

(No Model.)

C. H. ROSS.
VAULT LIGHT.

No. 410,380.

Patented Sept. 3, 1889.

Fig 1

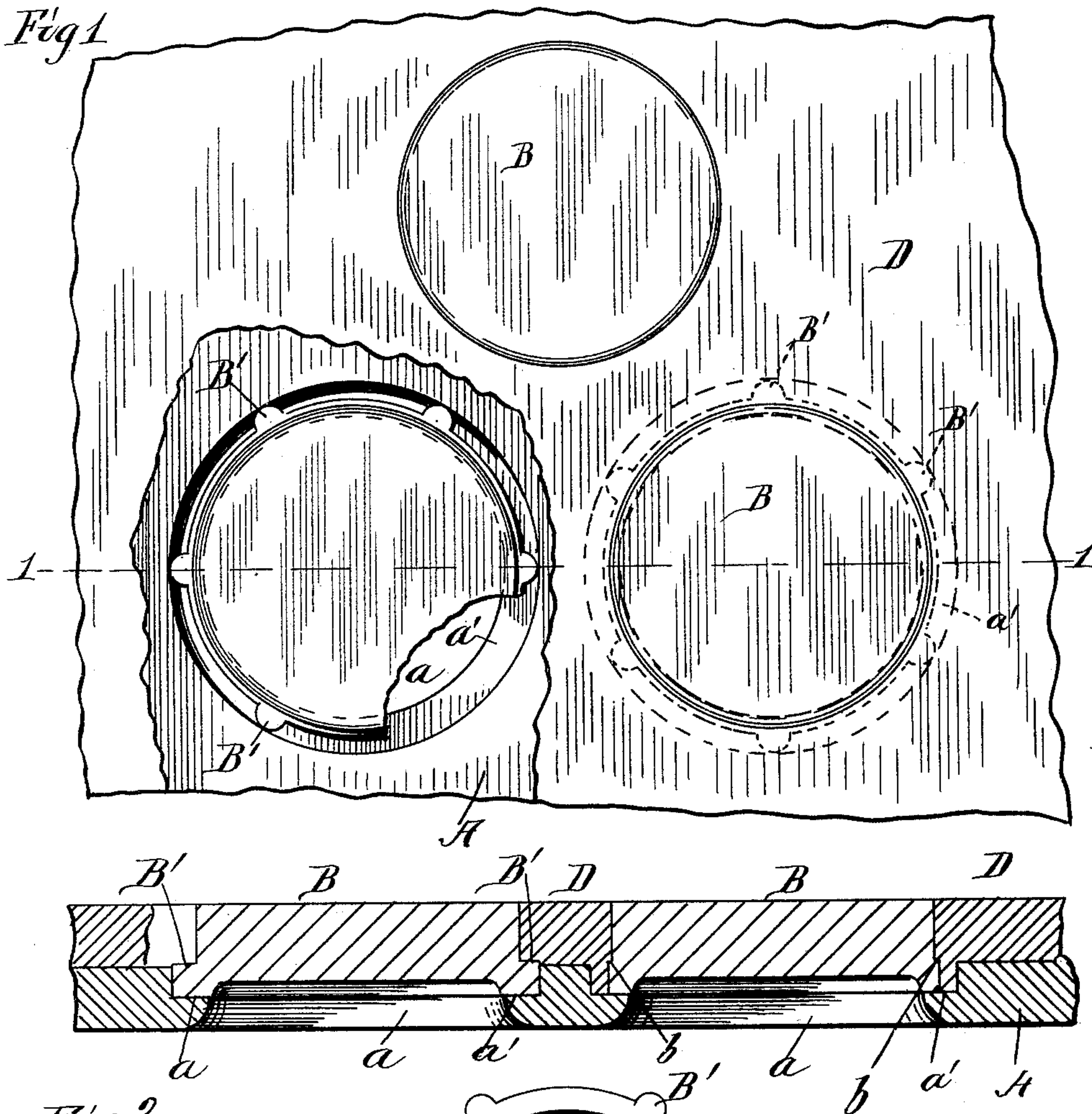


Fig 2

Fig 3

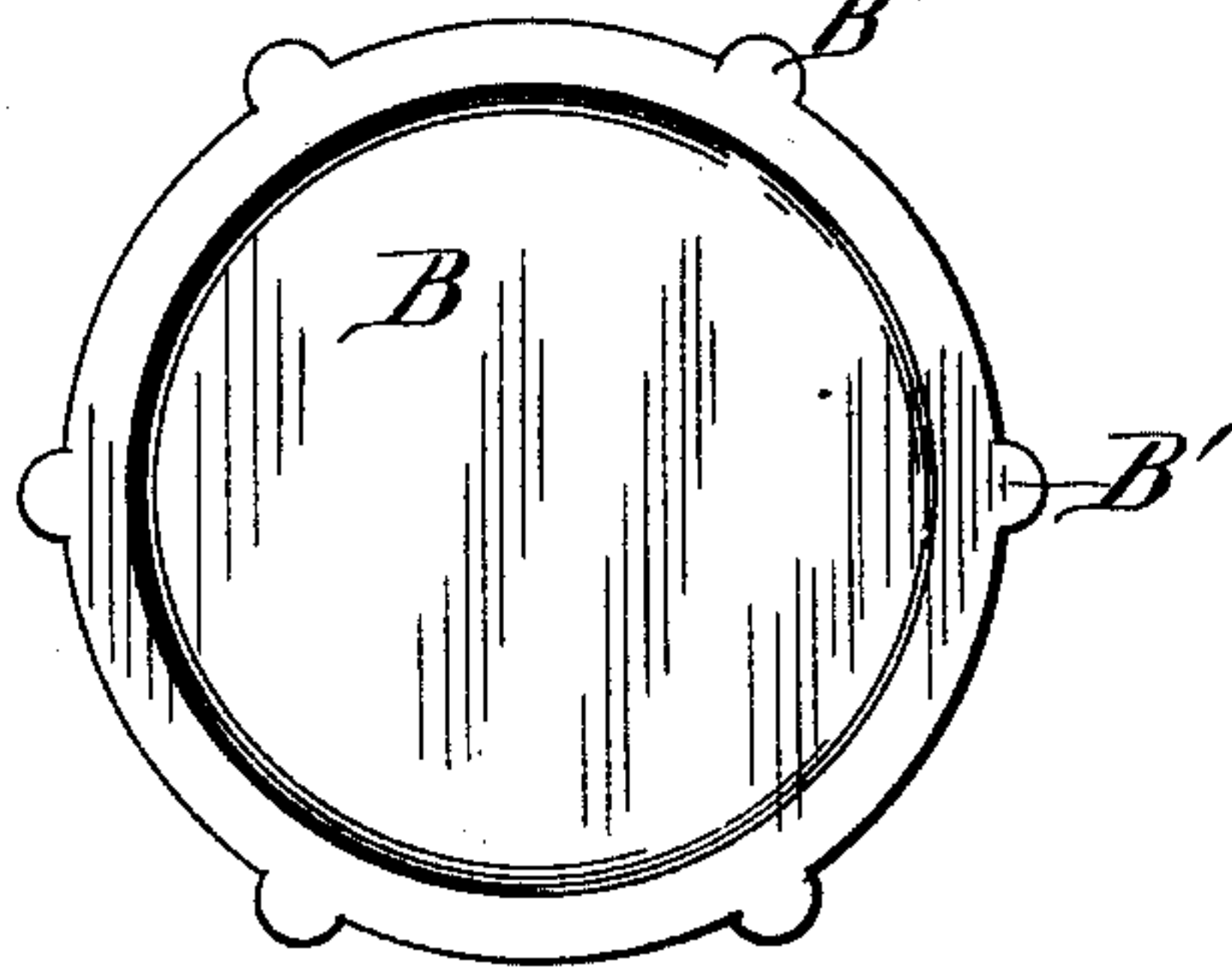
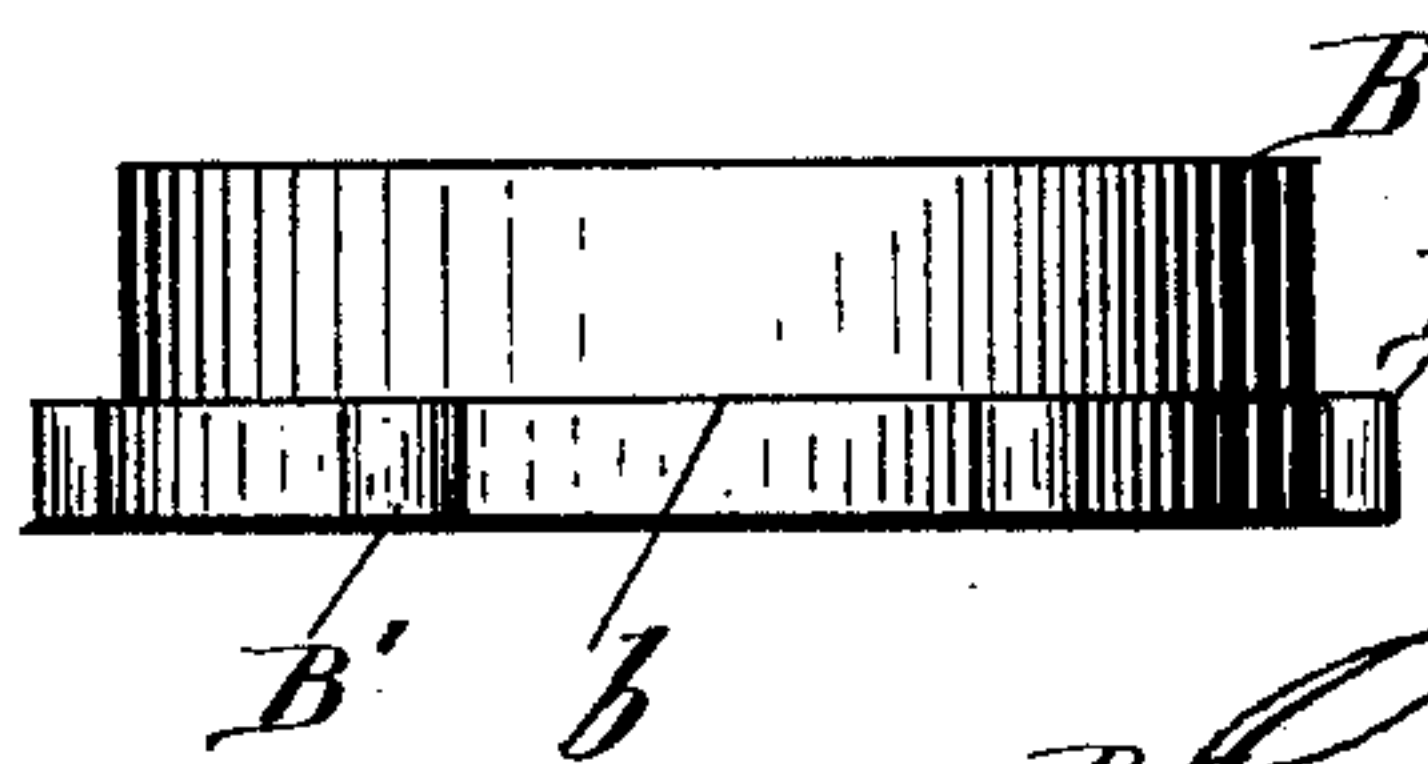


Fig 4



Witnesses

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UNITED STATES PATENT OFFICE.

CHRISTIAN H. ROSS, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE DAUCHY
IRON WORKS, OF SAME PLACE.

VAULT-LIGHT.

SPECIFICATION forming part of Letters Patent No. 410,380, dated September 3, 1889.

Application filed April 29, 1889. Serial No. 309,088. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN H. ROSS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Vault-Lights, which is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

10 Figure 1 represents a plan view of a construction embodying my invention, portions thereof being broken away to show the construction; Fig. 2, a sectional view taken on the line 1 1 of Fig. 1; Fig. 3, a bottom plan
15 view of one of the glasses detached, and Fig. 4 an elevation of the same.

Like letters refer to like parts in all the figures of the drawings.

20 My invention relates to vault-lights, and has for its object to provide a construction whereby the glasses or lights proper may be caused to fit snugly within the light-holes provided for them in the cast bed-plate or frame.

25 In that class of vault-covers to which my present invention relates an iron base-plate or frame is cast with circular light-holes, within which the circular glasses are intended to fit with sufficient snugness to prevent their turning or slipping, being afterward secured by a
30 suitable cement or other similar means. These circular light-holes are frequently irregular in outline, owing to imperfections in the casting arising from various causes, and when this is the case it is obvious that the circular glasses
35 will not fit within them in case the irregularity reduces the diameter at any point. This necessitates in practice expensive mechanical manipulations in truing the light-holes to permit the introduction of the glasses. It
40 is the object of my present invention to overcome these objections and to produce a glass which will adapt itself to the irregularities of the light-holes, so as to have a lateral bearing at three or more points to prevent its slipping
45 or rotating, thereby doing away with the necessity of truing the light-holes, while at the same time a snug fit is obtained.

50 I will now proceed to describe a construction in which my invention is practically carried out in one form, and will then particu-

larly point out in the claims those features which I deem to be new and desire to secure by Letters Patent.

In the drawings, A represents the bed plate or frame, which, as hereinbefore stated, is of
55 cast-iron, provided with the light-holes *a*. Each of these light-holes *a* is provided near its lower portion with an internally-projecting circular ledge or flange *a'*, upon which
60 the glass rests and is supported vertically.

The glasses are represented at B, and are circular in form, but of a diameter somewhat less than the main diameter of the light-holes *a*, although of a greater diameter than the contracted portion of these light-holes, caused
65 by the ledge or flange *a'*, so that when in position they will rest upon the said ledge or flange and close the light-holes, as shown in Figs. 1 and 2. These glasses are preferably
70 provided with the usual shoulder *b*, to enable the cement to hold them more firmly in position.

Extending radially outward from the body of the glass B are a series of projections *B'*, of such length that the total diameter of the
75 glass, measured through these projections, will be equal to the diameter of the light-hole *a*, or, more properly speaking, to the diameter which it should have if properly constructed. In the present instance I have shown six of
80 these projections; but it is obvious that their number may be varied as desired, and that their form may be other than that shown. Their height is preferably equal to the height
85 of the portion of the glass below the shoulder *b*.

D represents a filling of cement or other suitable material, which is applied after the glasses B are placed in position, and finished
90 off about level with the top of the glasses to make a smooth surface, the said cement serving to hold the glasses firmly in one position and present a good walking-surface for pedestrians.

In placing the glasses B in position it will be seen that if the light-holes *a* are properly
95 constructed the glasses B will fit snugly therein, having a lateral bearing all around against the side wall of the said holes. If, however, the said holes are irregular, as is frequently
100 the case, the glass may be so turned that those

portions thereof which are not provided with the projections B' will come opposite the re-entrant portions of the bed-plate A, which would otherwise so diminish the diameter of the light-hole as to prevent insertion of the glass, and when so turned the glass may be placed in position in the hole, notwithstanding the irregularity of this latter, so as to rest properly upon the flange or ledge *a'* and have a lateral bearing all around. It will thus be seen that the expensive operation of truing the holes is done away with, thereby considerably reducing the cost of the article.

The advantage of having the glass fit properly within the bed-plate and frame, so as to have a downward bearing and a lateral bearing upon the iron of which it is composed, lies in the fact that in this position the force of any blows coming upon the glass is resisted by the iron and not by the cement, which latter would chip or crumble under such blows, and would soon loosen the glass, causing it to become displaced or giving rise to a leakage in the vault-cover. These advantages are of course obtained without any increase of expense by the construction which I have devised.

It is obvious that various modifications in the details of construction may be made without departing from the principle of my in-

vention, and I therefore do not wish to be understood as limiting myself strictly to the precise details hereinbefore described, and shown in the drawings.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the bed-plate A, having light-hole *a*, provided with circular ledge or flange *a'*, of the glass B, having a body portion of less diameter than the main diameter of the light-hole, but greater than its contracted diameter, said glass being provided at its margin with radial projections to bear against the side wall of the light-hole, substantially as and for the purposes specified.

2. The combination, with the bed-plate A, having light-hole *a*, with flange or ledge *a'*, of the glass B, having a body portion of a diameter less than the main diameter of the light-hole *a*, but greater than its reduced diameter, said body portion being provided with radial projections B', to bear against the side wall of the light-hole, and shoulder *b*, and the filling D, of cement or the like, substantially as and for the purposes specified.

CHRISTIAN H. ROSS.

Witnesses:

ALICE MCIVER,
IRVINE MILLER.