(No Model.)

C. HEFELE.

SKYLIGHT.

No. 260,294. Patented June 27, 1882.

Fig. 1.

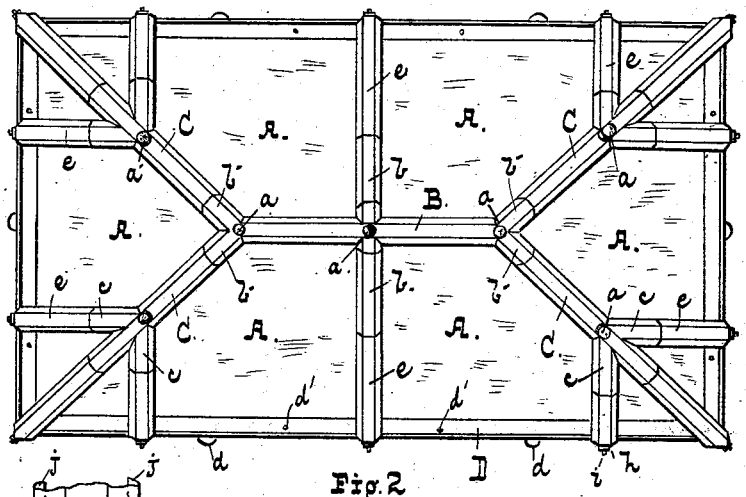


Fig. 4.

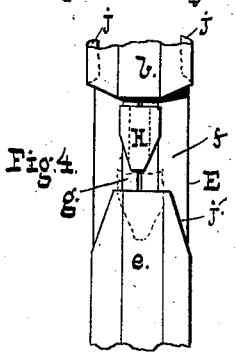


Fig. 2

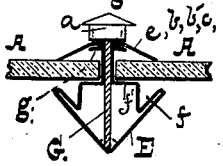


Fig. 3.

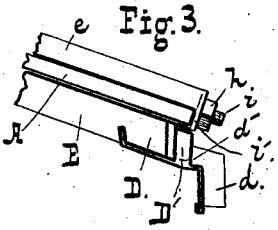


Fig. 5.

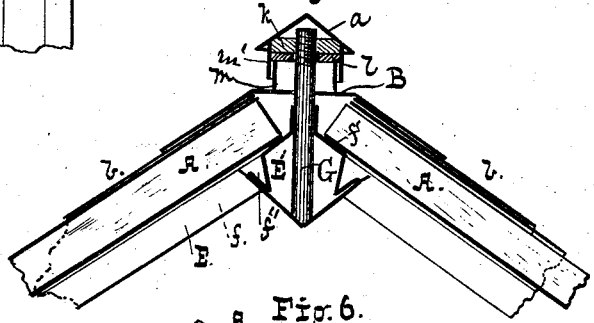
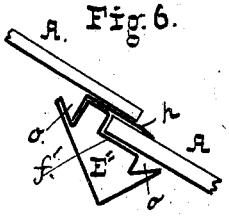


Fig. 6.



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CONRAD HEFELE, OF BALTIMORE, MARYLAND.

SKYLIGHT.

SPECIFICATION forming part of Letters Patent No. 260,294, dated June 27, 1882.

Application filed February 24, 1882. (No model.)

To all whom it may concern:

Be it known that I, CONRAD HEFELE, 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.

My invention relates to glazed frames adapted for use over conservatories, the wells of dwelling-houses, and in other situations in which a transparent roof is a desideratum; and it has for its object to so simplify and modify the combinations of the parts that the whole or a part of the frame may readily be taken apart in order to replace a cracked or broken pane, and this without calling for the services of one skilled in the business.

In the drawings is illustrated, in Figure 1 in plan view, a skylight embodying my invention. Fig. 2 is a sectional view of the bar supporting the edges of the panes. Fig. 3 is a side elevation, partly in section, of the eaves-gutter and lower end of one of the supporting-bars. Fig. 4 is a plan view, showing the joint between the cover-plates. Fig. 5 is a sectional view of the ridge-beam and the lateral bars, and Fig. 6 a similar view of the horizontal joint.

A A are the panes, and B C *b b′ c e* the cover-plates for the meeting edges of the panes, which rest on the beams E. These plates are flat on top, and are turned down at the edges so as to press upon the panes and form close joints. The plate B has lateral extensions covering the plates *b*, and is forked at *b′* at each end to cover the plates C of the end ridge-beams. Each plate C forks, as at *c*, covering the terminal plates *e*.

The ridge-beams E are preferably bent up from sheet metal to the shape shown in Fig. 2; but they may be cast or otherwise formed. Sheet metal is, however, preferred, on account of its lightness, and it is bent to form lateral gutters *f*, shoulders *f′*, and top flanges, *g*. The panes A rest on the shoulders *f′*, and the space between the shoulders and flanges *g* around the edges of the panes is preferably filled with putty.

Rods G, threaded at their upper ends, are soldered to the beams E, the cover-plates being perforated for the passage of the rods, and having little sheet-metal tubes *m* soldered around the openings. The cap-pieces *a* have nuts *k* to screw on the rods G, and washers *l* are placed between the nuts and the tops of the tubes *m*. Flanges *m′* inclose the tubes *m*, as shown.

The mode of connecting the parts *b* and *e* is shown in Fig. 4. The ends of the plate *e* are beveled, as at *j′*, and the edges of the plate *b* are folded under, as shown at *j*. A lip, H, has its edges folded under the flanges *g g*, and may be slid down, as shown in dotted lines, over the end of the part *e*, whereby that end is held down closely upon the ridge-beam. The part *b* is then slid downward until its edges *j* engage with the beveled edges *j′*, when the parts are securely held together at the joint.

At the ends of the ridge-beams project screw-rods *i*, which pass through the ends *i′* of the plates *e*. These ends *i′* project downward beyond the edges of the panes and prevent the latter from slipping as they rest against the panes, and are soldered or otherwise suitably secured to the beams. Nuts *h* hold all in place and prevent the panes A from sliding out endwise. The eaves-gutters D are folded from sheet metal (though they may also be cast) to the shape shown in Fig. 3, forming hollow spaces D′, into which openings *d′* lead from the gutters D. Outlet-spouts *d* are secured to the parts D, but are located between and not opposite the openings *d′*. The central ridge-beam, E′, differs from the other beams, E, in having no flanges *g*. In case the skylight is of such size as to necessitate horizontal joints between the panes, the construction shown in Fig. 6 is adopted. The beams E″ are bent up to the shape shown, gutters *o o* being formed on each side, leading to the gutters *f*, and a plate, *p*, bent down into the upper gutter, *o*, at the top, extends between the panes A A.

It will be seen from the foregoing description of the construction of the device that leakage of water into the apartment over which the skylight is used is an absolute impossibility. Should rain drive in under the top plate, B, it is shed into the gutters *f″*, and thence into the gutters *f*, which lead to the eaves-troughs and deliver the water through the openings *d′* and spouts *d*. Any moisture condensed on the under side of the panes likewise

flows into the gutters, and the holes in the cover-plates are effectually sealed by the caps *a*.

The spouts *d* are located some distance from the openings *d'*, so as to defeat the direct entrance of cold air into the apartment.

In order to renew a broken pane it is only necessary to unscrew the nuts *h*, which hold it at the bottom, and release the cover-plates *e*. The removal of the caps *a* permits the plates *b* and C to be lifted off, when the parts of the broken pane may be removed and the old putty scraped out. New putty is then applied, the new pane is laid in place, and the cover-plates restored to position, beginning at the eaves.

The skylight leaves nothing to be desired in point of immunity from entrance of water, is cheap and light, and is of such construction that broken panes may most readily be removed and replaced by new ones.

What I claim is—

1. In combination with the supporting-beams and panes, the cover-plates secured over the meeting edges of the panes and having downwardly-turned ends securing the panes at the eaves, as and for the purpose set forth.

2. In combination with the supporting-beams having screw-rods at the eaves, the cover-plates *e*, secured by nuts upon said rods, and having downwardly-turned ends serving to hold the panes in place, as set forth.

3. In combination with the supporting-beams having flanges *g*, the lips H, folded thereunder and adapted to hold the cover-plates down upon the panes, as set forth.

4. In combination with the supporting-beams having flanges *g*, the cover-plates *e* and *b*, having beveled edges *j'* and flanges *j*, as set forth.

5. In combination with the supporting beams and rods G, the cover-plates having tubes *m* and the caps *a*, as set forth.

6. In combination with the supporting beams and rods G, the perforated cover-plates having tubes *m*, and the caps *a*, having nuts *k*, washers *l*, and tubes *m'*, as set forth.

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