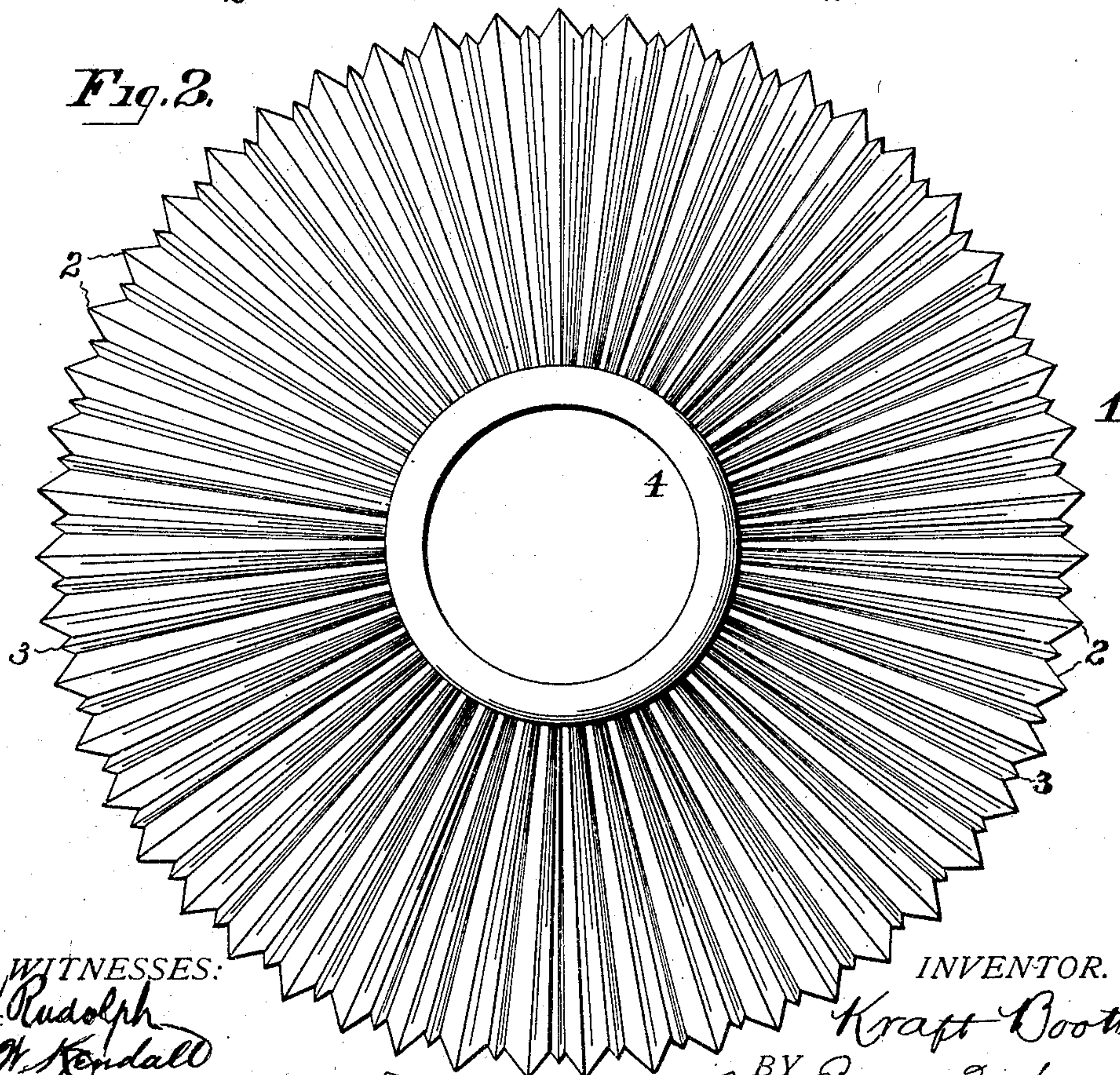
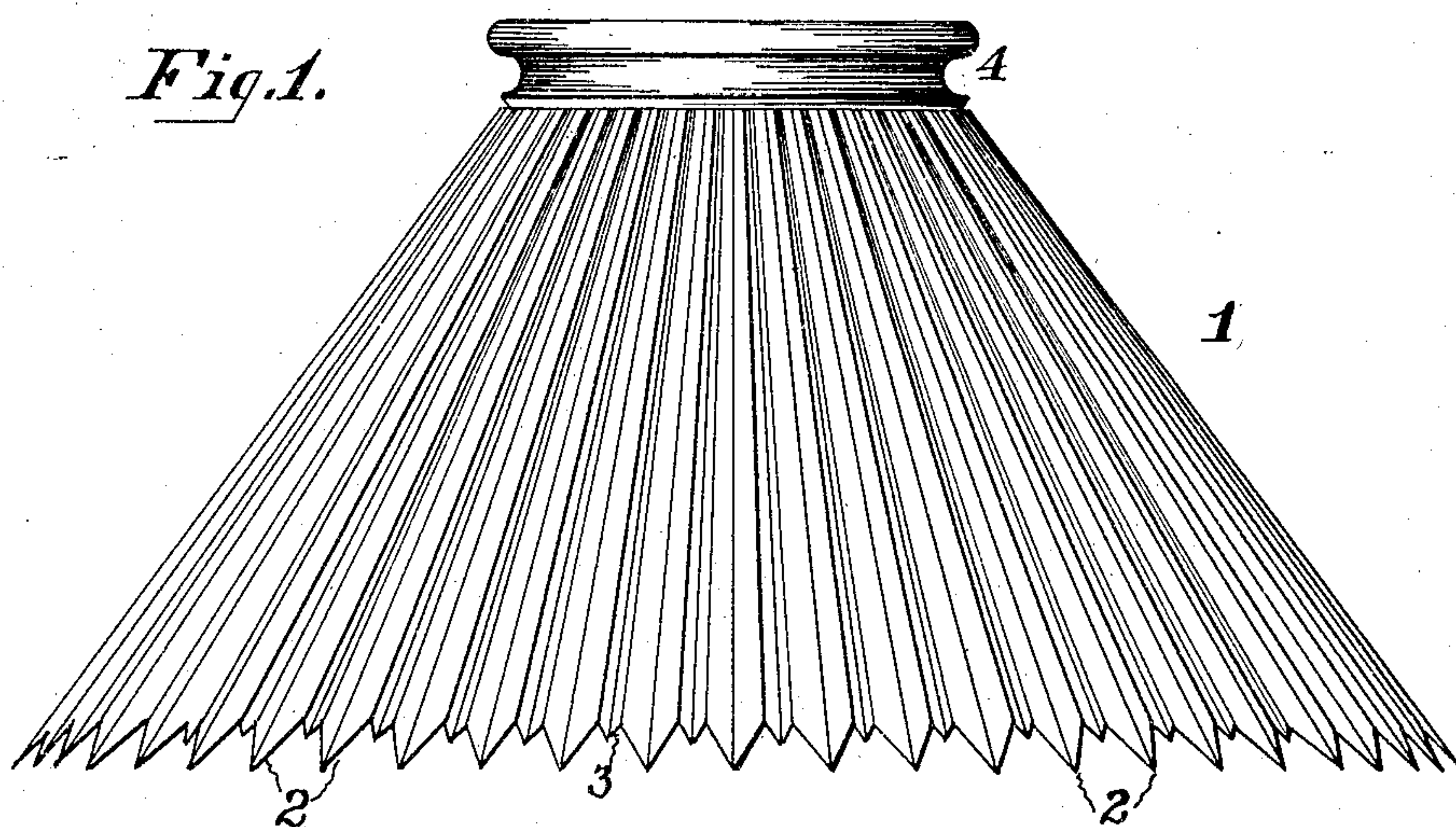


No. 790,026

PATENTED MAY 16, 1905.

K. BOOTH.
REFLECTOR FOR ARTIFICIAL LIGHT.
APPLICATION FILED FEB. 3, 1905.



WITNESSES:
H. Rudolph
H. H. Kendall

INVENTOR.

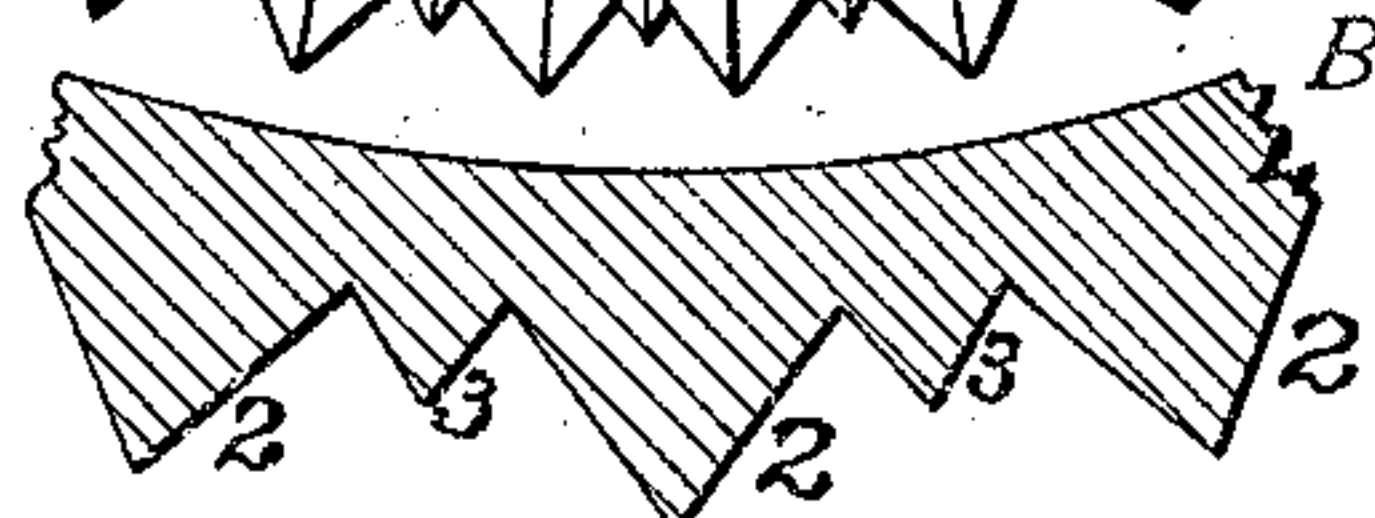
Kraft Booth,

BY

Edward J. Simpson, Jr.

ATTORNEY.

Fig. 3.



UNITED STATES PATENT OFFICE.

KRAFT BOOTH, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
GILLINDER & SONS, INC., OF PHILADELPHIA, PENNSYLVANIA.

REFLECTOR FOR ARTIFICIAL LIGHT.

SPECIFICATION forming part of Letters Patent No. 790,026, dated May 16, 1905.

Application filed February 3, 1905. Serial No. 243,919.

To all whom it may concern:

Be it known that I, KRAFT BOOTH, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Improvement in Reflectors for Artificial Light; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to light-reflectors of transparent material, as glass, particularly designed for use upon incandescent electric lights, the invention being applicable to that class of such reflectors known as "prismatic."

The chief object of my invention is to improve this class of reflectors by making them more luminous without materially affecting their reflecting power.

The invention consists in forming upon the exterior surface of reflectors alternate high and low prisms extending radially from at or near the neck of the reflector to or near the mouth thereof, as will appear from the following description and claim and the accompanying drawings.

In said drawings, Figure 1 is a view in side elevation of an ordinary form of reflector having my improved prisms. Fig. 2 is a plan or top view thereof. Fig. 3 is a sectional view of a portion of the reflector on an enlarged scale.

Prismatic electric reflectors are now made in a large variety of shapes and designs, ranging from a conic frustum to bell form, each with an annular neck at its inner end and increasing in diameter toward its outer end or mouth. It has been found that a large percentage of the light-rays emanating from the lamp to which the reflector is applied is reflected from the mouth of the reflector by forming it with external radial prisms. By properly constructing the prisms all but a small proportion of the light is thus reflected, the remainder passing through the sides of the reflector. This is caused by the light-rays striking one side of each prism and being reflected therefrom at a right angle to the op-

posite side of the prism and thence reflected through the mouth of the reflector. While this is desirable for reflecting purposes, it leaves the exterior of the reflector dull and the space surrounding the reflector comparatively dark. In other words, the light diffused from the side of the reflector is not sufficient for illuminating to an appreciable extent or for overcoming the dullness or lack-luster of the reflector. This has been overcome partly by providing a portion of the reflector with diffusing instead of reflecting prisms. This is effective so far as it goes, but does not relieve the reflecting-prisms of dullness, and as these prisms cover the major portion of the reflector its general external appearance is dull.

The reflector 1 indicated in the accompanying drawings is in the form of a conic frustum; but obviously the sides instead of being straight may be curved, flared, scalloped, or formed into any desirable shape. Externally the reflector is surfaced with what I will term "high" prisms 2 and relatively low, and hence smaller, prisms 3, the prisms in this particular instance extending in a straight line from just below the neck 4 of the reflector to the edge or mouth thereof. The high and low prisms are arranged alternately—that is, a low prism being placed between every two high prisms. In some forms of reflectors it is desirable that the low prisms do not extend toward the neck as far as the high prisms extend.

The high prisms serve to reflect the light through the mouth of the reflector the same as in the well-known prismatic electric reflectors above described. The low prisms also reflect the light in the same manner, but to a less extent. They also perform an additional function, the light-rays which pass entirely through them being refracted upon the near exterior surface of the adjacent high prism, from which it is reflected laterally or outwardly. Thus the major portion of the light is reflected through the mouth of the reflector, as with well-known forms of prismatic electric reflectors; but that portion of the light which passes through the sides of

the reflector is made use of to render the external surface of the reflector more brilliant and luminous than is the case with other reflectors. This increased brilliancy or luminosity is attained without sacrificing to any material extent the reflecting quality of the reflector. Moreover, this is accomplished without devoting a portion of the reflector to diffusing-prisms, practically the entire surface of the reflector deflecting and diffusing light at the same time. In this way no portion of the reflector is dull, its entire external surface being brilliant and luminous.

My invention, it is to be understood, is not confined to the exact arrangement and proportion of prisms shown, although I have found that the object sought is well attained by making the low prisms approximately one-

half the height of the high prisms; nor is my invention restricted to radial prisms extending in a straight line, as they may be curved or arranged spirally.

I claim as my invention—

A prismatic light-reflector of transparent material formed on its exterior surface with alternate high and low prisms extending radially from at or near the neck of the reflector to or near the mouth thereof, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

KRAFT BOOTH.

Witnesses:

GEO. A. STERN,

JNO. WALLACE.