(No Model.)

D. DRAWBAUGH.

TELEPHONE TRANSMITTER.

No. 303,628. Patented Aug. 19, 1884.

Fig. 1.

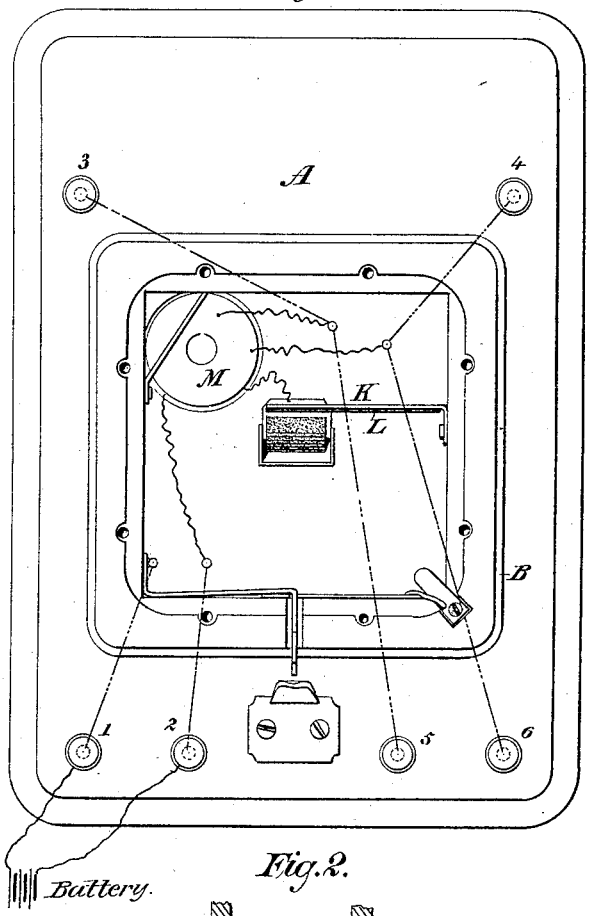


Fig. 2.

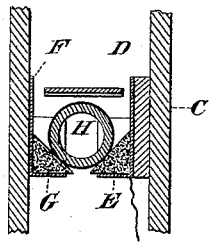
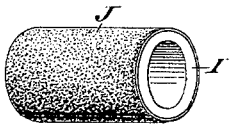


Fig. 3.



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DANIEL DRAWBAUGH, OF EBERLY'S MILL, PENNSYLVANIA, ASSIGNOR TO THE PEOPLE'S TELEPHONE COMPANY, OF NEW YORK.

TELEPHONE-TRANSMITTER.

SPECIFICATION forming part of Letters Patent No. 303,628, dated August 19, 1884.

Application filed March 27, 1884. (No model.)

To all whom it may concern:

Be it known that I, DANIEL DRAWBAUGH, of Eberly's Mill, Cumberland county, Pennsylvania, have invented a new and useful Improvement in Telephone-Transmitters, of which the following is a specification.

The invention relates to a telephone-transmitter wherein two fixed electrodes and one movable electrode are employed, the movable electrode resting upon the fixed electrodes by gravity; and it consists more particularly in the construction of said movable electrode.

In the accompanying drawings, Figure 1 is a front view of a telephone-transmitter with the diaphragm removed, showing the movable electrode in place. Fig. 2 is a sectional view of said instrument transversely through the electrodes. Fig. 3 represents the movable electrode separately.

In other applications for Letters Patent now pending, more particularly in an application filed April 25, 1882, Serial No. 59,482, and in certain Letters Patent now granted to me, I have fully described and claimed the construction of a telephone-transmitter containing three electrodes, preferably of carbon or other low conducting material, one of these electrodes being fixed to the diaphragm, the second electrode being attached to a suitable support, these two electrodes having oppositely-beveled faces, and a third and loose electrode resting upon the beveled faces of said fixed electrodes by gravity, and such construction I do not herein claim. I have hitherto shown the loose or movable electrode as a solid block of carbon or other suitable material in cylindrical or prismatic form. In my present invention the movable electrode is not a solid block, but consists of a hollow cylinder of an elastic non-conducting material, such as india-rubber coated on its exterior only with carbon. I accomplish this coating by finely pulverizing the carbon and making it into a thick paste with rubber varnish or other suitable cement, which paste I apply by any suitable means to the outside of the elastic cylinder.

Referring more particularly to the drawings, A is the back board of a telephonic transmitter. B is the inclosing-box or case adapted to receive on its front side a diaphragm, a portion of which is shown at C, Fig. 2. This diaphragm may be of wood. To its rear side is secured a metal bracket, D, which contains a solid carbon electrode, E, having an upper beveled side. To the back board, A, or the rear of the box or case, is secured another metal bracket, F, containing a similar beveled carbon electrode, G. Resting by gravity upon these electrodes G and E is the hollow cylindrical electrode H, which consists, as already stated, of a hollow cylinder, (preferably of india-rubber,) I, and an outer coating of carbon, J. This coating of carbon, when the cement hardens, is dry and flexible. The electrode H is prevented from falling out of place when the instrument is moved about by the bar K, having insulated material on its lower side.

The arrangement of circuits in this instrument is the same as already described in many of the instruments for which patents have already been granted to me, the local battery being connected to the binding-posts 1 and 2 and the circuit passing through the primary of the induction-coil M and the electrodes. The secondary of the induction-coil communicates with the line binding-posts 3 and 4 and the binding-posts 5 and 6, to which a receiving-instrument may be attached.

I find that when an elastic electrode, as herein described, having a carbon coating is combined with the other electrodes, as shown, the instrument is more sensitive to speech than when a solid movable electrode is employed.

I do not limit myself to two solid fixed electrodes, as here represented, in the sense that they must be solid blocks of carbon, inasmuch as I have shown and described in other applications now pending fixed electrodes for telephones consisting of merely a coating of carbon or other suitable material applied, for example, to a base of metal, which may be a plate. Neither do I limit myself to a hollow elastic electrode, inasmuch as I may construct the same of a solid cylinder of soft rubber, for example, covered with my carbon compound or other conducting coating.

I claim as my invention—

1. In a telephone, a fixed non-elastic elec-

trode supported upon or vibrated by the diaphragm or sound-receiving surface, a second fixed non-elastic electrode secured to a support, and an interposed loose elastic electrode resting upon the fixed electrodes by gravity, substantially as described.

2. In a telephone, a hollow electrode of elastic material, in combination with and resting loosely by gravity upon the inclined faces of two fixed electrodes, substantially as described.

3. In a telephone, two fixed electrodes, having inclined faces, and a loose elastic tubular electrode having an outer coating of conducting material resting upon said fixed electrodes by gravity, substantially as described.

DANIEL DRAWBAUGH.

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