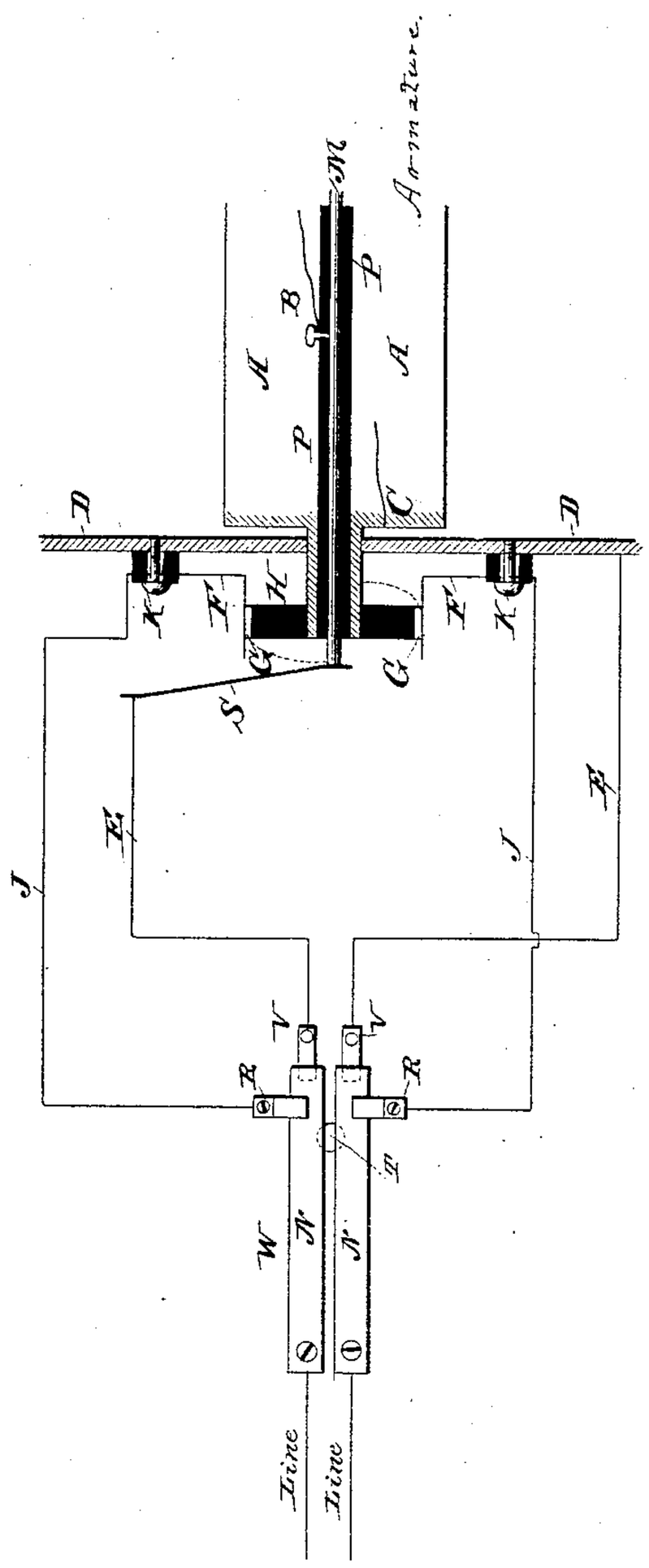
(No Model.)

A. H. LOW.

MAGNETO CALL FOR TELEPHONES.

No. 327,886. Patented Oct. 6, 1885.



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UNITED STATES PATENT OFFICE.

ALBERT H. LOW, OF DENVER, COLORADO.

MAGNETO-CALL FOR TELEPHONES.

SPECIFICATION forming part of Letters Patent No. 327,886, dated October 6, 1885.

Application filed June 2, 1885. Serial No. 167,426. (No model.)

To all whom it may concern:

Be it known that I, ALBERT H. LOW, a citizen of the United States, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Telephone-Calls, of which the following is a specification.

My invention relates to telephone systems, and more particularly to magneto-calls or generators and circuit-connections used in such systems; and it has for its object to produce such a generator and circuit-connections that either alternating or non-alternating currents may be conveniently sent to line, whereby the calling-instruments may be operated in various ways by such different currents as to produce different results at the will of the operator; and it is more particularly adapted to be used in a telephone or other call, such as is shown in my application No. 147,961, filed November 14, 1884.

To these ends my invention consists in a magneto-generator in which the circuits are so arranged that their terminals may be connected by springs or brushes or other means in different ways, so that the various kinds of currents may be taken therefrom; and it also consists in a suitable switch adapted to be connected with such brushes or other means and with the line-circuit, so that the character of the currents may be quickly and easily varied, all as more particularly pointed out hereinafter.

Reference is made to the accompanying drawing, forming part of the specification, wherein I have shown one way of modifying the ordinary magneto-generator commonly used in telephone-lines so as to obtain alternating and non-alternating electric currents at will, as well as one form of switch whereby such currents may be sent to line. The actual construction of the generator and arrangement of parts being subject to much variation, one form only is shown, and only so much of that as is necessary to illustrate the changes made.

A A represent a portion of the armature of an ordinary magneto-generator for telephone systems. The shaft of this armature, on which it revolves, is made hollow and contains a wire or small rod, M, surrounded by insulating material P P. One end of the fine wire with which the armature is wound is electrically connected with the wire M, as at B, and the other end of the armature-wire is electrically connected with the iron of the armature itself, as at C, and this armature communicates by contact with its metallic bearings D D.

S is a metallic spring pressing against a prolongation of the wire M and making an electrical connection therewith. Electric currents generated in the armature are thus carried out over the wires E E. These currents are alternating in their nature—*i. e.*, each electrical impulse is in an opposite direction from its immediate predecessor.

In order to cause the currents sent over the line to be of a non-alternating character, a commutator, H H, is employed. It consists of a disk of hard rubber attached to the shaft of the armature and provided with a thin metallic rim, G G, divided into two equal segments, each extending half-way around the disk. One of these segments is electrically connected with the wire M, and the other segment is electrically connected with the outer shaft of the armature.

F F are "brushes" or metallic strips pressing against the segments on the disk and secured to the metallic frame-work of the generator at K K, but insulated from it with hard rubber or other suitable material. By arranging the parts so that during the rotation of the armature the breaks in the metallic rim of the commutator come opposite the brushes at the same time that the wire coils of the armature come opposite the poles of the permanent magnets of the generator the electric currents sent over the wires J J will be of a non-alternating character. An ordinary magneto signaling-machine may be thus arranged with a commutator, so as to produce alternating or non-alternating currents at will. If the circuit E E be closed and the circuit J J be at the same time open, the current will be an alternating one. If J J be closed and E E be open, the current will be non-alternating. To utilize either set of currents at will, the switch W is provided. This consists of two metallic strips or springs, N N, arranged side by side, as shown, and connected with the line-wires

of the telephone-circuit. One end of each of these strips is secured to the wood-work of the generator and the other ends are left loose.

V V are contact-plates, upon which the springs N N press when in their normal position.

R R are contact-plates, arranged so as to overhang the ends of N N, and against which N N press when raised sufficiently from their normal position.

By means of a press-button, T, acting from the under side upon N N, the strips may be simultaneously lifted, so as to sever the electrical connections with V V and establish electrical connections with R R. The removal of the pressure upon the button permits the springs N N to resume their normal positions in contact with V V.

V V being connected with the wires E E of the alternating circuit, and R R being connected with the wires J J of the non-alternating circuit, it follows that when the magnetic machine is operated an alternating or a non-alternating current will be sent over the line, according as N N are in contact with V V or R R.

It is evident the details of the device may be varied from those shown without departing from my invention.

I claim—

The within-described improvement in magneto calls or generators for telephonic systems, the same consisting in the combination, with a magneto-machine provided with the usual connections for producing alternating currents, of a commutator for furnishing continuous currents of one direction, a switching device, one set of contacts connected with the alternating-current terminals, and another set of contacts connected with the continuous-current terminals, between which the switching device may be moved to make contact with either set of contacts, whereby either kind of current may be used at the will of the operator, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALBERT H. LOW.

Witnesses:

E. A. REYNOLDS,

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