

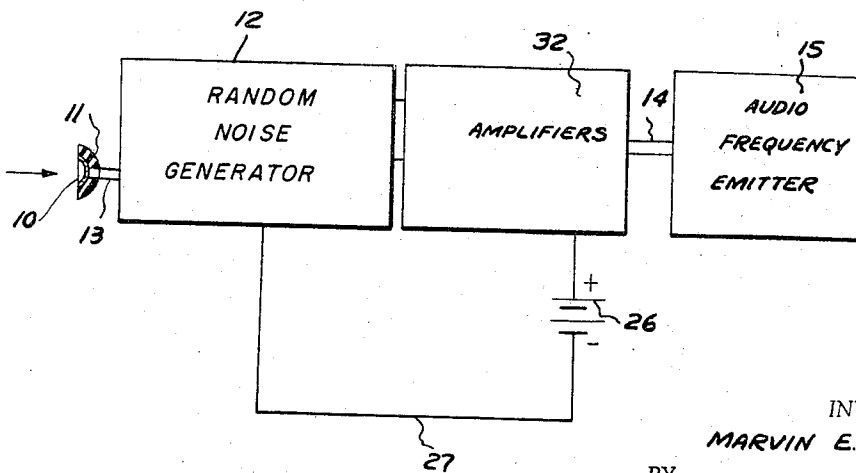
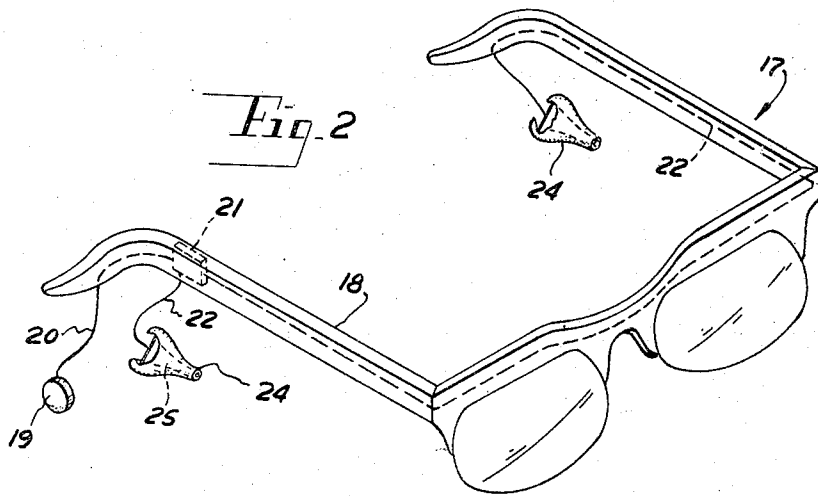
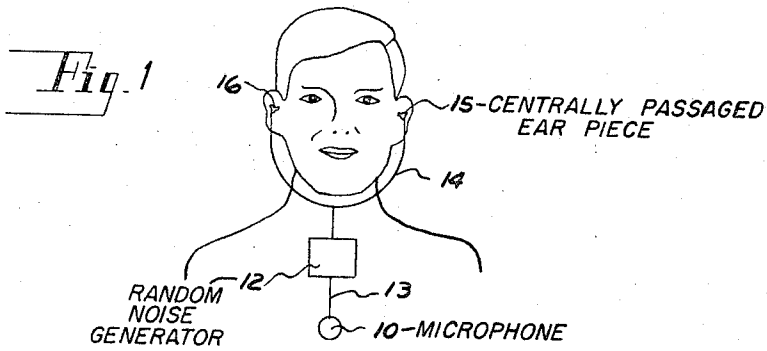
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ANTI-STUTTERING DEVICE AND METHOD

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ANTI-STUTTERING DEVICE AND METHOD

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ABSTRACT OF THE DISCLOSURE

To alleviate stuttering a directional microphone responsive only to the user's voice is worn upon his body; the microphone output triggers a random noise generator, the output signal of which is transmitted to a centrally apertured earpiece.

The present invention relates to a method and device for alleviating, ameliorating or modifying the symptoms of various speech defects including stuttering.

It is recognized that stutterers will find relief by having their own speech blocked out from their hearing while they are speaking. Hence, the unique method and device of this invention generates a masking noise only in response to the speaker's own voice. This is achieved by means of a directional microphone applied to the stutterer's body in such a place as to pick up voice induced vibrations. This masking noise is then electronically transmitted to the stutterer's ears, where a unique centrally apertured earpiece allows sound from sources other than the stutterer's own voice to enter his ear. Thus, the user may readily carry on normal conversation, except for the fact that he is unable to hear his own voice. In this manner, stuttering and other speech defects may be alleviated.

These and other objects will be seen from the following specification and claims in conjunction with the appended drawing in which:

FIG. 1 is a schematic view showing one form of application of the present pick-up and random noise generator.

FIG. 2 is a perspective view of another form of the present vibration pick-up device and random noise generator applied to eye glasses.

FIG. 3 is a schematic diagram of one form of electrical circuit.

It will be understood that the above drawing illustrates one embodiment of the invention, and that other embodiments are contemplated within the scope of the claims hereafter set forth.

Referring to the drawing, FIG. 1, the present anti-stuttering device includes a microphone pick-up 10 of any desired type. Said pick-up has an insulation layer 11 to shield the microphone against any extraneous noises other than those produced by the user-speaker's larynx.

The electronic random noise generator and amplifier, generally indicated at 12, FIGS. 1 and 3, is connected with the microphone pick-up by lead 13. A pair of audio frequency emitters or ear pieces 15 of a type such as shown at 24, FIG. 2, are respectively connected by leads 14 to said amplifier and are adapted for projection into the respective ear canals 16 of the user, FIG. 1.

A modification is shown in FIG. 2, wherein the masking device is incorporated into glasses 17 including a frame and the temples 18. Here the microphone pick-up 19 which is adapted to contact certain portions of the user's body is connected by lead 20 to the electronic random noise generator 21 which is either mounted upon or molded or nested within one of said temples.

The generator including its amplifying mechanism is connected to a pair of ear pieces 24 which are tapered outwardly for comfortable projection within the ear pas-

sage or auditory canal 16. Each ear piece has a central passage 25 therethrough so as not to interfere with normal hearing of the user when the antistuttering device is not in use. Leads 22 interconnect each of the audio frequency emitters 24 with the amplifier and generator combination 21. One of said leads is mounted upon or incorporated into the eye glass frame and temples, FIG. 2.

FIG. 3 schematically illustrates one form of electronic random noise generator with microphone pick-up 10 shielded with suitable insulation 11 and connected by leads 13 to the random noise generator 12.

The parts 10 and 12 are not shown in detail, since such components are well known to those skilled in the art and are not in themselves claimed to be new. Those skilled in the art would be capable of designing a microphone 10 to pick up and respond only to the vibrations of the user-speaker's larynx, and would similarly be capable of designing a random noise generator 12 to produce sound of random character frequently known as "white noise," and produce such noise at a level sufficient to mask the sound of the user's speaking only when the microphone is activated by the user's own voice.

By this construction an amplified masking noise of a random nature (multiple frequency) is delivered to the audio frequency emitters or ear pieces 15, FIG. 1, or ear pieces 24, FIG. 2. These amplified random masking noises are transmitted to the auditory canal 16 of the user, FIG. 1.

Operation

The microphone pick-up 10, 19 is sensitive only to vibrations created by the user's speech when in skin contact with some portion of the user's body, as for example, the mastoid area or over other parts of the wearer. The pick-up is adjusted in sensitivity so as to pick-up only vibrations evoked by the speech of the wearer, namely those vibrations produced by his larynx. The microphone pick-up may be located adjacent or against the mastoid bone at the rear of the user's ear as in the case of the eye glasses, FIG. 2; or may contact other portions of the user's body adjacent the neck or the substernal triangle readily responsive to vibrations produced by the larynx.

The present random noise masking device is energized only during the speaking of the stutterer so that the stutterer does not hear his own voice and thus eliminates a portion of the psychological problem involved with stuttering. The generating device is automatically activated by the onset of speech of the wearer or user, and is stopped when speaking stops.

Having described my invention reference should now be had to the following claims.

I claim:

1. The method of alleviating and ameliorating and modifying the symptoms of stuttering comprising the following steps:

55 applying to a human body a microphone to pick-up vibrations produced by the larynx; electrically generating random noises under the control of said picked-up vibrations of the speaker-user; amplifying said random noises to a decibel level clinically masking the speakers voice to the speaker; and transmitting said amplified masking noises into the user's ear canals, using centrally passaged ear pieces so as not to block noises extraneous to the user when he is not speaking.

60 2. A device to alleviate, ameliorate and modify the symptoms of various speech defects, including stuttering, comprising:

a microphone pick-up mounted on the user and sensitive only to vibrations produced by the larynx; an electronic random noise generator including a pow-

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er source connected to said pick-up to create random noise frequencies in response to signal output from said pick-up;
 amplifying means connected to said generator;
 and a pair of audio frequency emitters connected to said amplifying means and projected into the user's ear canals, respectively, said audio frequency emitters being tapered inwardly to fit into the ear canal and having a central passage to transmit normal sound waves to the user's ear.

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