(No Model.)

J. H. EWING & E. L. BILL.

LAMP OR LANTERN.

No. 261,915. Patented Aug. 1, 1882.

Fig. 1.

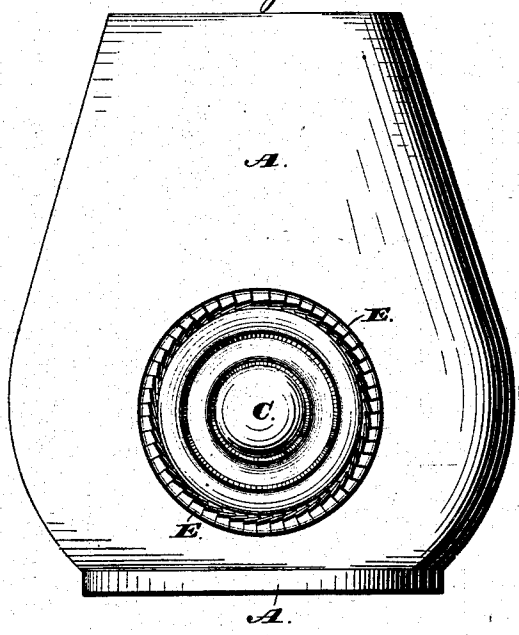


Fig. 2.

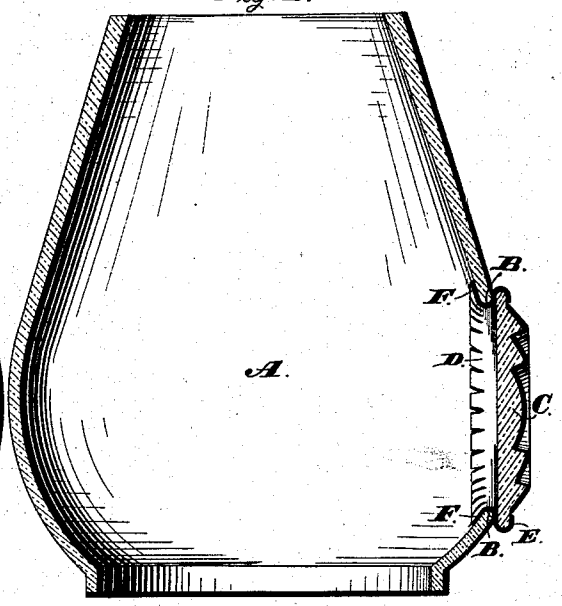


Fig. 3.

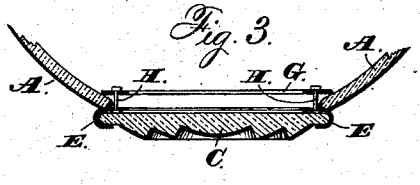


Fig. 4.

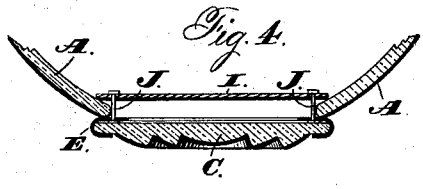


Fig. 5.

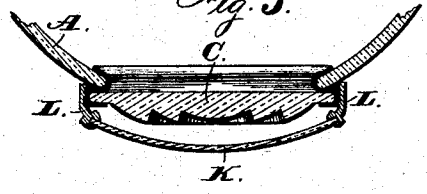


Fig. 6.

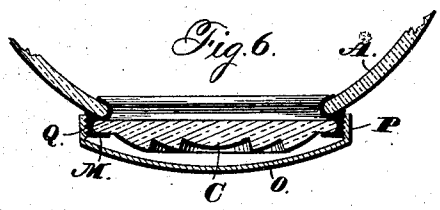


Fig. 7.



WITNESSES.

Jas. E. Hutchinson.

Geo. V. Seymour

INVENTORS

John H. Ewing and

Edward L. Bill.

By H. A. Seymour Attorney

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

UNITED STATES PATENT OFFICE.

JOHN H. EWING AND EDWARD L. BILL, OF WHEELING, WEST VIRGINIA.

LAMP OR LANTERN.

SPECIFICATION forming part of Letters Patent No. 261,915, dated August 1, 1882.

Application filed June 23, 1882. (No model.)

To all whom it may concern:

Be it known that we, JOHN H. EWING and EDWARD L. BILL, of Wheeling, in the county of Ohio and State of West Virginia, have invented certain new and useful Improvements in Lamps or Lanterns; and we 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 pertains to make and use the same.

Our invention relates to an improvement in globes, cylinders, chimneys, shades, and other articles of glass employed to shield the flames of lanterns and lamps, the object of the invention being to attach lenses to articles of the above description in such manner as to render them independent of molecular changes in said articles and to concentrate and transmit the maximum amount of light.

Further objects of our invention are to provide means for coloring and for entirely intercepting the luminous pencils emanating from lanterns, lamps, and other sources of light.

With these objects in view our invention consists in certain detail of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective of a lantern-globe having a lens attached to it by devices constructed in accordance with our invention. Fig. 2 is a view in vertical cross-section thereof. Fig. 3 is a view of one of the modified forms which our invention may assume. Fig. 4 is a view showing one adaptation of our invention to coloring the transmitted light. Fig. 5 is a view illustrating means for accomplishing the same result. Fig. 6 is a view in vertical cross-section of a globe having a lens attached to it and provided with a screen for intercepting the light transmitted through the lens, and Fig. 7 is a view containing a modification of the device shown in Fig. 6.

A represents a lantern-globe, provided with a circular aperture, B, formed in it during the process of its manufacture or after its completion.

C is a lens of any desired and approved type, and of approximately the same size as the aperture in the globe. The said lens is secured in position in which it is interposed in the luminous pencils passing through said aperture by a metallic annulus, D, provided with a flange, E, adapted to engage with its periphery, and with an inwardly-projecting rim, F, arranged to be outwardly deflected, as shown in the drawings, to engage with those portions of the inner face of the globe which surround the aperture B.

Instead of constructing the annulus as described and deflecting the lip E after the introduction of the same into the aperture, the annulus may be made in sections adapted to be secured together when brought in conjunction from opposite sides of the aperture. One form of sectional annulus is shown in Fig. 3 of the drawings, wherein the flange E is shown to be connected with a ring, G, located within the globe, by screws H. If desired, also, the parts of the annulus located within and without the globe may be adapted to be screwed together. Again, rings substantially like the ring G may be secured to the inner and outer faces of the globe by screws passing through the aperture and connecting them, a flange adapted to inclose a lens being hinged to the outer of said rings. This construction is desirable, in that the interior of the globe is rendered readily accessible, permitting the light to be attended with little trouble.

Lenses of white or of colored glass will be employed, according as it is desired to transmit white or colored light. If colored light is the desideratum, lenses of solid color may be used, or, preferably, white lenses flashed with ruby, emerald, or other colored glass. The coloring of the transmitted light may also be effected by the use of plates of colored glass. One method of coloring the light in this manner is illustrated in Fig. 4, wherein a disk, I, of colored glass, is used in lieu of the rim D of the annulus, said disk being attached to the lens-holding flange E by rivets or screws J extending through the aperture in the globe. Another way of effecting the same result in a different manner is illustrated in Fig. 5 of the drawings, which shows a concavo-convex plate, K, of colored glass, mounted in a metallic rim, L, adapted to be secured to a lens-holding flange substantially like the flange M shown in Fig. 6 of the drawings; or the rim may be provided with spring-arms adapted to engage

a flange formed like the flange M shown in Fig. 7 of the drawings.

It is often desirable, especially in signaling, to entirely intercept the luminous pencils, and for this purpose we employ screens, forms of which are shown in the last three figures of the drawings. The screen O consists of a concavo-convex plate of metal provided with a rim, P, adapted to be screwed over the modified lens-holding flange M shown in Fig. 6 of the drawings, said flange being provided with screw-threads Q. The rim R of the screen shown in Fig. 7 of the drawings is provided with spring-arms T, adapted to be engaged with a suitable ledge, U, formed on the lens-holding flange N. If it is desired to have a screen permanently secured to the outer face of the globe, a screen similar to the screen O may be hinged to the lens-holding flange.

The articles to which lenses are applied in accordance with our invention may be provided with several apertures, each having a separate lens, and, if desired, cement may be used as an auxiliary to the lens-holding flange.

For signaling purposes globes provided with several lenses of different colors will be found very desirable. Globes having lenses made integral with them are liable, owing to inequalities in the thickness of the glass, to crack during those contractions and expansions consequent upon the changes in temperature; but in globes having lenses attached to them in accordance with our invention the molecular changes above alluded to take place so uniformly that this objection is entirely obviated. Again, by employing globes having apertures formed in them the lenses receive the luminous pencils directly from the light, and none is lost by being absorbed by glass interposed between the lenses and light; and, finally, lenses molded independently possess much higher value as concentrators of light than those made integral with globes in the process of their manufacture.

In view of the numerous modifications suggested we would have it understood that we hold ourselves at liberty to make such changes and alterations as fairly fall within the spirit and scope of our invention.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a globe or its equivalent having one or more apertures formed in it, of lenses and devices attached to the globe and adapted to engage with the lenses and to interpose them in the luminous pencils passing through said apertures, substantially as set forth.

2. The combination, with a globe or its equivalent having one or more apertures formed in it, of lenses and metallic annuli attached to the globe and adapted to engage with the peripheries of the lenses and to interpose them in the luminous pencils passing through the said apertures, substantially as set forth.

3. The combination, with a globe or its equivalent having one or more apertures formed in it, of lenses and metallic annuli located in said apertures and provided with flanges to clasp the peripheries of the lenses, and with rims to engage with the inner faces of the globes, substantially as set forth.

4. The combination, with a globe or its equivalent having one or more apertures formed in it, of lenses, devices attached to the globe and adapted to support said lenses in the luminous pencils passing through the apertures, and plates of colored glass arranged to color the light transmitted through the lenses, substantially as set forth.

5. The combination, with a globe or its equivalent having one or more apertures formed in it, of lenses, devices attached to the globe and adapted to support the lenses in the luminous pencils passing through said apertures, and screens to intercept the light transmitted through the lenses, substantially as set forth.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

JOHN HENRY EWING.
EDWARD L. BILL.

Witnesses:
JAS. C. BAKER,
WM. P. ADAMS.