

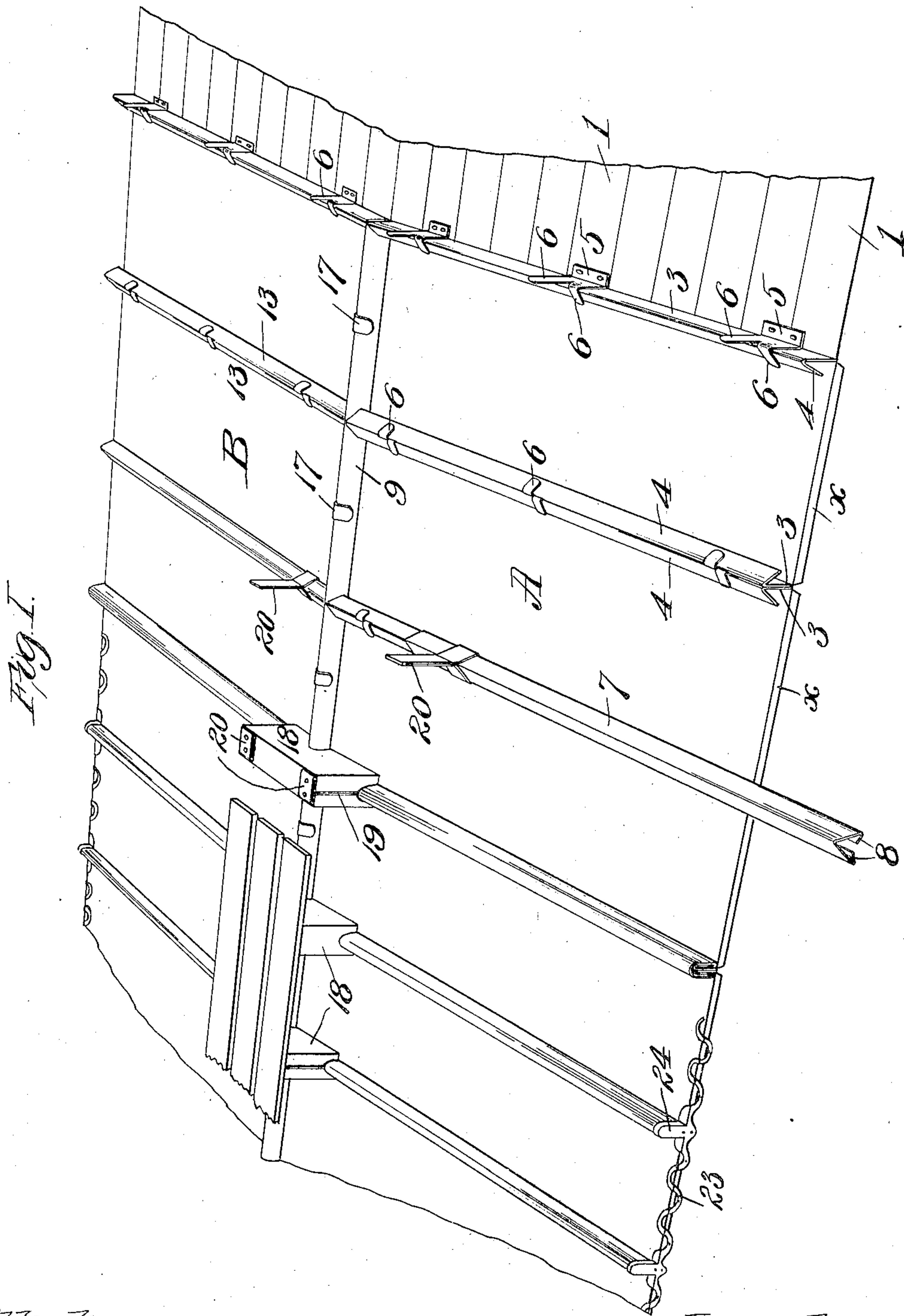
No. 820,362.

PATENTED MAY 8, 1906.

O. LINK.
CAR ROOF.

APPLICATION FILED APR. 17, 1905.

2 SHEETS—SHEET 1.



Attest:
Wm. H. Ford
E. J. Knight

Inventor:
Oliver Link,
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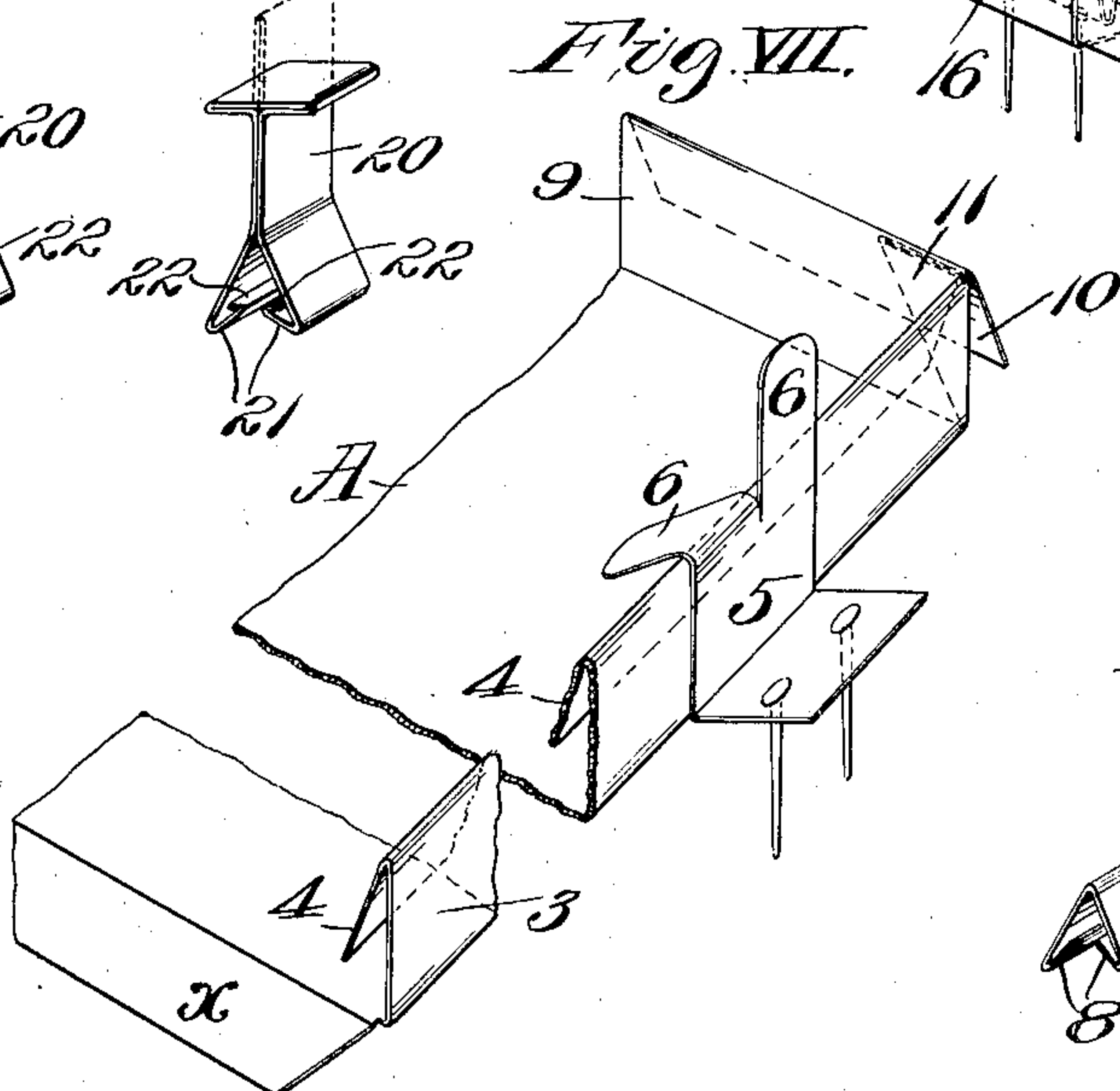
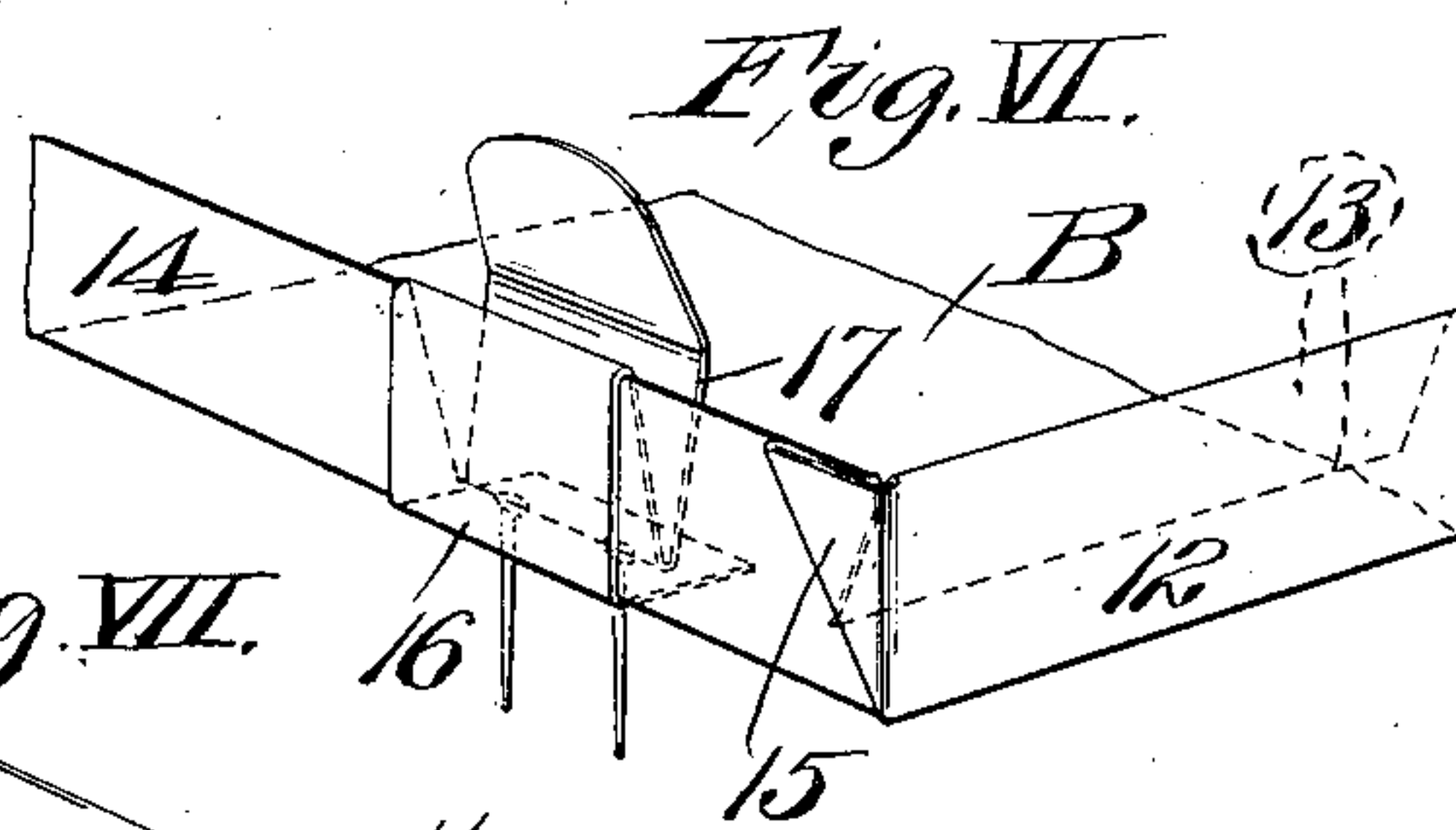
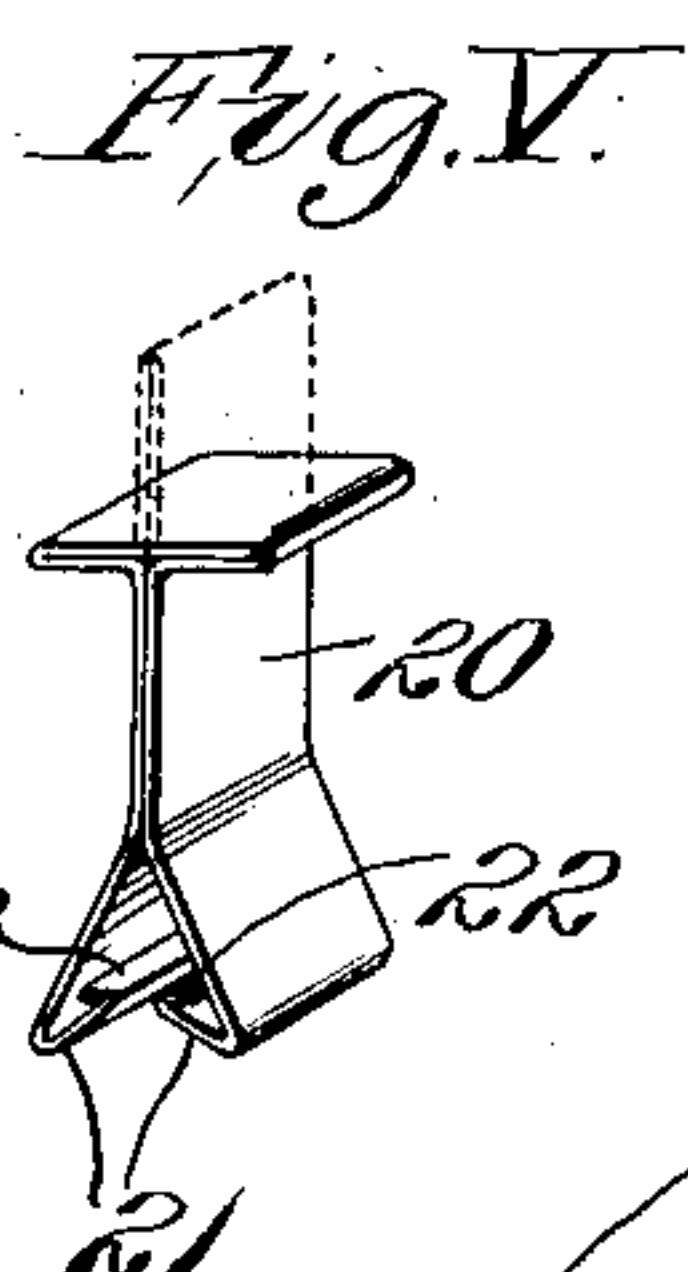
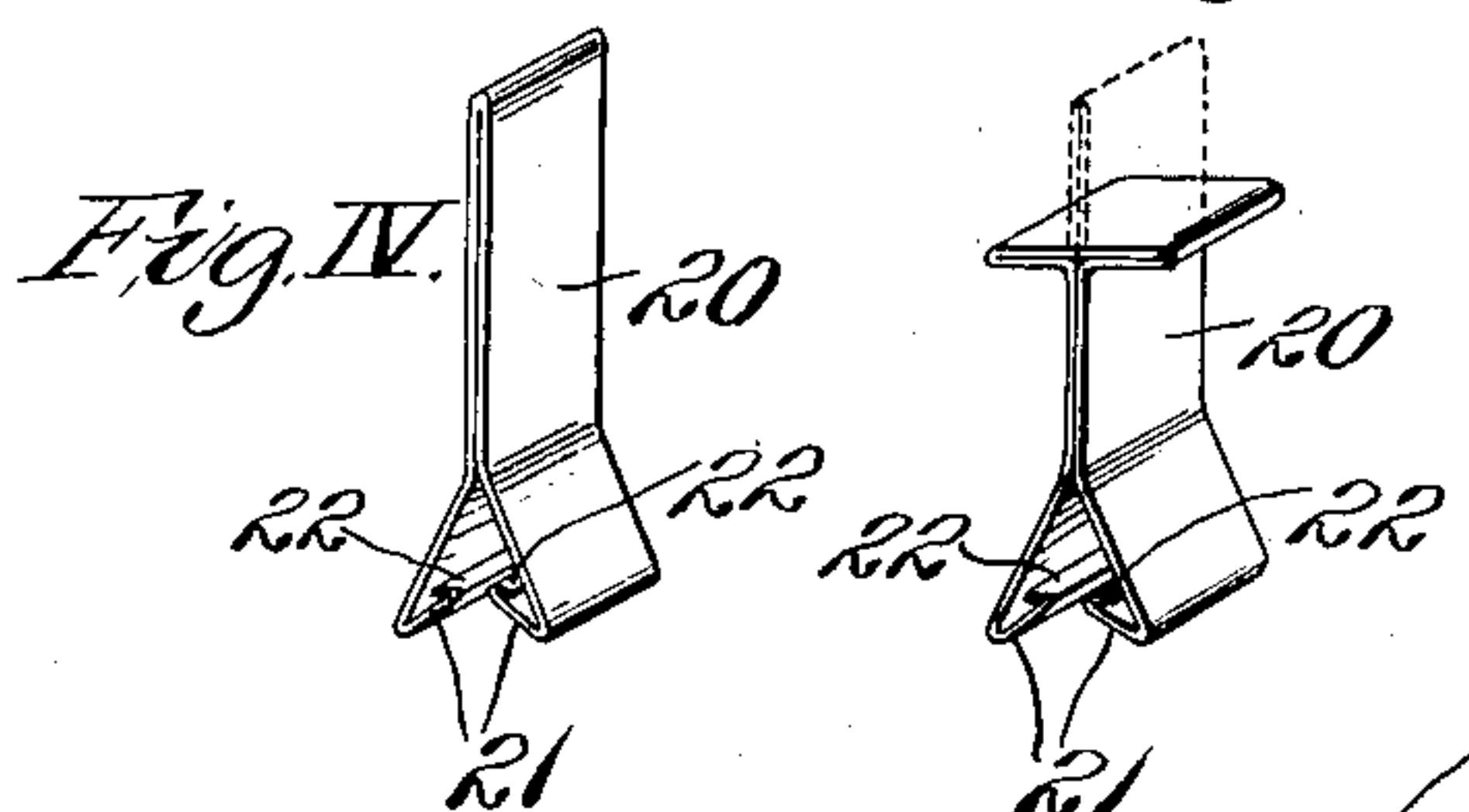
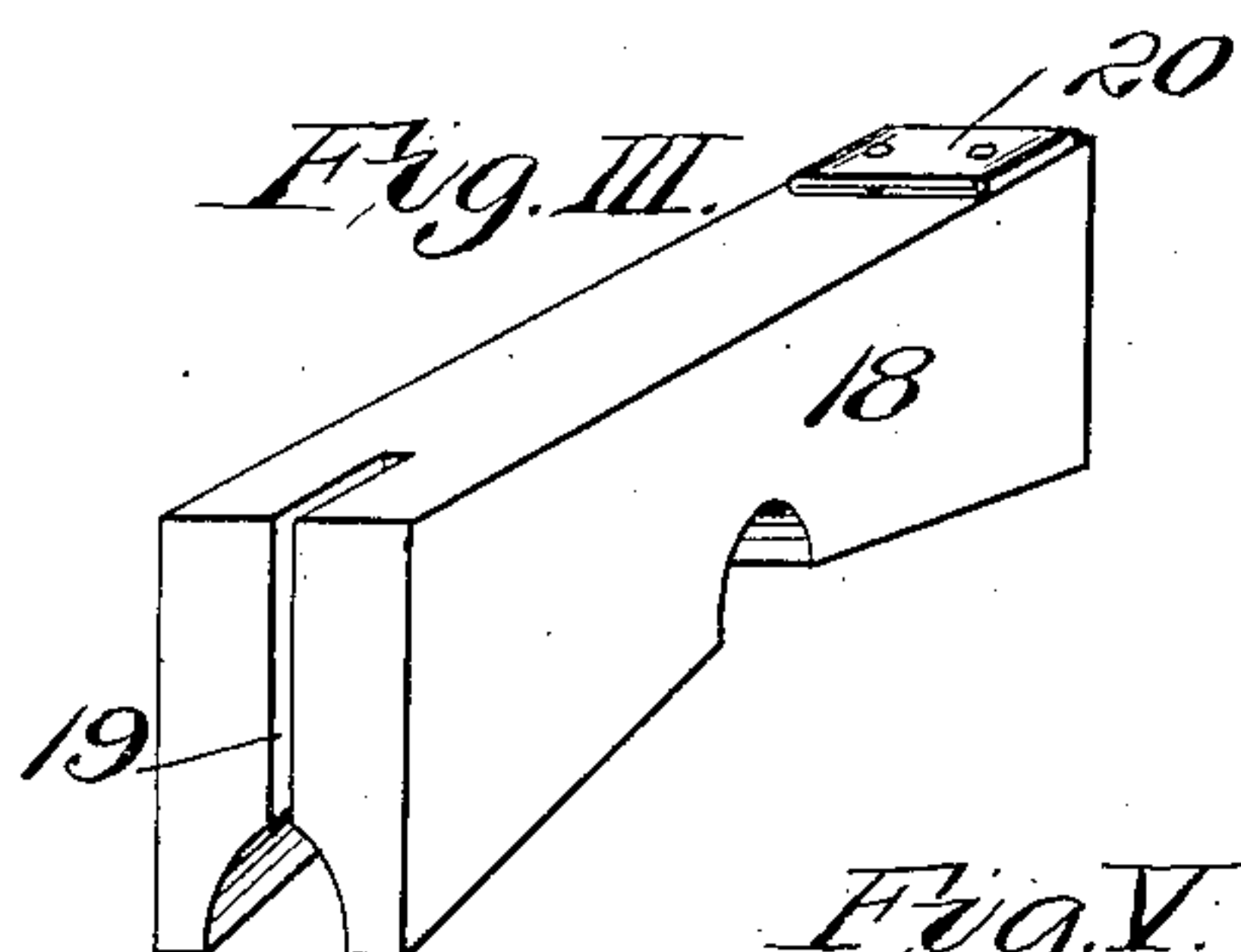
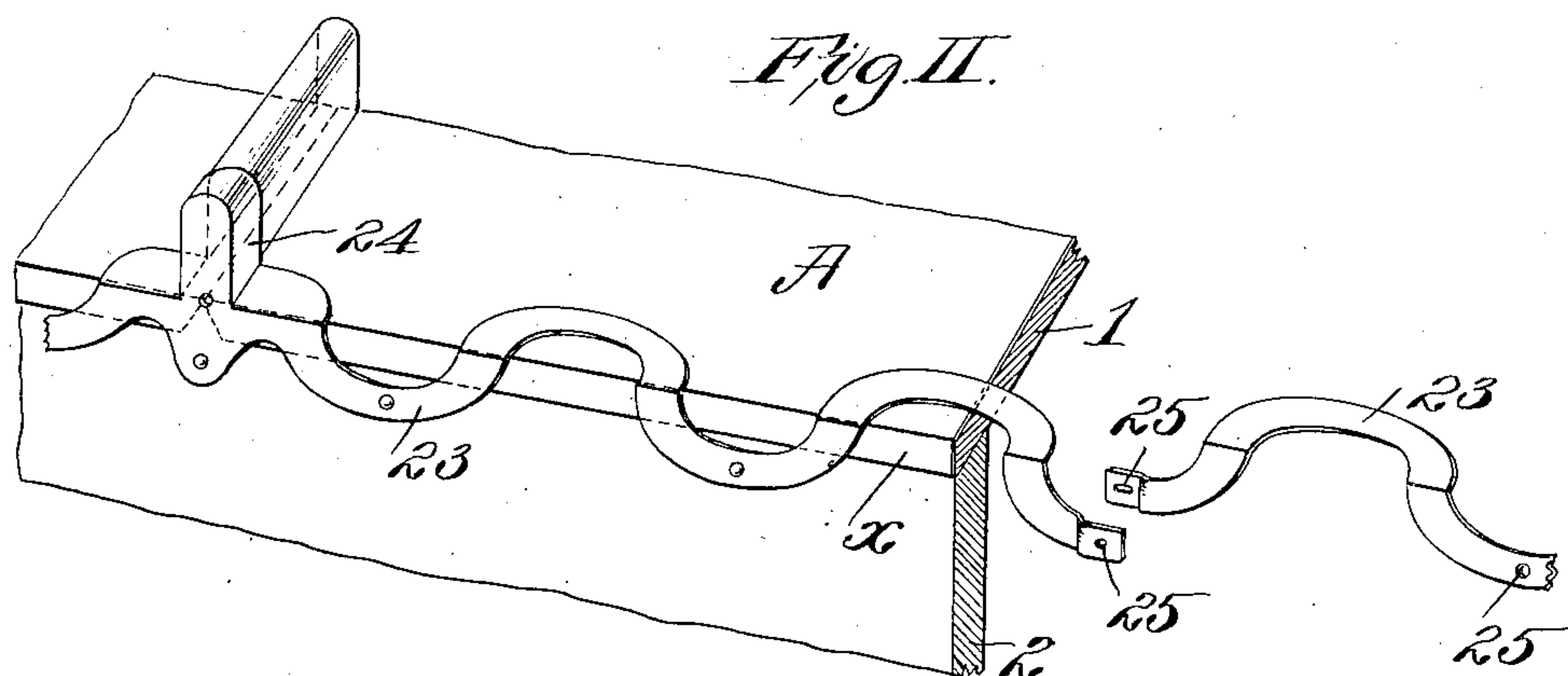
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APPLICATION FILED APR. 17, 1905.

2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

OLIVER LINK, OF ST. CHARLES, MISSOURI, ASSIGNOR TO ST. LOUIS CAR ROOF COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION.

CAR-ROOF.

No. 820,362.

Specification of Letters Patent.

Patented May 8, 1906.

Application filed April 17, 1905. Serial No. 255,986.

To all whom it may concern:

Be it known that I, OLIVER LINK, a citizen of the United States, residing in St. Charles, in the county of St. Charles and State of Missouri, have invented certain new and useful Improvements in Car-Roofs, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My present invention relates to improvements upon the construction of car-roof illustrated in Letters Patent of the United States issued to me March 17, 1891, No. 448,529.

The object of the present improvement is to overcome certain defects in the roof, as described in said Letters Patent, by using independent side roofing-sheets that are united at the apex of the roof by seam-joints instead of being extended entirely across the roof, also by providing interlocking seam-joints through the medium of which the sheets are joined at the apex of the roof, also by providing clips for confining the sheets at the last-mentioned joints, also by providing running-board-saddle-retaining clips consisting of arms that are integral with each other and which have interlocking engagement with the transversely-extending seam-caps of the roof instead of making said clip-arms in the form of independent members.

Another object of my improvement is to provide binding-strips by which the roofing-sheets are secured to the roof at their lower ends.

Figure I is a perspective view of my roof, shown partly in completed condition and partly in uncompleted condition. Fig. II is an enlarged perspective view of a portion of the roof at one of its lower edges and the binding-strip applied thereto. Fig. III is an enlarged perspective view of one of the running-board saddles and one of the retaining-clips by which said saddle is held applied thereto. Fig. IV is a perspective view of one of the saddle-retaining clips as they appear before they are applied to the saddle. Fig. V is a perspective view of one of the saddle-retaining clips in the condition in which they appear after they are applied to the saddles. Fig. VI is an enlarged perspective view of one of the upper corners of a roofing-sheet at one side of the roof and one of the clips by which

the side roofing-sheets are united at their joints. Fig. VII is an enlarged perspective view of a portion of one of the roofing-sheets utilized at the opposite side of the roof from that at which the sheet illustrated in Fig. VI is used and one of the clips by which the side roofing-sheets are united to each other at the apex of the roof. Fig. VIII is a perspective view of one end of one of the caps that has interlocking engagement with the side roofing-sheets to connect them transversely of the roof.

1 designates the sheathing of my car-roof on which the metal roofing-sheets are laid, and 2 is one of the car side walls.

A designates the side roofing-sheets at one side of the apex of the car-roof, and B the side roofing-sheets at the other side of the apex of the roof. The sheets A are provided with upturned side flanges 3, extending transversely of the roof and having downwardly-extending inclined wings 4. The flanges 3 of adjacent sheets A abut against each other, as seen in Fig. I, and the wings 4 diverge in opposite directions at each transversely-extending joint of the sheets.

5 represents clamping-clips nailed or otherwise secured at their bases to the roofing-sheets and each consisting of the base and a pair of tongues 6, one of which is bent laterally in one direction to overlap and secure an adjacent sheet-flange 3 and its wing 4 and the other of which is adapted to be bent over in the other direction to overlap the flange 3 and its wing 4 of the next sheet.

7 designates caps that are applied to the wings of adjoining roofing-sheets by slipping them thereonto from the lower ends of the wings. Each of these caps is of approximately V shape in cross-section and has at the edges of its sides intumed lips 8, that are adapted to engage the edges of the sheets wings 4 and interlock with said wings, thereby binding the sheets at their joints extending transversely of the roof and preventing ingress of moisture into the joints between the roofing-sheets. At the upper edge of each roofing-sheet A is an upturned flange 9, that carries a downturned wing 10. This flange 9 and its wing are integral with the side flanges 3 of the sheets A, the bending of the side and upper flanges with respect to the main bodies of the sheets being permitted by

making triangular folds at the corners of the roofing-sheets, so that the corner portions of the sheets may be folded against the upper flanges 9 and between said flanges and their wings 10, as seen at 11, Fig. VII. At the lower end of each roofing-sheet is a tongue x, that is adapted to be bent onto the lower edges of the sides of the roof-sheathing or eave-molding. The sheets B, which are, as stated, located at the opposite side of the apex of the roof from that occupied by the sheets A, each have upwardly-extending side flanges 12, that carry wings 13, similar to that 4 of the sheets A to receive caps, and each sheet B also has an upper flange 14, that is integral with the side flanges 12, the bending of the flanges with respect to the bodies of the sheets being permitted by making triangular folds 15 at the upper corners of the sheets, as seen in Fig. VII.

16 designates clips that are nailed or otherwise secured to the roofing-sheathing adjacent to the apex of the roof and which extend first vertically from their bases and then downwardly over the upper flanges 14 of the roofing-sheets B and then upwardly in the form of tongues 17, between which and the downwardly-extending portion of the clips the wings 10 of the roofing-sheets A are adapted to fit when the upper ends of the roofing-sheets are assembled in the roof. After the wings 10 are positioned in the pockets as provided for, the upper ends of the tongues 17 are bent over the upper flanges 9 of the sheets A to hold said flanges confined to the flanges 14 of the roofing-sheets B, as seen in Fig. I. It will be seen that due to the wings 10 of the roofing-sheets A overlapping the upper flanges 14 of the sheets B water-tight joints are provided between the upper ends of the sheets A and B, and the roofing-sheets having their side and upper flanges integral there is no opportunity for moisture to find access between the roofing-sheets at the apex of the roof.

18 designates running-board saddles that are notched both longitudinally and transversely at their under sides, so that they may be fitted to the caps extending transversely of the car-roof and the upturned and interlocking flanges at the upper ends of the roofing-sheets. The saddles 18 are provided at their ends with slits 19.

20 represents folded saddle-retaining clips, which are formed of sheet metal and each of which consists of a pair of arms integral with each other at their upper ends and formed of a single strip of metal. These clips are folded centrally of their ends and flattened into a condition to permit of the passage of their bodies through the slits 19 of the saddles to which they are applied. The arms of the clips 20 diverge from the bodies of the clips at their free ends to a sufficient degree to permit of their straddling the caps 7, and

each arm has an inwardly-extending wing 21, that terminates in a lip 22, that is adapted to embrace one of the lips 8 of the cap 7 to which the saddle-retaining clip is applied. When the saddle-retaining clips are to be put in place on the roof, they are first slipped onto the caps 7 before said caps are slid onto the roofing-sheet side wings 4, that extend transversely of the roof. The caps are then put in place in the manner before described, with the bodies of the clips 20 remaining in straight condition. The saddles 18 are then seated on the apex of the roof, and the straight bodies of the clips 20 are introduced into the slits 19 in the saddles, so that the upper ends of said bodies will project above the tops of the saddles. These projecting upper ends of the clip-bodies are then flattened by striking them a blow with a suitable implement, thereby spreading the bodies of the clips laterally in both directions on top of the saddles, after which the flattened portions of the clip-bodies may be secured to the saddles by any suitable means, such as by nailing them in their flattened condition, as seen in Figs. I and III.

23 designates a retaining-strip that is nailed or otherwise secured to the body of the car, as seen in Figs. I and II. This strip is applied at the eaves of the car-roof and is of waving or serpentine form to provide dip and crown portions, which are respectively secured to the car-body and rest upon the roofing-sheets, the crowns of the strip being bent over at angles to the dips for the purpose of causing said portions to assume their proper positions upon the roofing-sheets. At the location of each transverse seam between the roofing-sheets and forming parts of the retaining-strip are sockets 24, which are fitted to the transverse seam members at their lower ends. The retaining-strips 23 are preferably made in sections, as seen in Fig. II, and provided with bolt-holes 25, through which a bolt or nail may be passed to unite the sections. One of the bolt-holes is preferably elongated to permit longitudinal play of the strip-sections due to expansion and contraction.

I claim as my invention—

1. In a car-roof, the combination of roofing-sheets, seam members uniting said sheets transversely of the roof, running-board saddles surmounting said seam members, and saddle-retaining clips for securing the saddles to the seam members; each of said clips consisting of a single sheet of metal folded at the middle to provide a tongue for engagement with the saddles and having intumed wings provided with lips for interlocking engagement with said seam members.

2. In a car-roof, the combination with the car-body and roof-sheathing, of roofing-sheets applied to said sheathing, and retaining-strips secured to said car-body and over-

lapping said roofing-sheets; said retaining-strips being of serpentine form, substantially as set forth.

3. In a car-roof, the combination with the
5 car-body and roof-sheathing, of roofing-sheets applied to said sheathing, and retaining-strips of serpentine form having their dips secured to the car-body and their

crowns bent at an angle to the dips and resting upon the roofing-sheets, substantially as is set forth.

OLIVER LINK.

In presence of—

ADOLPH THRO,
JNO. WENNINGHAUS.