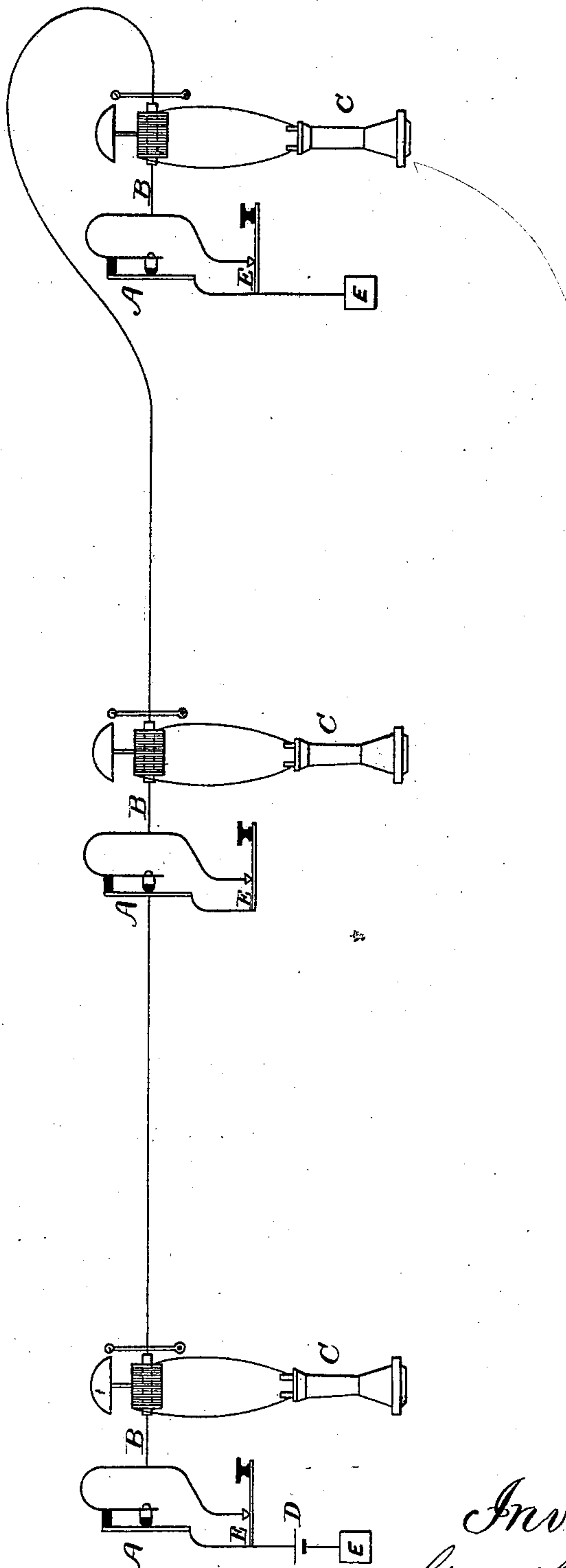


(No Model.)

G. L. ANDERS.
TELEPHONIC SYSTEM.

No. 287,356.

Patented Oct. 23, 1883.



Witnesses.

Geo. W. Pierce -

J. D. Lockwood.

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.

TELEPHONIC SYSTEM.

SPECIFICATION forming part of Letters Patent No. 287,356, dated October 23, 1883.

Application filed October 7, 1880. (No model.)

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
5 useful Improvement in Telephonic Systems, of which the following is a description, reference being had to the accompanying drawing.

This invention relates to telephonic systems in which the receiving-telephone is placed in
10 a local circuit connected with the main line through the intermediary of an induction-coil; and it consists in the combination, with the main line, induction-coil, and local receiver-circuit, and with a battery and variable re-
15 sistance-transmitter in the main line, of a key for cutting out (by shunting or short-circuiting, for example) the said transmitter when not in use, so as to diminish the resistance of the line.

20 The invention also consists in the combination of the armature of the call-bell hammer with the magnetic core of the induction-coil, thus obviating the necessity of a special electro-magnet for the call-bell and reducing the
25 number of devices necessary in a telephonic system.

The accompanying drawing is a diagram representing a line in which the connections at the several stations are arranged in accord-
30 ance with my invention.

In this diagram, A is the microphonic transmitter.

B is the induction-coil, one terminal of whose primary circuit is connected to the line out
35 and the other to the transmitter, and C is the receiving-telephone, which is connected to the terminals of the secondary circuit of the induction-coil.

D is the battery, which may be placed at
40 any point in the circuit.

The receiving-telephone shown is the ordinary well-known hand-telephone, consisting of a permanent magnet with pole-pieces carrying coils of fine insulated wire and a vibratory diaphragm of iron in front of the magnetic
45 poles.

In order to avoid the resistance of the transmitters, there is a key, E, at each station, by means of which the transmitter at said station is normally short-circuited, but can be put in
50 circuit when it is desired to speak through the transmitter. This key can be operated by hand, or can be attached to the telephone-support and operated automatically by the removal of the telephone from said support.
55 For the reason that the line-circuit includes the primary circuits of the induction-coils, the cores of each of said coils can be used for operating the hammer-levers of the call-bells.

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

1. The combination, with a line-circuit and a local circuit connected with each other through the intermediary of an induction-coil,
65 of an armature arranged opposite the core of the induction-coil and a bell-hammer operated thereby, substantially as described.

2. The combination, with the main line, in
70 duction-coil, local receiver-circuit, and variable resistance-transmitter in the main line, of a key for cutting out the said transmitter when not in use, substantially as described.

In witness whereof I have hereunto set my
hand in the presence of two subscribing wit-
75 nesses.

GEO. LEE ANDERS.

Witnesses:

GEO. W. PIERCE,
ALEX. L. HAYES.