

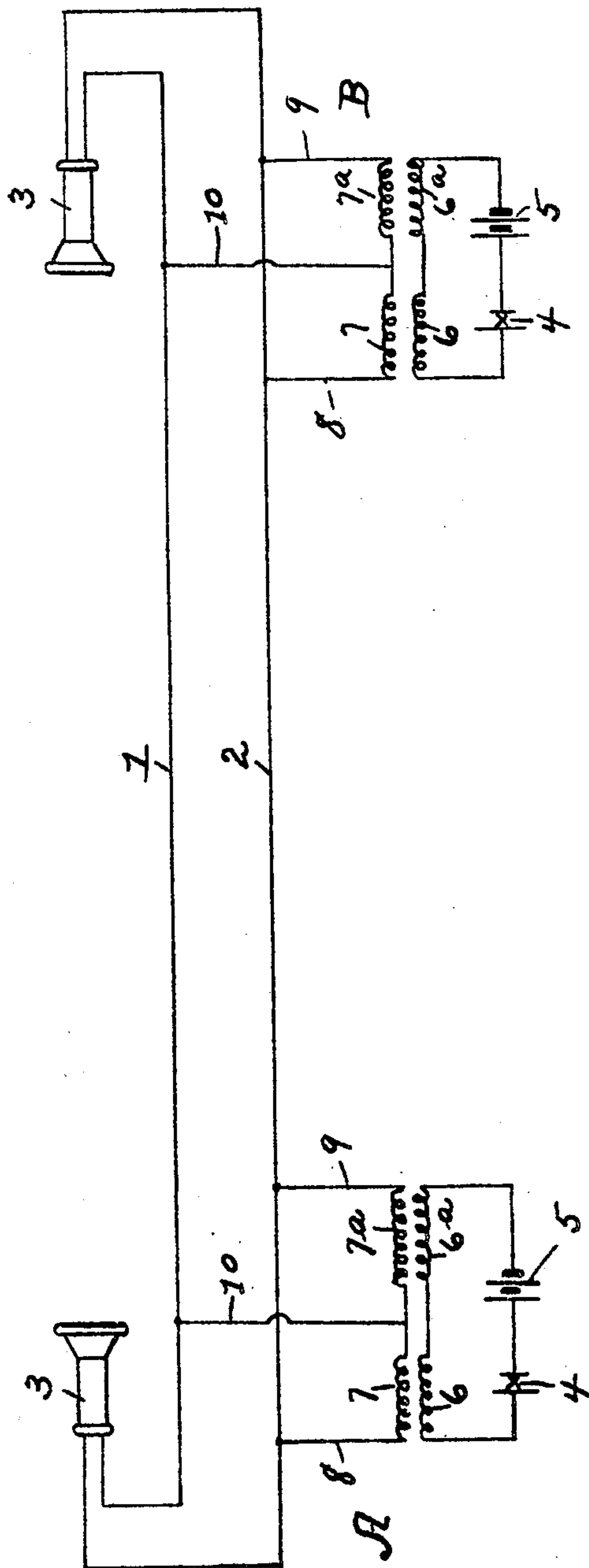
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I. KITSEE.

TELEPHONIC TRANSMISSION.

APPLICATION FILED JUNE 14, 1905.



Witnesses

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TELEPHONIC TRANSMISSION.

No. 800,657.

Specification of Letters Patent.

Patented Oct. 3, 1905.

Application filed June 14, 1905. Serial No. 265,173.

To all whom it may concern:

Be it known that I, ISIDOR KITSEE, of the city and county of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Telephonic Transmission, of which the following is a specification.

My invention relates to an improvement in telephonic transmission. Its object is to provide means whereby on a plain telephonic circuit impulses of high intensity may be impressed with the aid of high-tension coils without interfering with the transmission of said impulses.

It is a well-known fact that if the secondary of the transmitting-coil is inserted in both stations in the line and the secondaries are wound so as to convert the primary impulses into impulses of comparative high electromotive force that secondary which at the time of transmission is idle—that is, the secondary at the receiving-station—acts as an impedance-coil plain and simple, and the impulses therefore cannot well be received with the aid of the telephone inserted in the line.

As it is of great value to have the transmitted telephonic impulses of as high an intensity as the case permits, I have recourse to the arrangement later on to be more fully described, so as to overcome the disadvantage of the impedance of the idle coil.

The drawing illustrates in diagrammatic view a telephonic circuit embodying my invention.

1 and 2 are the line-wires embracing the two stations A and B, each station containing the receiver 3, the transmitter 4, the source of current 5, the primaries 6 and 6^a of the transmitting-coil, and the secondaries 7 and 7^a of said transmitting-coil. These secondaries are connected through wires 8 and 9 in shunt as to the line of transmission.

As clearly illustrated, the primary of the transmitting-circuit consists of two parts, and the secondary of this circuit also consists of two parts. The parts of the primary are wound in a manner so that the current flowing through said primary will induce impulses in one part of the secondary in a direction opposing the impulses induced in the other part of the secondary. The impulses flowing, therefore, in both of these second-

aries at one and the same time will oppose each other and will not be able to flow 55 through the shunt, but will flow through the line of transmission and will be received at the receiving-station by the ear-phone. With this arrangement I have entirely taken the secondary out of the circuit and the im- 60 pedance influence of this secondary will not be felt by the impulses at the receiving-station. The junction of the two secondaries 7 and 7^a is connected to the line 1, whereas the free terminals of the secondaries are connect- 65 ed to the line 2.

It is supposed that the operator at station A transmits impulses to B through the vibration of diaphragm 4. The current flowing through 6 and 6^a will vary and an impulse 70 will be induced in 7 and 7^a, flowing in opposite direction through said coils and then over the line in both directions, so that part of the impulses will flow from 9 through 2 and will be received by the receiver 3 at the station 75 B and part through 8 to be received at the receiver 3 of the transmitting-station A. Both impulses will return through wire 10 to the point of starting.

Having now described my invention, what 80 I claim as new, and desire to secure by Letters Patent, is—

1. An all-metallic telephonic line connecting two stations with each other, each station provided with a receiver connected in 85 series as to the line and a transmitting device, the secondary of said transmitting device consisting of two parts opposing each other and connected in shunt as to one leg of the circuit and connected at their junction to 90 the second leg of said circuit.

2. An all-metallic telephonic circuit connecting two stations with each other, each station embracing a local circuit comprising a telephonic transmitter, a source of current, 95 and a converter consisting of a primary and secondary, the primary adapted to induce in the secondary simultaneous impulses in opposite directions, said secondary consisting of two parts joined together and connected 100 in shunt as to one leg of the circuit and connected with their junction to the other leg of said circuit.

3. In a telephonic system wherein two stations are connected together with an all-me- 105 tallic line, a secondary of an inductorium for

each station, said secondary adapted to act
as an impedance if inserted in series in said
line and consisting of two parts, each part
connected with one terminal in shunt as to
5 one leg of said circuit and connected with the
other terminal with the second leg of said cir-
cuit.

In testimony whereof I hereby sign my
name, in the presence of two subscribing wit-
nesses, this 13th day of June, A. D. 1905.

ISIDOR KITSEE.

Witnesses:

EDITH R. STILLEY,
ALVAH RITTENHOUSE.