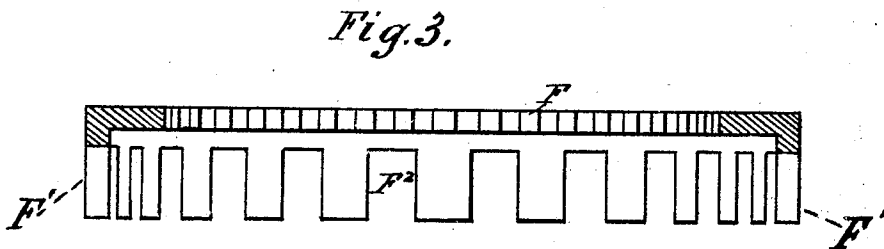
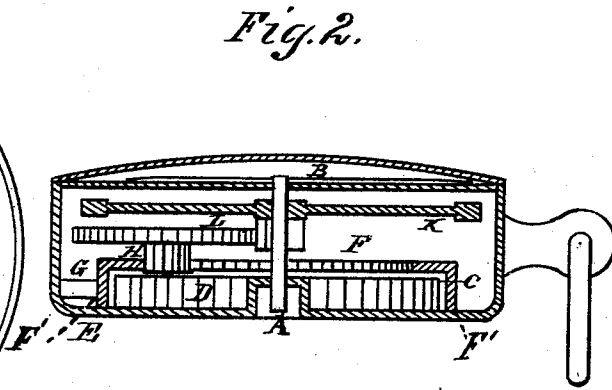
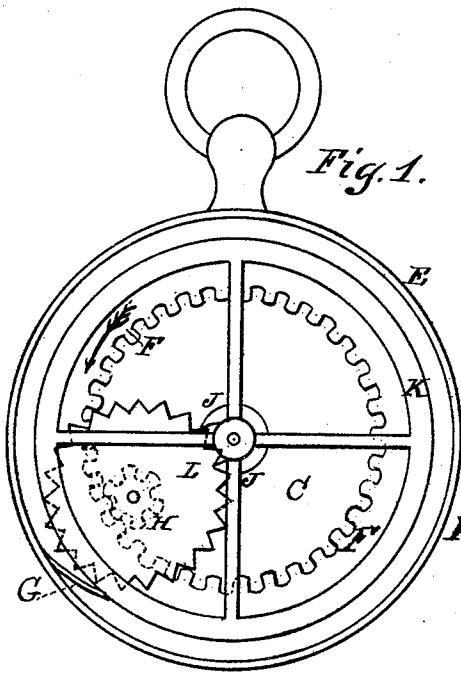


J. G. POWELL.

TOY WATCH.

No. 171,852.

Patented Jan. 4, 1876.



Witnesses
Wm. J. Schmitz
Walter J. Budd

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UNITED STATES PATENT OFFICE

JOHN G. POWELL, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN TOY WATCHES.

Specification forming part of Letters Patent No. **171,852**, dated January 4, 1876; application filed March 8, 1875.

CASE C.

To all whom it may concern:

Be it known that I, JOHN G. POWELL, of the city and county of Philadelphia, and State of Pennsylvania, have invented certain new and useful Improvements in Movements for Toy Watches; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings and letters of reference marked thereon.

The nature of my invention consists of combining ratchet-wheel with an internal driving or main wheel, which rotates during the winding operation, and is at rest during the running of the train, and the escapement and the first pinion of the movement rotate within the internal wheel when running.

Figure 1 shows a plan. Fig. 2 shows a section; Fig. 3, the internal wheel and ratchet separately in section.

The same letters refer to the same parts in the several figures.

A represents a central winding-pillar bearing at the upper end the hands B, and squared at the lower end to fit a key. C represents a plate, fastened to turn with the pillar A; D, a spring fastened at the inner end to the case E, and at the outer end to the plate C. F is an internal gear-wheel, having a flange, F¹, turned downward, and cut into notches F², which, engaging a spring-pawl, G, secured to the side of the case, acts as a ratchet, permitting motion only in the direction of the arrow drawn on the wheel F in Fig. 1. Turning upon its axis in the plate C is a pinion, H, gearing into the internal gear-wheel F. On the same axis as the pinion H is an escapement-wheel,

L, working preferably in pallets J and J', formed in the balance-wheel K, which turns on the pillar A; or it may work the balance-wheel through an intervening wheel and sector.

The operation of this invention is as follows: In winding, the pillar A, hands B, the plate C, the outer end of the spring D, the internal wheel F, and the ratchet F¹ are prevented from turning backward by the spring-pawl G. The spring D, reacting, rotates the plate C, pillar A, and hands B, and causes the pinion H and escapement-wheel L to turn, and thus vibrates the balance, which, by its momentum and inertia, retards the train from running down too rapidly.

The advantage of this invention is, that a working movement producing the sounds incident to winding and running a watch can be made without requiring such accuracy of workmanship as is demanded by other trains of gearing having an equal multiplication of motion and consequent length of running time.

I do not herein broadly claim the rotating internal wheel and winding-ratchet concentric with the hands and balance-wheel, the same having been embraced in prior applications filed by me for Letters Patent; but

What I claim as my invention is—

A watch-movement for toy watches, consisting of the spring D, revolving plate C, pinion H, internal wheel F, ratchet F¹, and pawl G, combined as set forth and described.

JOHN G. POWELL.

Witnesses:

EDWARD POWELL,
EDWIN F. GLENN.