

(No Model.)

M. J. DALY.
LENS FOR VAULT LIGHTS.

No. 274,086.

Patented Mar. 13, 1883.

Fig. I.

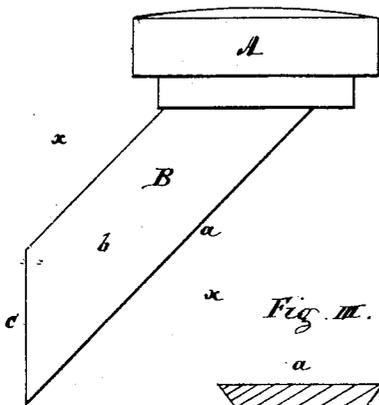


Fig. II

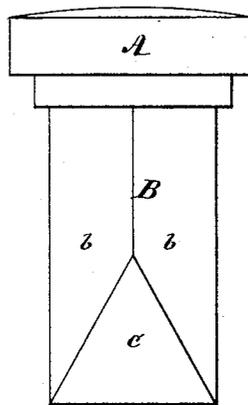


Fig. III.

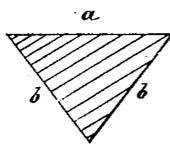


Fig. IV.

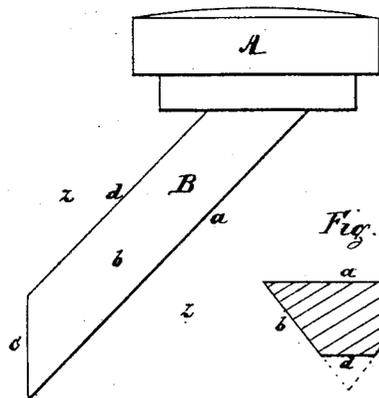
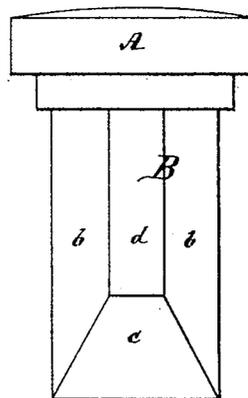


Fig. V.



Witnesses.

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UNITED STATES PATENT OFFICE.

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LENS FOR VAULT-LIGHTS.

SPECIFICATION forming part of Letters Patent No. 274,086, dated March 13, 1883.

Application filed October 5, 1882. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL J. DALY, a citizen of the United States, and residing at New York, in the State of New York, have invented a new and useful Improvement in Lenses for Vault-Lights, of which the following is a specification.

My invention relates to the lenses used in iron frames for illuminating purposes, of which the following is a specification.

Heretofore lenses of a form projecting under the plate or tile in which they are set have been either of a prismatic form or half-round, one side or the back with a plain surface at an angle with the horizontal of the head, and the opposite or refracting surface or face at right angle, or nearly so, with the head, and of rounded or convex form. This latter I find absorbs a great portion of the light, and prevents the naturally silvering action of light on the back or reflecting plain, and also limits the light from the lens to the condition of the weather.

The object of my invention consists in making the tongue or projecting portion of the lens of a perfectly semi-prismatic form, set on a head with the reflecting surface or back at an angle of about forty-five (45°) degrees with the horizontal of the head, and the front or refracting portion of the tongue at a corresponding angle, or nearly so. By this arrangement I obtain a natural silvered reflecting-lens under any condition of the weather, and which is fully more effective in dull than in bright weather.

In the accompanying drawings, Figure I is a side elevation; Fig. II, a front view of the same; Fig. III, a section at line xx , Fig. I. Fig. IV is a side elevation of a modification of my improved lens; Fig. V, a front view of the same; and Fig. VI, a section at line zz , Fig. IV.

Similar letters represent similar parts in all the figures.

A is the top or head of the lens, made in any desired shape or form to fit the frame or tile which is to receive the same.

B is the downward-projecting portion of the lens, set at an angle of about forty-five degrees (45°) to the surface of the head A. This portion of the lens, is of a form of a "trihedral" prism, one of the sides a forming the back of the lens, and the inclined sides $b b$ forming the front part of the same, or the refracting-surfaces. The end c of the lens is cut off perpendicular or square to the head A, or nearly so.

In Figs. IV, V, and VI, which are only modifications of the above, the outer edge of the two side surfaces, $b b$, is cut square or parallel with the back a , or reflecting-surface, forming a plain straight surface, d , at the front, in combination with the side surfaces, $b b$.

The downward-projecting part B of the lens should be of a length considerably greater than the greatest depth of the prism.

The construction of a lens gives an area of the reflecting-surface many times greater than the area of the opening which admits the light, and by placing the prism at an acute angle of about forty-five degrees (45°) with the horizontal surface of the head A a greatly increased area of reflecting-surface is obtained, as well as of the diffusing-surfaces.

What I claim as my invention, and desire to secure by Letters Patent, is—

An illuminating-lens consisting of the combination of a projecting trihedral prism, B, with a head or bull's-eye, A, at an angle of about forty-five degrees, substantially in the manner and for the purpose set forth.

MICHAEL J. DALY.

Witnesses:

HENRY E. ROEDER,
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