March 30, 1926. 1,578,646

E. B. CRAFT

TELEPHONE DEVICE FOR AIDING THE DEAF

Filed Nov. 2, 1923

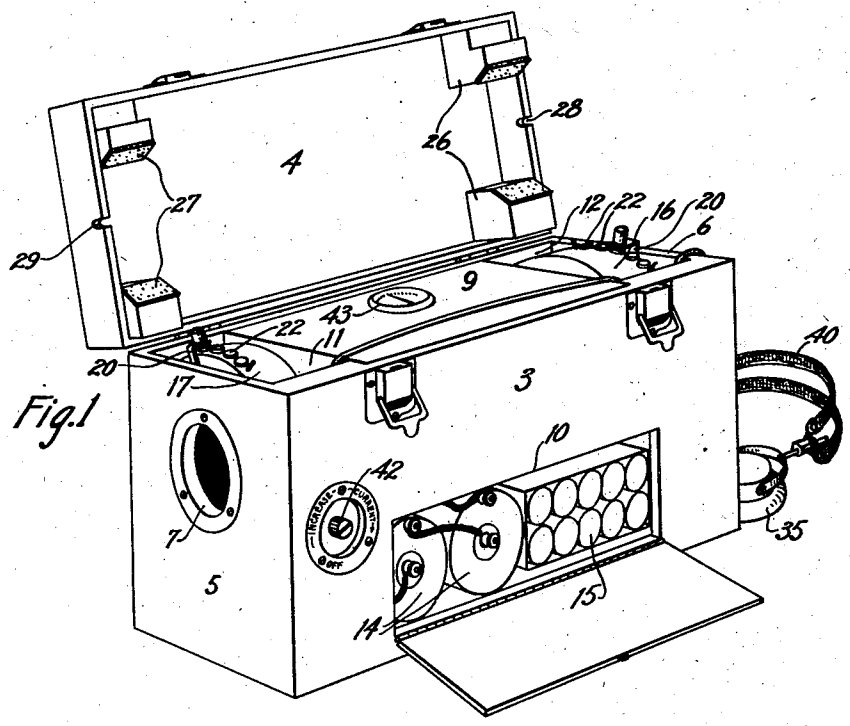

Fig. 1

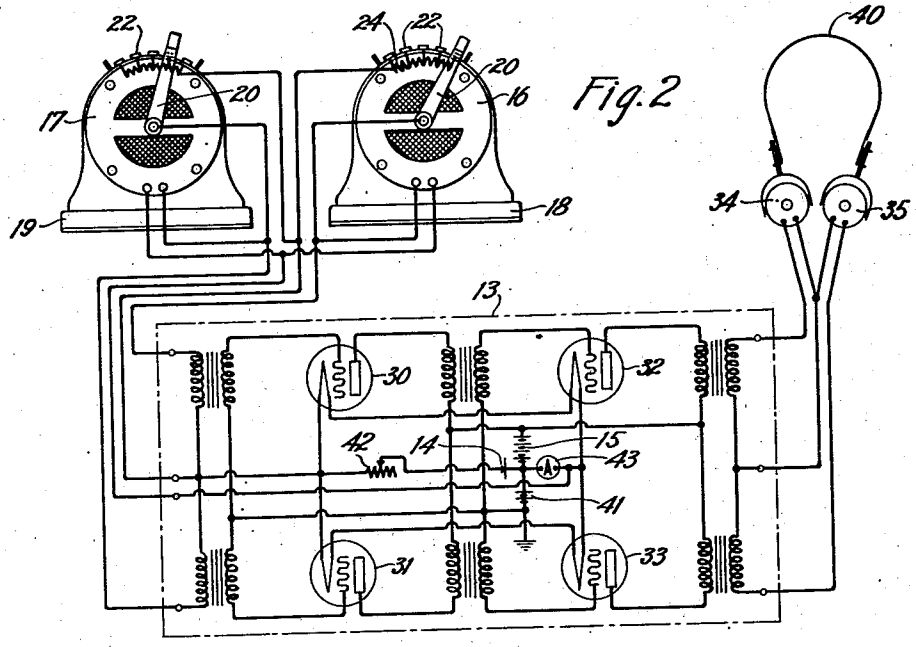

Fig. 2

Inventor:
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by E. W. Adams Atty

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UNITED STATES PATENT OFFICE.

EDWARD B. CRAFT, OF HACKENSACK, NEW JERSEY, ASSIGNOR TO WESTERN ELECTRIC COMPANY, INCORPORATED, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

TELEPHONE DEVICE FOR AIDING THE DEAF.

Application filed November 2, 1923. Serial No. 672,320.

To all whom it may concern:

Be it known that I, EDWARD B. CRAFT, a citizen of the United States of America, residing at Hackensack, in the county of Bergen and State of New Jersey, have invented certain new and useful Improvements in Telephone Devices for Aiding the Deaf, of which the following is a full, concise, and exact description.

This invention relates to apparatus for aiding the hearing of the deaf and its object is to provide a compact portable deaf set arranged for the binaural reception of sounds.

In general, the invention provides a portable binaural deaf set comprising a case and a microphone removably disposed in each end thereof, the walls of the case being provided with openings whereby the set may be used for binaural reception with the microphones in or out of the case.

Specifically, the invention provides a portable binaural deaf set comprising a case, the opposite sides of which are provided with openings and form the outside walls of separate compartments each adapted to receive a removable microphone arranged facing the opening therein and provided with substantially long cords, and a centrally located compartment for suitable amplifying apparatus which each microphone is connected to a receiver.

Referring to the drawings, Fig. 1 is a perspective view of a binaural deaf set embodying the invention, the microphones being shown in the case. Fig. 2 shows the microphones as they would appear supported outside of the case for binaural reception. It also shows schematically a circuit which may be used to connect the microphones to the receivers.

Heretofore, binaural deaf sets employing amplifiers have been restricted to the non-portable type no convenient means being provided whereby such apparatus could be used binaurally under the ordinary conditions, as it was necessary to provide special supports such as a table or stand for the microphones. The invention provides a deaf set in which the microphones placed in their respective compartments in the case are in position for binaural reception. The set may therefore be conveniently held in the lap by the user or carried in his hand, and when it is used where other means of support are available, the microphones may be removed from the case which may be placed on the floor where it will be less conspicuous.

A case 3 is provided with a cover 4 hinged thereon. The end walls 5 and 6 of the case 3 are provided with similar openings 7. The case 3 may be divided into four compartments 9, 10, 11 and 12 for the amplifying apparatus 13, batteries 14 and 15 and the microphones 16 and 17. The openings 7 and 8 on the walls 5 and 6 are opposite the openings in the microphones 17 and 16 respectively. The microphones 16 and 17 are provided with bases 18 and 19 to support them vertically and each microphone carries a rheostat for regulating the volume of the sounds. Each rheostat comprises an arm 20 pivoted at one end at the center of the transmitter, making contact with a plurality of contact studs 22 disposed on the periphery of each transmitter to which are connected taps from the resistance 24 shown schematically. The resistance 24 may be mounted in any well-known manner in the base of the transmitter. The cover 4 is provided with members 26 and 27 which engage the transmitters 16 and 17 respectively when in their compartments to hold them securely during transportation. The ends of the cover 4 are provided with slots 28 and 29 through which suitable cord connections may be made to the receivers and the transmitters when used outside of the set with the cover closed. The transmitter 17 is connected in any well known manner through the vacuum tube amplifiers 31 and 33 to a receiver 35 of a headset 40 and the transmitter 16 is connected through the vacuum tube amplifiers 30 and 32 to receiver 34 of the headset 40. The plate battery 15, the filament battery 14 and the grid battery 41 are preferably common to both circuits. In series with the filament battery is a variable rheostat 42 for simultaneously controlling the current through both the filament and the microphones. An ammeter 43 is also placed in series with the filament battery to always give a direct indication of its condition. The

variable resistances 22 are in shunt to each transmitter providing means for individually adjusting the volume of the sounds in the receivers 34 and 35.

What is claimed is:

1. In a binaural telephone device for aiding the deaf, a case having widely separated openings in the walls thereof, microphones removably positioned in said case and communicating with said openings, said microphones being usable in or out of said case for the binaural reception of sounds.

2. In a binaural telephone device for aiding the deaf, a case, compartments in the opposite ends of said case having openings to the exterior thereof, microphones removably positioned in each compartment communicating with said openings, said microphones being usable in or out of said case for the binaural reception of sounds.

3. In a binaural telephone device for aiding the deaf, a case, compartments in the opposite ends of said case having openings to the exterior thereof, a microphone removably positioned in each compartment communicating with said openings, said microphones being usable in or out of said case for the binaural reception of sounds, a receiver for each microphone, an amplifier circuit connecting each transmitter to its respective receiver, and means associated with each transmitter to control the volume of sound.

In witness whereof, I hereunto subscribe my name this 1st day of November A. D., 1923.

EDWARD B. CRAFT.