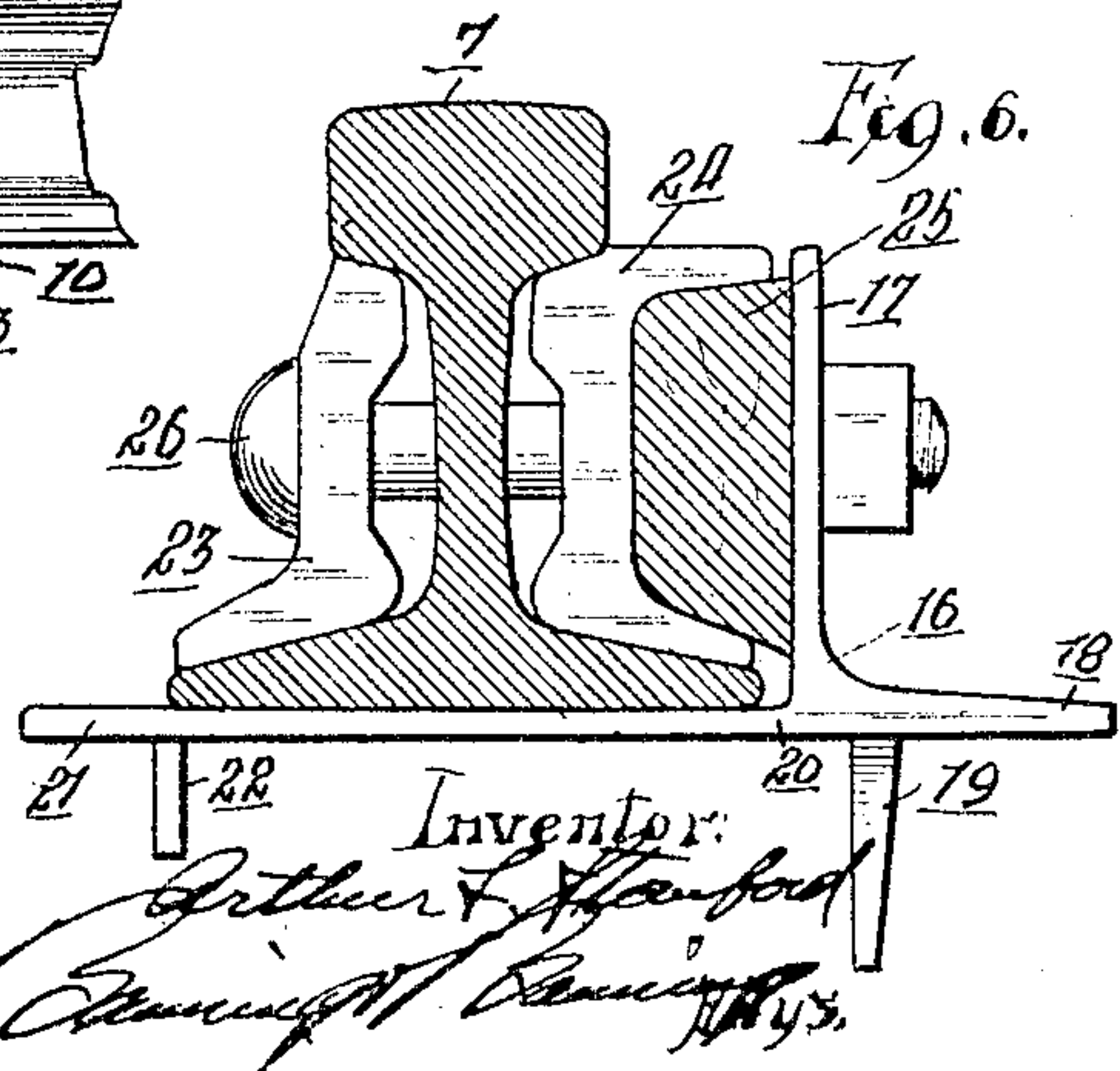
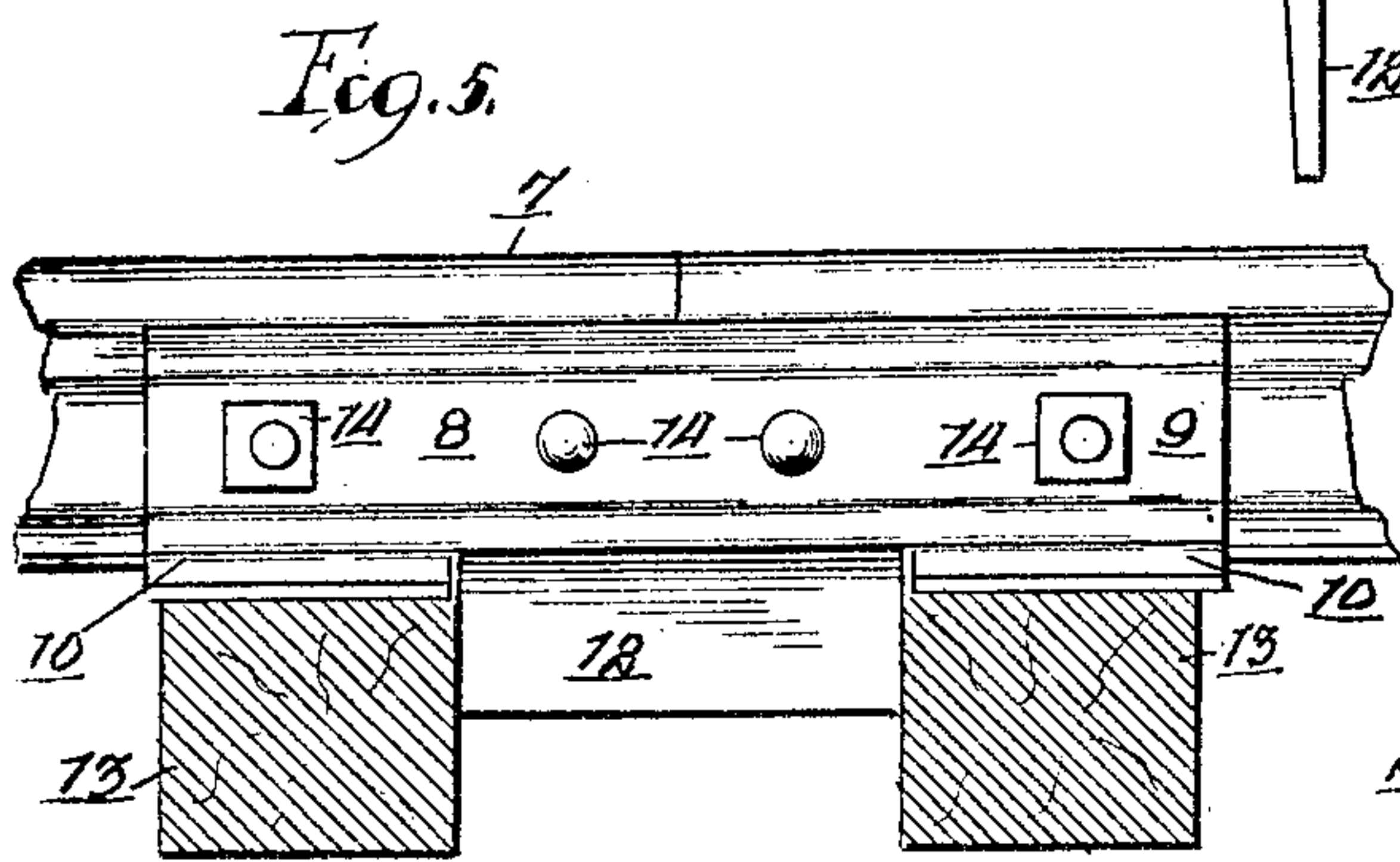
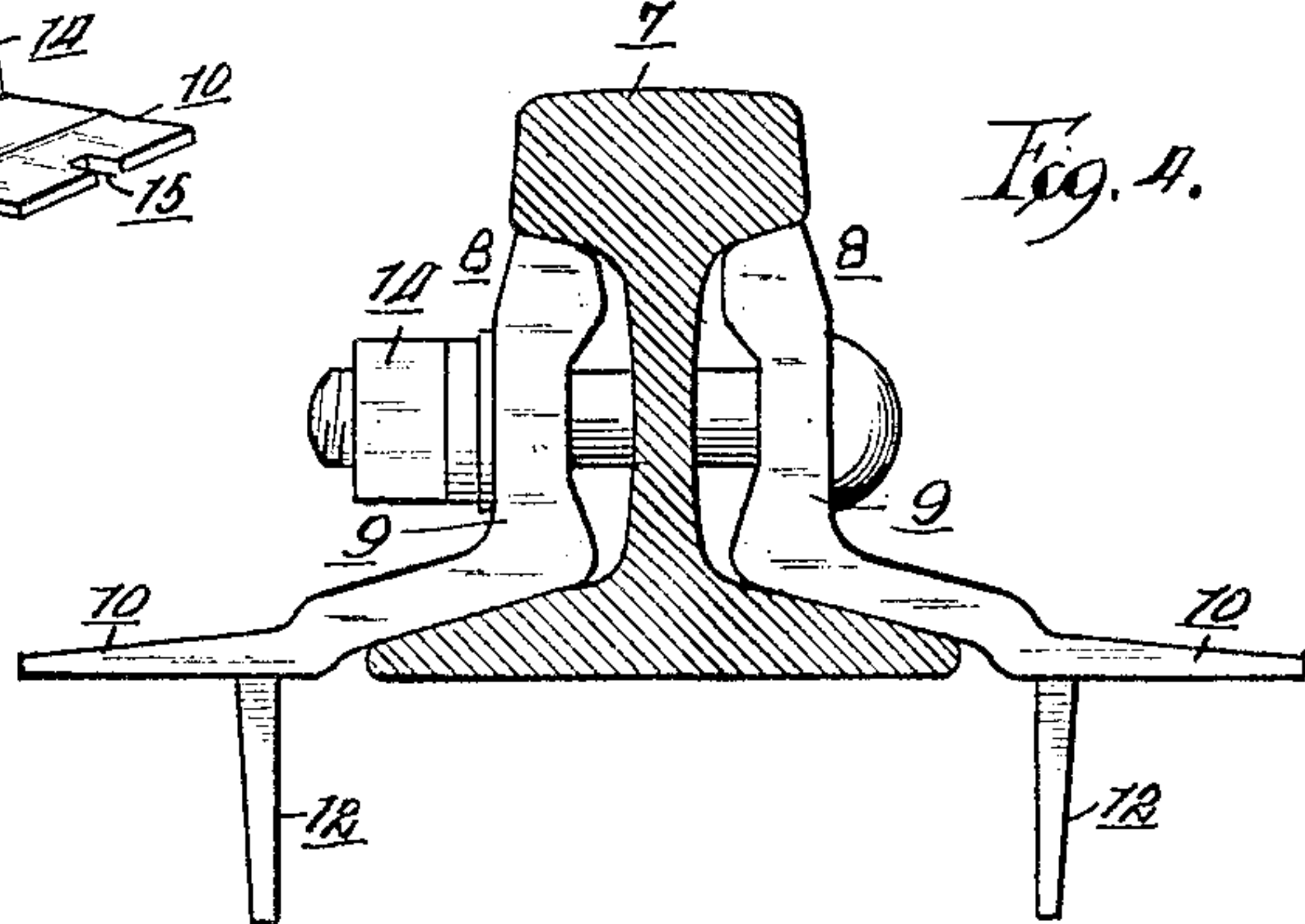
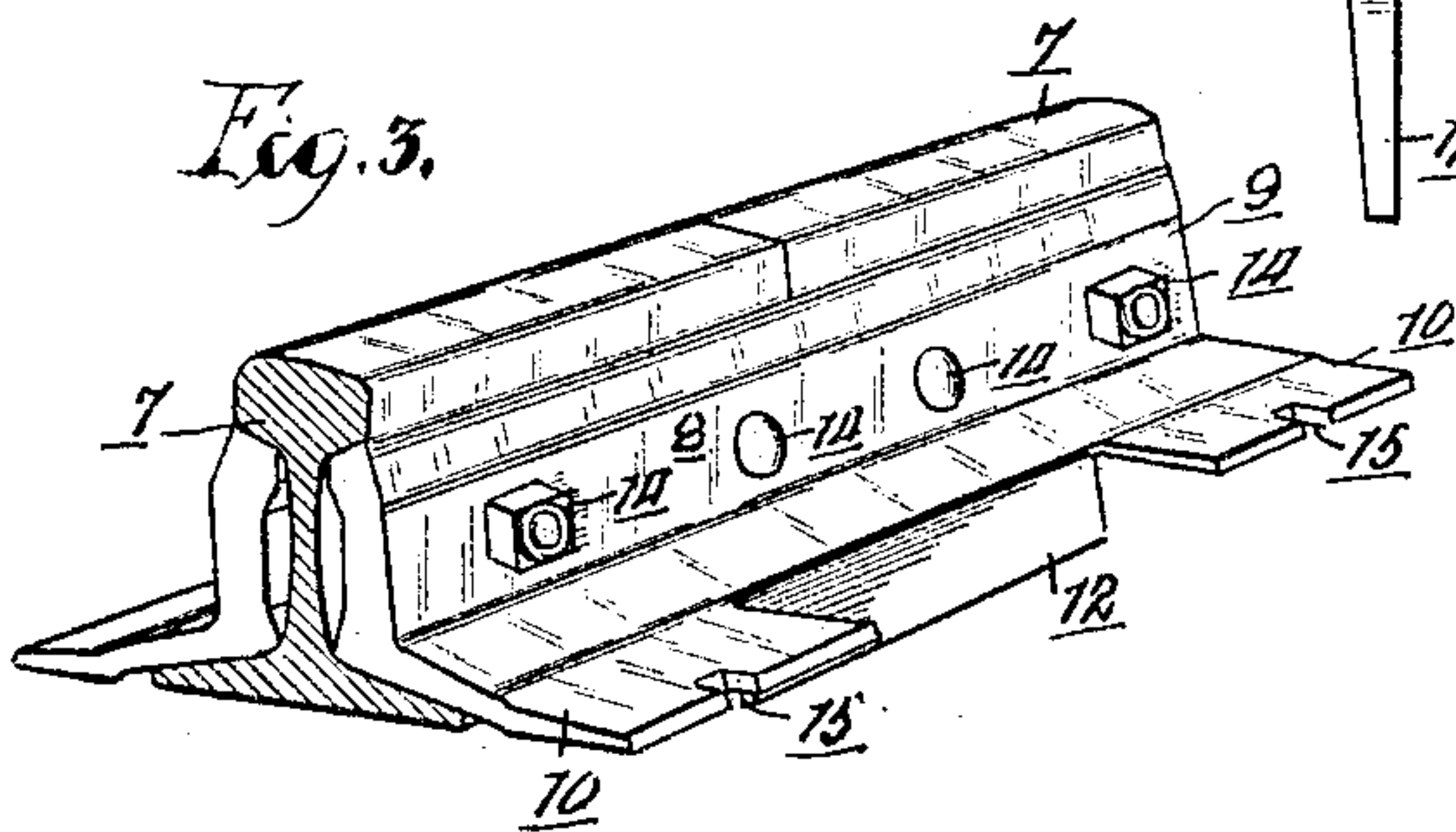
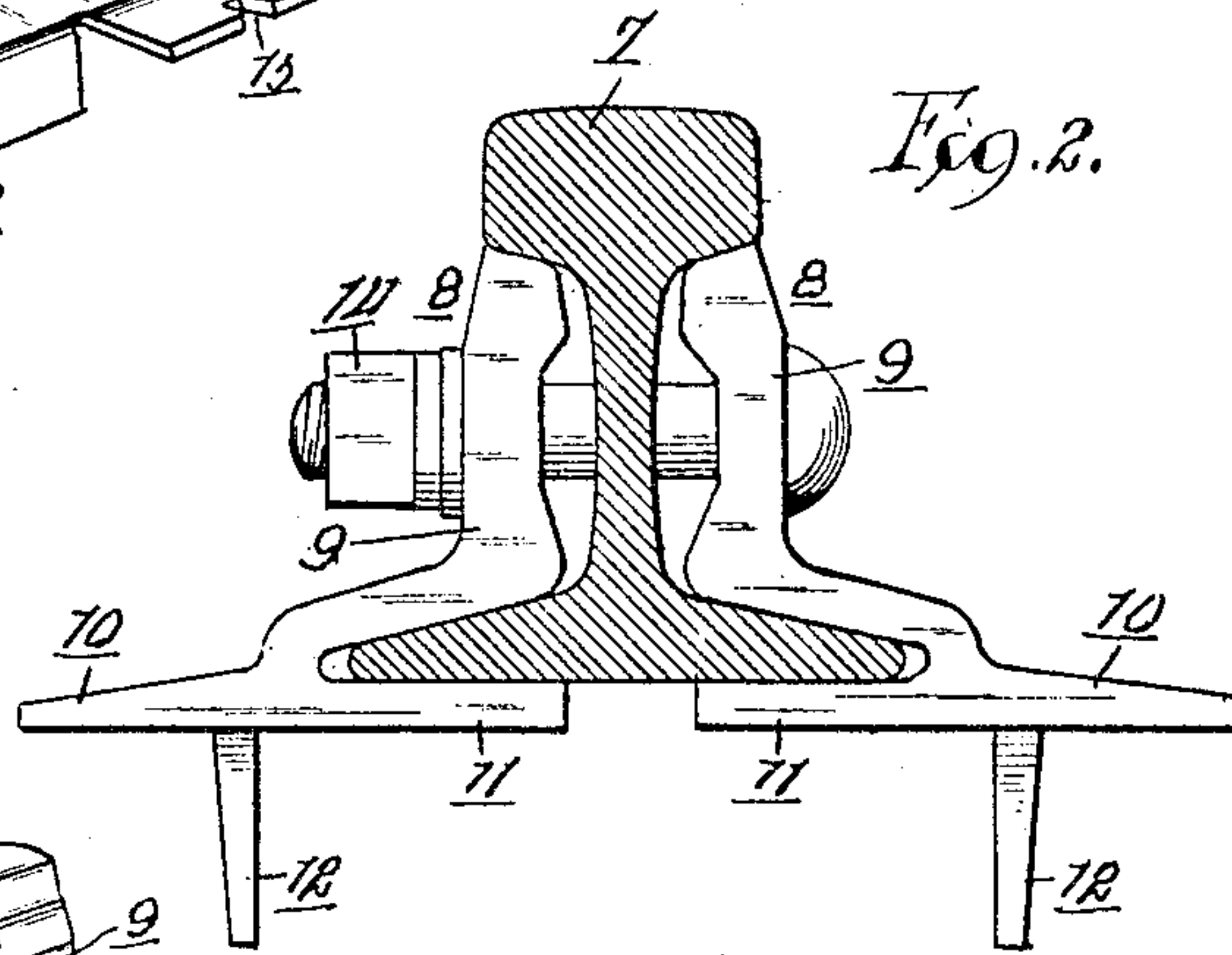
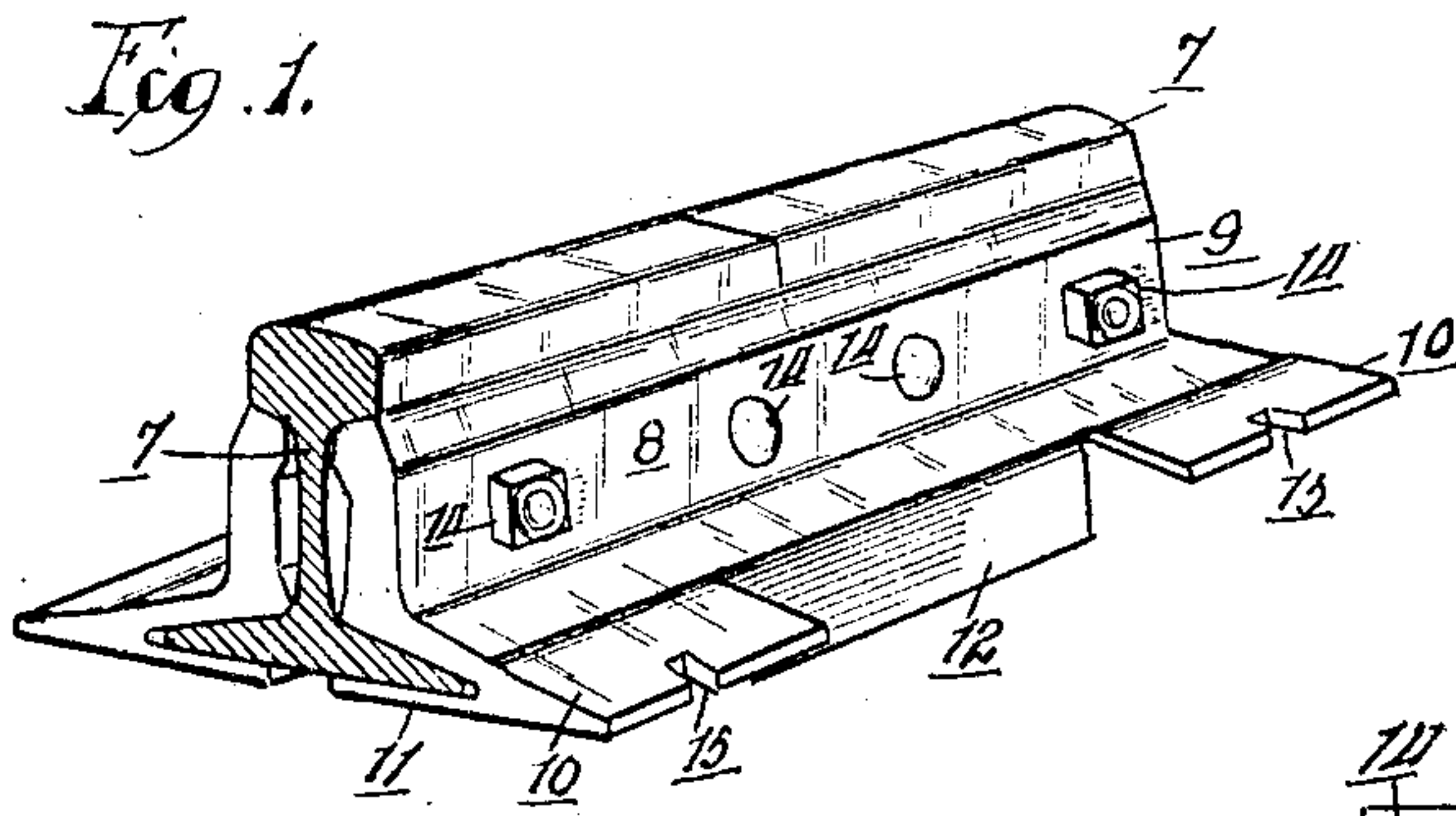


912,750.

Patented Feb. 16, 1909.



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Inventor:
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by *Amos W. Tanning* Atty.

UNITED STATES PATENT OFFICE.

ARTHUR L. STANFORD, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE RAIL JOINT COMPANY,
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RAIL-JOINT.

No. 912,750.

Specification of Letters Patent.

Patented Feb. 16, 1909.

Application filed October 31, 1907. Serial No. 400,066.

To all whom it may concern:

Be it known that I, ARTHUR L. STANFORD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

The object of this invention is to provide a reinforcement for the splice bars of a rail joint by giving to the splice bar a formation which secures a maximum vertical depth immediately beneath the abutting rail ends without diminishing the bearing surface on the joint ties. In certain prior constructions such reinforcement has been provided by swaging down a portion of the side flange of the splice bar to form a lower reinforcing chord connected with the main portions of the flange by sloping or rounded web portions, which construction is defective in that no square corners or angles are provided for abutment against the ties whereby creeping might be prevented, nor is sufficient elasticity provided in the joint for the play of the rail.

The object of the present invention is to provide the necessary reinforcement without loss of elasticity; to provide an easier method of forming the splice bars; to provide suitable abutments for contact with the ties; and to improve the construction of the splice bar as a whole without appreciably increasing the weight of metal. The invention consists in the features of construction and combination of parts hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of the preferred form of rail joint; Fig. 2 an end elevation of the same, showing the rail in section; Fig. 3 a similar perspective view, showing a slightly modified form of splice bar; Fig. 4 an end elevation of the same, similar to Fig. 2; Fig. 5 a side elevation of the joint of Fig. 1, showing the ties in section; and Fig. 6 a modification, showing the invention applied to the outer reinforcing angle bar of a three-piece rail joint.

Referring to Figs. 1 and 2, 7—7 indicate the rail sections, which are of the ordinary construction and are joined by means of splice bars 8 of standard formation, comprising a vertical portion 9 and a lateral flange 10, which latter is supplemented by an inwardly extending seat plate 11, upon which the base of the rail directly rests.

The side flange 10 is laterally extended to a greater degree than is customary in splice bars of the general character described, and is provided in its center with a down-turned tongue 12, which is formed by inwardly cutting the metal composing the lateral flange, as a whole, and thereafter turning down the middle section of the metal so separated in order to form the tongue in the manner indicated. The tongue so formed is provided with square corners and vertical edges, and is adapted to fit snugly between the ties 13, the square formation of the tongue forming a shoulder for abutment with the inner side faces of adjacent ties. The vertical or body portions of the splice bar have passed through bolts 14 of the usual character, which pass directly through companion splice bars on opposite sides of the rail, which are positioned and secured to the ties by means of spikes entered through slots 15 in the lateral flanges of the splice bars. Figs. 3 and 4 illustrate the same arrangement with respect to the tongue and lateral flange sections, the only difference being that said tongue is applied to a splice bar of standard formation, which lacks the inturned seat plate 11 found in the splice bar previously described.

Fig. 6 illustrates a reinforcing splice bar 16, which composes the outer member of a three-piece rail joint. The reinforcing splice bar comprises a vertical plate 17, provided at its lower end with a flange 18, which is cut and formed in the manner previously described to provide a downwardly extending tongue 19, similar to that hitherto described. The reinforcing bar is further provided with an inwardly turned bed plate portion 20, upon which the rail directly rests. The farther edge 21 of the bed plate forms, in effect, a lateral flange, and this, like the flanges previously described, has turned downwardly therefrom a tongue 22 adapted to enter the space between the joint ties. The reinforcing outer bar is used in connection with regulation splicing bars 23 and 24, which directly contact the rail sections, and between the bar 24 and the reinforcing outer bar is a spacing block 25 of wood or similar fibrous material. The three splice bars and the spacing block are all connected by means of bolts 26 which pass through the entire structure. By cutting free the middle portion of the lateral flange and bending it

downward, a greater degree of elasticity is secured for the end portions which rest upon the joint ties than could be obtained if the parts were of a continuous formation. At the same time a maximum vertical depth and corresponding rigidity is given to the bar at its center immediately beneath the joint, and this by turning down a portion of the flange, which is so located that it can serve no function as a bearing surface for contact with the ties. By cutting the tongue free from the remaining portions of the lateral flange, it can be very easily bent or struck down into position, and provides straight square shoulders for contact with the adjacent ties, which would not be provided if it were sought to swage down the intermediate portion of the lateral flange without cutting it free from the end sections. It will thus be seen that, without increasing the weight of the splice bar as a whole, it is so formed that it combines the necessary rigidity and elasticity at the points where such characteristics are most specially needed.

What I regard as new and desire to secure by Letters Patent is:

1. A rail joint comprising two splice bars of duplicate formation, each of the splice bars comprising a vertical portion, a lateral flange and a reinforcing tongue comprising part of the original stock of the lateral flange and cut free therefrom back to a considerable distance from the edge thereof and downwardly struck from the lateral flange at a substantial angle thereto, the two reinforcing tongues so formed occupying positions laterally of the web of the connected rail ends and out of contact with one another, substantially as described.

2. A rail joint comprising two splice bars

of duplicate formation, each of the splice bars comprising a vertical portion, two outwardly extending lateral flange portions and an intermediate reinforcing tongue comprising part of the original stock of the lateral flange portions and cut free on both sides therefrom from the edge of the lateral flange portions back to a considerable distance and struck downwardly therefrom at a substantial angle thereto, the two tongues occupying positions laterally of the webs of the connected rail ends and out of contact with one another, substantially as described.

3. A splice bar comprising a vertical portion, two outwardly extending lateral flange portions, an inwardly turned seat plate connected with the lateral flange portions, and a downwardly extending tongue comprising part of the original stock of the lateral flange portions intermediate the lateral flange portions and cut free therefrom and having a thickness equal thereto, substantially as described.

4. A splice bar comprising a vertical portion, two outwardly extending lateral flange portions, an inwardly turned seat plate connected with the lateral flange portions, a downwardly extending tongue comprising part of the original stock of the lateral flange portions intermediate the lateral flange portions and having a thickness equal thereto and cut free therefrom, and having straight side edges forming shoulders adapted to abut against the adjacent ties, substantially as described.

ARTHUR L. STANFORD.

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