

P. H. MURPHY.
OUTSIDE CAR ROOF.
APPLICATION FILED MAY 17, 1905.

915,205.

Patented Mar. 16, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

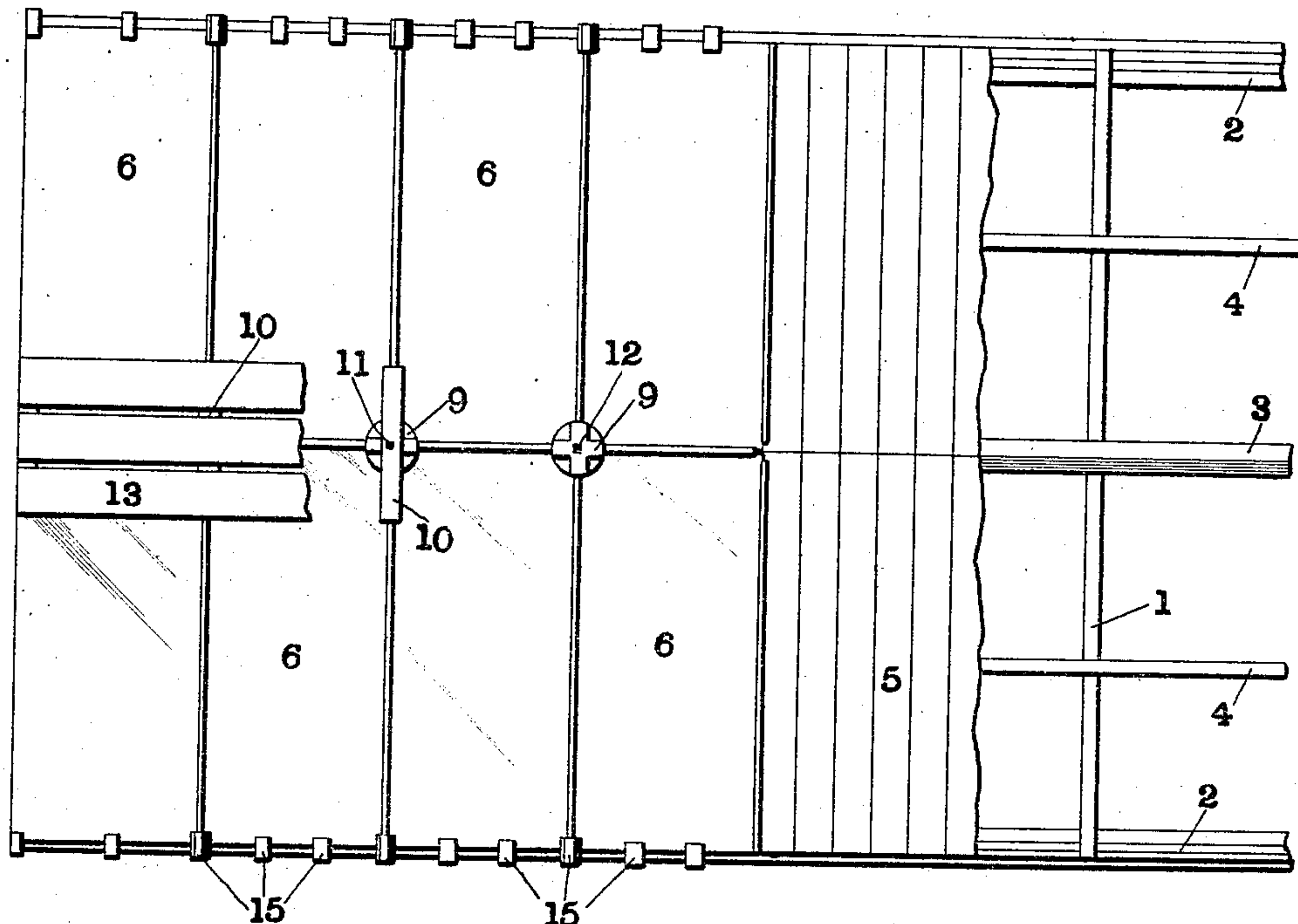
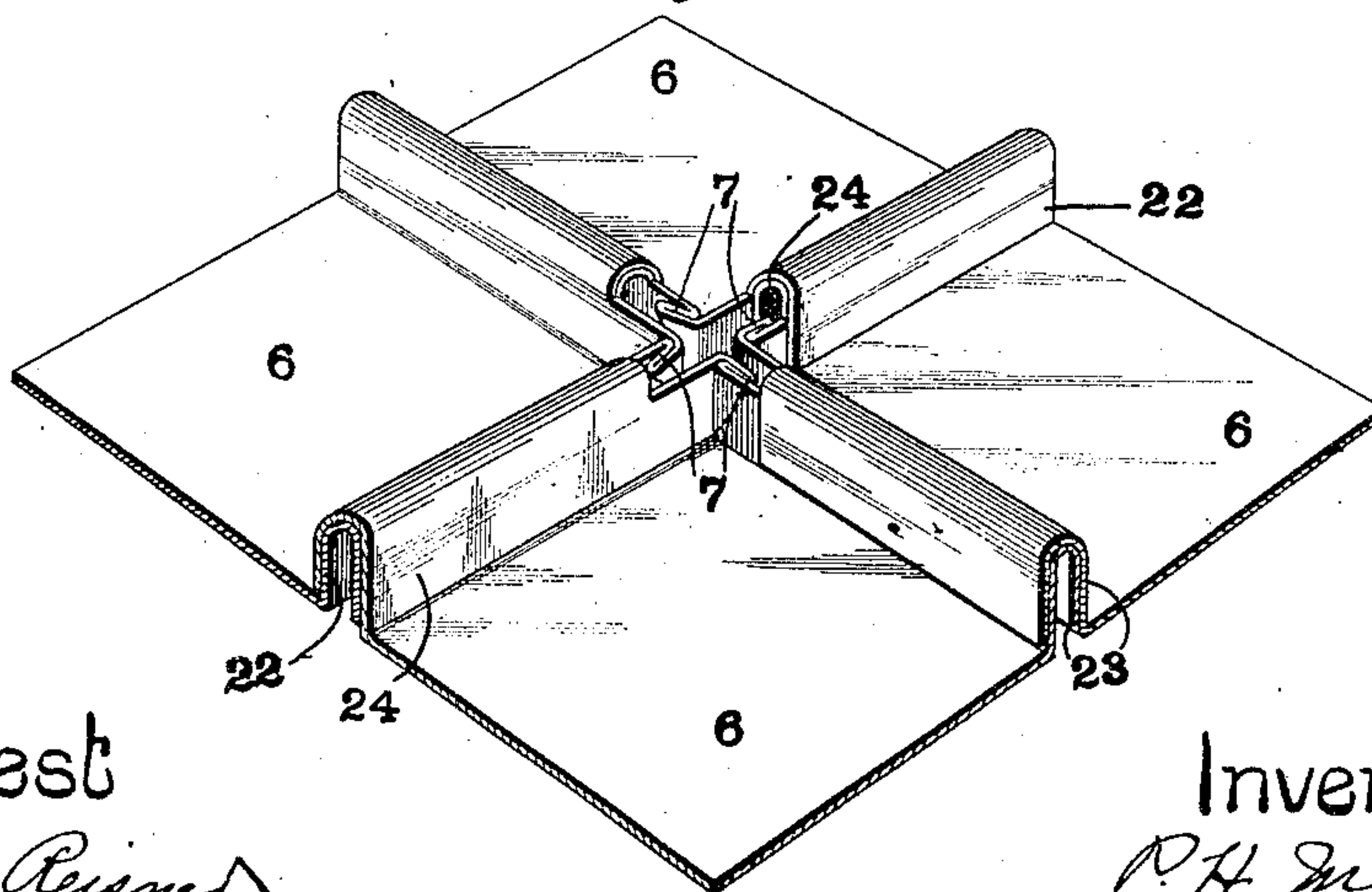


Fig. 2.



Attest
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2 SHEETS—SHEET 2.

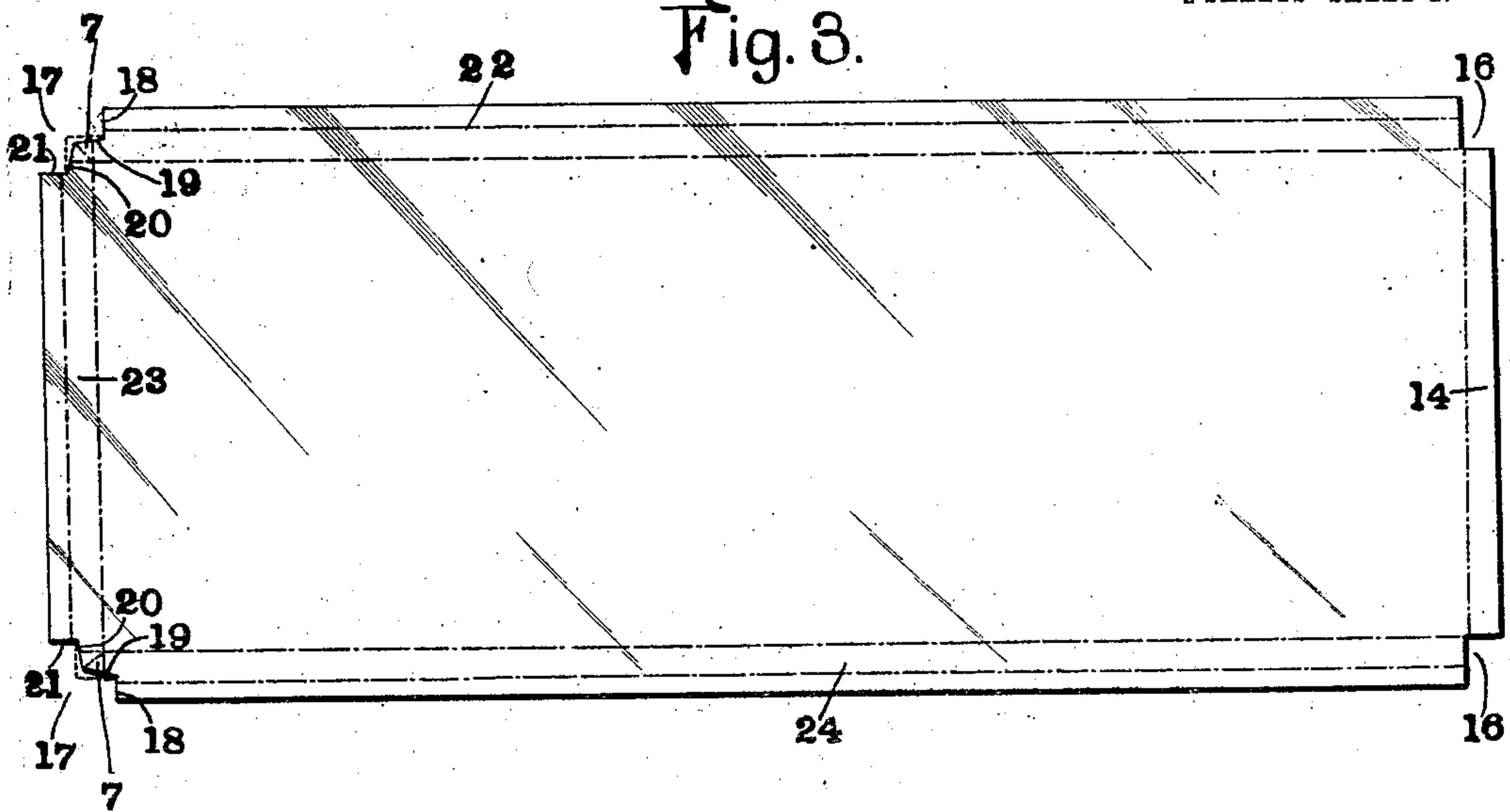


Fig. 4.

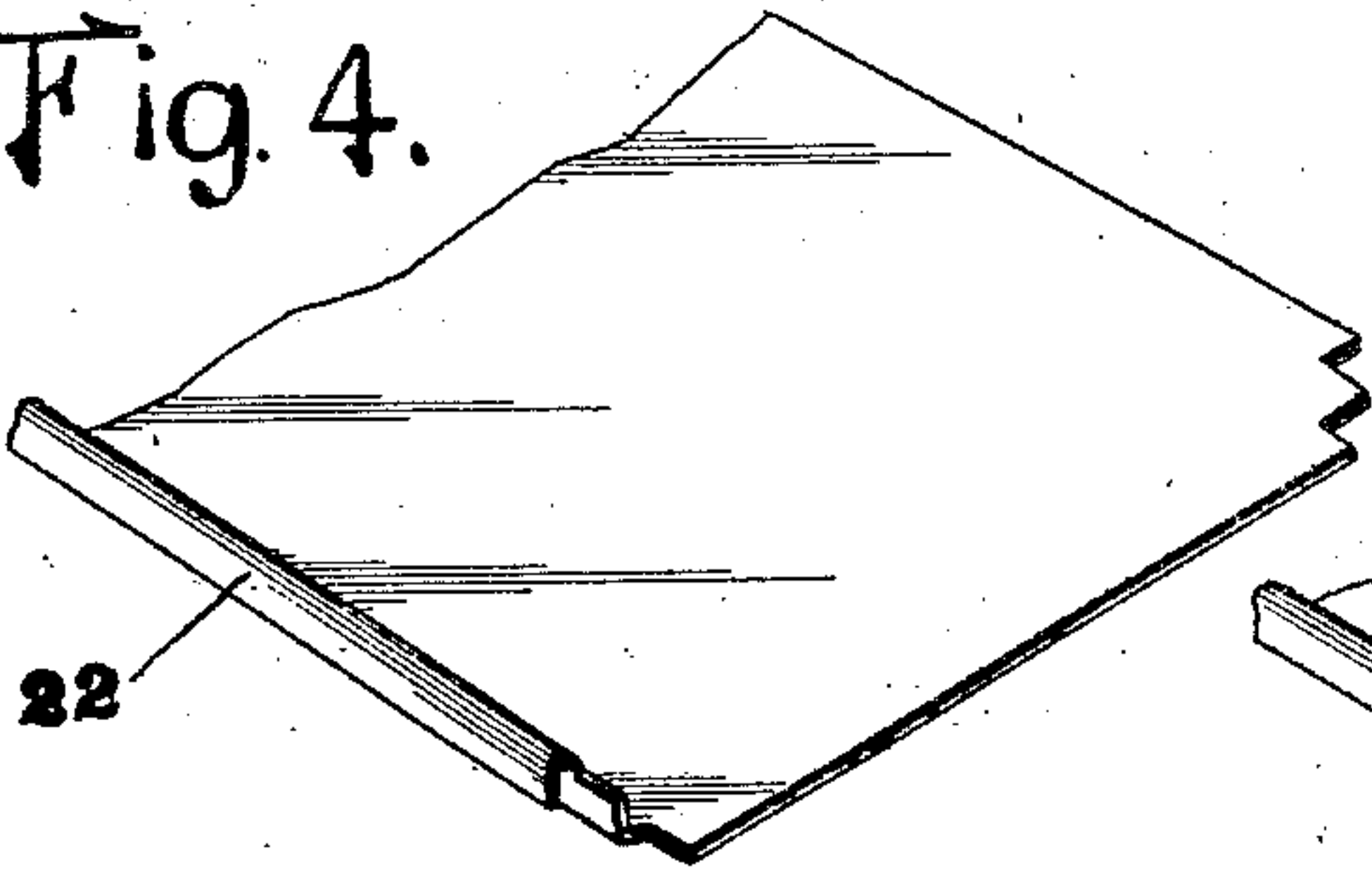


Fig. 5.

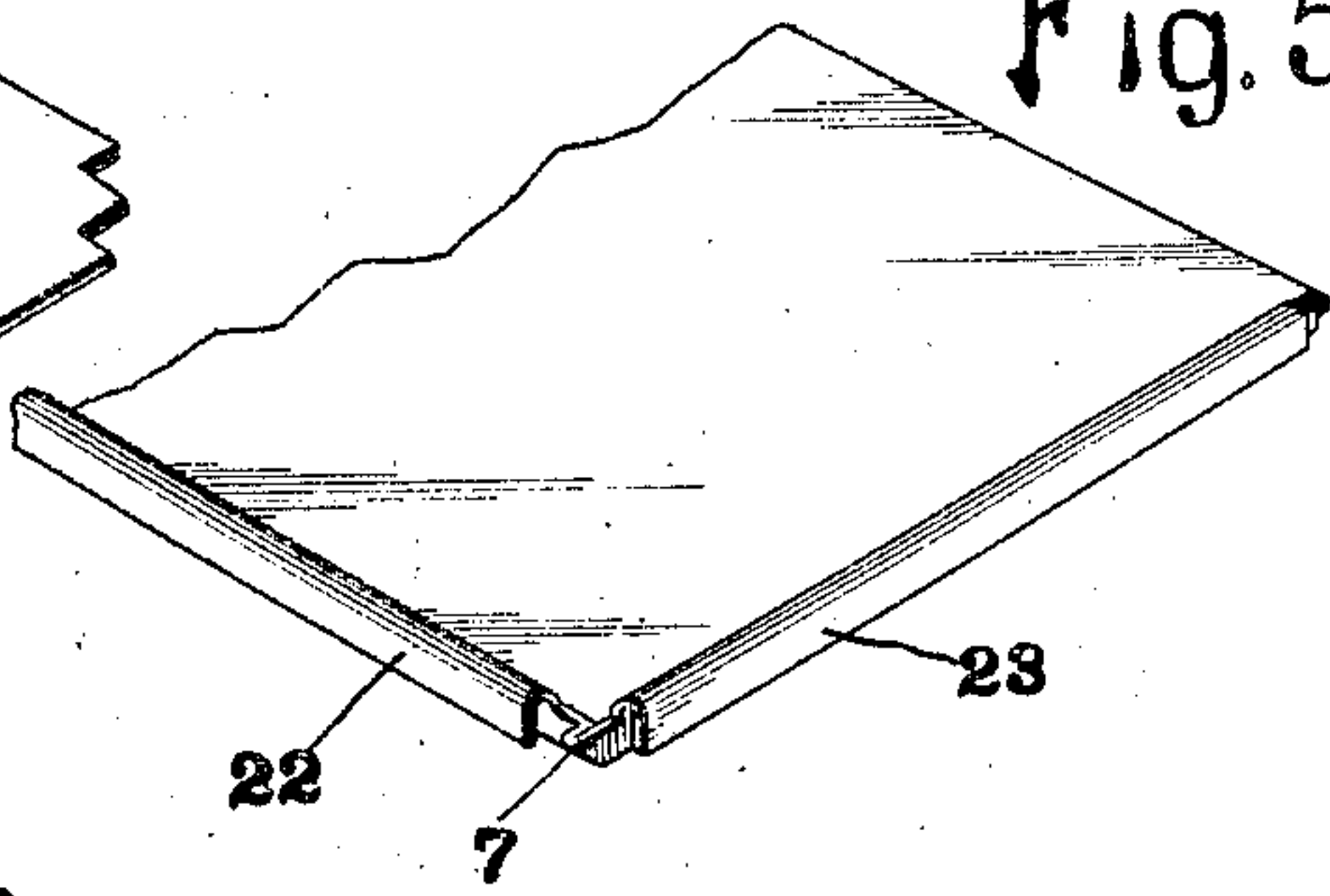


Fig. 6.

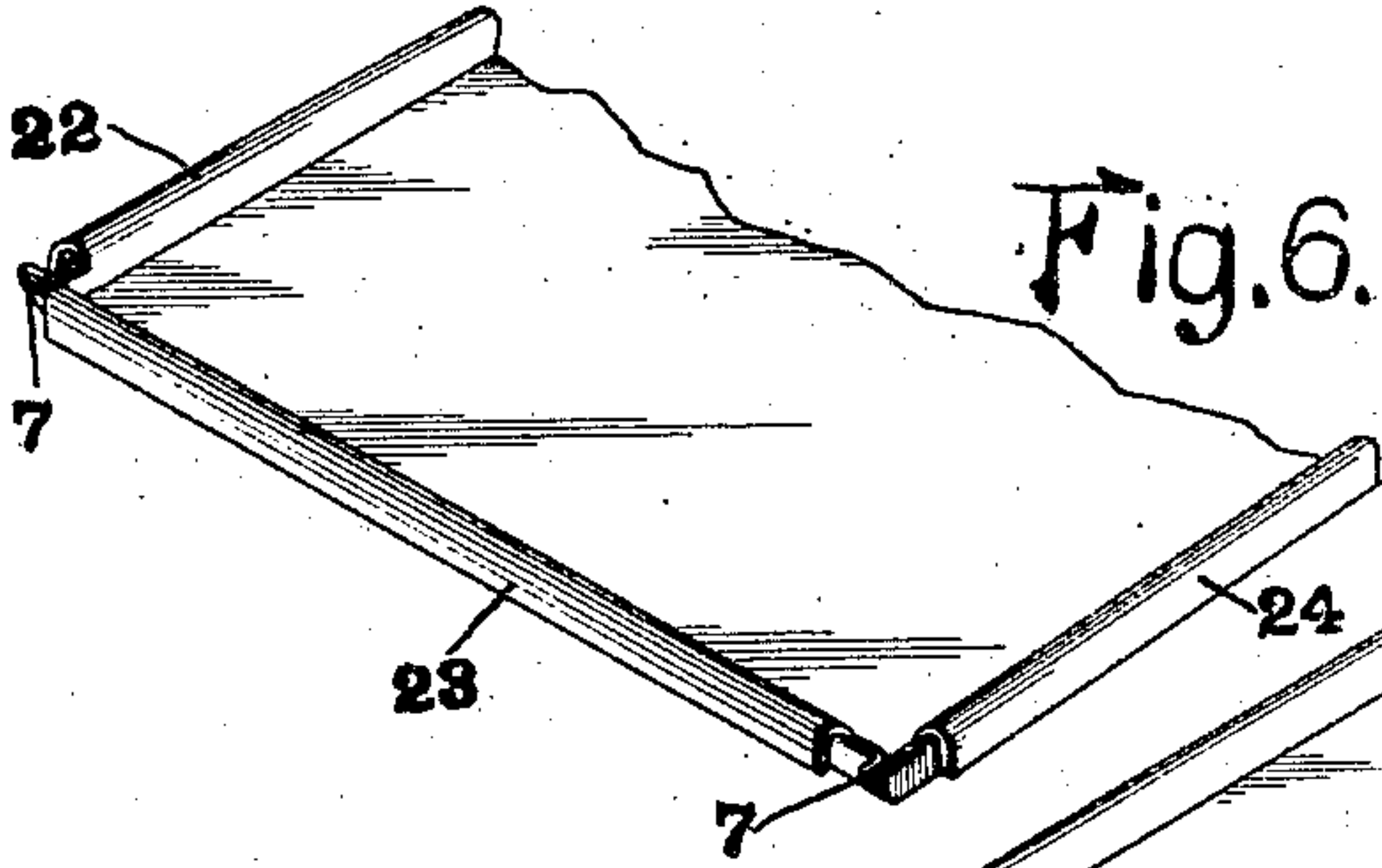
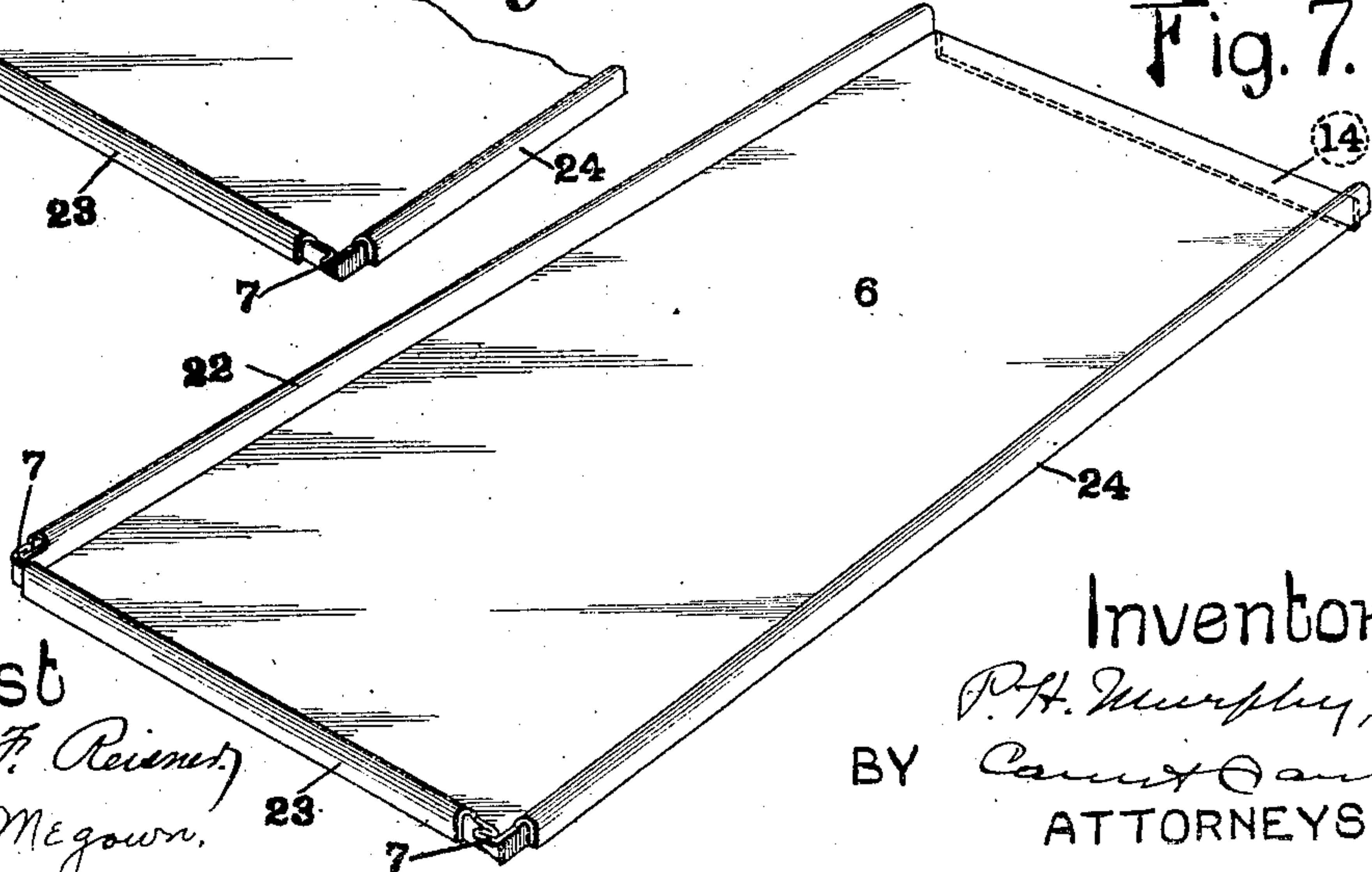


Fig. 7.



Attest

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UNITED STATES PATENT OFFICE.

PETER H. MURPHY, OF ST. LOUIS, MISSOURI.

OUTSIDE CAR-ROOF.

No. 915,205.

Specification of Letters Patent.

Patented March 16, 1909.

Application filed May 17, 1905. Serial No. 260,756.

To all whom it may concern:

Be it known that I, PETER H. MURPHY, a citizen of the United States, and a resident of the city of St. Louis and State of Missouri, have invented a new and useful Improvement in Outside Car-Roofs, of which the following is a specification.

My invention relates to outside car roofs and has for its principal objects to produce a roof that shall be waterproof for all positions a car will assume in service; to produce a car roof of the standing seam type having sheets with solid, imperforate upper corners; to produce a sheet for roofs having rebent flanges on three sides and solid, imperforate upper corners; and other objects hereinafter more fully appearing.

My invention consists in the parts and in the arrangements and combinations of parts hereinafter described and claimed.

In the accompanying drawings forming a part of this specification and wherein like symbols refer to like parts wherever they occur, Figure 1 is a plan view of a car roof, parts being broken away to show the construction; Fig. 2 is a perspective view showing the junction at the corners of four of the sheet metal sheets covering the roof; Fig. 3 is a plan view of a blank for one of the sheets the lines along which it is bent being indicated in dot-and-dash lines; Fig. 4 is a perspective view of the upper end of the blank after one of the side flanges has been bent up and rebent; Fig. 5 is a perspective view of the upper end of the blank after the top flange has been bent up and rebent; Fig. 6 is a perspective view of the upper end of the blank after the second side flange has been bent up and rebent; and, Fig. 7 is a perspective view of the finished sheet.

The wooden portion of the car roof comprises carlines 1 resting upon beams 2 at the sides of the car and connected to a ridge-pole 3. Upon the carlines rest beams 4 running longitudinally of the car and upon these boards 5 are secured. This wooden construction is covered with metal sheets 6. The metal sheets preferably used extend from ridge to eaves and are provided with substantially vertical rebent flanges at the sides and at the top. The side flanges of adjacent sheets overlap and form a watertight joint while the top flanges of sheets upon opposite sides of the roof, and meeting at the ridge, overlap and form a water tight joint.

Neither the side nor the top flanges have their rebent portions extending entirely to the corners of the sheet. The rebent portion of the flanges is cut away a short distance from the corner. The flanges themselves, however, extend entirely to the corners and the surplus portion 7 is bent around the corner. Thus the upper corners consist of solid metal and there is no perforation at any point, nor is there any necessity for soldering to render the corner watertight.

A casting 9 fits over the meeting corners of the sheets at the ridge of the roof and overlaps the rebent portions of the flanges. This casting thus performs the function of the rebends of the flanges for the corners which are without rebends, as well as other functions hereinafter appearing.

The running-board is secured on the roof without perforating the metal sheets in the following manner: Cross-pieces 10 which are grooved on their lower sides to accommodate the seams between the sheets, fit over the seam and the castings 9 and are secured by a bolt 11 passing through the cross-pieces, through holes 12 in the castings 9 and through the ridge pole 3. Upon these cross-pieces, the running-boards 13 are secured.

The lower end margins 14 of the sheets are bent downwardly and fit over the eaves of the car. They are secured by clips 15 which extend over the lower ends of the sheets and are fastened to the molding strip or side of the car below the edge of the downwardly bent margin.

A specially constructed blank is used to make the sheet described above. At the lower corners of a rectangular sheet of metal oblong notches 16 are cut out. One dimension of said notches is substantially equal to the width of the rebent flange and the other dimension is substantially equal to the width of the downwardly turned lower margin.

At the upper corners substantially L-shaped notches 17 are cut out. Each of these notches is bounded by a side 18 extending from the side of the sheet substantially to the line of the rebend of the flange, a side 19 extending at an angle to said side 18 a little greater than a right angle, a side 20 making an angle with the side 19 a little greater than a right angle, and a side 21 extending from the line of the rebend of the flange to the top

of the sheet. The side 21 makes an angle a little greater than a right angle with the side 20 and stands perpendicularly to the side 18.

The flanges are bent up and re-bent at a single operation in a bending machine. Preferably the right flange 22, as you face the top of the sheet, is bent up and rebent as illustrated in Fig. 4. Then the top flange 23 is bent up and re-bent as illustrated in Fig. 5. The surplus metal 7 at the corner of the sheet, in line with the portion of the margin forming the flanges, projects in a point. The left flange 24 is then bent and rebent as illustrated in Fig. 6, leaving a second point projecting from this corner. The margin at the bottom of the sheet is then bent downwardly, the points 7 are hammered flat upon the faces of the flanges and the sheet is complete as illustrated in Fig. 7.

By shaping the notches as shown, the top edges of the points necessarily slope downwardly from the top edges of the flanges. It will thus be impossible for the points 7 to extend above the top of the flanges when the sheet is finished even when the bending is inaccurately done. A projection extending above the top edges of the flanges would be objectionable as it might prevent the fit of the castings over the corners of the sheets. Had the edges 19 and 20 of the notches 17 been at right angles to each other such a projection could have been avoided only by very careful workmanship in the practice of accurate, slow and, consequently, expensive methods.

Obviously, the construction is capable of modification within the scope of my invention and therefore I do not wish to be limited to the specific construction shown and described.

What I claim as my invention and desire to secure by Letters Patent is:

1. An outside car roof comprising a supporting structure, sheets extending from said ridge to eaves, each of said sheets having rebent flanges at the top and sides, the corners formed by said rebent flanges being integral, the rebent side flanges of adjacent sheets interlocking with each other and the rebent top flanges of sheets upon opposite sides of the roof interlocking with each other, cross pieces extending over the corners of said sheets at the ridge of the roof and bolts passing through said cross-pieces and down to said supporting structure, said bolts passing between the adjacent corners of the sheets.

2. An outside car roof comprising sheets extending from ridge to eaves and having rebent flanges at the top and sides, all of said flanges being re-bent outwardly and the re-bent portion of said flanges being cut off short of the corners formed by said flanges, and said corners being integral, the re-bent side flanges of adjacent sheets interlocking

with each other and the re-bent top flanges of sheets upon opposite sides of the roof interlocking with each other.

3. An outside car roof comprising sheets extending from ridge to eaves and having flanges at top and sides, all of said flanges being re-bent outwardly, and the corners formed by said flanges being integral, the surplus metal at said corners lying along the face of one of said flanges, the re-bent portion of said flanges being cut away from said corners a distance at least equal to the extent of said surplus metal along the faces of the flanges, said sheets being secured together laterally by the interlocking of adjacent side flanges and secured together at the ridge of the roof by the interlocking of the top flanges of sheets upon opposite sides of the roof.

4. An outside car roof comprising sheets extending substantially from ridge to eaves, each of said sheets having re-bent flanges at the top and side edges, the corners formed by said flanges being integral, and the re-bent portions of said flanges stopping short of said corners, the re-bent side flanges of adjacent sheets being arranged to interlock with each other and the re-bent top flanges of sheets upon opposite sides of the roof being arranged to interlock with each other.

5. An outside car roof comprising sheets extending substantially from ridge to eaves, each of said sheets having re-bent flanges at the top and side edges, the corners formed by said flanges being integral, the re-bent portions of said flanges stopping short of said corners, and the upper edges of said flanges near said corners being inclined downwardly toward said corners, the re-bent side flanges of adjacent sheets being arranged to interlock with each other and the re-bent top flanges of sheets upon opposite sides of the roof being arranged to interlock with each other.

6. A sheet for outside car roofs comprising a downturned lower margin and upturned flanges at the top and sides, all of said flanges being re-bent outwardly, and said flanges forming integral corners, the surplus metal at each of said corners being re-bent along a vertical line against the face of one of said flanges and the re-bent portion of said flanges being cut away from said corners a distance at least equal to the extent of said surplus metal along the face of the flanges.

7. A sheet for outside car roofs comprising re-bent flanges at the top and side edges, the re-bent portions of said flanges stopping short of the corners formed by said flanges, and the upper edges of said flanges beyond the re-bent portions being inclined toward the plane of the sheet and toward said corners, and a downwardly turned lower margin, the corners formed by said flanges being integral and the surplus metal at each of said corners lying along the face of one of the flanges forming the corner.

8. A blank for car roof sheets having a substantially rectangular notch in each corner at one end and a substantially L-shaped notch at each of the other corners, all the angles of said L-shaped notches being obtuse angles.

9. A car roofing sheet bent upward on top and side edges thence bent outward and downward, the upward bend of the side edges extending beyond the line of the first bend on the top edge, said extending side portions being bent against the wall of the first bend of the top edge and one side respectively of the sheet.

10. A car roofing sheet having rebent top and side flanges, the rebent portion being cut away a short distance from the corners, the flanges extending entirely to the corners and the surplus material bent around the corner against the top and side flange respectively.

11. A car roofing sheet having rebent top and side flanges, the rebent portion being cut away a short distance from the corners, the flanges extending to the corners and the surplus material bent around the corner against

the top flange and deflected below the top of the top flange.

12. A blank for car roof sheets having side and top portions constructed to be rebent, oblong notches in the lower corners of the sheet, one dimension of which is substantially equal to the width of the rebent side flanges, the other equal to the width of a downwardly turned lower margin of the sheet, L-shaped notches at the upper corners of the sheet bounded by one side extending from the side of the sheet substantially in line with the rebend of the flange, a side extending at an angle to the first named side, at an angle a little greater than a right angle, a third side extending from the line of the rebend of the flange to the top of the sheet.

In witness whereof, I have signed my name to this specification in the presence of two subscribing witnesses, at St. Louis, Missouri, this 15th day of May, 1905.

P. H. MURPHY.

Witnesses:

FRED F. REISNER,
J. B. MEGOWN.