

(Model.)

G. L. ANDERS.
Signaling Apparatus for District Telephone Systems.
No. 239,134. Patented March 22, 1881.

Fig. 1.

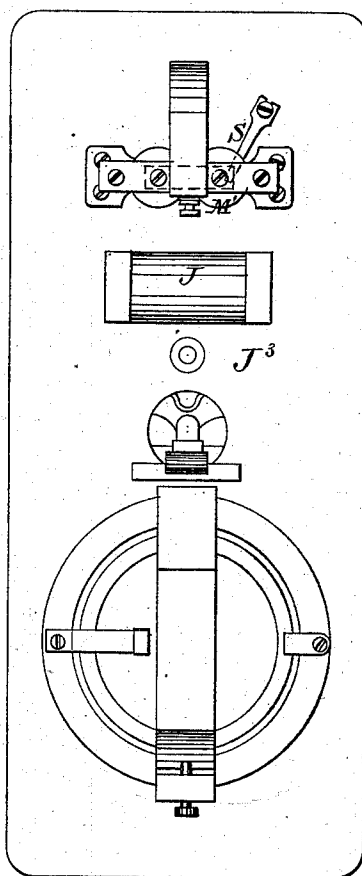
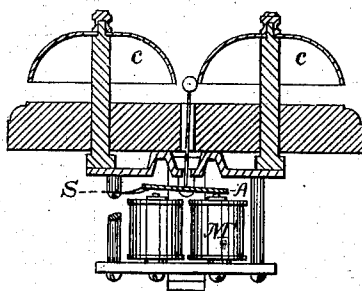


Fig. 2.



Witnesses.
W. C. Tompkins
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Inventor,
George Lee Anders
By his Attorney,
Alex. H. Hayes

UNITED STATES PATENT OFFICE.

GEORGE LEE ANDERS, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO
AMERICAN BELL TELEPHONE COMPANY, OF SAME PLACE.

SIGNALING APPARATUS FOR DISTRICT-TELEPHONE SYSTEMS.

SPECIFICATION forming part of Letters Patent No. 239,134, dated March 22, 1881.

Application filed August 7, 1880. (Model.) Patented in Canada January 21, 1880, in Belgium June 15, 1880, in Spain October 20, 1880, in Italy July 30, 1880, and in England May 12, 1880.

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 Signaling Apparatus for District-Telephone Systems, of which the following is a specification.

This application is a division of a former application filed by me on the 21st day of July, 1879, for which Letters Patent No. 228,586 were granted to me on the 8th day of June, 1880.

This invention consists of an electro-magnetic signaling apparatus for use at a station, which signaling apparatus is so constructed that it will be operated to give a signal by a current of one polarity only, thus enabling either of two stations upon the same circuit to be signaled without calling the other station, for the reason that the signaling apparatus at one station is operated by currents of one polarity, and the signaling apparatus at the other station by currents of the opposite polarity.

In the accompanying drawings, which form a part of the specification, Figure 1 is a rear view of the signal-bell, and Fig. 2 is a sectional view of the same.

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

The bell-hammer of the signal-bell is operated by a polarized electro-magnet, M' , but does not move except when currents of a certain polarity are transmitted, which currents may be either positive or negative, thus enabling two bells to be operated in the same

circuit, one being operated by positive and the other by negative currents. This result is accomplished by normally maintaining one of the poles of the polarized armature near one of the poles of the electro-magnet by a force which is overcome when a current of a certain polarity is transmitted, thus enabling the armature of one bell to be made active by a current of one polarity, and the other by a current of opposite polarity. The force which I use may be a spring, S , as shown in Fig. 2, which spring acts to force one pole of the armature A against one pole of the magnet M' , but is overcome when a current is transmitted of the polarity which attracts the pole of the armature against which the spring bears. At the other station in the circuit the spring would be so placed as to force the other pole of the armature against the electro-magnet.

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

In an electric circuit, two polarized electro-magnets for operating signal-bells, the armatures of said magnets being normally held by springs or their equivalents at poles opposite in relation to each other, substantially as and for the purposes set forth.

In witness whereof I have hereunto set my hand on this 4th day of August.

GEORGE LEE ANDERS.

In presence of—

JANE ANDERS,
ALEX. L. HAYES.