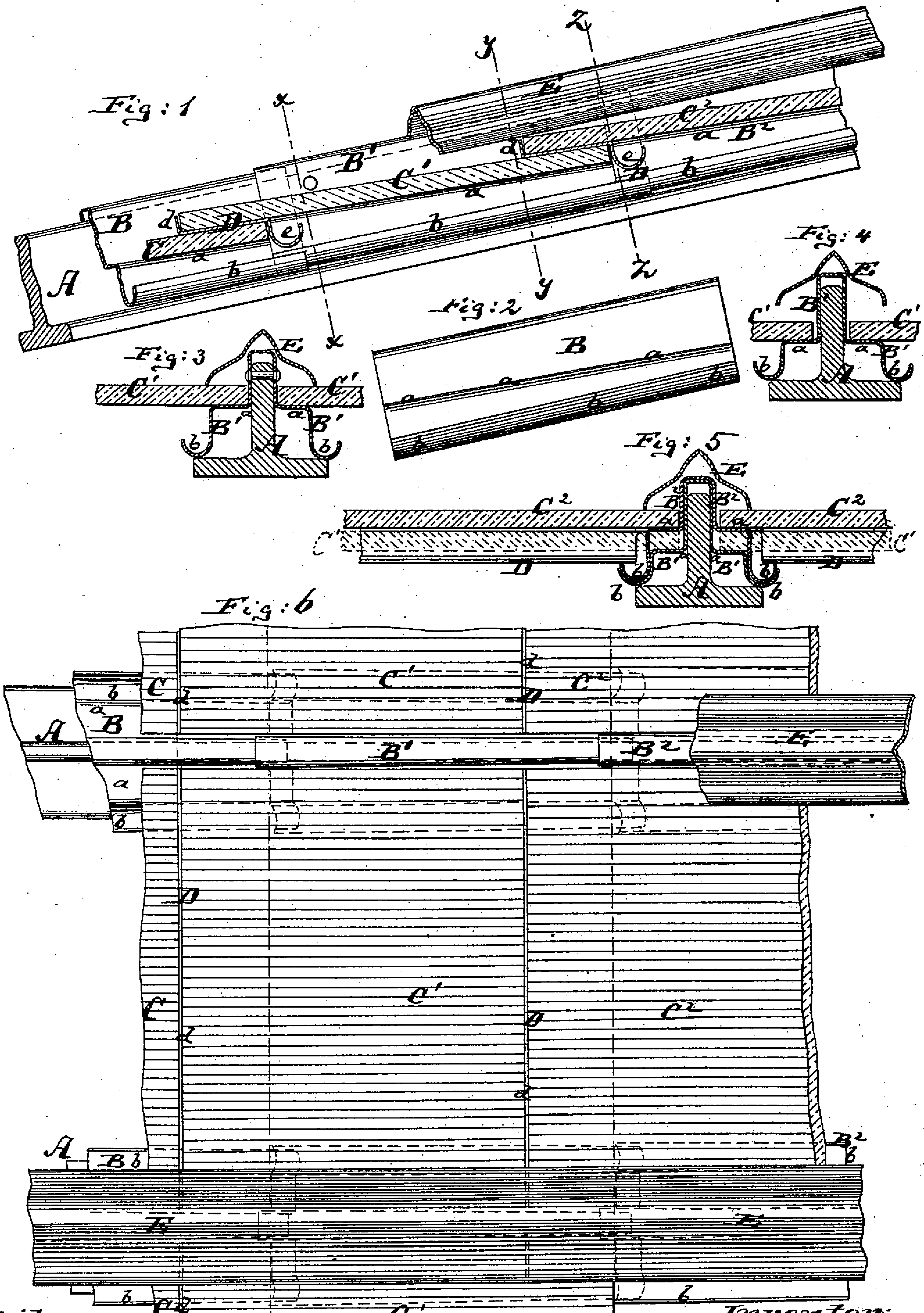
(No Model.)

2 Sheets—Sheet 1.

A. & G. BICKELHOUPT.

SKYLIGHT.

No. 273,248. Patented Mar. 6, 1883.



Witnesses:
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Inventor:
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(No Model.) 2 Sheets—Sheet 2.

A. & G. BICKELHOUPT.

SKYLIGHT.

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Fig: 8

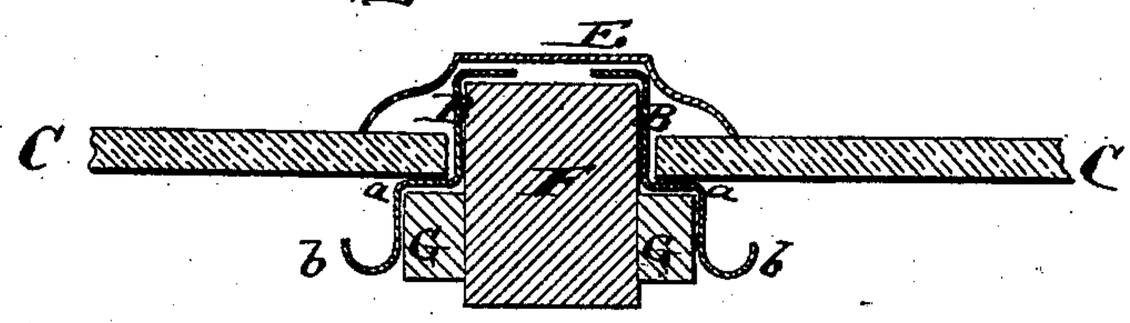


Fig: 7

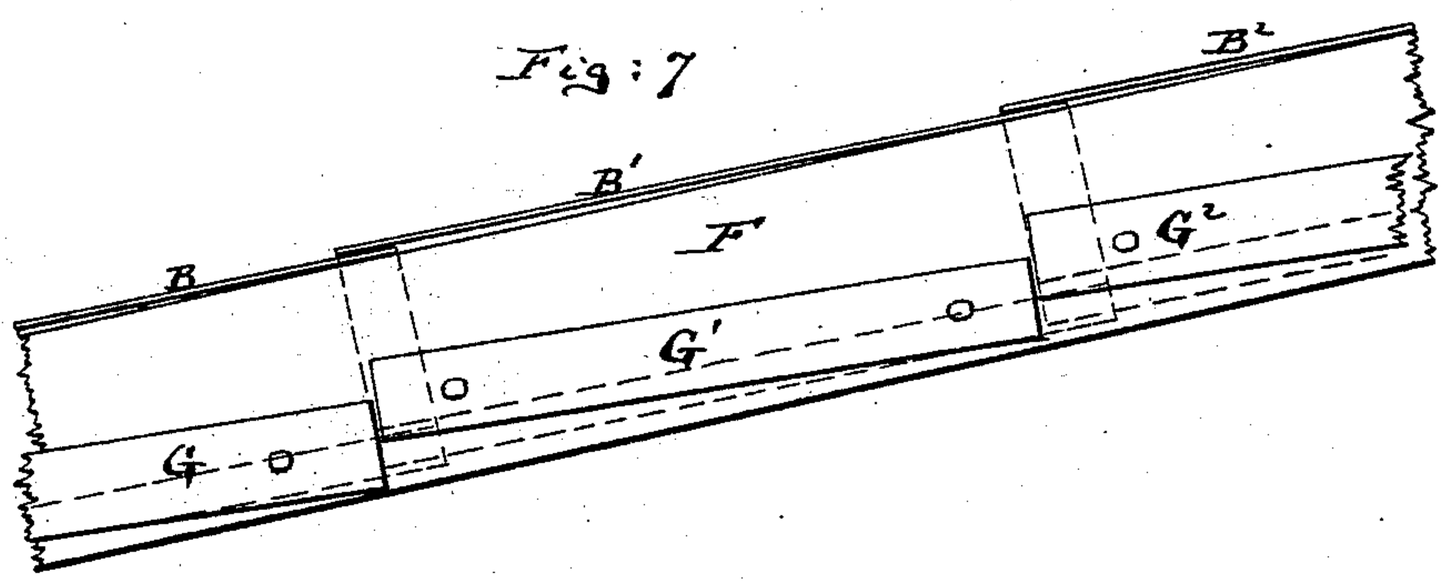
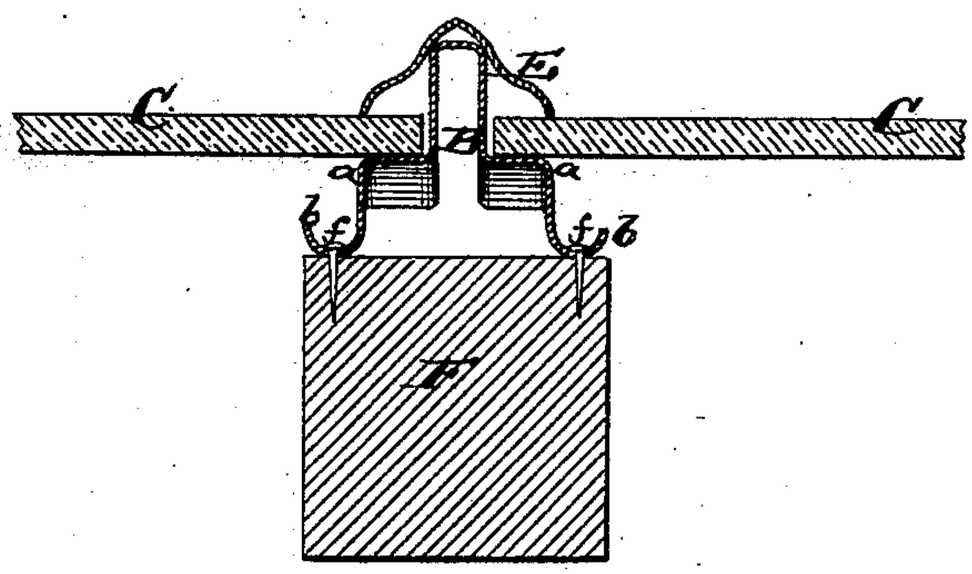


Fig: 9



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UNITED STATES PATENT OFFICE.

ADAM BICKELHOUPT AND GEORGE BICKELHOUPT, OF NEW YORK, N. Y.

SKYLIGHT.

SPECIFICATION forming part of Letters Patent No. 273,248, dated March 6, 1883.

Application filed May 17, 1882. (No model.)

To all whom it may concern:

Be it known that we, ADAM BICKELHOUPT and GEORGE BICKELHOUPT, of New York, in the county and State of New York, have invented a new and useful Improvement in Skylights, of which the following is a specification.

Figure 1 is a longitudinal vertical section of our improved skylight. Fig. 2 is a side view of one section of the gutter-bar thereof. Fig. 3 is a cross-section on the line *x x* of Fig. 1. Fig. 4 is a cross-section on the line *y y* of Fig. 1. Fig. 5 is a cross-section on the line *z z* of Fig. 1. Fig. 6 is a plan view, partly in section, of the same. Fig. 7 is a side view of a modified form of the skylight-rafter. Fig. 8 is a cross-section of this modification. Fig. 9 is a cross-section, showing another modification.

This invention relates especially to improvements in the construction of the sloping portion of skylights and analogous structures; and it consists in combining with the rafter, of iron or wood or other suitable material, a sectional gutter-bar, made preferably of some metal which can readily be bent into shape, and which fits upon the top bar or over the rafter in a series of pieces, each overlapping the other, and each provided with shoulders for supporting the glass and with gutters for catching the water, all as hereinafter more fully described. A skylight made with rafters and gutter-bars of this construction is readily applied or removed, if necessary, is economical to construct, and gives excellent results in practical operation. Its glasses overlap and do not abut, as in the ordinary metallic skylight.

In the drawings, A represents one of the rafters, which is of the shape of a T-rail, and which may be made out of T-iron.

B B′ are sections of the gutter-bar, preferably constructed of sheet-metal, and shaped to straddle the top of the rafter A. Each gutter-bar has a shoulder, *a*, bent up on each side thereof, and a gutter, *b*, on each side below the shoulder *a*. This gutter-bar B is so constructed as to fit closely upon the rafter A and clamp itself upon it by its elasticity when forced down upon the said rafter. The shoulder *a* runs in a plane at an acute angle with the plane of the top of the gutter-bar B, and not in a plane parallel with it. The gutter-bars B′ and B^2 (shown in the drawings) are all of the same construction. The gutter-bar B is first sprung upon the lower part of the rafter in such manner that the end of the shoulder *a* which is nearest the top of the gutter-bar will point downward. Then the gutter-bar B′ is sprung on the next upper part of the rafter, so as to overlap one end of the gutter-bar B. In the same way the gutter-bar B^2 overlaps one end of the gutter-bar B′, thus forming a continuous shield for the rafter A, said shield being provided with step-like shoulders *a a*, which run in different planes, respectively, and with gutters *b b*, which lap over each other, and the gutters *b b* being by preference parallel with the tops of the gutter-bars. Upon the shoulders *a a* rest respectively the skylight-glasses C C′ C^2, so as to overlap each other, as shown. The degree of inclination of the shoulder *a* to top of gutter-bar, it will be seen, must be conforming to the thickness of glass used on the skylight. Where the glasses overlap they are separated by the cross-clips D D. These cross-clips are strips of metal bent up at one side to form an upwardly-extending rib, *d*, and at the other end bent downward into a curve to form a gutter, *e*. The gutter *e*, resting against the upper edge of the glass C below, holds the clip D, which in turn, by its rib *d*, holds the glass C above. Thus each successive clip D is held by the glass below it, and holds the glass above it in place.

E is a cap set over the top of the gutter-bars, and is specially useful to shield their points of contact with the rafter.

Fig. 5 is a cross-section through the point where two gutter-bars, B′ and B^2, overlap. Here the upper gutter-bar, B^2, is shown to support on its shoulders *a* the skylight-glasses C^2, one on each side, while the lower gutter-bar, B′, supports on its shoulders *a′* the skylight-glasses C′, which are overlapped by the glasses C^2. The gutters *b* of the one bar fit close down into the gutters of the other bar, thus forming a continuous gutter in substantially the same plane, whereas the shoulders of the different sections, as will readily be seen, lie in planes one as much above the other as the thickness of the glass.

The modification shown in Figs. 7 and 8 is

employed when it is desired to use wood in a cheap way, instead of employing T-iron for the rafter A. F represents the wooden rafter of ordinary kind. Along the sides of it are fastened strips G G′ G², each running at an acute angle to the plane of the top of the rafter F and forming a series of shoulders, each one slightly above the next like a set of steps. (See Fig. 7.) The gutter-bar used with this modification is substantially like that already described, but may be divided in two longitudinal parts to save material where the rafter is wide. One of the halves of this gutter-bar is fitted on each side of the rafter F, the shoulder *a* resting upon the cross-strip G, thus forming supports for the glasses C on each side. The cap E is set over the top of the rafter, and may be fastened thereto to clamp the glasses C down upon the shoulders upon which they rest.

In the modification shown in Fig. 9 the cap E, sectional gutter-bar B, and glasses C are the same and combined in the same manner as has already been described in Fig. 1; but the rafter here is a beam, on top of which the gutter-bar is spiked or clamped by spikes *f f*.

We claim—

1. The gutter-bar B for skylights and analogous structures, provided with shoulders *a* and gutters *b* on diverging planes longitudinally, substantially as shown and described.

2. In a skylight or analogous structure, the combination of the rafter with two or more overlapping gutter-bars, B B′, carried thereby, each gutter-bar having a shoulder, *a*, at an acute angle with the top of the rafter, so as to form steps for the support of overlapping glasses, substantially as described.

3. In a skylight or analogous structure, the combination of the rafter A with two or more gutter-bars, B B′, having shoulders *a a*, forming longitudinally a series of steps, and with the continuous gutter *b*, substantially as shown and described.

4. The clip D, made with upwardly-projecting ribs *d* on one side and with downwardly-extending gutter *e* on the other side, for use on overlapping glasses, as specified.

5. The combination of rafters having step-like shoulders *a a* and continuous gutters *b b*, with the cross-clip D, having rib *d* and gutter *e*, all arranged for the support of overlapping glasses, substantially as herein shown and described.

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