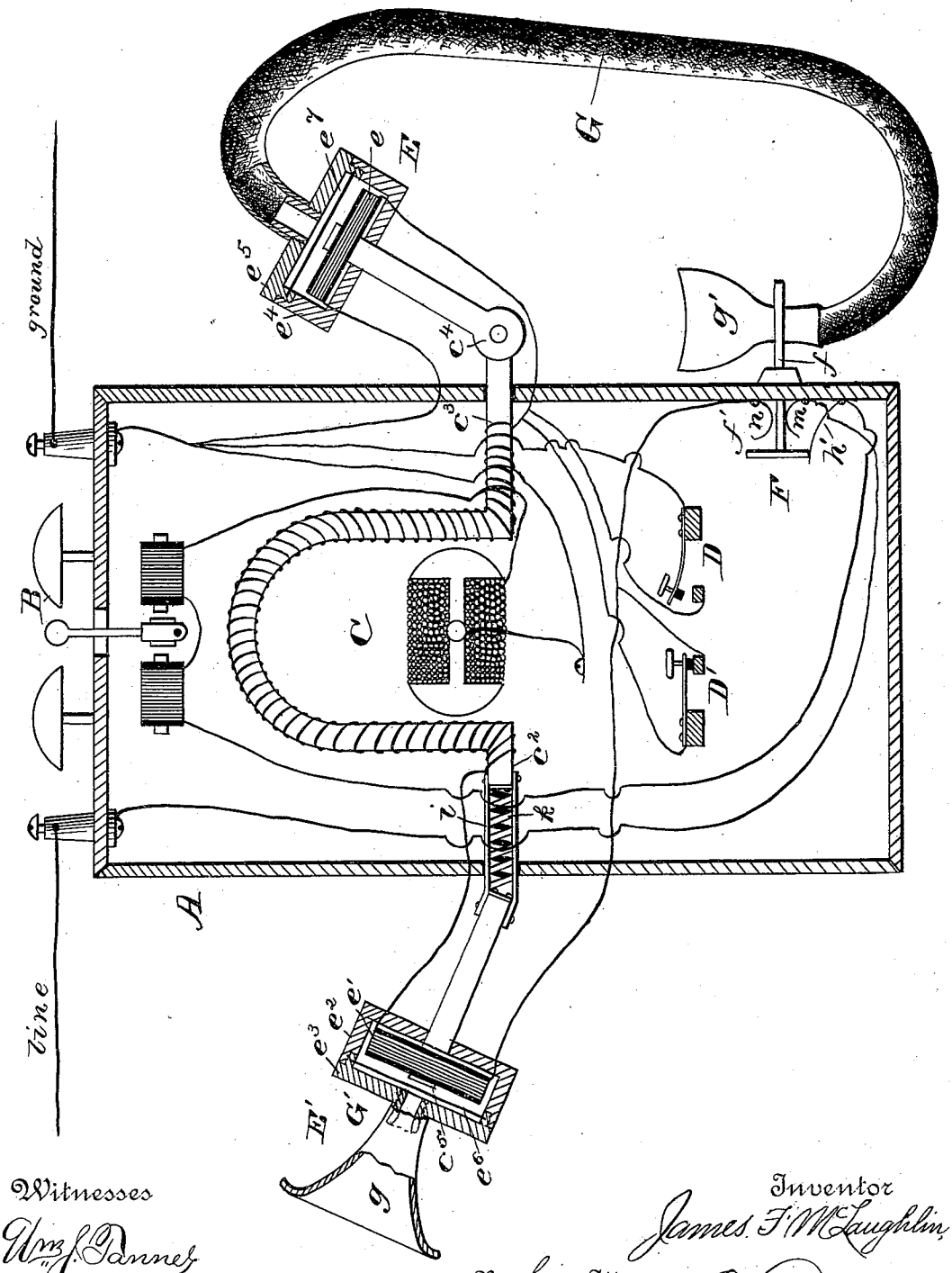
(No Model.)

J. F. McLAUGHLIN.

TELEPHONE APPLIANCE.

No. 355,190. Patented Dec. 28, 1886.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES F. McLAUGHLIN, OF PHILADELPHIA, PENNSYLVANIA.

TELEPHONE APPLIANCE.

SPECIFICATION forming part of Letters Patent No. 355,190, dated December 28, 1886.

Application filed June 9, 1886. Serial No. 204,672. (No model.)

To all whom it may concern:

Be it known that I, JAMES F. McLAUGHLIN, a citizen of the United States, and a resident of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Telephone Appliances, of which the following is a specification.

My invention relates to improvements on the combined telephonic transmitter and receiver disclosed in my Patent No. 328,702, dated October 20, 1885; and it consists, mainly, in providing means whereby either the transmitter or receiver can be cut out at will, and, also, in furnishing means for rendering the instruments mentioned easily adjustable, so that they can be placed, respectively, at the mouth and ear without inconvenience.

My invention is illustrated in the accompanying drawing, which shows the parts in detail, and also a diagram of the circuits.

In the drawing, A represents a box of any desired form or configuration, to which is suitably secured, as desired, an electric call-bell, B, a magneto-electric machine, C, a transmitter and receiver, E and E′, that can be used interchangeably in either capacity, cut-out devices D and D′, a switch, F, and tubes G and G′.

The poles of the field-magnets of the generator C are prolonged or provided with extensions, as shown at c^2 and c^3. These extensions may be an integral part of the poles or separate from and secured to them in any suitable manner. They are provided with helices *a a′*, and surrounded by casings e^2 e^3 e^4 E^5. Suitably mounted within the casings are diaphragms e^6 and e^7, to secure the necessary means for transmitting and receiving the magnetic or electric impulses.

To the removable covers e^3 and e^5 of the casings e^2 and e^4 are secured tubes G and G′, having mouth and ear pieces *g g′*. The tube G′ is flexible, so that it can be brought into any desired position for convenient use. To facilitate this, however, the extension c^3 of the magnet C is provided with a joint, c^4. The other extension, c^2, has secured to it a sleeve or tube, *i*, of rubber, to the outer end of which the core of the transmitter is attached. A steel spring, *k*, serves to complete the magnetic connection between the extension c^2 and the core-piece c^5.

In connection with my telephone-support F, I have shown a switch mechanism, by means of which, whenever the telephone is taken down, the transmitter and receiver will be switched into circuit and the call apparatus cut out, and when the telephone is restored the reverse will take place. The support F is made in the form of a yoke, the arms of which are elastic and in such proximity to each other that in removing the telephone the metallic arm *f* of the support will be drawn outward, and in restoring the telephone the said arm will be pushed back.

On the inner end of the arm *f* is a metallic cross-piece, *f′*, which normally makes contact with a spring, *h*, connected to the call apparatus, the arm itself making contact under all circumstances with the spring *m*, which is connected to the line binding-post. When, however, the arm is drawn outward by the removal of the telephone, contact between the cross-piece *f′* and the spring *h* is broken, and a new contact is made between the said cross-piece and a spring, *n*, with which is connected a circuit which includes both the transmitter and receiver. This function of my apparatus is not in itself new, and is well understood in the art. I have added, however, to the means for switching out and in the transmitter and receiver, means whereby either instrument can be cut out at will after the act of switching in both has been completed. These means consist in my present invention of a pair of circuit-closers, D D′, one of which is interposed between the receiver and the ground-circuit, and the other between the transmitter and the ground. These circuit-closers may be located in any convenient position. They are of ordinary construction, and consist of a spring adapted to be forced into contact with a metallic anvil for completing an electric circuit. By pressing upon one circuit-closer or the other an operator can at will remove from the telephonic circuit either the transmitter or receiver, and to that extent decrease the resistance of the circuit.

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

1. The combination, with a telephone and switch mechanism for cutting out the bell and introducing the transmitter and receiver into the circuit, of two circuit-controllers interposed, one between the receiver and ground and the other between the transmitter and ground, as set forth.

2. The combination, with a telephone-support and switch mechanism operated thereby for automatically cutting out the call apparatus and switching in the transmitter and receiver whenever the telephone is taken down, of two circuit-closers interposed, one between the receiver and ground and the other between the transmitter and ground, as set forth.

3. The combination, in a telephone, of a magneto-electric call apparatus, the poles of the magnet being prolonged to form the cores of a magneto transmitter and receiver, and the extensions being jointed for convenient manipulation, substantially as described.

4. The combination of the magnet C, extension c^2, rubber sleeve i, steel spring k, and core c^5, the latter forming part of a telephonic transmitter mounted thereon, as set forth.

Signed at Philadelphia, in the county of Philadelphia and State of Pennsylvania, this 21st day of May, A. D. 1886.

JAMES F. McLAUGHLIN.

Witnesses:

FRANK M. MILLER,

JULIUS HIRSHFELD.