C. H. MEYLAN

Chronograph Watch.

No. 202,041. Patented April 2, 1878.

Fig. 1.

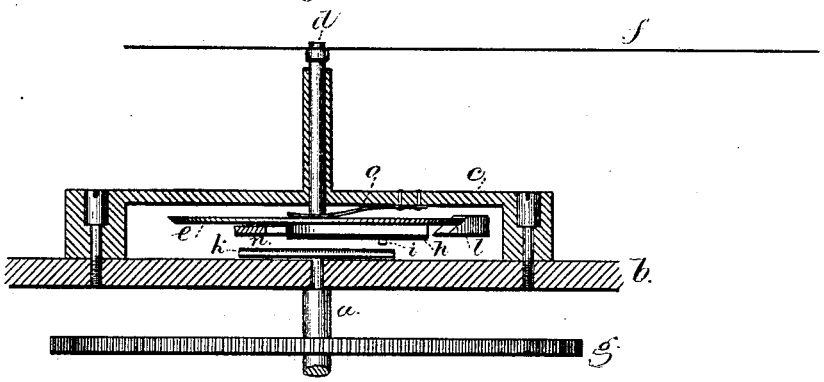


Fig. 2.

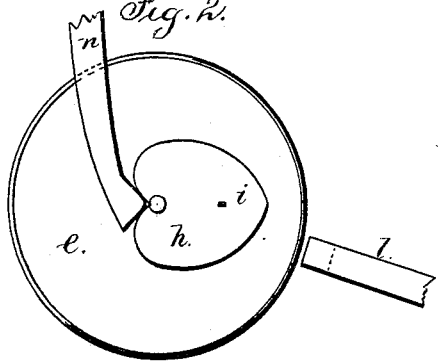
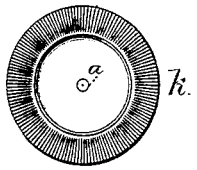


Fig. 3.



Witnesses

Chas H. Smith

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UNITED STATES PATENT OFFICE.

CHARLES H. MEYLAN, OF NEW YORK, N. Y.

IMPROVEMENT IN CHRONOGRAPH-WATCHES.

Specification forming part of Letters Patent No. **202,041**, dated April 2, 1878; application filed December 7, 1877.

To all whom it may concern:

Be it known that I, CHARLES H. MEYLAN, of the city and State of New York, have invented an Improvement in Watches, of which the following is a specification:

This invention relates to that class of watches known in the trade as "center second chronographs," in which there is a second-hand in the center of the dial and a stop-motion applied thereto. In chronographs of this character the hand has usually been connected to the train of gearing in the watch, so that when the hand was stopped the works also were stopped, and thereby the correct time was lost.

In my present improvements a positive connection is employed between the second-hand and the works of the watch, which connection is entirely severed when the hand is stopped, so that the works continue their accurate movement.

In the drawings, Figure 1 is a vertical section of the connecting mechanism. Fig. 2 is an inverted plan of the disengaging-wheel, and Fig. 3 is a plan of the grooved connecting-wheel.

The arbor *a* and wheel *g* are of ordinary character, and revolve once in a minute. *b* is the watch-plate, upon which is the bridge *c*, carrying the cannon or hollow journal for the arbor *d*, at the outer end of which is the second-hand *f*, and at the inner end is the wheel or disk *e* and heart cam *h*.

At the end of the arbor *a* is a wheel or disk, *k*, the face of which is cut with very fine grooves radially to the center, and upon the heart-cam *h* is a point, *i*, either conical or chisel shaped, adapted to enter one of the grooves in the wheel *k*, and there is a spring, *o*, to press the pin *i* against the wheel *k*, and so connect the second-arbor *a* to the second-hand *f* and give motion to the latter.

There may be two or more connecting-points, *i*.

It is common in watch-movements to have a push-pin or shank, which performs three duties. The first push causes the second-hand to start, the second push causes the hand to stop, and the third push brings the second-hand to the hour of XII on the dial. A movement of this kind is shown in my Patent No. 151,899, and need not be further described.

l is a wedge-shaped slide or arm adjacent to the edge of the wheel *e*, and *n* is the usual lever or arm that acts against the heart-cam *h* to move the same and turn the hand to XII. These parts are operated by the push-pin in the usual manner.

The second-hand being stationary, the first push of the pin removes the lever *n* of the heart-cam and also the incline *l* from the wheel *e*, so that the spring *o* brings the point *i* down into one of the grooves in the wheel *k*, and connects the second-hand to the watch-works to be revolved by the same, and the parts are reliably connected; and when the push-pin is operated a second time it moves the incline *l*, the wheel *e* is raised bodily, and the pin or point *i* is separated from the wheel *k*, and the second-hand is stopped and firmly held. The works are free to continue to move without friction or encumbrance of any kind. When the push-pin is operated the third time, the lever-arm *n* is brought into action against the heart-cam *h*, so as to turn the same and bring the hand to XII.

I am aware that the second-hand has been placed in the center of the watch and connected to the ordinary second-arbor by beveled gear-wheels that can be separated when the hand is stopped, and that the heart-cam has been used in connection with such stop-works. In this case, however, the beveled gears only drive the second-hand by the frictional contact of their edges. A radially-grooved plate and points have been used for connecting the second-arbor with the tubular second-hand arbor; but the same was not adapted to the center of the watch-movement, and the rotating arbor was subjected to friction when the second-hand was at rest.

I claim as my invention—

The combination, with the second-arbor *a* and its finely-grooved wheel *k*, of the independent arbor *d*, second-hand *f*, spring *o*, wheel *e*, slide or wedge *l*, heart-cam *h*, and point *i*, substantially as and for the purposes set forth.

Signed by me this 5th day of December, A. D. 1877.

C. H. MEYLAN.

Witnesses:

GEO. T. PINCKNEY,

CHAS. H. SMITH.