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REVERBERATION LOUDSPEAKER

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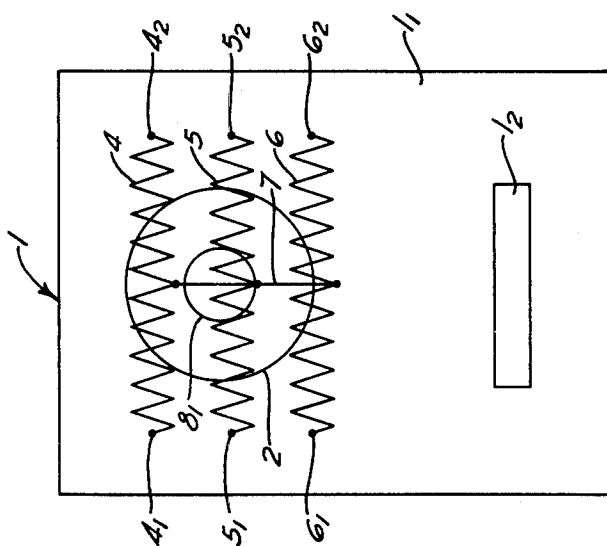


Fig. 1

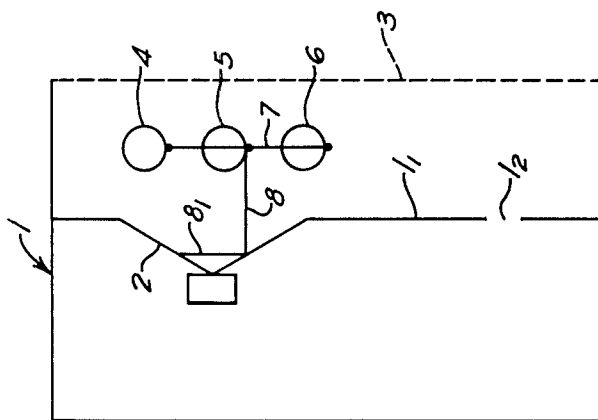


Fig. 2

1

3,149,692

**REVERBERATION LOUDSPEAKER**

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863,727, Patent 1,291,272

4 Claims. (Cl. 181-27)

One of the objects of the invention is to provide a method enabling the vibrations of the diaphragm of a loudspeaker to be maintained, and thus obtain the required re-echoing or echoing effect.

Another object of the invention is to produce a re-echoing loudspeaker in which the vibrations of the loudspeaker are maintained without appreciably increasing the inertia of this diaphragm.

Other objects and advantages of the invention will be revealed by the following description and the attached drawings, in which:

FIGURE 1 shows a diagrammatical section of a re-echoing loudspeaker according to the invention,

FIGURE 2 is a right-hand view of FIGURE 1.

The re-echoing loudspeaker shown in FIGURE 1 consists of a wooden box 1 or one made of similar material, of which one of the faces 1<sub>1</sub> comprises an aperture around which a diaphragm 2 of the loudspeaker is fixed. The face 1<sub>1</sub> also has an aperture 1<sub>2</sub> intended to permit the air contained in the box 1 to circulate freely when the diaphragm is maintained in vibration. This arrangement thus enables a cause of damping the vibrations of the loudspeaker to be avoided. In front of the wall of the box 1 and at a certain distance from this wall a canvas 3 is stretched across the box of the loudspeaker.

The device enabling the re-echoing of sounds to be produced consists of three springs 4, 5, 6 which are each attached by their ends 4<sub>1</sub>-4<sub>2</sub>, 5<sub>1</sub>-5<sub>2</sub> and 6<sub>1</sub>-6<sub>2</sub> to supports (not shown) fixed on the wall 1<sub>1</sub> of the box 1.

These three springs 4, 5, 6 are connected to each other at their middle part by a metal rod 7. These three springs 4, 5, 6 are also connected to the diaphragm 2 of the loudspeaker by a metal rod 8, which is attached at one of its ends to the rod 7 and thus to the three springs.

The other end of the rod 8 is bent into ring shape 8<sub>1</sub> and fixed to the diaphragm 2 of the loudspeaker by glueing or other means. This ring 8<sub>1</sub> forms the resonance ring which transmits the vibrations of the diaphragm to the springs, these vibrations of the diaphragm being thus maintained by the vibrations of the springs.

The characteristics of these springs (section of the wire, number of turns per centimeter, kind of metal and

2

the like) as well as the tension of these springs should be selected according to the effect required.

This device thus enables a re-echoing loudspeaker of great strength to be obtained in a simple manner.

Obviously, the invention is not restricted to the above-mentioned examples of embodiments, for which other alternatives could be provided without going outside of the scope of the invention for that purpose.

What I claim is:

1. A reverberation loudspeaker comprising a box provided in one wall with an opening, a loudspeaker diaphragm inside the box connected at its edge to said wall around said opening, a substantially straight coil spring outside said wall extending across said opening, means supporting the opposite ends of the spring, and means connecting the middle part of the spring to said diaphragm for transmitting vibrations of the diaphragm to the spring.

2. A reverberation loudspeaker comprising a box provided in one wall with an opening, a loudspeaker diaphragm inside the box connected at its edge to said wall around said opening, substantially straight and parallel coil springs outside said wall extending across said opening, means supporting the opposite ends of each spring, means rigidly connecting the middle parts of the springs, a rod rigidly connecting said diaphragm with said middle parts of the springs.

3. A reverberation loudspeaker comprising a box provided in one wall with an opening, a loudspeaker diaphragm inside the box connected at its edge to said wall around said opening, substantially straight and parallel coil springs outside said wall extending across said opening, means supporting the opposite ends of each spring, a rod rigidly connecting the middle parts of the springs, a resonance ring secured to the diaphragm concentrically therewith, and a rod rigidly connecting said ring with said first-mentioned rod.

4. A reverberation loudspeaker comprising a support, a loudspeaker diaphragm connected to said support, and at least one straight spring extending across the diaphragm, the spring being connected by both ends to the support and by its middle point to said diaphragm, whereby vibrations of the loudspeaker diaphragm will be transmitted mechanically to the spring and maintained thereby.

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