

L. A. SAGENDORPH.
REFLECTOR.
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988,824.

Patented Apr. 4, 1911.

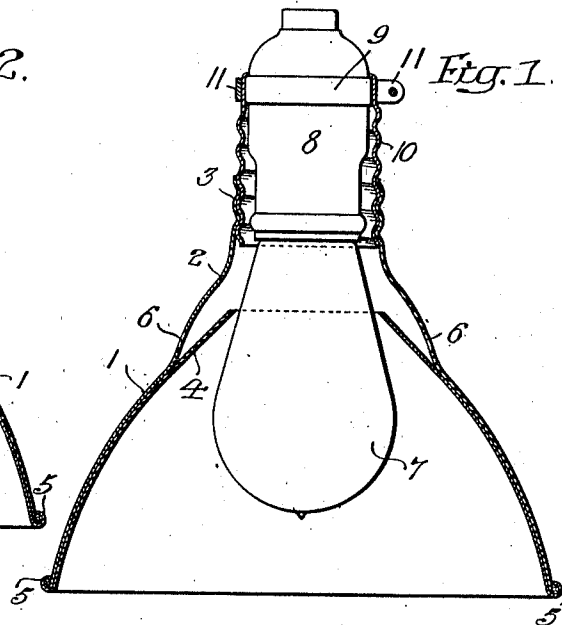
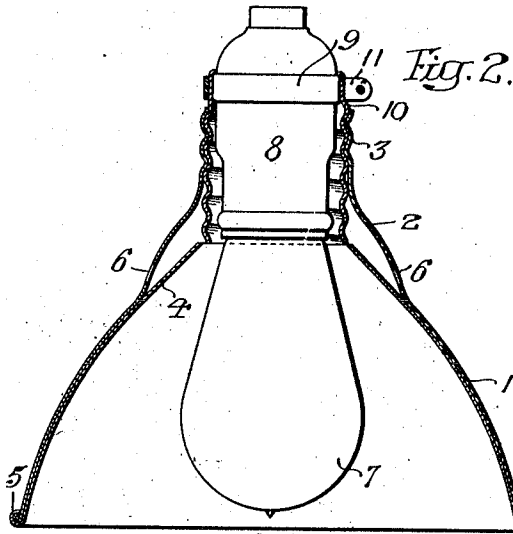


Fig. 3.

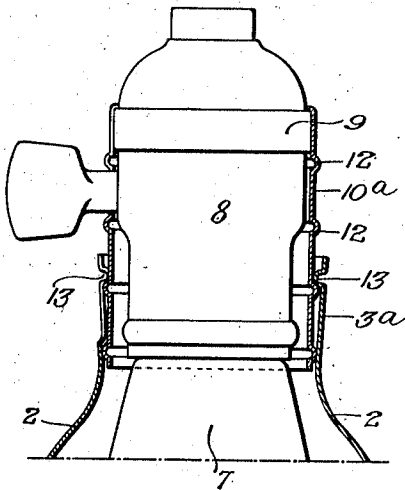
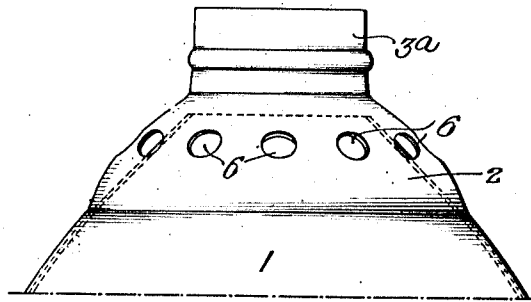


Fig. 4.



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UNITED STATES PATENT OFFICE.

LLOYD A. SAGENDORPH, OF PHILADELPHIA, PENNSYLVANIA.

REFLECTOR.

988,824.

Specification of Letters Patent.

Patented Apr. 4, 1911.

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To all whom it may concern:

Be it known that I, LLOYD A. SAGENDORPH, a citizen of the United States, and a resident of Philadelphia, Philadelphia county, State of Pennsylvania, have invented certain Improvements in Reflectors, of which the following is a specification.

One object of my invention is to provide a reflector, primarily designed for use in connection with incandescent lamps, which while being highly efficient in directing the light of the lamp over a predetermined area, shall be mechanically strong and substantial, as well as convenient and relatively inexpensive to manufacture.

Another object of the invention is to provide a ventilated reflector for incandescent lamps which shall be of such construction that its ventilating openings shall be shielded to prevent passage through them of direct rays of light emitted from said lamp.

I further desire to provide a reflector with improved means whereby it may be adjustably connected to an incandescent lamp socket to render possible a variation of its position relatively to the lamp and thus to vary the area over which the rays of light from the lamp may be distributed.

These objects and other advantageous ends I secure as hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1, is a vertical section of one form of my invention, illustrating the reflector and lamp in such positions that the rays of light are concentrated over a minimum area; Fig. 2, is a section similar to Fig. 1 in which the relation of the reflector to the lamp has been altered so that the rays of light will be distributed over a greater area than with the arrangement shown in Fig. 1; Fig. 3, is a fragmentary vertical section showing a modified form of my reflector and its co-acting socket-supporting member, and Fig. 4, is a fragmentary side elevation of a simple form of my invention.

In the above drawings, 1 represents a shell preferably made of spun sheet metal such as steel or brass, having in the main the form of a parabolic reflector. The upper or small diameter portion 2 of this shell, however, is slightly bulged from the true parabolic form, and terminates in a threaded portion 3 of generally cylindrical form. Mounted within this shell is a second shell 4 forming the reflector proper and

made preferably of thin sheet aluminum, likewise spun into the form desired and closely fitting within the shell 1, to which it is inseparably held by having its outer edge, with that of said shell, turned outwardly over a suitable wire to form a lip or bead 5.

It is noted that the reflecting shell lies practically in contact with the inner surface of the main portion of the shell 1 and extends inwardly toward what would constitute the apex of the paraboloid figure whose shape it has, into the bulged portion 2 of the shell so as to completely shield a series of openings 6 in said bulged portion from the direct rays of the incandescent lamp 7 with which the device is designed to be used. This lamp in the present instance is shown as mounted in a lamp socket 8 whose base portion is provided with a shouldered bead 9, and in order to attach the reflector to this socket I provide a threaded shell 10 of suitable material having one end flanged inwardly so as to be capable of fitting over or snapping onto the bead or shoulder 9, to which it may be held by a suitable form of clamp 11, although if said flanged end be suitably formed this clamp may be omitted. The threads of the cylindrical shell 10 are designed to co-act with the threaded portion 3 of the reflector, which may therefore be screwed thereon so as to be supported in any desired relation to the lamp 7. If, as shown in Fig. 1, the part 3 of the reflector is engaged with the lower part of the threaded shell 10, then the rays of light from the lamp are reflected in substantially parallel lines and the area over which the light is distributed is relatively limited. If, on the other hand, the reflector is adjusted so that its threaded portion 3 engages the upper part of the threaded shell 10 as in Fig. 2, then while as before it sends out rays of the lamp in parallel lines, the direct rays of light from said lamp are distributed over a considerably wider angle than before, so that a considerably greater area is illuminated. In any case, however, the openings 6 provide for the escape of the air heated by the lamp, thus preventing any undue heating of the reflector or of any material near the same. At the same time, by reason of the upwardly projecting end of the reflecting or inner shell of the reflector, these openings are completely shielded so that no direct rays of light can escape from them. The combination is thus rendered available

for use in factories or shops where it is necessary that the light from the lamp be directed over a definite area without any portion of it being permitted to reach the eyes of an operator above the lamp or reflector.

While in that form of my invention shown in Figs. 1 and 2 the reflector may be adjusted by insensible degrees from either of its extreme positions to the other, I may if I desire, make the various parts as shown in Fig. 3 so that the reflector may be held in one of several definite positions. In this case the shell attached to the lamp socket 8 is constructed as indicated at 10^a with a relatively few annular shoulders or beads 12, while the upper end 3^a of the reflector is provided with a number of vertically extending slits and has an internally extending bead 13. With this arrangement said reflector may be moved up or down on the shell 10^a so that its bead 13 may rest upon and cause it to be supported by any one of the annular beads 12, in any of several adjusted positions relatively to the lamp 7. If desired, the upper end of the reflector may be made as shown at 3^a in Fig. 4, *i. e.* of a plain cylindrical form designed to be clamped or otherwise attached to the lamp socket. In any case, however, I provide the reflector with shielded ventilating openings and form it of the two bodies of sheet material made to lie practically in contact with each other as illustrated. By this means I am enabled to make the outer shell 1 of relatively strong and inexpensive material so that the reflector may be described as being of the "armored" type. On the other hand the reflecting surface is provided by the thin and relatively delicate body of sheet

metal 4 mounted within and protected by the shell 1, so that said inner shell may be relatively light and inexpensive since it is not exposed to injury.

I claim:—

1. The combination of two bodies of sheet metal in the form of a concave reflector mounted one within the other in close proximity; the outer body of metal having ventilating openings and the inner body being extended to shield said openings from the light of a lamp within the reflector.

2. The combination with a lamp of a reflector mounted thereon and consisting of a supporting portion surrounding the lamp and provided with ventilating means; with a lining for said supporting portion consisting of thin sheet material extending between the lamp and the ventilating openings so as to shield the latter.

3. As a new article of manufacture a reflector formed of two bodies of different sheet metals having substantially the form of a paraboloid; said bodies being structurally independent of each other but in close proximity and having their outer edges turned over so as to hold them together; the inner of said bodies of metal being of a reflecting material and being extended toward the apex of the reflector to shield the ventilating openings in the outer body.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

LLOYD A. SAGENDORPH.

Witnesses:

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