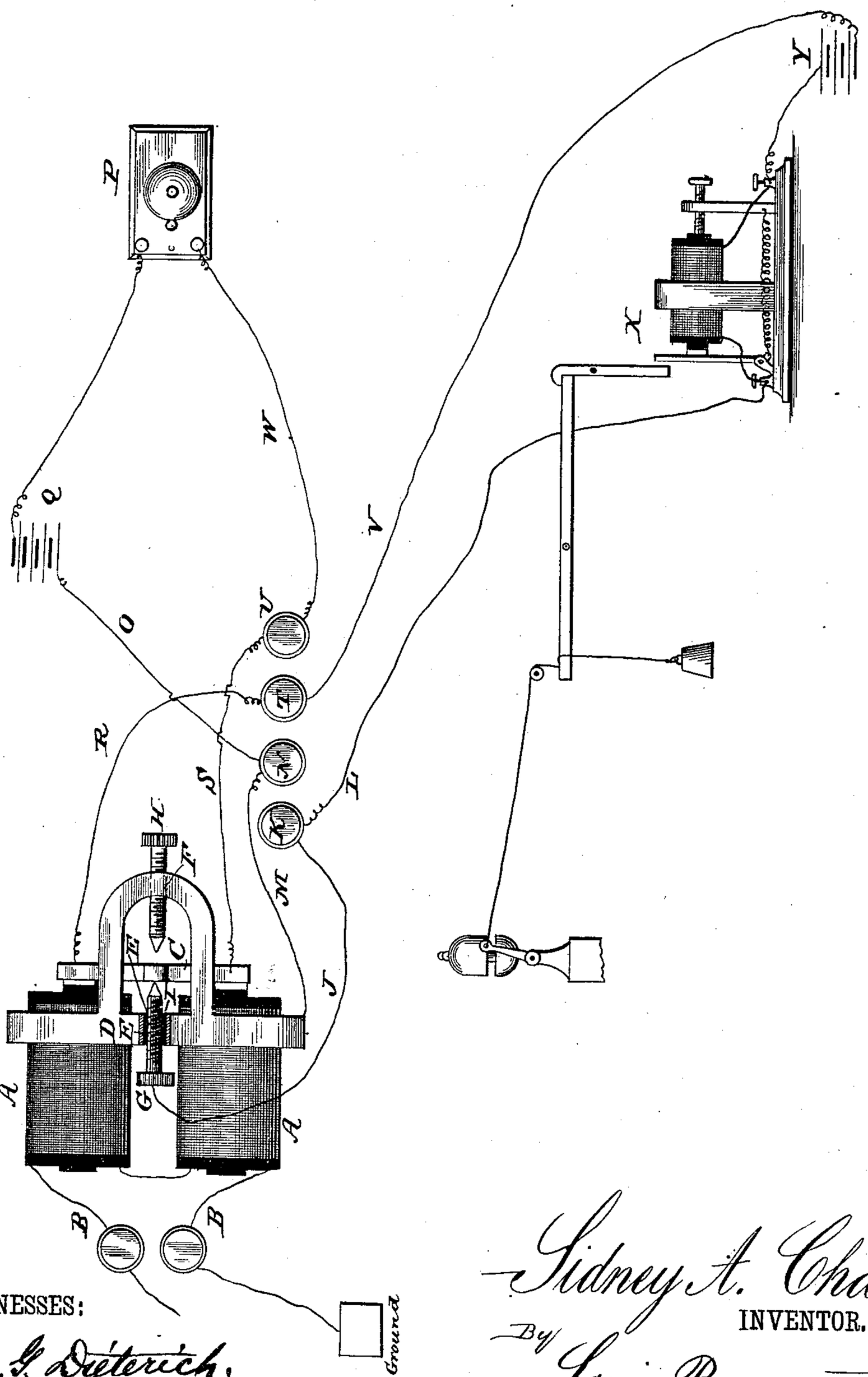
(No Model.)

S. A. CHASE.

ELECTRIC FIRE ALARM.

No. 332,638. Patented Dec. 15, 1885.



WITNESSES:

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SIDNEY A. CHASE, OF EVART, MICHIGAN, ASSIGNOR OF ONE-HALF TO WILLIAM R. MAPES, OF SAME PLACE.

ELECTRIC FIRE-ALARM.

SPECIFICATION forming part of Letters Patent No. 332,638, dated December 15, 1885.

Application filed March 14, 1885. Serial No. 158,836. (No model.)

To all whom it may concern:

Be it known that I, SIDNEY A. CHASE, a citizen of the United States, and a resident of Evart, in the county of Osceola and State of Michigan, have invented certain new and useful Improvements in Electric Fire-Alarms; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, which forms a part of this specification, and which represents a diagram of my improved electric fire-alarm apparatus.

My invention has relation to electric fire-alarm apparatus, and it contemplates certain improvements upon the apparatus for which application for Letters Patent, Serial No. 155,579, was filed by me on the 10th day of February, 1885; and it consists in the improved construction and combination of parts of an apparatus in which the breaking of the main-line circuit, which is preferably accomplished by means of a common telegraph-key, will operate by the one movement both the alarm-releasing instrument in a normally-closed local circuit and a local alarm-bell placed in a normally-open local circuit, as will be hereinafter fully described and claimed.

In the accompanying drawing, the letters A A indicate the electro-magnet, the coils of which receive the main-line current through the main-line wires B B. C is the armature, and D is the frame, which is formed with perforations E and F for the passage of the two contact-screws G and H, all of which parts are of the construction generally used in relays. The contact-screws are both tipped with platinum or other similar metal, instead of one being tipped with an insulating material, as in the usual relays, and the screw G, which passes through the perforation E of the bridge or frame D, and with which the armature comes in contact when it is attracted by the magnets in the closed main-line circuit, is insulated from the frame by a bushing, I, through which it passes, or by any other suitable means, which may readily suggest themselves to the expert mechanic. A wire, J, is secured to this screw, and passes from it to a binding-post, K, into which is secured one, L, of the wires, extending to the alarm-releasing instrument X and the battery Y upon the closed local circuit. The contact-screw H is in direct contact with the frame or bridge D, and a wire, M, passes from the frame to a binding-post, N, in which is also secured a wire, O, which passes to the vibrating alarm-bell P, which may be of any desired construction, and to the battery Q upon the open local circuit. Two wires, R and S, are connected to the armature and pass to two binding-posts, T and U, to one, T, of which the other wire of the closed local circuit, which wire is lettered V, is secured, while the other binding-post, U, has the wire W of the open local circuit secured to it. It will now be seen that as the main-line circuit is opened by the person giving the alarm, the preferable means for accomplishing this being a common telegraph-key, the armature will be released from the magnets, and thus cease contact with the insulated contact-screw, which will open the closed local circuit formed by the said insulated screw, the wire J, wires L and V, wire R, and the armature, which will cause the alarm-giving instrument to sound the alarm. The released armature will come in contact with the contact-screw H, which will close the open local circuit consisting of the said contact-screw, the frame D, wires M, O, W, and S, and the armature, and the closed circuit will sound the bell-alarm until stopped by the closing of the main-line circuit, which will attract the armature to the insulated contact-screw, again opening the closed bell-alarm circuit, and closing the open circuit having the alarm-releasing instrument, bringing the said circuits back into their normal state.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

As an improvement in electric fire-alarm apparatus, the combination, with an electro-magnet located in the main-line circuit and having the usual metallic yoke, of the two contact-screws, one of which is in direct contact with the metallic yoke, while the other passes through an insulated aperture in the said yoke, and the armature arranged to come in contact with the insulated contact-screw

when attracted by the magnets of the electro-magnet, and to come in contact with the uninsulated contact-screw when the main-line circuit is broken, an alarm-releasing instrument located in a normally-closed local circuit, one of the wires leading from its electro-magnet connecting with the insulated contact-screw, while the other wire connects with the armature of the main-line electro-magnet, and the alarm-bell located in a normally-open local circuit, one of the wires of which connects with the metallic yoke of the main-line electro-magnet, while its other wire connects with the armature of the said electro-magnet, all constructed and arranged to operate in the manner and for the purpose herein shown and described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

SIDNEY A. CHASE.

Witnesses:

WM. SECHER,

WM. BAGGER.