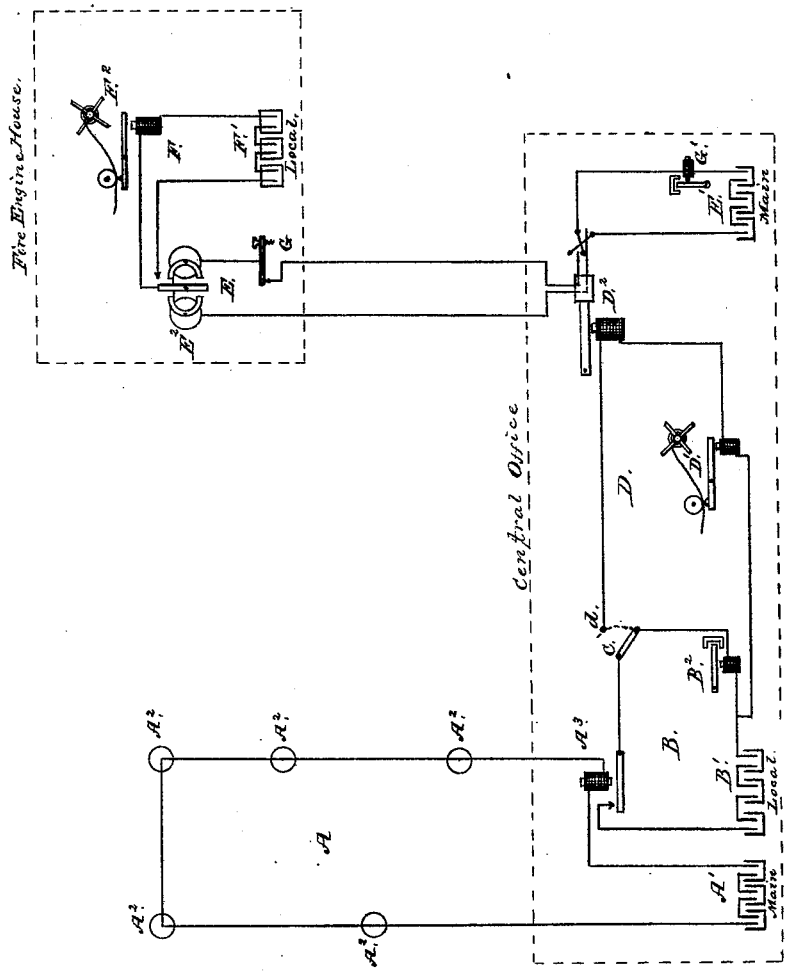
J. P. BARRETT.

FIRE-ALARM TELEGRAPH CIRCUIT.

No. 180,983. Patented Aug. 15, 1876.



Witnesses:

Ford R. Smith
L. B. Lipan

Inventor:

John P. Barrett
by Munday & Evarts
his attorneys

UNITED STATES PATENT OFFICE.

JOHN P. BARRETT, OF CHICAGO, ILLINOIS, ASSIGNOR OF TWO-THIRDS HIS RIGHT TO LEROY B. FIRMAN, OF SAME PLACE.

IMPROVEMENT IN FIRE-ALARM-TELEGRAPH CIRCUITS.

Specification forming part of Letters Patent No. **180,983**, dated August 15, 1876; application filed February 11, 1876.

To all whom it may concern:

Be it known that I, JOHN P. BARRETT, of Chicago, Illinois, have invented certain Improvements in Fire-Alarm Telegraphs, of which the following is a specification:

The nature of this invention will be understood from the following description and the accompanying drawing, which forms a part thereof.

The drawing is a diagram of circuits and instruments connected therein.

In the said drawing, the two parallelograms marked in dotted lines represent, as the legends thereon inscribed denote, the "central office," into which all of the circuits converge, and one of the "fire-engine houses."

A represents one of the fire-alarm circuits, supplied by the battery A^1, and communicating with the fire-alarm boxes A^2. This circuit enters the central office and encircles the magnet of a relay, A^3, which operates a short office-circuit or local circuit, B, supplied by the local battery B^1, and containing a sounder, B^2. A switch, C, in this circuit is so arranged that, when in the position shown in the drawing, the sounder B^2 is in circuit; but when thrown over to the point *d* the sounder B^2 will be cut out, and the loop D, containing a self-starting Morse register, D^1, and a pole-changer magnet, D^2, will be added to the circuit B.

The pole-changer D^2 operates the circuit E, supplied by a battery, E^1, and running to the engine-house, at which point it encircles the magnets of a polarized relay, E^2, which, in turn, operates a local circuit, F, at the engine-house, supplied by a battery, F^1, and containing a self-starting Morse register, F^2.

Now, if an alarm is sent in from one of the boxes A^2 through the circuit A, it will be taken by the relay A^3 and put upon the local circuit B in the central office; and if the switch C is in the position shown in the drawing the alarm will simply be indicated by the sounder B^2. As soon as said sounder gives indication of a fire-alarm having been turned in, (and it is not difficult by any means to distinguish an alarm from other signals sent over the same circuit and received upon the same sounder,) the switch C is turned to rest upon the point *d*, which shunts the sounder B^2, and brings into the local circuit B the loop D, containing the self-starting Morse register D^1, which registers the alarm or records it upon paper for present needs and future reference, and brings into play also the pole-changer magnet D^2 of ordinary construction, by the action of which the current in the circuit E to the fire-engine houses is reversed for each movement of the register D^1. This reversing of the circuit E acts upon the polarized relay E^2 in one or all of the engine-houses to repeat the stroke of the alarm upon said relay, which operates at the engine-house a local circuit, F, and causes the register F^2 at the engine-house to record the alarm.

It will be seen that the circuit E in this operation remains unbroken except for the minute interval between the changing of the poles, and is, practically, therefore, an unbroken circuit, in which a key, G, may be placed at the engine-house, and a sounder, G′, at the central office, for the transaction of other business over the same wire.

The alarm received from the boxes and heard at the central office upon the sounder B^2 may thus be instantly shunted by the switch C, and caused to be registered at the central office, and also at the engine-houses, while at the same time the circuit to said engine-houses remains free for other uses. This latter feature is especially important when the circuit to the engine-houses contains also any fire-alarm boxes, as it may under my system without danger of interference.

Instead of the connection with battery E^1, the pole-changer may be connected to the battery A^1, which would bring the engine-house polarized relay E^2 and the fire-alarm boxes and relay A^3 in the same circuit.

I have not seen fit to describe at length the construction of the relay, sounder, switch, registers, pole-changer, polarized relay, and batteries, as these are all well-known contrivances, and do not require any special construction or change beyond their arrangement and combination in my invention, and the arrangement of their connections and circuits.

Having thus fully described my invention,

that which I claim as new, and desire to secure by Letters Patent, is—

The combination, with the local circuit B, operated by a relay, A^3, in the fire-alarm circuit, of the switch C and loop D, register D^1, and pole-changer D^2, the latter operating to reverse the currents of a circuit, or lines containing one or more polarized relays, E^2, substantially as specified.

J. P. BARRETT.

Witnesses:
JOHN W. MUNDAY,
EDW. S. EVARTS.