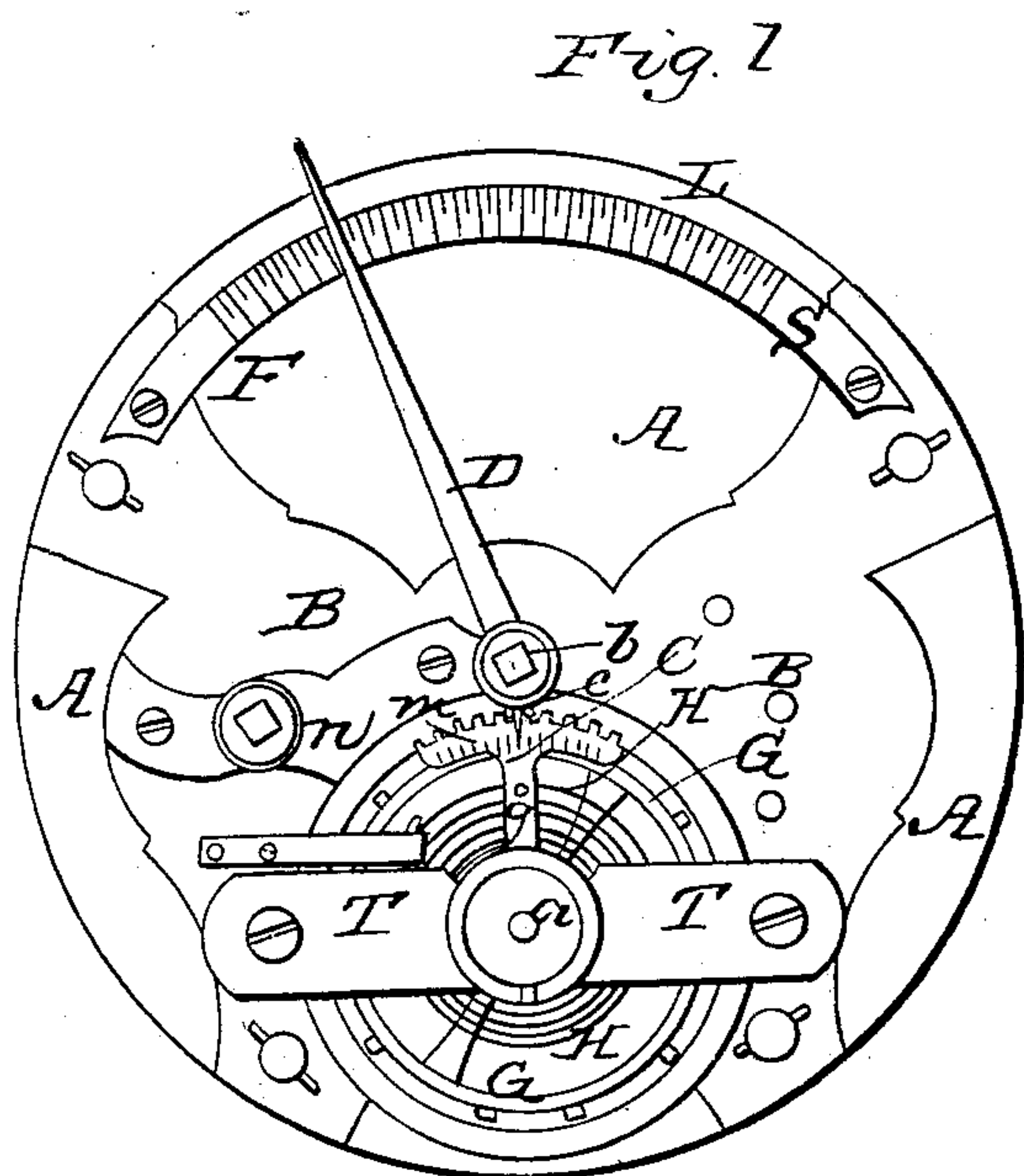


R. S. MERSHON.
Watch Regulator.

No. 23,810.

Patented April 26, 1859.



WITNESSES
James L. Wheeler
John Madden Jr

INVENTOR
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UNITED STATES PATENT OFFICE.

RALPH S. MERSHON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND JOHN M. HARPER, OF SAME PLACE.

REGULATOR FOR TIMEKEEPERS.

Specification forming part of Letters Patent No. 23,810, dated April 26, 1859; Reissued February 7, 1860, No. 892.

To all whom it may concern:

Be it known that I, RALPH S. MERSHON, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Timepieces; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, in which—

Figure 1, represents a top view of a time piece. Fig. 2 represents a detached view of the compound regulator on an enlarged scale.

The nature of my invention consists in the application to watches or such other time pieces, as have their beats or vibrations governed by a balance and hair spring of a compound regulator, composed of two or more movable toothed segments by means of which the least sensible effect can be produced upon the hair spring while the construction of this compound regulator is such that it may also be used as a simple regulator for the purpose of producing a greater effect upon the hair spring.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A, represents the pillar plate of a watch movement.

B, represents the upper plate.

C, represents a toothed segment movable upon the shaft *a*, which is held by the balance bridge T.

D, represents the regulator, which turns its bearing at *b*. It has upon its hub two or more teeth *c*, which mesh into the teeth of the toothed segment C.

G, represents the balance, H, the balance or hair spring.

L, represents a scale by which the regulator D, is adjusted, and which I call the greater scale.

m, represents a scale on the movable segment C, which I call the lesser scale, the degrees of which are indicated by the stationary point *d*, of the plate *m*.

The operation of this movement is as follows: If the regulator D, be turned upon its pivot toward F, the segment C, will turn in

an opposite direction and the scale *m*, will have moved along in front of the stationary point *d*. If the distance of the teeth *c*, and the scale L, from the center *b*, be respectively as 1 to 7, then the arc C, will move one seventh of the movement indicated by the regulator D, upon the scale L, and as the tension of the balance spring is adjusted by the action of the pin *g*, upon it, and as the pin *g*, is secured at a distance from the point *a*, which is equal to one half of the radius of the segment C, it follows that at the movement of the regulator D, upon the scale L, the balance spring is affected to only one fourteenth of said movement, thus affording the means of adjusting the spring to almost any desired accuracy. By turning the regulator D, to the point S, the two teeth *c*, of said regulator will have passed beyond and ceased to control the toothed segment C, and the latter can now be turned independently and like a simple regulator, the point *d*, indicating the degrees on the scale *m*, thus affording the means of adjusting the balance spring for large adjustments, without recurring to the necessity of shortening the spring, as would be the case if the compound regulator only could be used.

Having thus fully described the nature of my invention, what I claim therein as new, and desire to secure by Letters Patent, is:—

1. The application to watches, and such time pieces as have their vibrations governed by a balance and hair spring of a compound regulator composed of two or more movable segments constructed and operating substantially as described.

2. I also claim the combination of said compound regulator with a greater and lesser scale, the former fixed and the latter movable, but having a fixed indicator, and capable of being operated either in concert with or independently of each other, substantially as herein described.

R. S. MERSHON.

Witnesses:

JAMES L. WHEELER,
JOHN MADDEN, Jr.