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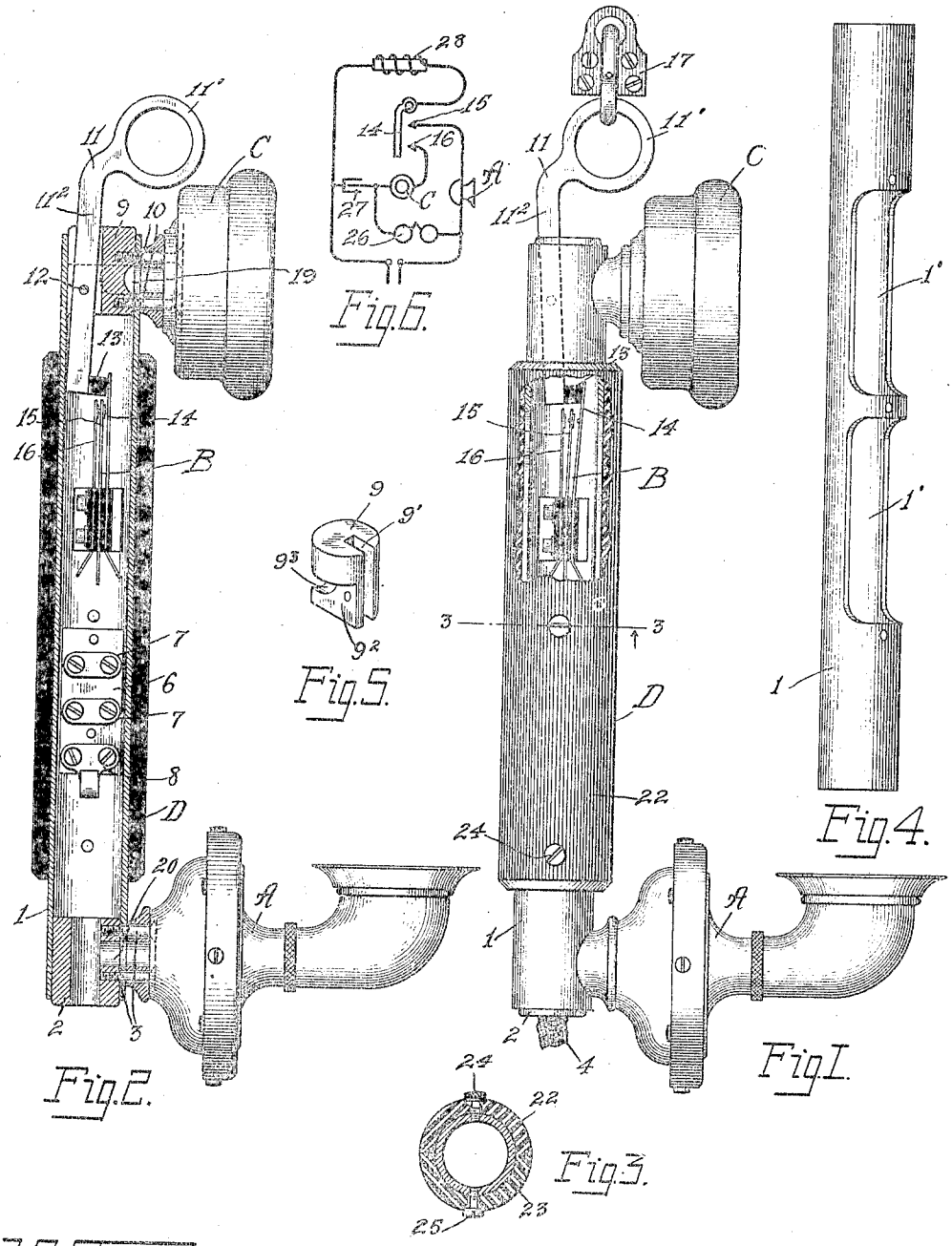
MICROPHONE.

APPLICATION FILED AUG. 15, 1912.

1,083,926.

Patented Jan. 13, 1914.



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MICROPHONE.

1,083,926. Specification of Letters Patent. Patented Jan. 13, 1914.

Application filed August 15, 1912. Serial No. 715,208.

To all whom it may concern:

Be it known that I, LAWRENCE ERICSON, a citizen of the United States of America, residing in Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Microphones, of which the following is a specification.

My invention relates to microphones in general and has to do more particularly with that type in which a handle portion is provided having at its opposite ends a transmitter and receiver respectively.

In devices of the character referred to, sliding switch-hooks have been provided, extending from one end of the handle whereby the device may be suspended, but the construction has been such that when the microphone was suspended by its switch-hook its handle portion assumes an angular position and thereby throwing it out of vertical alinement. This of course caused undue friction in the sliding switch-hook and furthermore did not make a favorable appearance, and one of the features of my invention is to provide a device of the character described, having a pivoted suspending switch-hook, which is so arranged that when the device is suspended by its switch-hook, its parts will all be substantially in vertical or horizontal alinement. Also in previous devices contact springs have been provided within the handle portion, but were so arranged that they were not accessible for adjustment without practically disassembling a great deal of the device.

Another feature of my invention is to provide a handle portion adapted to be readily removed without disturbing other parts of the device whereby the springs are accessible.

For a more complete understanding of my invention reference is to be had to the accompanying drawing in which like reference characters indicate like parts and in which—

Figure 1 is a side elevation of the preferred embodiment of my invention hung upon a supporting hook and with a portion of the handle member broken away to disclose the switch-hook springs; Fig. 2 is a view similar to Fig. 1 but with the device off its supporting hook and with the handle or central portion shown in cross-section to disclose the interior parts; Fig. 3 is a cross-section along line 3, 3, of Fig. 1 looking in the direction of the arrow indicated thereon; Fig. 4 illustrates in perspective the supporting tube or shell for connecting the receiver and transmitter; Fig. 5 shows in perspective a plug adapted to be inserted in the upper end of the connecting tube for supporting the switch-hook; Fig. 6 is a diagrammatic circuit arrangement for connecting the device for use as an ordinary common battery telephone.

Referring now more in detail my invention as illustrated comprises a central or connecting member 1 cut away at 1^1 and having a lower plug 2 inserted therein, and to which is attached a transmitter A by means of screws 3 which pass through tube 1 and thread into said plug 2. The plug 2 is constructed in the nature of a tube to allow a cord 4, which may be connected to the parts of the device, to pass out of the device. The transmitter A may be of any desirable type. An insulating member 6 is suitably attached to the tube 1 and carries several terminal members 7 and a cord hook 8. Thus a cord conductor as 4 may be supported by the hook 8 and its conductors connected to the terminals 7, 8, and other conductors may be extended to the switch-hook springs B.

A plug 9 is inserted in the upper end of tube 1 and a receiver C is attached at the upper end of the device preferably by means of screws 10 extending through tube 1 and threaded into plug 9. A slot 9^1 loosely supports switch-hook 11 which is pivotally attached to plug 9 by means of a pivot pin 12. At the lower end of hook 11 an insulating buffer 13 is secured and engages a contact spring 14 adapted to cooperate with contact springs 15, 16, said contacts being normally out of engagement, that is when the microphone is suspended from a hook member 17 as shown in Fig. 1.

At the exterior or upper end of switch hook 11, a hook or ring portion 11^1 is provided being so proportioned and related to the pivoted part of the stem portion 11^2, that when suspended from a hook 17 the handle portion D will hang substantially perpendicular as shown in Fig. 1. That is a longitudinal line drawn through the center of the handle portion D will assume substantially a perpendicular position. Also, due to the construction of the switch-hook, and

due to the relative position of the pivot 12 and ring portion 11^1 when the device is suspended from the hook 17, the weight of the device tends to pull the pivot 12 downward and thereby the buffer 12 acts upon spring 14 to disengage contacts 14, 15, 16 as shown in Fig. 1. The parts have such relative construction that when the switch-hook 11 has moved sufficiently to interrupt contacts 14, 15, 16, the handle portion D is hanging substantially perpendicular in a manner as previously referred to.

When the device is removed from the supporting hook 17, the switch-hook 11 moves over into its alternate position due to the action of spring 14 whereby the contact springs B are moved into engagement as shown in Fig. 2. Although a certain combination of contact springs is illustrated, my invention is not limited to such combination as it is apparent that other combinations may as readily be used, depending upon the circuit desired.

In order that connections may be extended from the receiver C to the contact springs B or terminals 7, 8, the plug 9 has a portion 9^2 cut away and also a hole 9^3 adapted to register with the opening 19 extending through the shell 1 and into receiver C. An opening 20 is also provided at the lower end of the device whereby conductors may extend from transmitter A to the terminals 7, 8, or contacts B depending upon the circuit arrangement. A casing or handle D is also provided being preferably of an insulating material and as this casing covers the portion of the tube 1 wherein the springs B are located, and as it is desirable to have ready access to these contacts, I have constructed casing D of several parts 22, 23, each part being independently secured by means of screws 24, 25 respectively, to the shell portion 1. I also preferably knurl the peripheral surface of casing D so that the longitudinal joints will not be readily seen. Thus with this arrangement the portion 22 may be readily removed by taking out the screws 24, part 22 may be removed and the shell 1 being cut away at 1^1, contact springs B are exposed.

In Fig. 6 I have illustrated diagrammatically one method of connecting the device in circuit, the parts of Fig. 6 corresponding to parts of the device, being indicated by like reference characters. In addition to the transmitter A, receiver C and switch-hook contacts, a call bell 26, condenser 27, and impedance coil 28 are shown. With this circuit arrangement, when the microphone is suspended the receiver, transmitter, and impedance coil are cut out of circuit and the call bell 26 and condenser 27 are connected in bridge of the line. Upon removal of the microphone from its supporting hook, the contacts 14, 15, 16 are adapted to close whereby the telephone circuit is closed for use.

While I have embodied my invention in a particular structure worked into commercial form, it will be apparent that many changes and modifications thereof will readily suggest themselves to those skilled in the art and therefore I do not desire to be limited to the exact structure as shown and described, but aim to cover all that which comes within the spirit and scope of the appended claims.

What I claim as new and desire to secure by Letters Patent is:

1. A microphone comprising a handle member, switch hook contacts carried thereby, and a suspending switch-hook pivotally supported by said member in operative relation to said contacts whereby when the device is suspended by said switch-hook said contacts are operated.

2. A microphone comprising an elongated central member, a transmitter and receiver fastened to opposite ends thereof, switch-hook contacts carried by said member, and a switch-hook pivotally supported at one end of said member in operative relation to said contacts.

3. A microphone comprising an elongated central member, a transmitter and receiver attached at opposite ends thereof, a switch-hook extending from one end of said member and pivotally connected thereto, and switching contacts suitably supported in operative relation to said switch-hook.

4. A microphone comprising an elongated central member, a transmitter and receiver attached at opposite ends thereof, switch contacts carried by said member, a switch arm pivotally supported at one end of said member in operative relation to said contacts, and a suspending member secured to said pivoted arm whereby when the device is suspended therefrom said switch arm is moved to operate said contacts.

5. A microphone comprising an elongated handle member, a transmitter and receiver fastened to opposite ends thereof, switch contacts, a switch operating arm pivotally supported at the upper end of said member and a suspending device extending from said arm in such relation to the rest of the device that when suspended therefrom said handle portion will assume substantially a perpendicular position.

6. A microphone comprising a transmitter and receiver, a tubular connecting member having switch-hook contacts spaced within, a handle member comprising incasing portions for said tubular member, and means for readily removing one of said portions to provide ready access to said contact set.

7. A microphone comprising a transmitter and receiver, a connecting member hav-

ing switch-hook contacts secured thereto, a handle member comprising incasing portions for said connecting member and contacts, and means for readily removing one of said portions to provide ready access to said contacts.

8. A microphone comprising a transmitter and receiver, a connecting member having switch-hook contacts secured thereto, a handle member comprising incasing portions independently secured over said connecting member and contacts, and means for readily removing one of said portions to provide ready access to said contacts.

9. A microphone comprising a transmitter and receiver, a tubular connecting member having switch-hook contacts suitably supported within, a handle member comprising independently secured incasing portions for said tubular member and contacts, whereby one of said portions may be readily removed to provide ready access to said contacts.

10. A microphone comprising an elongated central member, a transmitter and receiver attached at opposite ends thereof, switch hook contacts carried by said member, a suspending switch-hook pivotally supported in operative relation to said contacts, a handle member comprising incasing portions for said member and contacts, and means for readily removing one of said portions to provide ready access to said contacts.

Signed by me at Chicago, county of Cook and State of Illinois, in the presence of two witnesses.

LAWRENCE ERICSON.

Witnesses:
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