

(No Model.)

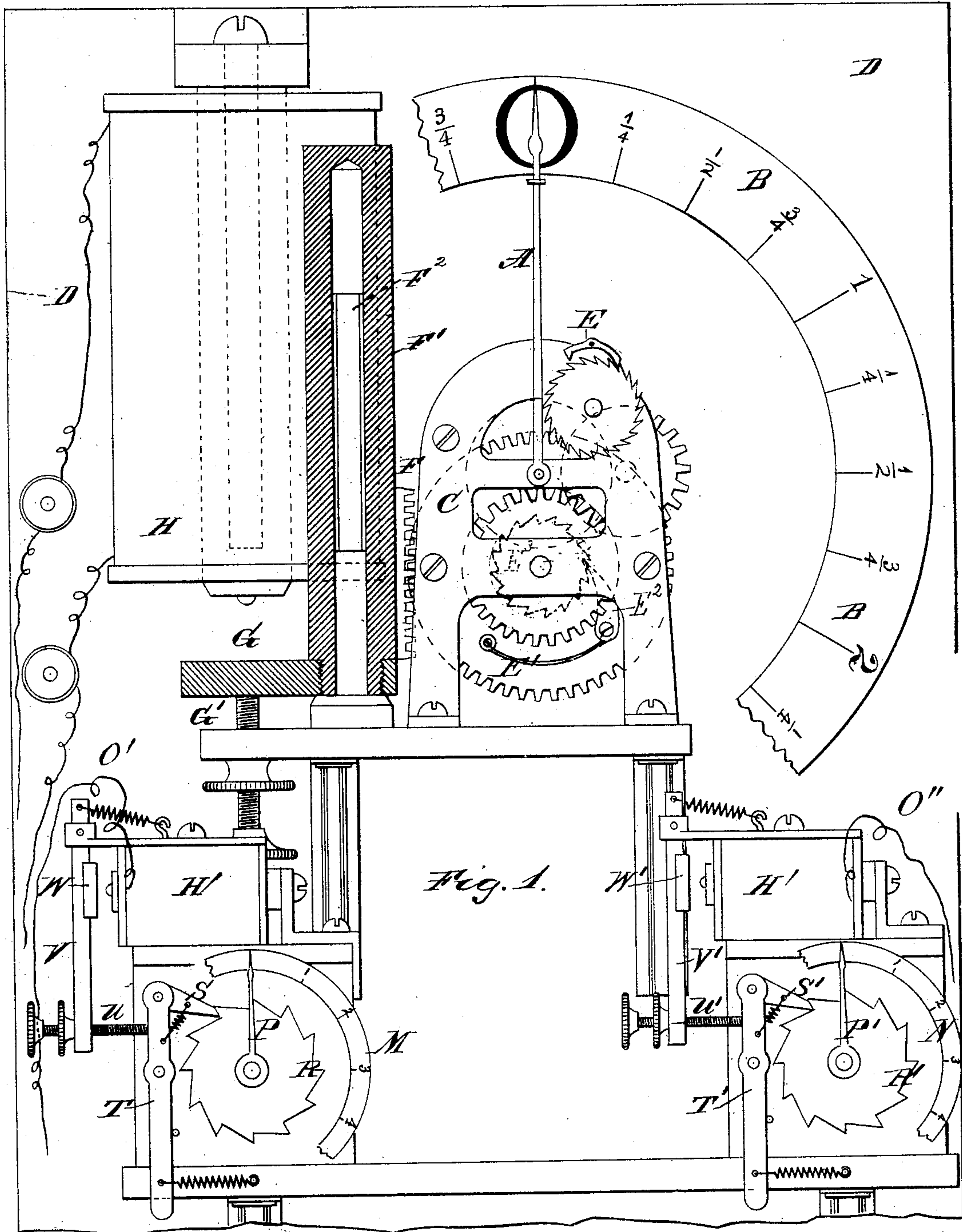
2 Sheets—Sheet 1.

G. N. FILLIS.

WATCHMAN'S TIME RECORDER.

No. 273,351.

Patented Mar. 6, 1883.



WITNESSES.

Frank L. Ourand
H. L. Spiden.

INVENTOR.

George N. Fillis
By Boyd. Elliot
att.

(No Model.)

2 Sheets—Sheet 2.

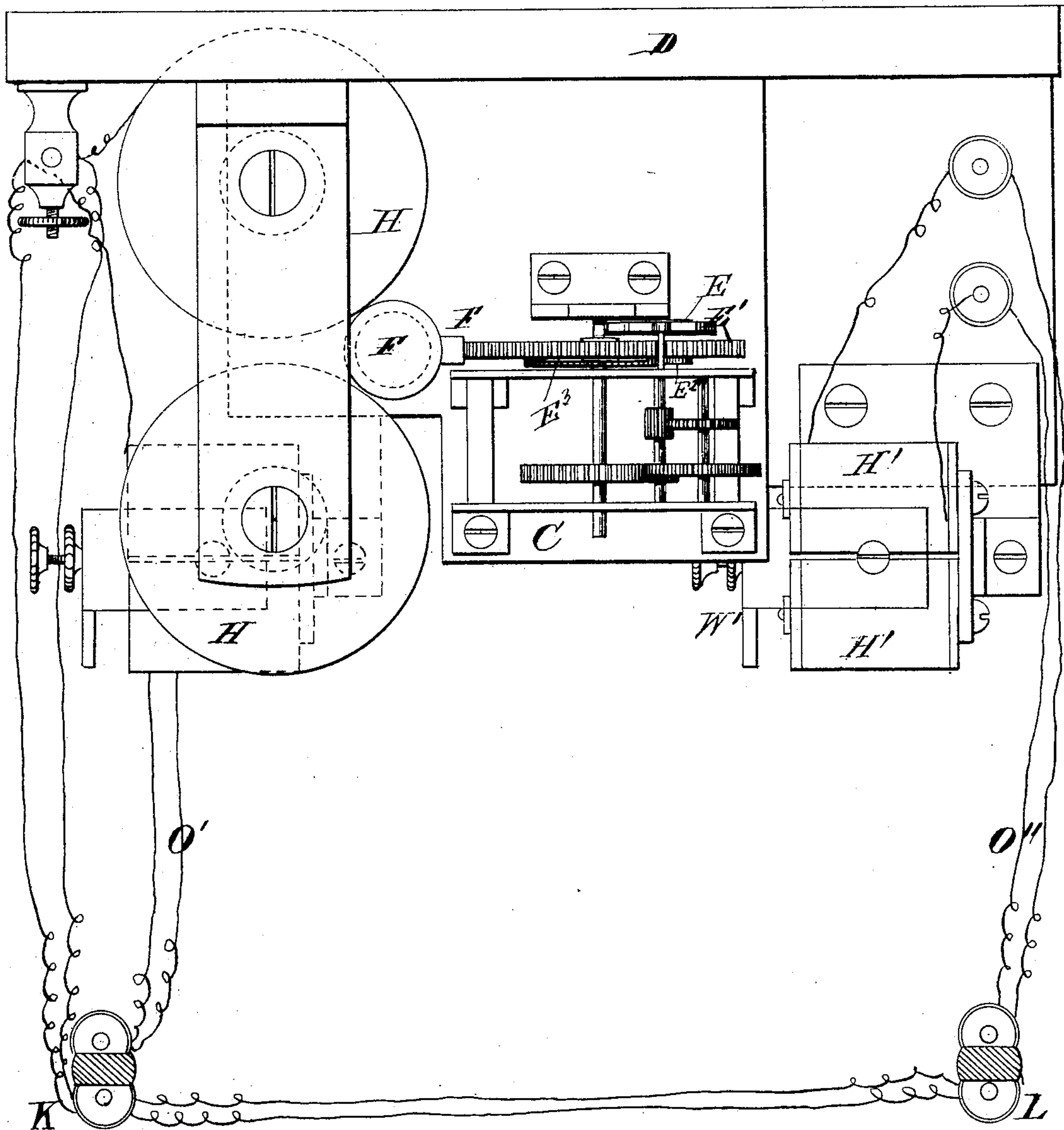
G. N. FILLIS.

WATCHMAN'S TIME RECORDER.

No. 273,351.

Patented Mar. 6, 1883.

Fig. 2.



WITNESSES:

Frank L. Ourand
Wm. L. Spiden.

INVENTOR:

George N. Fillis
By Boyd Eliot
att'y

UNITED STATES PATENT OFFICE.

GEORGE N. FILLIS, OF NEW YORK, N. Y.

WATCHMAN'S TIME-RECORDER.

SPECIFICATION forming part of Letters Patent No. 273,351, dated March 6, 1883.

Application filed September 14, 1881. Renewed November 6, 1882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE N. FILLIS, residing in the city, county, and State of New York, have invented an Improved System of Signals for Police and other Watchmen, and apparatus for the same, of which the following is a specification.

This invention pertains to that class of apparatus in which signals may be given from distant points, as on a patrolman's beat to a central station, where a record is or may be made; and the chief object of this invention is to provide such a system of electric circuits with the "beats" or district of the patrolman and connected to a central station that a time-piece or clock-work will be set in operation by him on reaching his beat by closing the circuit, and will only run or keep in motion sufficiently long for him to reach the other extremity of his circuit, when he must again wind it up, and at the same time indicate on another dial the post at which said winding operation is performed, so that the patrolman must indicate at definite periods his presence at the extreme points or certain intervals of his beat and exhibit it on the dials at the central station; and this invention consists in an improvement in operating time-movements, especially adapted to be used in watchman's time-detectors, and in certain improvements in this class of mechanism, which will be more fully hereinafter described, and then pointed out in the claims.

In the accompanying drawings, Figure 1 is a front elevation of the clock-work and post-indicators. Fig. 2 is a plan from above of the clock-work and magnets, and shows a diagram of the circuits and signal-stations.

At A is an index-hand, like the minute-hand of a clock, caused to move over a dial at B by suitable clock-work mechanism, mounted in a frame, C, in a case, D, which is fastened upon the wall of the station, from which all the watchmen or patrolmen for a certain distance go to their respective posts. This clock-work mechanism is provided with an escapement, as at E, to regulate the movement as in a clock; but the main wheel at E' is mounted loosely on the shaft, and is provided with a pawl, E², taking into the teeth of a ratchet-wheel, E³, fast on the shaft on which the wheel E' turns, so that it can be revolved in one direction freely,

but in the other will engage with the rest of the train interposed between the main wheel E' and the escapement E. This wheel E' engages with a rack at F, which is fastened upon the side of a weight, F', (shown in section in Fig. 1,) which is arranged to move up and down on a guide at F². Said weight is connected with the armature G of an electro-magnet, H, which is located in the case or frame D, and is in the main circuit connected with the post at K, the nearest post of the beat to the station, and when the said circuit is closed the armature is raised by its attraction to the magnet, and the main wheel E' is revolved to the same distance, and when the connection is broken the weight F' then acts to set the train or clock-work in motion, and it will continue to run until the weight descends to the regulating-screw G' under the armature, which determines the distance of its descent from the poles of the magnet, and also the length of time that the train will be in operation under the control of the escapement. Consequently, if the gearing is arranged to require fifteen minutes for the descent of the weight, the index-hand will in that time move from 0 to one-fourth on the dial, and this will be the time required or allowed for the patrolman to reach the other post on his beat, as at L, Fig. 2; and to which the wires from the time-keeper extend, and where, by pressing on a knob, the circuit is again closed, and the weight upon the armature is again lifted, and the clock-work is again wound up for another fifteen minutes, to run until he can return to his first station; but it is evident that this winding-up action or the lifting of the weight may be performed at the first station, and so continued without the necessity of the patrolman going over his beat or circuit. To prevent such a result, there is arranged within the same case two check-dials, as at M and N, one of which is connected with the first post and the other with the second by an electric circuit, as at O' and O², and each of these dials have index hands P and P' on axes which have ratchet-wheels R and R', which are caused to rotate by adjusting-screws U and U' in the end of arms V and V', upon which are the armatures W and W' of electro-magnets H' H', which are connected with these circuits, and the parts are so adjusted that when either of the said

circuits are closed said pawls will move forward to operate their ratchet-wheels one tooth, and thereby move forward the index-hands over their dials. Consequently when the patrolman reaches his first station and closes the circuit to start the clock-work he must also close the circuit of the check-dial, and thereby move it one notch, and thus when the next post is reached and he must rewind the clock-work, he must also move the index of the second check-dial by closing its circuit, and thus show that the second winding up of the time-keeper was done at the second post, and then must return during that time to the first post on his beat, and when he rewinds the clock-work must close the circuit of the check-dial, and thus move its index to the second figure on its dial, and thus, as he passes from one post to another on his beat, he must close these circuits at their proper times and places, all of which will be indicated on the dials at the station. If, however, any delays occur, by which he cannot reach the posts in the allotted time, then the deficiency will be seen on the time-dial at the station, and the amount, time, or period of such deficiency will be shown by the check-dials, which will indicate to the officer in charge where the operation of winding was performed, as both check-dials are in the office exposed to the said officer in charge—as, for example, if the watchman has patrolled his beat four times, the index-hand on the time-keeper will be at 1 on the dial if the apparatus is arranged to run for fifteen minutes to every time its circuit is closed, and the check-dials will show that their index-hands have been moved each two notches; but if the index-hand fails to move the next quarter and the first check-dial fails to show a movement, then the patrolman fails to show that he was at that post at the right time, and must render his account accordingly. The posts in the different parts of the circuit are to be provided with small boxes to cover the buttons or push-knobs that close the circuit, and these boxes are furnished with keys, so that each patrolman can have control of the apparatus during his watch.

The time-keeping dial in the present case is divided for six hours, which is the amount of time usually required for a watchman to be on his beat; but it may be increased to twelve hours, if required; or the clock-work may be arranged to run slower by increasing the resistance of the escapement.

It is evident that, by the arrangement of separate circuits for the clock and check-dials, should the circuit operating the clock-movement fail to work, the watchman could still register his movements by the check-dials.

It is evident that more than two posts may be used to a beat or circuit, and also that more than fifteen minutes may be allowed for the circuit of the patrolman, and this may be accomplished by the same apparatus by simply changing the regulating-screw under the armature that raises the operating-weight.

Instead of an independent circuit from each

post for the check-dials, the wires may be run from post to post, as represented, and then connect from the first to the second.

It is also evident that the organization and arrangement of the devices may be greatly varied without departing from the nature of my invention.

By such a system of circuits and apparatus located in towns and cities where watchmen and patrolmen are employed it must be evident that any absence from their beats or loitering by the way beyond the proper time for them can be easily detected, and that such a system would save the use or necessity of a large force of roundsmen now so necessary, especially in large cities, where the watchmen are so often negligent.

I am aware that it is not new to operate or give motion to the hands of a clock by the movement of the armature of an electro-magnet moving in substantially the same period of time in opposite directions, and I am also aware that it is not new to operate a recording device at a distance from the recorder, and I therefore make no claim to these features, broadly.

What I claim as new is—

1. The combination, in a watchman's time-detector, of a dial and electrically-actuated time-movement and a series of two or more electrically-operated check-dials or indicators, constructed and arranged to point out the number of times the armature of the clock-movement has been energized, both the time-movement and the series of check-dials being in the same case, all substantially as described.

2. The combination, in a watchman's time-detector, of an electrically-actuated time-movement operated by one circuit, a series of two or more electric check-dials operated by separate and independent circuits, and constructed and arranged to point out the number of times the magnet operating the clock-movement has been energized, both the clock-movement and the series of check-dials being in the same case, all substantially as described.

3. The combination, with a time-keeping mechanism, of an electro-magnet and an armature connected to a weight having rack-teeth in direct connection therewith to engage with the time-keeping mechanism, and operated by an electric circuit, as hereinbefore set forth.

4. The combination, with a time-keeping mechanism, of an electro-magnet, an electric circuit and means for making and breaking it, an armature connected to a weight having rack-teeth formed thereon to engage with a wheel in the time-keeping mechanism, and a ratchet and pawl interposed between the said wheel and the pointer and regulator of the time-movement, whereby the weight moves rapidly and free in one direction and slowly in the other, substantially as described.

5. The combination, with a time-movement having a fixed dial and pointer to indicate time, of one or more check-dials, having pointers arranged and operated independently of the

time-movement, and constructed and arranged to indicate the number of times the device that impels the clock-movement has been operated, substantially as described.

5 6. The combination, with an electrically-actuated time-movement, of one or more registering devices whose pointers move independently of the action of the time-movement and indicate the number of times the armature operating the time-movement is attracted by the
10 magnet, substantially as described.

7. The combination of a time-movement set in motion by the movements of an armature of an electro-magnet with check-dials or
15 counting devices whose pointers indicate the number of times the armature has been attracted, an electric circuit for each of said counting devices, and circuit-breaking devices, arranged at as many different and distant stations as there are check-dials, substantially as
20 described.

8. The combination of a time-keeping mechanism operated by an electric circuit, and two or more check-dials or indicators operated by
25 independent electric circuits, as herein set forth.

9. The combination of a time-keeping mechanism organized to run for certain definite or predetermined intervals or periods of time from
30 an electric circuit, with an electro-magnet and two or more indicators or check-dials operated by a second circuit, as hereinbefore set forth.

10. The combination, with the wheels of a time-movement and an electro-magnet, of the weight F' , provided with teeth engaging with
35 one of said wheels, and carrying an armature, G , to be operated by said magnet, and a guide-rod, F^2 , fixed to the frame, whereby the teeth of the rack are kept in mesh with the gearing and the armature in the proper position to be
40 attracted by the magnet, substantially as described.

11. A clock-movement provided with a dial and pointer, an electric circuit, D , an electro-magnet, H , its armature G , and a weight, F' ,
45 in combination with a check-dial, M , the electric circuit O , the electric magnet H' , and its armature, intermediate connections, substantially as described, between the armature and the pointer P of the check-dial, and a circuit-
50 breaker post, K , arranged at a distant station and both circuits being connected to the said circuit-breaker post, whereby the time-movement is actuated and the pointer of the check-dial moved by different circuits from the same
55 post, substantially as described.

In witness whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

GEORGE N. FILLIS.

Witnesses:

EUGENE N. ELIOT,
BOYD ELIOT.