(No Model.)

J. MARK.

VAULT LIGHT.

No. 262,965. Patented Aug. 22, 1882.

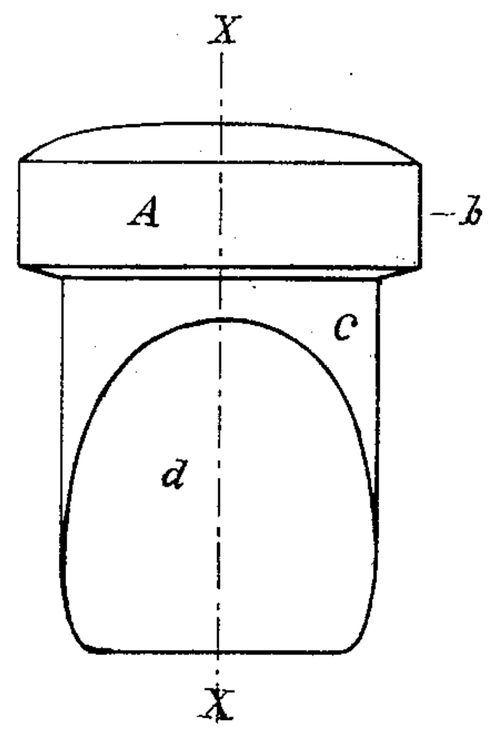

Fig. 1.

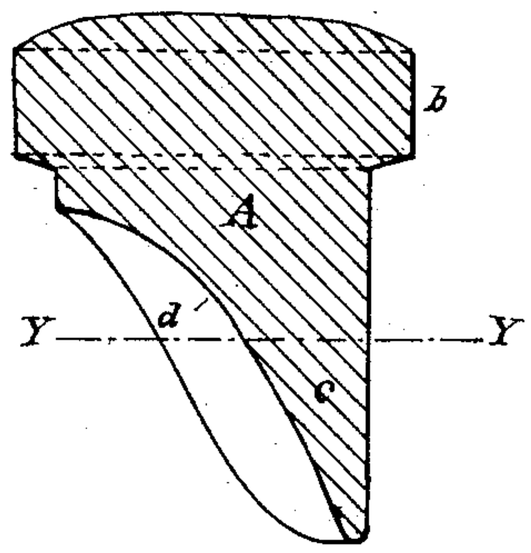

Fig. 2.

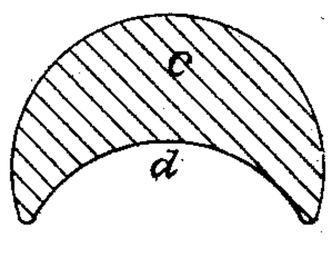

Fig. 3.

WITNESSES:

Van Zandt Ryan.

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UNITED STATES PATENT OFFICE.

JACOB MARK, OF NEW YORK, N. Y.

VAULT-LIGHT.

SPECIFICATION forming part of Letters Patent No. 262,965, dated August 22, 1882.

Application filed June 10, 1882. (No model.)

To all whom it may concern:

Be it known that I, JACOB MARK, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Vault-Lights, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to the construction of glass plugs, such as are used in connection with perforated iron plates employed for covering vaults and areas and other similar purposes.

The invention consists in a glass plug having its shank or stem provided with a concave surface in a diagonal position with relation to the axis of the plug, whereby said plug is enabled to refract and reflect the rays of light passing through it.

The accompanying drawings represent a plug embodying my improvement, Figure 1 being a front view; Fig. 2, a vertical section in line *x x*, Fig. 1; Fig. 3, a transverse section taken in the line *y y* of Fig. 2.

The plug A may have its head *b* and shank or stem *c* of either round or polygonal form, as may be desired. The head *b* is made to fit snugly in the seat prepared for it in the perforated iron plate or vault-covering. The shank or stem *c* may be cylindrical or tapering, and may extend downward any suitable distance. On one side of the shank or stem *c* is formed a concave surface, *d*, which extends diagonally, with relation to the axis of the plug, from a point near the head *b* on one side to a point near the tip or lower end of the shank on the other side. If necessary, the surface *d* may be made smooth, angular, or otherwise, as may be desired.

I am aware it has been proposed to form a plug with a diagonal surface on one side of the shank or stem, but such surface has been a plane and capable of refracting only. In my invention the diagonal surface *d* is concave, and therefore the rays of light are not only refracted, but also reflected; and therefore an increased quantity of light is admitted through the plugs in all directions.

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

As an improved article of manufacture, a vault-light plug having its shank or stem provided with a concave diagonal surface, *d*, whereby provision is made for both refraction and reflection, substantially as herein described.

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

JACOB MARK.

Witnesses:

FRANCIS CLARE BOWEN,

GEO. B. MORRIS.