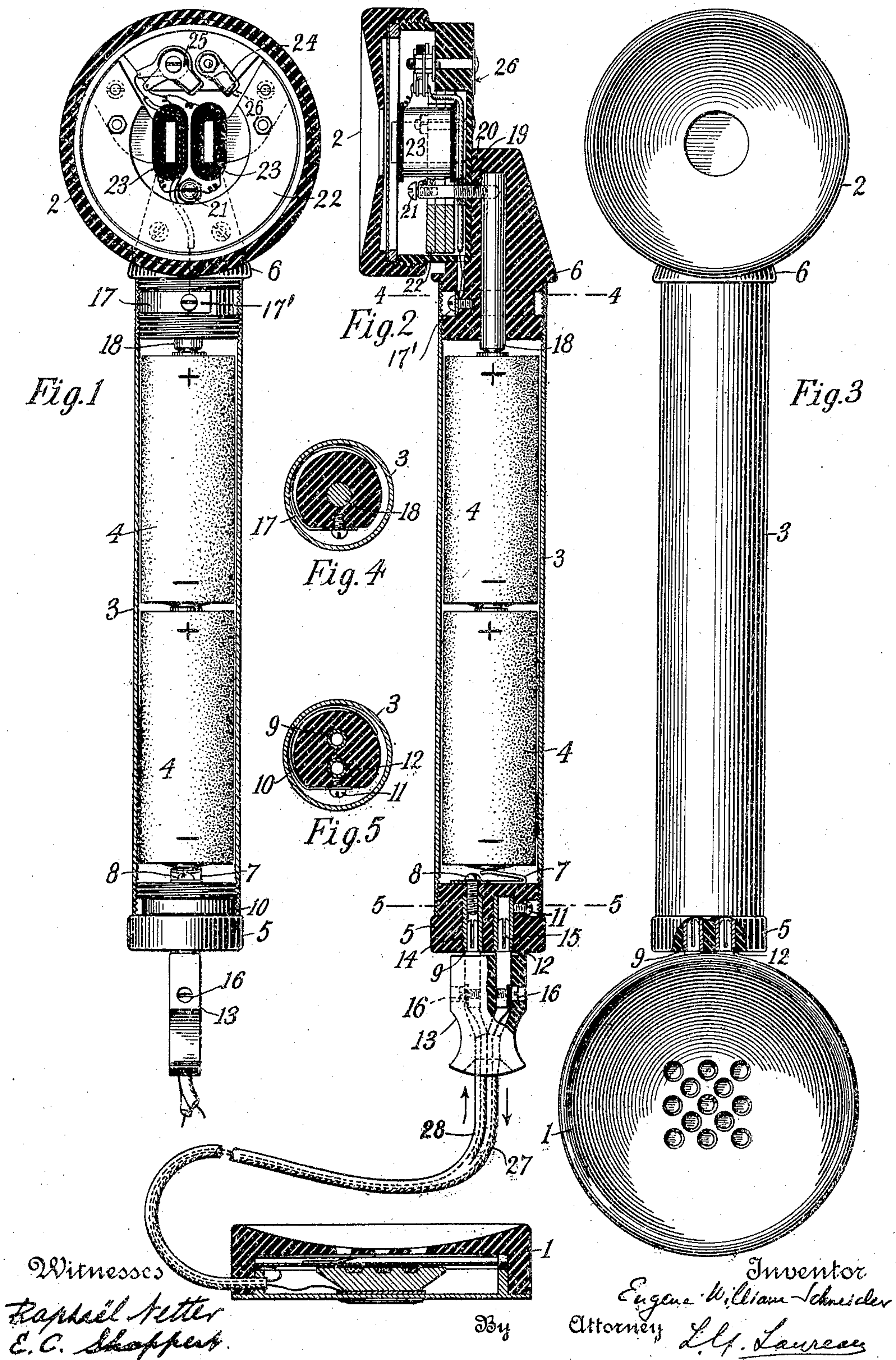


No. 794,686.

PATENTED JULY 11, 1905.

E. W. SCHNEIDER.
PORTABLE AUDIPHONE.
APPLICATION FILED MAR. 27, 1905.



UNITED STATES PATENT OFFICE.

EUGENE WILLIAM SCHNEIDER, OF NEW YORK, N. Y., ASSIGNOR TO THE MEARS EAR PHONE COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

PORTABLE AUDIPHONE.

SPECIFICATION forming part of Letters Patent No. 794,686, dated July 11, 1905.

Application filed March 27, 1905. Serial No. 252,288.

To all whom it may concern:

Be it known that I, EUGENE WILLIAM SCHNEIDER, a citizen of the United States, residing in the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Portable Audiphones, of which the following is a specification.

My invention relates to that class of devices used in assisting the deaf to hear and is constructed so as to be compact, small, and effective.

The accompanying drawings serve to illustrate an apparatus suitable to the carrying out of my invention; but I wish it understood that I do not limit myself to the exact construction or arrangement of parts as shown, as changes may be made therein or other means employed operating in substantially the same manner to produce the same effect.

Referring to the drawings, Figure 1 is a horizontal section through the earpiece or receiver and the handle. Fig. 2 is a vertical section through the earpiece, the handle, and the transmitter, the transmitter being shown connected to the handle through a detachable flexible conducting-cord. Fig. 3 is a modification of the apparatus in which the transmitter is permanently attached directly to the bottom connecting-piece in the handle. Fig. 4 is a cross-section of upper connecting-piece through line 4 4. Fig. 5 is a cross-section of the lower connecting-piece through line 5 5.

The device primarily consists of a microphone-transmitter 1, an earpiece or receiver 2, and a hollow handle 3, having a metallic path throughout its length and into which the batteries 4 are placed. The transmitter and the earpiece are respectively connected to the handle by means of a bottom connecting-piece 5 and a top connecting-piece 6, made of insulating material. A metallic spring 7, contacting with the negative pole of the lower battery, is secured in place by means of a screw 8, which threads into the metallic female plug 9 in the piece 5. A metallic side spring 10, Fig. 5, contacting with the metallic path in the handle, is secured in a groove

by means of screw 11, which comes into contact with the female plug 12. A plug-handle 13, made of insulating material, is provided, to which are secured two metallic male plugs 14 and 15, which engage the female plugs 9 and 12. Two wires 27 and 28, leading out of the plug-handle to the transmitter, are connected to the male plugs by means of the screws 16. The top connecting-piece is provided with a side spring 17, Fig. 4, which contacts with the metallic path in the handle and is kept in place by a screw 17', which holds down the return-wire in contact with the side spring. A metallic dowel 18, contacting with the positive end of the upper battery, goes through the axis of the upper connecting-piece. A post 19 is screwed into dowel 18, bearing a lock-nut 20, which secures the earpiece against the piece 6. A screw 21 screws into the top of post 19 and holds in place two wires leading to the electromagnets. The earpiece is provided with a permanent magnet 22, to which are secured the electromagnets 23, the poles of which are turned up at a right angle and terminate in close proximity to the diaphragm.

The operation of the device will be easily understood. When the circuit is closed, the electrical current generated in the batteries will pass upward through the dowel 18 into the post 19, and hence through distributing-wires into each of the electromagnets thus connected in parallel. The current will then pass out of the magnets through the leading-out wires, as shown on Fig. 1. These wires are connected to one of the plates of a switch 25, the closing member of which is the knife 24. The return-wire is connected to the other plate of the switch and leads the current to the side spring 17 and through the metallic path in the handle to the side spring 10, Figs. 1 and 2. The current then passes through screw 11 and female and male plugs 12 and 15 to flexible conductor 27, which leads to the electrode of the microphone-transmitter. The current passes from the electrode to the diaphragm and returns to the negative pole of the battery by means of cord 28, male plug 14, female plug 9, and contact-spring 7. The current is closed

by means of the switch-handle 26, placed on the outside of the earpiece. It is needless to explain that in this manner the sound-waves impinging on the diaphragm of the transmitter will be reproduced to the ear by the receiver.

In Figs. 1 and 2 I have shown the transmitter connected to the lower connecting-piece by means of a flexible cord. In Fig. 3 the transmitter is shown as secured directly to the connecting-piece. The transmitter may be detached from the handle by pulling the male plugs out of the female plugs, or it may be fixed by maintaining the male plugs in place by set-screws or any other means. In the case where the transmitter is detachable the switch may be omitted, for the withdrawal of the plugs will immediately break the circuit; but when the transmitter is fixed a switch of any approved design must be placed in the circuit. When no switch is used, the leading-out wires from the electromagnets are directly connected to the return-wires, the circuit being the same as when the switch is used.

Although I have shown a metallic handle, I wish it understood that it is unnecessary to

make the handle entirely of metal. It is sufficient to have a conducting-path through it, so that the circuit from the transmitter to the earpiece may properly be made through the handle.

I do not wish to claim any particular form of microphone-transmitter or earpiece, as they do not form a part of my present invention.

What I claim is—

In a portable audiphone, a hollow handle having a conducting-path, a battery within the handle, a microphone-transmitter attached to one end of the handle, an earpiece attached to the other end of the handle, a connecting-piece of insulating material at each end of the handle, and means in each connecting-piece to make contact with the battery and the conducting-path in the handle so as to secure a circuit between the microphone-transmitter and the earpiece.

In witness whereof I affix my signature in the presence of two witnesses.

EUGENE WILLIAM SCHNEIDER.

Witnesses:

JAS. G. PRATT,

E. C. SHAPPERT.