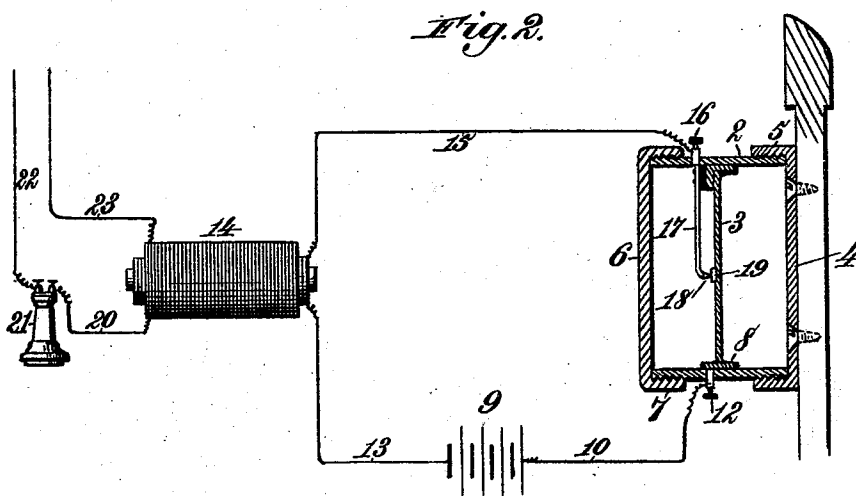
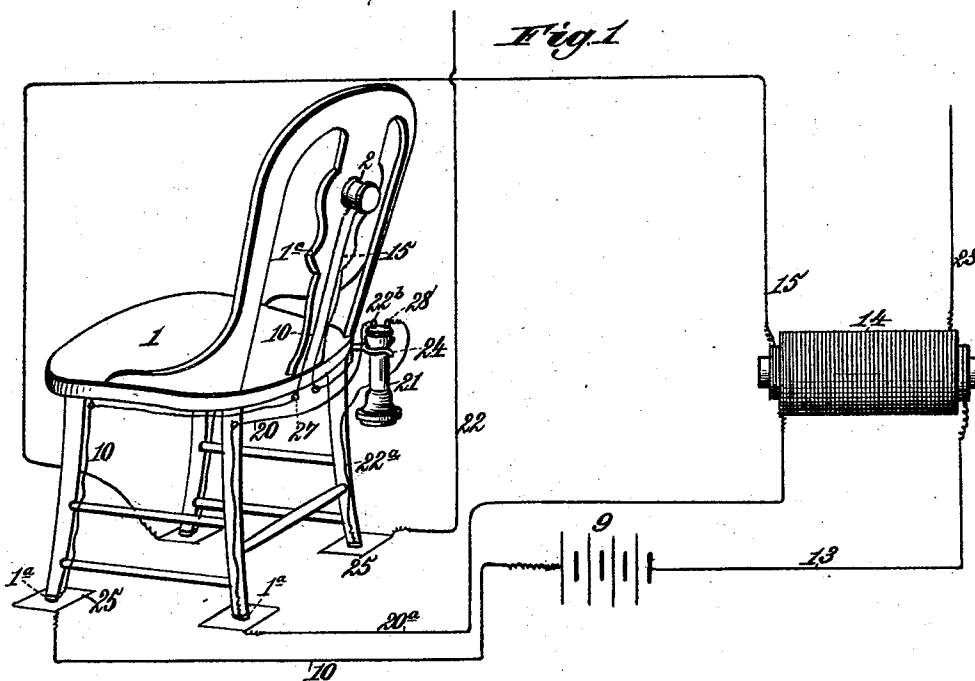


(No Model.)

S. D. McKELVEY.
TELEPHONE.

No. 517,762.

Patented Apr. 3, 1894.



Witnesses.
J. W. Rea.
Robert G. Pratt.

Inventor.
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By
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UNITED STATES PATENT OFFICE.

STEWART D. McKELVEY, OF CANTON, OHIO, ASSIGNOR OF ONE-THIRD TO
JOSEPH A. LINVILLE, OF SAME PLACE.

TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 517,762, dated April 3, 1894.

Application filed February 20, 1893. Serial No. 463,130. (No model.)

To all whom it may concern:

Be it known that I, STEWART D. McKELVEY, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented new and useful Improvements in Telephones, of which the following is a specification.

My invention relates to telephones, and the purpose thereof is to dispense with that type of transmitter which receives pulsations directly from the mouth of the speaker, and to substitute a transmitter which shall be responsive to the vibrations generated in the muscular tissues by the phonetic pulsations, or vibrations, produced by the vibrations of the larynx, the transmitter being capable of attachment to any ordinary chair and to any convenient part of the said chair in which the person using the telephone sits.

It is a further purpose of my invention to provide a simple and economical structure, whereby the transmitter may be so placed and attached as to respond to the phonetic vibrations of the body of the speaker, who may stand or, if preferred, sit in any suitable chair, having a suitable and convenient support for the back.

It is my purpose also, to provide a transmitting telephonic apparatus, capable of being applied to a musical instrument, such, for example, as the sounding-board of a piano, or to a guitar, violin, or other music-producing instrument.

It is a further object of my invention to provide a simple and economical construction of parts, whereby the transmitter may be attached directly to the back, or to some other part of a chair, or other seat, in which the person using the telephone sits, suitable means being provided for the attachment of the phone.

To these ends, my invention consists in the several novel features of construction and in the new combinations of parts hereinafter fully set forth and then more particularly described and definitely pointed out in the claims following this specification.

To enable others skilled in the art to make, construct and use my said invention I will now proceed to describe the same in detail,

reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a chair, showing my invention connected thereto and also illustrating, by a diagram, the electric circuit. Fig. 2 is a vertical section of a part of the back of the chair shown in Fig. 1, showing the attached phone, and also showing in diagram the circuit connections.

In the said drawings the reference-numeral 1 indicates a chair or seat of any ordinary pattern. To the rearward face of the back of said chair, or to a single flat bar, or brace, forming part of said back, I attach a phone composed of a cylindrical body-portion 2, having suitably mounted thereon a diaphragm 3, of any preferred type. The cylindrical body-portion is closed at one end by a cap-piece 4, firmly attached to the chair by screws, or in any other suitable manner, its flange 5 fitting over, and being preferably connected thereto by a male and female thread, respectively. The other end, which is most remote from the chair, receives a cap 6 which is attached in substantially the same manner. The cap-piece 6, has a flange 7 which surrounds the end of the cylinder 2. The diaphragm 3 is usually held in a ring 8, which fits the cylinder 2, their union being effected by threading the contacting surfaces. This form of transmitter is fully shown in Fig. 2, together with the circuit connections, which are as follows:

The numeral 9 indicates the local battery, from which a wire 10 is connected to a binding-post 12, which is properly insulated to have electrical connection with the ring-support 8 of the diaphragm. This wire 10 connects the positive pole of the local battery 9 with the diaphragm-ring 8 by way of the binding-post 12. From the opposite pole of the battery 9 a wire 13 is led to the primary of an induction-coil 14. A wire 15, connected to the other terminal of the primary of said induction-coil 14, is led to a binding-post 16, mounted upon the cylindrical body-portion 2. A spring 17 of light tension, is in electrical contact with said binding-post 16, and extends radially, or substantially so, into the body-portion 2, so that its free extremity may be bent, or turned, toward the central portion

of the diaphragm 3, in such manner that the point 18 of said spring 17 shall have contact with the middle, or central portion 19, of the diaphragm, which is preferably a button of carbon, attached to the face of the diaphragm, or it may be inserted in a central opening, or aperture, in the diaphragm. I will state, at this point, that the induction-coil may easily be housed within the cylindrical body-portion 2, by simply making the latter of slightly greater length. One terminal 20 of the secondary coil of the induction-coil 14 is connected to one terminal of the induction-coil having its spool mounted upon the permanent magnet, which is housed in the handle of the receiver 21. The other terminal of said induction coil is connected with the main line 22. The remaining terminal 23, of the secondary of the induction-coil 14, is either connected to a metallic return-circuit, or to earth. The receiver 21 is suspended from a hook 24, mounted upon the chair-seat, or any other convenient part, where it can readily be reached by a person sitting in a chair, and the construction and operation of the parts may be such that the weight of the receiver will operate the hook in such manner as to cut out all the connections of the local instrument except the local battery 9.

30 The chair, stool, or other ordinary form of seat 1, is preferably placed with each of its legs resting upon a metallic plate 25, of any suitable form. These plates form parts of the line and local circuits, which are as follows:

35 Beginning with the positive pole of the local battery 9, the wire 13 is led to one terminal of the primary of the induction-coil 14; thence, from the other terminal of the primary, by way of a wire 15, to one of the metallic plates 25 which lies beneath one of the front legs, of the chair. From this plate said wire 15 passes upward, along the fore-leg of the chair, then around the edge of the seat to a point at, or near, the central, or nearly central, longitudinal line of the back 1^a, from which point it is carried upward and connected to the binding-post 16, on the cylindrical body-portion 2 of the transmitter attached to the back of the chair in Fig. 1. From the binding-post 16, the current passes through spring 17, point 18, central carbon-button 19 and diaphragm 3 to the binding-post 12 and thence by wire 10 back to the other pole of the battery. In Fig. 1 the wire 10 is shown as carried downward from the binding-post 12 nearly in parallelism with the wire 15, and is drawn through an eye 27 on the chair-seat, and around to, or nearly to, one of the fore legs of the chair, which is provided with a contact-terminal 1^a resting on a metallic plate 25. Each of the chair-legs is provided with a similar contact-terminal which rests upon a similar metal plate 25. From this plate the wire 10, electrically connected thereto, is carried to the other pole of the local battery, thus completing the local circuit. The main line circuit is by way of the wire 22, which is carried to

a plate 25 supporting one of the rear legs of the chair. From this plate, a wire 22^a is led to one of the binding-posts 28, upon the receiver 21, thence through the induction-coil, upon the permanent magnet within said receiver, and to the other binding-post 22^b on the receiver. From this latter binding-post the wire 20 is carried around the rear of the seat, to the rear leg resting upon plate 1^a, and is led down said leg to the plate last mentioned. From this plate a wire 20^a is led to one terminal of the secondary of the induction-coil 14. The other terminal of the said secondary is connected to earth, or to a return metallic circuit.

It will readily be understood that the foregoing circuits are simply those which are shown in the organization by which the invention is disclosed in this specification, but that these are subject to a considerable variation without any departure from the essential features of my invention.

The induction-coil 14 may be placed in, or upon, a bracket on the wall, at any convenient point.

Telephones of this construction may be easily applied to sounding-boards of pianos, or to other musical instruments or to a large sounding-board which receives the pulsations produced by an orchestra, or band, or by the voice of a public speaker.

One especial advantage of my present invention resides in the fact that vibrations produced by other sources than the voice of the person using the instrument are not received by the diaphragm unless the chair, or other support, is in contact, mechanically, with the source of such foreign vibrations. Thus, if a piano is played in the same room and at the time a message is received over the wire, the telephonic receiver does not respond in any audible degree, to the sound and the ear of the person listening to the message is not confused.

What I claim is—

1. In a telephone, a transmitter, a vibratory structure to which the transmitter box or housing is rigidly attached, said substance, or structure, being of such character that the speaker may support his body upon and against the same, and a suitable receiver, substantially as described.

2. In a telephone, the combination with a chair, or means of support for the body of the speaker, of a transmitter the housing of which is firmly attached to some part of said chair or other support upon and against which the body of the speaker rests and a suitable receiver, substantially as described.

3. The combination with a chair, or other means of support of a telephone transmitter, rigidly attached to a portion of the chair-back, a receiver, a local battery, and induction-coil having its primary in circuit with said battery through a vibrating point acting upon the diaphragm, and a receiver having its induction-coil connected by one terminal

to the secondary of the induction-coil which is energized by the local battery and also connected by the other terminal to the line, substantially as described.

- 5 4. The combination with a chair, or other means of support of a transmitter consisting of a housing containing the diaphragm, said housing being rigidly attached to the back of the chair, a receiver suspended by a hook
10 arranged at the side of the seat, a local circuit including the diaphragm and its vibratory point-carrying arm, and the primary of an induction-coil and a circuit for the sec-
15 ondary of the induction-coil, including the induction-coil of the receiver and the line-wire, substantially as described.

5. The combination with a chair having suitable conducting wires supported upon its legs, of floor contacts upon which said legs are placed, a transmitter the box, or hous- 20 ing of which is rigidly secured to the back of said chair, and a circuit in which said floor-contacts are interposed, substantially as described.

In testimony whereof I have hereunto set 25 my hand in presence of two subscribing witnesses.

STEWART D. McKELVEY.

Witnesses:

H. B. WEBBER,
H. E. McKELVEY.