

G. HAYES.  
Skylights.

No. 147,129.

Patented Feb. 3, 1874.

Fig. 1.

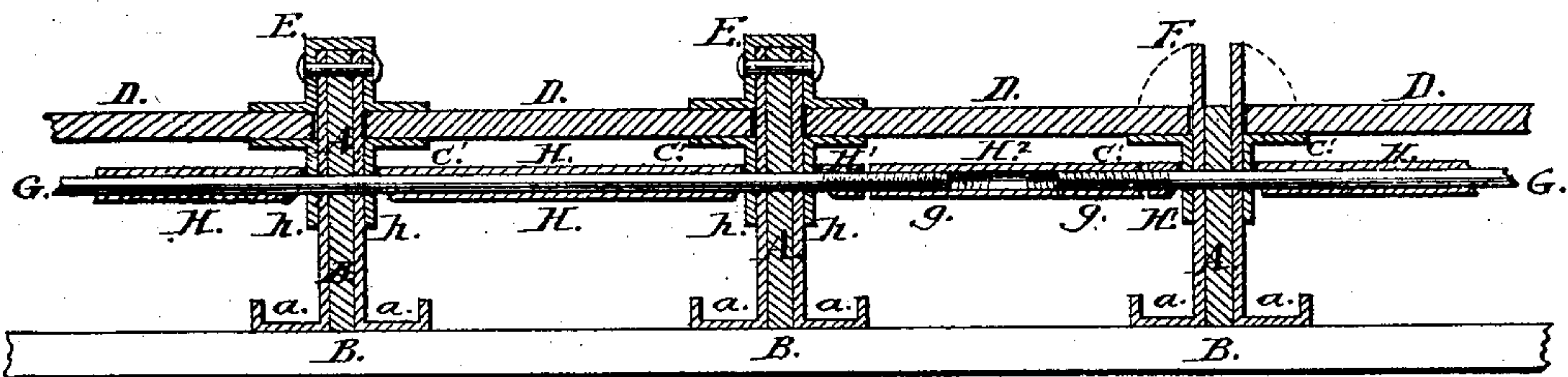


Fig. 2.

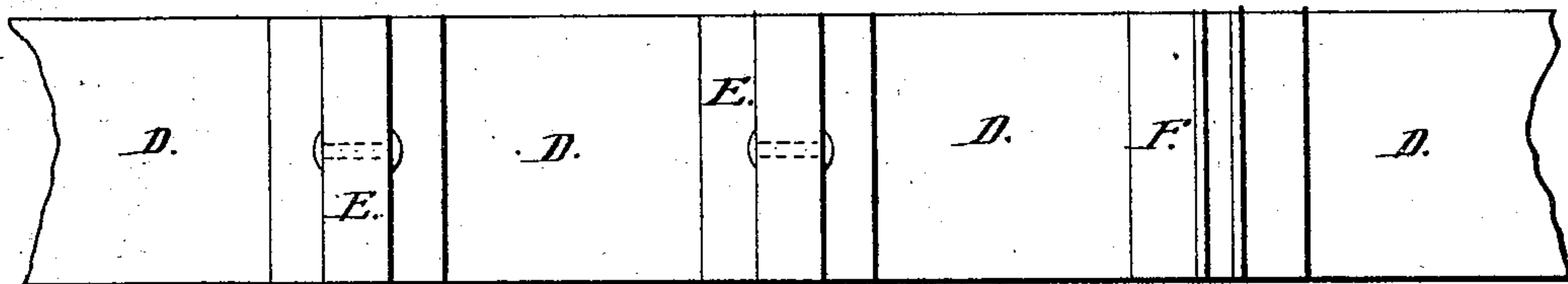
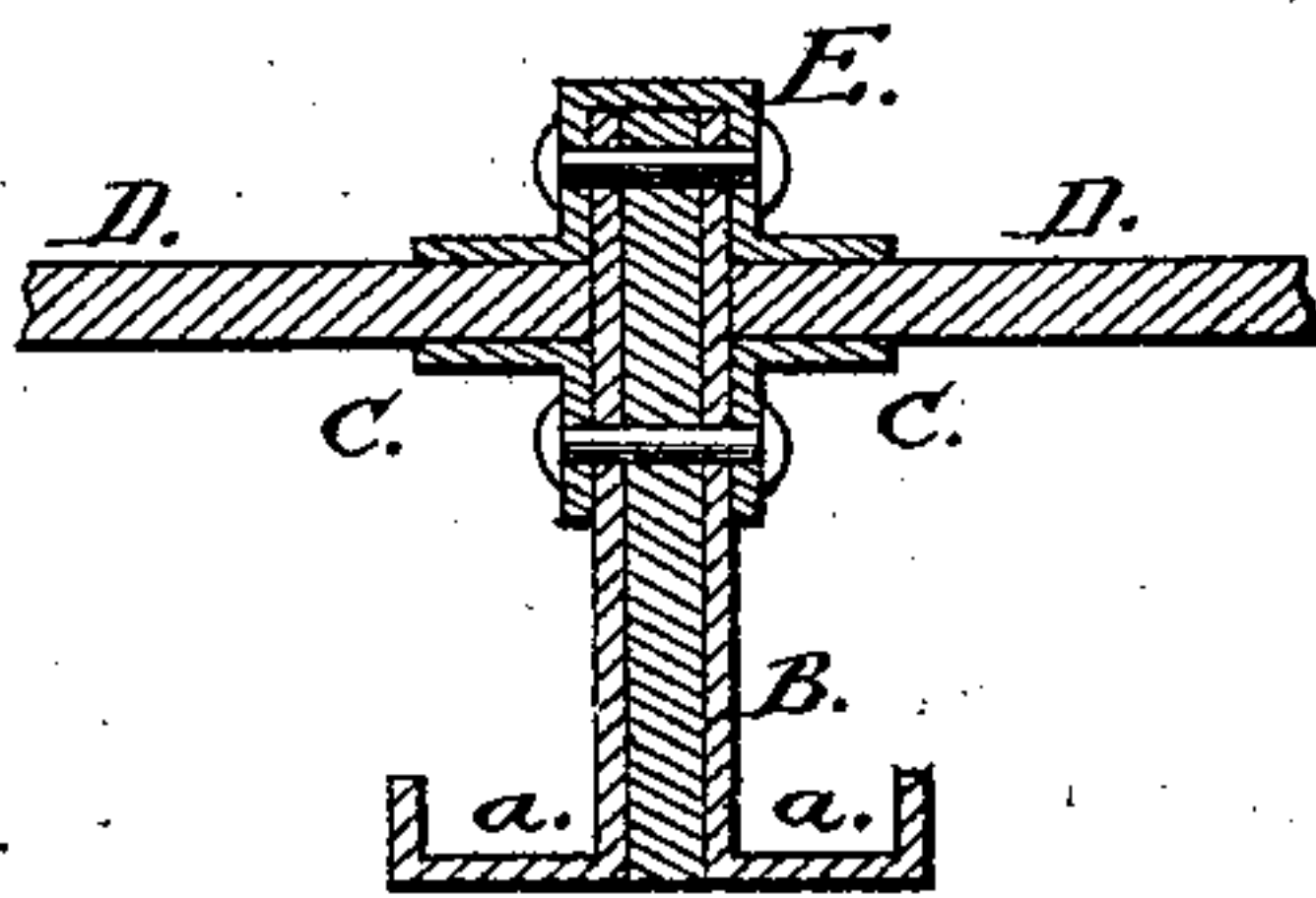


Fig. 3.



Witnesses:

Robert Mathie  
Edw. Lauch

Inventor:

George Hayes



# UNITED STATES PATENT OFFICE.

GEORGE HAYES, OF NEW YORK, N. Y.

## IMPROVEMENT IN SKYLIGHTS.

Specification forming part of Letters Patent No. **147,129**, dated February 3, 1874; application filed November 6, 1873.

### CASE A.

*To all whom it may concern:*

Be it known that I, GEORGE HAYES, of the city, county, and State of New York, have invented a certain new and useful Improvement in Skylights, of which the following is a specification:

This invention relates to means for supporting and securing the plates of glass skylights; and it consists in the employment of vertical supporting-bars, which are constructed of sheet-metal plates, bent at their lower ends in such a manner as to form gutters for collecting the condensed vapors and water, and provided with separately-attached lateral flanges for supporting the ends of the glass plates constituting the skylight, the supporting-bars being used either with or without a central or interposed stiffening-bar, and provided with means for securing the glass plates, which may be in the form of a flanged cap-plate or saddle, or the upper ends of the plates comprising the supporting-bar may be made pliable, so as to be turned down upon the glass plates.

In the accompanying drawings, Figure 1 is a transverse section of a skylight constructed according to my invention. Fig. 2 is a top or plan view of the same. Fig. 3 is a detail sectional view of a supporting-bar and interposed stiffening-bar.

Skylights have heretofore been constructed in a manner similar to the plan now proposed by me, as in several patents granted to myself, numbered, respectively, 100,143, 106,157, 112,594, 143,149, 143,150, and 143,151; but, on account of their cost of manufacture, it has been thought necessary to devise a skylight which shall be more simple in construction and effective in use; and these advantages the present invention is considered to possess.

Referring to the drawings, B represents the bars, which constitute the frame employed for supporting the glass plates of the skylight. Said supporting-bars are constructed in various ways, but in every instance they are made of sheet or other metal capable of being wrought into shape; and, when increased or additional strength is deemed necessary, I interpose between the plates comprising said

supporting-bars a rigid stiffening-bar, A, as represented in Figs. 1 and 3. The lower ends of the plates, forming the supporting-bar B, are bent in an outward and upward direction, so as to form gutters *a*, which are designed to receive the condensed vapors of condensation from the glass plates, or such rain which may in the course of time penetrate through the joints. The glass plates D of the skylight are retained in position by means of separately-attached lateral horizontal flanges C', located near the upper ends of the supporting-bars B. Said flanges are made independent of the supporting-bars, and are separately attached thereto by bolts or rivets. The vertical movement of the glass plates is prevented by means of cap or saddle plates E, which are secured to the tops of the supporting-bars, and provided with horizontal base-flanges bearing upon the upper surface of the glass plates; or said glass plates may be confined upon their seats by turning the upper ends, or that portion of the supporting-bars which projects above the glass plate, down upon the latter, as is shown by the dotted lines in Fig. 1. The metal comprising the supporting-bars being sufficiently ductile or pliable, the lapping down of the ends of the same for securing the glass may be readily performed.

In connection with a skylight-frame, and means for securing the glass plates, as above described, I propose to employ means for permitting the contraction and expansion of the skylight-frame, according to the changes of temperature, which consists of a sectional tension or brace rod, G, extending from the sides of the skylight-frame to the center, where the sections of the rod are connected by a shackle or right-and-left-hand nut, H<sup>2</sup>, which will permit the tension-rods to be drawn together or spread apart by engaging with the screw-threaded ends of the same. The tension-rod is surrounded by tubular braces or skew-backs H, the ends of which are beveled or cut off at an angle, as shown at *h*, and made to abut against the sides of the supporting-bars B. On both sides of the long adjusting nut or

shackle  $H^2$ , and surrounding the tension-rod, are located short sleeves or braces  $I I'$ , shaped in the same manner as the braces  $H^2$ .

A skylight constructed according to the present invention is designed to remedy several defects found in existing skylights, and, being compact and simple in construction, it can be manufactured at a less cost, and be erected with greater ease and facility.

I claim as my invention—

1. The supporting-bars  $B$ , provided with the separately-attached lateral flanges  $C' C'$

and gutters  $a$ , in combination with the glass-retaining device, substantially as herein shown and described, for the purpose specified.

2. In combination with the supporting-bars  $B$ , having flanges  $C'$  and glass-retaining device, the skew-backs  $H$ , rod  $G$ , and nut  $H^2$ , or its equivalent, substantially as and for the purpose specified.

GEORGE HAYES.

Witnesses:

ROBERT MATHIE,  
PETER PAUSCH.