(No Model.)

W. NELSON.

SIGNAL LANTERN.

No. 416,850. Patented Dec. 10, 1889.

Fig: 1.

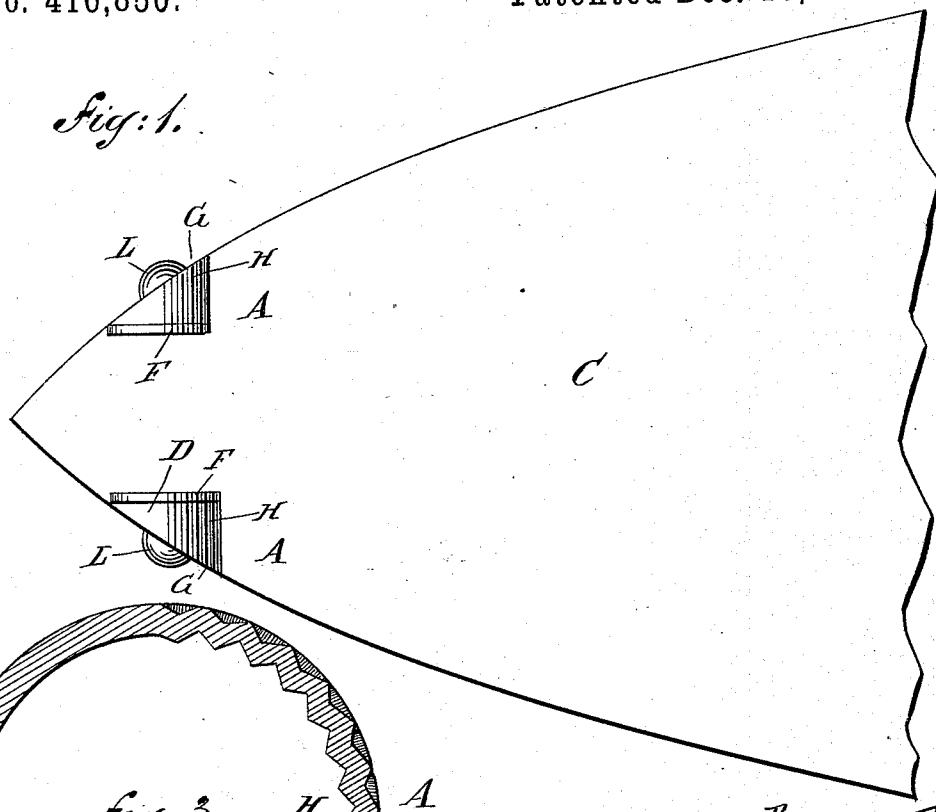


Fig: 3.

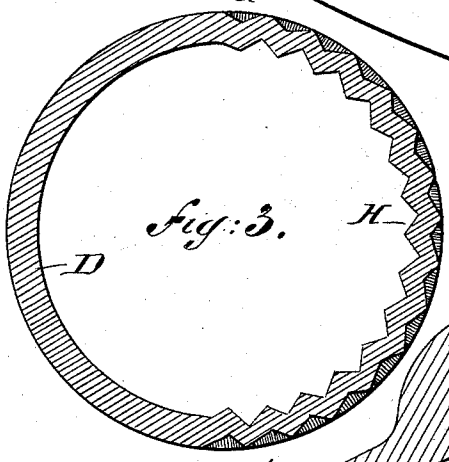


Fig: 2

WITNESSES:

Edwin C. Kalish

Henry J. Weinmeger

INVENTOR:

Wolfred Nelson

BY

Clarence A. Seager

ATTORNEY

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE

WOLFRED NELSON, OF NEW YORK, N. Y.

SIGNAL-LANTERN.

SPECIFICATION forming part of Letters Patent No. 416,850, dated December 10, 1889.

Application filed June 15, 1889. Serial No. 314,424. (No model.)

To all whom it may concern:

Be it known that I, WOLFRED NELSON, a subject of the Queen of Great Britain, and a resident of the city, county, and State of New York, have invented a new and useful Improvement in Signal-Lanterns, of which the following is a specification.

The object of this invention is to provide a signal-lantern, particularly for use in the method of signaling between vessels in fogs, set forth and claimed in an application filed June 20, 1889, Serial No. 315,007, but also adaptable to various other situations, where it is desired to throw powerful beams of light at different angles or a beam or beams of light of one color in the midst of a beam of a different color for signaling purposes.

The invention consists of certain novel features of construction and combinations of parts hereinafter particularly pointed out in the claims; and in order that the invention may be fully understood, I shall, previous to claiming the invention, first describe in detail the mode in which the same may be carried into effect.

Reference is to be had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a sectional plan view of part of a vessel to which side bow-lanterns embodying my invention are applied. Fig. 2 is an enlarged sectional plan view of one of the said lanterns and the adjacent part of the vessel. Fig. 3 is a cross-sectional view of the said lantern on the line X X, Fig. 2.

Like letters of reference denote corresponding parts in the different figures.

In the application of the invention thus illustrated the lanterns A are hinged in a common manner in ports B, adapted thereto in opposite sides of the bow of a vessel C, with the object of throwing beams of light directly forward of the vessel and also laterally, but rearwardly, therefrom, for a purpose set forth in my other application for a patent before referred to.

Each lantern A consists of a hollow cylindrical glass case D, fixed, with its axis horizontal, in a circular metallic or other non-friable frame E, which is hinged in the port B, leaving the outer and inner heads F G of the cylindrical case exposed. The rear part H of the cylindrical wall of the case D is corrugated parallel to the axis of the case, silvered on the outside to form an interior corrugated reflecting-surface, and the external grooves formed thereby filled with marine cement before fixing in the frame E. The inner head F of the glass case is also silvered on the outside to form an interior plane reflecting-surface parallel to the length of the vessel, and said inner head is by preference arranged to open to give access to the interior, as for placing a light K inside the case. The outer head G of the glass case is formed at an acute angle to the inner head F, so as to be flush with the skin of the vessel and allow the light to be reflected forward. With this construction the rays from the inclosed light K will be reflected outward horizontally and laterally by the inner plane reflecting-surface F, and will be condensed and reflected directly forward horizontally by the concave corrugated reflecting-surface H. In some cases I also form on the outer transparent head G a spherical condensing lens or "bull's-eye" L, as shown, which may be colored differently from the plane glass head G, so as to show, for instance, a sharp green or red light on a field of white light for marine signaling purposes.

In lieu of the single bull's-eye L a number of similar smaller prominences may be formed on the outer head G, with the effect of showing a number of colored lights on a white or different-colored field.

I claim as new and desire to secure by Letters Patent—

1. A reflecting-lantern constructed of a hollow cylindrical glass case, one head and a portion of the cylindrical wall of which are silvered on the outside to form interior reflecting-surfaces at a right angle to each other, substantially as described.

2. A reflecting-lantern constructed of a hollow cylindrical glass case, a portion of the cylindrical wall of which is corrugated transversely and silvered on the outside to form an interior corrugated reflecting-surface, substantially as described.

3. In a lantern, the combination, with a metallic or other non-friable frame, of a hol-

low cylindrical glass case partially silvered on the outside and fixed within said ring-frame, substantially as described.

4. The herein-described lantern, constructed of a hollow cylindrical glass case, the inner head and the rear part of the wall of which are silvered on the outside, the outer head of which is at an acute angle to the inner head, and the whole set in a ring-frame, substantially as described.

5. A lantern having an interior plane reflector and a plane transparent wall in front of and inclined at an acute angle to the plane reflector, said inclined transparent wall being provided with one or more transparent condensing prominences likewise inclined to the plane reflector, substantially as described.

6. A lantern having an interior concave corrugated reflector the transverse elements of which are straight, and a plane transparent wall provided with a transparent condensing prominence in front of the concave corrugated reflector and inclined at an acute angle to the transverse elements thereof, substantially as described.

WOLFRED NELSON.

Witnesses:
JNO. T. CALEF,
J. G. SMITH.