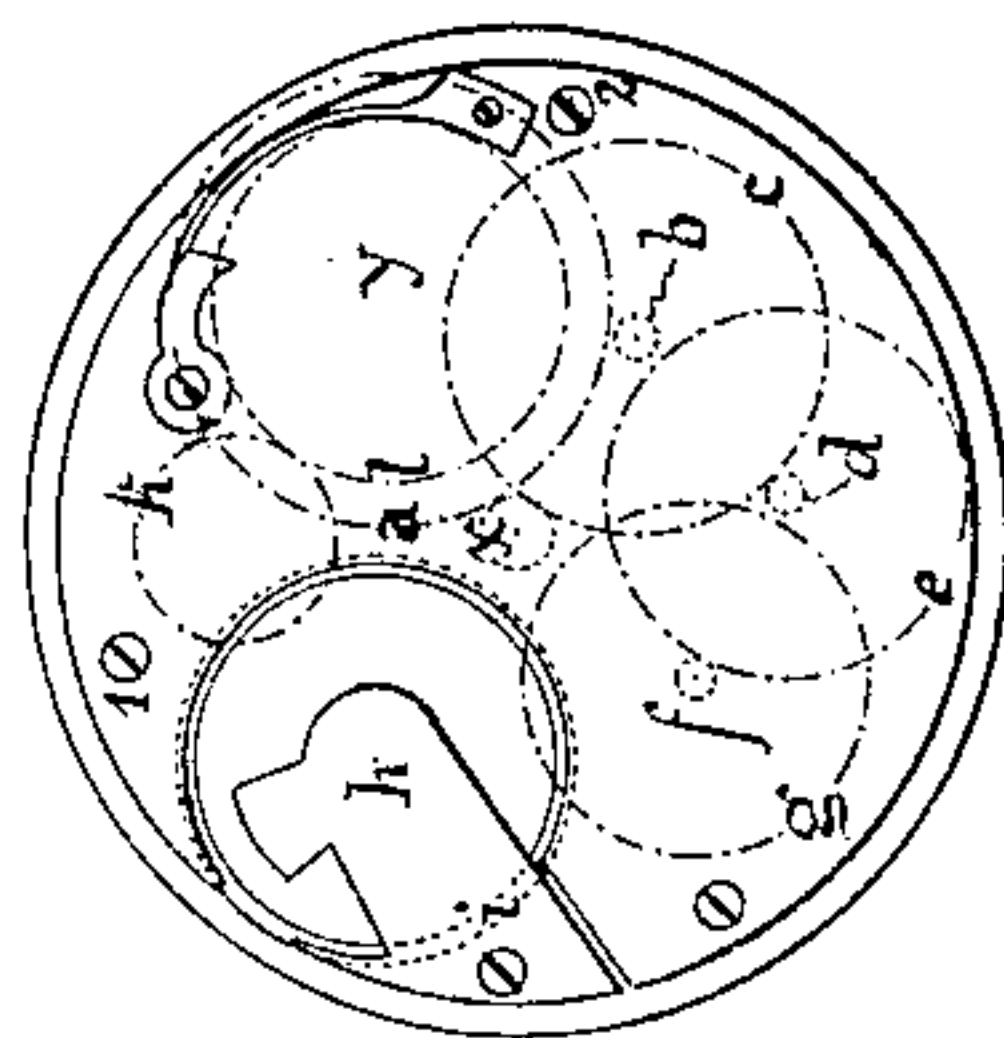
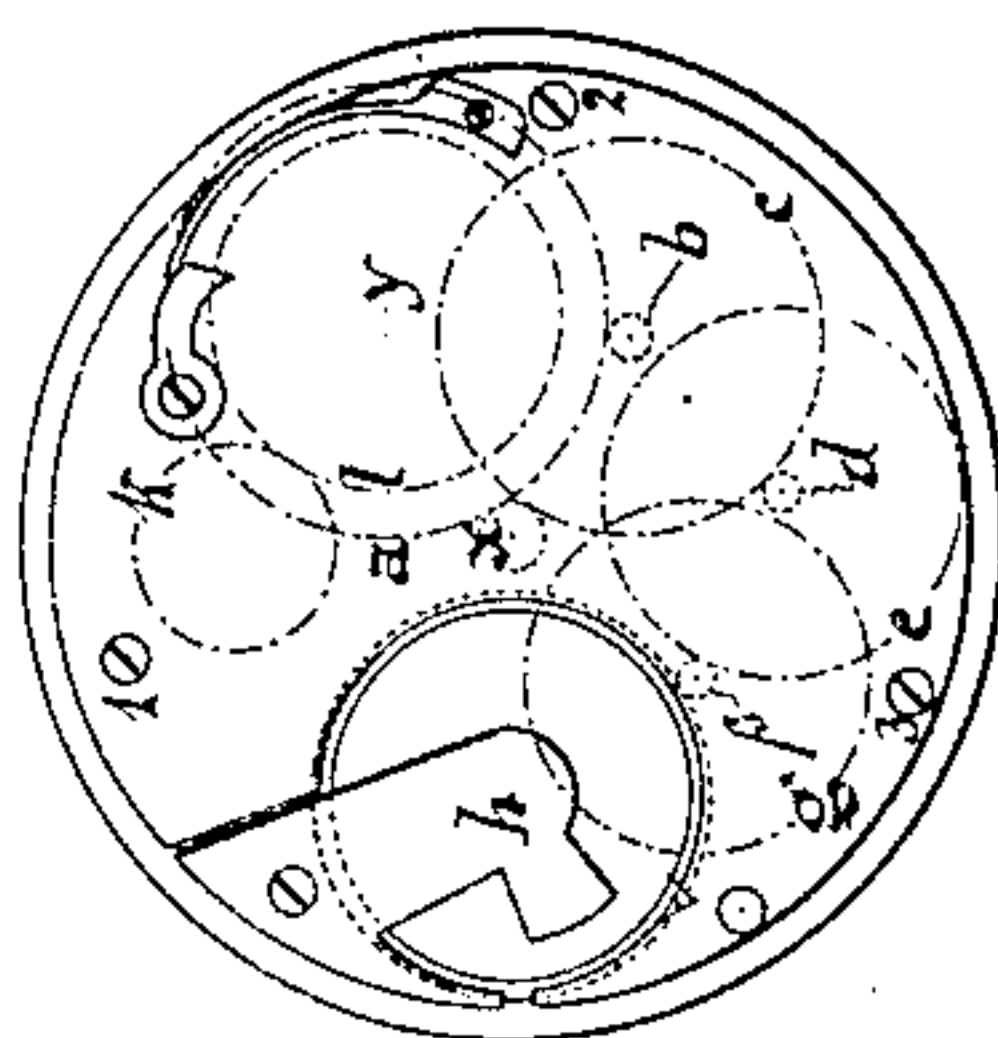
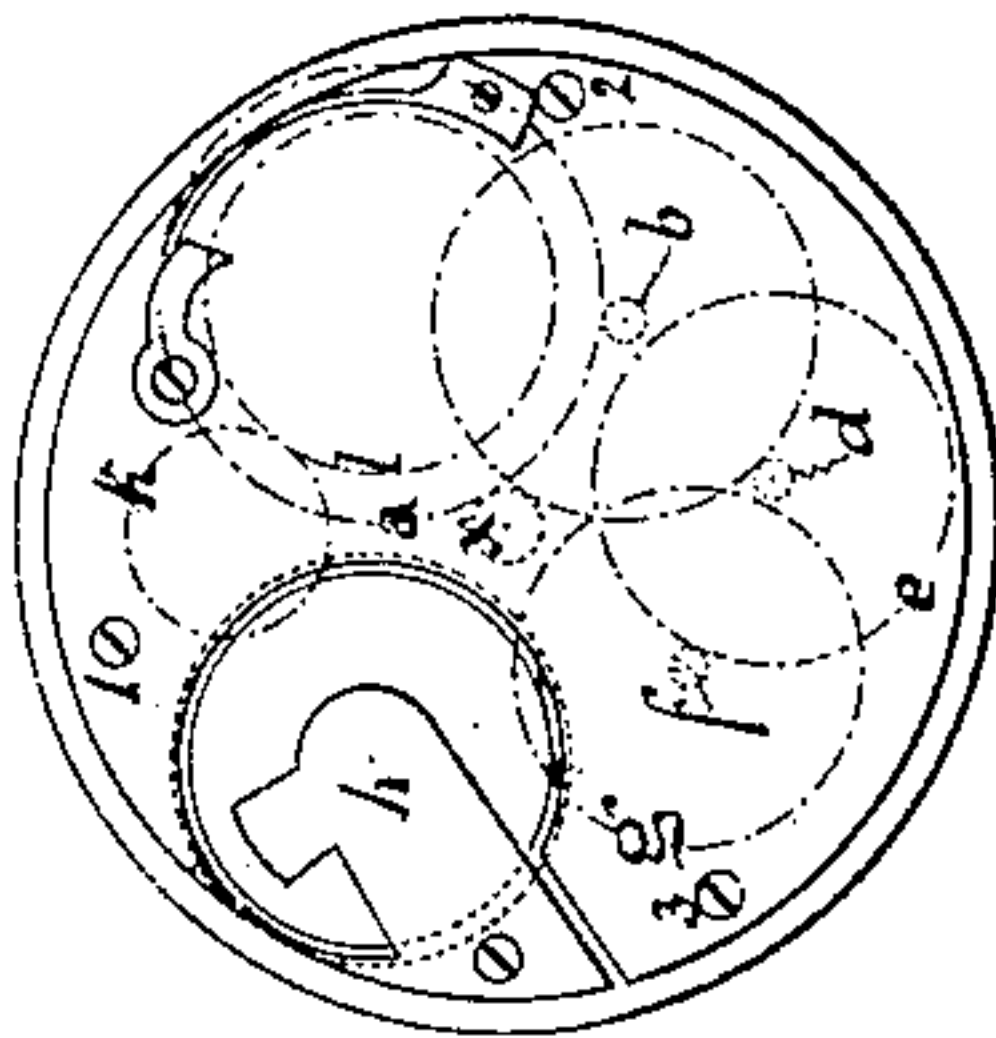
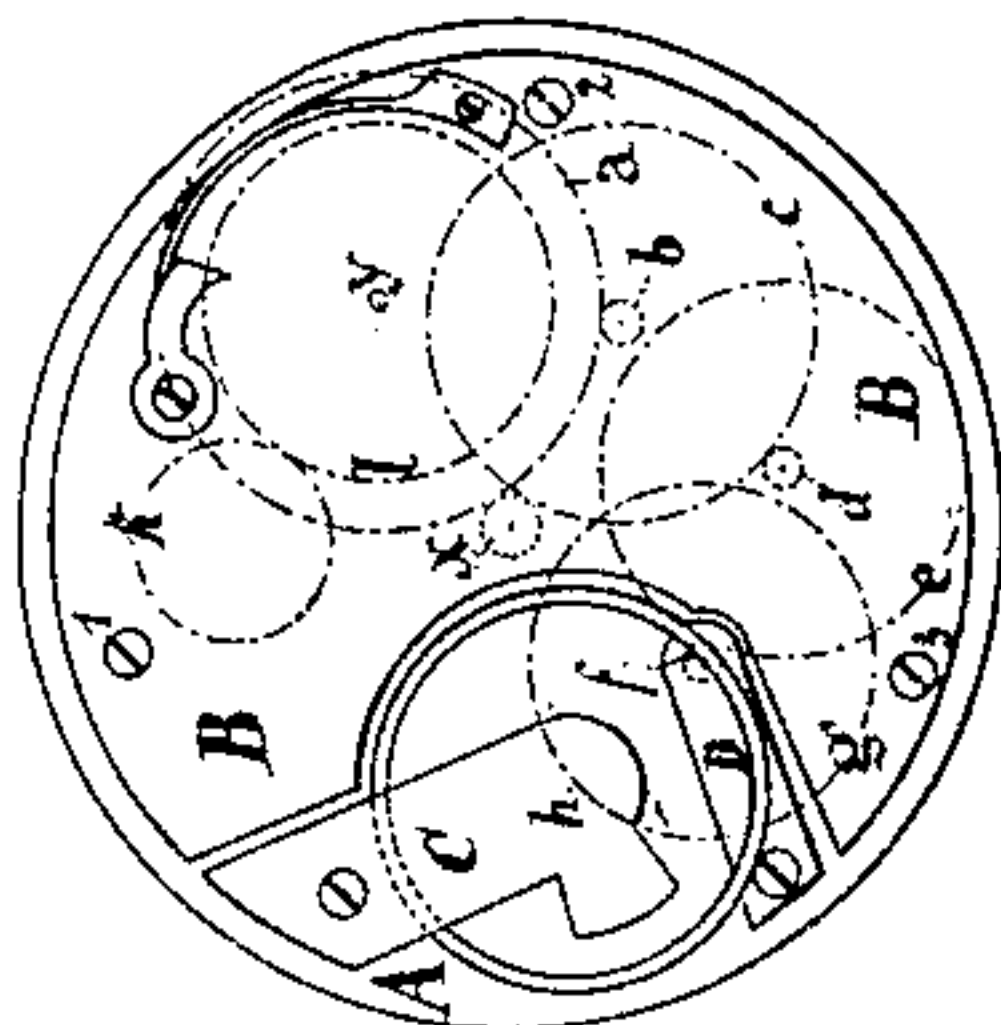
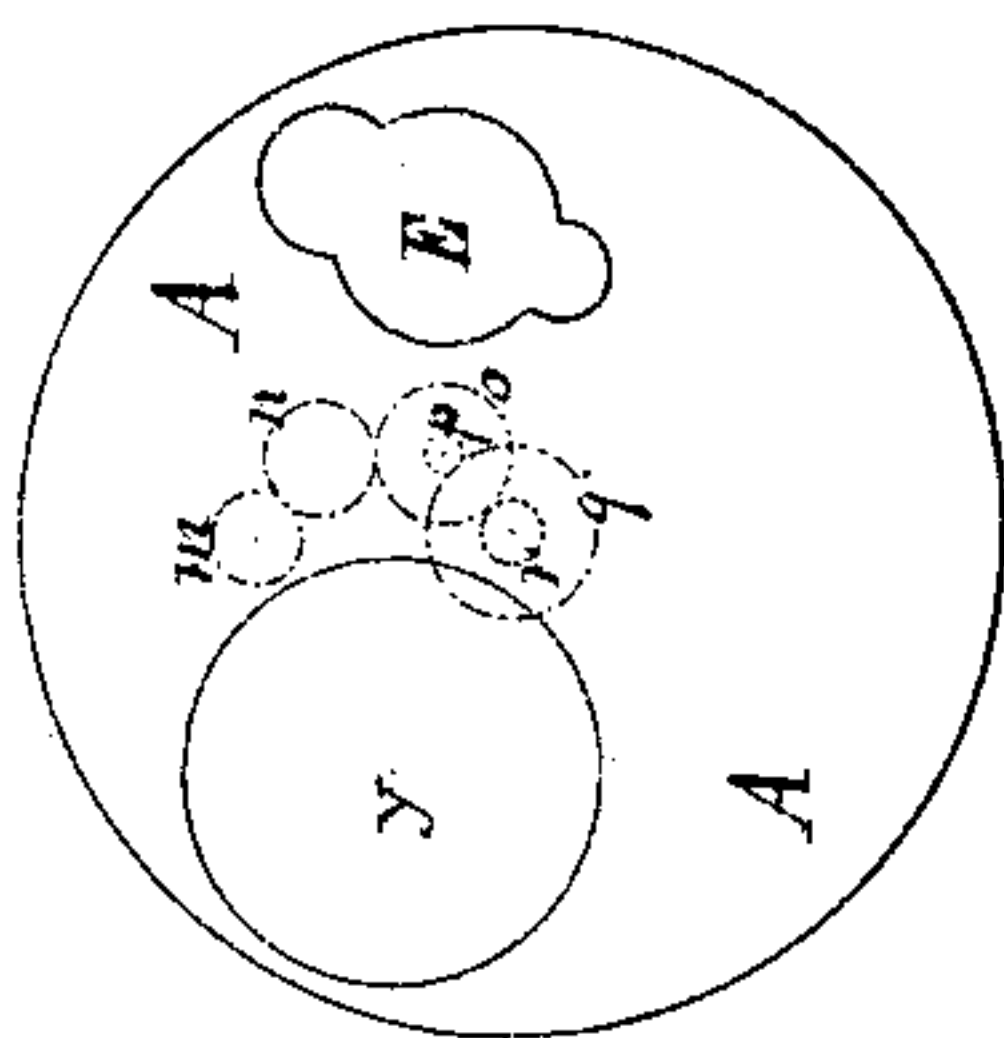
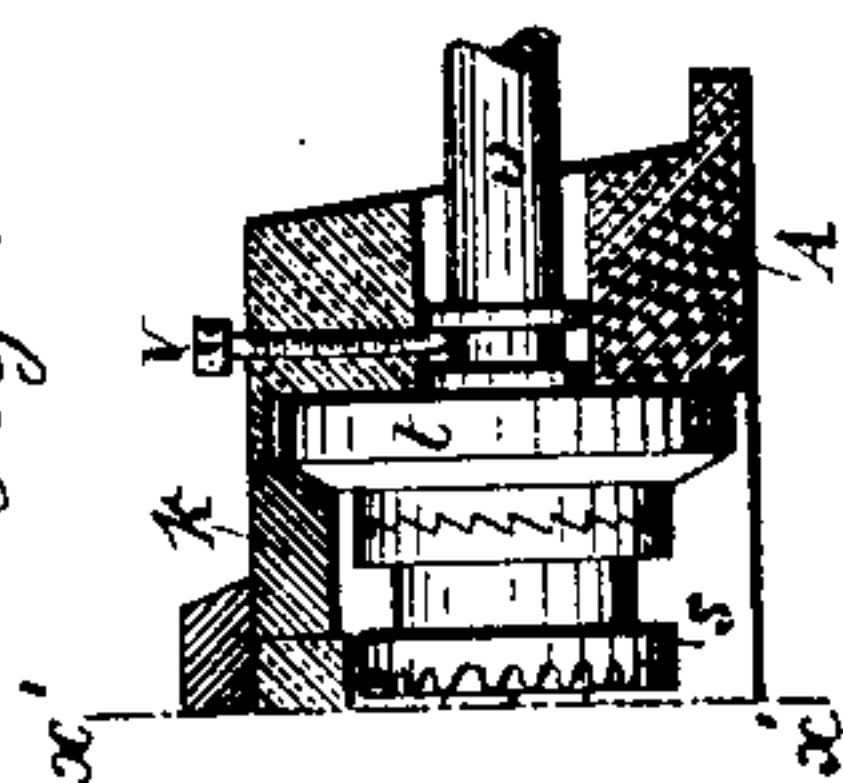
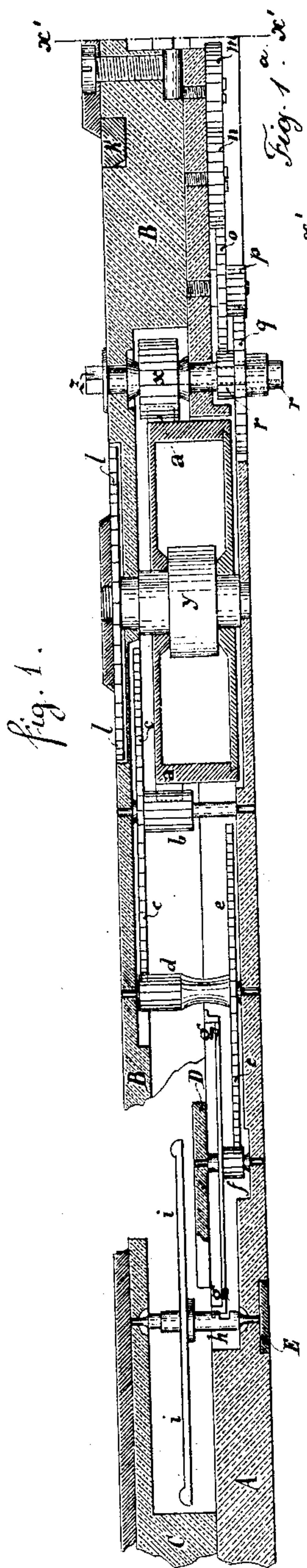


(No Model.)

A. HEBERLE.
WATCH.

No. 252,941.

Patented Jan. 31, 1882.



Witnesses
Harold Terrell
J. Hall

Inventor
per Albert Heberle
Lemuel W. Terrell atty

UNITED STATES PATENT OFFICE.

ALBERT HEBERLE, OF UEBERLINGEN, BADEN, GERMANY.

WATCH.

SPECIFICATION forming part of Letters Patent No. 252,941, dated January 31, 1882.

Application filed June 23, 1881. (No model.) Patented in Germany July 27, 1880.

To all whom it may concern:

Be it known that I, ALBERT HEBERLE, of Ueberlingen, Grand Duchy of Baden, Germany, have invented a new and useful Improvement in Watches, (for which I have obtained a patent in Germany, bearing date 27th of July, A. D. 1880, No. 13,251,) of which the following is a specification.

The object of the present invention is to cheapen the watch and render it more durable.

I employ a train of gearing between the spring-barrel and the escapement, which is independent of the wheels to the hands, so that large wheels and strong teeth can be used and the wheels placed near the edge of the watch-plate, instead of one being in the center of the watch, and I use a separate connection from the spring-barrel to the hands. This enables me to dispense with one wheel and its pinion in the train, so that there remain only two wheels between the barrel and the escapement-wheel.

In the drawings, Figure 1 is a section across the works, of a magnified size, and in order that this section may convey a clear illustration of the mechanism the wheels and pinions are supposed to be arranged in a straight line in Fig. 1. It follows therefrom that the winding-wheel *k* lies at a distance from the wheel *l*, whereas in reality those two wheels engage together as Fig. 2 shows it.

In all the figures of the drawings the same letters refer to the same pieces.

Fig. 2 is a view of the upper side of the works, with a cylinder-escapement. Fig. 3 is a view of the under side of the same works. Fig. 4 represents the positions of the wheels adapted to an anchor-escapement with rack. Fig. 5 shows the position of the wheels adapted to a common anchor-escapement. Fig. 6 illustrates the same positions of wheels for a chronometer-escapement.

The barrel *a*, provided with sixty-eight teeth, engages with the six-leaved pinion *b*, the arbor of which carries the wheel *c*. The latter has sev-

enty-four teeth and engages with the six-leaved pinion *d*, the arbor of which carries the wheel *e*, which has likewise seventy-four teeth. This wheel transmits its motion to the pinion *f* of the escapement wheel, which pinion is also six-leaved. The axis of the balance is to make one hundred and fifty-two oscillations in one minute. The barrel *a* engages, moreover, with the twelve-leaved pinion *x*, which is placed in the center of the watch, and has its hollow axis traversed by the pin *z*, upon which is secured the cannon-pinion *r*, (twelve teeth.) Upon the cannon of the latter is fixed the hour-wheel *g*, (forty teeth,) freely revolving, and engaging with the pinion *p* (ten teeth) of the minute-wheel *o*, having thirty-six teeth. The shaft *u* of the crown, which is held in place by the screw *V*, bears the crown-wheel *t*, (twenty teeth,) engaging with the winding-wheel *k*, (thirty-three teeth.) It bears, besides, the set-pinion *s*, which acts upon the set-wheel *m* (twenty-one teeth) and *n* (twenty-five teeth) when it is pressed against the pin of the set-lever.

I do not claim, in a watch-movement, the combination, with the spring-barrel, of one pinion to the wheel of the spring-barrel and two trains of gearing receiving motion from the shaft of that pinion; but

I claim as my invention—

In a watch-movement, the combination, with the barrel *a*, of the wheels *c e*, of the same size, and the pinions *b d f*, and the escapement-wheel *g*, receiving motion from such train of wheels, arranged as specified, and the pinion *x* and connections to the hands, that are separate from the train of gearing to the escapement, substantially as specified.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ALBERT HEBERLE.

Witnesses:

ELMER SCHNEIDER,
RICH. HENDEL.