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J. LEPLA.
BAR FOR SKYLIGHTS AND SIMILAR CONSTRUCTIONS.
APPLICATION FILED MAY 24, 1907.

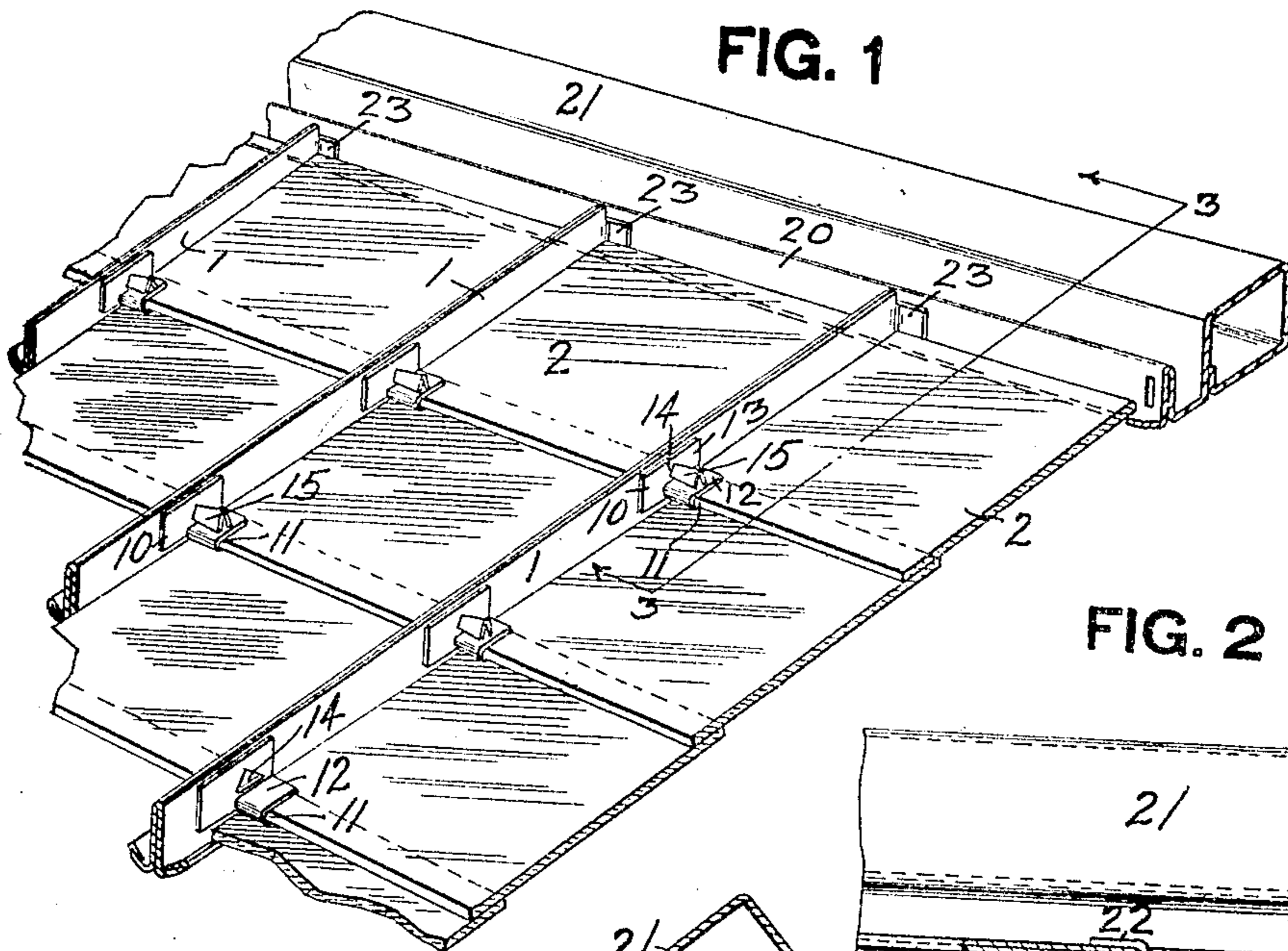


FIG. 2

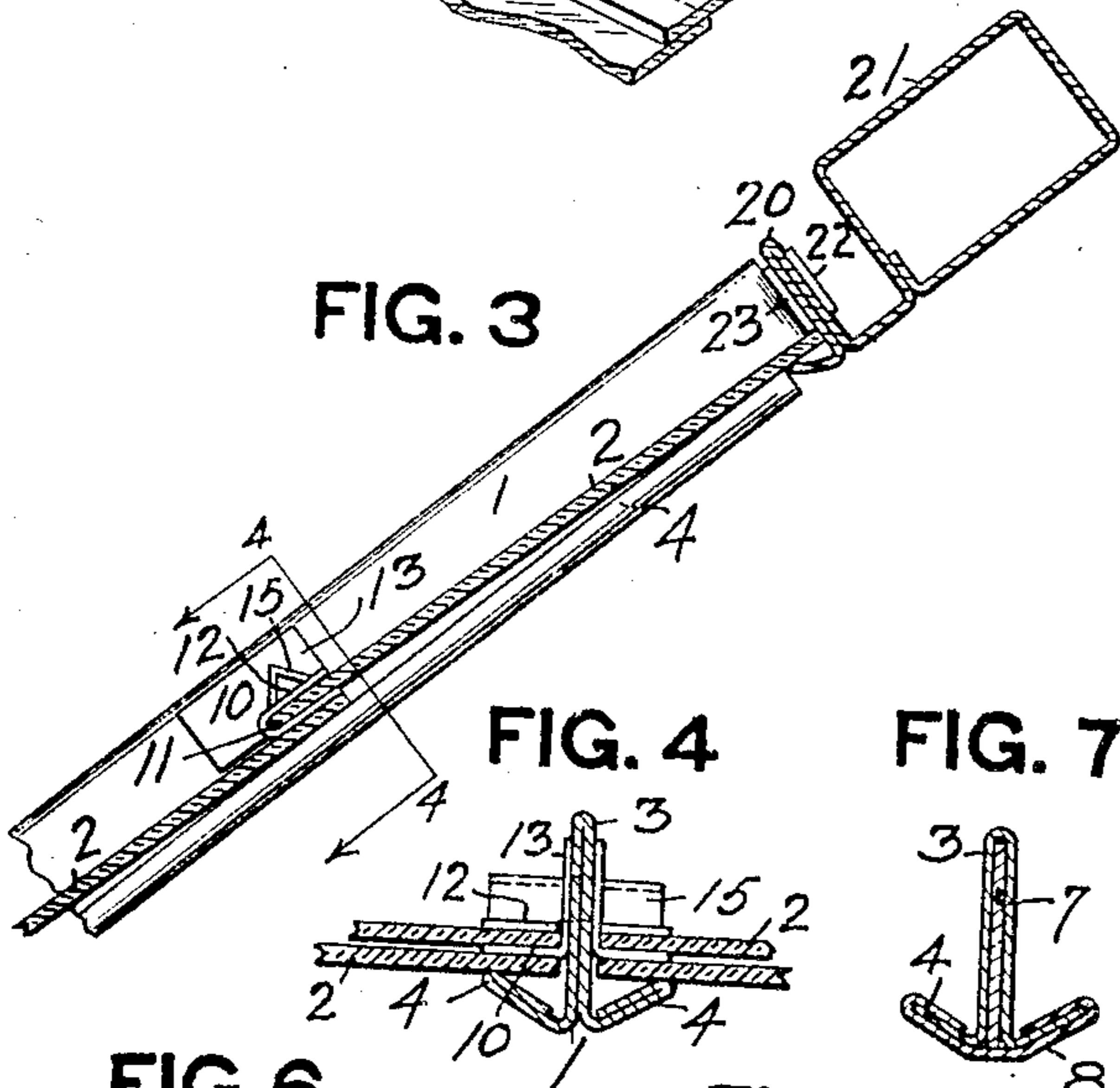
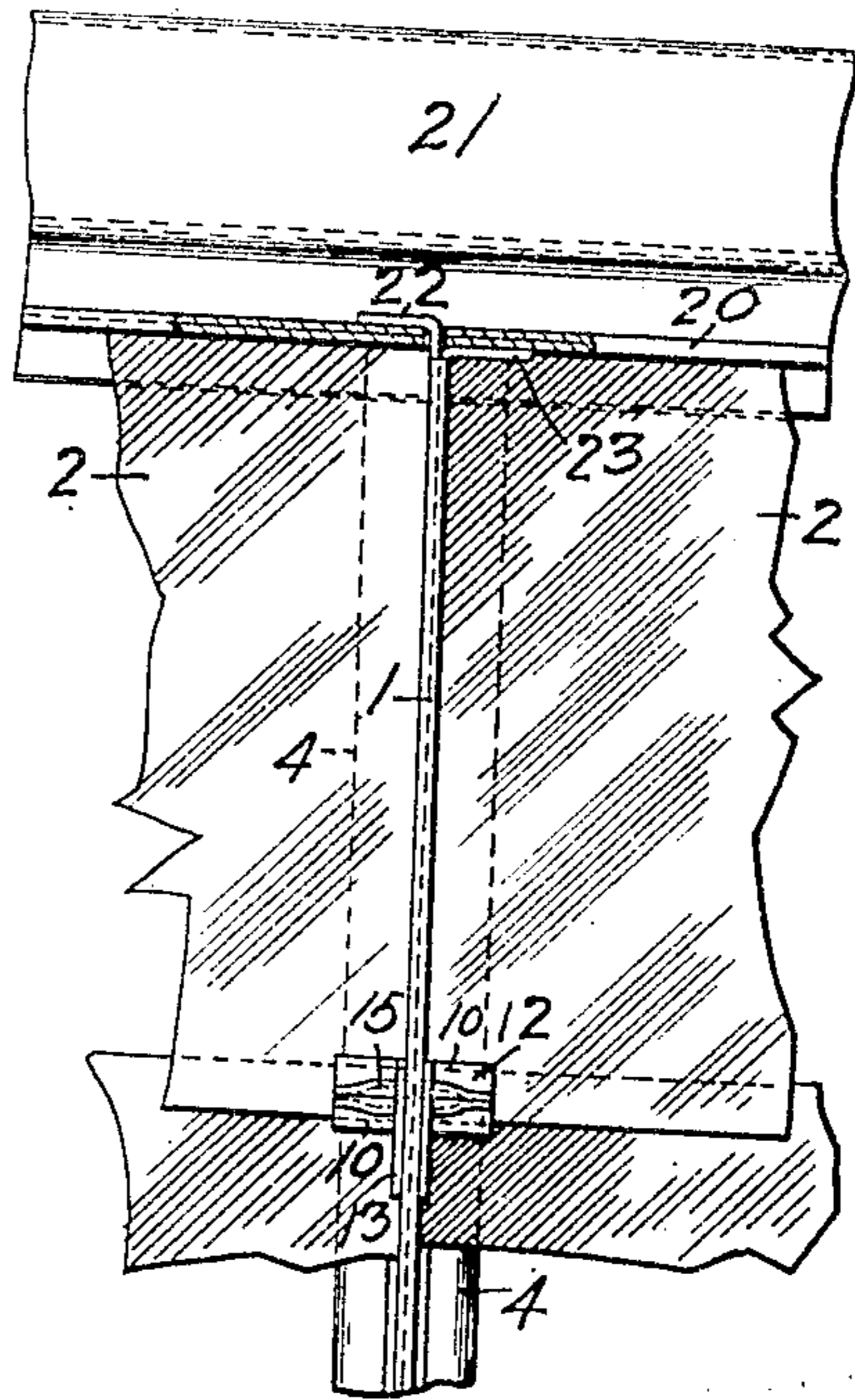


FIG. 3

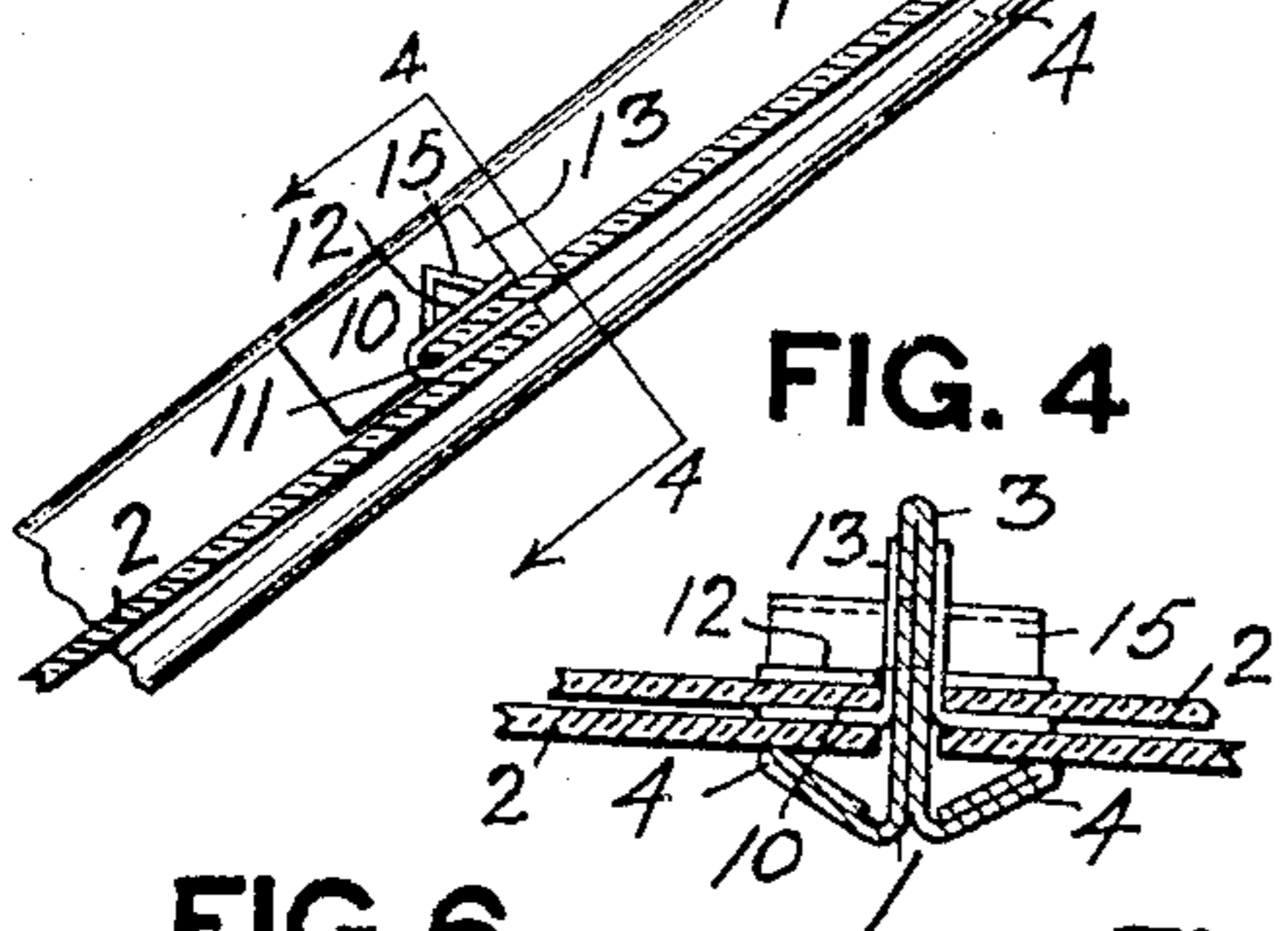


FIG. 4

FIG. 7

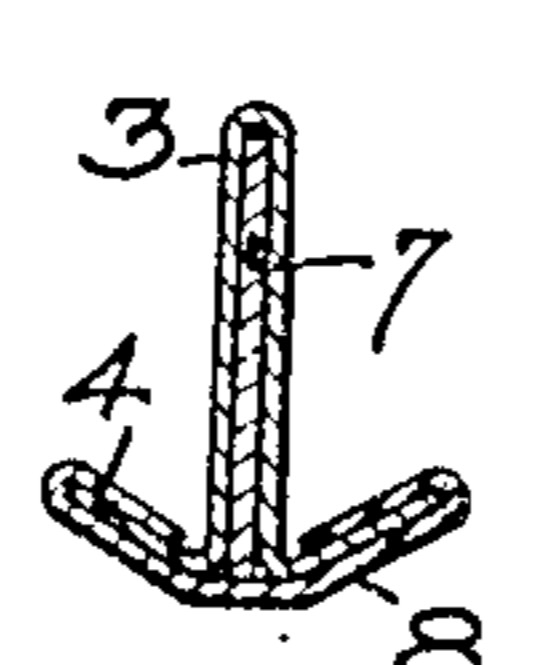


FIG. 6

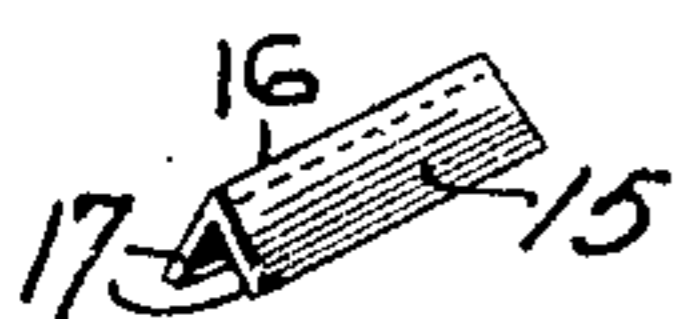


FIG. 5

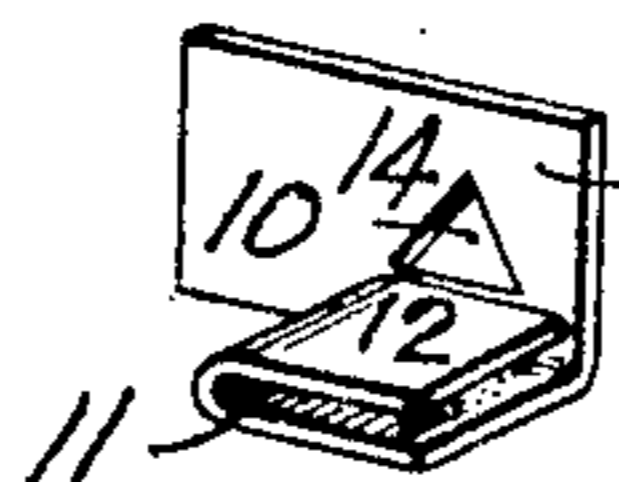
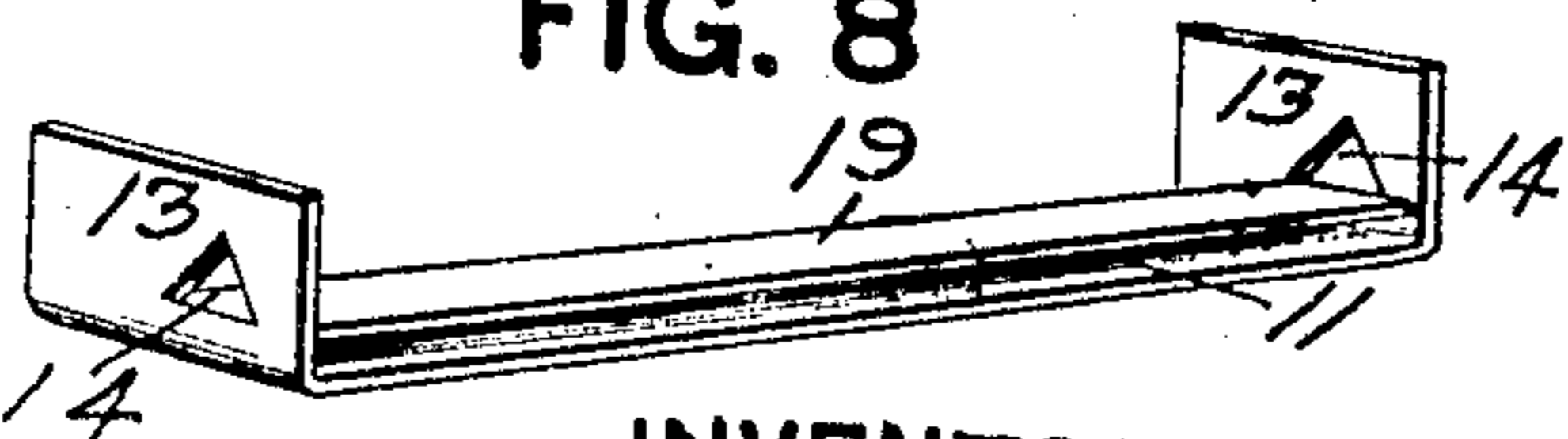


FIG. 8



WITNESSES.

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BAR FOR SKYLIGHTS AND SIMILAR CONSTRUCTIONS.

No. 878,211.

Specification of Letters Patent.

Patented Feb. 4, 1908.

Application filed May 24, 1907. Serial No. 375,477.

To all whom it may concern:

Be it known that I, JOHN LEPLA, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Bars for Skylights and Similar Constructions; and I do hereby declare the following to be a full, clear, and exact description thereof.

This invention relates to roof structures adapted especially for skylights, greenhouses, hot beds and other structures having glass or other transparent roofs, and may also be adapted for tile, slate or similar roofs.

The object of the invention is to provide a simple, inexpensive and convenient means for supporting the glass, tile or other roofing members.

The invention comprises the construction and arrangement of parts hereinafter described and claimed.

In the accompanying drawings Figure 1 is a perspective view of a portion of glass roof embodying my invention; Fig. 2 is a plan view of the same partly in section; Fig. 3 is a section on the line 3—3, Fig. 1; Fig. 4 is a cross section through the bar on the line 4—4, Fig. 3; Fig. 5 is a perspective view of one of the glass holding clips; Fig. 6 is a similar view of the preferred form of key; Fig. 7 is a cross section through a modified form of bar, and Fig. 8 is a perspective view of a modified clip.

The main members of my roof construction consist of bars 1 for supporting the sheets 2 of glass, tile, slate or other roofing members. The bars 1 may be of any suitable construction but preferably will be formed of sheet metal bent to the shape shown in Fig. 4, having the vertical web portion 3 formed of double thickness of the metal and the out-turned flanges 4 forming seats or rests for the glass. Preferably the flanges 4 will be inclined upwardly, as shown, to form gutters for the drippings. Preferably also, the flanges 4 will be doubled by having the metal turned back on themselves, as shown in Fig. 4. If desired, however, this bar may be provided with a filling or strengthening member 7 placed between the two limbs of the vertical web and held in place by means of a clip or clips 8 fitting over flanges 4, the latter in this case being of a single thickness, as shown in Fig. 7. Any other form of bar having the glass rests and the vertical web will answer my purpose equally well.

The glass panes or other roofing members

are held in place by means of suitable clips 10 formed preferably from sheet metal having a seat 11 for receiving the edge of the glass, this seat being formed by bending a portion 12 of the metal upon itself to form a groove into which the edge of the glass projects, and having another portion 13 bent at right angles to the seat and projecting vertically and adapted to fit against the side of the web 3 of the bar. These clips are formed as rights and lefts, one placed on either side of the web 3 of the bar as shown, so as to support the glass panes on each side of the bar at their corners. These clips are secured to the bars by providing their vertical portions, as well as the bar, with holes 14, preferably triangular in shape, as shown, and driving through such alining holes a suitable key member 15 which may be of any suitable form, either round, square or otherwise, but which preferably is of angle form as shown, having its apex 16 placed upwardly and its two limbs 17 projecting downwardly and bearing against the top member 12 forming the seat for the glass. Such angle shaped keys are preferably formed of sheet metal and are therefore yielding, this enabling the same to be slightly bent in on each side after being put in place so as to hold them against accidental displacement and, furthermore, enabling them to adjust themselves to all conditions and to bear yieldingly upon the upper member 12 of the seats and clamp the latter firmly against the edge of the glass. If desired, the two clips at the two lower corners of a sheet may be in a single piece by continuing the groove portion from side to side of the sheet of glass, making one long grooved bar 19 with vertically flanged ends, as shown in Fig. 8. This, however requires more metal than making two short clips, such as shown, and will also cast shadows in a greenhouse.

The upper ends of the bars 1 are secured to the rib or web 20 of the cross members 21 by providing the web 20 with a hole, dividing the end of the bar 1, inserting one part 22 through the hole and turning it at right angles and soldering to the upper face of the web 20, and also turning the other part 23 at right angles and soldering it to the lower face of the web 20.

In the use of the device the edges of adjacent glass panes will overlap each other, as shown in Fig. 3, and lower edge of each sheet being held at its corners by the clips secured to the bars in the manner shown. Conse-

quently the glass panes cannot become accidentally displaced either by sliding downwardly or flying upwardly. This result is secured by a very simple and cheap means, permitting the rapid erection of the roof and also making it easy to replace a broken pane of glass.

While the invention is designed primarily for skylights and roofs of greenhouses, it will be obvious that the glass pane 2 can be replaced by a thin tile or a slate without departing from the spirit of my invention. No novelty is claimed in the bars 1 *per se*, the essential feature being the clips and the manner of connecting them to the bars.

What I claim is:

1. In a roof structure for skylights, greenhouses, etc., the combination of a metallic bar having a seat for the glass or other roof member, and having a vertical web projecting above said seat, a clip provided with a seat for receiving the edge of the glass or other roofing member and having a vertical portion lying adjacent to the vertical web of the bar, and a key member projecting through alining holes in the vertical web of the bar and vertical part of the clip.

2. In a roof structure for greenhouses, skylights, etc., the combination of a metallic bar having seats on opposite sides for the glass or other roof member and having a vertical web projecting above said seats, clips provided with seats for receiving the edge of the glass or other roofing member, and having vertical portions lying respectively on opposite sides of the vertical webs of the bar, and a key member projecting through alining holes of the vertical web of the bar and in the vertical portions of the clips on opposite sides of said web and securing said parts together.

3. In a roof structure for skylights, greenhouses, etc. the combination of a metallic bar having a seat for the glass or other roofing member and having a vertical web projecting above said seat, a clip provided with a seat for receiving the edge of the glass or other roofing member and having a vertical portion lying adjacent to the vertical web of the bar, and a yielding key member projecting through alining holes in the web of the bar and the vertical portion of the clip.

4. In a roof structure for skylights, greenhouses, etc., the combination of a metallic bar having a seat for the glass or other roof-

ing member and having a vertical web projecting above said seat, a clip provided with a seat for receiving the edge of the glass or other roofing member and having a vertical portion lying adjacent to the vertical web of the bar, and a key member formed of resilient metal and angular in cross section and projecting through alining holes in the web bar and the vertical portion of the clip.

5. In a roof structure for skylights, greenhouses, etc., the combination of a metallic bar having a seat for the glass or other roofing member, and having a vertical web projecting above said seat, of a sheet metal clip having portions bent substantially parallel to form a groove to receive the edge of the sheet and having a vertical portion lying adjacent to the vertical web of the bar, and a yielding and resilient key member projecting through alining holes in the web of the bar and the vertical portion of the clip and bearing upon one of the parallel members forming the groove for the glass.

6. In a roof structure for skylights, greenhouses, etc., the combination of a metallic bar having a seat for the glass or other roofing member and having a vertical web projecting above said seat, a sheet metal clip having portions bent substantially parallel to form a groove to fit over the edge of the glass and having a vertical portion lying adjacent to the web of the bar, and a key member formed of resilient metal and being angular in form and projecting through alining holes in the web of the bar and the vertical portion of the clip and having its legs bearing upon the top member forming the seat for the glass.

7. In a roof structure for skylights, greenhouses, etc., a cross member having a vertical web provided with an opening, a bar formed of sheet metal bent on itself and divided at the end, one limb extending through the hole in the cross member, and both limbs bent at right angles and in opposite directions, and secured respectively to the opposite faces of the web of the cross member.

In testimony whereof, I the said JOHN LEPPLA have hereunto set my hand.

JOHN LEPPLA.

Witnesses:

ROBERT C. TOTTEN,
JOHN F. WILL.