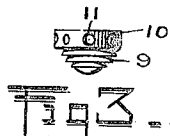
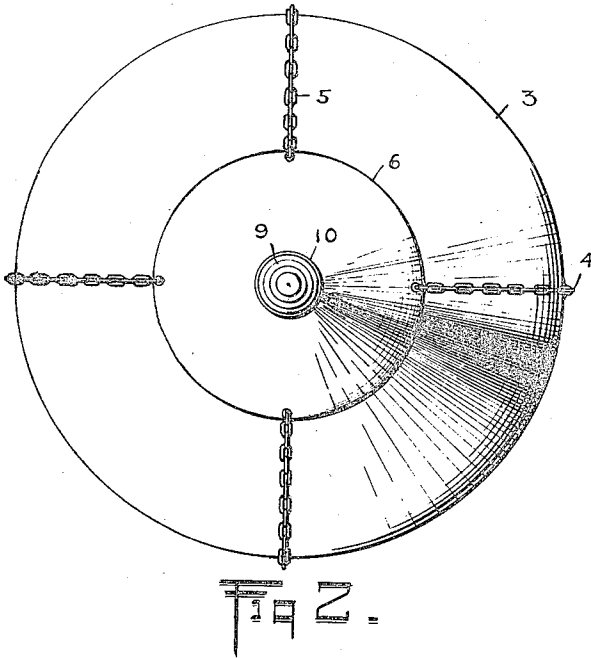
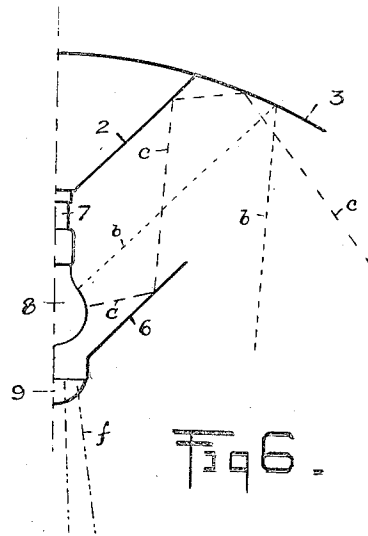
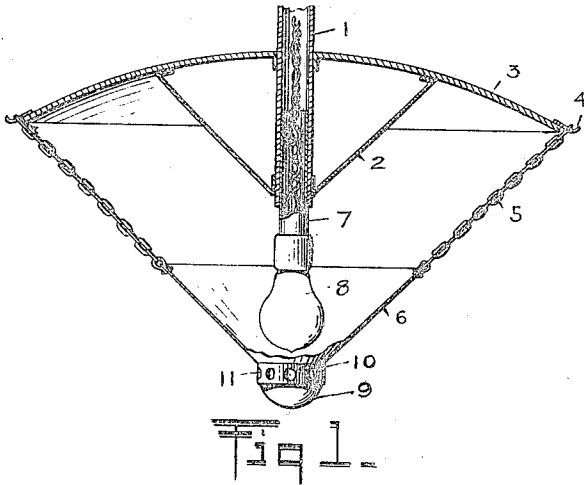


J. A. DEMPSEY.
LIGHTING FIXTURE.
APPLICATION FILED OCT. 14, 1915.

1,231,337.

Patented June 26, 1917.

2 SHEETS—SHEET 1.



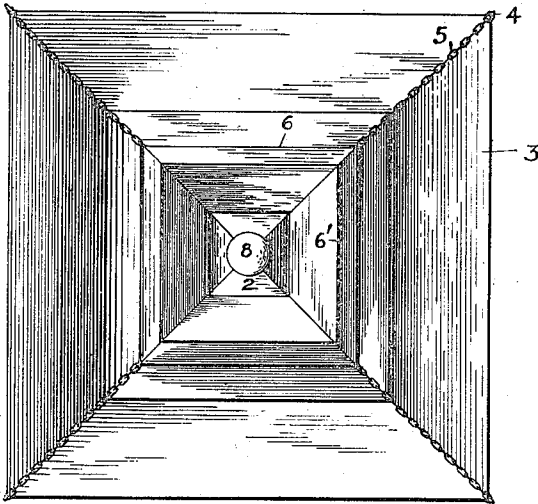
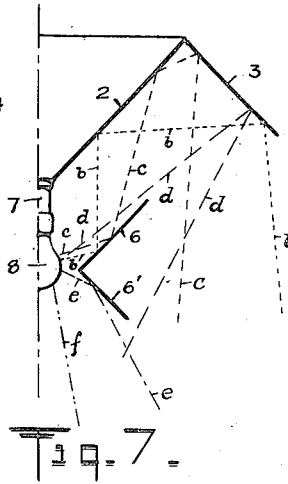
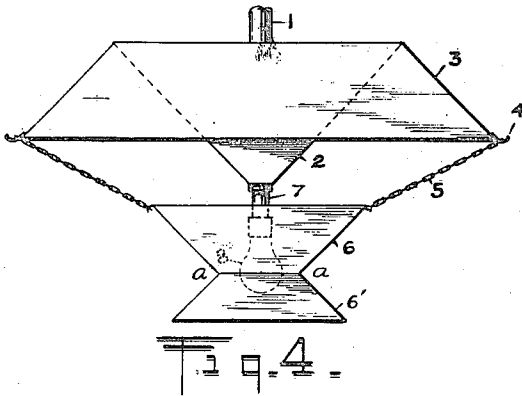
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2 SHEETS—SHEET 2.



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JAMES ARTHUR DEMPSEY, OF NEW YORK, N. Y.

LIGHTING-FIXTURE.

1,231,337.

Specification of Letters Patent. Patented June 26, 1917.

Application filed October 14, 1915. Serial No. 55,777.

To all whom it may concern:

Be it known that I, JAMES ARTHUR DEMPSEY, a citizen of the United States, residing in the city of New York, the county of New York, and State of New York, have invented a new and useful Lighting-Fixture, of which the following is a specification.

My invention relates to lighting fixtures of a type in which certain of the rays of light from the source of illumination are reflected against the sides of a surrounding shield thence upward against reflecting surfaces and so downward to the object to be illuminated, it also contemplates a fixture in which both direct and indirect lighting may be utilized and accomplished. My invention further relates to devices which may be made both permanent or temporary fixtures and which are particularly useful for the illumination of billiard tables and similar purposes in which it is desired that an even light, without inequalities or shadows, shall be cast upon the object illuminated.

My invention especially relates to the peculiar means for accomplishing the desired results as detailed hereinafter.

The objects of my invention are to provide a lighting fixture that shall be effective in operation permitting an even diffusion of light without horizontal glare; to provide an inexpensive structure that may be formed of cheap materials; to permit easy and quick adjustment of parts and a structure that can be readily attached or moved from place to place.

These objects I accomplish by the means illustrated in the accompanying drawings and fully described and claimed hereinafter.

Figure 1 is a vertical sectional view of one form of my invention a portion being in elevation and broken away.

Fig. 2 is an inverted plan view of Fig. 1.

Fig. 3 is an elevation of a detail of my device.

Fig. 4 is a vertical elevation of a modified form of my invention.

Fig. 5 is an inverted plan view of Fig. 4.

Figs. 6 and 7 are diagrammatic views of portions of the devices illustrated in Figs. 1 and 4 showing the radiation and reflection of the different rays of light on and from the respective reflecting surfaces.

In the drawings like symbols of reference refer to like parts throughout the various views.

Referring to Figs. 1, 2 and 3. 1 is a central tube to which the inverted cone 2 is secured in any suitable manner. The reflector 3 is secured over the cone and preferably also to the tube 1. The reflector 3 is provided with hooks or other attaching means 4 to which are attached chains or other supporting means 5 from which depends an inverted cone 6 preferably of opaque material through which the direct rays of light are unable to pass.

The tube 7 is designed and made to slide within the tube 1 being frictionally or otherwise held in place therein (a clamping nut or equivalent device, not shown may be used if desired). The lower end of tube 7 carries an electric light socket and bulb 8, or if gas or other illuminant is used, it carries the burner or other source of light.

9, (see also Fig. 3,) is a lens or bull's eye which may be corrugated or plain. It is mounted in the band or collar 10 provided with the ventilating apertures 11 and the whole placed at the bottom of the cone 6. It may be detachable.

Referring to Figs. 4 and 5 I sometimes make the cone 2 and reflector 3 with flat sides so that the plan is square or polygonal, instead of circular as in Figs. 1 and 2. I also sometimes make the reflector 6 a double truncated cone or prism the upper and lower portions of which flare outwardly from approximately the median line $a-a$.

My device may be quickly and economically constructed of light sheet metal, and it will be understood that the reflecting surfaces may be painted white or other desired color, enameled or coated with various well known preparations, or made of glass, burnished metal or other material which possesses the proper reflecting qualities.

While the angles of the reflecting surfaces relative to each other and to the illuminator are not definite and unvariable, they should be such that light reflected from one to the other will be diffused outwardly and downwardly so as to give an even illumination,—and I have found the best arrangement to be approximately that shown in the illustrations herein.

It will also be understood that the reflection and focusing of the rays of light can be modified and varied by the adjustment of the illuminator by means of the sliding tube 7 and by the adjustment of the cones 6 rela-

tive to the reflector 3 and the illuminator 8. In setting up and operating my device, I first suspend or attach the reflector 3 and cone 2 at the proper point as from or to the ceiling or chandelier fixture, which may be done by chains, pipe or other suitable means; the cone 6 is preferably suspended by chains 5 in proper relation to the illuminator 8 and reflectors 2—3 which may be determined by adjustment and trial; the illuminator itself is adjusted by raising or lowering the tube 7.

I find a means of ventilation desirable especially where gas or the nitrogen electric bulb is used, which is attained by the perforated collar 10 as shown in Fig. 1 or through the open cone 6 as shown in Fig. 4.

Referring to Fig. 6. Certain of the light rays emanating from the illuminator impinge as at *b* directly on the reflector 3 and are diverted downward, others as *c* fall upon the interior surface of the cone 6 are reflected upward to 2 thence to 3 and so downward and outward as shown in dotted and broken lines.

f are rays of light that are transmitted directly through the lens or bulls eye 9 or if the latter is detached are shed directly outward through the opening in the bottom of the cone 6. It will also be understood that when desired instead of using a light transmitting medium as 9 I may close the opening in the bottom of the cone 6 completely, relying entirely upon reflected or indirect lighting.

Referring to Fig. 7 the description is practically the same as in the case of Fig. 6 but in addition the rays of light represented by *e—f* are shown, the rays represented by the broken line *e* are first reflected against the flaring bottom 6' and thence downward and outward while *f* are the direct rays from the illuminator 8.

Since the cone 6 rises above and surrounds the illuminator 8 no direct rays from the latter can pass out in a horizontal direction.

It will be understood that only a few of the rays of light are illustrated by the dotted and broken lines, an infinite number of rays being reflected at different angles and so forming a general illumination.

It will be understood that the material, shape, proportions and arrangement of parts may be varied without departing from my invention, but what I claim and desire to protect by Letters Patent is,—

1. A lighting fixture comprising a canopy the underneath surface of which is a reflector; an inverted cone provided with an exterior reflecting surface secured to the canopy; a central tubular member within the cone and canopy; a member adjustably mounted in connection with the tubular member and adapted to be raised or lowered relative thereto, and on the lower end of which is secured an illuminator; an invert-

ed opaque cone surrounding said illuminator and having a reflecting interior surface, said opaque cone being adjustably secured to the canopy so as to permit adjustment relative to the illuminator and the other reflecting surfaces.

2. A lighting fixture comprising a canopy, the underneath surface of which is a reflector; an inverted cone provided with an exterior reflecting surface secured to the canopy; a central tube joining the cone and the canopy and extending therethrough; a member adjustably mounted within the tube and adapted to be raised or lowered relative thereto, and on the lower end of which is secured an illuminator; an inverted opaque cone surrounding said illuminator and having a reflecting interior surface, said cone being adjustably secured to the canopy so as to permit adjustment relative to the illuminator and the other reflecting surfaces; a translucent member at the apex of the cone; and means for ventilating the interior of the cone.

3. A lighting fixture comprising a canopy whose lower surface is a reflector; an opaque shield provided with a reflecting surface, open at the top and concentrically surrounding an illuminator; an inverted cone provided with an exterior reflecting surface adapted to reflect light from the interior surface of the opaque shield to the lower surface of the canopy; a central tube joining the cone and canopy, and extending therethrough; and a member adjustably mounted within the tube and adapted to be raised or lowered relative thereto, and on the lower end of which is secured an illuminator.

4. In a lighting fixture a canopy provided with reflecting surfaces angularly disposed to each other; an illuminator and means for adjusting the same relative to the reflecting surfaces of the canopy; an opaque shield flaring upwardly and outwardly, and downwardly and outwardly from a point approximately opposite the center of the source of illumination, provided with an interior reflecting surface, and being open at the top and bottom; and means for adjusting the same relative to the illuminator and to the canopy.

5. A lighting fixture comprising a canopy having a lower reflecting surface; an inverted cone having an outer reflecting surface; a central tube joining the cone and the canopy and extending therethrough; a member adjustably mounted within the tube and adapted to be raised or lowered relative thereto, and on the lower end of which is secured an illuminator; and an opaque shield surrounding the illuminator and having a shape and reflecting surface adapted to reflect the light from the illuminator upward to the cone, the latter being adapted

to reflect the light from the shield to the lower surface of the canopy, the canopy being adapted to reflect the light downward.

5 6. A lighting fixture comprising a canopy, the underneath surface of which is a reflector; an inverted cone provided with an exterior reflecting surface secured to the canopy; a central tube joining the cone and the canopy and extending therethrough; a member adjustably mounted within the tube and adapted to be raised or lowered relative thereto, and on the lower end of which is secured an illuminator: an opaque shield

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surrounding said illuminator and having a reflecting interior surface, said shield being adjustably secured to the canopy so as to permit adjustment relative to the illuminator and the other reflecting surfaces; and an adjustable and removable translucent member in the shield beneath the illuminator. 20

JAMES ARTHUR DEMPSEY.

Witnesses:

BEATRICE MIRVIS,
IRENE MANNING.