Nov. 27, 1928. 1,692,994

F. MATTIS

RADIO LOUD SPEAKER

Filed Feb. 11, 1926

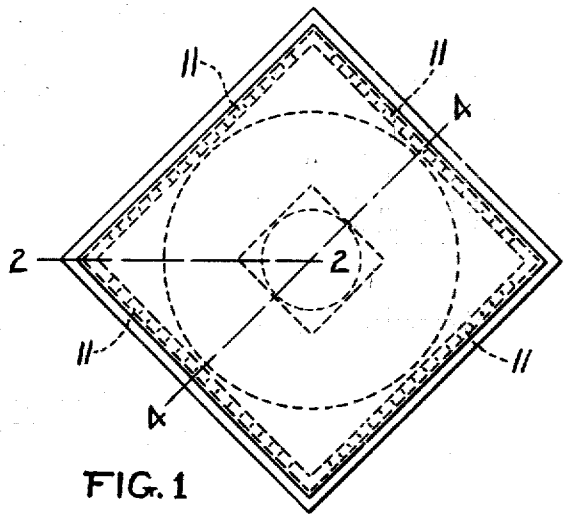


FIG. 1

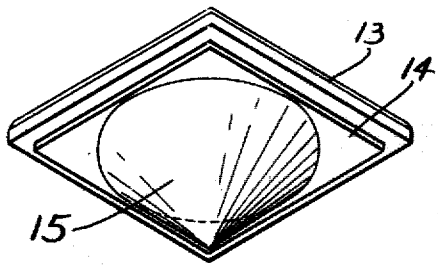


FIG. 3

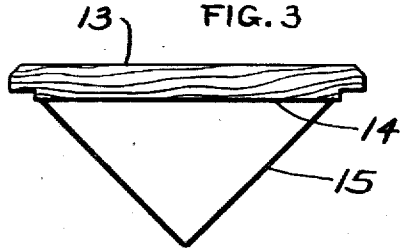


FIG. 4

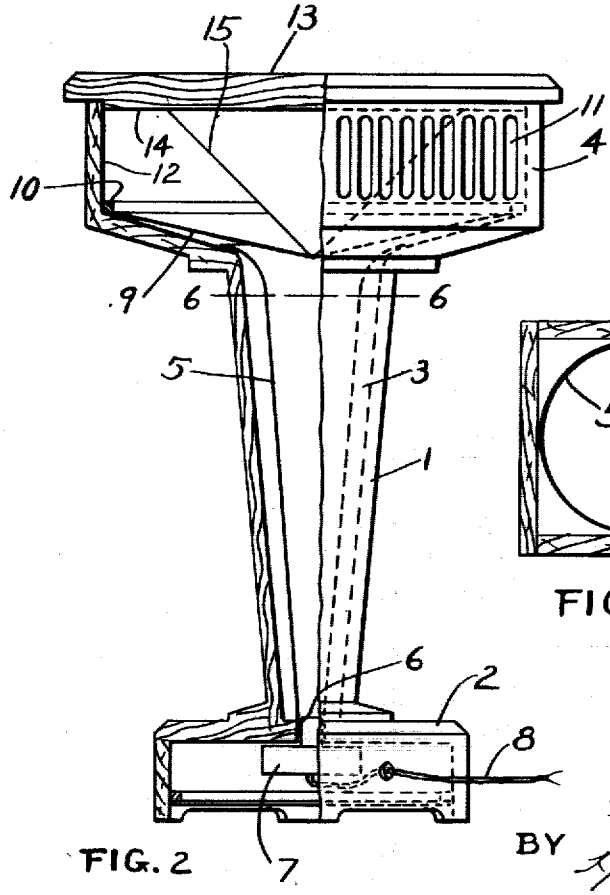


FIG. 2

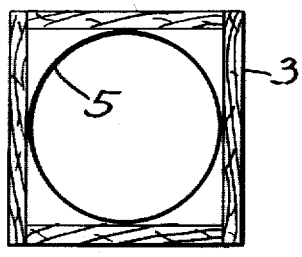


FIG. 6

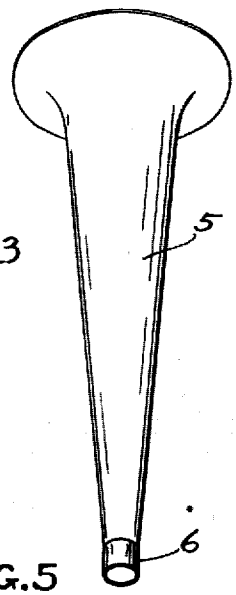


FIG. 5

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HIS ATTORNEY

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UNITED STATES PATENT OFFICE.

FRANK MATTIS, OF DAYTON, OHIO.

RADIO LOUD SPEAKER.

Application filed February 11, 1926. Serial No. 87,659.

This invention relates to new and useful improvements in radio loud speakers.

It is the principal object of my invention to provide for radio instruments and the like, a loud speaker having four apertured sides through which the sound from within is emitted in pure and distinct tones.

It is another object of my invention to embody such a four-way loud speaker in a pedestal unit which is not only an attractive article of furniture, but which is adapted to form the support for a lamp or other object.

Other important and incidental objects will be brought out in the following specification and particularly set forth in the subjoined claims.

In the accompanying drawings illustrating my invention, Figure 1 is a top plan view of my four-way loud speaker. Figure 2 is a side view of the same, partly in section on the line 2—2 of Figure 1. Figure 3 is a perspective view of the under side of the sounding head, showing the conical deflector thereon. Figure 4 is a sectional view of the same taken on the line 4—4 of Figure 1. Figure 5 is a perspective view of the pedestal sound tube. And Figure 6 is an enlarged cross-sectional view taken through the pedestal unit on the line 6—6 of Figure 2.

Referring to the accompanying drawings for a detailed description of the form of embodiment of my invention illustrated therein, the numeral 1 designates a pedestal unit consisting of a hollow base 2, a hollow tapering upright 3 mounted thereon and a speaker such as the four-sided sounding box 4 at the top. The entire unit may be made integral and is constructed of attractive, well seasoned wood.

Fitted in the hollow upright 3 of the pedestal unit 1, is a tapering sound tube 5 which is preferably constructed of fibrous material. At its upper end the tube 5 preferably flares outwardly to rest upon the inclining bottom of the sound box 4, and on its lower end there is fitted a collar or sleeve 6 for insertion through a hole in the middle of the top portion of the base 2. This tube 5 is preferably paraffined on its inside. Secured to the under side of the base top, directly below and in communication with the tube 5, is a conventional microphone unit 7 from which wires 8 lead through a hole in the side of the base to a radio instrument (not shown).

Mounted over the top of the sound tube 5 is a narrow mesh screen 9 which is glued or otherwise secured to a frame 10 that rests upon the bottom of the sound box 4 and against its sides. All four sides of the sound box 4 contain vertical sound-emitting slots 11 that are covered on the inside by a narrow mesh screen 12. (See Fig. 2.)

The sound box 4 is open at the top to permit the mounting thereon of a sounding head or cover 13 having a raised panel portion 14 on its underside to fit tightly against the screen 12 when said cover is placed upon the sound box. (See Figure 2.) Secured to the panel portion 14 of the cover 13 is a conical sound deflector 15 which, at its apex, bears against the middle part of the screen 9. (See Figures 2, 3 and 4.) This deflector is preferably made of fibrous material, and is adapted to throw or project outwardly through all four of the slotted sides of the sound box 4, the sound waves which pass through the screen 9 from the tube 5.

The above sound waves, which are generated by the microphone unit in the base 2, pass upwardly through the tube 5 to the top of it, where they sift through the screen 9 and by the latter are refined. Directly after these sound waves pass through the screen 9, they impact against the conical deflector 15 which projects them outwardly through all four of the screened and slotted sides of the sound box 4. Thus refined and deflected on the inside of the sound box 4 by the screen and deflecting elements just described, these sound waves issue forth from all four of its slotted sides in clear, pleasing and distinct tones.

I do not wish to be limited to the details of construction and arrangement herein shown and described, and any changes or modifications may be made therein within the scope of the subjoined claims.

Having described my invention, I claim:

1. A device of the type described, comprising a sound box having apertured side walls and a sound wave opening in its bottom, and a conical sound deflector in said sound box, tapering downwardly from points at its edge portion to a sharp apex within said sound wave opening.

2. A device of the type described, comprising an apertured-wall, sound box having a downwardly inclined bottom, a hollow pedestal upon which said sound box is mounted, a sound tube fitted in said hollow pedestal and flaring outwardly in its upper end for support upon the inclined bottom of said aper-

tured sound box, a flat panel mounted upon the top of said sound box and a conical sound deflector secured to the under surface of said flat panel with its apex projecting into the top of said sound tube for the purpose specified.

3. A device of the type described, comprising an apertured-wall, sound box having a downwardly inclined bottom, a hollow pedestal upon which said sound box is mounted, a sound tube fitted in said hollow pedestal and flaring outwardly in its upper end for support upon the inclined bottom of said apertured sound box, a screen secured to the bottom of said sound box over said sound tube, a flat panel secured over the top of said apertured sound box and a conical sound deflector secured in the under surface of said flat panel, with its apex engaging the middle portion of the screen within the upper part of said sound tube for the purpose specified.

4. A device of the type described, comprising a sound box having a sound-wave receiving opening, a sound deflector in said sound box over said opening, and a single screen covering said opening between the bottom of the sound box and the sound deflector.

5. A device of the type described, comprising a sound box having a sound-wave receiving opening in its bottom, a conical sound deflector within said sound box with its apex above said opening, and a narrow mesh screen covering said opening between the bottom of the sound box and the apex of the sound deflector.

6. A device of the type described, comprising a sound box having a sound-wave receiving opening in its bottom, a conical sound deflector within said sound box with its apex over said opening, a frame within said sound box around the conical end of said sound deflector, and a narrow mesh screen secured within said frame over the opening in the bottom of said sound box and engaged from above by the apex of said sound deflector.

7. A device of the type described, comprising a hollow pedestal unit, a sound box having apertured sides at the top of said unit, a tapering sound tube extending through the unit to the sound box, and a conical deflector in the sound box projecting into the top of the sound tube to project the sound outwardly in all directions through the apertures in the sides of the sound box.

8. A device of the type described, comprising a hollow pedestal unit, a sound box having four slotted sides at the top of said unit, a tapering sound tube extending through the middle part of said unit to the bottom of the sound box, a screen in the latter over the sound tube, and a conical deflector in the sound box with its apex engage the middle portion of said screen within the upper portion of the sound tube to project the sound waves that sift through the screen, outwardly through the four slotted sides of the sound box.

In witness whereof I have hereunto set my hand this 10th day of February, 1926.

FRANK MATTIS.