

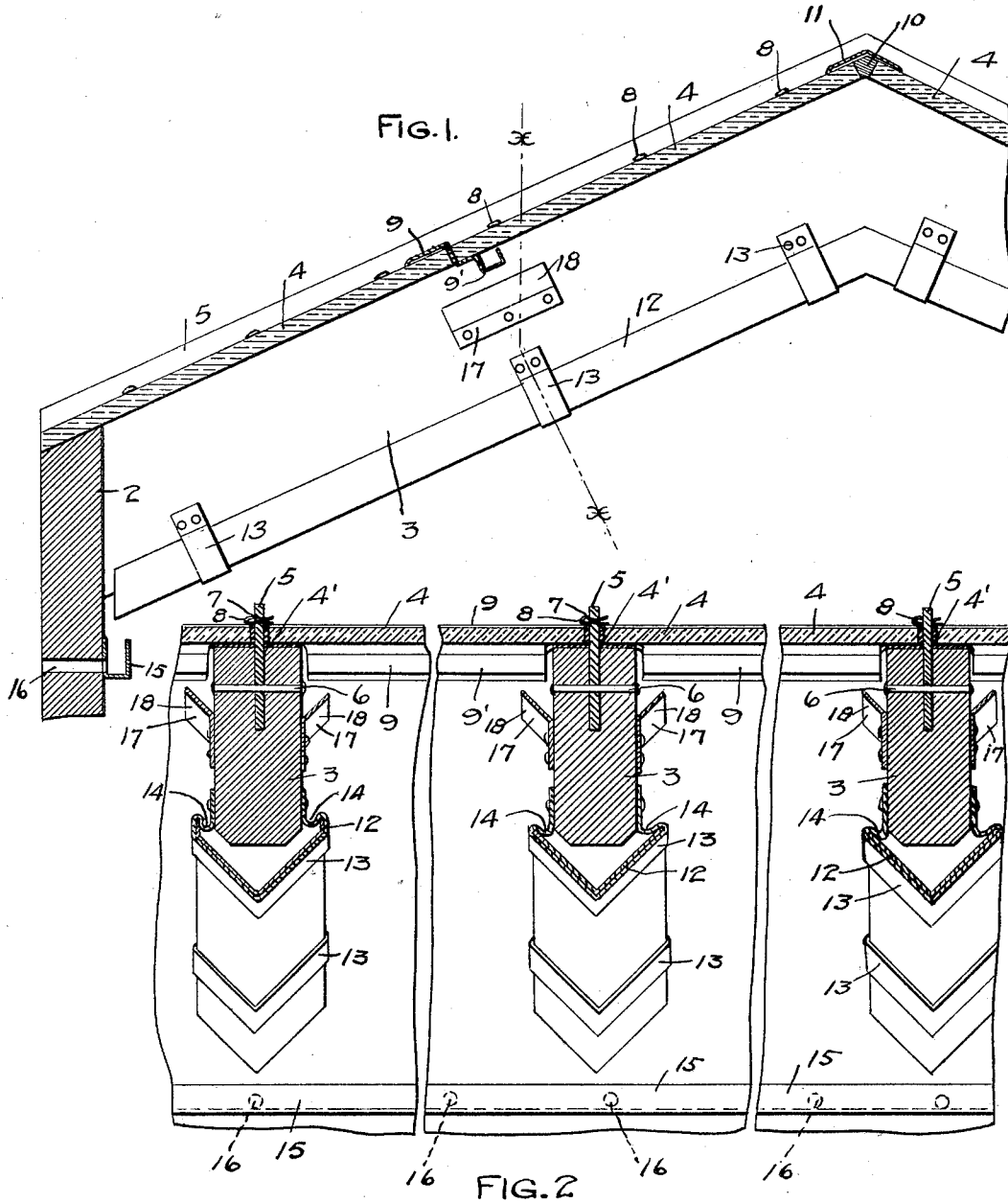
No. 697,220.

Patented Apr. 8, 1902.

A. N. STAPLES.  
SKYLIGHT.

(Application filed Mar. 1, 1901.)

(No Model.)



WITNESSES

*E. J. Standa*  
*Richard Paul*

INVENTOR

ALLEN N. STAPLES  
BY *Paul Hawley*  
HIS ATTORNEYS.

# UNITED STATES PATENT OFFICE.

ALLEN N. STAPLES, OF ST. PAUL, MINNESOTA.

## SKYLIGHT.

SPECIFICATION forming part of Letters Patent No. 697,220, dated April 8, 1902.

Application filed March 1, 1901. Serial No. 49,417. (No model.)

*To all whom it may concern:*

Be it known that I, ALLEN N. STAPLES, of St. Paul, Ramsey county, Minnesota, have invented certain new and useful Improvements in Skylights, of which the following is a specification.

The invention relates to skylights, and particularly to those designed for use in railway-depots.

10 The object of the invention is to provide a skylight having a frame or sash that will not be rusted or otherwise affected by the gases from the smoke of a locomotive.

15 A further object is to provide a skylight-frame of strong and durable construction and one that will not present a clumsy heavy appearance to the skylight.

20 A further object is to provide means for conducting away the water that may drip through the skylight and the condensed vapor on the under side thereof.

Other objects will appear from the following detailed description.

25 The invention consists generally in various constructions and combinations, all as hereinafter described, and particularly pointed out in the claims.

30 In the accompanying drawings, forming part of this specification, Figure 1 is a transverse vertical section of a skylight embodying my invention. Fig. 2 is a sectional view on the line *xx* of Fig. 1.

35 In the drawings, 2 represents a portion of a skylight-curb of the pitched or sloping type, and 3 the bars of the sash or frame whereon the plates or lights of glass 4 are supported. These bars may be arranged any suitable distance apart, according to the size of the glass, and each bar has, preferably, a flat upper face whereon the edges of the abutting plates rest. Each bar is provided with a longitudinal slot or saw-cut 4' along its center line adapted to receive a rib 5, preferably of metal and held within said slot by pins 6. 45 The outer or upper edge of the rib 5 extends above the top of the bar between the plates of glass, and near its edge each rib is provided with a series of holes 7 to receive cotter-pins 8, which hold the glass in position 50 on the bars, but permitting any of the plates to be removed in case of breakage or for any other purpose. By employing this construc-

tion I am able to dispense with the metal sash usually employed in skylights of this class and provide a frame in which the metal portions will be concealed and protected on the inside of the skylight from contact with the gases from a locomotive. I am also able by using the metal ribs in connection with the wooden bars of the sash to make the frame 60 much lighter than would be desirable if constructed entirely of wood.

The outer ends of the bars 3 bear upon the inner side of the curb 2, and the ribs 5 preferably extend down over the beveled upper edge of said curb. The outer plates of glass rest upon said beveled edge and the abutting ends of the plates between the curb and ridge of the skylight are preferably supported and held in their proper relative position by means of sheet-metal clips 9, interposed between the abutting ends of the plates, as shown in Fig. 1. These clips are preferably provided under the glass with gutters 9', which collect the drippings from the joints and 75 condensed vapor from the glass and conduct them to the side of the bars 3.

Any suitable means may be provided for connecting the ends of the plates at the ridge or top of the skylight. I prefer, however, to provide a bar 10, preferably of wood, whereon the ends of the plates rest, said bar and the abutting ends being concealed by a sheet-metal plate 11. 80

As more or less water will drip through the joints of the skylight, I prefer to provide a suitable gutter for catching the same and conducting it away to the roof. This invention consists in providing a V-shaped metal trough 12, preferably of copper, suspended 90 beneath the lower edge of each of the bars 2 and supported thereon by straps 13. These straps are arranged at intervals and are provided with loops 14, that are within and below the edge of the gutter 12, so that any water following the sides of a bar and flowing over the straps will not be conducted thereby outside the gutter. The gutters follow the lower edges of the bars and conduct the water to troughs 15, provided on the curb, from whence it passes out through holes 16 in the curb onto the roof. The water that enters the skylight between the ribs and the glass will flow down over the sides of the bars and 100

be caught by the gutters thereon. I prefer to provide plates 17, secured at an incline on the sides of the bars beneath the clips 9 and having wings 18, that are adapted to catch the drippings from the gutters 9' and direct the same to the sides of the bars, from whence it will flow down into the gutters.

This skylight is especially adapted for use in railway-depots or train-sheds where a metal frame or sash becomes corroded or otherwise damaged through the action of the sulphurous gases from a locomotive. It will be understood, however, that this form of skylight may be employed in various other buildings, such as shops, factories, and warehouses, where a metal frame would be affected by smoke and vapors or where a skylight of light but strong and durable construction is desired. The gutters provided on the bars of the sash carry away the drippings resulting from leaks in the skylight and also the condensed vapor and obviate all discomfort and annoyance arising from a leaky skylight.

I have shown my invention applied to a skylight of the pitched or sloping type; but it will be understood that it is equally applicable to other styles. I do not wish to be confined to the particular means for securing the ribs within the wooden bars of the skylight-frame nor to the manner of securing the glass plates in position nor to the devices for supporting the gutters, as all these parts are incidental to the main features and may be modified in various ways without departing from my invention.

I prefer to embed the edges of the glass plates in putty, which when the plates are placed in position will be pressed or forced up between their edges and the ribs 5, closing the crevices and preventing, as far as possible, the entrance of water through the skylight.

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

1. In a skylight, the combination, with the bars 3 and the glass plates resting thereon, of gutters suspended beneath the lower edges of said bars, and plates 17 having wings 18 provided on said bars beneath the abutting ends of said plates, for the purpose specified.

2. In a skylight, the combination, with the bars 3 and the glass plates resting thereon, of gutters suspended beneath the lower edge of said bars, clips 9 interposed between the abutting ends of said plates, and wings or clips provided on the sides of said bars and adapted to receive the drippings from said clips 9, for the purpose specified.

3. In a skylight, the combination, with the curb 2 having a water-outlet 16 and the trough 15, of bars provided on said curb and upwardly-inclined therefrom, gutters provided beneath the lower edges of said bars and adapted to direct the drippings therefrom into said trough, for the purpose specified.

4. In a skylight, the combination, with a

curb 2, of inclined bars supported thereon, metal ribs provided in the upper edges of said bars and extending lengthwise thereof, glass plates resting upon said curb and bars between and abutting said ribs, means for securing said plate, gutters provided on the lower edges of said bars, and troughs arranged on the inside walls of said curb to receive the contents of said gutters, substantially as described.

5. In a skylight, the combination, with wooden sash-bars arranged at an incline, of metal ribs inserted into the upper edges of said bars and extending lengthwise thereof, glass plates resting upon said bars between and abutting said ribs, a suitable filling material such as putty closing the joints between said ribs and glass and wherein the edges of the glass are embedded, gutters suspended beneath the lower edges of said bars and adapted to gather up the leakage and water of condensation, and wings provided on said bars between said gutters and the abutting edges of said plates, substantially as described.

6. In a skylight, the combination, with wooden sash-bars arranged at an incline, of metal ribs inserted into the upper edges of said bars and extending lengthwise thereof, glass plates resting upon the upper edges of said bars between and abutting said ribs, means for securing said plates, clips interposed between the abutting edges of said plates to conduct the leakage to the sides thereof, gutters substantially V-shaped in cross-section suspended beneath the lower edges of said bars to receive the leakage from said clips and the water of condensation from said plates and bars, and water-conducting means provided on said bars between said gutters and said clips, substantially as described.

7. In a skylight, the combination, with wooden sash-bars arranged at an incline and having substantially flat upper and lower edges, of metal ribs inserted into the upper edges of said bars and extending lengthwise thereof, glass plates resting upon the flat upper edges of said bars between and abutting said ribs, clips interposed between the abutting edges of the plates substantially at right angles to said bars, V-shaped gutters provided on the lower edges of said bars and guiding strips or plates provided on said bars between said gutters and said clips, for the purpose specified.

8. The combination, with wooden bars arranged at an incline, of a curb whereon said bars are supported, metal ribs inserted into the upper edges of said bars and extending lengthwise thereof, glass plates resting upon said upper edges and said curb between said ribs and abutting the same, means for holding said plates in place, gutters provided on the lower edges of said bars to receive the drippings therefrom, troughs near the lower ends of said gutters and discharge-holes provided in said curb whereto the leakage of the

skylight and the water of condensation are directed by said troughs, substantially as described.

5 9. In a skylight, the combination, with the sash-bars and the glass plates resting thereon, of gutters provided beneath the lower edges of said bars, straps 13 having depending loops 14 provided on said bars and supporting said gutters, clips 9 provided between the abutting ends of said plates and wings secured on said bars between said gutters and said clips, 10 for the purpose specified.

10. In a skylight, a curb provided with troughs on its inside wall and discharge-holes communicating with said troughs, in combination, with sash-bars and plates, and gutters 15 carried by said bars and adapted to deliver the drippings from said plates to said troughs.

In witness whereof I have hereunto set my hand this 23d day of February, 1901.

ALLEN N. STAPLES.

In presence of—

RICHARD PAUL,  
M. C. NOONAN.