R. H. STRONG.

Clock.

No. 162,430. Patented April 20, 1875.

Fig. 1.

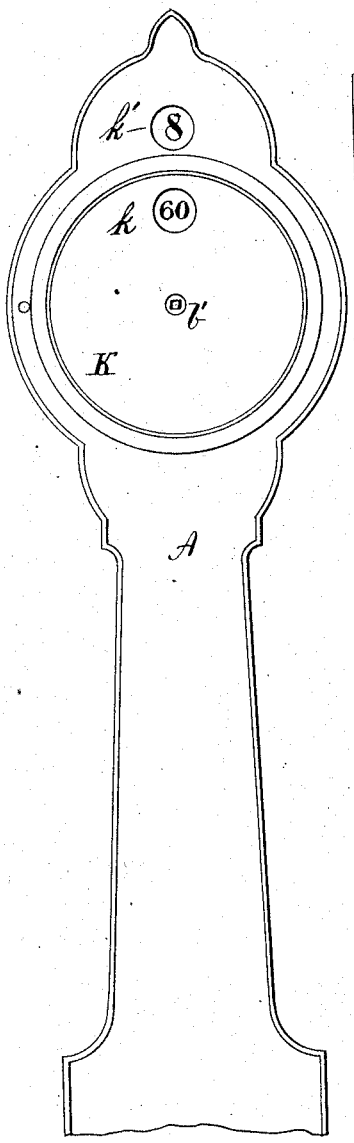


Fig. 3.

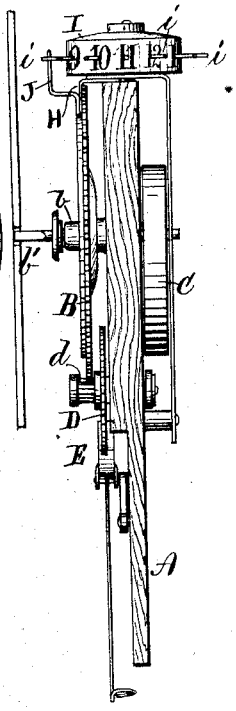
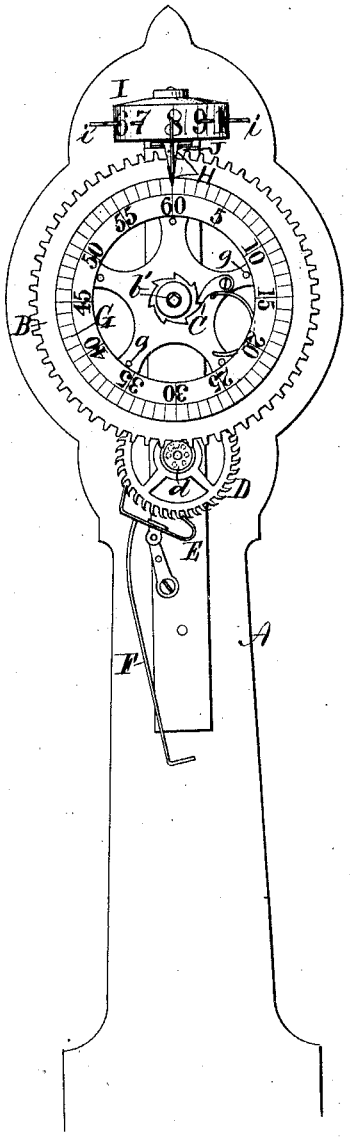


Fig. 2.



Witnesses:

A. McCallum

D. G. Stuart

Inventor:

Robert H. Strong,

by W. B. Richards,

Atty.

UNITED STATES PATENT OFFICE.

ROBERT H. STRONG, OF GALESBURG, ILLINOIS, ASSIGNOR OF ONE-HALF HIS RIGHT TO CLINTON S. HALSEY, OF SAME PLACE.

IMPROVEMENT IN CLOCKS.

Specification forming part of Letters Patent No. **162,430**, dated April 20, 1875; application filed January 2, 1875.

To all whom it may concern:

Be it known that I, ROBERT H. STRONG, of Galesburg, county of Knox and State of Illinois, have invented certain Improvements in Clocks, of which the following is a specification:

This invention relates to improvements in clocks; and it consists, first, in a simple arrangement of parts connecting or gearing the main drive-wheel directly with the escapement; second, in the combination of a revolving dial with aforesaid improvement; third, in the combination, with aforesaid devices, of a sprocket-wheel, which receives intermittent motion from the revolving dial, to cause it to register the revolutions of said dial; and, fourth, in the general combination and arrangement of all the parts in such manner that they may be mounted in working position on a single straight standard, all as hereinafter fully described.

To enable others skilled in the art to make and use my invention, I will now proceed to describe the same with reference to the accompanying drawing, in which—

Figure 1 is a front elevation of a clock embodying my invention. Fig. 2 is the same view as Fig. 1, with the front face removed; and Fig. 3 is a side elevation.

Referring to the parts by letters, letter A represents an upright standard, supported by any suitable base, and supporting the operating parts, as hereinafter described. B is the main drive-wheel, mounted on a shaft, *b*, having suitable bearings in the standard A, its forward end extended outward to form a winding stem or shaft, *b'*, and its rear end extended through the standard A, where it receives the coiled propelling-spring C, the inner end of which is attached thereto, and the outer end to the standard A. C' represents an ordinary ratchet and pawl. D is an escapement-wheel, the shaft of which has bearings in the standard A, and carries a pinion-wheel, *d*, which gears with the cogged drive-wheel B. E is an ordinary escapement or pallets, connecting the escape-wheel D with the pendulum F. G is an annular or ring-shaped dial-plate, graduated and numbered from one to sixty. It is held in place on the wheel B by being placed over the series of pins *g*, in such manner that it will rotate with said wheel, and may be readily and easily relocated thereon, as desired. H is a pointer or index-finger projecting outward and downward from the standard A to the edge of the dial-plate G. I is a wheel-dial, mounted on an axial bolt projecting from the top of the standard A, in such manner that it rotates in a plane at right angles to the plane of rotation of the wheel B. Its periphery is graduated and numbered from 1 to 12, and carries a series of twelve projecting pins, *i*. J is a tappet projecting from the dial G. K is the front face or casing, containing openings *k k'* over the dials G and I, respectively.

The operations are deemed obvious. Being wound up in the ordinary manner, the necessary impulse will be given to the wheel B by the coil-spring C, while the wheel B will actuate the wheel D, which will in turn, by means of the escapement and pendulum, regulate the movements of the whole device, in such manner that the wheel B will rotate once in one hour, thus presenting the graduating numbers on the dial G through the opening *k*, and indicating the odd minutes of the hour at the pointer H. At each revolution of the dial G the tappet J will strike one of the projecting pins *i* and turn the wheel I the one-twelfth of a revolution, thus bringing the graduated hour-numbers consecutively into view through the opening *k'*, where they remain, at all times indicating the hour, until another impulse is given by the tappet J.

Should disarrangement occur, the wheel B and dial G may be adjusted relatively at any time by moving the dial G on the pins *g*.

I claim—

1. The dial-carrying wheel B, arranged to revolve once in each hour by means of spring C, escapement D E, and pendulum F, substantially as and for the purpose specified.

2. The dial G, constructed and graduated as described, secured to and operating with the wheel B, substantially as and for the purpose specified.

3. The horizontally-rotating dial I, con-

structed as described, and provided with projecting pins *i*, combined with the dial G, having a tappet, J, the wheel B, escapement D E, and pendulum F, substantially as described, and for the purpose specified.

4. The dial I, wheel B, dial G, escapement D E, pendulum F, spring C, and supporting-standard A, when arranged substantially as described, and for the purpose specified.

ROBERT H. STRONG.

Witnesses:
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