B. GOLDMAN.

SECTIONAL SKYLIGHT.

APPLICATION FILED MAR. 27, 1915.

1,220,219.

Patented Mar. 27, 1917.

3 SHEETS—SHEET 1.

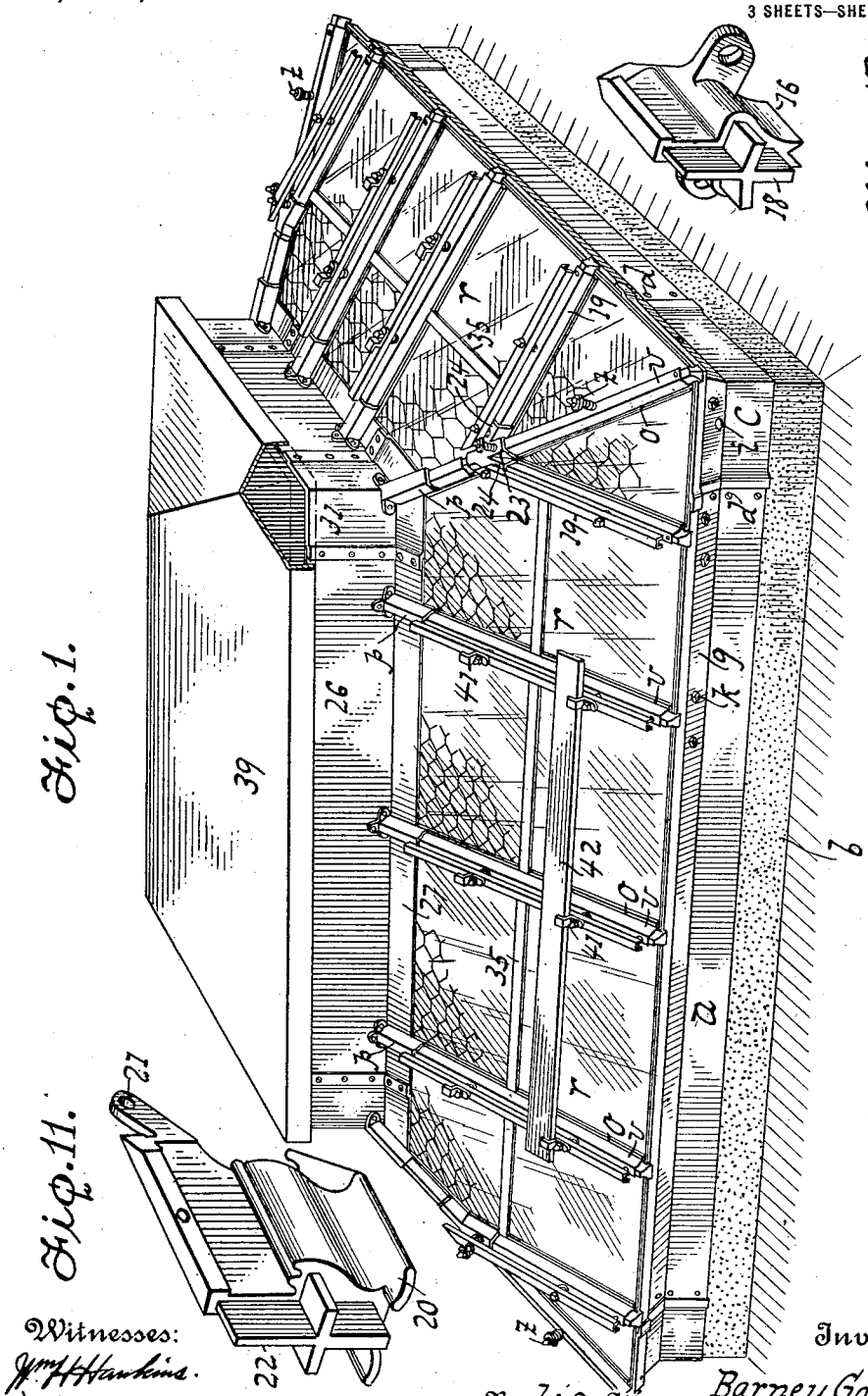

Fig. 1.

Fig. 11.

Fig. 12.

Witnesses:

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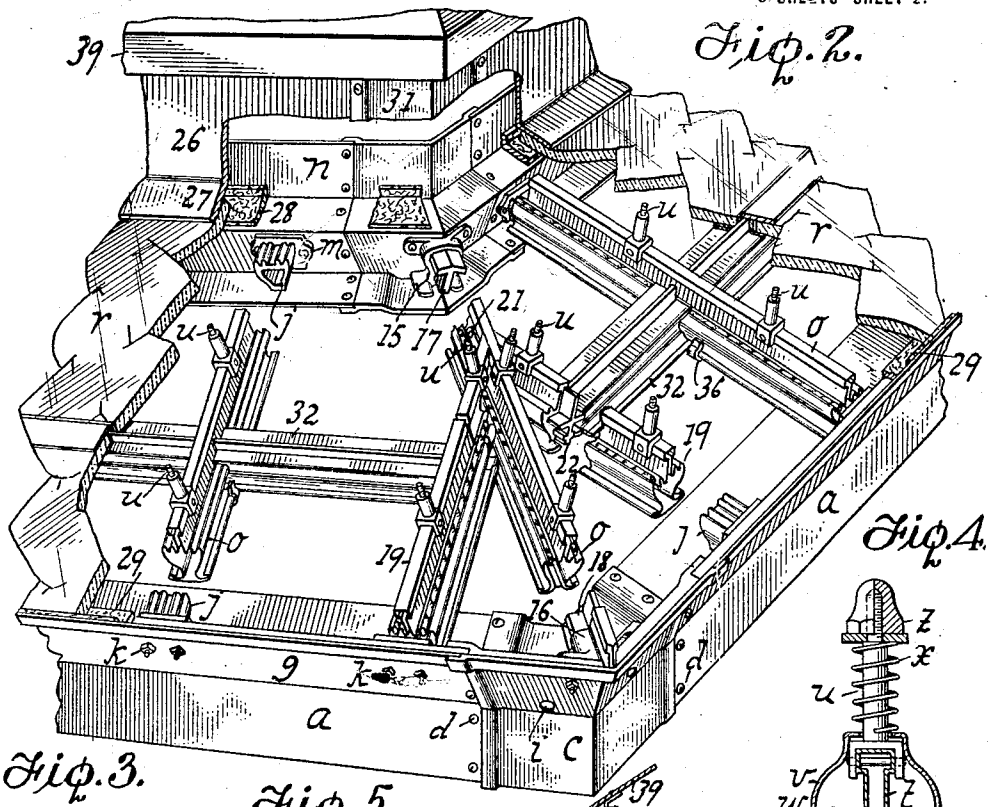
3 SHEETS—SHEET 2.

Fig. 2.



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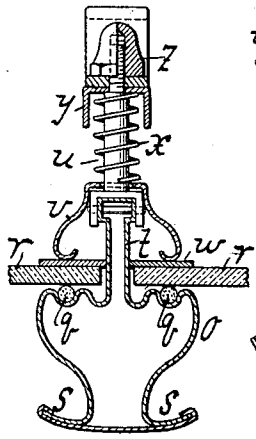


Fig. 5.

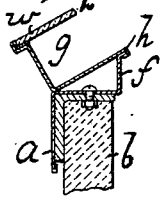


Fig. 6.

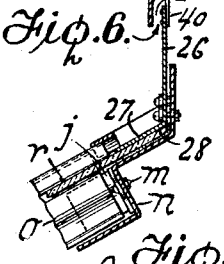


Fig. 4.

Fig. 7.

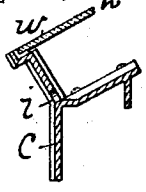


Fig. 8.

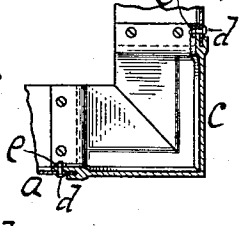


Fig. 9.

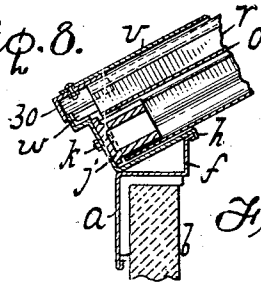
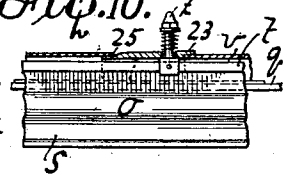


Fig. 10.



Witnesses:

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3 SHEETS—SHEET 3.

Fig. 13.

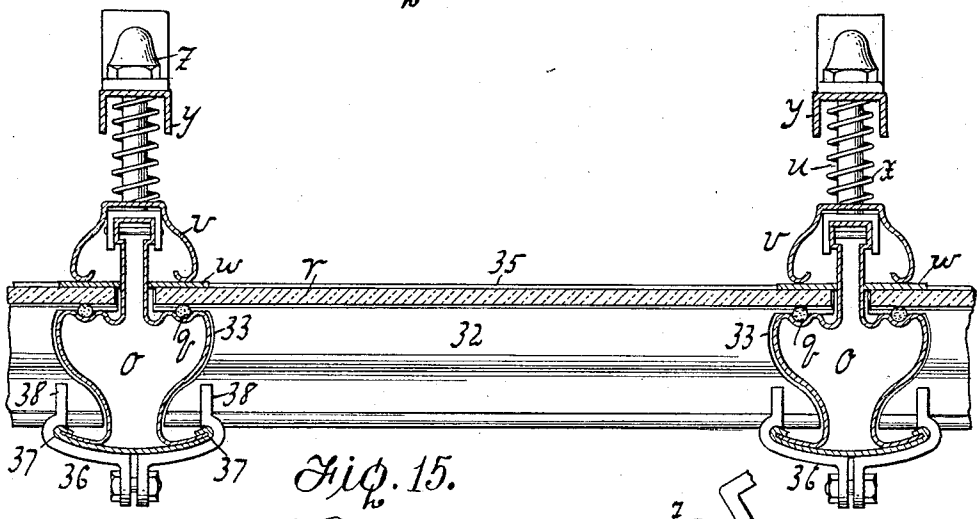

Fig. 15.

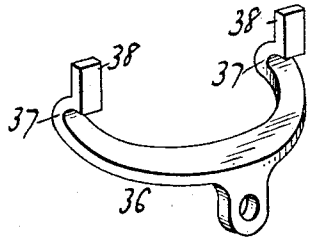

Fig. 14.

Witnesses:

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UNITED STATES PATENT OFFICE.

BARNEY GOLDMAN, OF NEW YORK, N. Y.

SECTIONAL SKYLIGHT.

1,220,219. Specification of Letters Patent. Patented Mar. 27, 1917.

Application filed March 27, 1915. Serial No. 17,359.

To all whom it may concern:

Be it known that I, BARNEY GOLDMAN, a citizen of the United States, residing at New York, county of New York, and State of New York, have invented new and useful Improvements in Sectional Skylights, of which the following is a specification.

This invention relates to that class of raised skylights which are essentially adapted for covering an opening in the roof of a building.

The object of the invention is to provide a skylight built up of a plurality of sections so that the parts can be readily transported to the place where the skylight is to be set up.

Another object of the invention comprehends means for connecting the parts together without the employment of a uniting medium such as solder.

Another object of the invention is to provide novel devices for mounting and compensating for the expansion and contraction of the metal relative to the translucent substance.

Another object of the invention is to employ castings for the fittings, thus making the parts strong and durable and ready to be set up on the opening or well in the roof of a building.

The invention is more fully described in the following specification and claims and illustrated in the accompanying drawings in which:

Figure 1 is a perspective view of a skylight embodying this invention.

Fig. 2 is a similar view showing the method of assembling the parts.

Fig. 3 is a detail vertical section showing a straight bar with compensating connections.

Fig. 4 is a similar view showing a hip bar.

Fig. 5 is a vertical section of a base and gutter.

Fig. 6 is a vertical section of a continuous cap for ridge head plate.

Fig. 7 is a vertical section of a corner casting for base and gutter.

Fig. 8 is a plan view of a corner base member.

Fig. 9 is a vertical section of a cast fitting and base member.

Fig. 10 is a vertical longitudinal section of a cover cap and miter bar for a hip bar construction.

Fig. 11 is a perspective view of a fitting for a miter bar.

Fig. 12 is a similar view of a corner fitting for a hip bar.

Fig. 13 is a longitudinal section showing a centering clamp with a longitudinal connecting bar.

Fig. 14 is a side elevation partly in section of the same.

Fig. 15 is a perspective view of a clamp.

In this drawing the letter *a* designates a base frame which is constructed of a number of drawn metal plates and is mounted on a curb *b* projecting from an opening or well located in the roof of a building. These plates are joined together by means of corner members *c* with bolt connections *d* passing through the ends of the corner base members and the forked portions *e* of the base frame, see Fig. 8. These base frames *a* have their upper portions positioned horizontally over the top of the curb and each member has a vertical projecting portion *f* situated at the inner part of the frame. A condensating gutter *g* is secured by a beaded joint *h*, see Fig. 5, to the upper end of the projecting portion *f* of the base frame. The condensating gutter is arranged at an incline in relation to the base plate and the front end thereof is supported on the said plate. The corner members *c* are provided with openings *i* located at the lower portion of the gutter for drawing off the water or moisture in the gutter.

A series of cast male fittings *j* as indicated in Figs. 2 and 9 are arranged at intervals along the gutter and each fitting is secured to the gutter or base plate by a bolt *k;* another set of the fittings are secured at *m* to an oppositely disposed ridge bar *n*, see Figs. 2 and 6. The fittings have corrugated tops and each pair of the fittings are adapted for engagement with the ends of a straight hollow bar *o*. The ends of the bars telescope over the fittings to support the bars, and as shown in Fig. 1, the upper portion of the bar is covered by a cap *p* for sealing the joint between the bar and the fittings to shed and prevent leakage of the water into the joint.

The corrugations strengthen the bars and at the same time constitute channels for mounting strips of yielding material *q* to support translucent sheets of glass *r*. These channels also serve as gutters for the condensed water or any leakage between the

divided ends of the glass. The bar *o* also has lower gutters *s* extending along each side of the bar, for catching any overflow of water from the upper channeled gutters, which condensation flows into base gutter *g*.

The means for clamping the sheets of glass to each bar consist of a stem *t* see Fig. 3, projecting upwardly from the bar *o* and on this stem is fastened a series of bolts *u* each bolt having a threaded upper end. A cap *v* coacts with the lower portion of the bolts and a foot portion thereof rests onto strips of lead *w* arranged on the glass. A coiled spring *x* is mounted on each bolt and the spring can be covered by a sleeve *y* mounted on the upper end of the bolts. The sleeve and spring are held in place relative to each other by the employment of a nut *z* in engagement with the threaded end of the bolt.

The foregoing means for mounting the sheets of glass compensates for the contraction and expansion of the metal, also forms a centering device for the bar relative to the glass and it also prevents breakage of the glass when it is jarred. It gives yielding contact to the inner and outer surface of the glass consequently taking up any upward or downward thrust given to the sheets of glass.

As indicated in Fig. 4 similar compensating devices are shown applied to a hipped arrangement of sheets of glass, in combination with a hip bar. This hip bar *c* is engaged at its upper end by a T shaped fixture 15 and at its lower adjacent end by a corner fixture 16. The ends of the bar slide or telescope over the respective reduced ends 17 and 18 of the fixtures, see Figs. 2 and 12, thus supporting the bar. The upper end of the bar has a cap *p* to cover the joint for shedding the water as described above in regard to a straight bar.

The hip bar has connected to it a pair of short miter bars 19 diverging from the side of the bar. These bars at their lower ends are supported on the said fixtures *j* secured to the gutter, while at their upper ends they are engaged by bracket fittings 20 secured at 21 to the sides of the hipped bars. The bars are telescoped over the reduced portions 22 see Fig. 11, of the fittings and the adjacent ends are slid over the fittings *j* located at the lower end. This construction centers the bar, prevents lateral and longitudinal movement of the same.

A cap having a straight portion 23 and diverging branch members 24 is adapted to cover the joints between the miter bars and the hip bar where they are fitted to the brackets 20. This cap has its straight upper end 23 positioned under a slot 25 formed in the hip bar and its other forward ends are arranged on to the outer surface of the hip and miter bar, as shown in Fig. 10. These caps also carry compensating devices connected to the bar described above for clamping the sheets of glass to the bars.

Secured to the ridge bar *n* is a sectional head plate or cap 26 having an inclined flange 27 best seen in Fig. 6 for shedding the water. This flange is arranged over a corresponding inclined portion of the ridge bar *n* and it forms a space in conjunction with the bar for the insertion of the upper ends of the glass sheet. The sheets of glass at the latter end are supported on a cushion 28 disposed on the inclined portion of the ridge bar. The lower forward ends of the glass rest on a cushion 29 arranged on the upper portion of the gutter *g*. The joints between the glass and the wall of the gutter are covered by a continuous cap 30, see Fig. 9.

The head plate member 26 is formed of a number of drawn plates and the sections are connected together by corner castings 31 see Fig. 2.

In large skylights it is necessary to have two or more lengths of glass between the bars and for this purpose a longitudinal bar 32 is employed to support and center these glass connections. The ends 33 of this bar fit the contour of the bars *o*, see Fig. 13. The bar also has an upper flange 34 projecting between the two ends of the glass see Fig. 14. A metal strip 35 extending up over the flange is adapted to cover the longitudinal joints between the two opposite sheets of glass so as to shed the water. The purpose of this construction is to provide means for connecting the ends of the glass in a watertight manner without overlapping.

Each bar *o* has attached to it a pair of clamps 36 straddling the bar and having hook members 37 to engage the lower side portions of the bar *o*. Each clamp has a projecting lug member 38 to coact with the lower portions of the bar 32 thereby centering the bar and preventing shift of the bar relative to the vertical bar *o* and the glass. In this construction the bar 32 is supported by the bars *o* and the former bar is kept in alinement by the employment of the clamps.

The skylight is surmounted by an overhanging cap 39 secured by straps 40 to the head plates 26, as indicated in Figs. 1 and 6. This overhanging cap will shed the water away from the side of the head plate members and it has sufficient elevation above the plate to form a space whereby air is sucked into the building.

As indicated in Fig. 1, the bars *o* are provided with a series of clips formed of angle irons 41 for coaction with a plank 42 utilized when it is necessary to repair or assemble the parts.

It will be seen that the glass sheets are supported on the corrugated shelves formed on the hollow bars, while the bars carry the

compensating devices such as the spring, cushions, and connecting parts for yieldingly clamping the glass to the bars, and at the same time absorbing any shocks given to the glass.

I claim:

1. A skylight comprising sectional curb and ridge members, a gutter arranged along the inner portions of the curb sectious, fittings having corrugated tops located at the respective inner and outer parts of the curb and ridge sections, one fitting being opposite the other, and a hollow bar provided with corrugated glass supporting side shelves the corrugated ends of the bar being made to telescope over the fittings.

2. In a skylight the combination with a hollow transverse glass supporting bar, of a hollow longitudinal bar having ends engaged by the transverse bar, and a clamp connected to the transverse bar and having hook members to engage the lower portions of the bar, said clamp also including lug members for coöperation with the longitudinal bar.

3. In a skylight the combination with a hollow transverse glass supporting bar having lower extensions, of a hollow longitudinal bar the ends of which engage the transverse bar, said bar having lower extensions, a clamp mounted on the bar having hooks for engagement with the extensions of the transverse bar, said clamp including lugs for engagement with the extensions of the other bar.

4. In a skylight the combination with a glass supporting longitudinal and transverse bar both having lower extensions the end of the longitudinal bar being conjoined with the transverse bar, of a clamp provided with hook members to straddle the edge extensions of the transverse bar, said clamp including lugs projecting from the hook members for engagement with the extensions of the longitudinal bar.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

BARNEY GOLDMAN.

Witnesses:

HAZEL V. REIDENBACH,

CHRISTIAN H. ALMSTAEDT.