G. L. ANDERS.

Magnetic Signal Apparatus.

No. 200,963. Patented March 5, 1878.

Fig. 1.

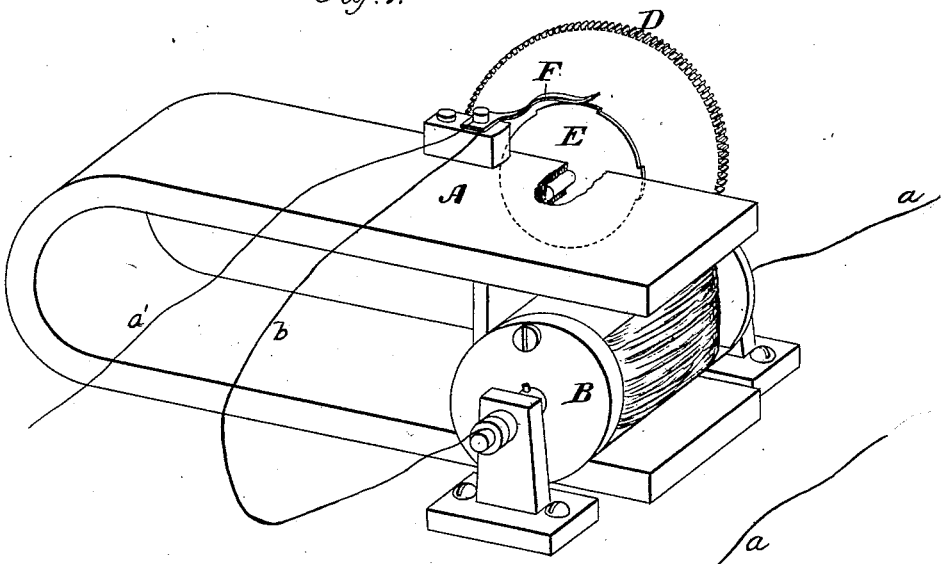


Fig. 2.

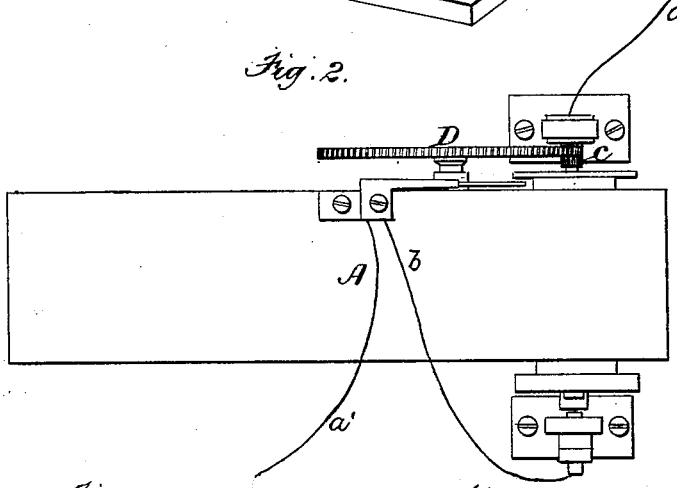


Fig. 3.

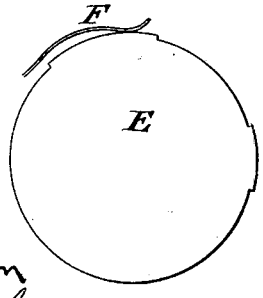
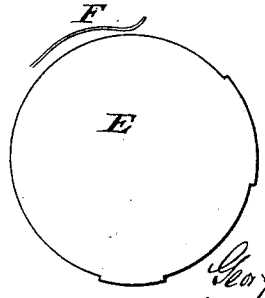


Fig. 4.



Witnesses.

C. F. Brown

E. B. Fairchild

Inventor.

George Lee Anders

by his attorney

Alfred L. Hayes

UNITED STATES PATENT OFFICE.

GEORGE L. ANDERS, OF BOSTON, ASSIGNOR TO E. BAKER WELCH, OF CAMBRIDGE, MASSACHUSETTS.

IMPROVEMENT IN MAGNETO-SIGNAL APPARATUS.

Specification forming part of Letters Patent No. **200,963**, dated March 5, 1878; application filed October 10, 1877.

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 a new and useful Improvement in Magneto-Signal Apparatus, of which the following is a full, clear, and exact description, reference being had to the drawing accompanying and forming part of this specification.

The invention consists in the combination, with a magneto-generator, of a device which, when the generator is operated, prevents the transmission of, or short-circuits, a certain definite number of currents, and thereby causes the production of a certain definite signal upon suitable receiving apparatus operated by the currents produced by the generator.

In the accompanying drawing, Figure 1 is a view of the apparatus in perspective. Fig. 2 is a plan view of the same. Fig. 3 is a view of the circuit-breaking disk when the current is short-circuited; and Fig. 4 is a view of the same, showing its position when the current is sent to the line.

In these several figures the same letters refer to the same parts.

A is the magnet of the generator, and B is its rotating armature, upon the shaft of which is a pinion, C. This pinion gears with a toothed wheel, D, having its bearing in one of the arms of the magnet. Upon the shaft of this toothed wheel, and turning with it, is a disk, E, upon the periphery of which are projections corresponding in size and number to the signal which it is desired to transmit; or, instead of having projections, the disk may have upon its periphery suitable spaces filled with an insulating substance, as is common in circuit-breaking devices, which will effect the same result as the projections. F is a flat spring, connected with the armature by a wire, *b*, and is so arranged that, as the disk rotates, it comes in contact with the projections or equivalent spaces upon the disk, and thus causes the current, which otherwise would pass to the line *a*, to be short-circuited through the wire *b* and instrument as long as the spring remains in contact with the projections or corresponding spaces, and thus the flow of currents from the generator to the receiving-instrument is interrupted for a corresponding time, and a definite and corresponding signal given, which will be repeated at each rotation of the disk.

I have represented the device as applied to a Siemen's magneto-generator. It is obvious that with suitable modifications, which would readily suggest themselves to the mechanician, it can be applied to any other form of generator.

The invention is applicable to signaling where it is desired to transmit an invariable and determined signal--as, for example, in the fire-alarm system. When thus used one of these instruments will be placed at each alarm-box, and each will have a different arrangement of projections or spaces upon its disk. By turning the armature of the generator a signal corresponding to the number of the box will be transmitted to the central station.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A magneto-generator provided with mechanism whereby short circuits are automatically established or broken at definite intervals on the operation of the machine, substantially as and for the purpose set forth.

2. The combination, with the rotating armature of the generator, of the disk E and arm F, and gearing connecting the disk to the armature, substantially as and for the purpose set forth.

In witness whereof I have hereunto signed my name.

GEO. LEE ANDERS.

Witnesses:

ALEX. L. HAYES,

CHAS. W. HOBART.