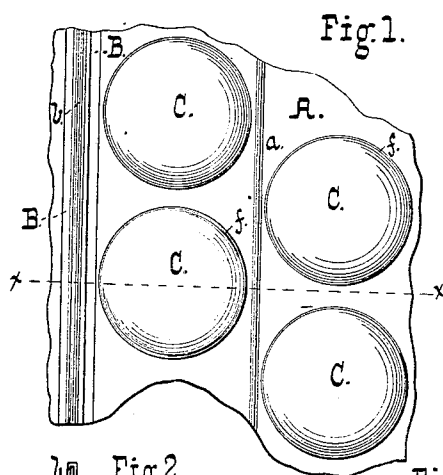
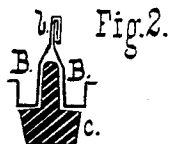
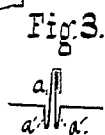
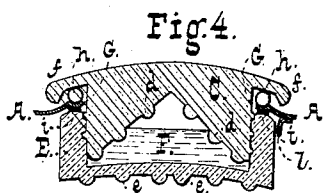
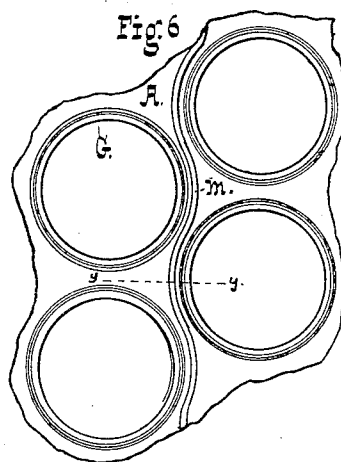
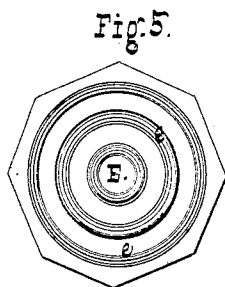


(No Model.)

J. W. GEDDES.
Skylight.

No. 232,399.

Patented Sept. 21, 1880.



Witnesses,
W. A. Bertram
Dr. N. Barclay.

Inventor,
JAS W. GEDDES.

by
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Attorney.

UNITED STATES PATENT OFFICE.

JAMES W. GEDDES, OF BALTIMORE, MARYLAND.

SKYLIGHT.

SPECIFICATION forming part of Letters Patent No. 232,399, dated September 21, 1880.

Application filed March 19, 1880. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. GEDDES, of Baltimore city, State of Maryland, have invented certain new and useful Improvements in Skylights; and I hereby declare the same to be fully, clearly, and exactly described as follows, reference being had to the accompanying drawings, in which—

Figure 1 is a top view of a part of a skylight embodying my invention; Fig. 2, a sectional view of the supporting bar or girder and the sheet-metal frame on line *x x*, Fig. 1; Fig. 3, a similar view of the junction-bead on same line; Fig. 4, a central sectional view of a bull's-eye, and Fig. 5 a bottom plan of the lower member of the bull's-eye; Fig. 6, a top plan of a modification of the frame; Fig. 7, a section on line *y y*, Fig. 6.

My invention has reference to that class of skylights in which a number of glass bull's-eyes are secured in a metallic frame; and it consists in certain points of novelty in the bull's-eye, the frame-work, and the connections of the same, as hereinafter fully set forth.

In the accompanying drawings, A is a sheet-metal frame having suitable apertures for the bull's-eyes. The sections of frame are double-seamed and beaded, as shown at *a*, Fig. 3, the metal being bent downward, as shown at *a'*, whereby provision is made for expansion and contraction, and an open intervening space is afforded for ventilation, as illustrated. The metal is similarly double-seamed at *b* over the supporting beams or girders *c*, (see Fig. 2,) and a gutter, B, is formed at either side to shed water, and also to afford provision for expansion and contraction.

The edges of the sheet-metal frame are grooved, as shown at G, to receive the tubular annular washers *h*.

The bull's-eye consists of two parts, C and E. The former is made convex on top, (on the principle of an ordinary periscopic lens,) and has a downwardly-projecting flange, *f*. It is cast with a thread on its cylindrical surface, and is hollowed beneath, as shown, the conical surface being provided with diffraction-beads *d d*. The other member, E, also of glass, is formed with a female screw-thread, as shown, is cup-shaped in form, and has a polygonal periphery. This latter feature sub-

serves two widely-different ends. It affords facility for screwing the members of the bull's-eye together, and also effects the diffraction or dispersion of the transmitted rays of light. Its base is beaded, as shown at *e*, for the latter purpose.

A tubular annular washer, *h*, of india-rubber or equivalent material, is laid in the groove G, and the part C being inserted through the aperture in the frame A, the lower member, E, is screwed upon it, a washer, *i*, being by preference inserted between it and the frame.

The space F within the bull's-eyes may be filled, or partly filled, with tinted glycerine or chloride-of-calcium solution, or any other non-congealable liquid, as may be desired.

Little braces or holders *l* may be attached to the frame to prevent the possibility of the part E from unscrewing.

The peculiar construction of the bull's-eyes secures the maximum of illumination and effects a proper and uniform diffusion of the light.

Instead of a thread, the parts may have a bayonet-joint or equivalent means for connection.

In Fig. 6 is shown a modified form of the device, used for sidewalk-skylights. Here the frame A is cast with a zigzag bead, *m*, high enough to prevent the bull's-eyes from being trod upon, and adapted to conduct the water to the edge of the skylight. On the under side of the frame, below this bead, is a hollow perforated bead, *n*, for purposes of ventilation.

What I claim is—

1. In a skylight, a metallic frame-work containing panes or bull's-eyes and having the seam and expansion-gutter *a a'*, as set forth.

2. In a sheet-metal frame for skylights, and in combination with the beaded girder *c*, the seam *b* and gutters B, as set forth.

3. A skylight bull's-eye consisting of two glass members adapted for connection, as set forth.

4. A skylight bull's-eye consisting of two hollow glass members adapted for connection, as set forth.

5. A skylight bull's-eye consisting of two hollow glass members threaded and beaded, as set forth.

6. A skylight bull's-eye having an interior

space for containing a colored liquid, as set forth.

7. In combination with the frame and two-part bull's-eye, the catch *l*, as set forth.

5 8. In combination with the flanged member C, the polygonal member E, adapted for attachment to the same, as and for the purpose set forth.

9. The frame A, having zigzag beads *m* and *n*, the latter being hollow and laterally perforated, as set forth. 10

Witness my hand this 17th of March, 1880.

JAMES W. GEDDES.

Witnesses:

R. D. WILLIAMS,

CHARLES A. VAILE.