

(No Model.)

J. A. SCHMAHL.
RAILROAD TIE.

No. 602,388.

Patented Apr. 12, 1898.

Fig. 1.

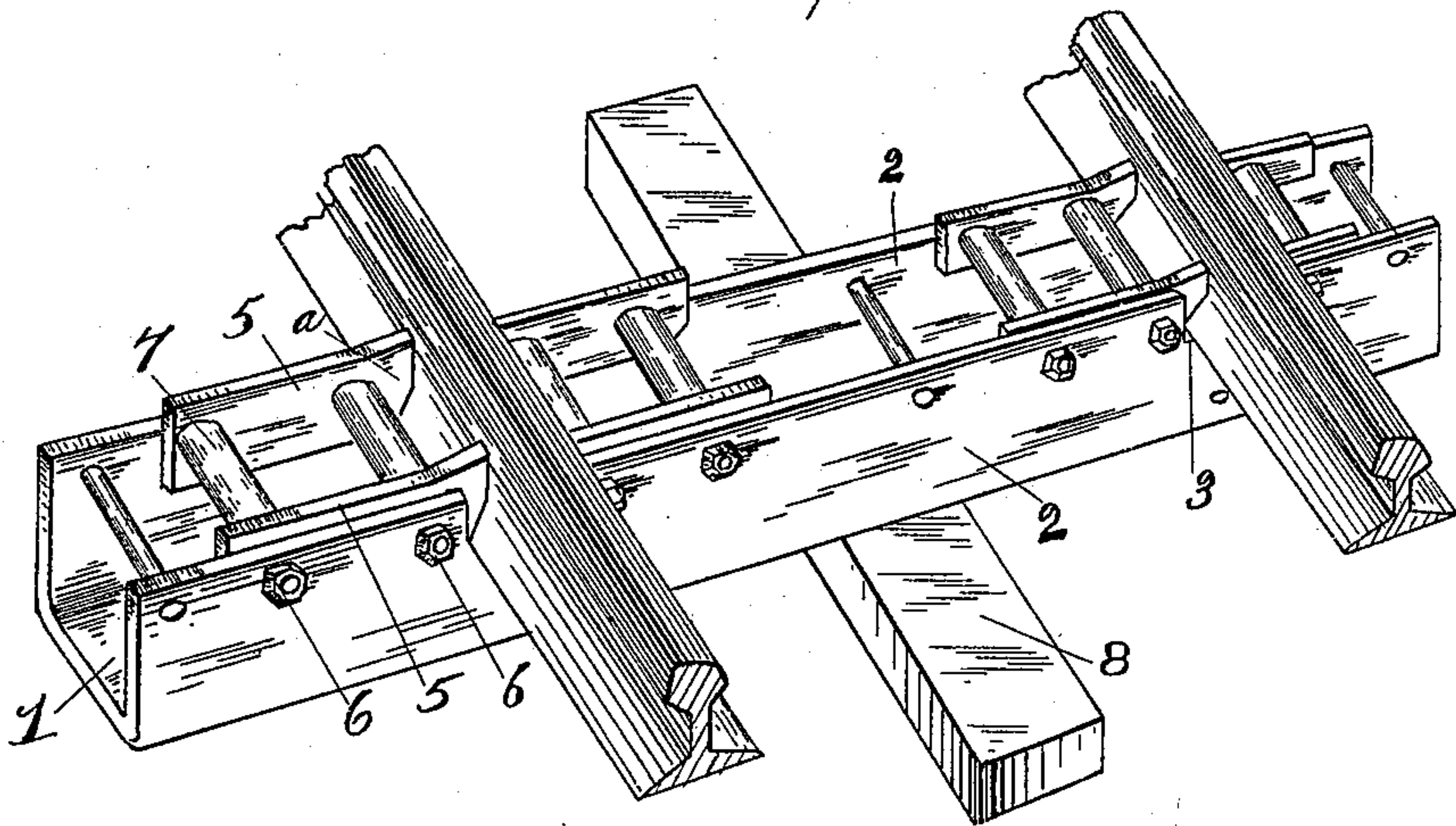


Fig. 2.

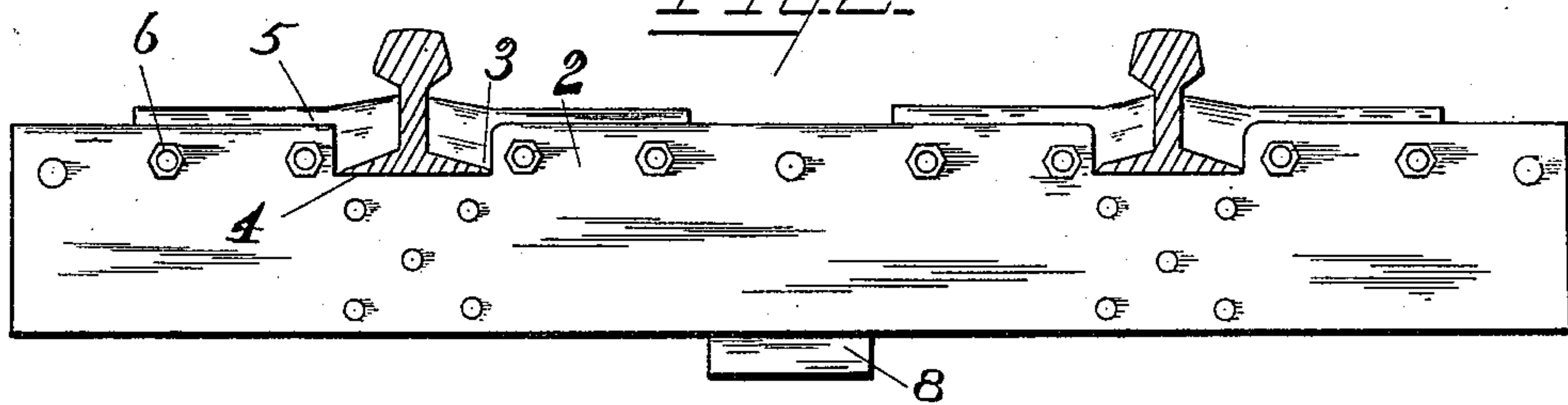


Fig. 3.

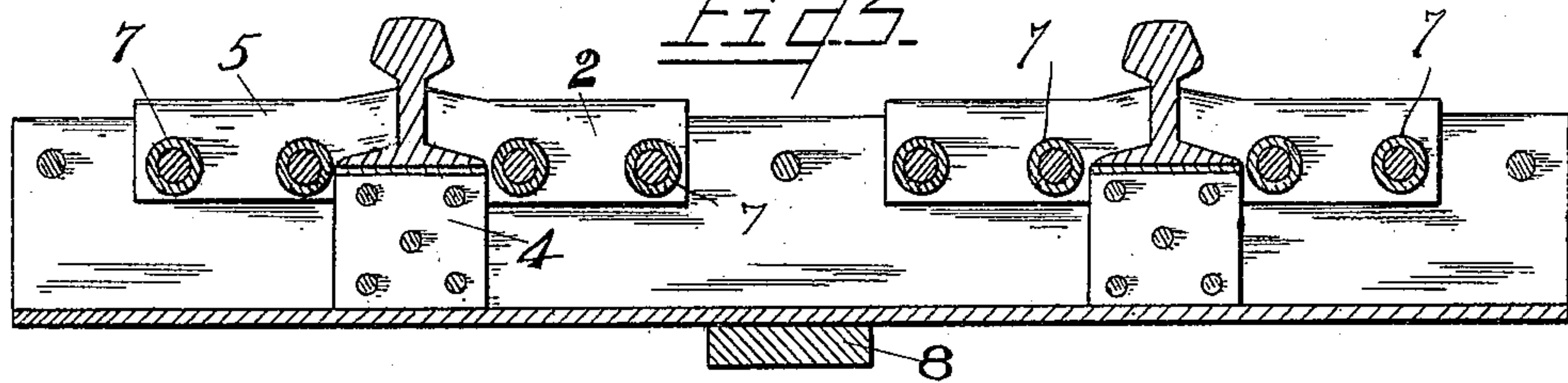
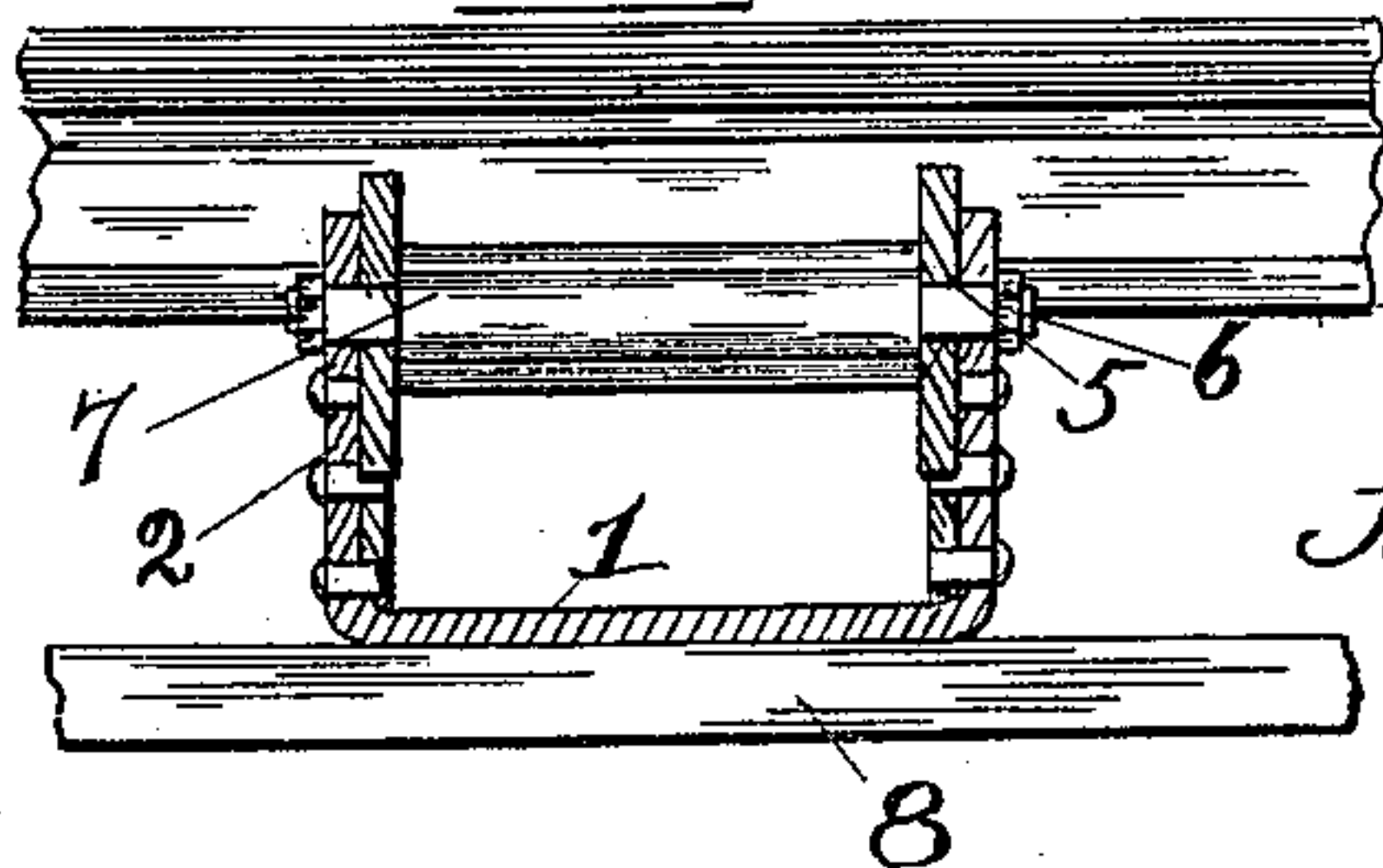


Fig. 4.



Witnesses
H. M. Thayer,
Victor J. Evans

Inventor
John A. Schmahl.

By *John Wedderburn.* Attorney

UNITED STATES PATENT OFFICE.

JOHN ALEXANDER SCHMAHL, OF FAIRMAN, ILLINOIS, ASSIGNOR TO SARAH MATHILDA SCHMAHL, OF SAME PLACE.

RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 602,388, dated April 12, 1898.

Application filed May 11, 1897. Serial No. 636,014. (No model.)

To all whom it may concern:

Be it known that I, JOHN ALEXANDER SCHMAHL, of Fairman, in the county of Marion and State of Illinois, have invented certain
5 new and useful Improvements in Metallic Railroad-Ties; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to
10 make and use the same.

The object of this invention is to provide a metallic railroad-tie which will be comparatively light and the parts so disposed and braced as to present a strong and durable
15 structure that will properly support the rails to withstand the jars which come upon the same in use. To this end the railroad-tie is made up, preferably, of galvanized iron bent to form bottom and side pieces, the edges of
20 the latter being recessed to receive the rails, which are held in place by retaining plates or clamps and rest upon chairs which are bolted to the side pieces of the tie, a cross-piece being secured to the under side or bot-
25 tom of the tie to assist in making a secure engagement with the road-bed.

Having the above objects in view, the invention consists in a metallic railroad-tie having upwardly-projecting side flanges at right
30 angles to and integral with the bottom of the tie and which are recessed to receive the rails, retaining plates or clamps for holding the rails in engagement with the tie, means for bracing and preventing spreading and col-
35 lapsing of the side flanges of the tie to each other, and a cross-piece which engages the road-bed to prevent movement of the tie.

In the following specification I have entered into a detailed description of the differ-
40 ent parts which constitute my invention, reference being had to the accompanying drawings and to letters or numerals thereon, which designate the different parts, and what I consider to be the novel features of construction
45 are specifically set forth in the claim.

In the accompanying drawings, forming part of this specification, Figure 1 is a perspective view of a railroad-tie constructed in accordance with my invention. Fig. 2 is a

side elevation. Fig. 3 is a longitudinal sectional view, and Fig. 4 is a transverse sectional view.

Referring to the drawings by numerals and letters, 1 designates the bottom of the railroad-tie, from which the side pieces 2 2 extend upward at the edges thereof, presenting a metallic tie which is practically U-shaped in cross-section. The metal of which the tie is made is preferably galvanized iron, as it possesses certain qualities which will add to the strength
60 and durability of the tie. The side pieces 2 2 are provided with recesses 3 that receive the rails, and below said recesses, preferably on the inner sides, are bolted angle-iron chairs 4, presenting a cross-piece upon which the
65 rails rest, the said chair having depending end flanges through which the retaining-bolts pass. In order to hold the rails in positive engagement with the tie, I provide certain retaining
70 plates or clamps, which consist of the plates 5 5, having bevel ends *a*, which overlie the base-flanges of the rail and bear thereon, the said plates being held securely in position by transverse bolts 6 6, which extend across the
75 tie from one side piece to the other. It will be observed that each side piece of the tie is provided with plates at opposite sides of the recesses therein which receive the rail, and the said plates are securely held by the bolts,
80 which pass through the same near their opposite ends. Upon the bolts 6 6, which secure the retaining-plates in place, are mounted tubes 7 of a length to bear between the re-
85 taining-plates at opposite sides of the tie, said tubes forming braces which prevent the side pieces from bending inward, the heads of the bolts and nuts on the opposite ends preventing a spreading movement of the side pieces with respect to each other.

In connection with a railroad-tie constructed as hereinbefore described I provide the same with a cross-piece 8, which is attached to the under side of the said tie at the central portion thereof and engages the road-bed to prevent movement of the tie thereon.

By forming the railroad-tie of galvanized iron it is not affected by rust, and will consequently be very durable, and, if desired, the

part thereof between the side pieces could be filled with rubble or composition to assist in holding it in place.

From the foregoing description, in connection with the accompanying drawings, it will be apparent that I provide a metallic railroad-tie which will be cheap in construction and thoroughly braced to withstand the pressure or weight that will come upon the same, the devices or clamps for holding the rail in engagement with the tie preventing any possibility of the rail spreading, while also bracing the side pieces of the tie.

The tubes 7 on the tie-bolts 6 afford a means for clamping and holding the side plates absolutely in fixed relation to each other to prevent rattling.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A railway-tie formed of sheet metal with recessed, vertical, parallel side flanges inte-

gral with the bottom, in combination with through-bolts connecting said side flanges, sleeves on said bolts intermediate said flanges, parallel rail-clamping bars on the through-bolts at the opposite ends of the sleeves and on opposite sides of the rail, intermediate the ends of the sleeves and the side flanges of the tie, and clamped by said sleeves and through-bolts against the side flanges of the tie, and angle-iron chairs having pendent, vertical end flanges secured to the sides of the tie, said chairs extending from one side to the other under the recesses in the side flanges in the tie, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOHN ALEXANDER SCHMAHL.

Witnesses:

J. S. BELLAMY,
NATHAN SHERMAN.