

C. MEYLAN.
Chronograph Watches.

No. 151,899.

Patented June 9, 1874.

Fig. 1.

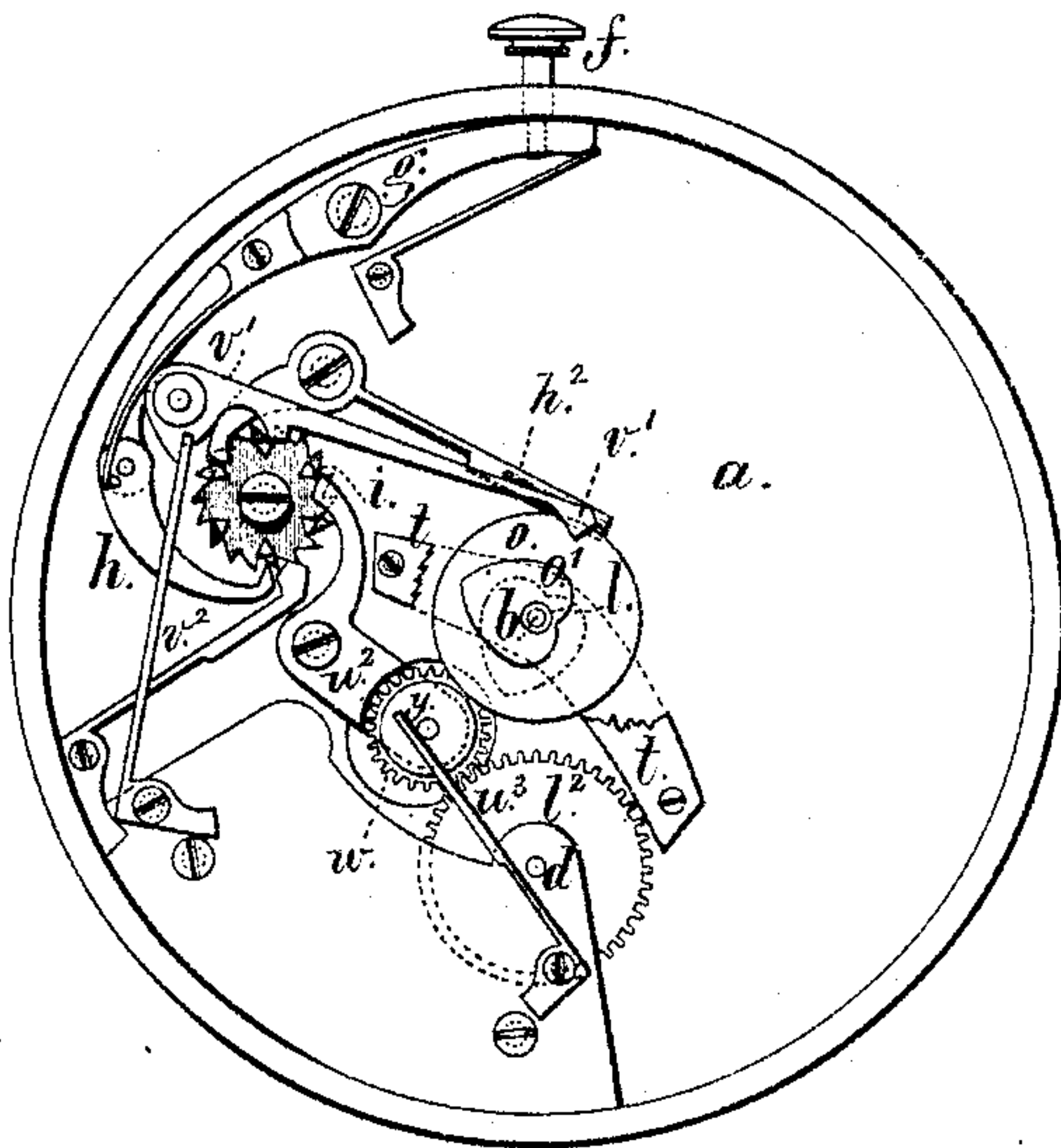


Fig. 4.

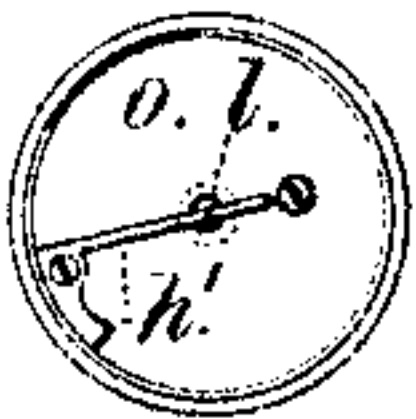


Fig. 3.

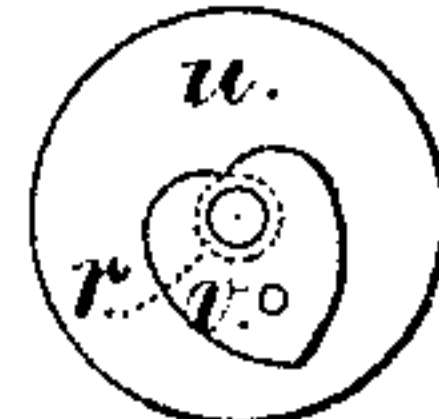
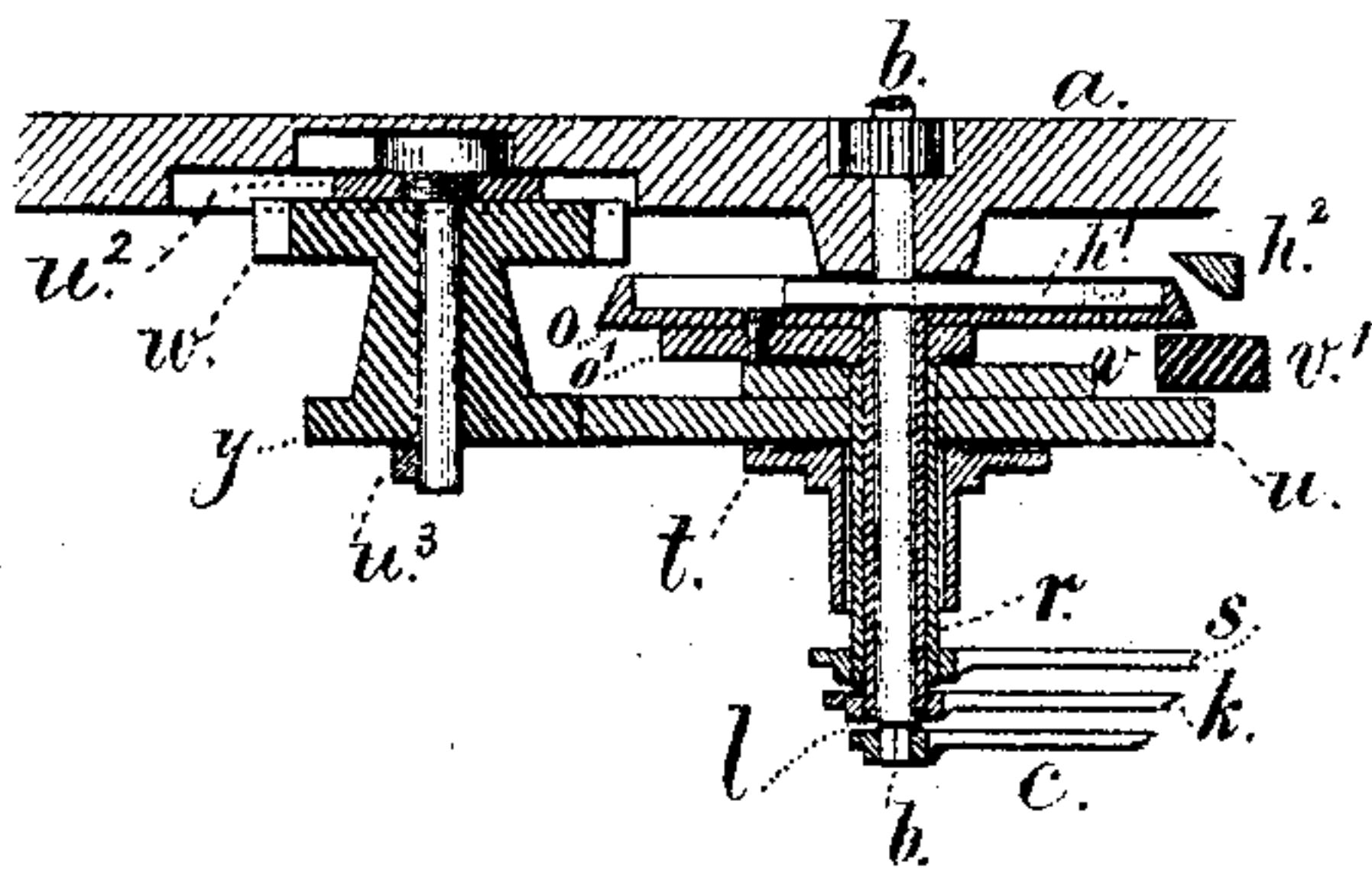


Fig. 2.



Witnesses,

Chas. H. Smith

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Inventor

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per Lemuel W. Serrell
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UNITED STATES PATENT OFFICE.

CHARLES MEYLAN, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF AND
L. AND A. MATHEY, OF SAME PLACE.

IMPROVEMENT IN CHRONOGRAPH WATCHES.

Specification forming part of Letters Patent No. **151,899**, dated June 9, 1874; application filed
April 28, 1873.

To all whom it may concern:

Be it known that I, CHARLES 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 movements known in the trade as chronographs, in which an independent second-hand is employed to indicate periods of observation, by starting the independent hand as the observation commences, and stopping the same at the end of the observation. Heretofore this has been done by a push-pin acting on mechanism that first starts, then stops the hand, and a third push returns the hand to the normal position at XII on the dial.

The present invention is made for the purpose of simplifying the mechanism and operating a minute-hand simultaneously with a second-hand.

In the drawing, Figure 1 represents the chronograph mechanism with a portion removed. Fig. 2 is a section at the center arbor. Fig. 3 is the reverse side of the disk for the second-wheel, removed in Fig. 1; and Fig. 4 is the reverse view of the minute-hand wheel or disk.

The watch-plate *a* is of any usual character, and upon it the gearing or train, mainspring, balance, or other parts of the watch are connected. The arbor *b* of the ordinary minute-hand *c* is revolved in the ordinary manner, and so also is the arbor *d* that carries a second-hand. The push-pin *f* actuates the lever *g*, pawl *h*, and cam ratchet-wheel *i*; and by means thereof the mechanism of the chronograph is brought into action by the first push, stopped by the second push, and returned to the starting point by a third push. Upon the arbor *b* is a tubular arbor, *l*, extending through the watch-face, and receiving the independent minute-hand *k*, and around this arbor *l* is another tubular arbor, *r*, receiving the independent second-hand *s*. These arbors pass through the bridge *t*, that is partially removed in Fig. 1. The hour-hand is upon a tubular arbor that surrounds the tubular bearing of the bridge *t*, and it is driven

by any usual mechanism. The disk *o* is upon the inner end of the tubular arbor *l*, and so also is the heart-cam *o'*; and the disk *u* and its heart-cam *v* are upon the inner end of the tubular bearing *r*; and these heart-cams *o'* and *v* are hence contiguous, and between the respective wheels *o* and *u*, and in a position to be acted upon simultaneously by the pointed lever *v¹* and spring *v²*, to return the respective minute and second hands *k* and *s* to a normal position at XII. This result is attained upon the third movement of the push-pin *f* that acts upon the cam ratchet-wheel *i*, and through that upon the lever *v¹*. The wheel *o* is provided with a friction-spring, *h¹*, that bears against the side of the arbor *b* of the minute-hand *c*; or the spring may bear against the top end of the pinion. In either case, when no other force is operative, the wheel *o*, arbor *l*, and hand *k* turn with the usual minute-hand; but, upon the second push of the pin *f*, the wheels *o* and *u* are stopped, with their respective hands *k* and *s*, by the lever *h²*, that has an inclined surface, being forced by one of the cams of *i* beneath the edge of the wheel *o*, and thereby pressing the heart-cams *o'* and *v* against each other, and binding the wheel *u* against the under surface of the bridge *t*, thus stopping the movement of the chronograph-hands without applying any unusual friction to the ordinary watch-movement.

It now only remains to describe the manner of actuating the second-hand from the arbor *d* of the ordinary second-hand.

The wheel *l²* on the second-hand arbor *d*, and the wheel *w*, remain in gear; but the disk *y* is moved from contact with the wheel *u* by the lever *u²* and cam ratchet-wheel *i* at the second push of the pin *f*, and so remains after the third push of said pin; but the first push liberates this lever, *u²*, and allows the spring *u³* to press the disk *y* to the wheel *u*, and revolve the same. The edges of these wheels, *y* and *u*, may be roughened or made with fine teeth.

I claim as my invention—

1. The wheels *u* and *o* on the arbors of the

independent second and minute hands, in combination with the two contiguous heart-cams, v and o' , and the one lever r^1 , that passes in between said wheels u and o and operates upon said heart-cams, substantially as set forth.

2. The lever h^2 , with an inclined end acting beneath and in combination with the wheels o and u , to stop them and their respective

hands by pressing them toward the bridge t , as set forth.

Signed by me this 23d day of April, A. D. 1873.

CHARLES MEYLAN.

Witnesses:

GEO. T. PINCKNEY,
CHAS. H. SMITH.