

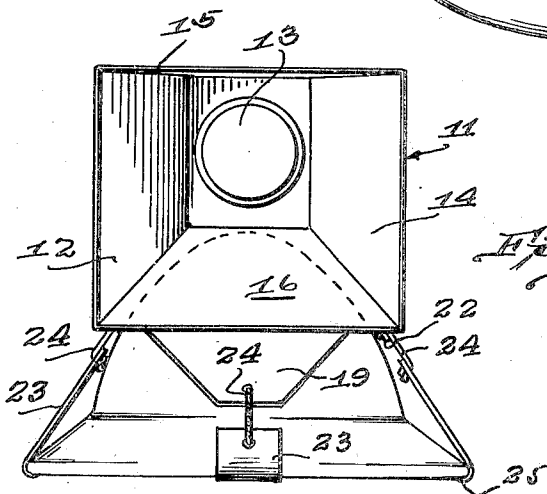
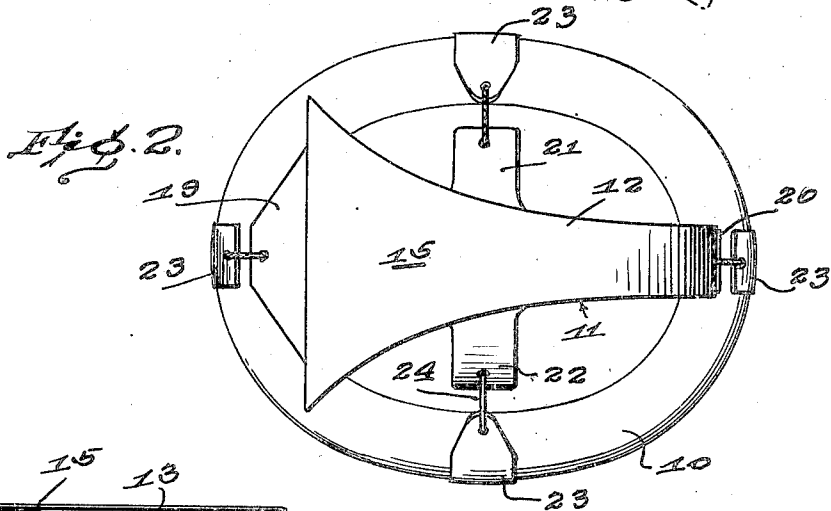
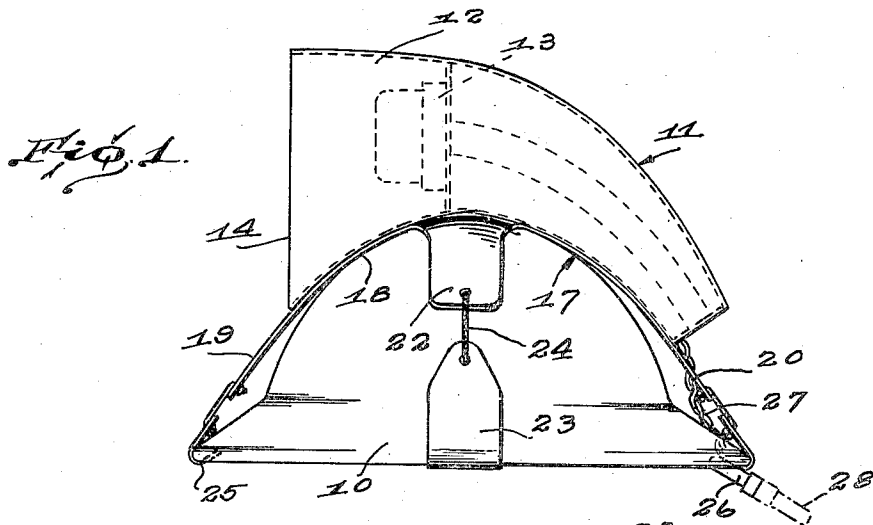
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HELMET MOUNTED LOUDSPEAKER

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HELMET MOUNTED LOUD-SPEAKER

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1 Claim. (Cl. 179—156)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

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This invention relates to public address systems and particularly to a loud speaker by means of which sound waves first produced at some distant point issue therefrom in greatly amplified volume.

An object of this invention is to produce an improvement in portable public address systems by means of which the speaker's voice may be greatly amplified and easily directed as desired without the use of external forces for effecting directional adjustment.

Another object of this invention is to produce a portable public address system including a light weight loud speaker adapted to be carried on the person for greatly amplifying the speaker's voice and directing it as desired merely by movements of the person.

A further object is to produce a new and improved means mounting a loud speaker on the headgear of a person by means of which the speaker's voice as directed into a microphone is greatly amplified to issue in a direction responsive to head turning movements.

A still further object is to produce a headgear which has, as a part thereof, an amplifier including a speaker unit in an exponential horn for use in public address systems.

Other objects and advantages of this invention will hereinafter appear, and for purposes of illustration only, an embodiment of the invention is shown in the accompanying drawings, in which

Figure 1 is a side elevational view showing a loud speaker mounted on a head gear;

Figure 2 is a top view of the assembly shown in Figure 1; and

Figure 3 is a front elevation of the assembly illustrated in Figure 1.

The invention described herein may be manufactured and used by or for the Government for governmental purposes without the payment to me of any royalty thereon.

There are many instances when it is desirable to convey the voice of a person to many persons even over a relatively great distance. In directing sporting events, pedestrian or vehicle traffic, mass activities, ship maneuvers and their loading or unloading, or military operations or the like, there is a need for a portable amplification system which also provides for the directional throw of a person's voice. In the past, such commands have been yelled into a horn carried by the person which, on continued use, becomes increasingly tiring and burdensome. More recently, megaphones employing

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a speaker unit in a horn which is mounted on a tripod or other supporting means, have been used, but they are not readily adapted for movement from place to place with the person as is desired.

For this purpose, I have invented a public address system in which a loud speaker of relatively light weight is adapted to be mounted on the headgear of a person. By this means, the person's voice, which is directed at normal intensity into a portable microphone, may be greatly amplified and directed to be thrown in any desired direction while the person is moving about. This not only enables full use of the speaker's hands for other purposes, but also provides such freedom of movement as will enable the person more satisfactorily to perform his duties.

Referring now to the drawings, 10 indicates a headgear in the form of a helmet, and 11 a loud speaker adapted to be mounted on the helmet. The loud speaker 11 consists of an exponential horn 12 which houses the speaker unit 13 which may comprise an electric sound transmitting device. The exponential horn is a casing rectangular in cross section with the walls tapering outwardly from the rear end and flared near the open front end 14 in the form of a trumpet.

The upper and lower walls 15 and 16 respectively of the horn 12 are curvilinear, the lower wall 15 being shaped substantially to conform to the contour of a mounting plate 17 to which it is attached. The mounting plate 17, which is formable of such rigid materials as wood, metal, plastics and the like, is an arcuate strip 18 shaped to conform to the upper dome portion lengthwise of the helmet. Integral with the strip are projections 19 and 20 which extend forwardly and rearwardly respectively of the strip and arms 21 and 22 which extend laterally from the respective sides of the strip.

The end of each projection and arm is joined to one end of a separate clip member 23 by means of an expansible band 24. The other end of each clip member is hooked-shaped 25 and is constantly urged in the direction to grip the rim 26 of the helmet by the expansible band 24. Thus, the mounting plate 17 is adapted to be removably positioned on any helmet within the range of normal headsize.

A socket 26 secured to the hook end 25 of the rear clip member is electrically connected to the speaker unit 13 by wires 27. When in position of use, a plug 28 electrically connected to

the microphone at the sound source, may be inserted into the socket to complete the transmitting circuit. It is understood that the microphone may be positioned on the same person for the transmission of his spoken words to the loud speaker while moving freely about. For this purpose, the microphone may be held by one hand or preferably mounted by suitable brackets to be disposed before the person's mouth and thus free his hands for other uses. In the case where the sound source is distant and separate from the wearer, the movement of the person is substantially confined to the area covered by connecting wires or radio waves.

It is manifest that I have produced an improvement in public address systems which provides for greater flexibility and coverage of the sound without impairment of the mobility of the person whom it is desired to either issue or convey the sound. The means adapted to effect the desired results comprises a loud speaker which is firmly mounted on the headgear of any person and is so balanced and of such light weight that the wearer is practically unaware of its presence.

It is to be understood that the speaker unit may be made responsive to reproduce sounds as conveyed by electrical currents or radio waves. It is to be further understood that numerous changes in details of construction, arrangement and operation may be effected without departing from the spirit of the invention, especially as defined in the appended claim.

What I claim is:

A device of the type described, comprising a helmet having a dome and a brim extending therearound, an exponential horn disposed on the top of said dome, said horn having a relatively small rear end, a relatively large open front end, and curvilinear top, bottom and side walls, the curvature of said bottom wall conforming substantially with said dome so as to nest thereon, an electrical sound transmitter in said horn for feeding sound impulses to the rear end thereof, means for detachably securing the front and rear edges of the bottom wall of said horn to said brim at the front and rear of said helmet, respectively, and means for detachably securing intermediate portions of said bottom wall along the side edges thereof to said brim at the sides of said helmet.

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