

(No Model.)

G. HAYES.

SKYLIGHT.

No. 280,036.

Patented June 26, 1883.

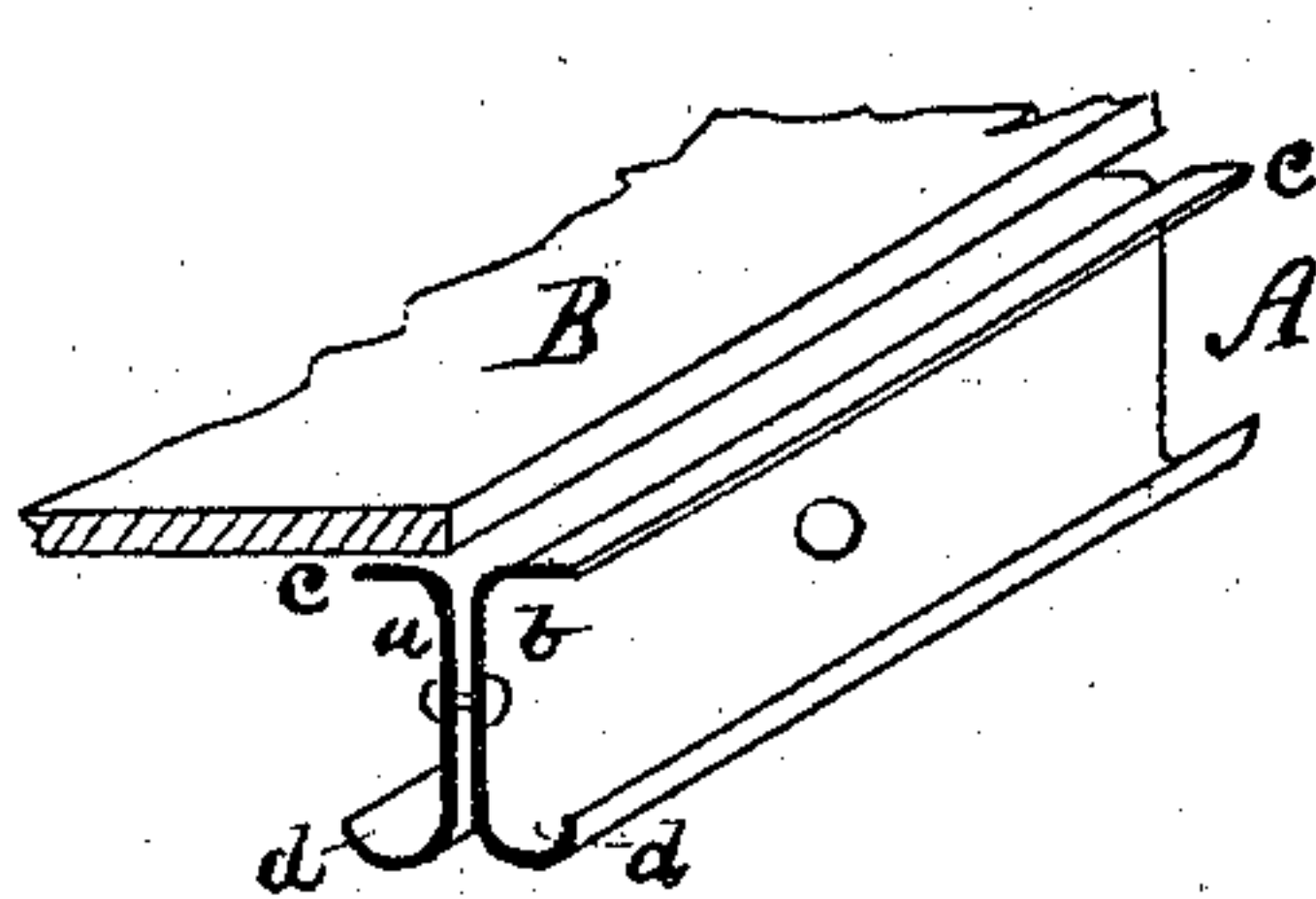
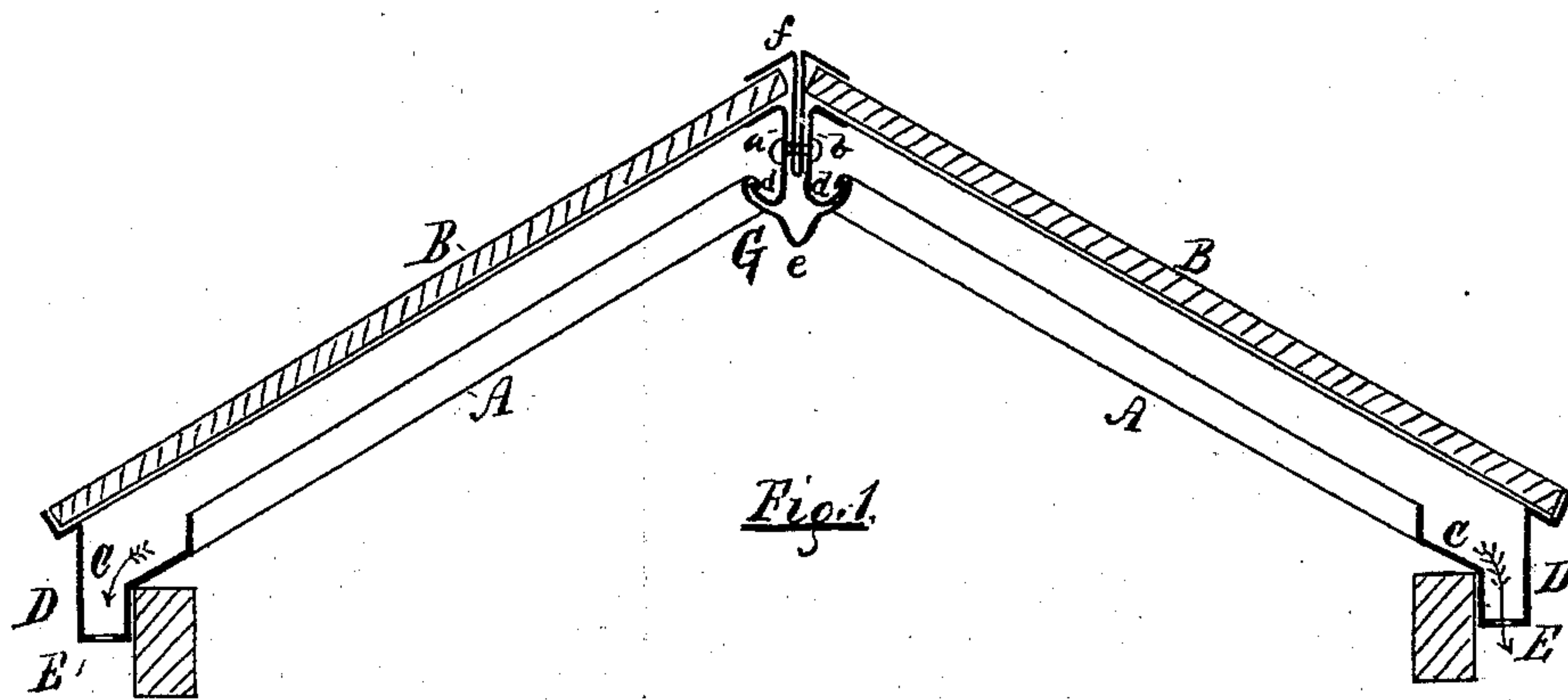


Fig. 2.

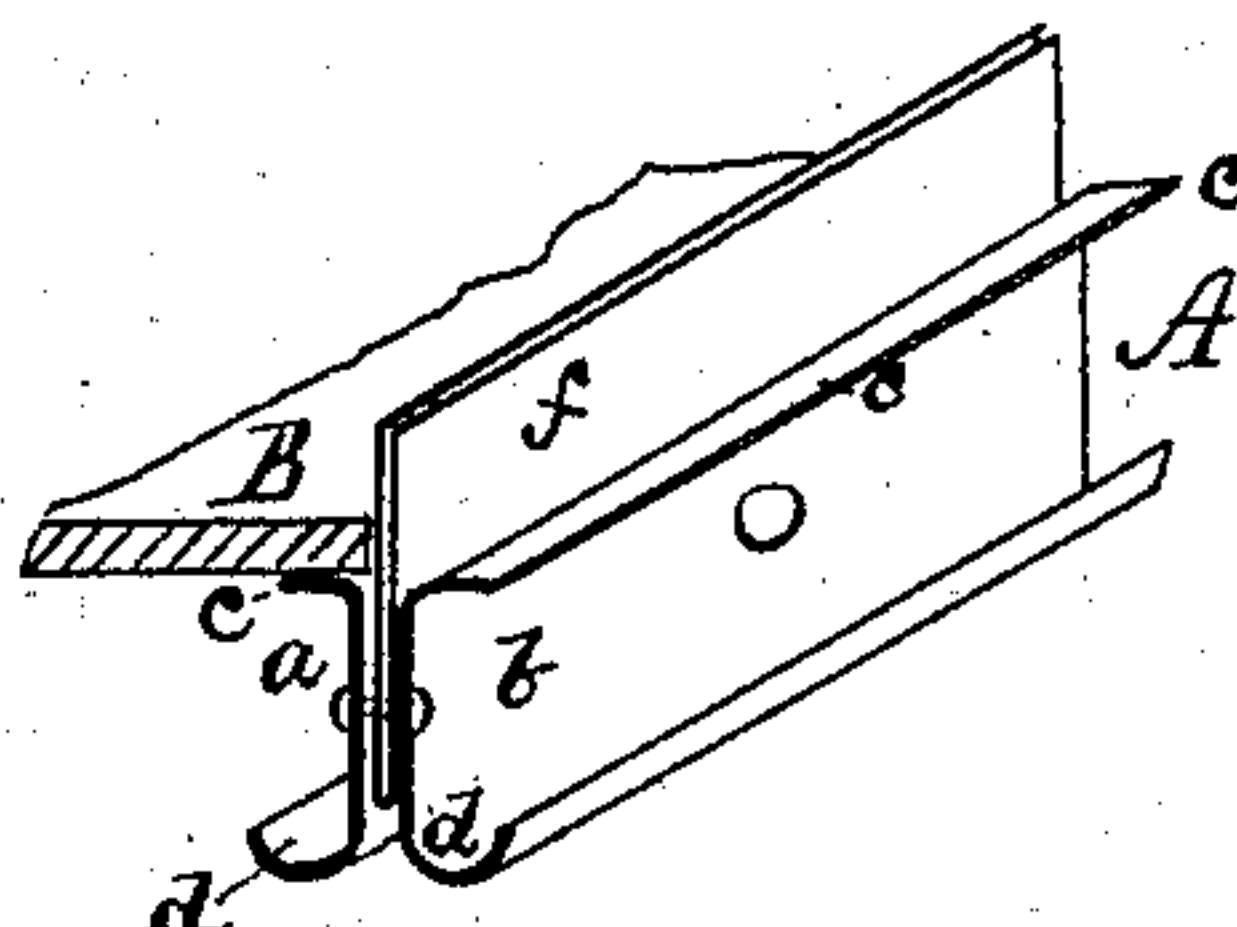


Fig. 3.

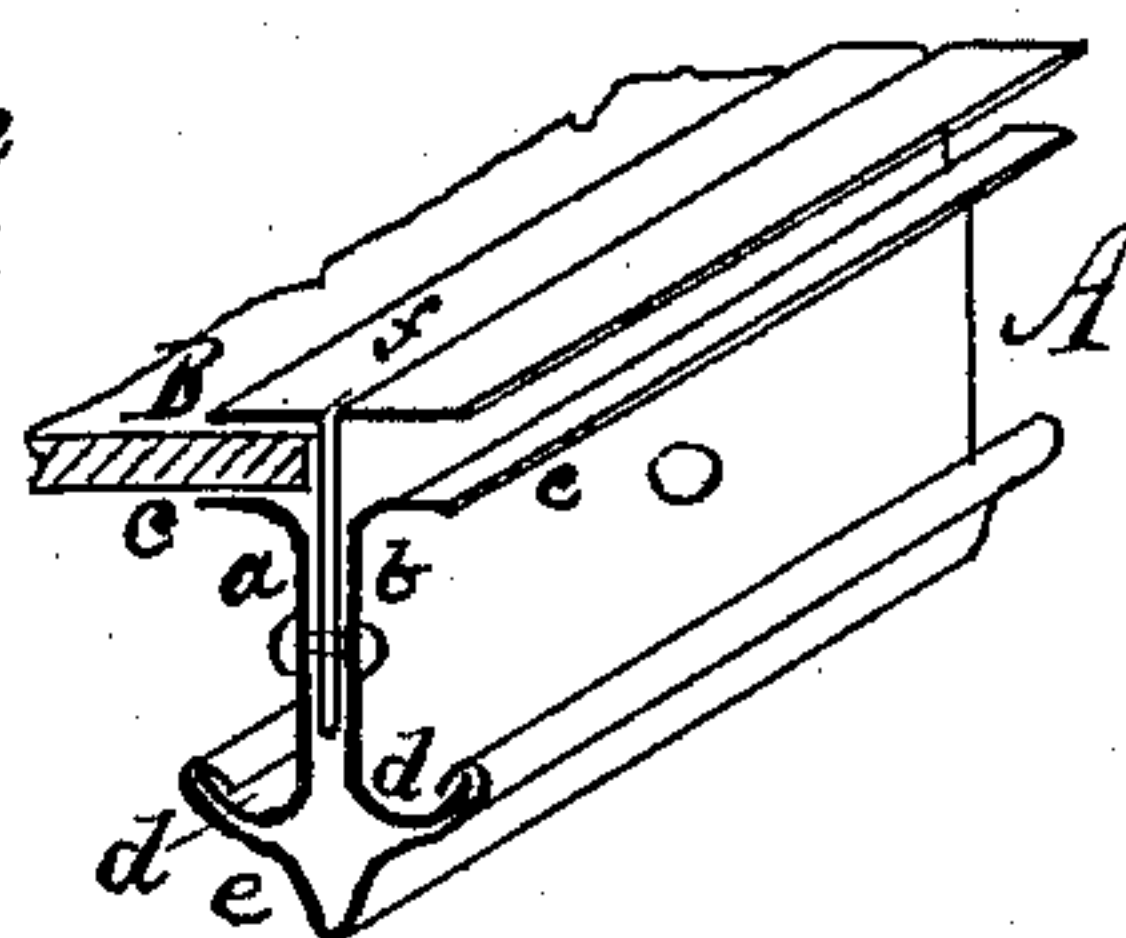


Fig. 4.

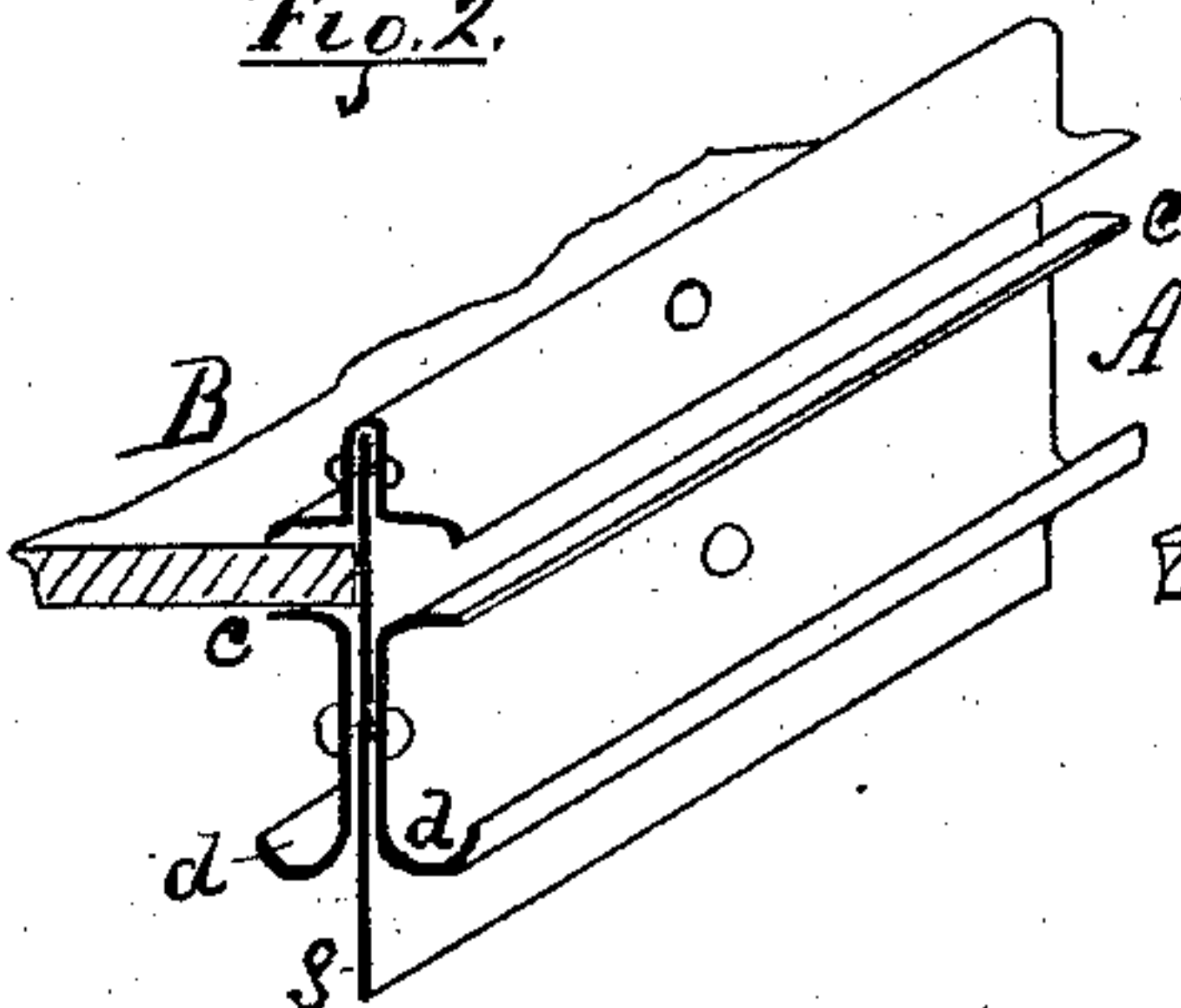


Fig. 5.

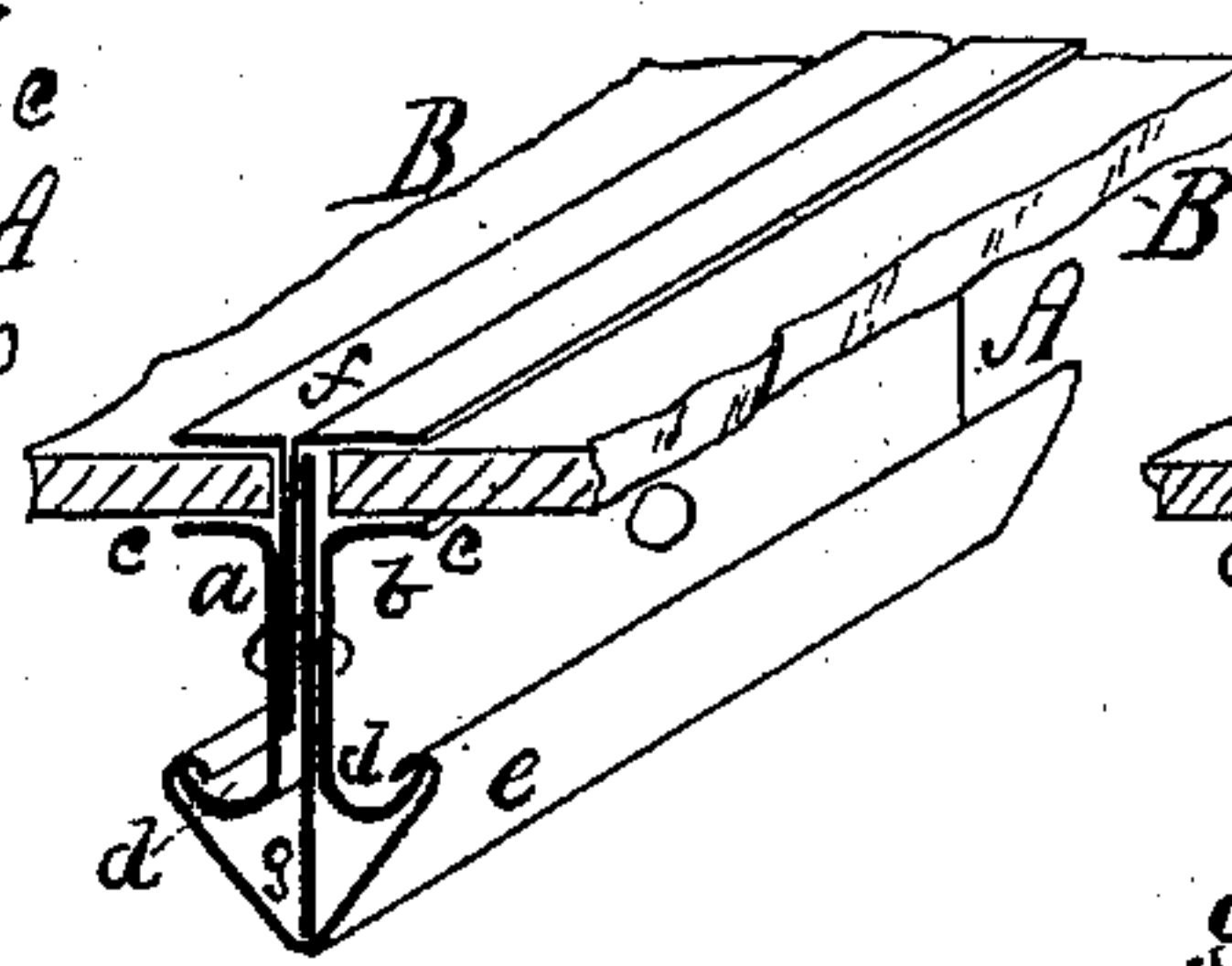


Fig. 6.

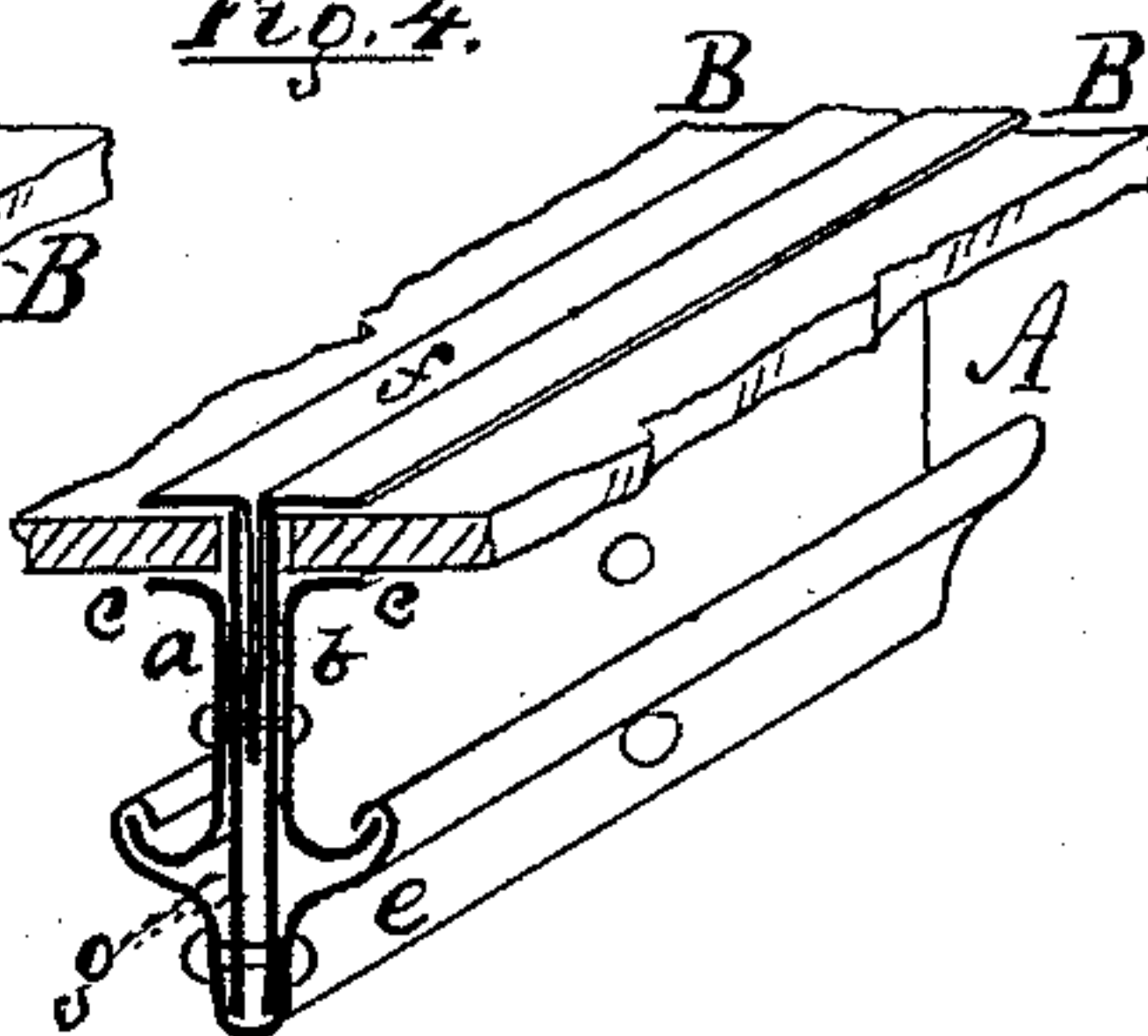


Fig. 7.

Witnesses

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Inventor

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UNITED STATES PATENT OFFICE.

GEORGE HAYES, OF NEW YORK, N. Y.

SKYLIGHT.

SPECIFICATION forming part of Letters Patent No. 280,036, dated June 26, 1883.

Application filed June 16, 1882. (No model.)

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 new and useful Improvement in the
5 Construction of Skylights and other Glazed Structures, of which the following is a specification.

This invention has for its object lightness combined with strength, as well as to effect-
10 ually provide against leakage from storm or from condensation, and the drifting of snow into or beneath the structure.

My improvement relates to the construction of the bar or rafter constituting the skeleton
15 of the structure, and by which the glass plates are supported; and it consists, first, of the bar or rafter composed of two curved plates of sheet metal placed back to back, curving outwardly at top and bottom, bent to form
20 ledges or shoulders for reception of glass plates, and beneath the same gutters for removing drip resulting from condensation and leakage; second, in the combination, with the bar thus constructed, of an under cap or molding so
25 appended as to give a finish, ornamental or otherwise, to the under side of the bar or rafter, and to constitute a central or interior gutter to more effectually secure against leakage; third, in the combination, with the bar of
30 curved plates, of a cap of pliable metal—such, for instance, as lead strips—inserted down between the curved plates, secured thereto, and adapted to be bent over above the glass plates to cover their edges and secure against leak-
35 age at that point; fourth, in the combination, with said bar of curved plates, of one or more vertical inside plates for the purpose of giving additional strength to the bar, arranged between the two curved plates forming the bar,
40 and extending upward and downward, as necessary for the strength requisite. The bar proper consists of the two curved plates joined, to which, when required, the under cap is added, and, when necessary for strength, the in-
45 terior vertical plates are added, and also the pliable upper cap. Each of these additional parts may be combined with the bar without the addition of either of the others, to suit the nature of the case; and my invention consists,
50 further, in combining all the above elements together to constitute one bar, when so de-

sired, for certain structures wherein greater strength is deemed necessary.

In the drawings, Figure 1 shows a section of skylight with sloping bars, ridge-bar, and
55 base-frame, the gutters of which parts are shown as connecting. Fig. 2 shows a cross-section of the bar proper, with portions in perspective. Fig. 3 shows a cross-section of bar with pliable cap-plate and perspective por-
60 tions. Fig. 4 shows a cross-section of the bar with a pliable cap-plate bent over the glass plates in finish, and the under cap added, portions also being in perspective. Fig. 5 shows a cross-section of the bar with internal verti-
65 cal plate and another form of cap used. Fig. 6 shows a cross-section of the bar with pliable cap, internal vertical plate, and under cap, forming a complete combination of all the elements. Fig. 7 shows a cross-section of the
70 bar with pliable cap-plate, under cap or molding, and two internal vertical plates, showing how they may be doubled. Bolts or rivets are shown in all the figures as a means of uniting the parts. The cap-plate in Fig. 7,
75 where it extends down between the glass plates and the two sides of the bar, is solid for the entire vertical portion, and not of two parts folded, as in the other figures. Section-
80 ally it forms a T.

A represents the skylight bars or rafters, each composed of two curved plates arranged back to back curving or bent outwardly from each other. The plates are marked, respect-
85 ively, *a b*. The upper curves of the said plates form ledges or shoulders *c c* for the support of the glass plates B, and the lower curves of said plates in their hollows form gutters *d d*, which serve to carry off water resulting from drip or leakage, discharging the same at the base
90 by or through their lower ends into base-gutter C of the base-frame of the structure at D, from whence it is discharged through outlets therein, as at E. The two curved plates may be bolted together, or otherwise secured so as
95 to form one bar, and thus used alone to form the skeleton of the structure.

At *e* is shown the under cap or molding giving finish to the under side of the bar when
100 desired, and its upper inside surface, which forms a hollow, constitutes an extra gutter, serving to catch and carry off any leakage that

might occur between the two plates forming the bar A.

At *f* is shown an upper cap, used whenever desired. It is composed of pliable metal—such, for instance, as lead—and is secured between the two curved plates of the bar, and, extending upward between the edges of the glass plates, is bent over the same when placed in position, and, flattened, forms a secure covering over the joints to prevent leakage. By the use of this cap, putty may be dispensed with, although I prefer to bed the glass plates on putty placed between and above the upper curves of the plates forming the bar.

At *g* is shown an internal vertical plate, used, when desired, to give additional strength to the bar. There may be one or more of these plates used, as necessary, and they may be of any suitable width and extend above the bar or below the same any proper distance.

Instead of the pliable cap at top, any other suitable cap may be used with the bar—as, for instance, one saddling the inside plate, as shown in Fig. 5—when it is necessary that said plate should project upward to a considerable height. Thus the bar proper, A, may be used without the other device in combination therewith, or each of the other devices may be combined or all combined together, to suit the desire of the purchaser or the size and necessities of the structure.

At G is shown a ridge-bar for a skylight structure, also formed in the same manner and comprising the same elements as the sloping bars or rafters, and thus a complete skylight-skeleton may be made, excepting only the base-frame.

The parts of the bar here described can be stamped up or folded at one process and put together very expeditiously, and being composed of narrow strips of metal which oftentimes are wasted, I propose to construct a very much cheaper skylight than has hitherto been

constructed, thereby filling a much-needed want—viz., a metallic skylight—at almost the cost of wood.

In Fig. 7 the pliable or lead cap-plate forms sectionally a **T**, extending as one plate down between the edges of the glass plates into the bar below, so as to be riveted between the two halves, and in this form may be used with or without internal strengthening-plates. This **T**-cap be readily rolled into shape in long lengths and cut to any size required. It has the advantage derived from there being no joint in the transverse portion at the top, as is the case with the folded sheet of the other figures.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A skylight bar or rafter, A, composed of two curved plates of sheet metal, *a b*, placed back to back, bent to form ledges or shoulders *c*, for support of glass plates, and gutters *d*, for removing condensation and leakage, essentially as shown and described.

2. In combination with the bar A, formed, as described, of curved plates *a b*, bent to form ledges *c* and gutters *d*, the under cap or molding, *e*, adapted to form a central or internal gutter, essentially as shown and described.

3. In combination with the bar A, formed, as described, of curved plates *a b*, having ledges *c* and gutters *d*, the cap *f*, of pliable material, arranged substantially as shown and described.

4. In combination with the bar A, formed, as described, of curved plates *a b*, having ledges *c* and gutters *d*, one or more internal plates, *g*, substantially as shown and described.

5. The combination of plates *a b*, (having ledges *c* and gutters *d*,) caps *e* and *f*, and internal plates, *g*, substantially as shown and described.

GEORGE HAYES.

Witnesses:

HENRY DOOLLETT,
CHARLES HAYES.