J. E. BUERK.

WATCHMEN'S TIME DETECTOR.

No. 181,519. Patented Aug. 29, 1876.

Fig. 1.

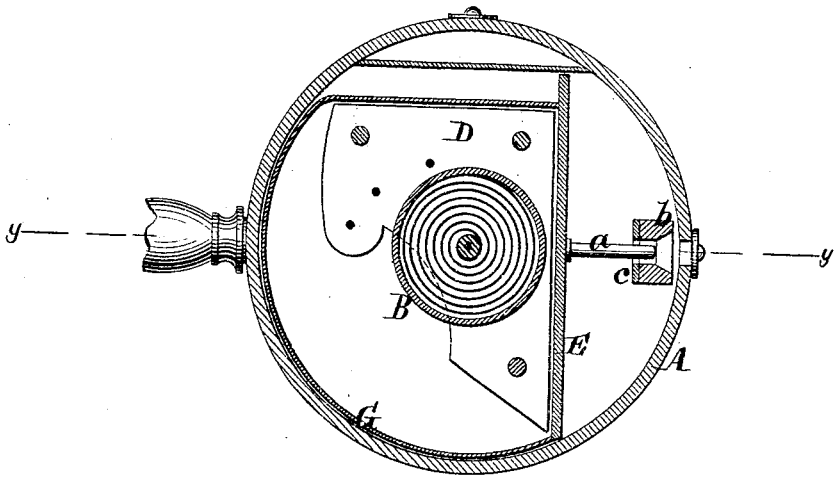


Fig. 2.

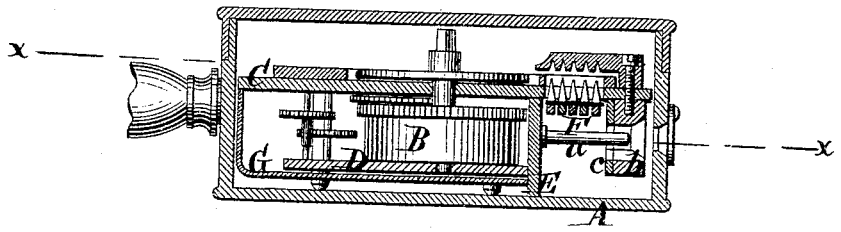
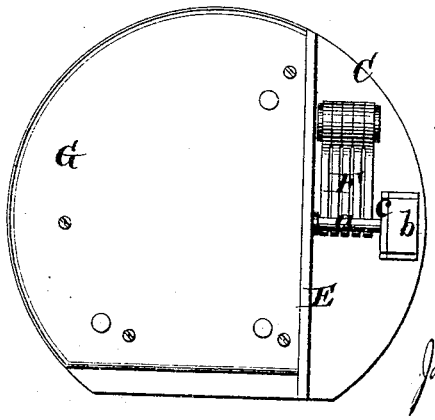


Fig. 3.



Witnesses.
Otto Hufeland.
Robt E. Miller

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Jacob E. Buerk
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UNITED STATES PATENT OFFICE.

JACOB E. BUERK, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN WATCHMEN'S TIME DETECTERS.

Specification forming part of Letters Patent No. **181,519**, dated August 29, 1876; application filed July 22, 1876.

To all whom it may concern:

Be it known that I, JACOB E. BUERK, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Watchmen's Time Detecters, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a horizontal section in the plane *x x*, Fig. 2. Fig. 2 is a vertical section in the plane *y y*, Fig. 1. Fig. 3 is an inverted plan of the movement detached.

Similar letters indicate corresponding parts.

This invention relates to certain improvements in that class of watchmen's time-detecters which I have described in Letters Patent, No. 48,048, granted to me June 6, 1865.

My present improvement consists in the combination, with the partition-plate which separates the marking devices in a watchman's time-detecter from the clock-movement, and with the front and back plates, between which said clock-movement is situated, of a protecting-case, which is firmly secured to the back plate, and one edge of which bears against the inner surface of the front plate, while its other edge bears against the partition-plate between the marking devices and the clock-movement, so that by the combined action of said case with the front and the partition plate the clock-movement is effectually protected against impurities, which otherwise are liable to interfere with the correct operation of the clock.

My improvement consists also in the combination, with the soft-metal stud that cooperates with the guide-pin for the keys which operate the marking devices, of a steel face, so that the operation of manufacturing said stud, and of securing it in position, remains the same as before, while the steel face prevents the keys from wearing said stud, and thereby the correct operation of the mechanism is insured.

In the drawing, the letter A designates the main case, which incloses the working parts of my watchman's time-detecter. The clock-movement B is situated between the front plate C and the back plate D, and with these two plates is combined a partition-plate, E, which separates the marking devices F from the clock-movement. With the front plate C, the back plate D, and the partition-plate E is combined a secondary case, G, which is firmly secured to the back plate, and the upper edge of which bears tight against the inner surface of the front plate, while its open end lies close to the inner surface of the partition-plate. By the combined action of the case G, the partition-plate E, and the front plate C, therefore, the clock-movement is effectually protected against the entrance of impurities, such, for instance, as loose particles of tobacco, which are usually found in the pockets of watchmen, and which, when they find their way into the clock-movement, seriously interfere with the correct operation of the detecter.

From the outside of the partition-plate projects a pin, *a*, which forms the guide for the keys used for operating the marking devices F. With this pin is combined a stud, *b*, which is firmly secured to the inner surface of the front plate C in such a position that the bits of the keys, on being turned, are closely confined between the shoulder of the pin *a* and the inner surface of the stud *b*, such being necessary in order to cause the bit of each key to act on the particular marking device or devices for which the same is designed. The stud *b* is made of brass or other soft metal, which can be easily worked; but I have found that the inner ends of the bits soon wear out the brass face of the stud, and in a short time the keys have an end play on the pin *a*, whereby their correct action is interfered with. To obviate this difficulty I have combined with the soft-metal stud *b* a steel facing, *c*, which effectually prevents the bits of the keys from wearing into the stud, while at the same time the labor of manufacturing said stud, and of securing the same in its position, remains the same as before, and the cost of the stud is but slightly increased.

I disclaim in this present application everything shown and described in my Patent, No. 48,048, referred to.

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

1. The combination, in a watchman's time-detecter, of the secondary case G, front plate C, back plate D, partition-plate E, marking

device F, and clock-movement, constructed to operate substantially as described, said secondary case being firmly secured to the back plate, with its edges bearing against the front and partition plates, as and for the purpose specified.

2. The combination, with the marking devices of a watchman's time-detecter, of the steel facing *c*, soft-metal stud *b*, front plate C, and guide-pin *a* projecting from the partition-plate, substantially as and for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 1st day of July, 1876.

JACOB E. BUERK. [L. S.]

Witnesses:
JOHN O. BUERK,
E. F. KASTENHUBER.