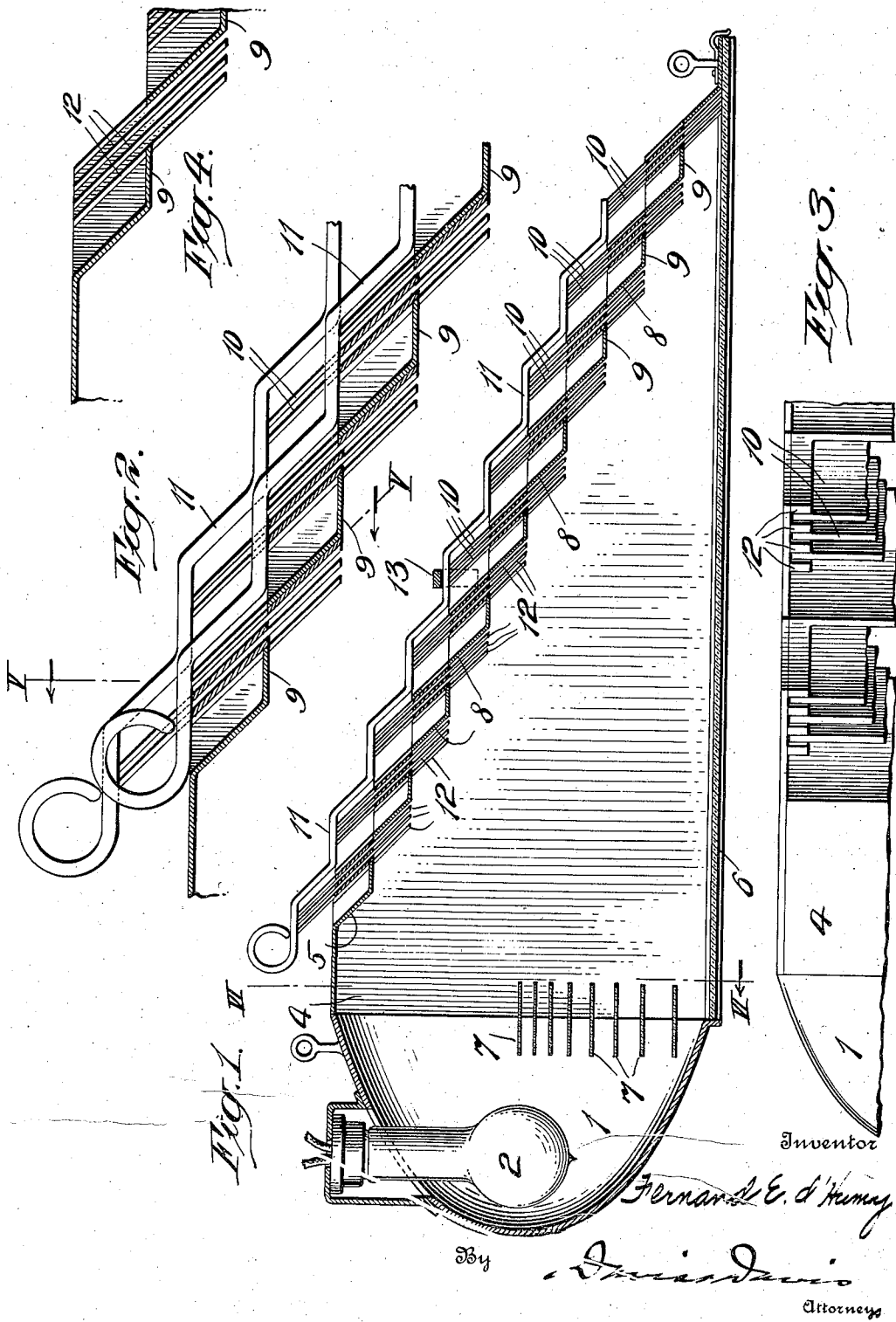


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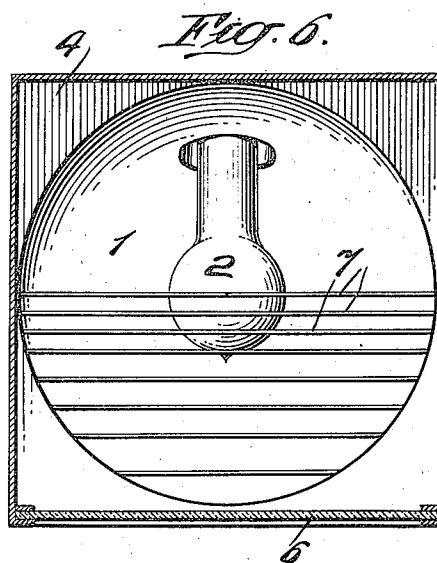
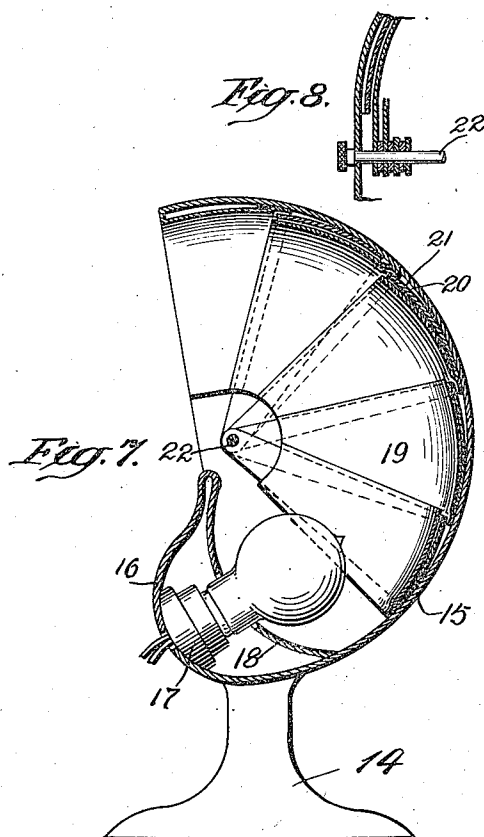
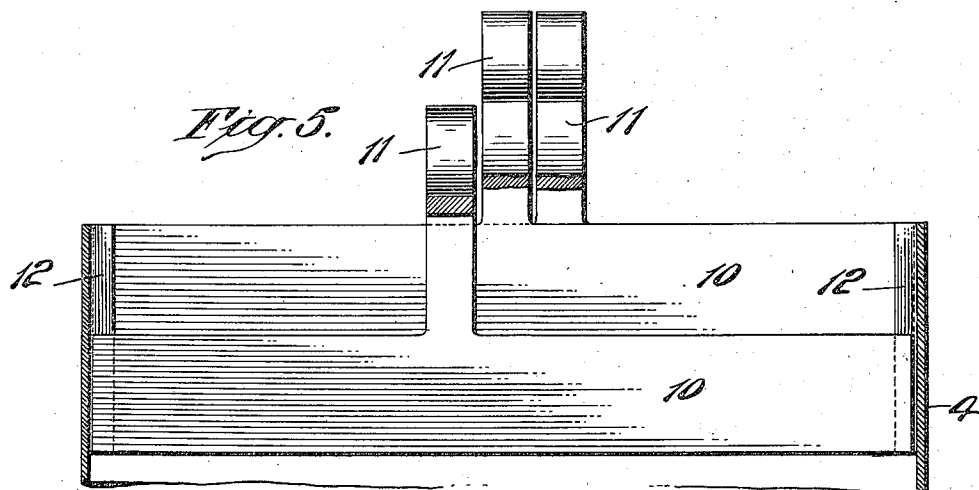
2 SHEETS—SHEET 1.



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F. E. D'HUMY,
ELECTRIC LIGHT FIXTURE.
APPLICATION FILED JAN. 18, 1919.

Patented Aug. 31, 1920.
2 SHEETS—SHEET 2.



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FERNAND E. D'HUMY, OF ENGLEWOOD, NEW JERSEY.

ELECTRIC-LIGHT FIXTURE.

1,351,375.

Specification of Letters Patent. Patented Aug. 31, 1920.

Application filed January 18, 1919. Serial No. 271,870.

To all whom it may concern:

Be it known that I, FERNAND E. D'HUMY, a citizen of the United States, and resident of Englewood, county of Bergen, and State of New Jersey, have invented certain new and useful Improvements in Electric-Light Fixtures, of which the following is a specification.

The light emitted by the ordinary electric light bulb does not possess the seven colors of the spectrum in the same proportions or value as obtained in the sun's rays or in ordinary daylight. Artificial light as emitted from the ordinary incandescent electric lamp possesses a superabundance of yellow, orange and red rays as compared with daylight, and therefore colored objects seen under this light do not appear to have the same color values as when viewed under pure daylight. In consequence of this there is found a need for an electric light fixture which will change the component rays of an electric light into the same proportion as found in daylight.

The usual way of accomplishing this is by the use of colored glass screens designed to stop the passage of the excess rays and allow the remainder to sift through in the same proportion as in daylight. Sometimes the electric bulb is made of an especially colored glass of a bluish tinge. Another method is to place a similarly colored glass bowl or plate between an ordinary lamp and the area to be illuminated. Thus the excess rays are screened and only those in the desired proportions reach the area illuminated.

These methods are not entirely satisfactory as it is not practicable to obtain component ray values which will duplicate the daylight effects desired under the many conditions in which artificial illumination is required. To begin with there can be no standard value for daylight for the spectrum values differ for the different times of day, the different seasons of the year, different parts of the world, even for different sections of the same city, and with different conditions of the weather. The causes for these differences in value of the spectrum are endless in number. Secondly an artificial light designed to reproduce approximately daylight values, is interfered with by other means of illumination usually found present, and this is further compli-

cated by the various decorative schemes of the premises. Thus an artificial daylight fixture will give one effect in one location and a different effect in a second location. The value may even be changed by a change in the brilliancy of the lamp used, as often occurs with the aging of the lamps or with variations in voltage.

To overcome the foregoing difficulties, I have invented a lighting fixture designed to permit the values of the component rays of the spectrum to be adjusted at will. I have provided a lamp in which the rays from an electric light bulb will be projected on a reflecting and diffusing surface which has been prepared with a special color or finish designed to absorb all excess rays it is desired to exclude, and reflect or deflect the remaining rays in the proportions desired. I also provide the light fixture with means for varying the character of the reflecting surface to thereby vary the proportions of the rays absorbed and of the rays reflected in order to secure the proper character of reflected light. This variation in the character of the reflected light may be brought about by providing several sets of movable vanes which form the reflecting surfaces, and arranging them in such manner that any one of the sets may be brought into position to receive and deflect the light rays from the light bulb. It is manifest that by selecting the vanes of the desired color the deflected light will have the color values desired.

In the drawings, Figure 1 is a vertical longitudinal sectional view of an electric light fixture constructed in accordance with my invention;

Fig. 2 a detail sectional view of a part of the fixture, showing one set of adjustable deflecting vanes in position to receive the light rays from the light bulb;

Fig. 3 a detail plan view of a part of the light fixture;

Fig. 4 a detail vertical sectional view of a part of the light fixture with the light reflecting vanes removed;

Fig. 5 a detail transverse sectional view of the upper part of the light fixture, taken on the line V—V of Fig. 2;

Fig. 6 a transverse sectional view taken on the line VI—VI of Fig. 1;

Fig. 7 a vertical longitudinal sectional

view of a modified form of lighting fixture embodying the invention; and Fig. 8 a fragmentary transverse section showing the mounting of the pivoted reflecting sections employed in the construction shown in Fig. 7.

Referring to the various parts by numerals, 1 designates a parabolic reflector of any approved construction, in which is properly located an incandescent electric light bulb 2. The reflector 1 is suitably supported at its front end and is there connected to a closed frame or box 4, which is rectangular in transverse section. The lower side of the box or frame 4 is preferably closed by a transparent plate 6, said plate being of ordinary glass or of any other suitable clear transparent material. Horizontal, transversely extending plates 7 intercept the direct rays from the light bulb and prevent them passing directly through the transparent plate 6. These plates 7 are disposed preferably near the forward edge of the reflector 1, and are so disposed with relation to each other that they do not interfere with the passage of the rays projected from the reflector, their purpose being merely to intercept the direct light rays and prevent them passing downwardly through the plate 6. It is obvious that the plates should be of extremely thin material, and that they must be placed parallel with the rays projected from the reflector.

The reflecting surface 5 forms the top of the box 4, and extends on an angle from a point near the forward edge of the reflector to the lower forward edge of the frame 4. This reflecting surface is formed with a series of steps, each step forming a reflecting surface approximately at an angle of 45° with respect to the projected rays, and said reflecting surfaces divert the rays from the reflector and direct them downwardly through the transparent plate 6. Each step forms a reflecting surface 8, so that the entire reflecting surface 5 is made up of a series of narrow, transversely extending reflecting surfaces 8. Each reflecting surface 8 is connected at its upper end to the lower end of the next adjoining portion 8 by a substantially horizontal wall 9. These horizontal walls or steps are slotted to receive slidable vanes 10, which are adapted to be moved downwardly through the slots and to be disposed directly in front of the reflecting surfaces 8, so that they may be interposed between said reflecting surfaces 8 and the source of light. As shown in the drawings, I have provided three sets of movable vanes, each set being connected to a supporting and operating bar 11, so that each may be individually operated to be brought into position in front of the surfaces 8 or removed therefrom, as clearly indicated in Fig. 2 of

the drawing. In Fig. 1 the three sets of vanes are shown as withdrawn, the surfaces 8 being thereby exposed to the light rays. In Fig. 2 one set of vanes is shown interposed between the surfaces 8 and the light rays, so that the interposed set of vanes will receive and deflect the light rays from the reflector 1.

The ends of the veins 10 slide in ways 12, formed on the sides of the box 4, as shown clearly in Fig. 5; and a stop 13 is provided to limit the upward movement of all of the bars 11.

The several sets of vanes 10 are properly colored and treated to give them different light ray absorbing and deflecting qualities, all of them being of different character from the permanent reflecting surfaces 8, the purpose being to provide means whereby the desired quality of light may be deflected through the transparent plate 6 by selecting the properly colored deflecting veins. It is manifest, therefore, that if it be desired to have the deflected light of the character of daylight, it is only necessary to select the set of vanes of the necessary character to produce the desired result. Under different conditions it might be necessary to select different sets of vanes to produce a light having daylight color values.

It will, of course, be understood that the light fixture may be of any desired shape and construction, it being only necessary to provide shiftable or movable sets of reflecting surfaces, so that the set having the desired color value may be selected and brought into position for use.

In Figs. 7 and 8 the invention is shown embodied in a portable lighting fixture comprising a base 14 upon which is mounted a hood or outer casing 15. The casing 15 is formed with an upwardly turned portion 16 at the front thereof, upon which is supported an upwardly and rearwardly extending lamp socket 17. A suitable rearwardly facing reflector 18 is supported at the front of the lower portion of the casing 15. A series of radially arranged, substantially U-shaped reflectors 19 are rigidly held within the casing 15, the rear edges of said reflectors being fixed to the casing and the remaining portions thereof being offset from the inner wall of the casing to form a series of pockets 20 adapted to receive a series of U-shaped reflecting vanes 21. All of the vanes 21 are rigidly held to a rotatable shaft 22 journaled in the sides of casing 15 so that said vanes may be shifted in unison into and out of pockets 20 to cover and uncover reflector sections 19. The reflector sections 19 and vanes 21 are painted in different colors so that when the vanes are shifted out of the pockets a light of a different color will be given than that given when the light rays are reflected by the reflector sections 19. It

is obvious that more than one series of shiftable vanes may be mounted in the casing so as to be independently shifted into and out of the pockets 20.

5 What I claim is:—

1. An indirect lighting fixture comprising a projector, a plurality of stationary reflecting surfaces located in the path of light rays projected from said projector, and a plurality of shiftable reflecting members movable as a unit to cover and uncover said stationary reflecting surfaces, said shiftable members having reflecting surfaces differing in character from the stationary reflecting surfaces.

2. An indirect lighting fixture comprising a source of light, a parabolical reflector for projecting light rays emitted by the source of light in parallel paths, a plurality of flat reflecting members having reflecting surfaces of different colors, and means whereby either of said members may be interposed in the path of the rays projected from the reflector at an angle to the path of the rays.

3. A lighting fixture comprising a source of light, a reflector for projecting the rays emitted by the source of light, a plurality of stationary flat reflecting surfaces arranged in stepped relation at an angle to the path of the rays projected by said reflector, and a plurality of sets of reflecting plates independently shiftable to interpose the plates of either set between the stationary reflecting surfaces and the source of light.

4. A lighting fixture comprising a source of light, a reflector for projecting the rays emitted by the source of light, a plurality of stationary flat reflecting surfaces arranged in stepped relation at an angle to the path of the rays projected by said reflector,

and a plurality of sets of reflecting plates independently shiftable to interpose the plates of either set between the stationary reflecting surfaces and the source of light, all of the plates of each set being of the same color and the sets of plates differing in color from each other and from the stationary reflecting surfaces.

5. A lighting fixture comprising light projecting means, and a plurality of flat reflecting surfaces of different colors one of which surfaces is stationary and located at an angle to the path of the projected light rays and the other of which surfaces is shiftable to cover and uncover the stationary reflecting surface.

6. An indirect lighting fixture comprising a source of light, means for projecting the light rays emitted by the source of light in parallel paths, a plurality of stationary re-directing surfaces arranged in stepped relation at an angle to the path of the projected light rays, and a set of re-directing surfaces differing in character from the character of the stationary surfaces and shiftable to cover and uncover said stationary re-directing surfaces.

7. An indirect lighting fixture comprising a source of light, means for projecting the light rays emitted by the source of light in parallel paths, a plurality of stationary re-directing surfaces arranged in stepped relation at an angle to the path of the projected light rays, a set of slidably mounted re-directing surfaces differing in color from the stationary surfaces, and means for simultaneously shifting said slidable re-directing surfaces to cover and uncover the stationary surfaces.

In testimony whereof I hereunto affix my signature.

FERNAND E. D'HUMY.