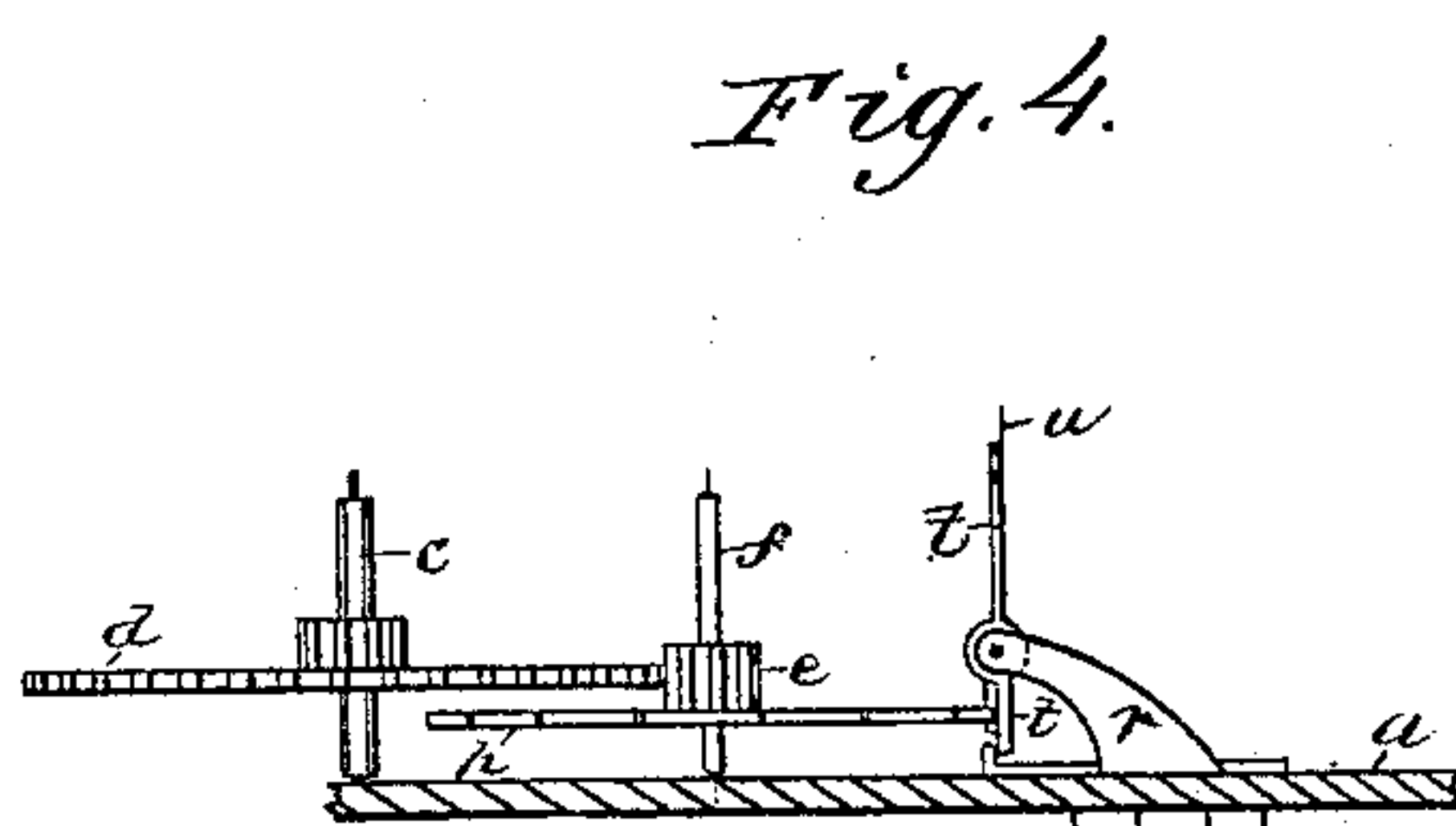
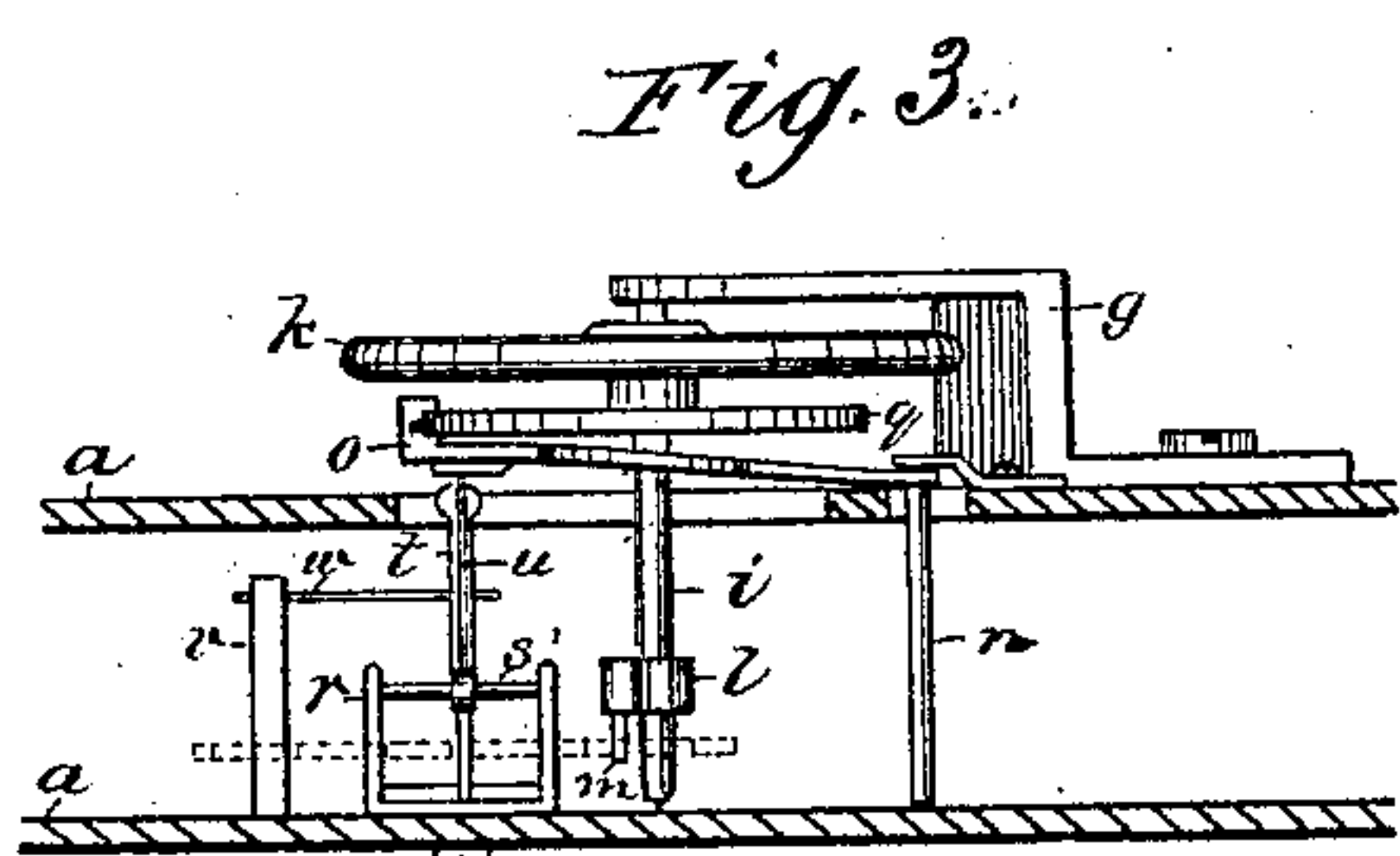
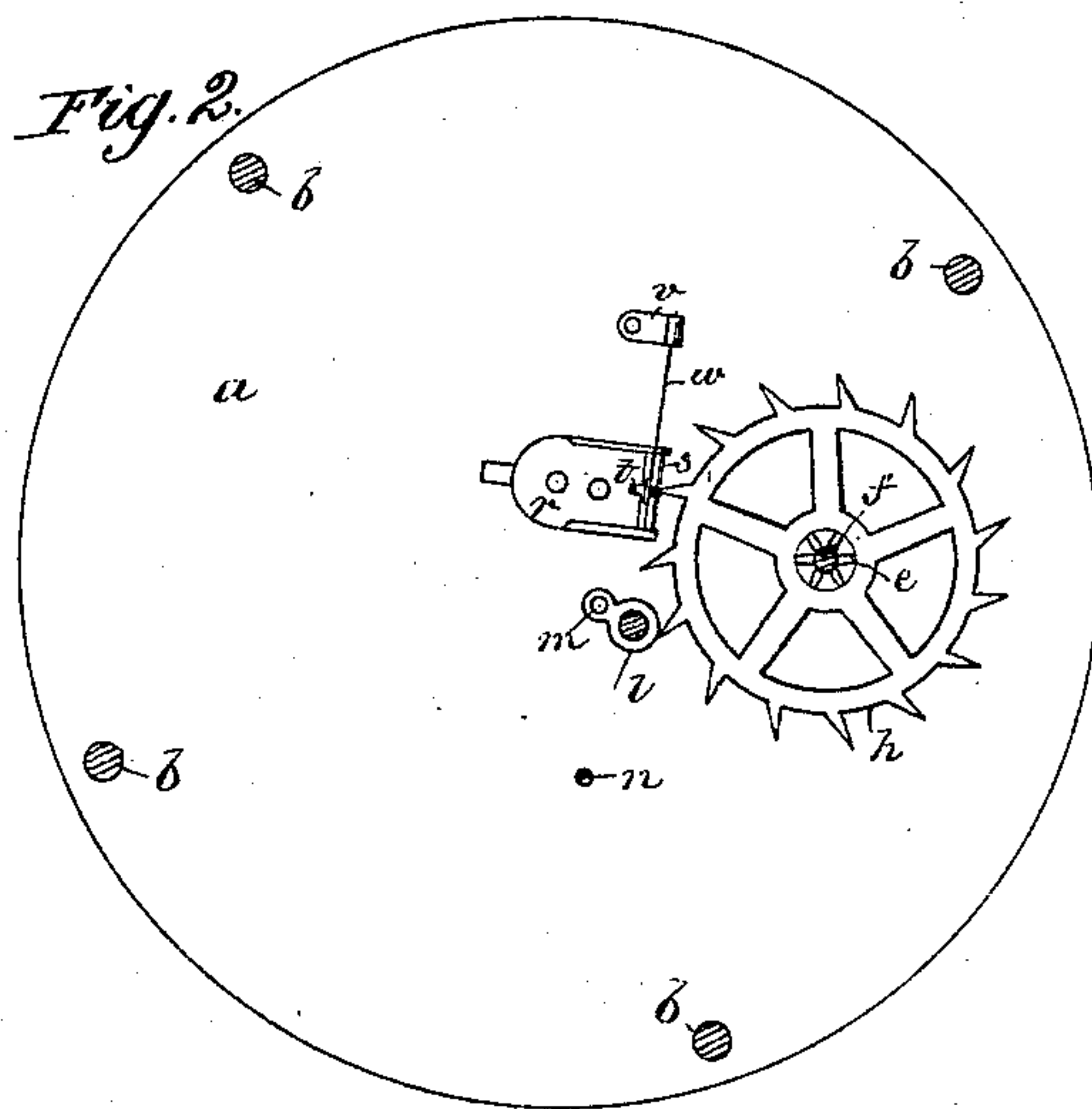
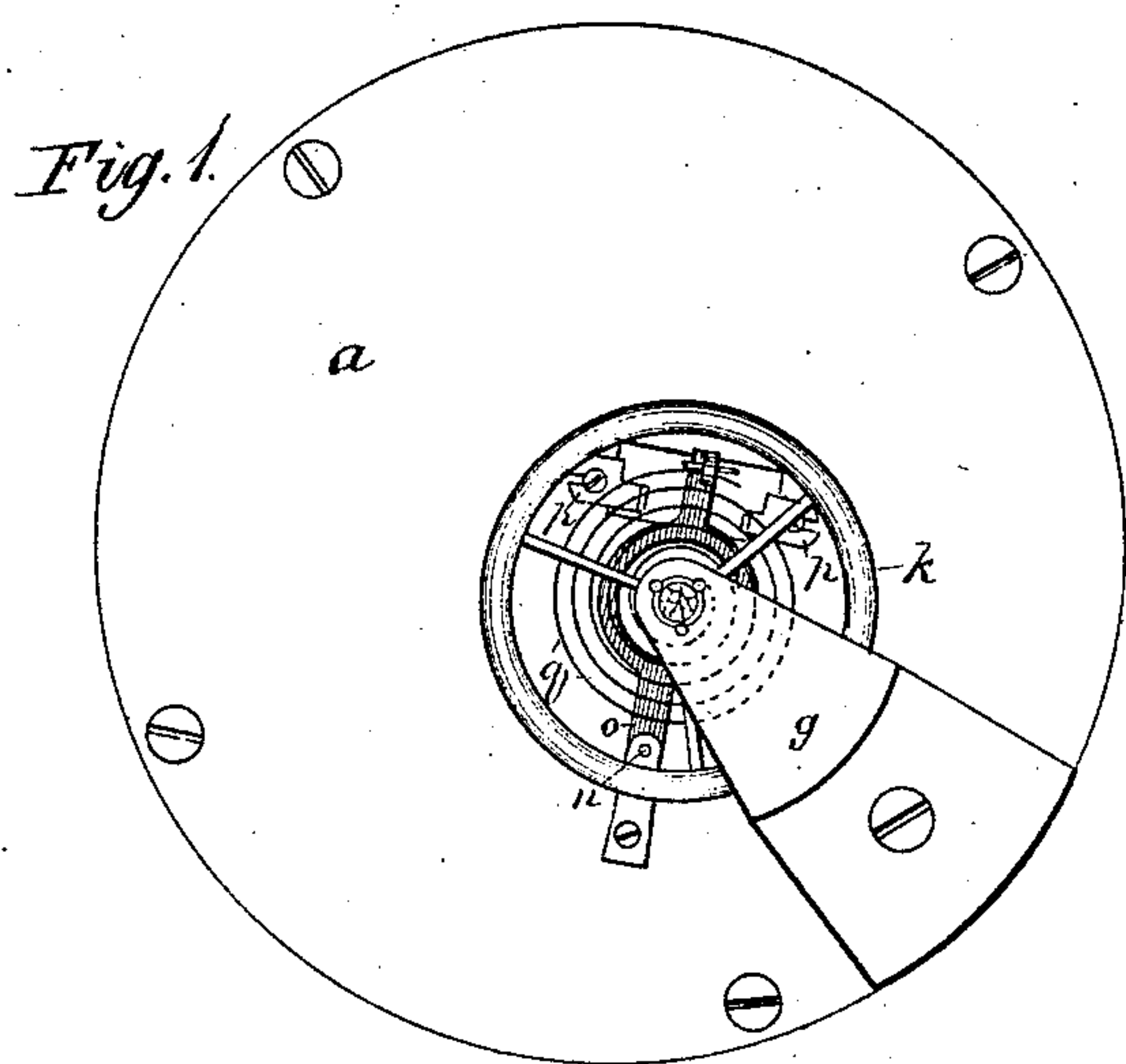


(Model.)

A. W. KIENTOFF.  
CHRONOMETER ESCAPEMENT.

No. 283,349.

Patented Aug. 14, 1883.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

AUGUST W. KIENTOFF, OF DALLAS, OREGON.

## CHRONOMETER-ESCAPEMENT.

SPECIFICATION forming part of Letters Patent No. 283,349, dated August 14, 1883.

Application filed October 1, 1881. (Model.)

*To all whom it may concern:*

Be it known that I, AUGUST W. KIENTOFF, of Dallas, in the county of Polk and State of Oregon, have made certain new and useful

Improvements in Chronometer-Escapement, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings and letters of reference marked thereon, in which—

Figure 1 is a top view of my improved chronometer-escapement. Fig. 2 is a top view of the lower plate, showing the escapement-wheel locked. Fig. 3 is a view partly in section, and Fig. 4 is a detail side elevation of the escapement partly in section.

My invention relates to improvements in chronometer-escapement; and it consists in the peculiar construction and arrangement of the parts, as hereinafter more fully set forth, and pointed out in the claims.

In the accompanying drawings, *a a* represent two plates connected together by the posts *b*.

*c* represents a shaft journaled in the plates *a a* and carrying the clock-wheel *d*, which meshes with the lantern-wheel *e* or a pinion on the shaft *f*, journaled in the plates *a a*, which shaft *f* also carries the escapement-wheel *h*, toothed in the usual manner.

*i* represents the balance-staff, journaled at its lower end in the lower plate *a*, and journaled at its upper end in a bridge, *g*, secured to the upper plate *a* and projecting over it, the upper plate *a* being cut out to allow the passage of the balance-staff and other devices, hereinafter described. The balance-wheel *k* is secured to the balance-staff *i* near its upper end.

*l* represents a lug or disk secured to the balance-staff *i*, and carrying a roller or pin, *m*, projecting downward, so as to engage with the escapement-wheel *h*.

*n* represents a shaft journaled at its lower end in the plate *a*, to the upper end of which is secured an oscillating lever, *o*, cut out near its middle for the passage of the balance-staff *i*.

*p p* represent banking-pieces secured to the upper plate *a*, near the opening therein, on each side of the free end of the oscillating lever *o*, by set-screws inserted in slots in the banking-pieces, whereby the latter are adjustable to and from the oscillating lever *o*, the banking-

pieces *p* acting as stops for the oscillating lever *o*.

*q* represents a coiled spring, one end of which is secured to the balance-staff *i*, the opposite end passing through a lug on the outer end of the oscillating lever *o*.

*r* represents a frame adjustably secured to the upper face of the bottom-plate *a*, and provided with a cross-bar, *s*, journaled in the sides of the frame, to which cross-bar *s* is secured a vertical locking-lever, *t*, to the upper arm of which the spring *u* is secured at its lower end to the locking-lever, lying along and in contact with said locking-lever and projecting slightly above it at its upper end. The upper end of the locking-lever lies in the path of the oscillating lever *o*, and its lower end, when thrown inward, engages with a tooth of the escapement-wheel and holds it locked.

*v* represents a stud secured to the upper face of the lower plate *a*, and provided with a spring, *w*, the free inner end of which presses against the upper arm of the locking-lever *t*, so as to throw inward the lower arm of the locking-lever and lock the escapement-wheel. Motion being imparted to the balance-wheel, the lever *o* is oscillated by means of the coiled spring *q*, and, striking the lever *t*, the latter is unlocked from the escapement-wheel, a tooth of the latter striking the roller *m*, which moves the balance-staff and balance-wheel, the spring *w* throwing the lever *t* into lock with the escapement-wheel after it has moved the distance of one tooth.

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

1. The combination, with the escapement-wheel *h*, of the balance-staff *i*, carrying the balance-wheel *k* and roller *m*, spring *q*, oscillating lever *o*, and locking-lever *t*, substantially as described, and for the purpose set forth.

2. The combination, with the escapement-wheel *h*, balance-staff *i*, roller *m*, spring *q*, and oscillating lever *o*, of the frame *r*, cross-bar *s*, locking-lever *t*, and springs *u w*, substantially as described, and for the purpose set forth.

AUGUST W. KIENTOFF.

Witnesses:

JNO. J. DALY,  
R. W. BEALL.