

L. A. MUZARD.

VAULT-COVER.

No. 177,541.

Patented May 16, 1876.

FIG. 1.

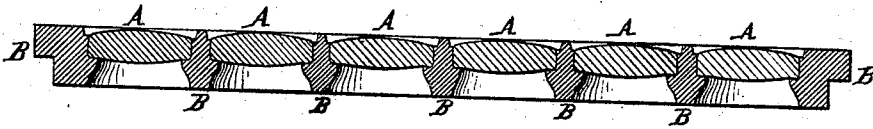
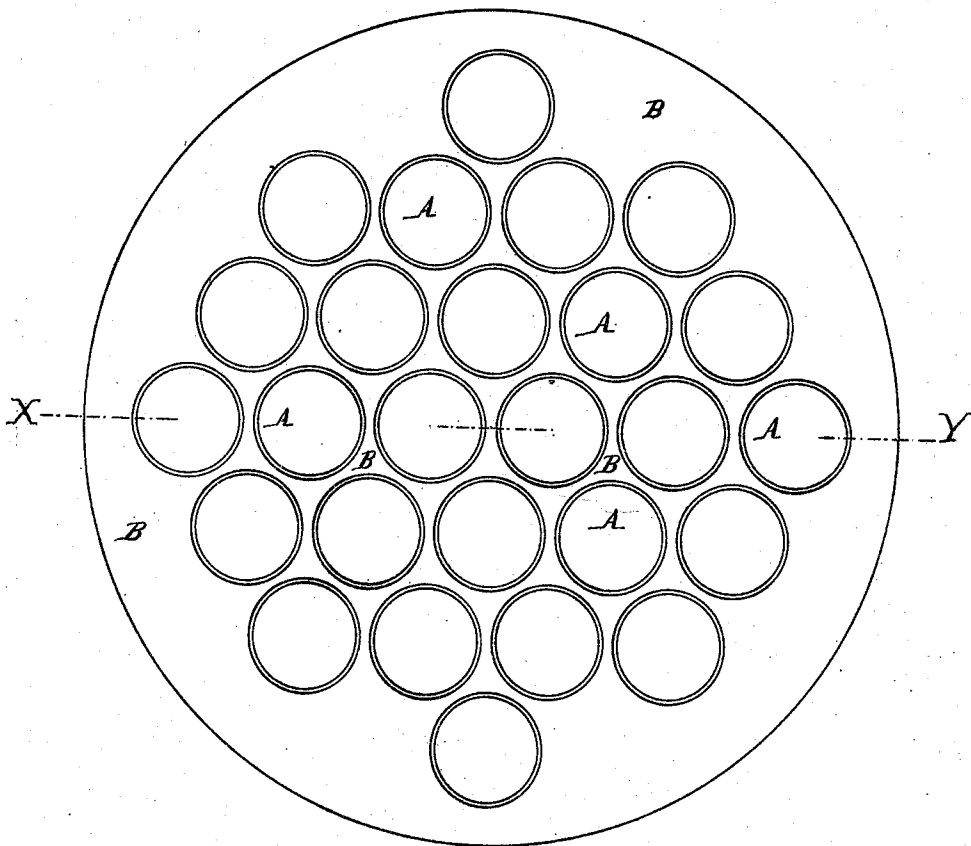


FIG. 2.



Witnesses.
Charles F. Blake
Henry L. Brewster

Inventor.
L. A. Muzard

UNITED STATES PATENT OFFICE.

LÉAR ANTOINE MUZARD, OF NEW YORK, N. Y.

IMPROVEMENT IN VAULT-COVERS.

Specification forming part of Letters Patent No. **177,541**, dated May 16, 1876; application filed November 9, 1875.

To all whom it may concern:

Be it known that I, LÉAR ANTOINE MUZARD, of New York city, State and county of New York, have invented a new and useful Improvement in the Manufacture of Vault-Lights or Illuminating-Frames, which improvement is fully set forth in the accompanying specification and drawings, in which—

Figure 1 is a sectional view of Fig. 2 on the line *xy*. Fig. 2 is a plan view of the vault-light.

A A A, &c., are the bull's-eyes. B B B, &c., are the frame surrounding and in close contact with the bull's-eyes.

Like figures or letters indicate like parts in both drawings.

My invention consists of an improved method of making vault-lights or illuminating-frames, and of an improved vault-light or illuminating-frame having the bull's-eyes embedded within the metal forming the frame, as a new article of manufacture. Prior to my invention vault-lights have been made by casting the metallic portion with holes or open spaces left at suitable intervals, into which the bull's-eyes or pieces of glass were afterward fastened by cement or other suitable means. Great difficulty has been found in making the joints of the bull's-eyes watertight, and in properly securing them in place.

My new method of making my vault-light is as follows: I first make a mold, such as is usually employed by founders, and of any desired form and dimension. In this I place the

bull's-eyes or pieces of glass at desired intervals. Into the mold thus prepared I then pour molten metal, which fills the mold and surrounds the bull's-eyes. When the metal cools the bull's-eyes are held by it firmly in place. The adherence of the metal to the bull's-eyes makes a perfectly air and water tight joint; but, if desired, a groove may be formed around the top or bottom of the bull's-eyes, into which suitable cement may be poured. Sometimes I cover the surface of the bull's-eyes with a thin coating of plumbago, barytes, carbon, or similar bodies, which may aid the adherence of the glass to the metal, and may also protect it against the too rapid transmission of heat.

Any ordinary bull's-eyes may be used in my invention; but I prefer for this purpose to employ the glass which has been treated by the process of M. de La Bastie.

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

1. A vault-light or illuminating-plate, provided with bull's-eyes of glass embedded within the metallic frame by casting, as described, as a new article of manufacture.

2. The method herein described of manufacturing vault-light or illuminating plates by pouring the molten metal into the mold and around the bull's-eyes.

LÉAR ANTOINE MUZARD.

Witnesses:

PHILLIPS ABBOTT,
WM. J. TRAVIS.