W. H. BROWNE.

LIGHTING APPARATUS.

APPLICATION FILED AUG. 28, 1909.

972,328. **Patented Oct. 11, 1910.**

Fig. 1.

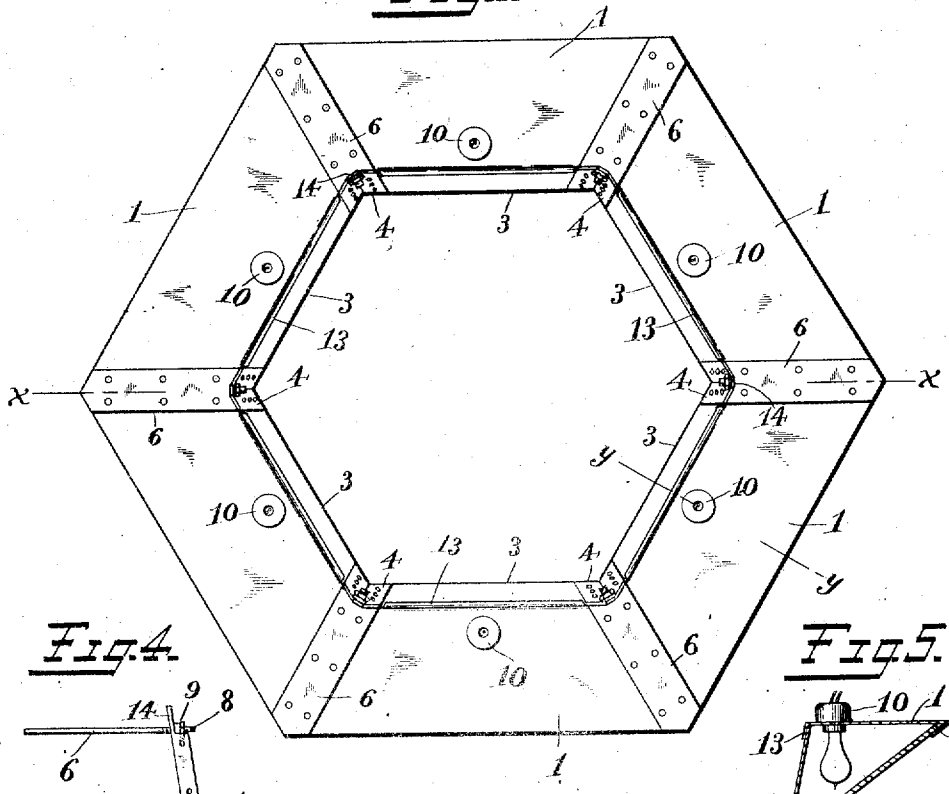


Fig. 4.

Fig. 5.

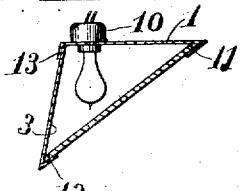


Fig. 2.

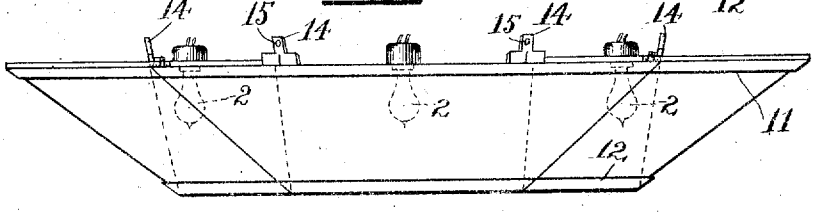
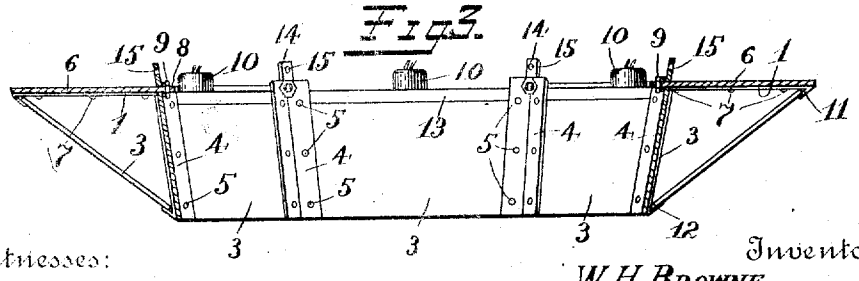


Fig. 3.



Witnesses:

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WILLIAM H. BROWNE, OF BROOKLYN, NEW YORK.

LIGHTING APPARATUS.

972,328. Specification of Letters Patent. **Patented Oct. 11, 1910.**

Application filed August 28, 1909. Serial No. 515,005.

To all whom it may concern:

Be it known that I, WILLIAM H. BROWNE, a citizen of the United States, residing at Brooklyn, county of Kings, State of New York, have invented certain new and useful Improvements in Lighting Apparatus, of which the following is a full, clear, and exact description.

My invention relates to improvements in lighting apparatus, and has for its object to produce a new and improved combination of lights and reflecting surfaces for producing a well diffused and widely distributed light.

It further has for its object to produce a device which can be readily disassembled for convenience in transportation.

The following is a description of an embodiment of my invention, reference being had to the accompanying drawings, in which,

Figure 1 is a plan of the device; Fig. 2 is a side elevation of the device; Fig. 3 is a vertical section of the device on the line *x*—*x* Fig. 1. Fig. 4 shows a detail; Fig. 5 shows a detail section on the line *y*—*y* Fig. 1.

Referring more particularly to the drawing, 1—1—1 &c. are substantially horizontal sections having reflecting surfaces beneath which are incandescent lamps 2—2—2 &c.

3—3—3 &c. are sections having reflecting surfaces located behind the lamps 2—2—2 respectively and inclined slightly inwardly. The surfaces of the sections 3 are also preferably flat surfaces, and are arranged to form a reflecting polygon. The sections 3—3—3 are secured to one another by angle irons 4 and screws 5. The horizontal sections are secured together by bars 6 and screws 7. The bars 6 have extensions 8 which pass through holes in the angle irons. They are secured by nuts 9. The lamps are preferably suspended from sockets 10 secured above the horizontal sections 1, the bases of the lamps passing through holes in the horizontal sections. The source of light in front of each of the nearly vertical reflecting sections constitutes a lighting unit, and preferably these units consist of a single lamp located centrally of the nearly vertical reflecting planes 3 and the horizontal planes 1. When they are so located the rays of light from each unit are projected downwardly and outwardly from the reflecting surfaces of the sections 1 and 3, in a very effective distribution of illumination over a great area and the direct rays of light of one unit are separated by the reflecting surfaces from each adjacent unit so that the rays of light from one unit will not pass to any other unit but will be intercepted by and projected from the interspersed reflecting surface in a direction away from any other unit so that the rays of light from one of the units mingle with the rays from other units only within the space beyond the edges of the reflecting surfaces. By mingling beyond the lower edges of the reflecting surfaces of the sections 3, they prevent any shadow or unlighted space beneath the group or cluster of lamps as a whole. By the use of this arrangement, the lighting units are spread apart and the reflecting units are interspersed between them and at the same time the light from one unit is not intercepted by another suit. Incandescent electric lamps are peculiarly adapted for use in my device, although other lighting devices may be used.

The upper reflecting surfaces are preferably substantially horizontal, but may be inclined slightly downward or upward if it is desired to concentrate more closely or to diffuse more openly the illumination.

The reflecting surfaces are preferably made of metal having a shining surface, although in suitable surroundings mirrors may be used if desired. I have shown them as constructed of metal. The outer edges 11 of the sections 1 and the lower edges 12 of the sections 3 are turned slightly and screens of glass or the like are held therein so as to be in front of the lighting units. These turned edges and screens may be used when it is desired to protect the reflecting surfaces, and may also be used for advertising purposes or sign purposes, or for modifying the light from the lighting units.

The sections 1 have rearward extensions 13 which are bent down so as to pass behind the upper edges of the sections 3. The angle irons have upward extensions 14 provided with holes 15 for suspending the device in any convenient manner.

The sections 1 and 3 can be separated from the bars 6 and angle irons 4 by removing the holding screws and the lamps 2 removed from their sockets. The bars 6 can also be detached from the angle irons 4 by removing the nuts 9. The device can therefore be disassembled and packed in small compass for shipment or storage.

The sections are all preferably flat and

if desired, their surfaces may be made smooth. Such a surface, however, is not necessary in order to secure good results.

I have shown my device in the form of a hexagon but obviously it may be of other shapes and have a greater or less number of sides if desired.

What I claim is:

1. In a lighting apparatus, the combination of a polygonal device having substantially vertical reflecting surfaces whose backs oppose one another, incandescent lamps located outside of the polygon and in front of each of its sides, and a reflecting surface located above said lamps, said last named reflecting surface having holes for the passage of said lamps, and ba es located above said holes.

2. In a lighting device, the combination of a polygonal structure having substantially vertical reflecting surfaces whose backs oppose one another and which are detachably connected together at the angles of the polygon and substantially horizontal reflecting surfaces corresponding in number to the sides of the polygon, said horizontal reflecting surfaces being detachably connected together at the angles of the polygon, and lighting units located in front of each of the sides of said polygon.

3. In a lighting apparatus, the combination of a polygonal device having substantially vertical reflecting surfaces whose backs oppose one another, lighting units located outside the polygon and in front of each of said reflecting surfaces so that the direct rays between two lighting units are intercepted by reflecting surfaces, and a substantially horizontal reflecting surface above said units, and screens extending from the lower edges of the vertical sections to the outer edges of the horizontal surfaces.

4. In a lighting apparatus, the combination of a polygonal device having substantially vertical reflecting surfaces whose backs are opposed to one another so as to form a polygon and which are detachably connected together at angles of the polygon, lighting units located outside the polygon and in front of each of said reflecting surfaces so that the direct rays between any two adjacent lighting units are intercepted by said reflecting surfaces, and a substantially horizontal reflecting surface above and adjacent to said lighting units.

WILLIAM H. BROWNE.

Witnesses:
H. B. BROWNELL,
M. E. GARRETT.

Correction in Letters Patent No. 972,328

It is hereby certified that in Letters Patent No. 972,328, granted October 11, 1910, upon the application of William H. Browne, of Brooklyn, New York, for an improvement in "Lighting Apparatus," an error appears in the printed specification requiring correction as follows: Page 1, line 76, the word "suit" should read *unit;* and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 1st day of November, A. D., 1910.

[SEAL.]

E. B. MOORE,
Commissioner of Patents.

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What I claim is:

1. In a lighting apparatus, the combination of a polygonal device having substantially vertical reflecting surfaces whose backs oppose one another, incandescent lamps located outside of the polygon and in front of each of its sides, and a reflecting surface located above said lamps, said last named reflecting surface having holes for the passage of said lamps, and ba es located above said holes.

2. In a lighting device, the combination of a polygonal structure having substantially vertical reflecting surfaces whose backs oppose one another and which are detachably connected together at the angles of the polygon and substantially horizontal reflecting surfaces corresponding in number to the sides of the polygon, said horizontal reflecting surfaces being detachably connected together at the angles of the polygon, and lighting units located in front of each of the sides of said polygon.

3. In a lighting apparatus, the combination of a polygonal device having substantially vertical reflecting surfaces whose backs oppose one another, lighting units located outside the polygon and in front of each of said reflecting surfaces so that the direct rays between two lighting units are intercepted by reflecting surfaces, and a substantially horizontal reflecting surface above said units, and screens extending from the lower edges of the vertical sections to the outer edges of the horizontal surfaces.

4. In a lighting apparatus, the combination of a polygonal device having substantially vertical reflecting surfaces whose backs are opposed to one another so as to form a polygon and which are detachably connected together at angles of the polygon, lighting units located outside the polygon and in front of each of said reflecting surfaces so that the direct rays between any two adjacent lighting units are intercepted by said reflecting surfaces, and a substantially horizontal reflecting surface above and adjacent to said lighting units.

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