(No Model.) 2 Sheets—Sheet 1.

C. G. WILSON.

EIGHT DAY WATCH MOVEMENT.

No. 453,952. Patented June 9, 1891.

Fig. 1.

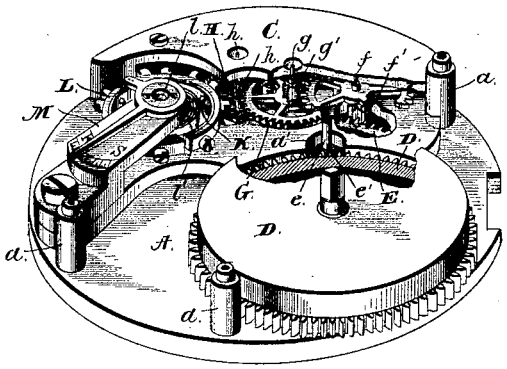
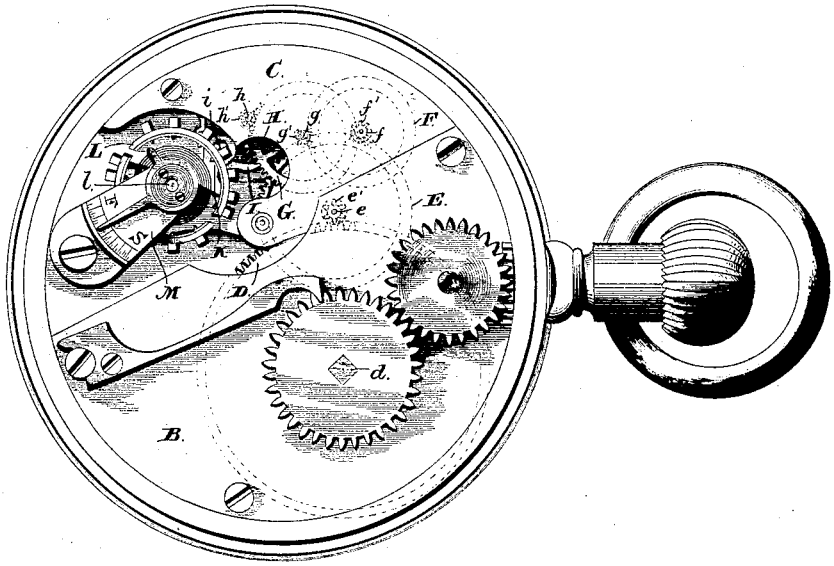


Fig. 2.



Witnesses:
Jas. E. Hutchinson
Henry C. Hazard

Inventor.
Chas. G. Wilson, by
Prindle & Russell, his Attys.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 3

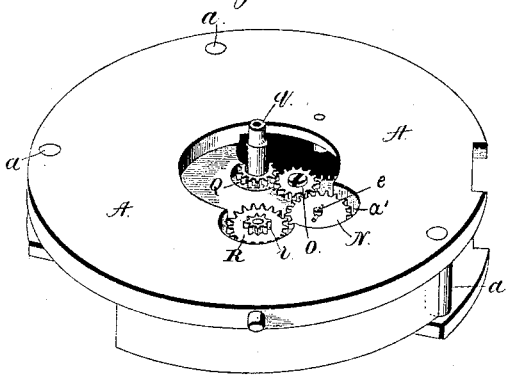
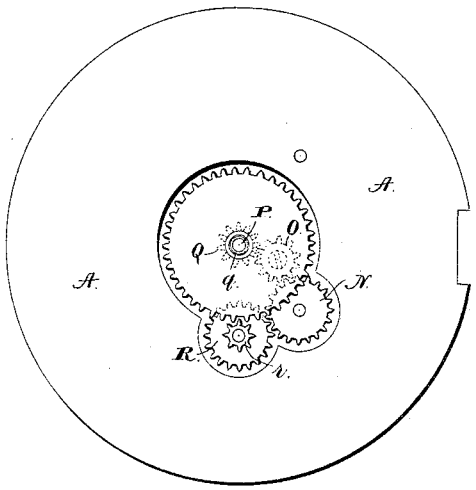


Fig. 4.



Witnesses:
Jas. E. Hutchinson.
Henry C. Hazard.

Inventor.
Chas. G. Wilson, by
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UNITED STATES PATENT OFFICE.

CHARLES GRANT WILSON, OF NEW YORK, N. Y.

EIGHT-DAY WATCH-MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 453,952, dated June 9, 1891.

Application filed July 19, 1890. Serial No. 356,307. (No model.)

To all whom it may concern:

Be it known that I, CHARLES GRANT WILSON, of New York, in the county of New York, and in the State of New York, have invented certain new and useful Improvements in Watches; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of my movement from the rear side, the back plate being removed. Fig. 2 is a plan view of the same with said back plate in position and the movement contained within a case. Fig. 3 is a perspective of said movement from the front side, the dial and hours-hand wheel being removed; and Fig. 4 is a plan view of the same with said hours-hand wheel in place.

Letters of like name and kind refer to like parts in all of the figures.

The design of my invention is to render practicable the construction of a watch-movement which shall be capable of running a week or more with one winding; and to such end my said invention consists in the combination and arrangement of the parts of a movement, substantially as and for the purpose hereinafter specified.

In the carrying of my invention into practice I employ a front plate A, which is provided with four pillars *a a a a*, that are adapted to receive a sectional back plate B. A third plate or bridge C, having less height than said plate B, rests upon the plate A and is secured thereto by dowel-pins and screws in the usual manner.

Between the plates A and B is journaled an arbor *d*, that carries a spring-barrel D, while between said plate A and the bridge C are journaled a second arbor *e*, carrying a pinion *e'* and wheel E, a third arbor *f*, which carries a pinion *f'* and wheel F, a fourth arbor *g*, carrying a pinion *g'* and wheel G, and a fifth arbor *h*, carrying a pinion *h'* and an escape-wheel H, which arbors and their wheels and pinions are arranged in substantially the order shown in Fig. 1. An arbor *i*, journaled between the plate A and a cock K, and carrying a pallet-lever I, and an arbor *l*, journaled between said plate and a cock M, and carrying a balance-wheel L and hair-spring *l'*, completes the time-train, which is precisely the same length as the ordinary thirty-hour train and operates in the usual manner.

The spring-barrel D has nearly twice the diameter that would be required for a thirty-hour watch, and contains a spring which is materially longer and stronger than that usually employed, which construction enables the watch to run for eight days with one winding.

Owing to the increase in the diameter of the barrel D, compared with a thirty-hour barrel adapted for the train shown, a portion of said barrel D overlaps the center of the movement. This renders it necessary to change the location of the seconds-wheel, which, usually in the short-time watches, is at the center of the watch, and accordingly it will be seen that such wheel with its arbor and pinion are eccentrically located in my movement. Accommodation is thus secured for the enlarged barrel without increasing at all the size of the watch as a whole.

The arbor *e* projects through the plate A into a recess *a'* in the outer face of the latter, and upon its projecting end carries a toothed wheel N, which is held thereon by frictional contact and meshes with a seconds-wheel O, that is pivoted upon said plate. A centrally-located stud P projects forward from the plate A and carries a cannon-pinion Q of usual form, which pinion meshes with the wheel O, and is adapted to receive and carry a minutes-hand upon the outer end of its sleeve or barrel *q*. At one side of said wheel N and engaging therewith is a toothed wheel R, which has upon its upper side a pinion *r*, that meshes with and drives an hours-hand wheel S, that is journaled upon the sleeve *q* of said minutes-hand wheel Q.

By the arrangement shown the minutes-hand pinion Q receives its motion from the wheel N through the wheel O, while the hours-hand wheel S receives motion from said wheel N through the wheel R and its pinion *r*.

The arrangement of the time-train and dial-train shown enables me to place within the space usually given to the time-train of a thirty-hours' watch all that is requisite for securing eight days of time from one winding of the spring and removes a serious objection to the use of watches of usual construction—viz., an occasional stoppage from

a failure to wind the mainspring, such failure being far more liable to occur where winding is required every day than where the spring is to be wound but once in a week.

Having thus described my invention, what I claim is—

1. As an improvement in watch-movements, in combination, a going-barrel adapted to run eight or approximately eight days after one winding, an escape-wheel, its arbor and pinion, and three intermediate arbors, with their wheels and pinions, the first of the latter arbors being eccentrically located to accommodate the going-barrel, substantially as and for the purpose shown.

2. As an improvement in watch-movements, a time-train which is composed of a main or first arbor, the wheel thereof, a second arbor journaled eccentrically with reference to the center of the movement-plates, the wheel and pinion thereof, and escapement, and the intermediate gearing between the latter and the wheel of the second arbor, said second arbor being adapted to impart movement to the dial-train, substantially as and for the purpose shown.

3. As an improvement in watch-movements, a time-train which is composed in part of a main or first arbor, an escape-wheel arbor, and three intermediate arbors, with their wheels and pinions, all of which are journaled eccentrically with reference to the center of the movement-plates, one of said intermediate arbors being adapted to impart movement to the dial-train, substantially as specified.

4. As an improvement in watch-movements, a time-train which is composed in part of a main or first arbor, an escape-wheel arbor, and three intermediate arbors, with their wheels and pinions, all of which are journaled around but not at the center of the movement-plates, and the hours and minutes hands are actuated through gearing that receives motion from the second arbor, substantially as and for the purpose set forth.

5. As a means for driving the cannon-pinion, which carries the minutes-hand, and in combination therewith, a wheel that is secured by friction upon the second arbor, and a wheel which is placed between and meshes with said wheel and pinion, substantially as and for the purpose shown and described.

6. As a means for driving the hours-hand wheel, and in combination therewith, a wheel which is secured by friction upon the second arbor, an intermediate wheel that meshes with and receives motion from said second arbor-wheel, and a pinion which is secured to said intermediate wheel, and meshes with said hours-hand wheel, substantially as and for the purpose specified.

7. As an improvement in watches, in combination with the going-barrel and the second arbor of a time-train, a pinion on the latter to drive the same from said barrel, the wheel on the arbor, and the dial-train receiving motion from said wheel, substantially as and for the purpose shown.

8. As an improvement in watches, in combination with suitable movement-plates, a time-train and a stud at the center of the top plate for journaling the hands and their sleeves, substantially as set forth.

9. In a watch, in combination, suitable movement-plates, a going-barrel, an arbor driven from the latter, and carrying a wheel on its upper end, journaled eccentrically with reference to the movement-plates, a stud at the center of the top plate, and the hands-carrying wheels journaled on said stud and driven from said first-mentioned wheel, substantially as and for the purpose shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 8th day of July, 1890.

CHARLES GRANT WILSON.

Witnesses:

GEO. G. F. WILSON,

J. A. BORETZNY.

Corrections in Letters Patent No. 453,952.

It is hereby certified that in Letters Patent No. 453,952, granted June 9, 1891, upon the application of Charles Grant Wilson, of New York, N. Y., for an improvement in "Eight-Day Watch-Movements," errors appear in the printed specification requiring correction, as follows: In line 67 and 79, page 1, the compound word "seconds-wheel" should read *second wheel*, and in line 21, page 2, the word "and" before the word "escapement" should read *an;* and that the Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 16th day of June, A. D. 1891.

[SEAL.]

CYRUS BUSSEY,
Assistant Secretary of the Interior.

Countersigned:

C. E. MITCHELL,
Commissioner of Patents.