Oct. 8, 1929. P. A. ROBBINS 1,730,529

SOUND ABSORBENT SHIELD FOR WALLS OF STUDIOS AND THE LIKE

Filed Nov. 30, 1928

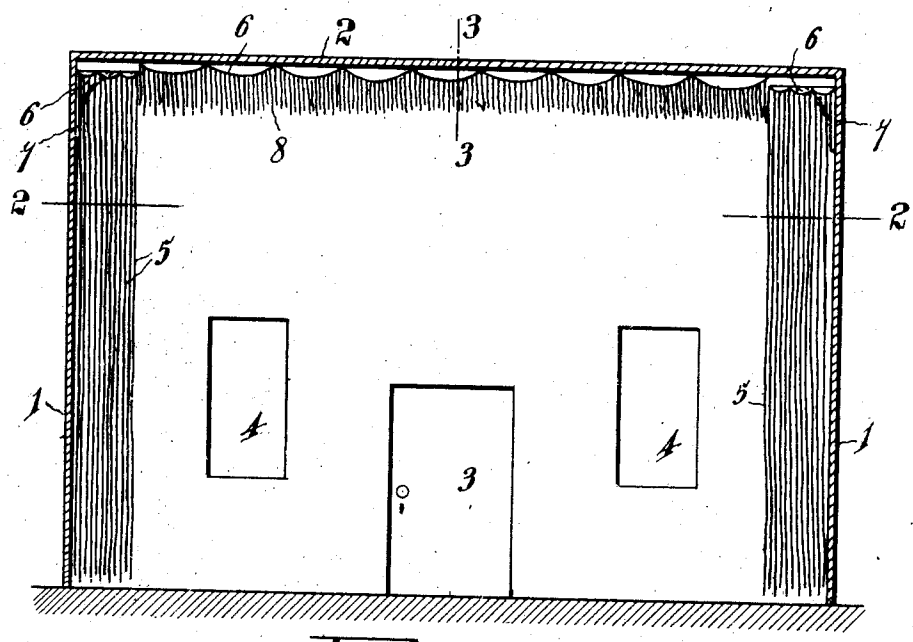


Fig. 1.

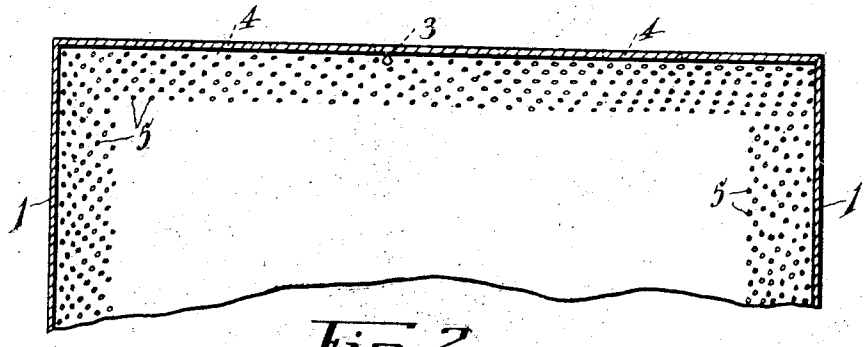


Fig. 2.

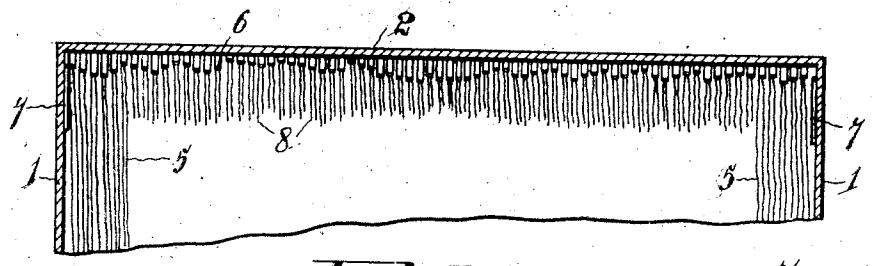


Fig. 3.

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UNITED STATES PATENT OFFICE

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SOUND-ABSORBENT SHIELD FOR WALLS OF STUDIOS AND THE LIKE

Original application filed September 14, 1927, Serial No. 219,548, and in Canada August 17, 1927. Divided and this application filed November 30, 1928. Serial No. 322,896.

This application is a division of my copending application 219,548, filed September 14th, 1927.

In the arts of broadcasting sounds electrically through the ether and recording sounds phonographically, it is desirable for satisfactory results that there shall be no interference by extraneous sounds or by echoes or reverberations within the studios where the sounds originate.

It is customary to hang cloth drapes upon or in front of the studio walls, or to cover the walls and ceiling with sound absorbing fabrics which are usually of a soft texture. Such fabrics present flat surfaces and though more or less efficient as sound-absorbents, they reflect some sound waves.

My invention consists in suspending loose strips such as threads or strings or yarns or cords or ropes or tapes from brackets along the tops of the walls, thus shielding the walls from sound waves by a barrier of such loose strings or yarns or cords or ropes or tapes. The barrier elements may be hung as close together as the conditions demand, and they may be so suspended from the walls so as to avoid any semblance of forming flat surfaces. In the preferred arrangement a plurality of rows or series of said strips, more or less irregular, are interposed between the walls of the chamber and its interior.

The elements of my invention do not possess flat reflecting surfaces individually nor do they form flat reflecting surfaces collectively. Each element hangs freely and reacts freely and independently of others to the influence of sound waves and the barrier of spaced and staggered strips breaks up and absorbs the sound waves just as fringes of grass or reeds along the borders of lakes and rivers flatten out and quell the water waves which impinge upon them.

To avoid the reflection of sound waves from the ceilings of studios or rooms I hang numerous strips such as threads or strings or yarns or cords or ropes or tapes with their lower ends free and I make the elements of different and various lengths so that their lower ends shall not collectively form a semblance of flat reflecting surfaces. The sound waves become immeshed in the hanging elements and are absorbed in doing work upon the hanging structure.

One embodiment of the invention is shown in the accompanying drawings, which are mainly diagrammatic, and in which

Fig. 1 is a vertical section of a studio constructed in accordance with my invention;

Fig. 2 a horizontal section on the line 2—2 in Fig. 1; and

Fig. 3 a vertical section of part of the studio on the line 3—3 in Fig. 1.

In the drawings like numerals of reference indicate corresponding parts in the different figures.

The walls 1 and top 2 of the studio are of any ordinary construction. A door 3 and windows 4 are provided as may be required.

Around the walls of the room are hung the strips 5, preferably of soft flexible material. These strips are supported from their upper ends by any suitable means. A convenient means is to form them as fringes connected by suitable tapes such as 6, which may be either secured to the ceiling or to brackets 7 positioned adjacent the ceiling. The strips are preferably positioned in a plurality of rows, as shown in Fig. 2, in such a manner that the strips of one row are in staggered relationship to the strips of adjacent rows. With such an arrangement the inner surface of the shield so formed does not present a flat reflecting surface and the sound waves are absorbed before the waves reach the walls of the chamber.

Similar fringes or strips 8 are secured to the ceiling so that the strips are closely spaced in any direction, the strips being preferably of different length so as to present an irregular under surface, if such it may be called.

In Fig. 1 of the drawings, for the sake of

clearness, the shield in front of the far wall of the studio is omitted.

What I claim as my invention is:

1. A studio in which sounds may be produced for record or translation comprising a chamber, and a sound absorbent shield formed of numerous closely spaced narrow strips arranged in a plurality of series spaced from one another and from an interior surface of the chamber.

2. A studio in which sounds may be produced for record or translation comprising a chamber, and a sound absorbent shield formed of numerous closely spaced narrow strips of soft, flexible material arranged in a plurality of series spaced from one another and from an interior surface of the chamber.

3. A studio in which sounds may be produced for record or translation comprising a chamber and a sound absorbent wall shield formed of numerous closely spaced narrow strips arranged in a plurality of rows spaced from one another and the walls of the chamber and hung in a vertical position from their upper ends.

4. A studio in which sounds may be produced for record or translation comprising a chamber and a sound absorbent shield formed of numerous closely spaced narrow strips of soft flexible material supported by their upper ends adjacent the walls.

5. A studio in which sounds may be produced for record or translation comprising a chamber and a sound absorbent ceiling shield formed of numerous closely spaced narrow strips hung in a vertical position below the ceiling.

6. A studio in which sounds may be produced for record or translation comprising a chamber and a sound absorbent ceiling shield formed of numerous closely spaced narrow strips of soft, flexible material hung in a vertical position below the ceiling.

7. A studio in which sounds may be produced for record or translation comprising a chamber and a sound absorbent ceiling shield formed of numerous closely spaced narrow strips hung in a vertical position below the ceiling, the lower ends of the strips being positioned at different distances from the floor level.

8. A studio in which sounds may be produced for record or translation comprising a chamber and a sound absorbent ceiling shield formed of numerous closely spaced narrow strips of soft, flexible material hung in a vertical position below the ceiling, the lower ends of the strips being positioned at different distances from the floor level.

9. A studio in which sounds may be produced for record or translation comprising a chamber and a sound absorbent shield formed of numerous closely spaced narrow strips supported in a vertical position and positioned at different distances from the wall and in staggered relationship.

10. A studio in which sounds may be produced for record or translation comprising a chamber and a sound absorbent shield formed of numerous closely spaced narrow strips of soft, flexible material supported in a vertical position and positioned at different distances from the wall and in staggered relationship.

Signed at Highland Park, Ill., this 15 day of November, 1928.

PERCY A. ROBBINS.