

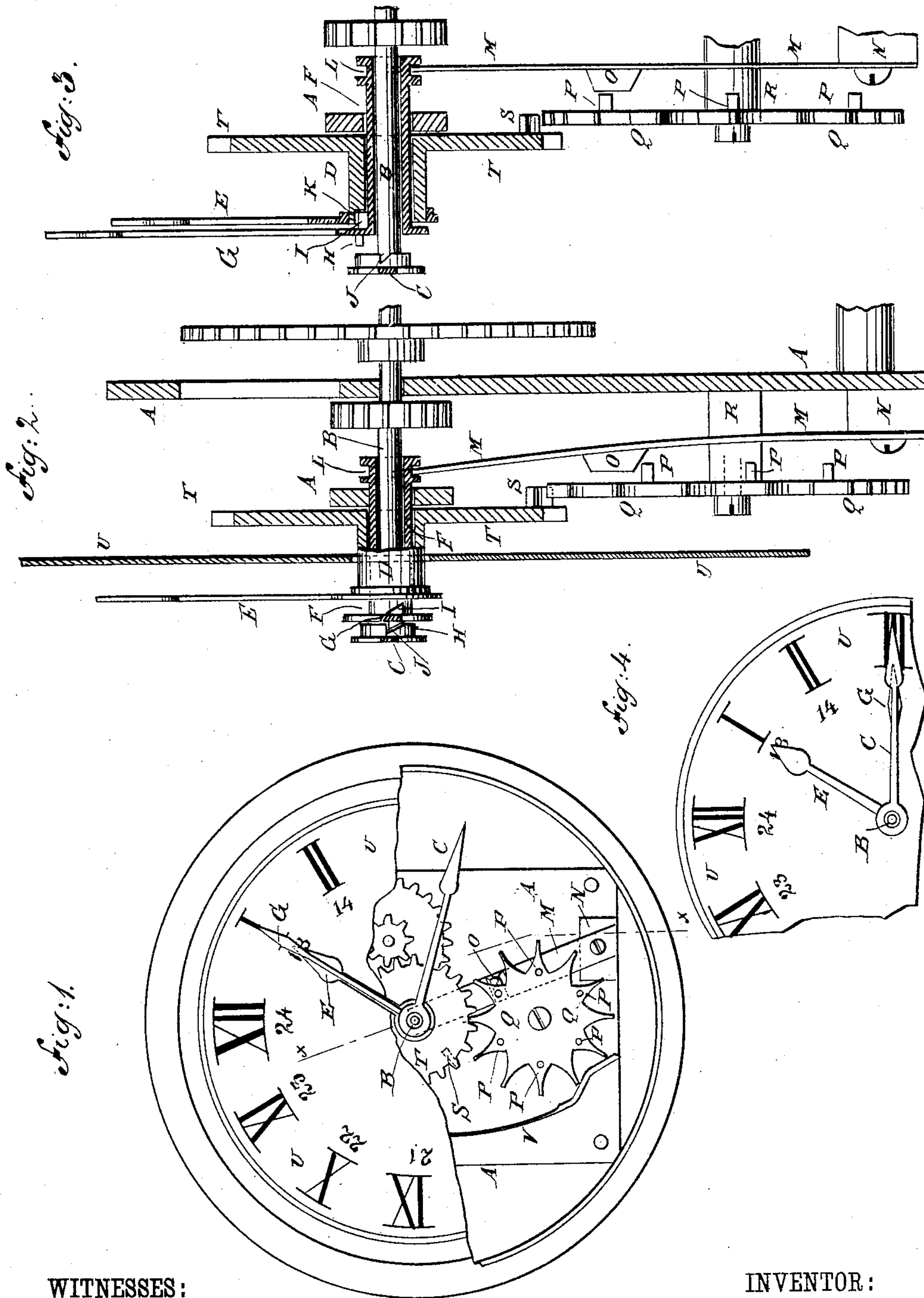
(No Model.)

H. C. FICK.

TWENTY-FOUR HOUR TIME PIECE.

No. 309,384.

Patented Dec. 16, 1884.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

HENRY C. FICK, OF NEW YORK, N. Y.

## TWENTY-FOUR-HOUR TIME-PIECE.

SPECIFICATION forming part of Letters Patent No. 309,384, dated December 16, 1884.

Application filed March 17, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY C. FICK, of the city, county, and State of New York, have invented certain new and useful Improvements in Time-Pieces, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of a clock to which my improvement has been applied, part of the dial being broken away. Fig. 2 is a sectional elevation of a part of the same, taken through the line *x x*, Fig. 1. Fig. 3 is a sectional elevation of a part of the same, showing another adjustment of the hands. Fig. 4 is a front elevation of a part of the same, showing another adjustment of the hands from that shown in Fig. 1.

The object of this invention is to construct clocks and other time-pieces having an ordinary movement in such a manner as to indicate the time for the first twelve hours of the day upon the ordinary figures of the dial, and for the last twelve hours of the day upon figures running from thirteen to twenty-four and placed at the outer or inner side of the circle of the ordinary figures.

The invention consists in a time-piece constructed with a third hand interposed between the two ordinary hands, and adapted to be thrown out of gear with one of the ordinary hands and into gear with the other by a spring operated by a mechanism driven from the hour-wheel, as will be hereinafter fully described.

A represents the frame of the movement. B is the post carrying the minute-hand C, and D is the hollow post carrying the hour-hand E. The hollow post D revolves upon a hollow post, F, placed loose upon the minute-hand post B, and having a hand, G, attached to its outer end.

Upon the outer and inner sides of the hub of the hand G are formed projections or teeth H I, to engage successively with recesses J K, formed one in the hub of the minute-hand C and the other in the hub of the hour-hand E, or in the end of the hollow post D, carrying the said hour-hand. The minute-hand C and

the hour-hand E are placed at such a distance apart that the hollow post F can have sufficient longitudinal movement to throw the hand G into gear with the minute-hand C, as shown in Figs. 2 and 4, or with the hour-hand E, as shown in Figs. 1 and 3.

Around the inner end of the hollow post F is formed an annular groove, L, to receive the forked end of the spring M, the other end of which is attached to the frame A or to a block, N, secured to the said frame. The spring M is so formed as, when left free, to hold the post F and hand G pressed outward and in gear with the minute-hand C. To the middle part of the spring M is attached a projection, O, in such a position as to be struck and pushed back by projections P, attached to the wheel Q, which is pivoted to a post, R, attached to the frame A. The wheel Q is made with twelve teeth, and is provided with six projections, P, at the bases of the alternate teeth, as indicated in Figs. 1, 2, and 3. The wheel Q is placed in such a position that the pin or tooth S, attached to the inner side of the wheel T, carrying the hour-hand post D, at each revolution of the said wheel T will engage with a tooth of the wheel Q and revolve the said wheel Q through the space of one tooth. The tooth S is so arranged as to engage with and move the wheel Q at the hours one and thirteen of each day. The dial U is made with twelve spaces, numbered from 1 to 12, inclusive, in the ordinary manner, and preferably within the circle of the said numbers the said spaces are numbered from 13 to 24, inclusive, as indicated in Figs. 1 and 4. With this construction from one to thirteen o'clock the hand G will be connected with the hour-hand E, and the two hands G E will move together and serve as an hour-hand, pointing to the ordinary figures of the dial, as shown in Fig. 1. At thirteen o'clock the tooth S will engage with the wheel Q and move the said wheel Q, withdrawing the projection P from the block O and allowing the spring M to force the hollow post F and the hand G outward and into gear with the minute-hand C, so that the two hands C G will move on together, leaving the hour-hand E to point to the inner figures of the dial, as shown in Fig. 4. At one o'clock the tooth S



will again engage with the wheel Q and move it forward, causing one of the projections P to engage with the block O and force it back, causing the spring M to move the hollow post F inward, withdrawing the hand G from the minute-hand C, and throwing it into gear with the hour-hand E, as shown in Fig. 1.

I have located the recesses J K and projections H I in such relation with each other that as the hand G is carried outward to engage with the minute-hand C the projection H of the hand G will act on the inclined side of the recess J in hand C at thirteen o'clock, to rotate the hand G backward to carry it into line with the hand C at the XII-hour mark on the dial, and as the hand G is carried inward at one o'clock to engage with the hour-hand E the projection I and the hand G will act on the inclined side of the recess K of the hand E, to rotate the hand G forward from the XII-hour mark on the dial to come in line with the hand E at the one o'clock mark on the dial.

The wheel Q is held stationary between its movements by a spring, V, attached to the frame A, and resting against the teeth of the said wheel Q, as shown in Fig. 1.

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

1. In a time-piece, the combination, with the minute-hand and its post C B, having recess J, and the hour-hand and its hollow post

E D, having recess K, of the hand G, having projections H I, and its hollow post F, and an adjusting mechanism, substantially as herein shown and described, whereby the said hand G can be made to travel with either of the said hands C E, as set forth.

2. In a time-piece, the combination, with the hands C E and the hand G, of the projections H I and recesses J K, said projections and recesses being relatively located to cause the hand G to move backward in engaging the hand C, and to move forward in engaging the hand E, substantially as shown and described.

3. In a time-piece, the combination, with the hollow post F, of the hand G and the hour-wheel T, having projection S, of the forked spring M, having projection O, and the wheel Q, having twelve teeth and six side projections, P, substantially as herein shown and described, whereby the said hand G will be shifted automatically at the end of each twelve hours, as set forth.

4. A time-piece constructed, substantially as herein shown and described, with a third hand adapted to be thrown automatically out of gear with one of the ordinary hands and into gear with the other at the end of each twelve hours, as set forth.

HENRY C. FICK.

Witnesses:

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