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M. FERAR ET AL

2,759,093

LIGHTING AND SOUND ABSORBING FIXTURE

Filed Dec. 28, 1953

3 Sheets-Sheet 1

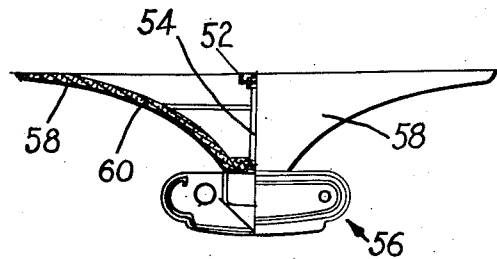
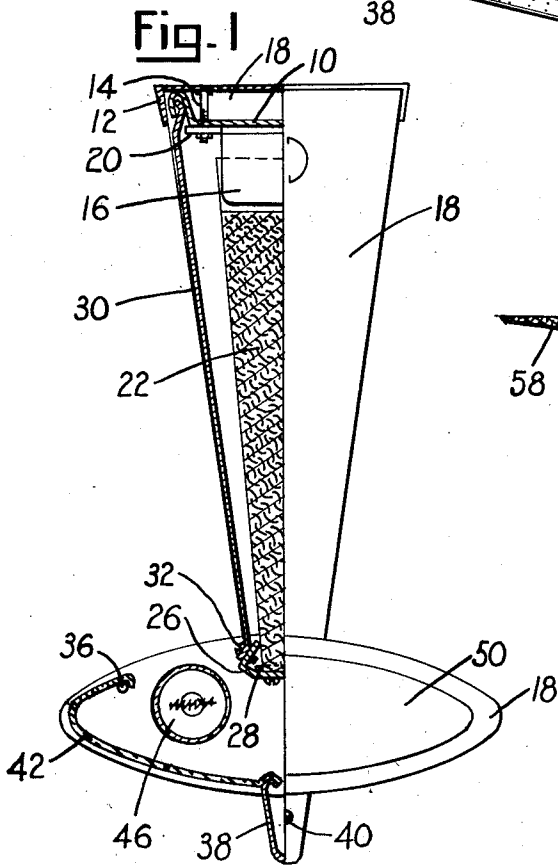
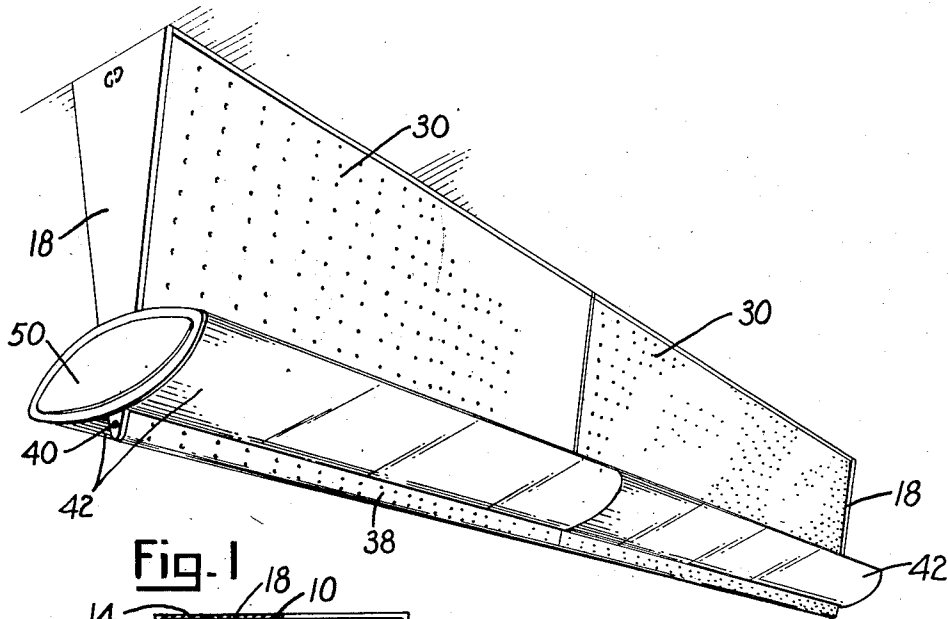


Fig. 2

Fig. 3

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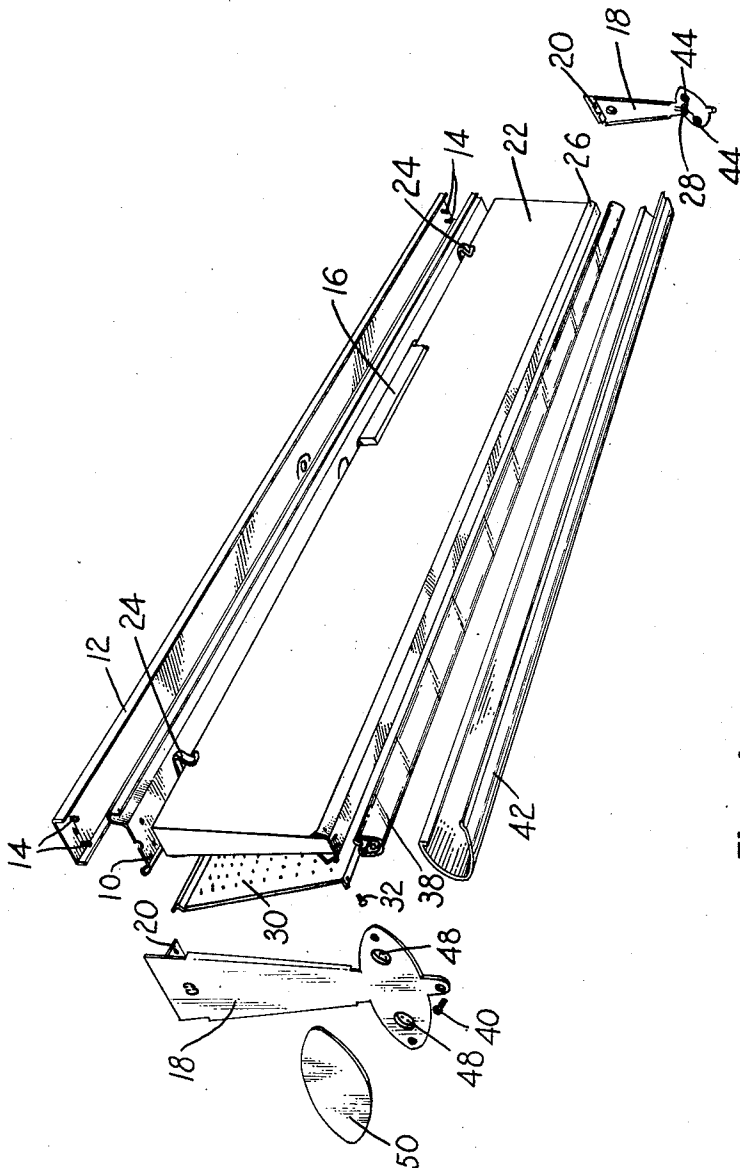
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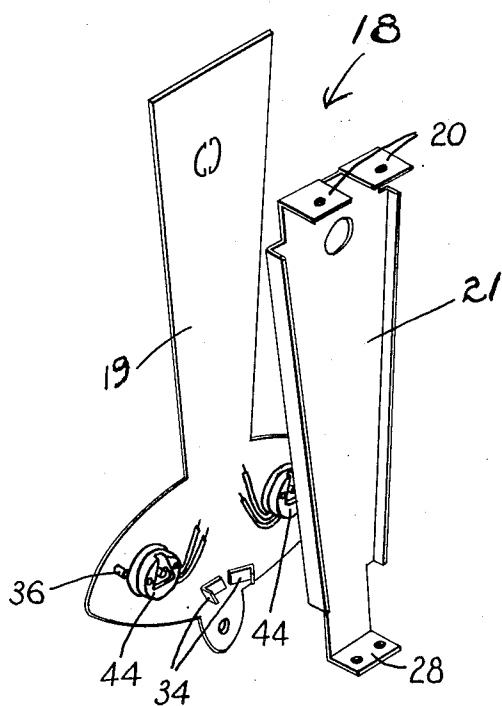


Fig. 5

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## LIGHTING AND SOUND ABSORBING FIXTURE

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Application December 28, 1953, Serial No. 400,582

1 Claim. (Cl. 240—2)

This invention relates to lighting fixtures and more particularly to lighting fixtures having acoustical properties.

An object of this invention is to integrate the lighting and acoustical facilities in a room in order to effect a substantial improvement in room environment.

Another object is to provide lighting and acoustical facilities which do not require expensive alterations of existing structures or extensive labor to install.

These and other objects, advantages and features are attained in accordance with the principles of this invention by integrating lighting and acoustical facilities in a unitary fixture. In the specific embodiments of the invention illustrated in the accompanying drawings, light sources are combined with acoustical members to provide a fixture having lighting and acoustical properties, the baffles of the acoustical members serving as reflectors for the light sources and being a definite part thereof.

Referring now to the drawings,

Figure 1 is a perspective view of one embodiment of a fixture of this invention.

Figure 2 is an end view partly in section of the fixture of Figure 1.

Figure 3 is an end view partly in section of another embodiment of a fixture of this invention.

Figure 4 is an exploded view of the fixture of Figure 1.

Figure 5 is an exploded view of an end plate used with the fixture of Figure 1.

In the specific embodiment of this invention shown in Figures 1, 2, 4 and 5, chassis 10 is attached to mounting plate 12 by bolts 14, the mounting plate 12 being attachable to a suitable mounting surface such as a ceiling or a conventional electrical outlet box as regularly provided for this service. The chassis 10, which serves as a wireway, has a ballast 16 mounted thereon. End-plates 18, each of which comprises plate 19 attached to plate 21 such as by spot welding for example, have mounting straps 20 projecting from the inner faces of plates 21 thereof, by means of which the end-plates are attached to chassis 10. A body of sound-absorbing material 22 such as glass fibers or cork for example, disposed beneath the chassis 10, between the end-plates 18 and positioned laterally by resilient clips 24 mounted on chassis 10, is seated on channel member 26. Channel member 26 is attached to and supported by mounting straps 28 on plates 21 of end-plates 18. The body of sound-absorbing material 22 is enclosed by a pair of baffles or side walls 30, each of which comprises a sheet of sound-transmitting material such as a perforated metal plate, one longitudinal edge of which interlocks with a

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longitudinal edge of chassis 10, the other longitudinal edge thereof being attached to channel member 26 by screws 32.

Each end-plate 18 (Fig. 5), which is provided with mounting straps 20 and 28 on plate 21 thereof, has a pair of tabs 34 and a pair of pins 36 projecting from plate 19 thereof. A channel-shaped sheet of sound-transmitting material such as perforated metal sheet 38 (Fig. 4) for example is hung on tabs 34 and is attached to end-plates 18 by screws 40. Light-diffusing panels 42 are supported along one of their longitudinal edges by the pins 36 projecting from the plates 19 of end-plates 18, the other of their longitudinal edges being seated on the longitudinal edges of the channel-shaped perforated metal sheet 38. Lamp holders 44 for supporting lamps 46 are mounted on the inside faces of plates 19 of end-plates 18, the outside faces thereof being counter-sunk at 48 to receive the screws which affix the lamp holders 44 to the end plates 18, and to permit flush mounting of decorative plate 50.

In the specific embodiment of this invention shown in Figure 3, mounting plate 52, which may be attached to a suitable mounting surface such as a ceiling, has a long bolt 54 depending therefrom at each end thereof. A lighting fixture 56, similar to the fixture shown in the U. S. Patents D. 160,417 and 2,525,556 for example, and a sheet of sound-transmitting material such as a perforated metal canopy 58 having a body of sound-absorbing material 60 disposed therein, are supported by the bolts 54, the canopy being disposed between the fixture 56 and the channel plate 52.

What we claim is:

A lighting fixture comprising: a mounting plate; a chassis attached to said mounting plate; a tapered chamber disposed beneath said chassis and supported therefrom, said chamber comprising end-plates attached to and depending from said chassis, a base member attached at its ends to said end-plates, and downwardly converging perforated metal side walls extending between said end-plates and attached to said chassis and said base member; a body of sound-absorbing material disposed in said chamber; two light sources, mounted on said end-plates, spaced from one another and spaced laterally from the lower longitudinal edges of said side walls whereby direct light from each light source is reflected downwardly by the face of the side wall adjacent thereto; and a second tapered chamber having downwardly converging perforated metal side walls mounted on said end plates and disposed beneath and in register with said first-mentioned tapered chamber whereby direct light from each light source is reflected downwardly by the face of the side wall of said second tapered chamber adjacent thereto.

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