2 Sheets--Sheet 1.

E. A. CALAHAN.

Improvement in District and Fire-Alarm Telegraphs.

No. 127,844. Patented June 11, 1872.

Fig. 2.

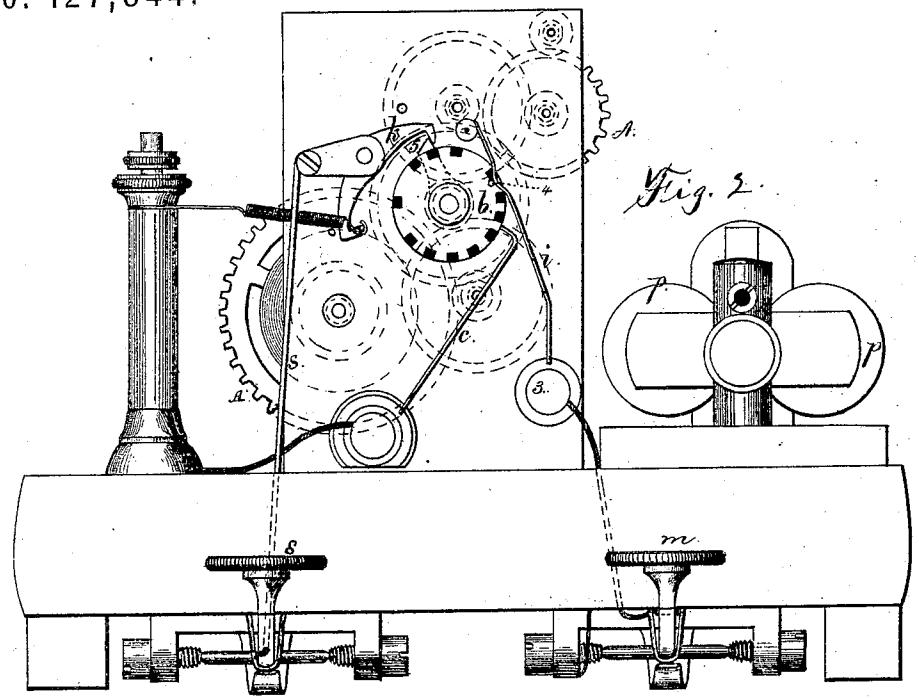
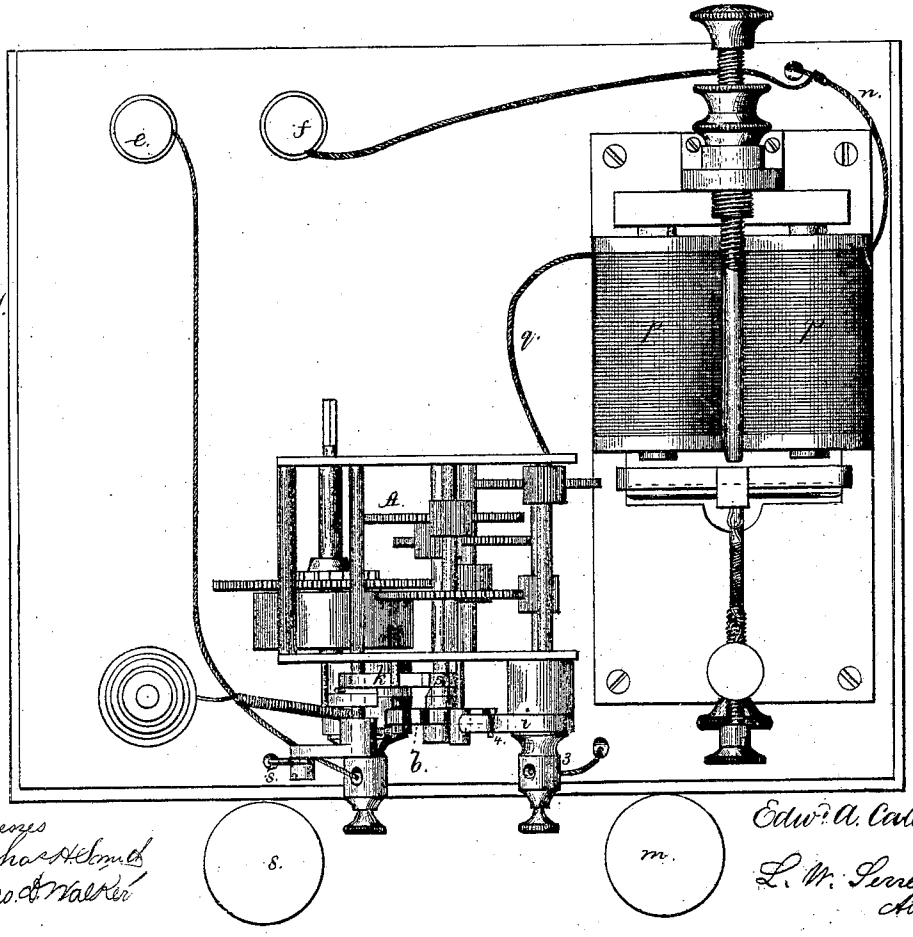


Fig. 1.



Witnesses
Chas. H. Helmuth
Geo. H. Walker

Edwd A. Calahan
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2 Sheets--Sheet 2.

E. A. CALAHAN.

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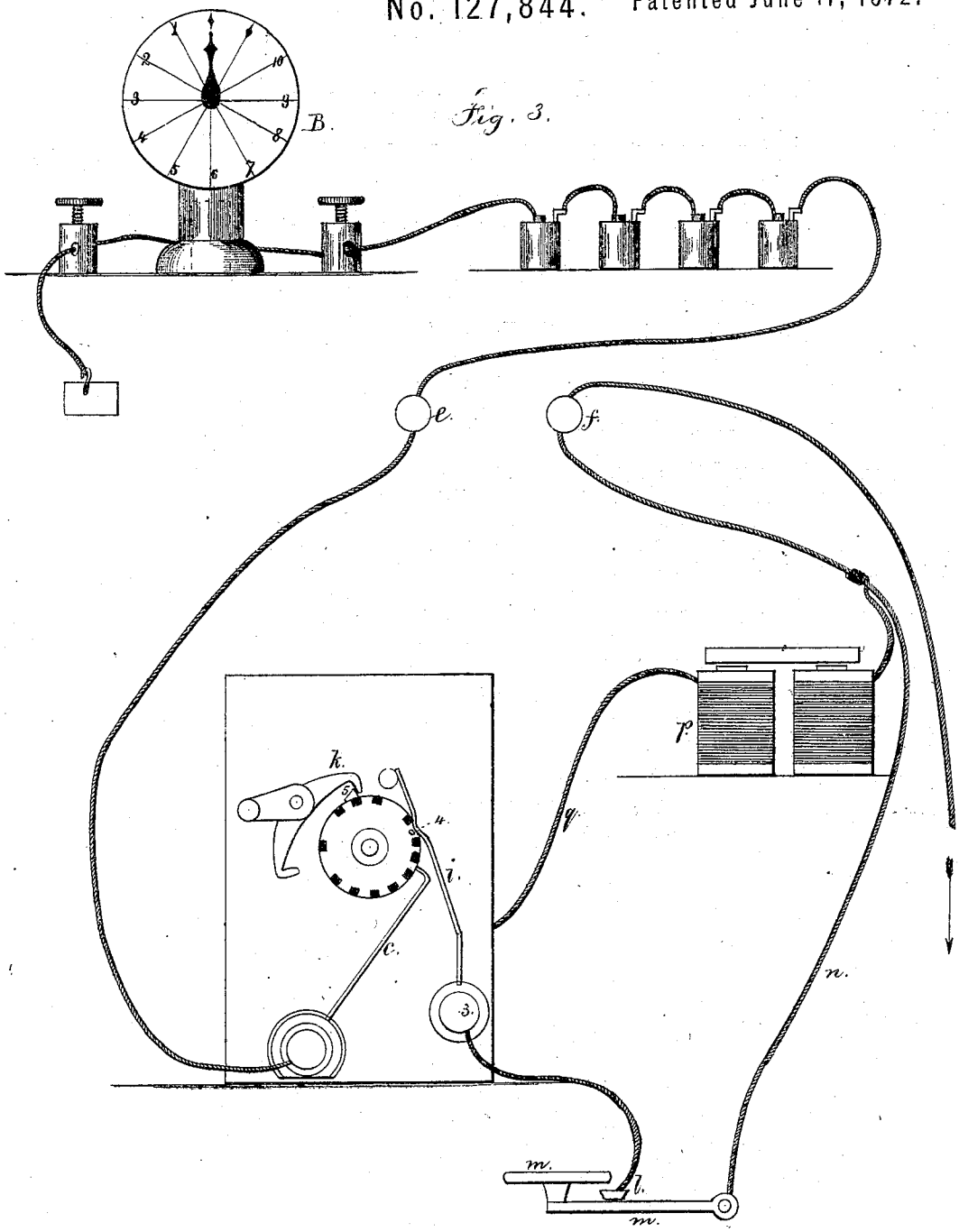

Fig. 3.

Witnesses

Chas. H. Smith
Geo. S. Walker.

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UNITED STATES PATENT OFFICE.

EDWARD A. CALAHAN, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN DISTRICT AND FIRE-ALARM TELEGRAPHS.

Specification forming part of Letters Patent No. 127,844, dated June 11, 1872.

To all whom it may concern:

Be it known that I, EDWARD A. CALAHAN, of Brooklyn, in the county of Kings and State of New York, have invented an Improved District and Alarm Telegraph; and the following is declared to be a correct description of the same.

In country villages and the suburbs of cities great difficulty is experienced in giving warning in case of fires, burglars, or accidents, and often from insufficient assistance burglars escape, or fires get under headway so that they cannot be checked.

The object of this invention is to connect any desired number of houses or other buildings with a central office in such a manner that communication can be had with that central office without disturbing the telegraphic instruments at the other buildings in the same line, thereby enabling any person to call for assistance from the main or central office in case of emergency. In this manner the mounted patrol or police can be called instantly to the place where their services are required, and the risk of robbery, murder, fire, &c., is much lessened. I make use of a circuit-breaking wheel and stop, in combination with a finger-key and magnet, arranged in such a manner that the person can ascertain by the finger-key whether the line is in use by any other person, and, by the removal of the stop, cause his own instrument to indicate at the central station what is required.

In the drawing, Figure 1 is a plan, and Fig. 2 is an elevation, of the instrument employed at the various buildings; and Fig. 3 is a diagram illustrative of the connection.

The clock-work A is of any desired character, or any suitable motor may be employed for turning the transmitting-wheel *b*. This transmitting-wheel is made with non-conducting blocks in its periphery, and the wheel is divided up into the proper number of spaces, and a conductor and spring circuit-closer, *c*, lies in contact with the surface of said wheel. This transmitting-wheel is made with reference to the receiving instrument B at the central station. This instrument B is represented as a dial with numbers and a pointer. A step-by-step movement is employed to actuate this hand from the armature of an electro-magnet. The transmitting-wheel *b* is made to indicate upon the dial (or by a printing-telegraph, or otherwise) the number of the particular house or building, as aforesaid; hence all the wheels *b* at the various buildings are made with non-conducting blocks and conducting-spaces, variously arranged, so as to indicate these numbers. For instance, the portions of the periphery where the blocks are equidistant cause the step-by-step movement; but where a long conducting surface intervenes, the electro-magnet holds the pointer at the designated figure, causing a sufficient pause to indicate that to be the number, and then the hand proceeds and pauses at the next figure to be indicated. The arrangement of non-conducting and conducting surfaces in the periphery of the wheel *b*, as seen in the drawing, will indicate 3, 6, 7 at the central station.

The wheel *b* might be turned around by hand with a fly or other regulator to prevent too rapid movement, and the size thereof may be such as to contain the necessary conducting and non-conducting surfaces for giving the instrument at the receiving station or central office two revolutions to one of said wheel *b*, because the numbers indicated could thereby be increased; for, with the arrangement shown, the indication could not be made of such numbers as 32, 41, &c., where the highest number is given first; but by two rotations of the index-hand at B this could be accomplished.

The foregoing description will show how the number is indicated at the central station by one instrument in the telegraphic circuit, it being understood that one main-line wire connects with the binding-screw *e*, thence by the wire and spring *c*, and that the electricity passes through the wheel *b* and clock-work to the other binding-screw *f* and by the line-wire.

I will now proceed to describe the means for effecting the connections so that a number of instruments may be worked in one line. A spring, *i*, upon an insulated stud, 3, lies in contact with a pin, 4, on the wheel *b*, when said wheel *b* is stopped by the holding-dog *k*, taking an arm, 5, from the shaft of *b*, and at this time the end of *c* is upon the metallic portion of *b*. The spring is in metallic connection with the anvil *l* of the key *m*, the normal condition of which is closed, a spring being provided for this purpose, so that the main line is an uninterrupted connection from *e* through

c, *b*, 4, *i*, *l*, *m*, and wire *n* to the screw *f*; thence through the main line to the next instrument and building; and so on throughout the entire circuit back to the central office, as aforesaid, thus cutting out or cutting off the magnets *p*, because the electricity will take the route of least resistance.

If a person at house or building 3, 6, 7, desires to communicate to the central office, the key *m* is first depressed, breaking the circuit through *i l m*, and compelling the electricity to pass through the magnet *p* from the clock-work A by the wire *q*. If any other instrument is working, this magnet, by its sound, indicates that the person at 367 must not set his instrument going until the sound ceases. Then the dog *k* is raised by the lever and key *s*, and the wheel *b* is rotated by the clock-work, and the central instrument indicates 367, and this can be repeated. The sender knows his message is sent by the sound of his own magnet, and the breaking of the circuit at the central station may indicate its reception.

This instrument may be increased in efficiency by the use of stops in the path of the pin 4, which may be depressed after the number has been indicated, and thereby momentarily arrest the hand of B at a point to indicate "robbers," "fire," "doctor," "police," or other conventional signals corresponding with the stop depressed.

By this system and mechanism a complete local or district telegraph is established, tending to prevent depredations and insure life and property. The mechanism is simple, inexpensive, and not likely to get out of repair, and the duties of police-patrol very much lessened.

I claim as my invention—

The circuit-breaking wheel *b*, springs *c* and *i*, and pin 4, in combination with the magnet *p*, finger-key *l m*, and electric connections, substantially as and for the purposes set forth.

Signed by me this 14th day of August, 1871.

EDWD. A. CALAHAN.

Witnesses:

GEO. D. WALKER,

CHAS. H. SMITH.