May 15, 1928. 1,669,724

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LENS FOR ILLUMINATED SIGNS

Filed Feb. 3, 1928

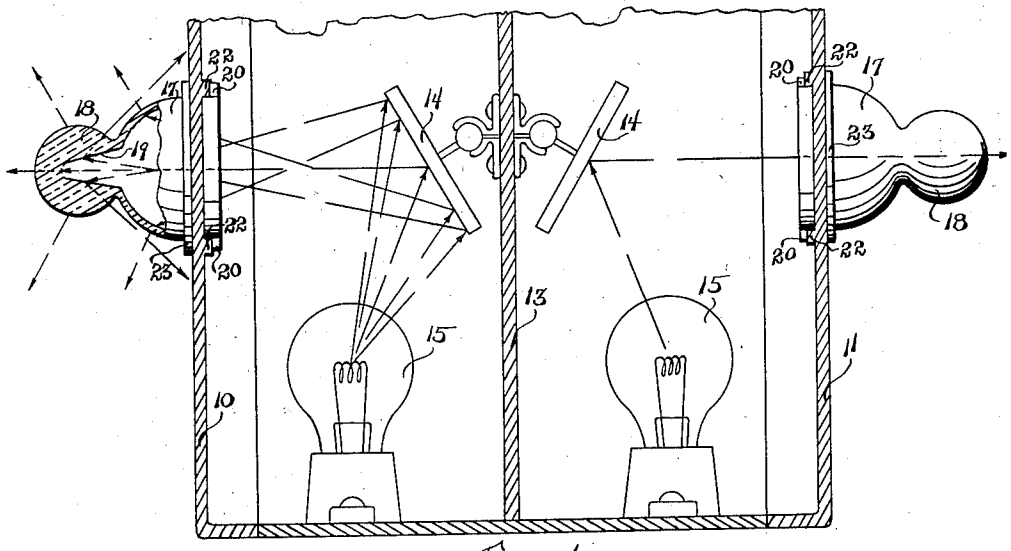


Fig. 1.

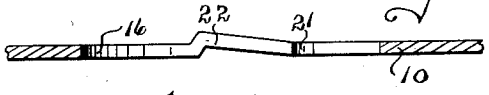


Fig. 4.

Fig. 3.

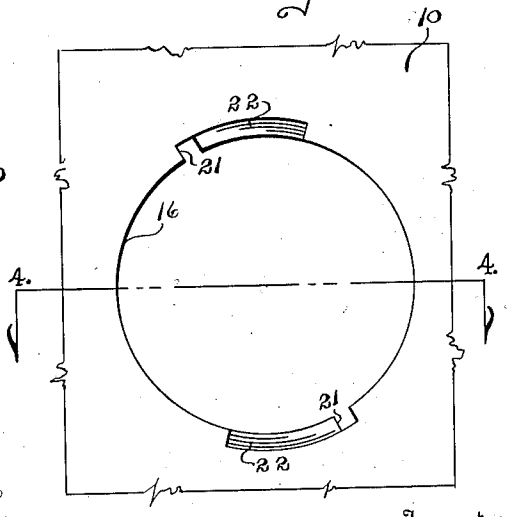
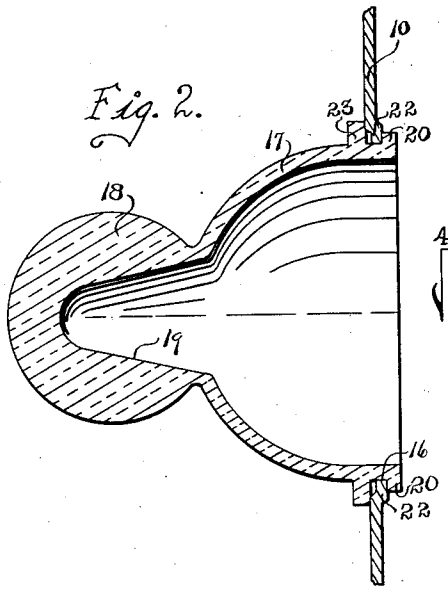


Fig. 2.



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UNITED STATES PATENT OFFICE.

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LENS FOR ILLUMINATED SIGNS.

Application filed February 3, 1928. Serial No. 251,729.

The principal object of this invention is to provide a lens for illuminated signs that will diffuse the light rays passing through it in all directions, so that it may advantageously be seen from all angles.

A further object of this invention is to provide a lens for illuminated signs that will direct a part of the light passing through it laterally and backwardly upon the face of the sign.

A still further object of this invention is to provide an illuminated sign lens that may easily and quickly be removed from or installed on the sign housing.

A still further object of this invention is to provide an illuminated sign lens that is economical in manufacture and durable in use.

More specifically, the object of this invention is to provide an illuminated sign lens comprising a semi-spherical hollow body portion and a somewhat smaller spherical portion integrally formed on the forward end of the hollow body portion and having a cone-shaped hollow core communicating with the inside of the semi-spherical portion.

These and other objects will be apparent to those skilled in the art.

My invention consists in the construction, arrangement and combination of the various parts of the device, whereby the objects contemplated are attained as hereinafter more fully set forth, pointed out in my claims and illustrated in the accompanying drawings, in which:

Fig. 1 is a side sectional view of an illuminated sign with my special lens installed in each of the sign openings. The arrows show the path of some of the refracted light.

Fig. 2 is a side sectional view of my lens for illuminated signs and more fully illustrates its construction.

Fig. 3 is a front view of a portion of the face of the sign and shows an opening in which is designed to be secured, one of my lenses.

Fig. 4 is a top plan sectional view of one of the openings in the face of the sign, taken on line 4—4 of Fig. 3, and more fully illustrates the manner of securing one of my lenses in the same.

Although my lens is especially designed to be used with my illuminated sign, Patent No. 1,649,547, under date of November 15, 1927, utilizing reflected light as shown in Fig. 1, it may be readily adapted to any sign having its source of light inside the sign housing.

Electric signs have become a necessary mechanism for night advertising. However, their lenses are chiefly used merely to inclose the sign housing from foreign matter, and fail to diffuse the light in all directions such as laterally and backwardly upon the face of the sign. I have overcome these disadvantages, as will be appreciated by those familiar with the art.

I have designated the two side faces of the ordinary sign by the numerals 10 and 11 and upon which may be painted the desired advertising. The numeral 13 designates the wall in the sign housing dividing the same into two compartments. Secured to this wall is the usual plurality of reflectors 14, designed to receive light from the incandescent light bulbs 15 and reflect the same through a plurality of apertures 16, respectively, in the faces of the sign. These apertures are usually in the outlines of the letters or character strokes displayed on the faces of the sign. It is in each of these apertures or openings that I secure one of my lens. I have designated the hollow semi-spherical shaped body portion of my lens by the numeral 17. Integrally formed on the forward end of this body portion is a spherical portion 18 as shown in Fig. 2, having a hollow cone-shaped center 19 with its largest end communicating with the inside of the body portion 17. The lens is detachably secured in an aperture 16 by having integrally formed on the marginal edge of the portion 17, two lugs 20, diametrically opposite each other and capable of entering the two notches 21 in the marginal edge of the aperture. By rotating the lens a portion of a revolution, the lugs 20 will frictionally engage the back of the depressed portion 22 adjacent each notch 21. To detach the lens from its respective aperture, it is merely necessary to rotate the same in the opposite direction until the lugs 20 can be withdrawn through the notches 21. The numeral 23 designates a peripheral flange formed on the body portion 17 and so located that when the lens is in place in an aperture, it will be adjacent the face of the sign. This flange successfully closes the aperture against dirt and other foreign matter that might enter the sign and interfere with its functioning,

and also prevents the lens from being drawn into the aperture when the lugs 20 engage the depressed portion 22.

By this construction of a lens, it will be noted that light passing through the body portion 17 will be directed forwardly and laterally, light passing through the side walls of the core 19 will leave the sphere 18 in a path backwardly, laterally, and forwardly, and light passing through the forward end of the sphere 18 will proceed in a direct course. Such a lens when extending a considerable distance from the face of the sign, will give illumination that can be seen from any angle, and other advertising on the face of the sign, painted or otherwise placed thereon, may easily be seen.

The lens may be either of transparent or translucent material.

Some changes may be made in the construction and arrangement of my improved lens for illuminated signs without departing from the real spirit and purpose of my invention and it is my intention to cover by my claims any modified forms of structure or use of mechanical equivalents which may be reasonably included within their scope.

I claim:

1. In a device of the class described, a semi-spherical body portion, and a spherical portion integrally formed on the forward end of said first mentioned portion.

2. In a device of the class described, a hollow semi-spherical body portion, and a spherical portion integrally formed on the forward end of said first mentioned portion.

3. In a device of the class described, a hollow semi-spherical portion, a spherical portion integrally formed on the forward end of said first mentioned portion, and a cone-shaped passageway leading from said hollow portion into said spherical portion.

4. In a device of the class described, a semi-spherical portion, a spherical portion integrally formed on said first mentioned portion, and lugs formed on said semi-spherical portion designed to secure said portion in an opening of an illuminated sign.

5. In a device of the class described, a hollow semi-spherical portion, and a hollow spherical portion integrally formed on said first mentioned portion and communicating with the same.

6. In a device of the class described, a hollow semi-spherical portion, a hollow spherical portion formed on said first mentioned portion, and a peripheral flange formed on said semi-spherical portion.

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