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2,710,335	6/1955	Wong.....	240/9A
3,321,877	5/1967	Alexieff.....	52/28X
3,343,310	9/1967	Netz et al.....	52/28
3,372,270	3/1968	Quin et al.....	240/9
3,415,018	12/1968	Sutter.....	52/28

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[54] **SUPPORT FOR LUMINAIRE AND CEILING
PANELS**
3 Claims, 2 Drawing Figs.

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52/488, 240/9
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F21s 1/14
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484, 495, 144; 240/9, 9 A

[56] **References Cited**
UNITED STATES PATENTS
2,549,189 4/1951 Gabo..... **52/144X**

ABSTRACT: The ceiling is made of a plurality of square modules, each module containing an illuminating means. A support structure mounts a square frame member in the middle and above the grid members forming the lower plane of the ceiling. An illuminating means is mounted in the square frame to define the upper plane of the ceiling. Ceiling boards are rested against the grid members in the lower plane of the ceiling and the frame member in the upper plane of the ceiling to form a module. The module gives the appearance of a square assembly with a square lighting fixture mounted therein and four trapezoidal ceiling panels extending from the grid members of the square module to the square lighting fixture.

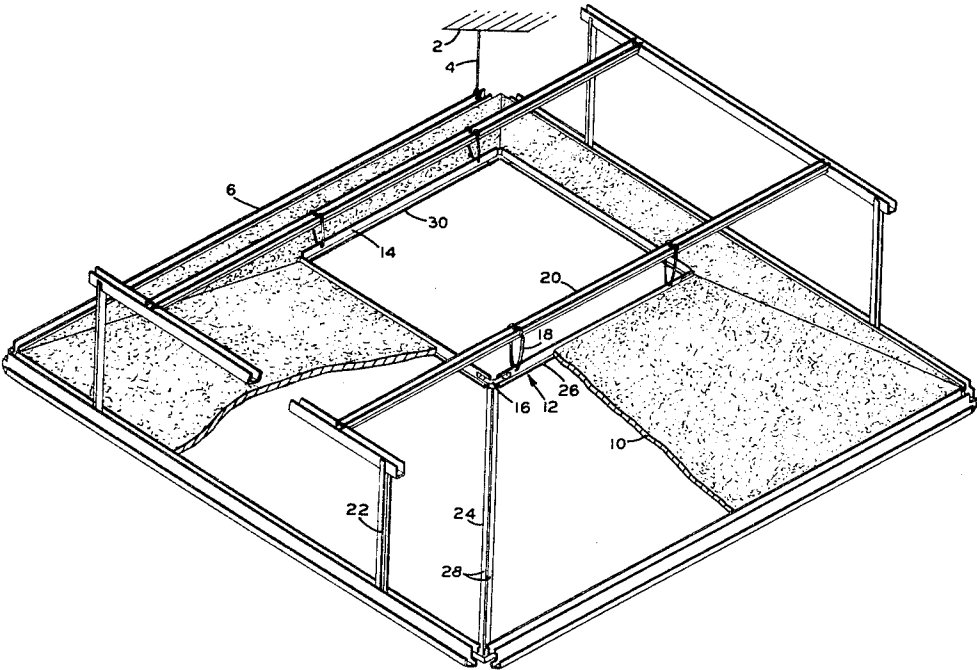
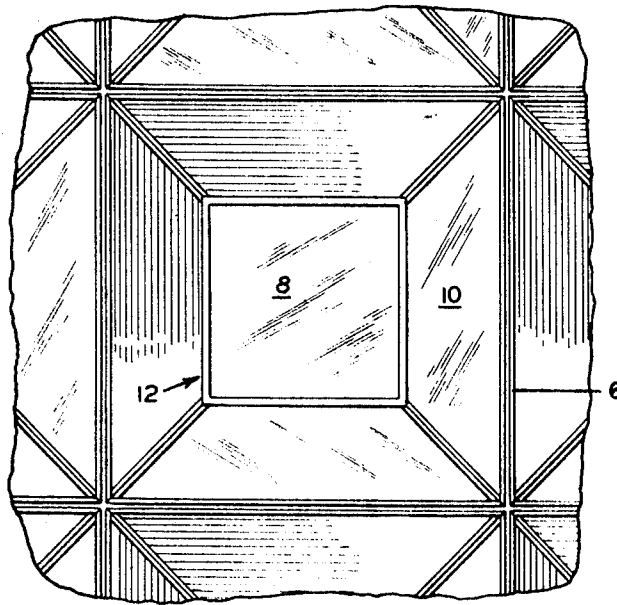


Fig. 1



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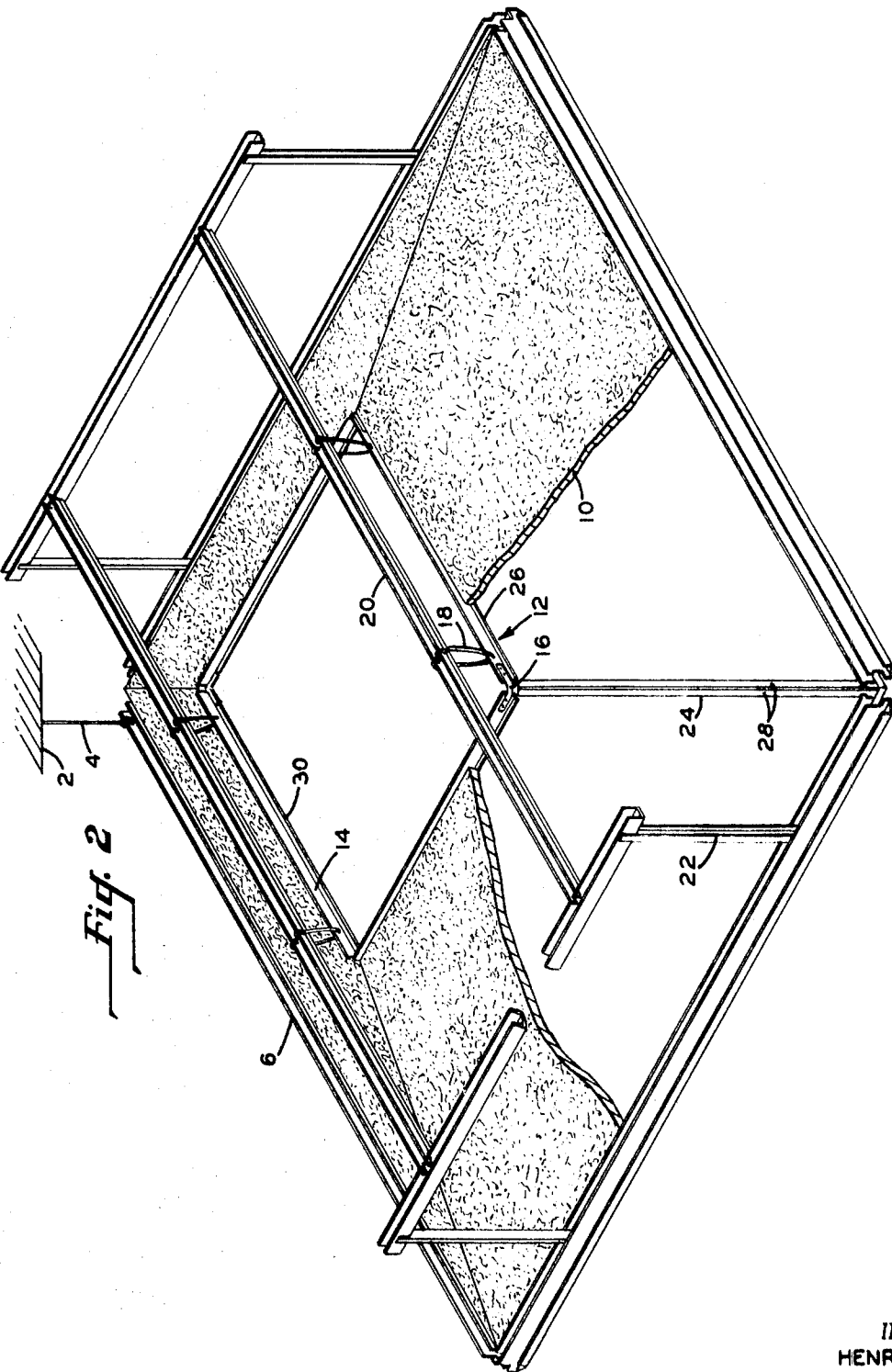


Fig. 2

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SUPPORT FOR LUMINAIRE AND CEILING PANELS

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to building structures and more particularly to a new and improved ceiling construction.

2. Description of the Prior Art

At present it is common practice to provide building spaces with suspended ceilings, the function of which is to conceal overhead structure and mechanical equipment, protect the structure from fire and absorb sound generated within those spaces. Such ceilings may also provide thermal insulation and function as an acoustical barrier to noise generated in adjacent rooms. Another common practice is to install lighting fixtures and ventilating outlets within suspended ceilings in a manner to conceal their housings, connecting conduits and ducts, and to present an overall decorative appearance when viewed from the room below. Heretofore, the assembly of suspended ceilings has been made by the use of separate rigid modules, such as that shown in U.S. Pat. No. 3,372,270, or onsite assembled units, such as shown in U.S. Pat. No. 3,321,877.

It is an object of the invention herein to provide an onsite assembled ceiling system that provides an attractive aesthetic appearance through the use of a unique support system which holds both the illuminating means and ceiling boards in position.

SUMMARY OF THE INVENTION

In accordance with this invention, the standard grid work for a suspended ceiling is mounted in a grid pattern to provide a plurality of square openings. Each of the square openings defines a module in which will be mounted an illuminating means. Mounted above the plane of the grid members forming the square module, there is positioned a smaller square unit which is supported by appropriate support members which rest upon the lower grid members. The upper smaller square module defines the upper plane of the ceiling. Within the upper square module there is mounted an illuminating means. A plurality of support members extend from the corners of the upper smaller square unit to the corners of the lower square member formed by the grid system. A plurality of trapezoidal boards are then placed in each square module with the lower edge of the trapezoidal boards resting upon the grid members, the upper edge of the trapezoidal member resting upon the support frame for the lighting fixture and the inclined edges of the trapezoidal board resting upon the support members joining the corners of the upper square unit and the lower square unit.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a plan view of a ceiling composed of a multiplicity of ceiling modules; and

FIG. 2 is a perspective view, partly broken away, of the support structure for the ceiling module.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The suspended ceiling herein is supported from the main structural ceiling 2 by use of conventional support means such as the guide wires 4. The wires extend between the structural ceiling 2 and the grid members 6. The grid members 6 are conventional grid members which are arranged in a gridlike pattern and four adjacent grid members are assembled in a square pattern, such as shown in FIG. 2.

In FIG. 1 there is seen a view of the suspended ceiling system when looking from the room up towards the ceiling.

The grid members 6 form the polygonal, preferably square, module with a lighting fixture 8 being positioned in the center of the square module and being raised above the plane of the grid members. The plane through the grid members constitutes a lower ceiling plane while the plane through the lighting fixture will constitute the upper ceiling plane. Trapezoidal-shaped ceiling boards 10 extend between the lower ceiling plane grid members and the upper ceiling plane lighting fixture.

Now referring to FIG. 2, there is shown the structure which supports the lighting fixture relative to the lower plane grid members 6. The lighting fixture is mounted in a support frame 12 which is positioned centrally of the square module and above the plane of the grid members. The support frame 12 is composed of four frame members 14 with corner braces 16 holding the frame members 14 in a polygonal, preferably square, configuration. Hangers 18 support the frame 12 relative to horizontal supports 20. Two parallel horizontal supports 20 are used to support the frame 12 in position. The supports 20 extend out over the grid members 6 and a square truss 22 is used to support each end of the support members 20. Consequently, it will be seen that through the use of supports 20 and 22 and wires 18, the support frame 12 is supported by the grid members 6 above the plane of the grid members 6 and centrally of the square module defined by the grid members 6.

Board molding 24 extends from the corners of the frame support 12 to the corners of the module defined by the grid members 6. These molding members 24 are utilized primarily to cover the space between two adjacent ceiling boards. The ceiling boards 10 are trapezoidal in shape and have their lower long base resting upon the grid members 6 and their upper short base resting upon a flange 26 of the frame member 14. The inclined sides of the trapezoidal boards 10 rest upon flanges 28 of the board molding 24. These trapezoidal panels 10 are lay-in units and can be readily removed for access to the area above the ceiling system. Flanges 30 on the frame members 14 are used to support the lighting fixture in position within the support frame 12.

What I claim is:

1. A suspended ceiling for use with a room having a main structural ceiling from which said suspended ceiling is to be suspended comprising a main grid assembly consisting of a plurality of grid members arranged in a polygonal configuration defining the lower plane of the suspended ceiling, smaller frame members being formed into a smaller polygonal configuration support frame and being positioned above the lower ceiling plane and centrally of the module formed by the grid members to form the upper ceiling plane, independent support means connected to the support frame in the upper ceiling plane and carried by the grid members in the lower ceiling plane for positioning the upper frame relative to the grid members and to carry the load placed on the upper frame, a plurality of trapezoidal ceiling boards being carried by the grid members and upper support frame, and a lighting fixture being mounted within the upper support frame constituting the upper plane of the ceiling system.

2. The ceiling system of claim 1 wherein the means supporting the support frame relative to the grid members is a plurality of truss structures resting upon the grid members and support members extending between the truss members and carrying the support frame.

3. The ceiling system of claim 2 wherein molding members extend from the corners of the support frame to the corners of the grid members forming the ceiling module to provide a decorative effect at the joint between two adjacent trapezoidal ceiling boards.