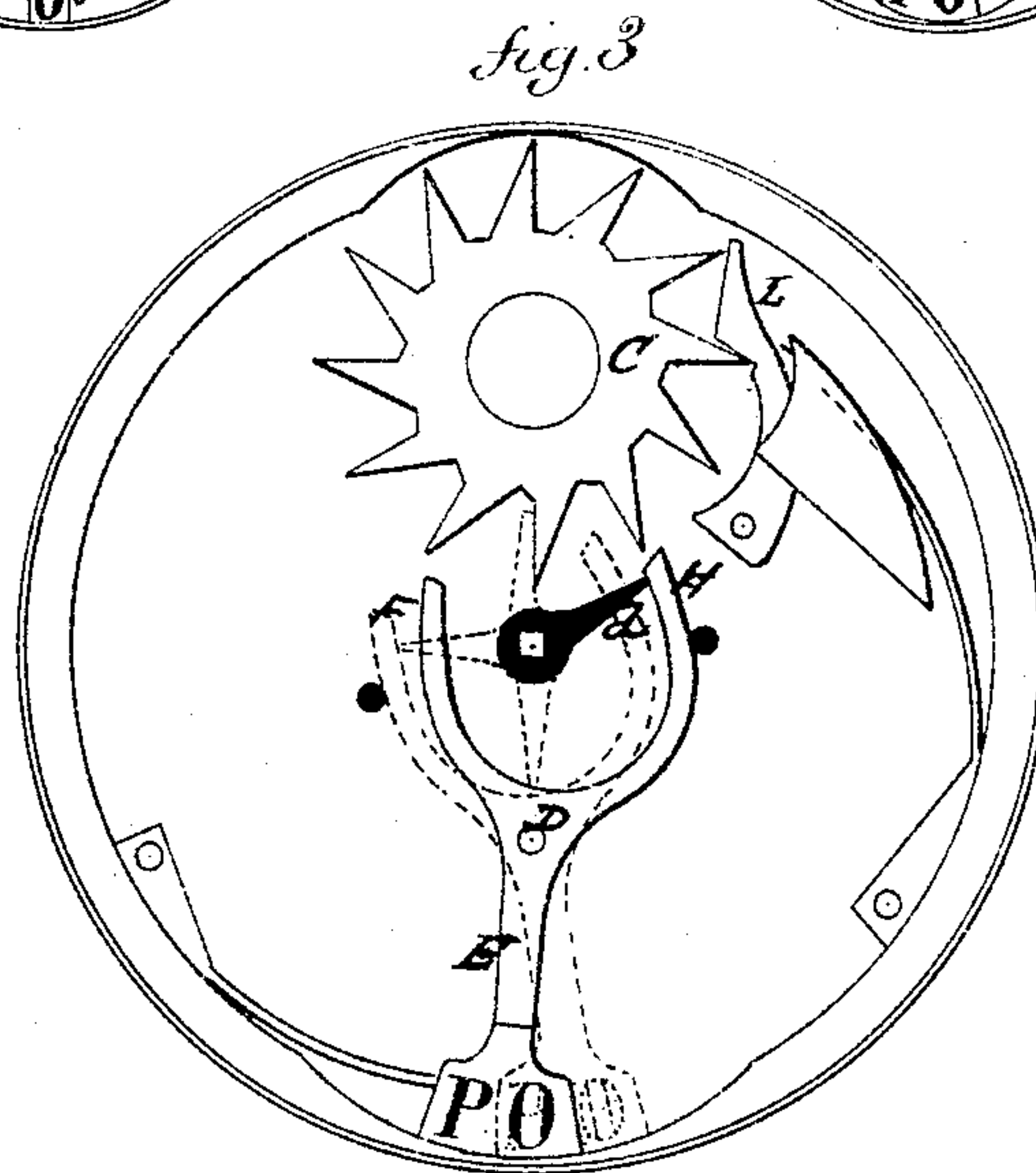
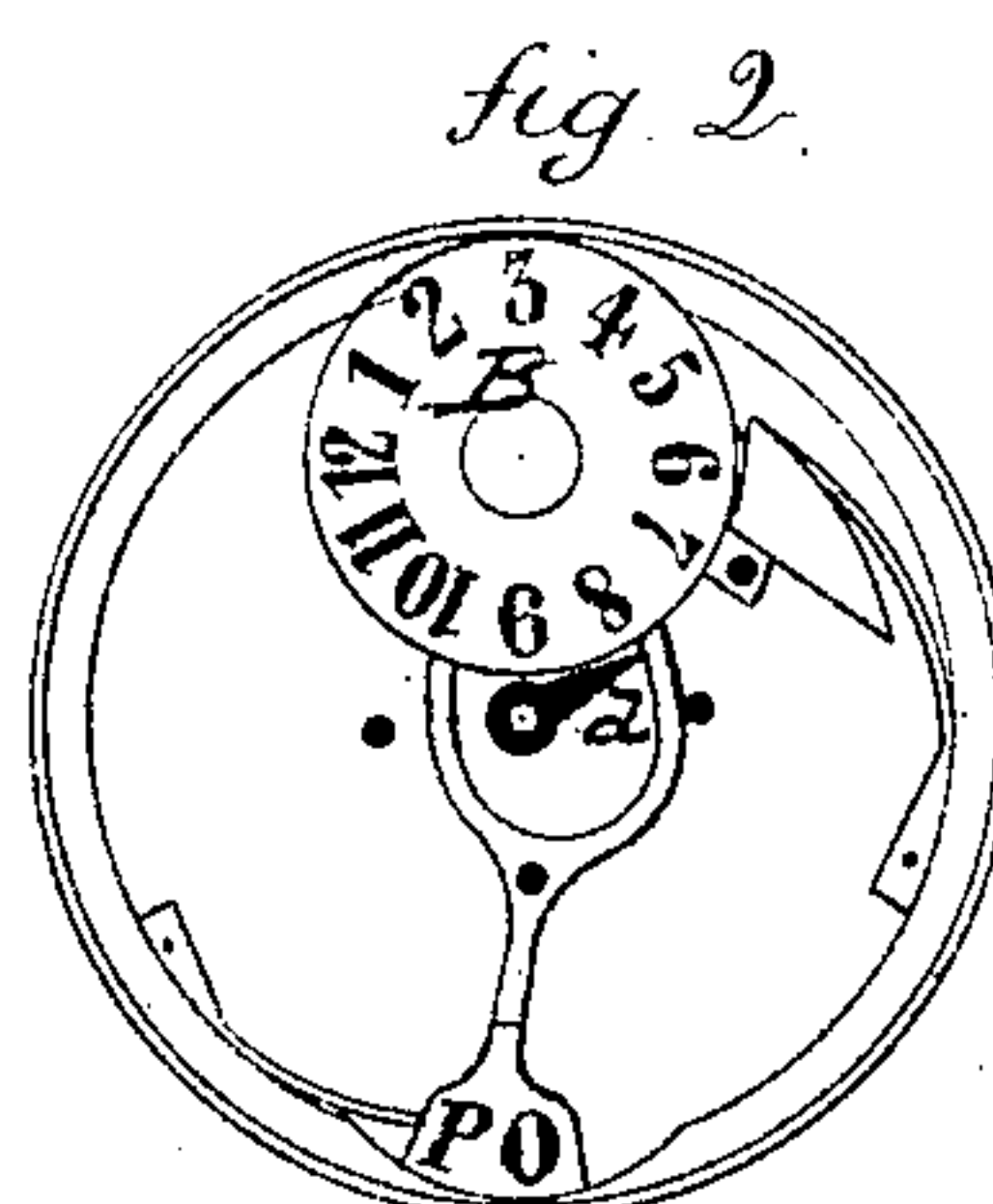
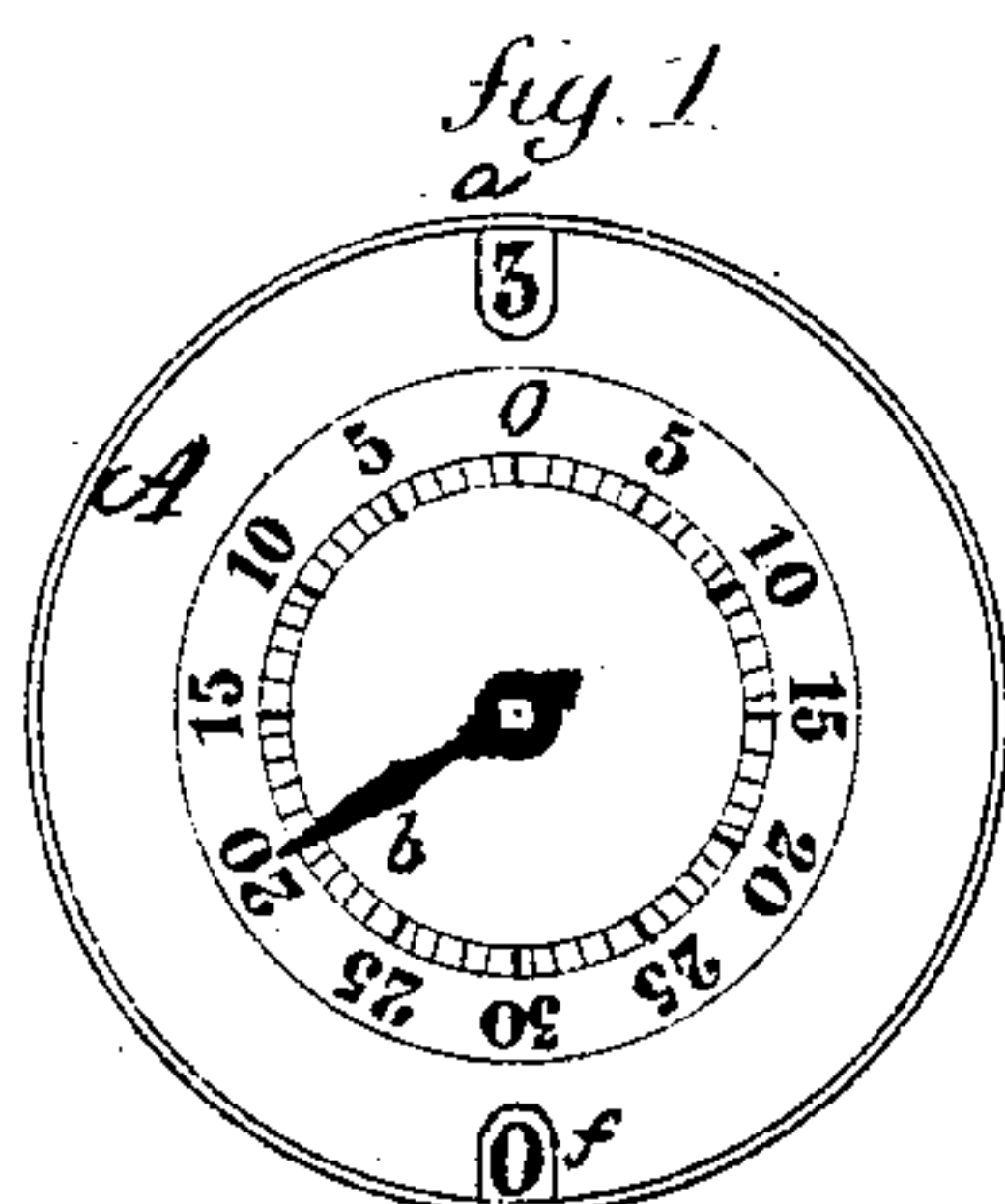


C. REINHARDT.

Improvement in Watches.

No. 122,964.

Patented Jan. 23, 1872.



Witnesses

John H. Shumway  
A. J. Tabbitts

Christian Reinhardt.  
Inventor.

By his Atty.

Wm. G. Paul

# UNITED STATES PATENT OFFICE.

CHRISTIAN REINHARDT, OF NEW HAVEN, CONNECTICUT.

## IMPROVEMENT IN WATCHES.

Specification forming part of Letters Patent No. 122,964, dated January 23, 1872.

*To all whom it may concern:*

Be it known that I, CHRISTIAN REINHARDT, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Watches; and I do hereby declare the following, when taken in connection with the accompanying drawing and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawing constitutes part of this specification, and represents, in—

Figure 1, a view of the dial of a watch complete; Fig. 2, the same, the dial-plate and pointer removed; and in Fig. 3, the same enlarged, with the auxiliary dial removed.

The invention relates to an improvement in watches for indicating the time; and it consists in combining with the dials a second-indicator, operated by the same device as the hour-dial, which will denote by letter or otherwise, through a second opening on the minute-dial, that the minutes indicated on the minute-dial are before or after the hour—that is to say, so many minutes of or past a certain hour.

A is the main dial, with the minutes indicated in a circle, beginning at 0 to the right, indicating the minutes past the hour to 30, which is half the circle; thence indicating the minutes to or of the hour up to 0, the close of the hour. Over the point at the close of the hour, here represented at 0, is an opening, *a*, of the dial. Beneath this principal dial A is a second dial, B, (see Fig. 2,) on which are the twelve figures indicating the hour, and in such relative position to the opening *a* that the figures thereon pass beneath the said opening, exposing only the figure indicating the hour, as seen in Fig. 1. A single pointer, *b*, is arranged upon the central shaft, performing one revolution in each hour. Beneath the main dial, and on the same shaft, is a pawl, *d*, turning with the pointer upon the main dial, and the auxiliary dial B is fixed to a toothed wheel, C. The pawl *d* each hour, as it passes

the said wheel C, turns the auxiliary dial one notch, indicating a new hour. Beneath the principal dial is arranged a lever upon a pivot, D, having an arm, E, extending outward and two arms, F H, inward, one each side of the center, as denoted in Fig. 3, and in such relative position to the pawl D and wheel C that, standing in the position denoted in broken lines, Fig. 3, the tooth of the wheel C, as it turns, will strike the arm H of the lever and throw it to the right, the position denoted in solid lines, Fig. 3. This occurs at the half hour; and upon the arm E of the lever are placed two letters, P O, or their equivalents, denoting the number of minutes of or past the hour. The figure denoting the hour, therefore, changing at the half hour, the lever presents the letter O through an opening, *f*, in the dial, thus denoting that it is thirty minutes of or to the hour indicated; and when the pointer shall have arrived at nothing, the termination of that hour is denoted. Passing on, the arm *d* strikes the other arm of the lever, swinging the lever over and presenting the other letter, which denotes past the hour until at thirty minutes, when the change, as before, occurs.

To facilitate the instantaneous change of the hour figure a detent-pawl, L, is arranged, with a spring bearing thereon, which, soon after the wheel C commences to turn, escapes from the tooth, and, bearing thereon, gives a sudden throw to the wheel, which turns the dial suddenly, at the same time throwing the lever.

I claim as my invention—

In combination with the principal and auxiliary dials A B, operating as described, I claim the lever E F H, with the indicating-letters or marks thereon presented, respectively, at the opening *f* in the principal dial, as and for the purpose specified.

CHRISTIAN REINHARDT.

Witnesses:

JOHN H. SHUMWAY,  
A. J. TIBBITS.