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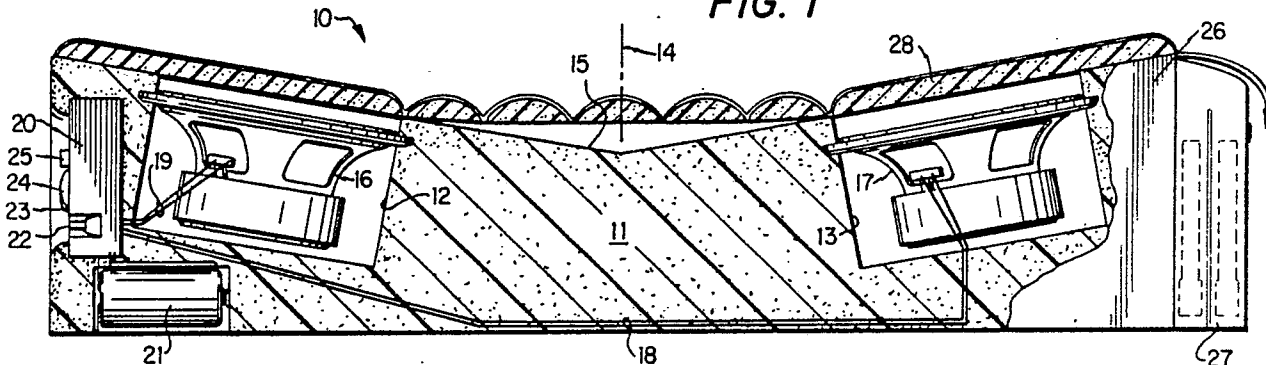
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London EC1N 2JT(GB)(54) **Self-powered, portable stereo speaker pillow.**

(57) A speaker pillow which is fully portable and is capable of reproducing high-quality stereo sound in a full volume range from a wide variety of external audio sources. This is accomplished by providing within the pillow both a dual channel amplifier to amplify the incoming sound to a pair of stereo speakers and an independent, self-contained electrical power source for powering the amplifier.

FIG. 1



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SELF-POWERED, PORTABLE STEREO SPEAKER PILLOW

1. Technical Field

The present invention relates to a speaker pillow and more particular relates to a portable pillow that contains an independent, self-contained electrical power source for powering amplified stereo speakers in the pillow.

2. Background Art

There are many situations where a person likes to lay back and enjoy music or a radio or television program without disturbing those around him. For example, one person may enjoy listening to a particular type of music while others in the same vicinity are listening to a different radio or television program. Further, a person in a hospital bed may wish to listen to a particular program without disturbing someone in an adjacent bed or one student may wish to listen to music while a roommate wishes to study and so on. Of course, many modern day audio sources, e.g. stereo receivers, tape decks, televisions, portable radios, etc., are now equipped with audio jacks into which headphones can be connected to provide privacy for the listener.

However, headphones, even the light-weight phones now available, are sometimes uncomfortable if worn for extended periods and can interfere with normal body movements when a user lies on the floor or reclines in a chair and periodically changes positions as one will normally do. To free a user from the restraints of headphones while still allowing the user the privacy offered thereby, several proposals have been made to mount speakers in a pillow or headset on which the user can lay his head while listening to low volume audio sounds without disturbing others in the vicinity. In some instances, the audio source, e.g. portable radio, is actually mounted within the pillow but, of course, this restricts use of the pillow to those programs originating from the self-contained source.

Other proposals have been made to mount only speakers in a pillow and connect the speakers to an external audio source. For example, see U.S. Patent Nos. 1,864,615; 1,931,312; 1,931,236; 2,958,769; 3,290,450; 3,384,719; 3,416,804; 3,621,155; and 4,033,499. Since all of these speaker pillows are designed for the privacy of the user as discussed above, they are all designed for listening to low volume sound. If it is ever desired to allow others in the vicinity to listen to the audio from such pillow speakers, the volume of the audio

source has to be cranked up to the point where, if audible at all from a distance, the resulting sound is severely distorted and the speakers are likely to be damaged.

Also, pillows of the type disclosed in the prior art are limited in their use with modern portable or other audio sources in that the headphone jacks of such sources are specifically designed to reduce the audio output to emit a low volume audio signal so as not to "blow" the small frequency speakers used in the headphones. Accordingly, a prior art speaker pillow used with a modern, compact audio unit (e.g. Sony "Walkman" Radio/Cassette Player) would produce an almost inaudible sound, if any at all.

Accordingly, it is desirable to provide a fully portable speaker pillow which can be used with a variety of audio sources, but which will, at the same time, produce high-quality sound at both extremely high and low volume levels. This allows the user to use the pillow either for privacy listening or as an auxiliary speaker system for group listening.

DISCLOSURE OF THE INVENTION

The present invention provides a speaker pillow which is fully portable and is capable of reproducing high-quality stereo sound in a full volume range from a wide variety of external audio sources. This is accomplished by providing within the pillow both a dual channel amplifier to amplify the incoming sound to a pair of stereo speakers and an independent, self-contained electrical power source for powering the amplifier.

More specifically, the present invention is comprised of a foam rubber body which has a pair of spaced acoustical chambers formed therein. A high-quality stereo speaker is mounted in each of the acoustical chambers and are each connected to a respective channel of a dual channel amplifier which is also mounted in the body. Leads connect the amplifier to an audio input jack and also to an internal electrical power source, e.g. dry cell batteries. The body and all components are encased in a zippered jacket which has an opening to provide easy access to the audio input jack. The jack is adapted to be connected to a variety of external audio sources, e.g. portable or conventional stereos, tape or recorder players, television sets, etc., by a standard, commercially-available patch cord.

By mounting both the amplifier and a separate, independent electrical power source within the pillow, the input jack can be plugged into the head-phone jacks of almost any audio/video equipment since the internally-powered amplifier in the pillow will fully amplify the low level audio frequency emitted by the external source before it is fed to the speakers, thereby producing a full volume range sound, without either low frequency distortion or high volume distortion normally produced by the prior art unpowered, unamplified speakers.

This allows the pillow of the present invention to be used by an individual in privacy situations or as an auxiliary speaker system for almost all audio equipment. As an example of the latter, the present pillow can be used with the present day mini-or micro-audio portable equipment (e.g. Sony "Walkman") at a beach or picnic for high-quality group listening.

The present invention is an advancement over the prior art in that it does not restrict a user to the home or automobile, but gives the user complete freedom due to its capability of functioning with commercially-available portable audio equipment without need for adapters or the like and provides high volume sound when desired.

BRIEF DESCRIPTION OF THE DRAWINGS

The actual construction, operation, and apparent advantages of the present invention will be better understood by referring to the drawings in which like numerals identify like parts and in which:

FIG. 1 is a cross-sectional view of the speaker pillow of the present invention;

FIG. 2 is a perspective view, partly in section of the present speaker pillow in use;

FIG. 3 is a perspective side view of the present speaker pillow; and

FIG. 4 is a perspective front view of the present speaker pillow.

BEST MODE FOR CARRYING OUT THE INVENTION

Referring more particularly to the drawings, FIG. 1 discloses a cross-sectional view of portable, self-amplified stereo speaker pillow 10 in accordance with the present invention. Pillow 10 is comprised of a body 11 of soft, resilient material, e.g. foam rubber, having two acoustical chambers 12 and 13 formed through the upper surface thereof. Chambers 12 and 13 are each spaced an equidistance from the middle (dotted line 14) with their respective longitudinal axis being angled upwardly and inwardly towards the middle 14 and with re-

spect to the normal horizontal plane of body 11. As seen in FIG. 1, chambers 12 and 13 are substantially deeper than the speakers and accordingly, each act as acoustical chambers providing excellent acoustics for both the bass and treble ranges of the speakers. The upper surface of body 11 has a preformed contour 15 in the center portion thereof for a purpose discussed below.

A high quality stereo speaker 16 and 17 is mounted in each of the chambers 12 and 13, respectively, and respective leads 18 and 19 therefrom pass through passages in body 11 and are connected to a proper channel of a dual channel audio amplifier 20, e.g. printed circuit board, which, in turn, is mounted in a preformed cavity in body 11. The speakers 16 and 17 can be any of many commercially available stereo speakers, e.g. Model T105, distributed by JBL Company. Stereo input jack 22, bass control 23, treble control 24, and on-off switch 25 are built into the amplifier circuit 20. The amplifier 20 is mounted at one side of the body 11, the input jack 22, and all other controls are accessible through openings in jacket 26.

An internal, independent electrical power source 21 is provided in body 11 and is connected to audio amplifier 20 by leads. Power source 21 is preferably one or more commercially-available dry cell batteries, either disposable or as a rechargeable battery pack. The body 11 with speakers 16 and 17, amplifier 20, power source 21 and the connecting leads therefor is enclosed or encased in jacket 26, which is shaped and contoured to receive same. Preferably, jacket 26 is of one piece construction with an opening access to the internal battery power source 21.

Jacket 25 may be comprised of any suitable material, e.g. leather, vinyl, cloth, etc. and may be of waterproof material if the pillow is to be used outdoors or near swimming pools or at the beach. Jacket 26 has a padded upper surface 28, positioned to overlie speakers 16 and 17 without distortion or dampening. Also, jacket 25 has an external pocket 27 thereon, in which, cassette tapes or the like can be stored. External pocket 31 is for holding and protecting a small external audio source 29, e.g. (Sony "Walkman").

In operation, an external audio source 29 is plugged into input jack 22 by a standard patch cord 30. As shown in the FIGS., audio source 25 is shown as a small portable stereo radio/cassette player but it should be understood that pillow 10 can be used with any audio source having an output jack or audio output cord, e.g. console or portable television sets, tape or record players, VCRs, etc.

As seen in FIG. 2, when a listener places his head on surface 28 of pillow 10, surface 28 will depress onto contour 15 of body 11 so that a comfortable padded head rest is provided and speakers 16 and 17 will be positioned at either ear of the listener. The sound from source 29 is amplified by separately-powered amplifiers 20 and a high-quality sound is delivered to the listener. The volume of the sound is controlled by the volume control on the audio source, itself.

As seen in FIG. 3, input jack 22, separate bass control 23, and treble control 24, and on-off switch 25 are exposed from amplifier circuit 20 so that user can have easy access to all operating controls of pillow 10. External audio source 29 will be plugged into input jack 22 by patch cord 30 and external audio source 29 can be placed into external pocket 31.

As seen in FIG. 4, pillow 10 in an upright position can be used as an auxiliary speaker system for group listening. External pocket 27 may be used for holding cassette tapes, etc. Rings or the like are sewn to jacket 26 for fastening adjustable carrying straps, not shown.

As seen from the above, pillow 10 is a fully portable speaker system which can be used indoors or outdoors with almost any available audio source. By putting both an amplifier and an independent power source within the pillow, the low level audio frequency response from the input jack is adequately amplified so the listener can hear the sound without low frequency distortion or loud volume distortion thereby allowing the pillow 10 to be used at very low volume as well as extremely high volume. This allows a listener to lie on the floor or sit in a chair and listen to the speakers without disturbing those around him or he may boost the sound so that others can clearly hear the sound when desired.

Claims

1. A speaker pillow comprising:
a body formed of soft, resilient material having an acoustical chamber formed therein;
speaker means mounted in said acoustical chamber;
means for amplifying an audio signal mounted in said body and connected to said speaker means;
an independent electrical power source mounted in said body and connected to said amplifying means for powering same;
audio input means mounted in said body and connected to said amplifying means, said input means adapted to be connected to an external audio source; and
a jacket encasing said body and having an opening

aligned with said audio input means whereby said input means is readily accessible through said opening.

2. The speaker pillow of claim 2 wherein said soft, resilient material comprises foam rubber.

3. The speaker pillow of claim 2 wherein said electrical power source comprises:
electrical storage battery.

4. A speaker pillow comprising:
a body formed of soft, resilient material having two acoustical chambers formed therein;
a separate high-quality stereo speaker mounted in each of said two acoustical chambers;
a dual channel amplifier mounted in said body;
means in said body for connecting a respective channel of said dual channel amplifier to a respective speaker;
an independent electrical power source mounted in said body;
means in said body for connecting said electrical source to said dual channel amplifier;
audio input means mounted in said body and adapted to be connected to an external audio source;
means in said body for connecting said audio input means to said amplifier; and
a jacket encasing said body and having an opening aligned with said audio input means whereby said audio input means is readily accessible through said opening.

5. The speaker pillow of claim 4 wherein said independent electrical source comprises at least one electrical storage battery.

6. The speaker pillow of claim 5 wherein said two acoustical chambers are formed in the upper surface, each of said chambers being spaced an equi-distance on either side of the middle of said upper surface with their respective longitudinal axes being angled upwardly and inwardly toward said middle of said upper surface.

7. The speaker pillow of claim 6 wherein said soft, resilient material is comprised of foam rubber.

8. A speaker pillow comprising:
a body formed of soft, resilient material;
speaker means mounted in the body;
means for amplifying an audio signal mounted in the body and connected to the speaker means;
an independent electrical power source mounted in the body and connected to the amplifying means for powering same;
audio input means mounted in the body and connected to the amplifying means, the input means adapted to be connected to an audio source; and
a jacket encasing the body.

FIG. 1

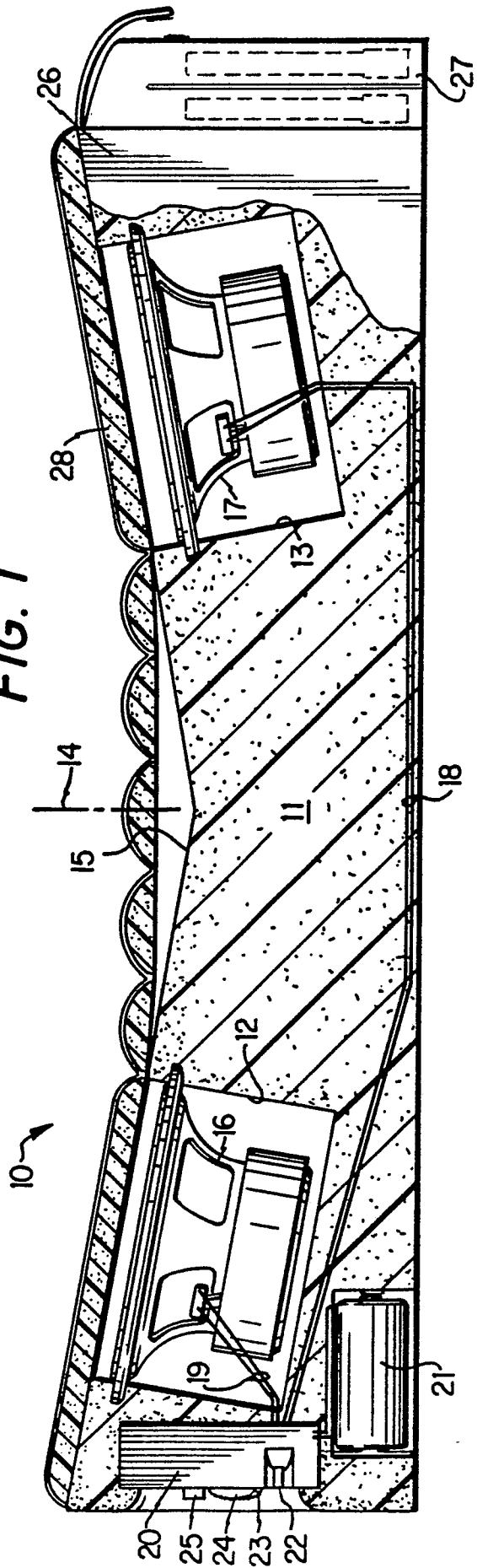


FIG. 2

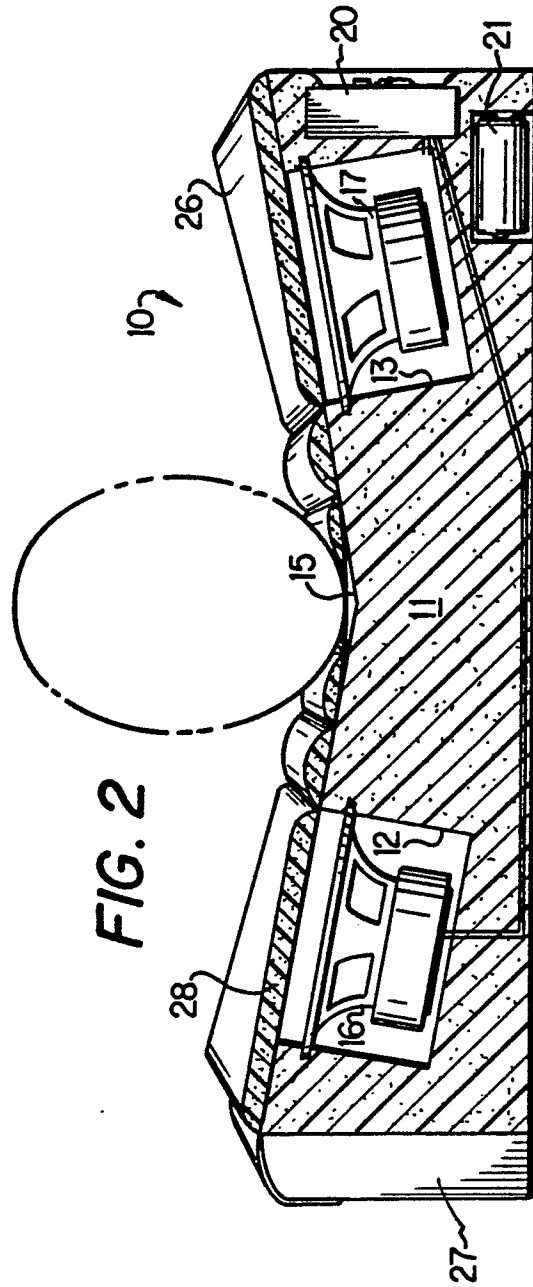


FIG. 3

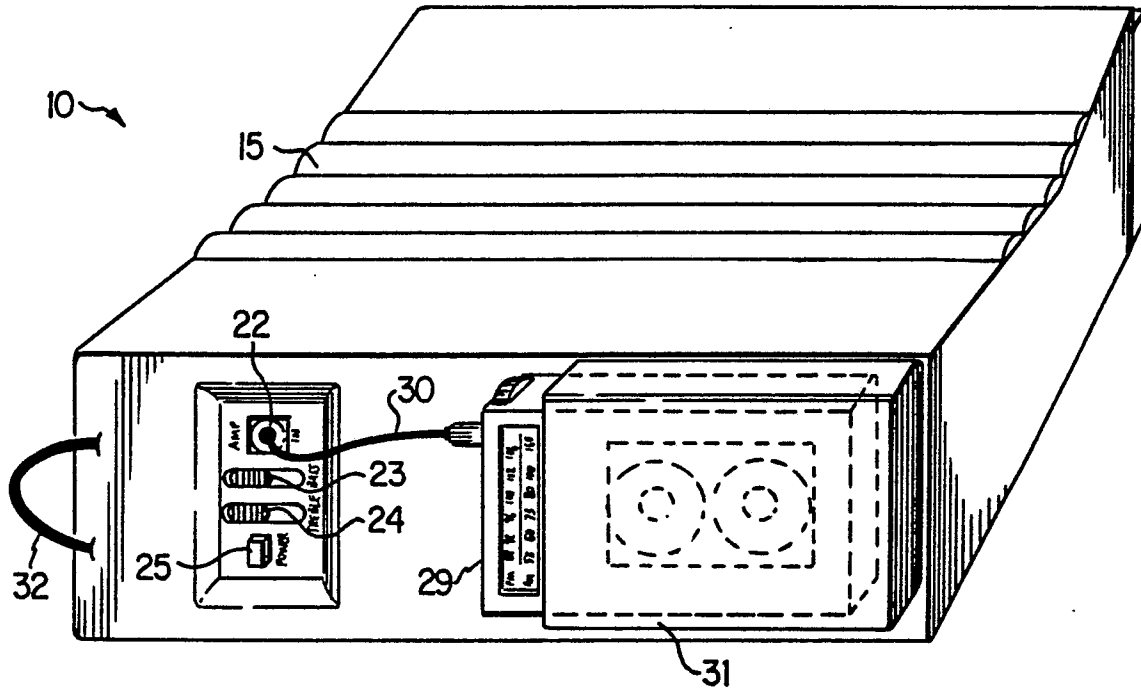


FIG. 4

