April 2, 1929. R. H. SEER 1,707,686

COMBINATION RADIO SPEAKER AND ELECTRIC LIGHT FIXTURE

Filed Feb. 27, 1928

Fig. 1

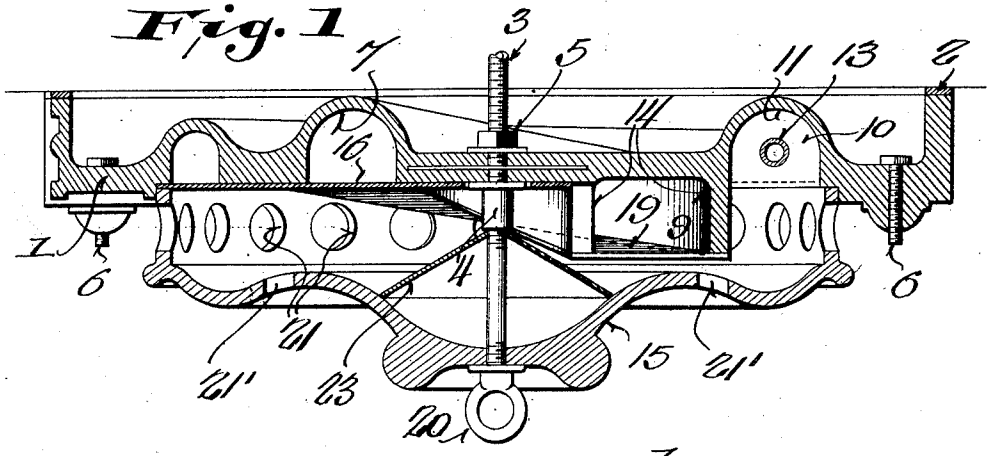
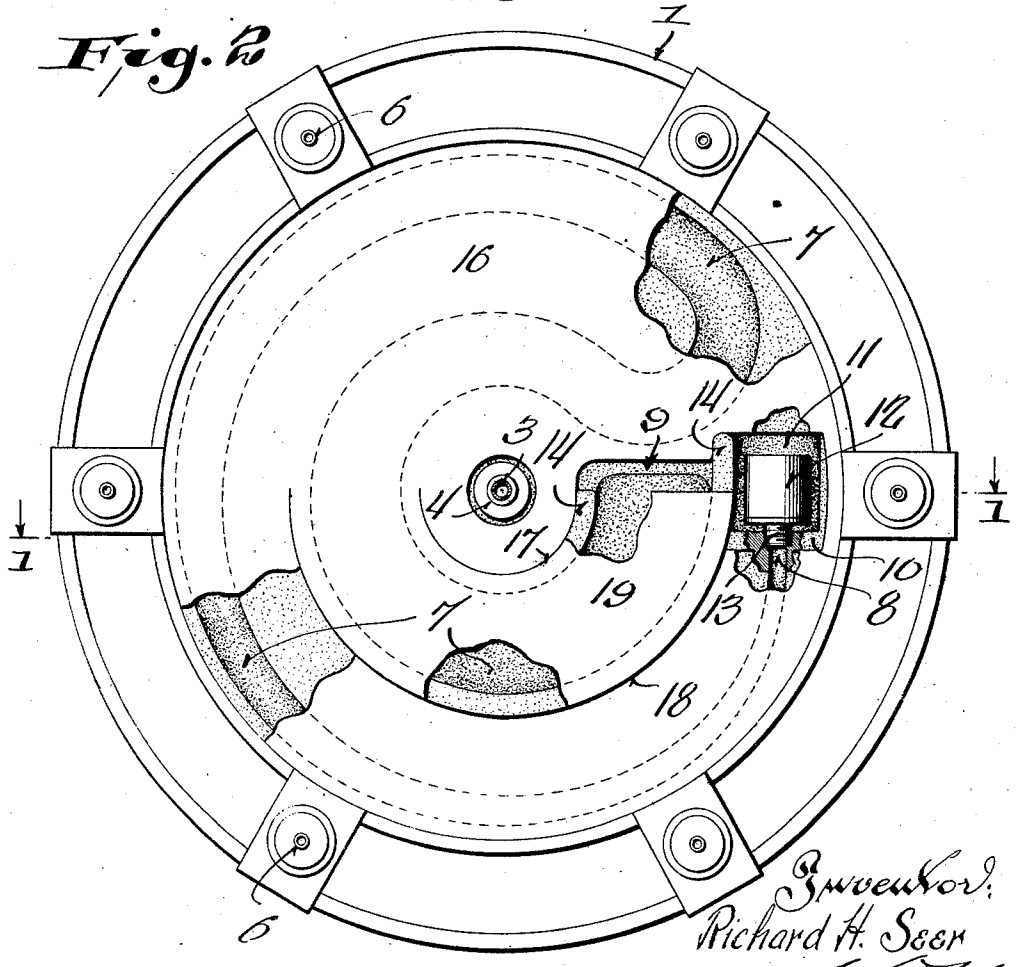


Fig. 2



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UNITED STATES PATENT OFFICE.

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COMBINATION RADIOSPEAKER AND ELECTRIC-LIGHT FIXTURE.

Application filed February 27, 1928. Serial No. 257,502.

This invention pertains to a combination radio loud speaker and electric light fixture, and has primarily for its object to provide a novel structure of lighting fixture which serves as an amplifier for the sound emitted from a reproducing element positioned therein.

A more specific object is to provide a fixture of the foregoing character, wherein a circuitous passage, of maximum length, is provided for the traverse of the sound waves, thus insuring the maximum in tone quality.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the novel construction, combination and arrangement of parts substantially as hereinafter described and more particularly defined by the appended claims, it being understood that such changes in the precise embodiment of the herein disclosed invention may be made as come within the scope of the claims.

In the accompanying drawings is illustrated one complete example of the physical embodiment of the present invention constructed according to the best mode so far devised for the practical application of the principles thereof.

Figure 1 is a transverse section through a fixture constructed in accordance with the present invention, and

Figure 2 is a bottom plan view with parts broken away and in section to more clearly illustrate the structural details.

While the present invention is illustrated as applied to a ceiling type of fixture, it will be evident as the description proceeds that the invention is equally applicable to a suspended fixture.

Referring now more particularly to the accompanying drawings, the numeral 1 designates a circular fixture base provided with a vertical, peripheral flange adapted to abut the ceiling, and in order to prevent vibration of the base and deaden the sound transmitted from the same, it is proposed to insert a padding 2 of felt, or other soft material, between the annular flange of the base and the ceiling. The base is secured to the ceiling in the conventional manner, by means of a threaded stem 3 passing through the center of the base and adapted to be secured to an outlet nipple (not shown), or other form of fixture. The base is supported on the threaded stem 3 by a flanged sleeve 4, and may be clamped in adjusted position by a lock nut 5.

In actual practise it is proposed to form the fixture by casting the same of fibrous and plastic composition, such as is generally employed in ornamental fixtures of this type. In the present instance, material of this general nature lends itself advantageously to the present structure, in that the sound passage is formed or cast into the fixture, and it is well known that a fibrous composition material prevents excessive vibration and metallic tone of the sound waves.

At desired intervals around the base, tubular threaded stems 6 may be cast into the base for the reception of ornamental light sockets. These are preferably placed adjacent the peripheral edge of the base, to permit a maximum space for the formation of the amplifying means.

As best shown in Figure 2, the bottom face of the base 1 has formed therein an inverted trough 7 of circuitous shape and extending from a restricted throat 8 to an inverted open mouth 9. In order to obtain the maximum length of trough, the same follows the circular contour of the base and then doubles back upon itself to the discharge mouth positioned closely adjacent the center of the base, thus resulting in a trough of approximately twice the length of the outer stretch, and avoiding abrupt obstruction of the sound waves.

Adjacent the throat end 8 is a transverse partition 10 adjacent which a recess 11 is formed for the reception of a reproducing unit 12 provided with a threaded extension 13 screwed into the partition 10 and communicating with the trough.

As best shown in Figure 1, the top of the trough 7 is inclined downwardly to terminate flush with the face of the base at the mouth 9, and depending from the face of the base are the spaced walls 14, arcuate in contour and gradually inclined downwardly to deliver the sound waves on a plane in approximate vertical alinement with the outlet openings of the fixture, which arrangement further avoids abrupt objection of the sound waves and results in an even radial distribution of the same, through the annular outlets in the fixture to be hereinafter described.

That portion of the face of the base, in which the trough 7 is formed, is slightly recessed for the reception of a domed cover 15, which cover obscures the amplifying means

from view, thus giving the fixture the appearance of a conventional light fixture, and at the same time assisting in even distribution of the sound waves in all directions.

In order to close the trough 7 a plate of cardboard or fibre board is secured to the face of the base and engaged between the base and the dome 15. Preferably the cover 16 is cemented or otherwise permanently secured to the face of the base, thus preventing any possible escape of sound waves other than through the amplifying trough. The cover plate 16 is arcuately slit at 17 and 18 to form the tab 19 which is inclined downwardly and secured to the lower edges of the depending side walls 14, thus forming a closure for the mouth of the trough, as well as for that part of the trough formed in the face of the base.

The dome 15 is secured to the base by means of the nut 20 threaded on the lower end of the stem 3, and as shown in Figure 1 the vertical, peripheral wall of the cover is provided with annularly spaced outlet apertures 21 through which the sound waves are discharged in all directions.

From the foregoing it will be seen that a very simple fixture has been provided with sound amplifying means, at very little additional cost over that of the conventional types of fixtures, in that practically the only addition required is the loud speaking unit. It will be further appreciated that the present structure provides a maximum length of amplifying passage, with a very gradual taper and no abrupt obstruction to the sound waves, thus resulting in the most desirable tone quality and volume to the sound waves.

In order to prevent pocketing, with consequent obstructing of sound waves within the domed cover 15, it is proposed to provide a cone 23 engaging the central part of the cover 15 and held in position by the threaded stem 3. Thus the sound waves emitted from the mouth of the trough 8 will be deflected outwardly toward the peripheral openings 21 and to some extent through the openings 21′ formed in the face of the cover.

I claim:

1. A combination loud speaker and lighting fixture comprising a fixture base provided with a circuitous trough, a cover for said trough, and a reproducing unit communicating with one end of the trough, the opposite end of said trough being open.

2. A combination loud speaker and lighting fixture comprising a fixture base provided with a circuitous trough, a cover for said trough, a reproducing unit communicating with one end of the trough, the opposite end of said trough being open, and a dome cover secured to said base to house said trough and provided with spaced outlet apertures.

3. A combination loud speaker and lighting fixture comprising a fixture base of fibrous composition and having a circuitous trough formed therein, a cover for said trough, and a reproducing unit communicating with one end of the trough, the opposite end of the trough being open.

4. A combination loud speaker and lighting fixture comprising a fixture base of fibrous composition having a circuitous trough formed in the face thereof, a cover for said trough, a reproducing unit communicating with one end of said trough, the opposite end of said trough being open, and a domed cover secured to the face of said base to house said trough and provided with spaced outlet apertures.

5. A combination loud speaker and lighting fixture comprising a fixture base of fibrous composition having a circuitous trough formed in the face thereof, a reproducing unit communicating with one end of said trough, the opposite end of said trough being open and extending below the face of said base, a cover for said trough, and a domed cover secured to the face of said base to house said trough and provided with annularly spaced outlet apertures positioned in a horizontal plane with the open end of said trough.

In testimony that I claim the foregoing I have hereunto set my hand at Milwaukee, in the county of Milwaukee and State of Wisconsin.

RICHARD H. SEER.