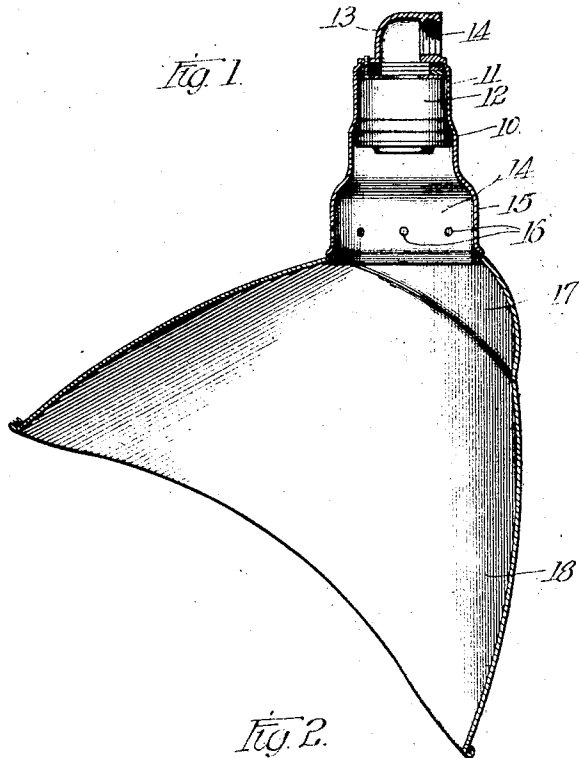
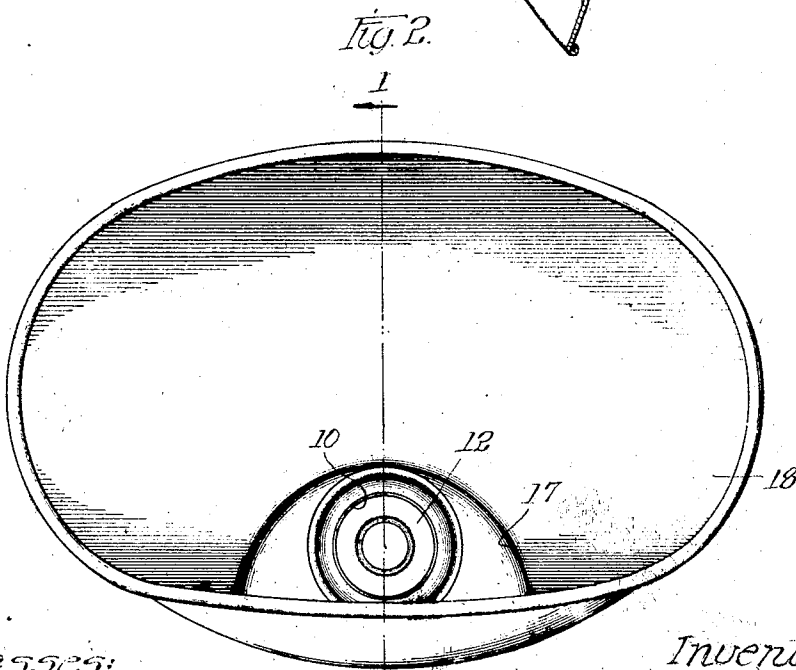


R. B. BENJAMIN.
REFLECTOR SHADE.
APPLICATION FILED DEC. 5, 1913.

1,189,231.

Patented July 4, 1916.
2 SHEETS—SHEET 1.



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Fig. 5

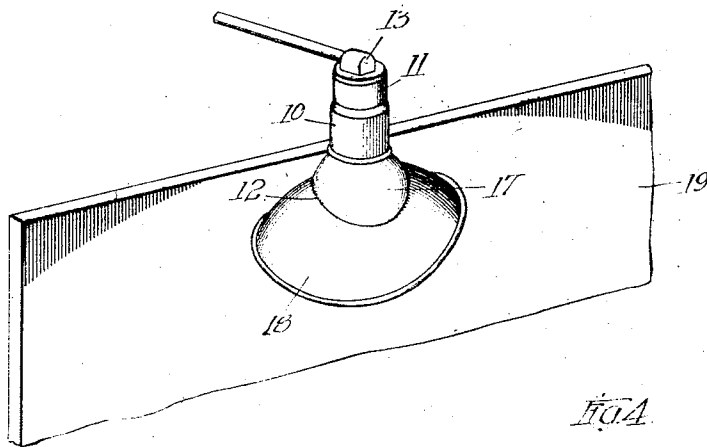
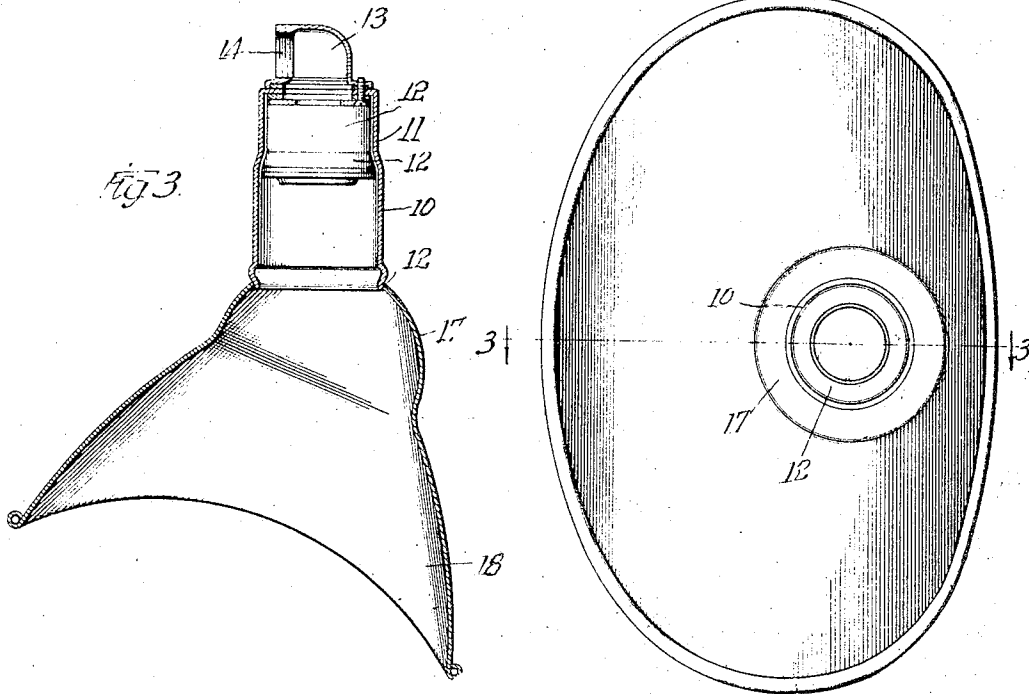


Fig. 4



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UNITED STATES PATENT OFFICE.

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REFLECTOR-SHADE.

1,189,231.

Specification of Letters Patent.

Patented July 4, 1916.

Application filed December 5, 1913. Serial No. 804,901.

To all whom it may concern:

Be it known that I, REUBEN B. BENJAMIN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Reflector-Shades, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

My invention pertains to reflectors.

In many conditions of lighting it is desirable to reflect the light in such a manner that the reflected rays are caused to diverge considerably more in one plane than in a plane at right angles thereto. For instance, in the electric lighting of mills and factories, the lamp sockets are often supported close to the walls; and in such circumstances, when shades of the ordinary types are used, a considerable amount of light is lost in illuminating the walls, as well as by reason of the over-lapping of the lighted areas. A like loss of light occurs in other places where similar conditions are present, as for instance, in the case of lighting advertising signs, etc., from the front.

It is the principal object of my invention to provide a reflector which will reflect the rays in paths which will diverge much more in one plane than in a plane at right angles thereto, and thereby to obviate the above disadvantages as well as to obtain certain advantages in the projection of light generally considered.

Two forms of my invention as embodied in reflector shades are described, by way of example, in the following specification and shown in the accompanying drawings, although it will be understood, of course, that reflectors embodying my invention may be used for other purposes.

In the drawings Figure 1 is a vertical section through a reflector shade adapted for use in connection with sockets disposed near the walls, in the lighting of mills, factories and the like, the section being taken on the line 1-1 of Fig. 2, looking in the direction of the arrows; Fig. 2 is an inverted plan of the shade shown in Fig. 1; Fig. 3 is a view similar to Fig. 1, but of a reflector shade particularly adapted for use in sign lighting, the section being taken on the line 3-3 of Fig. 4, looking in the di-

rection of the arrows; Fig. 4 is an inverted plan of the reflector shade shown in Fig. 3; and Fig. 5 is a perspective view illustrating the use of the reflector shade shown in Figs. 3 and 4.

Like reference characters refer to like parts throughout the following specification and the several figures of the accompanying drawings.

Referring now particularly to Figs. 1 and 2, the reflector shade includes a socket-containing portion 10 having its upper part reduced so as to inclose snugly the top portion of a lamp socket 12. Secured to the top of the reduced portion 11 is a nipple 13 which is provided with a threaded opening 14 for receiving a conduit or the like. The opening 14 is disposed at right angles to the axis of the socket. The portion 10 is enlarged, at the lower part thereof, so as to produce a chamber 15 for containing the base and adjacent portion of the lamp, such chamber having formed therein ventilating apertures 16. The apertures 16 permit the hot air to flow away, and thus prevent overheating of the socket and lamp. Below the chamber 15, the shade is formed with a reflecting portion 17 which is of spherical curvature and extends downward from the rear part of the portion 15, curving away so as to vanish at the front part of the portion 15. The spherical portion is cut off at the top to form an opening just sufficiently large to receive the lower end of the socket which may thus be readily secured to the shade by spinning its edge over the edge of the opening in the shade. The reflecting portion 17 merges, at its lower edge into a large reflector 18, which is wider in one direction than another. This result is obtained by originally forming the reflector 18 substantially spherical and then causing it to be flattened.

The reflector 18 is so shaped that a cross section taken through the axis thereof at the narrow part—i. e., a section as illustrated in Fig. 1—is substantially a parabola, so that the light rays are reflected, in one direction, along parallel paths. A cross section, on the other hand, taken at right angles to the above, at the wider part, is a non-parabolic curve, so that the reflected rays, in this direction, are spread out. The reflector 18 is inclined with respect to the socket. That

is to say, the axis of the reflector is at an angle to the axis of the socket so that the reflector 18 extends forward in a direction opposite to the conduit receiving opening 14 of the nipple 13.

An important use of the reflector shade shown in Figs. 1 and 2, is in connection with the lighting of mills, etc., from the walls thereof. When so used, the nipple 13 is secured to a conduit extending horizontally from the wall, the wires being led through the nipple into the lamp socket. It will be seen that, when the reflector shade is thus used, the reflector portion 18 will direct the light away from the walls and will light an area which, by reason of the flattened nature of the reflector portion, is very wide in a direction parallel with the wall, and that practically no light is wasted in illuminating the wall itself. By the use of a plurality of units, each having a reflector shade of the kind described above, a very uniform distribution of light may be obtained, without waste, and without the necessity of placing the lamp in an inclined position, which is deleterious to metallic filament lamps.

The reflector shade shown in Figs. 3, 4 and 5 is similar to that shown in Figs. 1 and 2 except that the portion 15 is dispensed with, the spherical reflecting portion 17 extending from the lower part of the portion 10. In this case the portion 17 is of greater proportionate size than in the device described in connection with Figs. 1 and 2, and the nipple 13 is disposed so that the conduit-receiving opening 14 extends in the same direction as the reflector portion 18.

One of the uses of the reflector shade shown in Figs. 3-5 is clearly illustrated in Fig. 5, in which 19 designates an advertising sign or the like.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is—

1. A reflector shade having a casing portion adapted to receive an electric lamp socket and having a conduit-receiving opening disposed at right angles to the axis thereof, said shade having a concave reflector portion wider in one direction than another, whereby the light is distributed over an area which is wider in one direction than another

the axis of the reflector being inclined to the axis of the socket.

2. A reflector shade having a portion adapted for connection with an electric lamp socket, and a spherical reflecting portion extending from said first named portion, and having a concave reflector portion extending from said second named portion wider in one direction than another, whereby the light is distributed over an area which is wider in one direction than another the axis of the reflector being inclined to the axis of the socket.

3. A reflector shade having a portion adapted for connection with an electric lamp socket, and a spherical reflecting portion extending from said first named portion, and having a concave reflector portion extending from said second named portion and disposed at an inclination with respect to said first named portion, said reflector portion being wider in one direction than another, whereby the light is distributed at an angle to the axis of the socket and over an area which is wider in one direction than another.

4. A reflector shade having a spherical reflecting portion cut off at its top to form an opening for the reception of a lamp socket and having a reflector portion extending from said spherical portion wider in one direction than another, whereby the light is distributed over an area which is wider in one direction than another the axis of the reflector being inclined to the axis of the socket.

5. A reflector shade having a casing portion adapted to receive the lamp socket and having a conductor receiving opening disposed substantially at right angles to the axis of said socket, said shade having a dished reflector portion with its axis inclined to that of the socket, said dished portion being elliptical in cross section perpendicular to its axis.

In witness whereof, I have hereunto subscribed my name in the presence of two witnesses.

REUBEN B. BENJAMIN.

Witnesses:

E. R. KING,

W. PERRY HALEY.