

G. L. ANDERS.  
 Magneto Electric Call Apparatus.

No. 217,849.

Patented July 29, 1879.

Fig. 1.

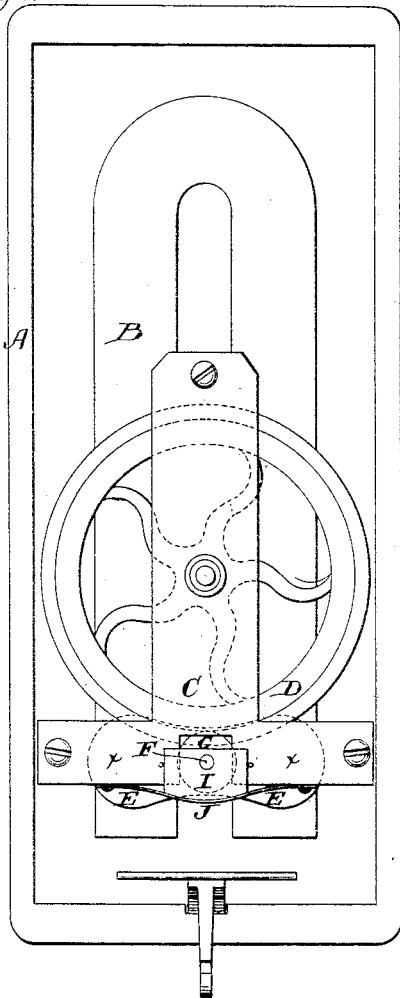


Fig. 2.

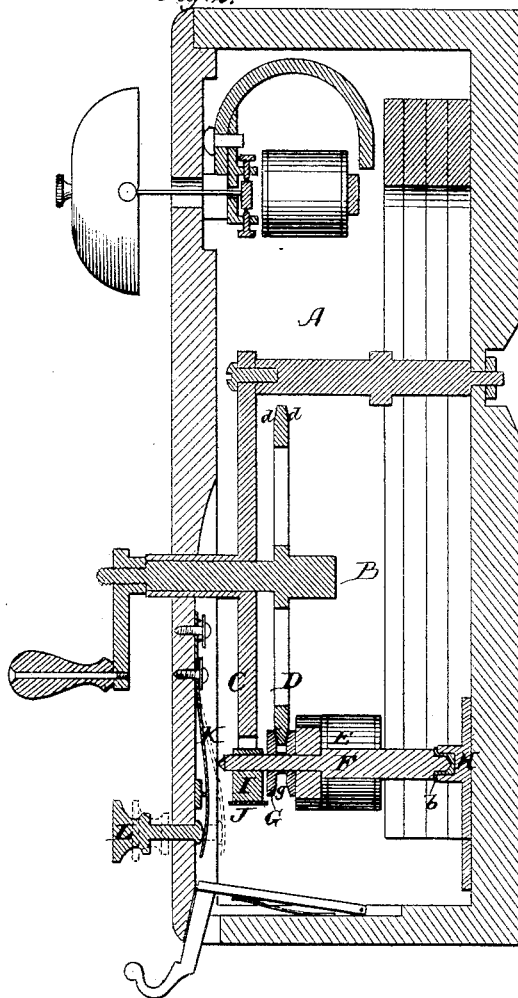


Fig. 3.

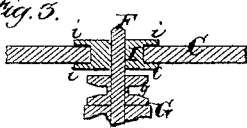
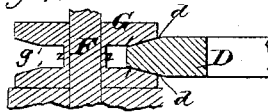


Fig. 4.



Witnesses.

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 Geo. W. Pierce,

Inventor

Ges. L. Anders.  
 by Wright & Brown  
 Atty's.

# UNITED STATES PATENT OFFICE.

GEORGE L. ANDERS, OF BOSTON, ASSIGNOR TO CHARLES WILLIAMS, JR.,  
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## IMPROVEMENT IN MAGNETO-ELECTRIC CALL APPARATUS.

Specification forming part of Letters Patent No. **217,849**, dated July 29, 1879; application filed  
April 28, 1879.

*To all whom it may concern:*

Be it known that I, GEORGE LEE ANDERS, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Magneto Calls, of which the following is a specification.

This invention relates to magneto generators for operating telephone and other signals.

The object of the invention is to provide certain improvements whereby the construction of the generator is simplified, its operation is rendered comparatively noiseless, the wear of operating mechanism is automatically compensated for, and the durability of the apparatus in certain particulars is increased.

To these ends my invention consists in the improvements which I will now proceed to describe.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a top view of a generator provided with my improvements, the cover being removed. Fig. 2 represents a longitudinal section, showing the cover in place. Fig. 3 represents a section on line *x x*, Fig. 1. Fig. 4 represents an enlarged sectional view of parts detached.

Similar letters of reference indicate like parts in all of the figures.

In the drawings, A represents the casing of the generator, adapted to be attached to a wall or other support. B represents the horseshoe-magnet, located on the casing. C represents a metallic plate, rigidly attached to the casing at a suitable distance outside of the magnet to permit the armature and mechanism for rotating the same to be interposed between the plate and the magnet. D represents a metallic wheel, journaled in a sleeve or bearing supported by the plate C, and provided with a crank projecting outside of the casing A. The sides of the wheel D are beveled next to its perimeter, as shown at *d d*.

E represents the rotary armature, located in the usual relation to the poles of the magnet. The armature is located on a metallic axis, F, which is parallel with the axis of the wheel D. On the axis F is placed a pulley, G, adapted to run in frictional contact with the wheel D. This pulley is composed of rawhide, vulcanized fiber, or other material adapted to run without

noise in frictional contact with the metallic wheel, and is provided with a groove, *g*, the sides of which are beveled from the perimeter of the pulley to the points 1, 1, and are parallel from 1 1 to the inner wall or bottom, 2, of the groove. The beveled sides of the groove correspond to the beveled sides *d* of the wheel D, and the groove is of sufficient width to permit the beveled portion of the wheel D to enter and bear against the beveled sides of the groove until the perimeter of the wheel D projects slightly beyond the beveled portion of the groove.

The axis F of the armature is journaled at one end in a step, H, rigidly attached to the casing A, said step being provided with an insulating-bushing, *b*, and at the other end in a bearing-block, I, which is adapted to slide toward and away from the axis of wheel D in a recess in the plate C, said plate constituting a support for the block. This block is composed of vulcanized fiber or other insulating and anti-frictional material, and provided with flanges *i i*, projecting over and under the plate C, to prevent the block from moving laterally of said plate.

J represents a spring, which is attached to the end of plate C, or to any suitable support, and bears against the block I, forcing the latter toward the wheel D, and holding the pulley G against said wheel with a yielding pressure.

It will be seen that when the wheel D is rotated it will rotate the pulley G and the armature by frictional contact. The material of the pulley G renders the rotation noiseless. The pressure of the pulley against the wheel prevents the slipping of one or the other, and compensates for the wear of the pulley, keeping the pulley in operative contact with the wheel at all times. The beveled sides of the wheel and the partially beveled and partially parallel sides of the groove *g* enable the groove to always present the same extent of bearing-surface to the wheel, the pulley being forced toward the wheel by its spring as it wears away.

By the application of the described improvements to a magneto generator I combine the following useful results, viz: simplicity of con-

struction, comparative noiselessness of operation, durability, and the maintenance of working and wearing parts in operative condition.

The outer end of the axis F of the armature projects through the block I, and is within reach of a spring contact-plate, K, attached to the cover of the casing A. This plate is electrically connected to a distant point or points to which currents are to be transmitted, and is provided with a key, L, whereby it may be forced into contact with the end of the arbor F, as shown in dotted lines in Fig. 2, the plate being separated from said arbor by its own resilience. When the armature is being rotated by the operator a pressure upon the key L will cause the current generated to pass to the distant point or points with which the generator is in connection. This is a very simple and economical arrangement for effecting the result described, the plate K being in contact with the arbor F only when a current is being trans-

mitted, thus avoiding friction and wear which would result if the rotating arbor were always in contact with the spring, as heretofore, and obviating the use of a circuit-breaking device or switch.

I claim as my invention—

In a magneto generator the combination, with the rotary armature, of the axis F, the supported sliding bearing-block I, the spring J, the pulley G, having a partially-beveled groove, *g*, and the driving-wheel D, having beveled sides *d*, all arranged and operating substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses this 10th day of April, 1879.

GEORGE LEE ANDERS.

Witnesses:

C. F. BROWN,  
GEO. W. PIERCE.