H. J. HOLDEN.

Time Piece.

No. 53,146. Patented March 13, 1866.

Fig. 1.

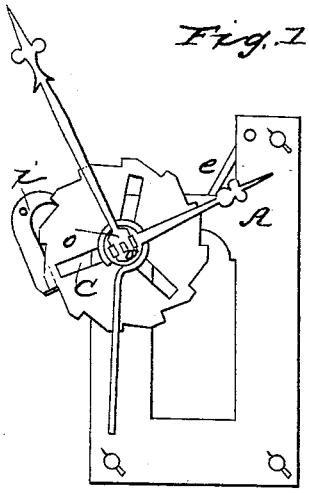


Fig. 2.

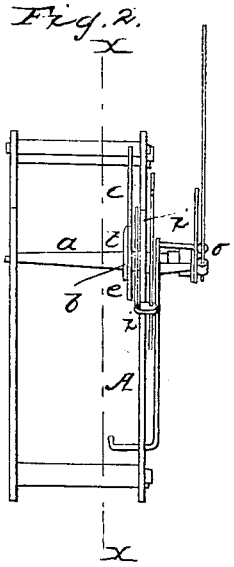


Fig. 3.

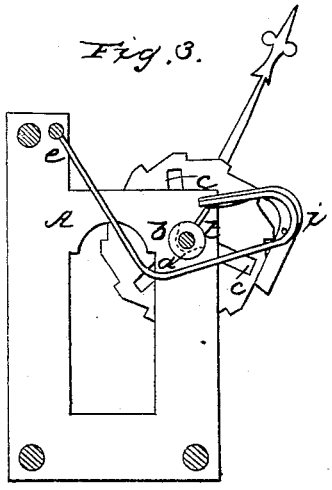
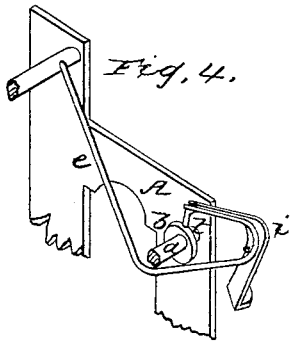


Fig. 4.



Witnesses:

L. D. Leach

C. R. Williams

Inventor:

Hoban J Holden

UNITED STATES PATENT OFFICE.

HOBAN J. HOLDEN, OF GENOA, NEW YORK.

IMPROVEMENT IN TIME-PIECES.

Specification forming part of Letters Patent No. **53,146**, dated March 13, 1866.

To all whom it may concern:

Be it known that I, HOBAN J. HOLDEN, of East Genoa, in the town of Genoa, in the county of Cayuga and State of New York, have invented a new and Improved Method of Constructing Time-Pieces; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in operating the hour-hand of a time-piece by means of a twelve-sprocketed wheel, a catch, a lever, and a tripper on the minute-hand shaft or post.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I construct my time-piece in any of the known forms in all except the differential gear, which I make as shown in the accompanying drawings. The drawings show only that part of a time-piece that carries the minute-hand shaft or post.

Figure 1 is a front view of the device, showing the sprocket-wheel and the spring which encircles its sleeve and holds it in place against the front plate. Fig. 2 is a side view. Fig. 3 is a section taken through the line *x x* of Fig. 2. Fig. 4 is a perspective of detached parts.

The same letters and colors refer to like parts.

A is the front plate; *a*, post of the minute-hand; *b*, collar, against which a wheel and pinion of the train is pressed by a pin and washer or spring; *c*, twelve-pointed sprocket-wheel, the sleeve of which clasps the hour-hand sleeve; *e*, lever carrying the catch *i*. It is of peculiar construction, being so formed as to pass around the post *a* and tripper *t*, and so bent or formed that *t* throws it in one direction in one-half of the revolution and in the contrary direction in the other half. *i* is also of peculiar construction. It hangs on the lever and tilts about the pin at *i*. Its wide end is bent at right angles and works in the notches of *c* by the action of the tripper *t* on its narrow end or limb.

Operation: The motion of the train carries the tripper *t* around against the catch *i* and forces it into the notch of *c*. Then it lifts the lever, catch, and all as it slides to the points of both. This moves *c* one notch or hour, *t* passes off of *i*, which releases the catch from *c*, and, passing on around it, hits the long limb of the lever *e* and carries it back, while the catch *i* slides along the next sprocket of *c* in place for a new operation.

I cut off the short limb of the lever *e*, as shown, so as to operate the detent of the striking-work from it. I remove the lever that the tripper of an ordinary striking-clock operates and insert the lever *e* and catch *i* in its stead. In a watch I prolong this limb of the lever *e* so that the hands may be turned backward. The pin below the axis in the catch *i* (see Figs. 3 and 4) may be made fast in the lever *e* and passed through a slit in the catch *i*, if preferred so. The sprocket-wheel *c* may be placed inside the front plate, A, and worked without a spring, if preferred so. I wish only to secure the principle.

I do not claim the tripper and lever as used in all striking-clocks; but

What I claim as my invention, and desire to secure by Letters Patent, is—

The tripper *t*, the lever *e*, the catch *i*, and wheel *c*, in combination, when used as a differential gear.

HOBAN J. HOLDEN.

Witnesses:

JACOB SHARPSTEEN,
CHARLES W. OSMUN,
SAMUEL WILSON.