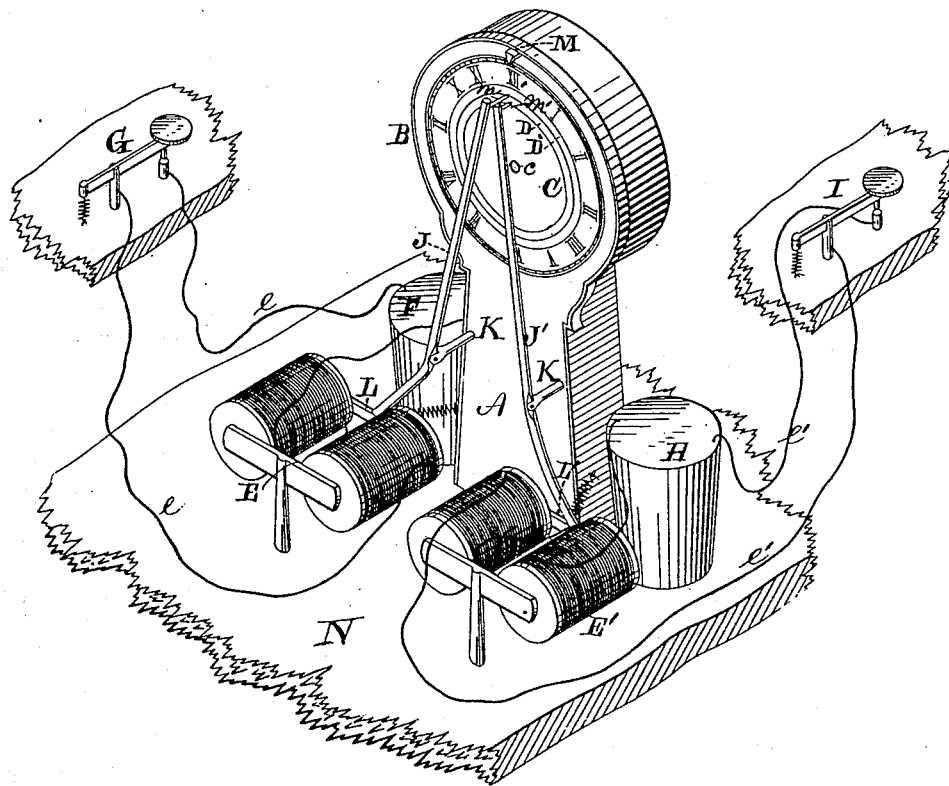


W. E. PHELPS.
Electro-Magnetic Watchman's Time-Recorder.

No. 198,814.

Patented Jan. 1, 1878.

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Witnesses:
M. H. Barringer,
P. R. Richards.

Inventor:
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By P. R. Richards,
Atty.

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UNITED STATES PATENT OFFICE.

WILLIAM E. PHELPS, OF ELMWOOD, ILLINOIS.

IMPROVEMENT IN ELECTRO-MAGNETIC WATCHMEN'S TIME-RECORDERS.

Specification forming part of Letters Patent No. **198,814**, dated January 1, 1878; application filed September 12, 1876.

To all whom it may concern:

Be it known that I, WILLIAM E. PHELPS, of Elmwood, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Watchmen's Electro-Magnetic Time-Reporters; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which they appertain to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to electro-magnetic time-checks; and consists in the construction, arrangement, and combination of the parts thereof, as hereinafter fully set forth and claimed.

The accompanying drawing is a perspective view of devices embodying my invention.

Referring to the parts by letters, letter A represents a standard, carrying on its upper end an ordinary time-piece, B, the removable dial C of which is graduated and numbered, in the usual manner, from I to XII, and is mounted on the shaft *c*, so as to rotate with it once in twelve hours. The dial C is also laid off in concentric circles D D'.

Letters E E' represent electro-magnets, the one, E, connected by wires *ee* with a battery, F, and circuit-closing key G, in the usual manner, and the other, E', connected with a battery, H, and circuit-closing key I by wires *e'*, also in the usual manner.

J J' are levers pivoted mid-length to standards K. The lower end of the lever J is attached to the armature L of the magnet E, and the lower end of the lever J' is attached to the armature L' of the magnet E'. The upper end of each lever J J' carries a prick-point, *m m'*, respectively, which stand in close proximity to the face of the dial C when the levers are in their normal positions and the electrical circuits are open. The points *m m'* are arranged in line between a pointer, M, and the shaft *c*.

The time-works B and electro-magnets E E' may be fixed in an office, dwelling-house, or other desired place, (represented by letter N.) The batteries F H may be located as desired. The circuit-closing keys G and I are located in different parts of the works, or other place being watched, at stations where desired, and there may be any number of them required—one at each station—and each one connected, as shown in the drawings, with a separate lever, J or J'; and the prick-points on the different levers arranged to strike different ones of the concentric circles D.

The dials C are printed on paper cards, and may be removed and renewed at pleasure. In placing them on the time-piece they should be placed with their figures and graduations representing the time of day at the pointer M. It will then be evident that if either key, G or I, is closed at a certain time or fixed moment, the attraction of the connected armature will operate the lever J or J', to which it is attached, and thrust the prick-point thereon into the dial C, the mark left representing the time by its radial position on the dial, and the particular circle D on which it is found representing the station where the circuit was closed.

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

The combination, with a suitable recording-surface, of keys G I, circuit-wires *ee'*, batteries F H, electro-magnets E E', armatures L L', upright elbow-levers J J', pivot arms or blocks K K, and markers *m m'*, each circuit with its attached devices being independent of the other, so that an injury to one battery can affect the operation of one pointer only.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

WILLIAM E. PHELPS.

Witnesses:

THOMAS MCKEE,
M. H. BARRINGER.