(No Model.)

G. MELLOR.

EAR APPLIANCE OR INSTRUMENT FOR USE OF TEACHERS OF MUSIC, &c.

No. 486,725. Patented Nov. 22, 1892.

FIG. 1.

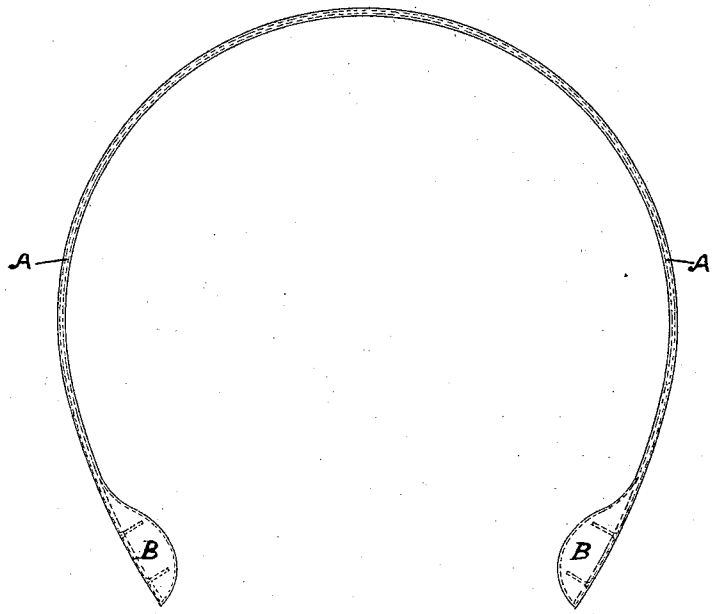


FIG. 2.

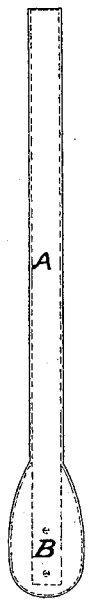


FIG. 3.

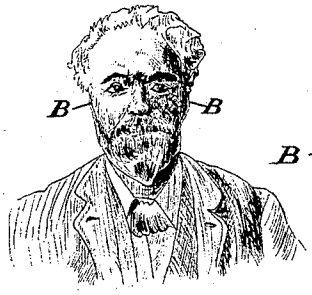


FIG. 4.

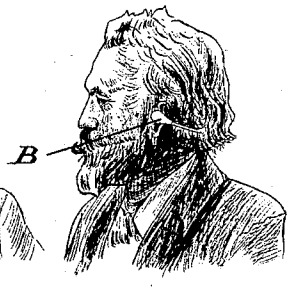
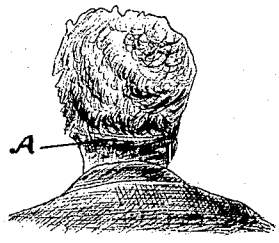


FIG. 5.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE MELLOR, OF NEWCASTLE-UPON-TYNE, ENGLAND.

EAR APPLIANCE OR INSTRUMENT FOR USE OF TEACHERS OF MUSIC, &c.

SPECIFICATION forming part of Letters Patent No. 486,725, dated November 22, 1892.

Application filed December 17, 1891. Serial No. 415,370. (No model.) Patented in England February 25, 1891, No. 3,425, and in France December 5, 1891, No. 217,863.

To all whom it may concern:

Be it known that I, GEORGE MELLOR, a subject of the Queen of the United Kingdom of Great Britain and Ireland, residing at No. 78 Heaton Park Road, Heaton, in the city and county of Newcastle-upon-Tyne, England, have invented a new and useful Ear Appliance or Instrument for the Use of Teachers of Music, Singing, Voice Production, or Elocution, Musical Performers, Singers, Elocutionists, and Public Speakers, (for which I have obtained Letters Patent of Great Britain, dated February 25, 1891, No. 3,425, and also of France, dated December 5, 1891, No. 217,863,) of which the following is a specification.

My invention relates to an apparatus to enable instrumentalists and teachers of singing, voice production or elocution to hear the identical sound and effect as heard in the auditorium, simultaneously with the production of the sound, and in a modified degree of great service to vocalists, elocutionists, and public speakers.

The device consists, essentially, of two ear-pads made of suitable material, constructed to close the ears against passage to the oral nerves thereof of any external disturbing sound-waves, and to connect these pads by means of some suitable material which will receive or gather the vibrations of the sound-waves and convey them to the ears through the said pads. These pads are preferably made of cork, which is a good conductor of sound-waves and comfortable to the wearer, though wood or any other good conductor of sound may be used, and in this instance, for the sake of comfort to the wearer, will be covered with soft leather to form a cushion. For the purpose of more thoroughly excluding the wave-sounds from the oral nerves of the ears the external portions of the pads may be covered with some material which is a bad sound-conductor.

The device may conveniently be applied as a circlet round the back of the head, the pads covering the apertures of the ears and kept in position by the spring action of the circlet, thus excluding all external noises, while the circuit will convey to the ears through the pads the identical sound and effect produced by the performer, either vocally or instrumentally, as heard in the auditorium.

The drawings show the instrument in the form in which I propose to construct it and the method in which it may be conveniently applied.

Figures 1 and 2 show two views to about the actual size of the instrument, which I propose to call "Mellor's partophone." Figs. 3, 4, and 5 show, respectively, front, side, and back views of the head of a person wearing the instrument.

Referring to Figs. 1 and 2, A is the band or circlet, made of a thin strip of some resonant material and preferably covered with silk or other fibrous material which will not in any manner interfere with the reception of the sound-waves and the tranmission thereof to the pads. At the ends are fixed to it the ear-pad B of cork or other good sound-conducting material or combination of materials, and may be covered or partially covered with silk or other soft material to protect the ears. When in position, the two pads cover the apertures of the ears, against which they or pressed by the elasticity of the band or circlet A, so as to exclude all external disturbing noises and convey to the ears by the resonance of the material of the connecting band or circlet the identical sound or effect produced by the voice or instrument of the performer as it is heard by the audience simultaneously with its production. I preferably form the circlet A of tempered steel, though it may be made of aluminum or other metals or alloy of metals, the requisite thereof being that it be a good conductor of sound.

Referring to Figs. 3, 4, and 5 it will be seen that when in use the instrument is scarcely visible in Fig. 3 when the performer is facing the audience, and that in Fig. 4 one of the ear-pads B can be seen covering the aperture of one ear, while in Fig. 5 the circlet A is seen embracing the back of the head, the two pads B closing the apertures of the ears.

From the above it will be understood that the sound is received by the circlet A and conveyed to the oral nerves of the ears through

the pads B, while the pads at the same time by closing the ears keep out all external disturbing sounds.

By the aid of this instrument the performer or teacher will be able to detect and correct faults in accent, phrasing, punctuation, breathing, and all other points which must necessarily be attended to by all who wish to achieve success in the arts of music and public speaking.

What I claim, and desire to secure by Letters Patent of the United States, is—

An instrument for enabling vocal and instrumental sounds to be heard by the wearer simultaneously with their production and identically as they are heard in the auditorium, consisting of pads made of some good sound-conducting material or combination of materials to cover the apertures of the ears and exclude external noises, said pads being connected by some resonant sound-conducting material or combination of materials which will gather and convey the sounds produced by the performer to the ears of the wearer.

GEO. MELLOR.

Witnesses:
CHARLES WILSON,
PERCY HEADS.