

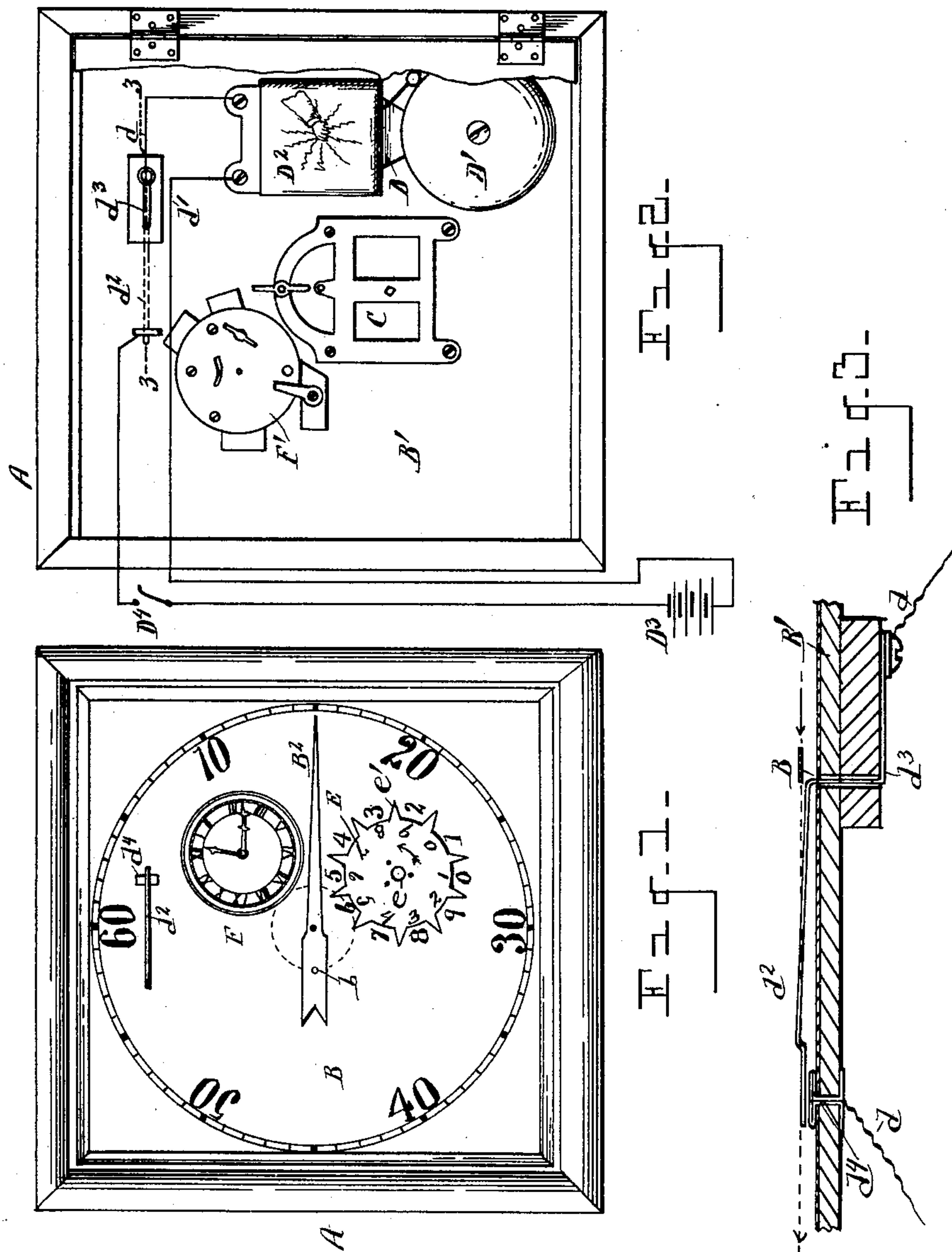
No. 612,441.

Patented Oct. 18, 1898.

H. D. TENNY.  
ELECTRIC TIME ALARM.

(Application filed Feb. 19, 1898.)

(No Model.)



WITNESSES.

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# UNITED STATES PATENT OFFICE.

HERBERT D. TENNY, OF MILFORD, MICHIGAN.

## ELECTRIC TIME-ALARM.

SPECIFICATION forming part of Letters Patent No. 612,441, dated October 18, 1898.

Application filed February 19, 1898. Serial No. 670,934. (No model.)

*To all whom it may concern:*

Be it known that I, HERBERT D. TENNY, a citizen of the United States, residing at Milford, county of Oakland, State of Michigan, have invented a certain new and useful Improvement in Time-Indicating Devices; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention has for its object a time-indicating device, the same being designed more particularly for use in telephone-offices to indicate or signal to the attendant the time occupied by a person who may be talking at the instrument.

My invention consists of the construction, combination, and arrangement of devices hereinafter described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a view in front elevation. Fig. 2 is a rear elevation with the back of the case or door broken away. Fig. 3 is a view in section on the line 3 3, Fig. 2.

It is found very desirable in telephone-offices to have a time-indicating device to facilitate keeping track of the time occupied by a person at the telephone by the attendant and which will enable the attendant to keep the time of several parties, if necessary, in a simple, efficient, and trustworthy manner.

I carry out my invention as follows:

A represents any suitable case.

B is a dial which may be mounted upon or attached to a wall or partition B'. (Shown in rear elevation in Fig. 2.) This dial B is preferably a seconds-dial.

B<sup>2</sup> is a seconds-hand driven by any suitable clockwork, (indicated in outline at C.) The outline C shows the case of a clockwork mechanism, it being unnecessary to show the details of the clockwork, as any suitable clockwork mechanism may be employed to drive the seconds-hand B<sup>2</sup>.

D indicates an electric-bell mechanism, D' being the bell proper, and D<sup>2</sup> any customary electric mechanism to actuate the bell. This electric mechanism is in circuit with a battery D<sup>3</sup>, as by conductors d and d'. One of the

conductors, as the conductor d, has interposed therein a contact device, (indicated at d<sup>2</sup>), preferably a spring contact-finger upon the face of the dial, said contact device being normally open. This contact device may be arranged in any suitable manner to open and close the circuit. It may, for example, be attached at one end to a plate d<sup>3</sup> on the inside of the instrument in electrical connection with the conductor d. The opposite extremity of the contact device may be arranged to contact with a suitable device d<sup>4</sup> in electrical connection with the conductor d. As the finger B<sup>2</sup> rotates at each revolution it will come into contact with the spring contact-arm d<sup>2</sup>, closing the same upon the device d<sup>4</sup> and completing the circuit and causing the bell to sound. A switch d<sup>4</sup> may be located in the circuit, if desired, so as to throw the bell mechanism into and out of operation.

The operation of this portion of the mechanism will be understood. When a party wishes to talk through the telephone, the attendant notices the position of the finger B<sup>2</sup> upon the dial, and should the attendant be at a distance from the instrument the bell will notify the attendant by sounding each moment the number of minutes the party has been speaking, and by simply keeping track of the number of times the bell is sounded and adding thereto the extra seconds the time occupied by the user of the telephone can be kept track of in a very simple and efficient manner. To still further facilitate the matter, however, my invention contemplates locating upon the dial a rotatable disk E, which may rotate upon a pivot (indicated at e) engaged in the wall B' or upon the dial B. The seconds-hand B<sup>2</sup> is provided with an inwardly-projecting pin or spur, (indicated at b.) The disk E may be toothed, as indicated at e', or otherwise constructed for the engagement of the pin b therewith to rotate the disk once at each complete revolution of the seconds-hand. This movement of the seconds-hand contacting with the disk will give to the disk a step-by-step movement to turn it one point at each complete revolution of the seconds-hand. The completion of each step-by-step movement is designed to be finally accomplished as the seconds-hand reaches the terminal point of its complete revolution, as at the



"60" mark upon the dial. The disk E has preferably marked or indicated thereon in any suitable manner, as by letters or figures, a desired number of steps or divisions or other indicating characters, as the arabic numerals "1" to "9", for example, and a zero-point between the figures 1 and 9. About the periphery of the disk are also located figures or other indicating characters, as arabic numerals, for example, numbered in a corresponding manner, as from "0" to "9." By this construction and arrangement it will be evident that the attendant, whenever a party wishes to use the telephone, glances at the numeral upon the disk adjacent to the zero-point of the registering numerals or characters around the periphery of the disk and notes the same, together with the position of the seconds-hand upon the dial. If the parts were in position shown in Fig. 1, for example, the attendant would note the numeral "1" upon the disk E, the same being opposite the zero-point of the registering characters thereabout, and also the position of the seconds-hand, indicating fifteen seconds. When the party has finished speaking, the attendant simply notes the position of the numeral "1" with relation to the surrounding registering characters and the position of the seconds-hand past a complete revolution or past a "60" mark and readily computes the time occupied by the speaker. Thus if number "1" upon the disk, after the speaker had finished, was adjacent the numeral "5" of the registering characters about the disk the attendant would at once know that the speaker had used the telephone five minutes and as many seconds more as might be indicated by the position of the seconds-hand upon the dial B. The time occupied by several parties might be kept track of in a very ready manner in the same way, the attendant simply noting, as upon a blank or slip, the numeral on the disk opposite the zero-point of the surrounding registering characters. The pin *b* contacts with the toothed disk in such a manner as to rotate the disk in the direction indicated by the arrow-head.

F indicates an ordinary clock-dial for keeping track of time in the usual way, the interior of the case A being provided with additional clockwork mechanism. (Indicated at Fig. 1.) The combination of the time-clock F, having its dial F within the dial B, is a very simple and efficient arrangement to keep track of the time.

What I claim as my invention is—

1. In a time-registering device, the combination of a dial, a hand to traverse the dial, mechanism to actuate said hand, and a rotatable disk located upon the outer face of the dial provided with a series of registering indicating characters thereon and actuated by the rotation of said hand at each complete revolution of said hand, said dial provided with a corresponding series of register-

ing indicating characters about the periphery of said disk, the whole series of registering characters both upon the dial and upon the disk being simultaneously displayed, substantially as set forth.

2. In a time-indicating device, the combination of a dial, a hand to traverse the dial, mechanism to actuate said hand, a rotatable disk located upon the outer face of the dial toothed on its periphery and provided with a series of registering indicating characters thereon, said dial provided with a corresponding series of registering indicating characters about the periphery of the disk, and said hand provided with means to engage the disk and give to the disk a step-by-step movement at each complete revolution of the hand, the whole series of registering characters both upon the dial and upon the disk being simultaneously displayed, the characters upon said disk and upon said dial being arranged in reverse order, substantially as set forth.

3. In a time-indicating device, the combination of a dial, a hand to traverse the dial, mechanism to actuate the hand, an electric bell, a battery in circuit with the bell, a contact device actuated by the hand at each revolution thereof to close the circuit, a rotatable disk located upon the outer face of the dial provided with a series of registering indicating characters thereon and actuated step by step by the hand of each revolution thereof, said dial provided with a corresponding series of registering indicating characters about the periphery of said disk, the whole series of registering characters both upon the dial and upon the disk being simultaneously displayed, the characters on said dial and on said disk being arranged in reverse order, substantially as set forth.

4. In a time-indicating device, the combination of a dial, a hand to traverse the dial, mechanism to actuate the hand, an electric bell, a battery in circuit with the bell, a contact device actuated by the hand at each revolution thereof to close the circuit, a rotatable disk located upon the outer face of the dial at one side the center of the dial provided with a series of registering indicating characters thereon and actuated step by step by the hand at each revolution thereof, said dial provided with a corresponding series of registering indicating characters about the periphery of said disk, the whole series of registering characters both upon the dial and upon the disk being simultaneously displayed, the registering characters upon the disk and the registering characters upon the dial being arranged in reverse order, substantially as set forth.

In testimony whereof I sign this specification in the presence of two witnesses.

HERBERT D. TENNY.

Witnesses:

N. S. WRIGHT,  
MARY HICKEY.