May 1, 1934. T. L. PFLUEGER 1,956,773

ILLUMINATED CEILING AND WALL

Filed Dec. 28, 1931 2 Sheets-Sheet 1

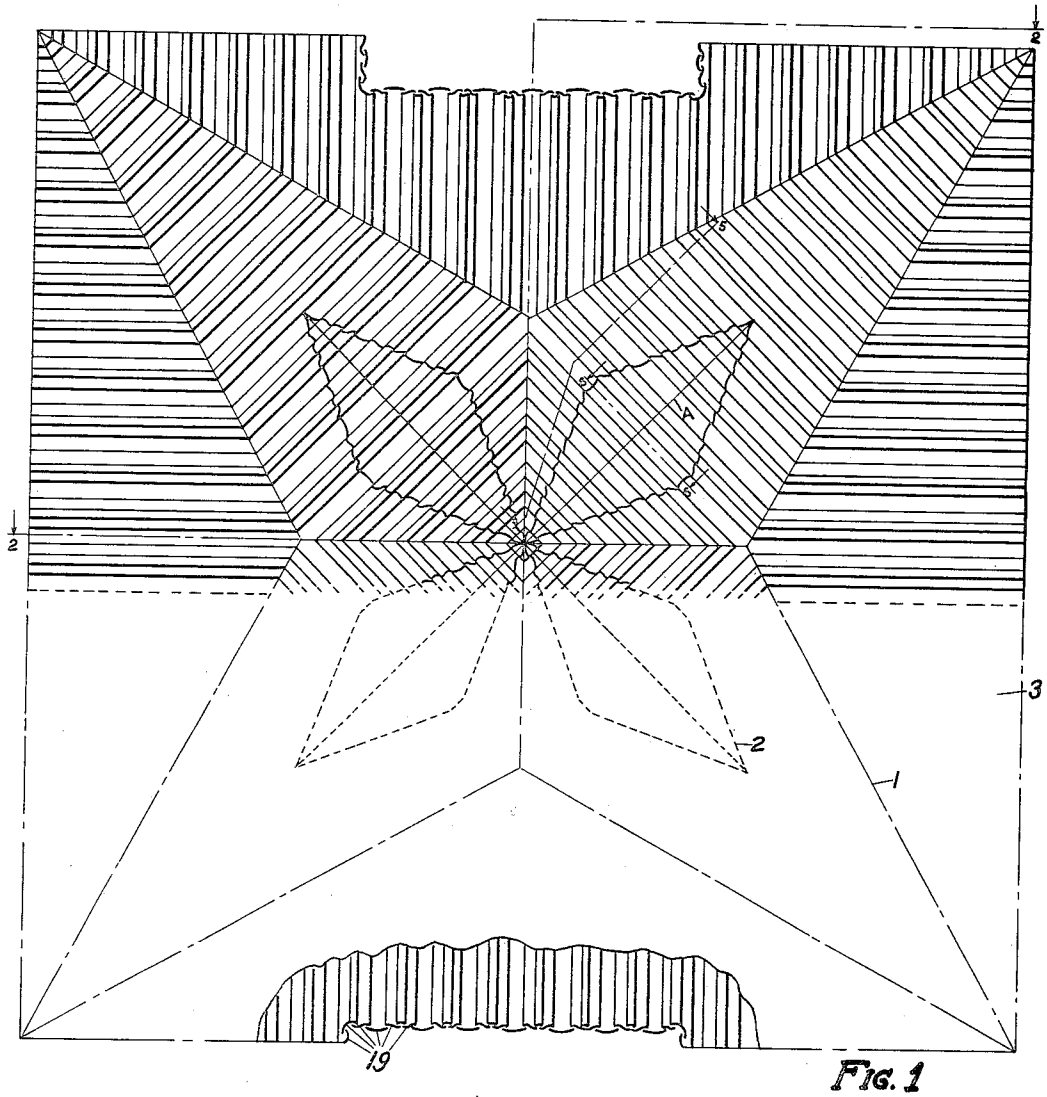


FIG. 1

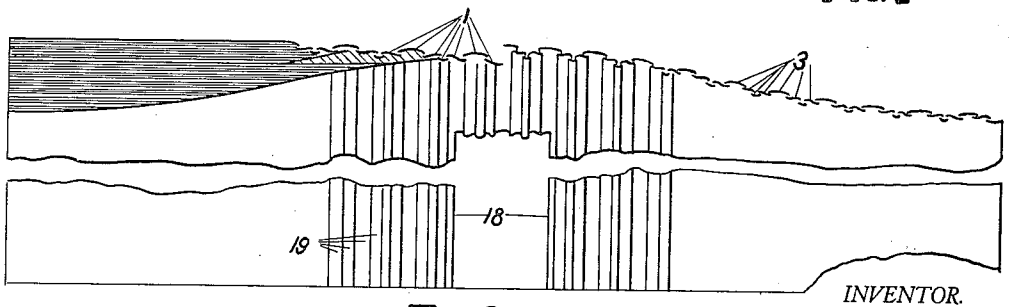


FIG. 2.

INVENTOR.
TIMOTHY L. PFLUEGER.
BY Miller, Boyken & Brickell
ATTORNEYS.

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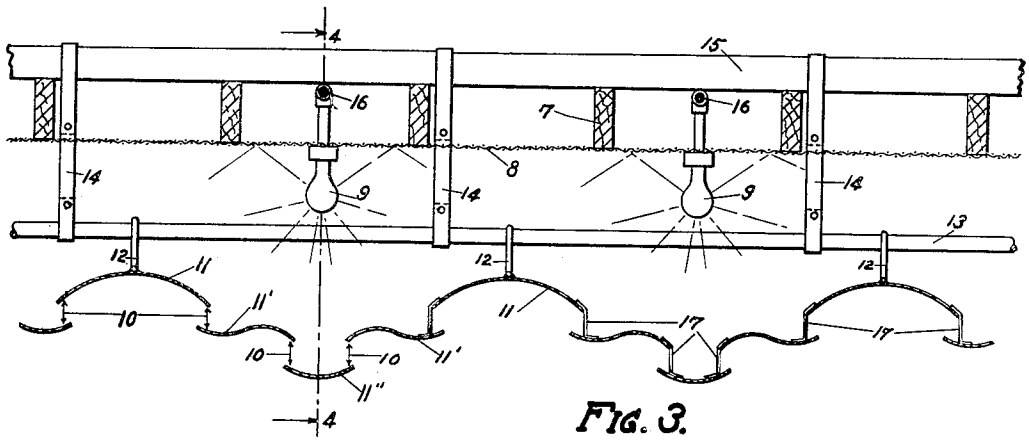


FIG. 3.

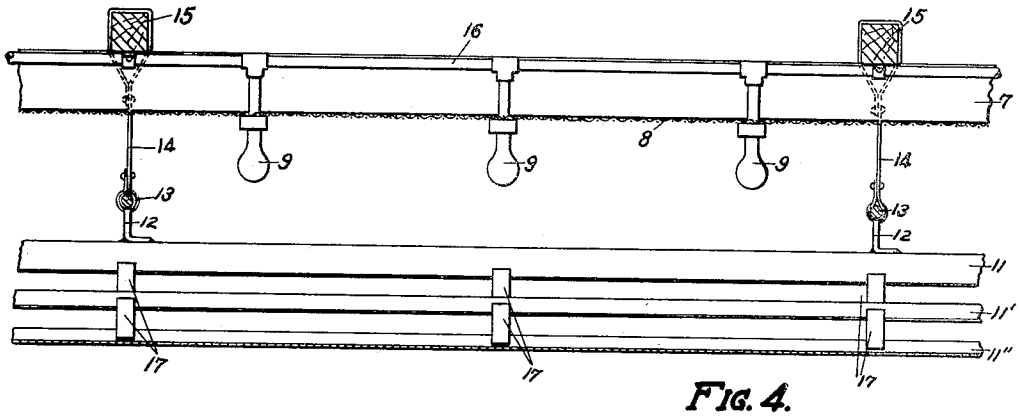


FIG. 4.

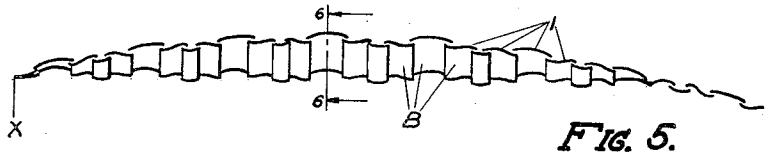


FIG. 5.

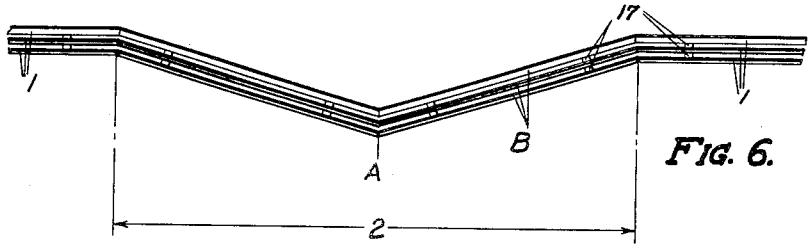


FIG. 6.

INVENTOR.
TIMOTHY L. PFLUEGER.
BY Miller Boyken & Brice
ATTORNEYS.

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UNITED STATES PATENT OFFICE

1,956,773

ILLUMINATED CEILING AND WALL

Timothy L. Pflueger, San Francisco, Calif.

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11 Claims. (Cl. 240—9)

This invention relates to ceiling and wall illumination and has for its objects a special construction for obtaining unusual and attractive effects in various colors on the ceilings and walls of large rooms such as theaters, halls, restaurants, and places of public gatherings generally. Special objects of the invention will appear in the following description and accompanying drawings.

In the drawings Fig. 1 is a view looking directly upward at a ceiling made in accordance with my invention.

Fig. 2 is an elevation of a wall of the room made in accordance with the invention and showing part of the ceiling of Fig. 1 in cross section as seen from the line 2—2 thereof.

Fig. 3 is a typical vertical cross section of a portion of the ceiling construction drawn to larger scale.

Fig. 4 is a vertical section of Fig. 3 taken along the line 4—4 thereof.

Fig. 5 is an enlarged vertical section of Fig. 1 extending from the center of the figure along the line and to the point designated 5.

Fig. 6 is a section through Fig. 5 taken along in line 6—6 thereof, or along the line 6—6 of Fig. 1.

Briefly described, the invention comprises suspending or supporting a continuous web of overlapping channels or fluted plates over the ceiling or wall area spaced several feet therefrom and providing spaced electric lights behind the plates to be reflected into the room through longitudinal crevices formed between the overlapping channels so that when illuminated by the lights the whole ceiling or wall will glow with soft parallel stripes of light. These stripes or bands of light are caused to change through various colors by changing the colors of the lights from time to time either manually or automatically.

A feature of the invention is that the overlapping channels take different directions when viewed in plan as in Fig. 1 so as to form various attractive figures—in this a four-pointed star 1 within which is a four-pointed leaf 2, the star being in a background 3 of various width parallel bands, also that the channels break into different levels and angles endwise as best indicated in Fig. 6, as well as change levels in the form of curves as shown in Fig. 5, all contributing to produce multitudinous designs of any desired variation fundamentally formed (when illuminated) out of subdued bands of light, thus constituting a false ceiling or wall formed of spaced overlapping channels in parallel planes, all spaced from the building ceiling or wall, and further divided into groupings of channels running in various directions, and further characterized by varying in plane both endwise as well as sidewise.

In the smaller scale figures of the drawing, the cross sectional representative of the channels or plates are shown as a single black line, as any other showing of such thin plates would be impracticable and could only be carried out in the scale of Fig. 3.

In further detail and with reference to Figs. 3 and 4 showing a typical section of the construction, 7 designates roof or ceiling supporting beams, (or they may be studs or other building wall construction), and which are covered over with a web 8 of light-reflecting material here indicated as a sheet of cloth which may be painted white, or this reflecting surface may be of sheet metal, or the plastered wall of the building or other reflective surface for throwing light from spaced electric lamps 9 downward or away and through the longitudinal crevices 10 of the overlapping channel plates 11, 11', 11'', etc., which are suspended or supported at some distance (from two or three feet to as much as six or eight feet in some cases) away from the reflecting surface 8.

These channels are generally supported in ceiling construction by means of spaced clips 12 engaged over rods or pipes 13 in turn suspended in straps 14 passing around purloins 15 or equivalent supported on the ceiling beams 7, and from which the electric conduits 16 may also be conveniently secured with lamps 9 depending at frequent intervals as indicated in Fig. 4.

The channels 11, 11' and 11'' are preferably of thin sheet metal such as galvanized iron, or aluminum, and are suspended and spaced one from the other by means of small strips or brackets 17 soldered or riveted to the channels at many points spaced about a few feet apart so as to make a connected series of channels or web over the entire ceiling or wall space to be covered. In the left-hand portion of Fig. 3 these spacer brackets 17 have been omitted so that the relation of the channels and the laterally extending crevices produced by the overlapping of the channels can be more clearly observed, and from which it will be seen that the sources of illumination are concealed from an observer in the room below, and since the false ceiling and as the channels or curved plates 11 are light colored such as galvanized iron, either plain or aluminum painted, or aluminum sheets, or other light

colored or painted material, it follows that the concave inner surfaces of channels 11 and 11' present wide bands of diffused light to the observer and the smaller convexly curved channels 11'' form darker streaks at intervals.

The arrangement of channels as well as their number and their exact shapes may vary somewhat but the one shown in Fig. 3 is typical of what has been found to give very satisfactory results, and it comprises a relatively wide channel or curved plate 11 presented concave side to the room, then an S or ogee-shaped channel 11' along both edges of channel 11 spaced inward into the room and overlapping at their edges the large channel, and a third channel 11'' somewhat narrower than the others overlapping the adjacent edges of channels or plates 11'. Plates 11'' are preferably concave on upper sides or bent in a way to reflect the light from lamps 9 outwardly against the concave portions of plates 11' for re-reflection to the interior of the room. It will be evident from a consideration of the reflection desired that the form of the channels or plates may vary somewhat and also that plate 11' of ogee form may consist of two plates instead of the one of compound form.

Strips 17 are made narrow as consistent with safety so as to reduce the shadows cast by them.

As stated, the channels or elongated plates extend in various directions to form any kind of a design as shown in Fig. 1 wherein a star-shaped design is shown. Section 6—6 of Fig. 6 shows the channels diverted downwardly to join at the lowest point A on the center line A of the leaf 2 of Fig. 1, and 1 in Fig. 6 represents the horizontal runs of the star 1 of Fig. 1.

Fig. 5 shows the arched general surface seen along the line 5 of Fig. 1 taken through the star from the point 5 of Fig. 1 to the center X of the star and so denoted in Fig. 5. In this figure the downwardly slanted under-surfaces B of Fig. 6 are shown and so indicated, while the upper short black lines 1 are the cross sections of the plates or channels forming the large star 1 as seen from the line 5 of Fig. 1.

With reference to Fig. 2, the end view of the ceiling ground plates are shown as short solid black lines designated 3, and the star portion 1. In this view a doorway 18 in the side wall of the room and on both sides of which doorway as well as above the same the wall is covered with vertically disposed channels 19 arranged as described for the ceiling except that suitable rigid supports (not detailed) are used to hold the channels spaced from the wall, and lights are arranged behind them in similar manner as described for the ceiling. In this figure of the drawings the curved form and various levels of the channel plates constituting the false ceiling will be clearly observed.

The arrangement of plates or the side wall as in Fig. 2 is also carried out around building columns and which are intended to be included in my use of the word "wall" in my claims.

Such a ceiling and wall treatment as described has been installed in a large public room and provided with lights of various colors for changing the reflected color bands through several colors gradually from time to time, and has proven very successful and efficient as a means of novel general illumination, and while experiment has shown the best results from the general arrangement of channels as described I do not wish to limit myself to such arrangement but feel entitled to cover any variation falling within the spirit of the invention or appended claims.

The words "channel" or "channels" used in the claims are to be understood as covering any plates formed generally to function in the manner described.

I claim:

1. Ceiling or wall construction comprising a series of elongated plates spaced inwardly from the ceiling or wall of a room, said plates covering major portions of the ceiling or wall and extending generally in the plane of the ceiling or wall, the individual plates arranged in marginal overlapping relation and spaced from one another whereby light from behind the plates will be reflected into the room in elongated diffused bands, means for so supporting the plates, said plates comprising spaced concave plates with the concave sides toward the room, inwardly spaced ogee plates along opposite edges of and overlapping both margins of the spaced concave plates, and concave plates with concave side overlapping margins of two adjacent ogee plates spaced furthermost into the room.

2. Ceiling or wall construction comprising a series of elongated plates spaced inwardly from the ceiling or wall of a room, said plates covering major portions of the ceiling or wall and extending generally in the plane of the ceiling or wall, the individual plates arranged in marginal overlapping relation and spaced from one another whereby light from behind the plates will be reflected into the room in elongated diffused bands, means for so supporting the plates, said plates comprising spaced concave plates with the concave sides toward the room, inwardly spaced ogee plates along opposite edges of and overlapping both margins of the spaced concave plates with concave side overlapping margins of two adjacent ogee plates spaced furthermost into the room, and sources of artificial illumination arranged behind and substantially in line with the last mentioned concave plates.

3. A wall or ceiling covering comprising a series of elongated plates spaced inwardly into the room from the building wall or ceiling, means for so supporting the plates, said plates comprising groups extending in various directions so as to form a design, and the individual plates of channel sections in marginal overlapping and spaced relation, and artificial sources of light behind said plates arranged for projection through the spaces between the margins of the plates.

4. A wall or ceiling covering comprising a series of elongated plates spaced inwardly into the room from the wall or ceiling and covering major wall or ceiling spaces, the individual plates spaced from one another in different planes to provide laterally extending slots therebetween, and means for so supporting the plates, said plates arranged in groups extending in various directions to form a design.

5. A wall or celing covering comprising a series of elongated plates spaced inwardly into the room from the wall or ceiling and covering major wall or ceiling spaces, the individual plates spaced from one another in different planes to provide laterally extending slots therebetween, and means for so supporting the plates, said plates arranged in groups extending in various directions and abutting one another at various angles to form a design.

6. A wall or ceiling covering comprising a series of elongated plates spaced inwardly into the room from the wall or ceiling and cover-

ing major wall or ceiling spaces, the individual plates spaced from one another in different planes to provide laterally extending slots therebetween, and means for so supporting the plates, said plates in groups arranged with the plates in each group parallel and with the plates in one group in endwise abutting relation with the plates of the adjoining group.

7. A wall or ceiling covering comprising a series of elongated plates spaced inwardly into the room from the wall or ceiling and covering major wall or ceiling spaces, the individual plates spaced from one another in different planes to provide laterally extending slots therebetween, and means for so supporting the plates, said plates in groups arranged with the plates in each group parallel and with the plates of one group in endwise abutting relation with the plates of the adjoining groups and the plates of various groups disposed at various angles in respect to the plane of the ceiling or wall.

8. Means providing the major portion of the ceiling or wall covering of a room comprising a plurality of spaced rows of plates, said rows of plates disposed in substantially parallel separate planes, the individual plates of each row being spaced apart and disposed in marginal overlapping relation to the plates of the adjoining row and means so supporting the plates.

9. Means providing the major portion of the ceiling or wall covering of a room comprising a plurality of spaced rows of plates, said rows generally disposed in separate planes, the individual plates of each row being spaced apart and disposed in marginal overlapping relation to the plates of the adjoining row, means so supporting the plates, and artificial sources of light positioned at various points behind the rows of plates and in a plane outwardly of the plane of the row of plates disposed nearest thereto.

10. Means providing the major portion of the ceiling covering of a room comprising a plurality of vertically spaced generally horizontally extending rows of plates, the individual plates of each row being horizontally spaced apart and disposed in marginal overlapping relation to the plates of the adjoining row, and means so supporting the plates.

11. Means providing the major portion of the ceiling covering of a room comprising a plurality of vertically spaced generally horizontally extending rows of plates, the individual plates of each row being horizontally spaced apart and disposed in marginal overlapping relation to the plates of the adjoining row, means so supporting the plates, and artificial sources of light positioned at various points above the rows of plates.

TIMOTHY L. PFLUEGER.