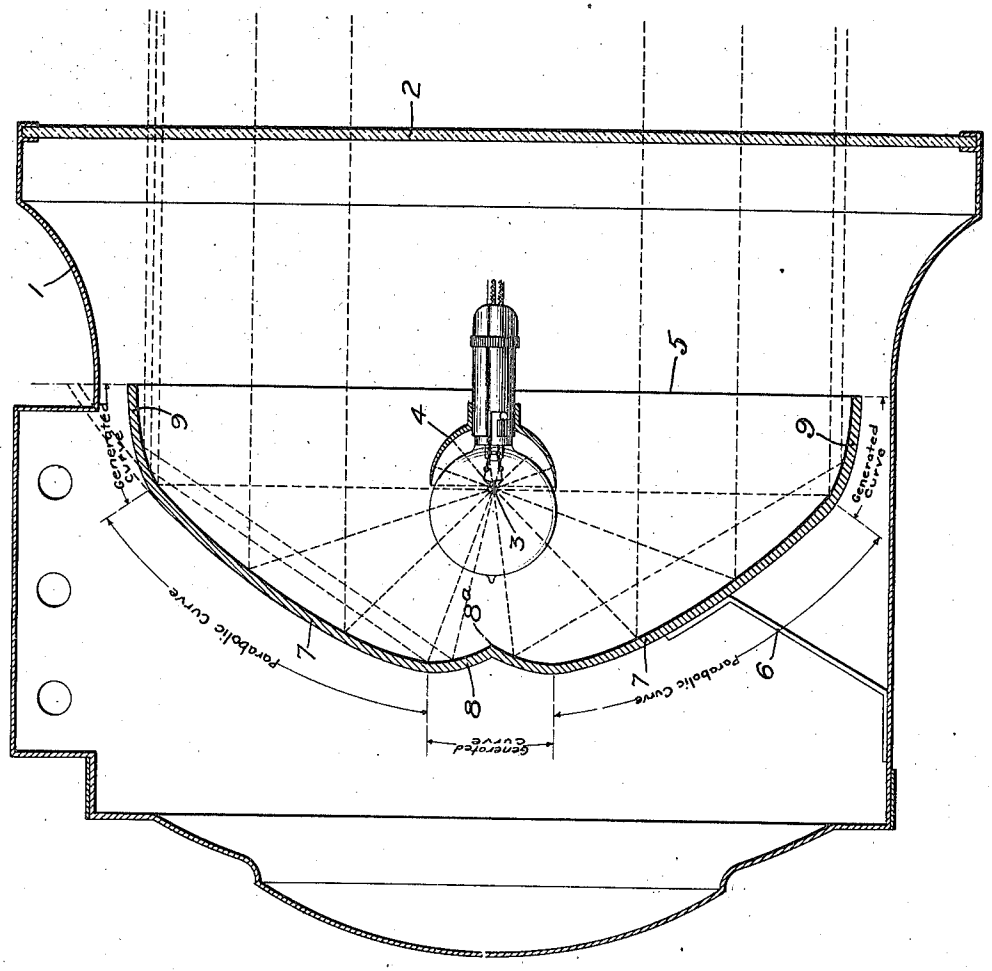
J. T. ROFFY.

LAMP AND REFLECTOR.

APPLICATION FILED DEC. 8, 1911.

1,153,446. Patented Sept. 14, 1915.



INVENTOR.

Joseph T. Roffy

WITNESSES:

BY

HIS ATTORNEY IN FACT.

UNITED STATES PATENT OFFICE.

JOSEPH T. ROFFY, OF PITTSBURGH, PENNSYLVANIA, ASSIGNOR TO NERNST LAMP COMPANY, A CORPORATION OF PENNSYLVANIA.

LAMP AND REFLECTOR.

1,153,446. Specification of Letters Patent. Patented Sept. 14, 1915.

Application filed December 8, 1911. Serial No. 664,592.

To all whom it may concern:

Be it known that I, JOSEPH T. ROFFY, a subject of the Emperor of Austria-Hungary, and a resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have made a new and useful Invention in Lamps and Reflectors, of which the following is a specification.

This invention relates to lamps and particularly to that class in which it is desired to provide a high degree of illumination within a concentrated field.

In "search lights" as for example, those used on motor vehicles, it is desirable to so construct the lamp that a beam of light will be provided, the cross-sectional area of which will be restricted but the rays of which will be so concentrated that a beam of great brilliancy will be provided.

Hitherto, lamps have been constructed with lenses and reflectors which, in a measure, conformed to the above requirements but, in so far as I am aware, no lamp has been constructed prior to my invention wherein practically all the light rays are collected and projected in substantially parallel lines to provide a restricted but brilliant field.

In the drawings I have illustrated a sectional view of a lamp constructed in accordance with my invention.

The single embodiment of my invention selected for illustrational purposes is here shown as comprising a lamp shell or casing 1, provided with a transparent screen 2, a light medium 3, a semi-spherical reflector 4, and a compound reflector 5. The reflector 5 is adapted to be secured to the casing 1 by any suitable means as, for example, by a bracket 6.

By reference to the drawings it will be observed that the compound reflector 5 consists of an intermediate parabolic portion 7, a central portion 8, the surface of which is in the form of a generated curve and an outer portion 9, the surface of which is in the form of a generated curve.

The portion 8^a of the reflector is raised to a point in axial alinement with the light source 3, and the semi-spherical reflector 4. The reflector 4 is positioned in front of the light source, so as to collect rays of light to reflect them upon the portions 7 and 8. Those rays of light striking the parabolic portion 7 will be reflected from the lamp in approximately horizontal lines when the lamp is in the position shown in the figure. Rays of light thrown upon the portion 8 either directly from the light source or from the reflector 4 will be redeflected upon the portion 9 and from the reflector 9 they will be paralleled with the rays of light projected through the screen 2 from the parabolic portion of the reflector 5.

It will be apparent that all of the light rays, or substantially all of them, will be collected by the reflector 5 and the reflector 4, and reflected in such a way that the beam will consist of rays substantially parallel instead of divergent rays resulting from the usual type of reflector. As the light rays are concentrated within a restricted field, it is obvious that the beam will be more intense within the confined area.

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

1. The combination of a reflector comprising an intermediate portion of parabolic form and two differently curved portions, and a light source located at the focal point of said parabolic portion, one of said curved portions being formed so as to reflect impinging rays of light upon the other curved portion.

2. The combination of a reflector comprising an intermediate portion of parabolic form and two differently curved portions, and a light source located at the focal point of said parabolic portion, one of said curved portions being formed so as to reflect impinging rays of light upon the other curved portion, the other curved portion being formed so that rays of light from the first curved portion will be reflected into space in parallel lines.

3. The combination of a reflector comprising an intermediate portion of parabolic form and two differently curved portions,

and a light source located at the focal point of said parabolic portion, one of said curved portions being formed so as to reflect impinging rays of light upon the other curved portion, and a reflector facing the first mentioned reflector and in axial alinement therewith.

In witness whereof, I have hereunto subscribed my name this 6th day of December, 1911.

JOSEPH T. ROFFY.

Witnesses:
GEO. J. TAYLOR,
ADA ROMIG.