

UNITED STATES PATENT OFFICE.

WILLIAM DIEBEL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO NAPOLEON W. WILLIAMS, OF SAME PLACE.

IMPROVEMENT IN WATCHMEN'S TIME-CHECK CLOCKS.

Specification forming part of Letters Patent No. **146,809**, dated January 27, 1874; application filed March 25, 1873.

To all whom it may concern:

Be it known that I, WILLIAM DIEBEL, of the city of Philadelphia and State of Pennsylvania, have invented certain Improvements in Tell-Tale Clocks, of which the following is a specification:

My invention relates to the combination of a series of lever cut-offs, with a revolving dial and tooth-wheel in connection with the hour-hand shaft in such a manner as to provide for the action of the levers at regular intervals of time when moved by the watchman, so as to indicate that he has made all his trips regularly, or indicate any failures that may have occurred, as hereinafter fully described.

Figure 1 is a front elevation of an ordinary clock with the improvements attached. Fig. 2 is a reverse view of the revolving dial C, toothed wheel G, and cut-off D. Fig. 3 is a section at the broken line *x x* of Fig. 2.

Like letters in all the figures indicate the same parts.

A is the case of an ordinary clock. B is the ordinary stationary dial. C is a revolving dial fast on the hour-hand shaft, so as to be carried around with it in its regular movement. This plate is figured regularly from one to twelve, as seen in Fig. 1, and has subdivisions, as may be desired. In the present case there is one division between each of the adjacent divisions to mark the half hours. There are a series of perforations, *a*, around the circle of figures—one to each division and subdivision. Arranged in relation to these perforations on the rear side of the supplemental dial-plate C there are lever cut-offs D, hung on the pins *b*. The cut-offs have projections *c* at their outer ends, so that when each division and subdivision comes in regular order in the running of the clock, under the figure 12 of the stationary dial, if the watchman has come around at the right time, by bearing on the head *d* of the vertical rod E the cut-off D beneath the rod is turned on its pivot by the pressure of the lower end of the rod on the projection *c*, so as to close the contiguous perforation *a*. The rod E slides freely in a suitable opening in the case A, and is provided with a wire-spring, F, to hold it in its elevated position; but, if the watchman should fail to come in time, the projection of

the cut-off having passed the vertical rod E, the perforation remains open, as seen at *y*, and tells the tale that he was remiss in his duty at that time. On the rear side of the revolving dial C there is a toothed plate-wheel, G, which is provided with a pin, *e*, that projects through an oblong perforation, *f*, in said dial. The inner ends of the cut-offs D have teeth, *g*, which are arranged between the teeth *h* of the wheel G. The spaces between the teeth of the wheel are sufficiently large to admit of the play of the teeth of the cut-offs in the movements of the latter, so that the fixed position of the wheel shall not be disturbed thereby.

When the watchman goes on duty the revolving dial is so set as to have the starting time in range with the figure 12 on the stationary dial, and if any of the perforations *a* should be closed, the pin *e* of the wheel G is pressed so as to bring it tight against the end of the oblong perforations *f* at the point 1, whereby the teeth *g* of the cut-offs, that do not close the corresponding perforations of the dial, are pressed against it by the teeth *h* of the wheel, so as to cause the sliding of the cut-offs past the perforations. Then the pin *e* is given a reverse movement, so as to come against the other end of the perforations *f* at the point 2 to give the wheel a partial reverse turn, and thereby bring its teeth out of the way of the free movement of the teeth of the cut-offs. There are stationary pins *i i*, which project outward from the revolving dial C, for the operator to rest his finger on when he moves the wheel G.

The hour-hand H and minute-hand I are on appropriate shafts, in the ordinary manner.

I claim as my invention—

1. The combination of the revolving dial C, toothed wheel G, cut-off D, and rod E, with the hour-hand shaft of a clock, substantially in the manner and for the purpose above described.

2. The combination, of the pin *e* of the wheel G, with the dial C, by means of the oblong slot *f*, substantially as and for the purpose set forth.

WILLIAM DIEBEL.

Witnesses:

STEPHEN USTICK,
THOMAS J. BEWLEY.