A. R. HARRISON.

REFLECTOR FOR HEADLIGHTS.

APPLICATION FILED OCT. 3, 1910.

979,852.

Patented Dec. 27, 1910.

2 SHEETS—SHEET 1.

FIG. 1

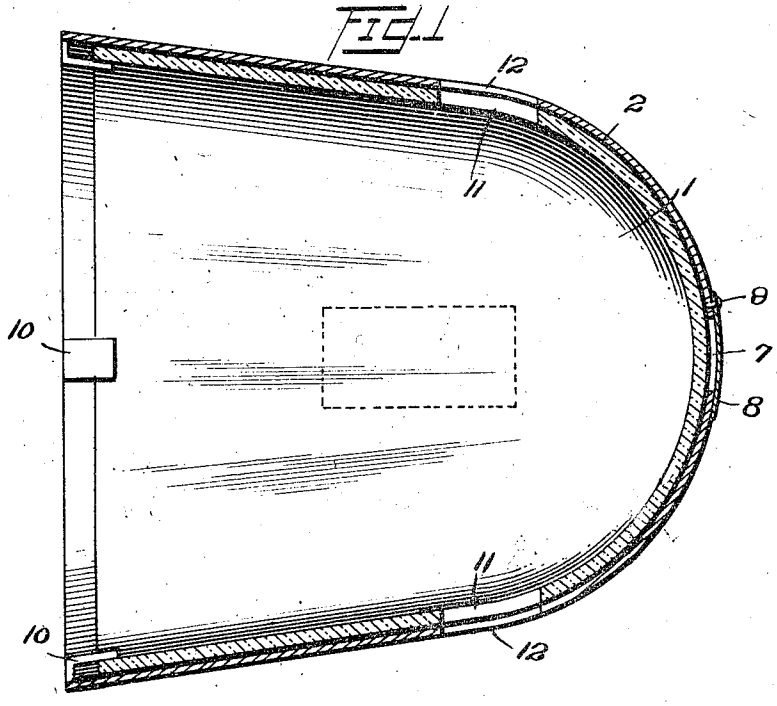
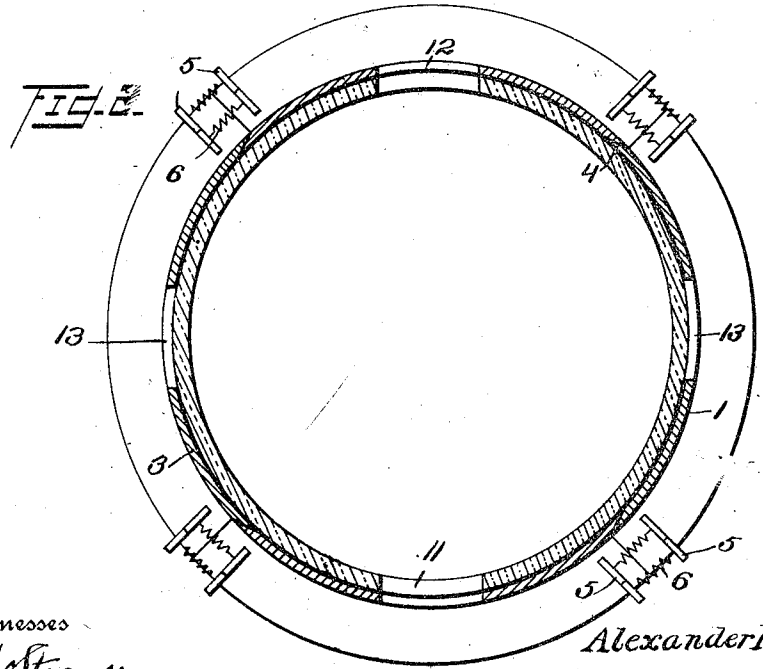


FIG. 2



Witnesses

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2 SHEETS—SHEET 2.

FIG. 3.

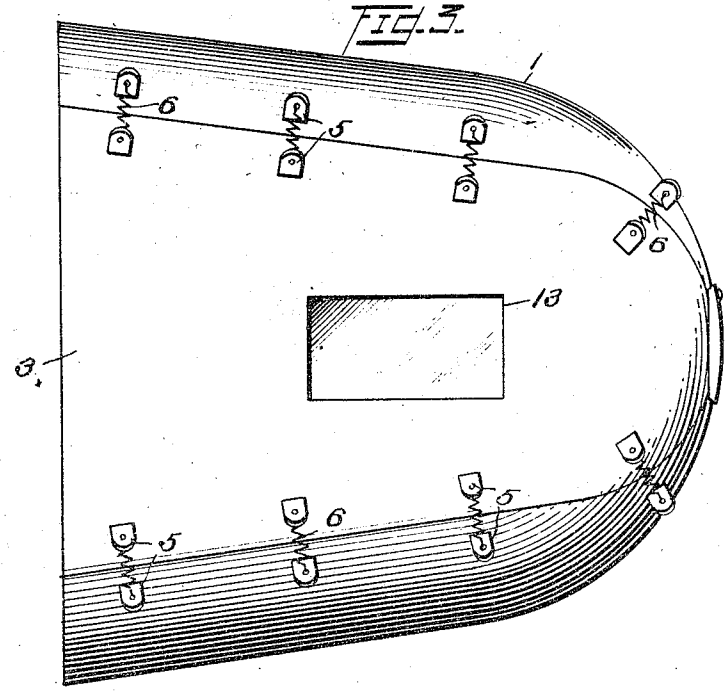
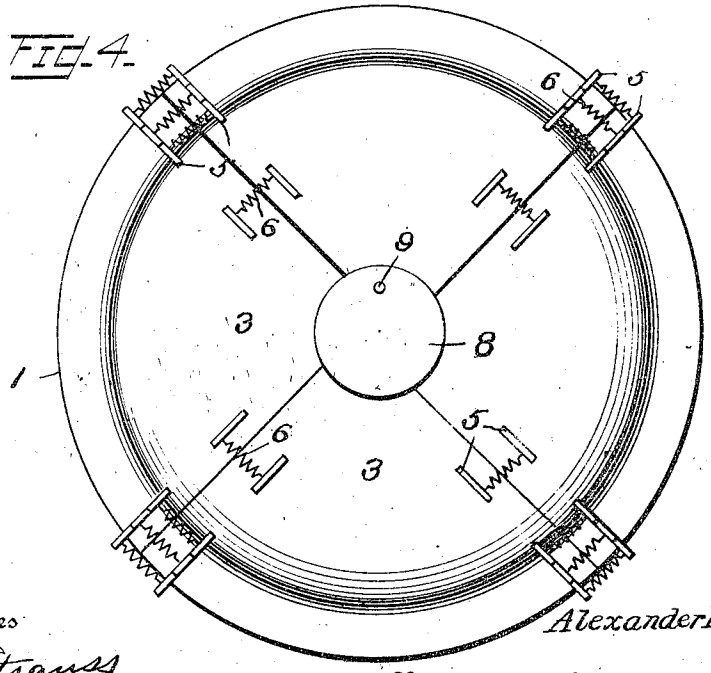


FIG. 4.



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UNITED STATES PATENT OFFICE.

ALEXANDER R. HARRISON, OF MILLVILLE, NEW JERSEY.

REFLECTOR FOR HEADLIGHTS.

979,852. Specification of Letters Patent. Patented Dec. 27, 1910.

Application filed October 3, 1910. Serial No. 584,976.

To all whom it may concern:

Be it known that I, ALEXANDER R. HARRISON, a citizen of the United States, residing at Millville, in the county of Cumberland and State of New Jersey, have invented certain new and useful Improvements in Reflectors for Headlights, of which the following is a specification.

My invention relates to improvements in reflectors for head lights, the object of the invention being to provide a reflector particularly designed for use in locomotive head lights, which enables the employment of a mirror as a reflector inclosed within a protecting casing of metal, and which permits of independent expansion and contraction of the glass and the metal in all directions to prevent the breaking of the glass.

A further object is to provide a reflector of this character in which the mercury coating on the outer face of the glass reflector is protected at all times regardless of the expansion and contraction of the parts.

With these and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings: Figure 1, is a view in longitudinal section illustrating my improvements. Fig. 2, is a view in cross section taken through the chimney openings 11 and 12, as well as through the openings 13. Fig. 3, is a view in side elevation, and Fig. 4, is a rear end view.

In constructing my improved reflector, I employ a glass mirror 1 of general semi-ellipsoidal shape such as in common use, and coat the outer face of said glass with mercury 2 or other suitable material to form a mirror. This glass 1 is inclosed in a metal casing comprising a plurality of quarter sections 3 which, when together, fit snugly the glass 1, and project at their forward edges beyond the forward edge of the glass.

By particular reference to Fig. 2, it will be noted that the longitudinal edges of the sections 3 are beveled as shown at 4, so that the sections overlap maintaining a covering for the glass regardless of the difference in expansion and contraction between the parts. Lugs 5 are provided on the sections 3 adjacent their meeting edges, and these lugs are connected by coiled springs 6 exerting a constant pressure on the metal to hold it on the glass, yet permitting the free expansion and contraction. At the extreme rear end of the metal covering, the opening 7 formed by the several sections which is necessary to allow the sections to move relative to each other, is closed by a cap or disk 8 secured by a rivet 9 to one of the sections 3.

As above stated the forward edges of the sections 3 project beyond the forward edge of glass 1 and the sections, at their forward edge, are provided with inwardly projecting spring tongues 10, which bear against the inner face of the glass. These tongues serve to prevent the glass from moving out of its metal casing, yet they allow the glass and the metal to expand longitudinally with relation to each other without any danger of breaking the glass, while the springs 6 permit of independent or different radial expansion of the glass and metal without any danger of breaking the former.

Glass 1 is provided at top and bottom with openings 11 which register with openings 12 in the metal casing, and are adapted to receive the ordinary lamp chimney of a locomotive head light.

At the sides, the sections 3 of the metal casing are provided with openings 13, and the glass 1 where it registers with the openings 13 is left free of any outer coating 2, so that the light from the lamp at these points shines directly through the glass so as to illuminate the numbers on the sides of an ordinary locomotive head light.

My improved reflector is designed for use to take the place of the ordinary metal reflectors, will overcome the defects of metal reflectors, and will more powerfully reflect the light than reflectors in general use.

Various slight changes might be made in the general form and arrangement of parts described without departing from my invention, and hence I do not limit myself to the precise details set forth, but consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of the appended claims.

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

1. A reflector comprising a glass mirror of general semi-ellipsoidal shape, a sectional metal casing inclosing said glass mirror, and elastic means holding said sections together, substantially as described.

2. A reflector comprising a glass of gen-

eral semi-ellipsoidal shape, a sectional metal casing around said glass, chimney receiving registering openings in said glass and casing, openings in said casing, and a mirror coating on the back of said glass except at said last-mentioned openings in the casing, substantially as described.

3. A reflector comprising a glass mirror of general semi-ellipsoidal shape, a metal casing over said mirror comprising a plurality of overlapping sections, lugs on said sections, and springs connecting the lugs of one section with the lugs of the other, substantially as described.

4. A reflector comprising a glass mirror of general semi-ellipsoidal shape, a metal casing over said mirror comprising a plurality of overlapping sections, lugs on said sections, springs connecting the lugs of one section with the lugs of the other, the forward edges of said casing sections extending beyond the forward edge of the mirror, and inwardly projecting spring tongues on said sections engaging the inner face of the mirror, substantially as described.

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

ALEXANDER R. HARRISON.

Witnesses:
C. E. POTTS,
R. H. KRENKEL.