

H. SANDOZ.
WATCH MOVEMENT.
APPLICATION FILED SEPT. 5, 1907.

922,197.

Patented May 18, 1909.

Fig. 1.

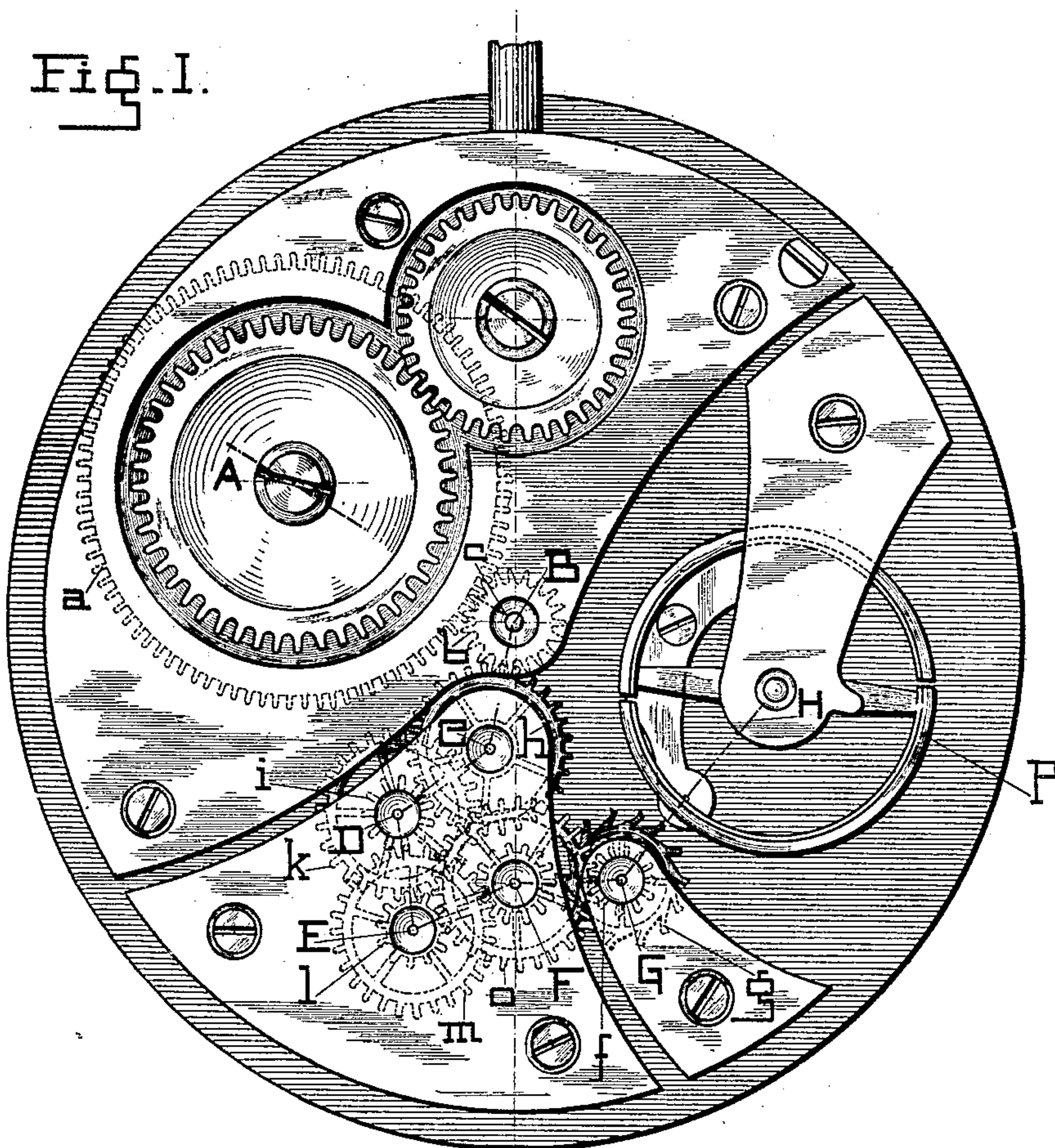
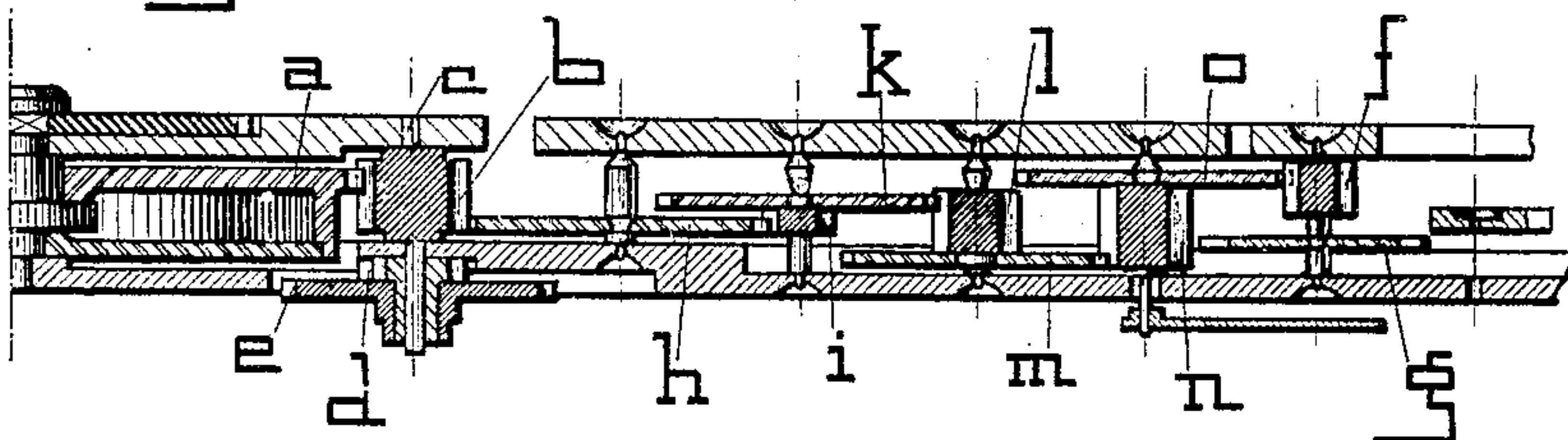


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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WATCH-MOVEMENT.

No. 922,197.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HENRI SANDOZ, citizen of Switzerland, residing at Tavannes, Canton of Berne, Switzerland, have invented a new and useful Watch-Movement; and I do hereby declare the following to be a full, clear, and exact description of the same.

The present invention consists of a watch movement comprising between the barrel and the pinion of the escapement wheel, a train of gear wheels, no wheel of which passes over or under the barrel nor over or under the balance, so that all the space available between the supports of the pivots of these two latter parts may be occupied by these parts themselves, thereby enabling them to be made of normal size although forming part of a movement of very small height.

The accompanying drawing which is given by way of example, represents a constructional form of the object of the invention in plan in Fig. 1, and Fig. 2 is a section on the broken line A—B—C—D—E—F—G—H of Fig. 1.

The barrel *a* meshes with a pinion *b*, the spindle *c* of which is located at the center of the movement, and carries the minutes wheel *d* and the cannon wheel *e*. By this arrangement the usual center wheel, with the pinion and toothed gear in different planes, is done away with. The gear on the periphery of the barrel meshes directly with the center pinion *b*, with which the wheel *h* engaging, transmits the power to the train between the pinion *b* and the escapement. The pinion *b* drives the pinion *f* of the escapement wheel *g* by the intermediary of the wheels and pinions *h*, *i*, *k*, *l*, *m*, *n* and *o*. As shown in the drawing, no wheel of the train of gearing from the pinion *b* to the pinion *f* passes over or beneath the barrel *a* nor above or below the balance *p*. This arrangement presents not only the advantage of enabling a barrel and a balance with its accessory parts, arbors, plate, spiral of normal dimensions to be placed in a movement of very small height, but also permits of dismounting and remounting the movement more readily as no gearing is superposed upon the barrel and the balance and these two parts are thus entirely free.

It will be seen that by eliminating everything of the central wheel except the pinion, I have produced an entirely new construction. By this I am able to make a watch in which the parts shall be equally as strong as in the ordinary thick watches. By this construction, moreover, a good clearance is maintained around the balance, and also for the hair spring, so that in changing the position of the watch the latter does not come in contact with the barrel or the balance, as is likely to happen in the ordinary construction of thin watches. In the ordinary thin watches there are the same number of parts and similarly arranged as in the thick ones, the only difference being that the parts are packed closer together and are made more delicate, with the disadvantages of imperfect construction. In the ordinary thin watch construction, the barrel is made exceedingly thin, sometimes being entirely ruined by the breaking of a mainspring. When this barrel is injured it cannot be repaired, but must be replaced by a new one. Against this defective structure, my form of watch is of the same strength as the ordinary thick one, the parts have the same clearance, it is an excellent time keeper (rarely found with the reduced thick construction) and presents all the artistic features of the thin watch.

One of the spindles of the train of gear wheels may or may not carry a small seconds hand.

The movement represented is for an open face watch, but it will of course be understood that it is equally possible to make it for a double cased watch, the arrangement of the train of gearing from the pinion *b* to the escapement, being the same in both cases.

The form and dimensions of the various parts of the movement may vary.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A strong movement for thin watches, comprising front and back plates, a barrel, a pinion meshing with said barrel, said barrel and the leaves of said pinion extending from front to back plate.

2. A strong movement for thin watches, comprising front and back plates, a barrel, a pinion meshing with said barrel, said barrel and the leaves of said pinion extending from
5 front to back plate, in combination with an escapement train none of whose wheels overlap either the balance-wheel or the barrel.

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

HENRI SANDOZ.

Witnesses:

ARNOLD ESCOFFEY,
ALFRED MATHEY-DORET.