

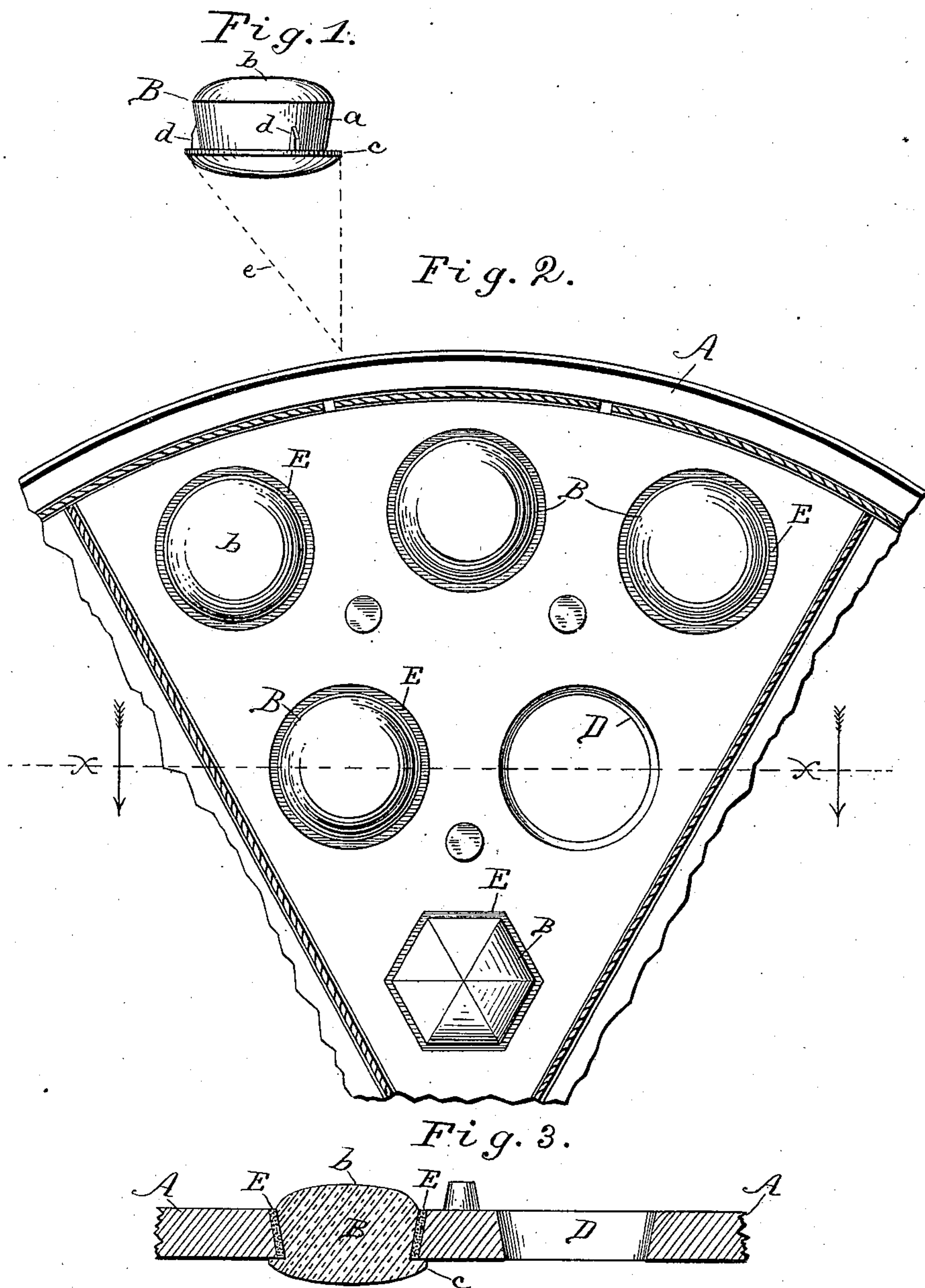
(No Model.)

C. H. ROSS.

ILLUMINATING TILING.

No. 312,222.

Patented Feb. 10, 1885.



WITNESSES

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ILLUMINATING-TILING.

SPECIFICATION forming part of Letters Patent No. 312,222, dated February 10, 1885.

Application filed November 12, 1884. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN HANSEN ROSS, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Illuminating-Tiling for Vaults, Roofs, &c., which are fully set forth in the following specification, reference being had to the accompanying drawings, forming part of the same, in which—

Figure 1 is a side elevation of my improved lens. Fig. 2 is a plan view of a section of tiling containing my improvements, and Fig. 3 is a vertical section taken on the plane of line X X of Fig. 2.

My invention relates to the form of the lens, whereby a greater quantity of light is permitted to pass below the frame than with the usual forms, and the light below the plate is more evenly distributed. It also relates to the alignment of the same; also to the locking of the lens securely to the frame.

Heretofore glass lenses have been constructed and arranged to rest upon a seat in the opening of the frame, the lens being inserted from the top of the latter; or when the lens has been constructed with practically straight sides it has been made long enough to pass through a mount or tile and be fixed in the light-hole of the grating, and in some cases the straight-sided lens has been supported in the frame by a screw-thread on the body of the lens fitting into a corresponding thread in the opening of the frame; or the lens has been supported upon a flange projecting from its body and resting upon inclined projections within the openings of the tiling frame, as shown in patent to C. H. Ross, No. 270,132, of January 2, 1883.

All of the above-named devices are attended with some disadvantages, which I have endeavored to remedy by constructing both my lens and the lens-opening of the tile or grating in a conical form, whereby I am enabled to fix the lens securely and evenly in place, and at the same time admit of extending the lens below the frame for the better diffusion of light in the vault, as will be hereinafter more fully set forth.

A is the frame, preferably of metal, which is provided with conical perforations D, which may be either circular or polygonal, for the reception of similarly-shaped lenses.

B is the lens. Its superior surface, *b*, is

preferably convex. Its body *a* is an inverted conical frustum provided with a flange, *c*, which forms the inferior surface of the lens, and which is larger than the bottom of the opening D in the frame A.

At the junction of body *a* and flange *c* are three or more lugs or projections, *d*, which serve to hold the lens exactly in the center of the opening D. The inferior surface of the lens may be convex, or as shown in dotted lines *e* in Fig. 1, or of any other desired contour.

To set my improved lens in the tiling or grating, the lens is inserted from the under side of the tiling and pressed upward against the tiling, the lugs *d* serving to keep the lens concentric with the opening. Then any suitable cement, E, is put into the conical annulus between the lens and the tiling.

It will be seen that the cement E forms a dovetail joint all around the lens, and that no ordinary blow or jolting of the lens from above or below will have any effect to loosen it from its seat.

The light passing through the lens is not obstructed by any inwardly-projecting screw-threads, ledges, or inclines, or by blades or ribs running across the face of the lens.

My improved lens may be made and sold as an article of manufacture to be used whenever required, or to be inserted in tiling now in use.

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

1. A lens, B, having its body portion *a* of conical form, tapering downward from its upper face, *b*, and provided with a flange, *c*, of larger diameter than its face *b*, substantially as and for the purposes herein set forth.

2. A lens, B, of conical form, provided with a flange, *c*, of larger diameter than its face *b*, and centering-lugs *d*, substantially as herein shown, and for the purposes set forth.

3. In illuminating-tiling, the combination, with a frame, A, provided with conical openings D, of a conical lens, B, provided with an enlarged flange, *c*, and projections or lugs *d*, and any suitable cement, E, substantially as and for the purposes herein shown.

CHRISTIAN HANSEN ROSS.

Witnesses:

GEO. K. DAUCHY,
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