May 2, 1933. W. F. ALLISON, SR 1,906,504

SIGN

Filed Dec. 16, 1931

Fig. 1.

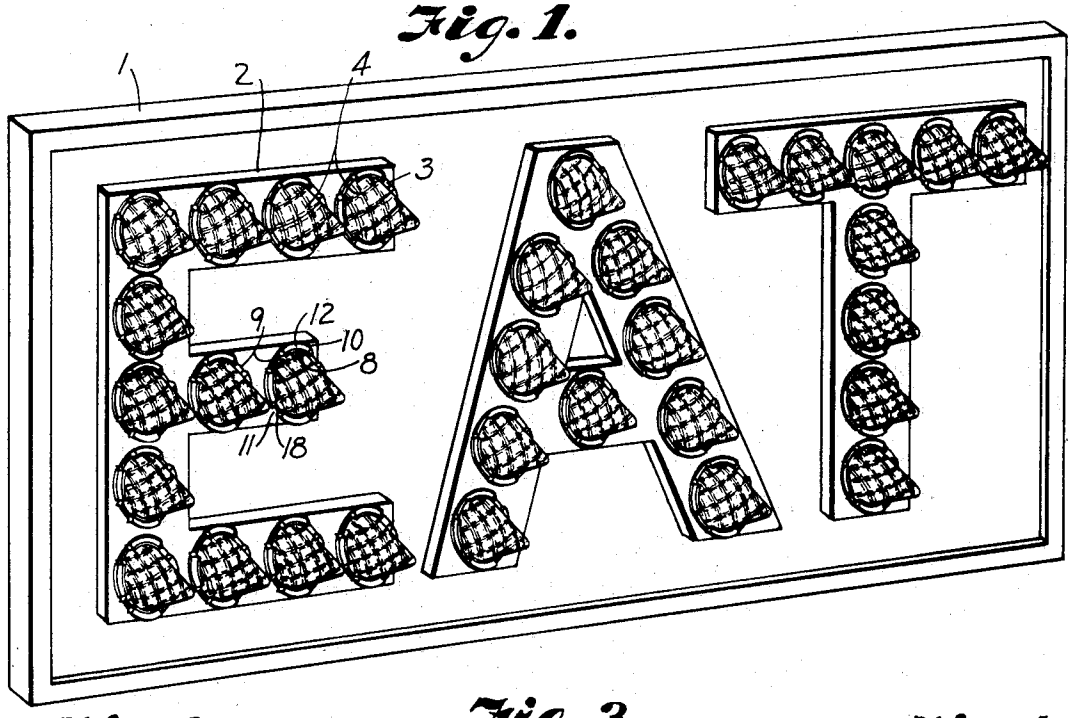


Fig. 2.

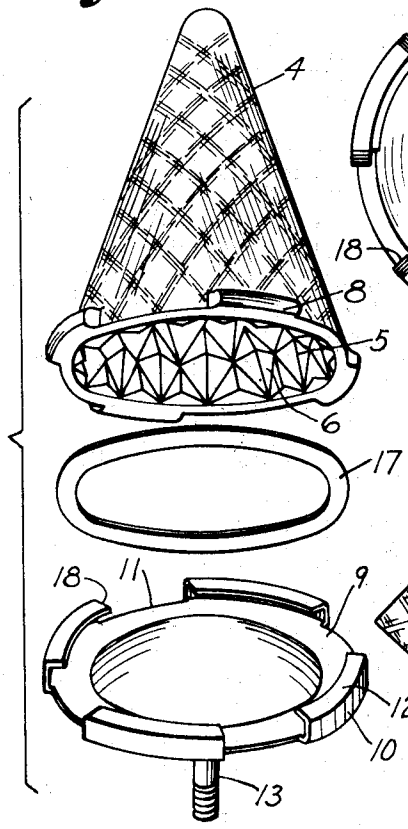


Fig. 3.

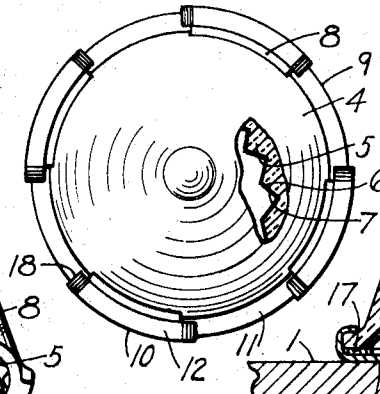


Fig. 4.

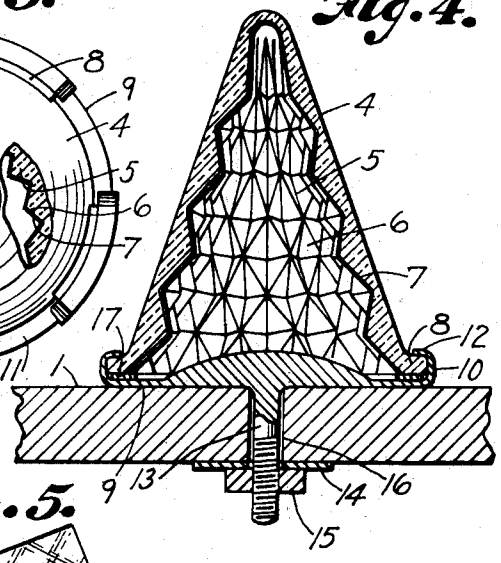
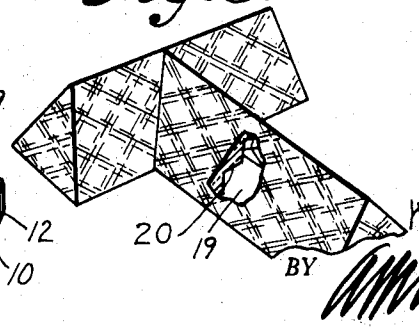


Fig. 5.



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Patented May 2, 1933 1,906,504

UNITED STATES PATENT OFFICE

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SIGN

Application filed December 16, 1931. Serial No. 581,385.

This invention relates to signs and more particularly to those of the reflector type wherein light rays are refracted and reflected therefrom to render the signs conspicuous after dark, and has for its principal object to provide a plurality of refractory reflector elements that may be applied to the characters of a sign, whereby the light rays directed thereon will be reflected and dispersed throughout the area of the reflectors to give the glowing effect of an electrically illuminated sign.

It is also an important object of the invention to provide an inexpensive, easily manufactured reflector element that may be readily applied to existing signs and which has a greater degree of brilliance.

In accomplishing these and other objects of the invention, I have provided improved details of structure, the preferred forms of which are illustrated in the accompanying drawing, wherein:

Fig. 1 is a perspective view of a sign equipped with a plurality of refractory light reflecting elements constructed in accordance with my invention.

Fig. 2 is a perspective view of parts of one of the refractory elements shown in spaced relation to better illustrate their construction.

Fig. 3 is a plan view of one of the refractory elements, a part of its side wall being broken away to illustrate the light refracting projections on its inner surface.

Fig. 4 is a central sectional view through one of the refractory elements illustrating its attachment to a sign board.

Fig. 5 is a perspective view of a modified form of refractory element wherein the refractory element takes the shape of a letter of the sign.

Referring more in detail to the drawing:

1 designates a sign having letters or other characters 2 equipped with a plurality of refractory light reflecting elements 3 constructed in accordance with my invention.

The refractory elements illustrated in the preferred form of my invention comprise a hollow cone-shaped body member 4 preferably formed of molded transparent glass and provided on its inner surface with a plurality of juxtaposed projections 5 having suitable shape to refract light rays passing therethrough.

In the form illustrated, the projections assume a plurality of diamond-shaped pyramids having inclined surfaces 6 which are covered with a coating 7, such as silver or other substance capable of reflecting the refracted rays of light, whereby the light rays are dispersed and spread over the entire area of the cone to give a glowing appearance. As illustrated in Fig. 4, the projections may be arranged in circumferential and longitudinal rows with the projections decreasing in width toward the vertex of the cone to provide the same number of projections in a circumferential row at the upper end of the cone as are present in a circular row at the base of the cone whereby the reflecting surfaces are uniformly distributed throughout the cone. The base of the cone is provided with a plurality of spaced, laterally projecting arcuate tongues 8 by which it is anchored to a base member now described.

The base member includes a metal disk 9 having substantially the same diameter as the cone and provided on its periphery with arcuate grooved flanges 10 to engage the tongues 8 on the cone, the arcuate flanges being spaced apart as at 11 to permit reception of the tongues therebetween when the cone is applied thereto, so that when the cone is rotated the tongues 8 are brought under inwardly extending lips 12 on the flanges to prevent outward movement thereof. In order to secure the base members to a sign, the bottoms thereof are provided with threaded studs 13 carrying a washer 14 and a nut 15, as illustrated in Fig. 4.

In applying the refractory elements to the sign, they are spotted over the characters in substantially the same arrangement as the ordinary electric light bulbs. The letters 2 are drilled at spaced intervals to provide openings 16 through the body of the sign to admit the studs 13. The studs provided on the base members are then inserted through the openings and the wash-

ers 14 and nuts 15 are applied to the projecting ends of the studs to clamp the base member to the front face of the sign, as best illustrated in Fig. 4. A suitable gasket 17 is then applied to the face of the disk 9 and the refractory cone is applied to the base member, so that the tongues enter the spaces between the arcuate flanges 11. The cone is then rotated to bring the tongues under the lips of the flanges, as shown in Fig. 3. The ends of the lips 18 are then bent downwardly to engage the ends of the tongues and prevent rotary movement of the cone. The cones as described may be provided in various sizes and in sufficient numbers to conform to the shape of the characters to which they are applied.

In the form shown in Fig. 5, the refractory element is formed in the shape of the letter to which it is applied and comprises a hollow body 19 having triangular shape cross section, the interior of the body being covered with a plurality of pyramidal projections 20 similar to those illustrated in the preferred form.

In operation the sign carrying the refractory elements may be placed at the side of a road where the headlights of approaching vehicles may fall thereon, so that the light rays are refracted and reflected by the coating 7 and dispersed over the entire area of the cones, producing a glow of high intensity and giving the effect of an illuminated sign.

What I claim and desire to secure by Letters Patent is:

1. A device of the character described including a transparent hollow cone-shaped member of greater height than the diameter of its base and having a plurality of juxtaposed pyramidal projections for refracting light rays, and a light reflecting coating covering the inner surface of said cone-shaped member for reflecting the light rays refracted by said pyramidal projections.

2. A device of the character described including a transparent hollow cone-shaped member having a plurality of juxtaposed pyramidal projections covering its inner surface for refracting light rays, and a light reflecting coating covering said pyramidal projections for reflecting the refracted rays of light.

3. A device of the character described including a base member, a cone-shaped refractory member supported by the base member, spaced tongues extending from the base of said refractory member, and flanges on the base member cooperating with said tongues to retain the cone-shaped refractory member on the base member, said flanges being of greater length than the tongues whereby the ends of the flanges may be bent over the ends of the tongues to prevent rotation of the cone shaped member on the base member.

4. In a device of the character described including a base member, a threaded stud on the base member for securing the base member to a sign, a transparent hollow light refractory member supported by the base member, means for securing said refractory member to the base member, and a plurality of juxtaposed pyramidal projections on the inner surface of said refractory member for refracting light rays, and a reflecting material covering said pyramidal projections for reflecting the refracted rays of light.

5. A device of the character described including a transparent cone-shaped member having a plurality of juxtaposed pyramidal projections arranged in circumferential rows and decreasing in width toward the vertex of the cone to provide the same number of projections in a circumferential row at the upper end of a cone as are present in a circular row at the base of the cone.

6. A device of the character described including a hollow transparent cone-shaped member having a plurality of juxtaposed pyramidal projections on its inner surface arranged in circumferential and longitudinal rows to provide an equal number of projections in a circumferential row at the base of the cone as are present in a circular row adjacent the vertex of the cone.

In testimony whereof I affix my signature.

WILLIAM F. ALLISON, SR.