

No. 835,087.

PATENTED NOV. 6, 1906.

T. WIGNALL & J. O. KRIDELBAUGH.

RAIL JOINT.

APPLICATION FILED JAN. 22, 1906.

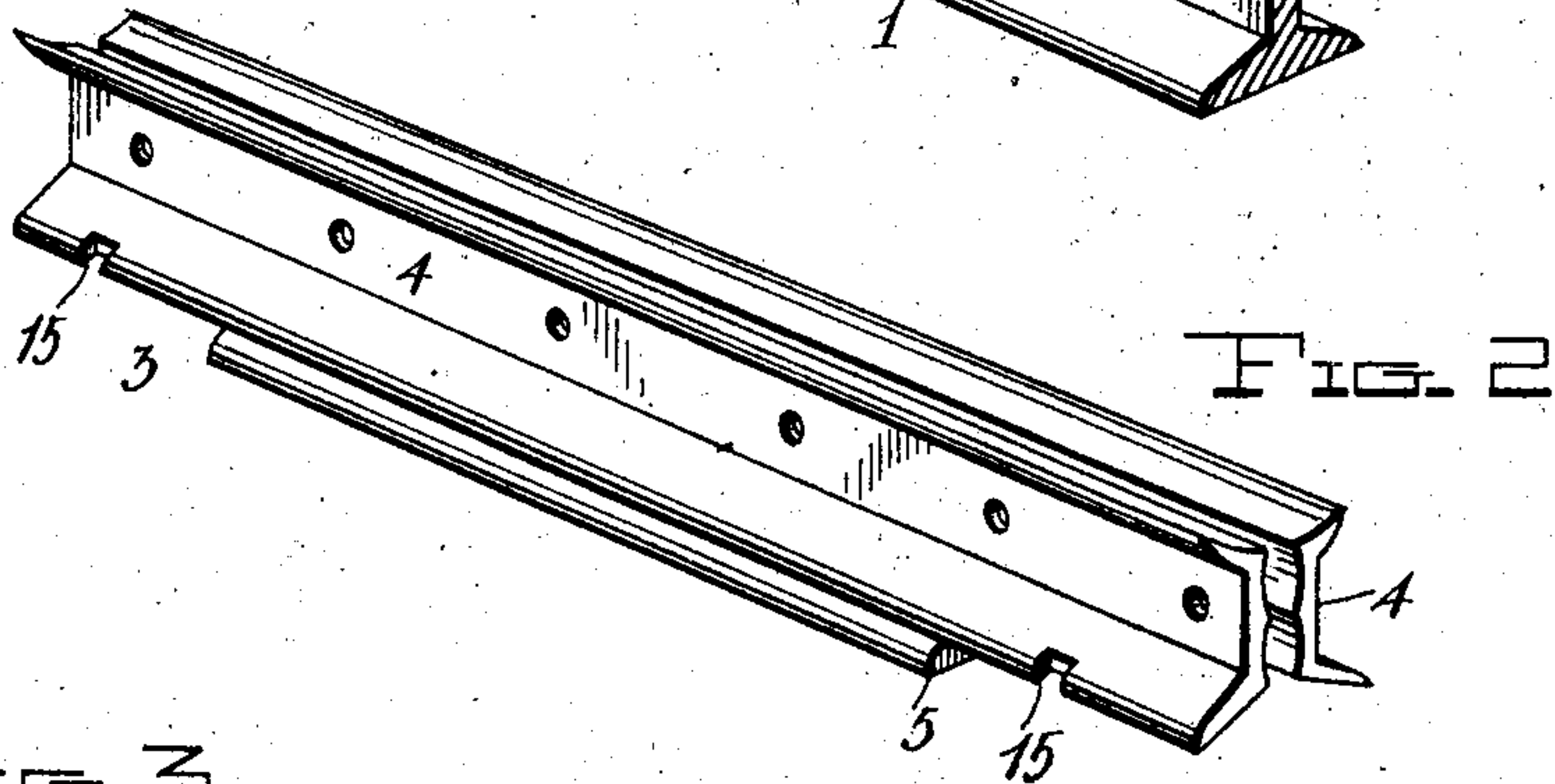
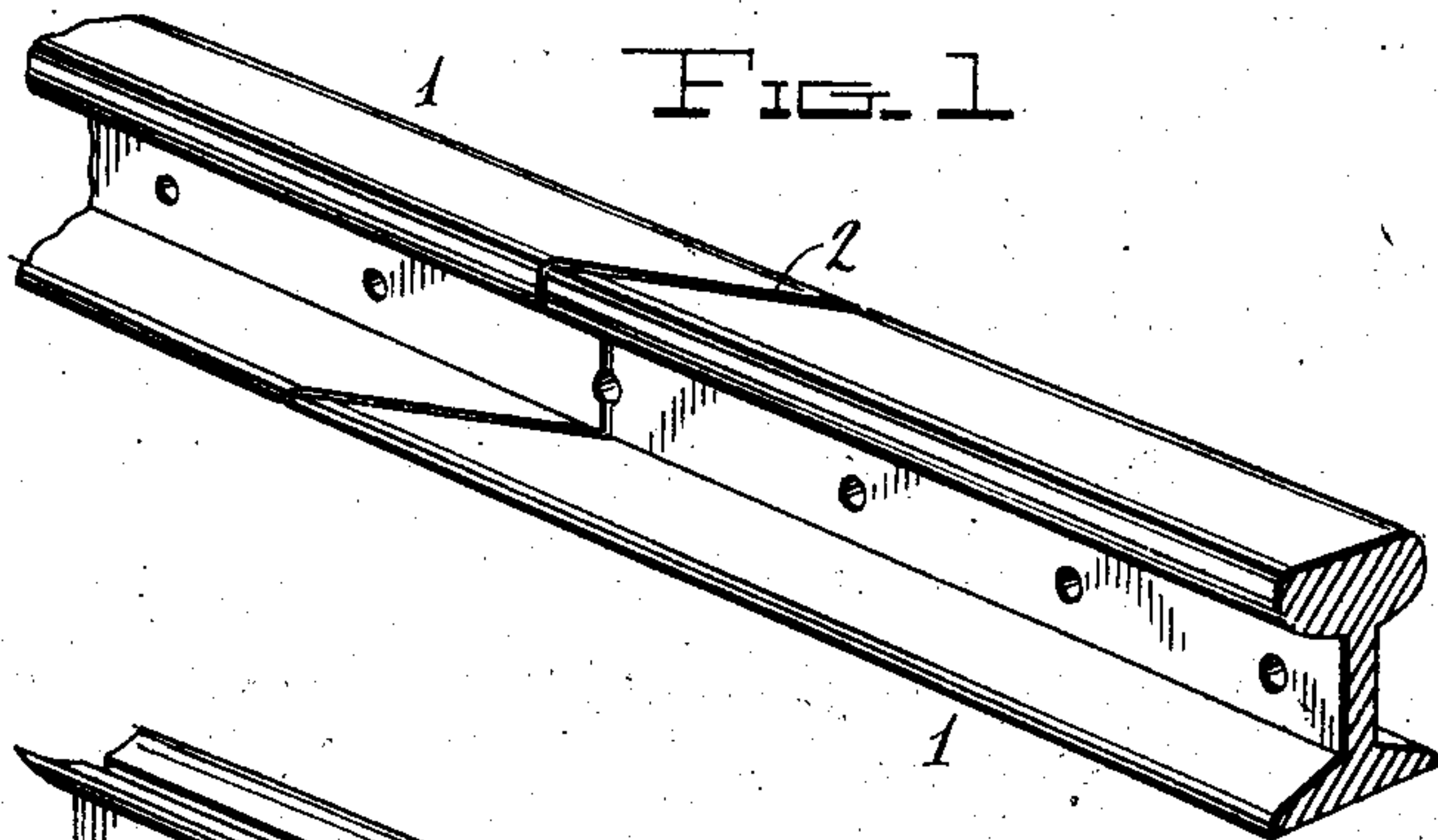


FIG. 3

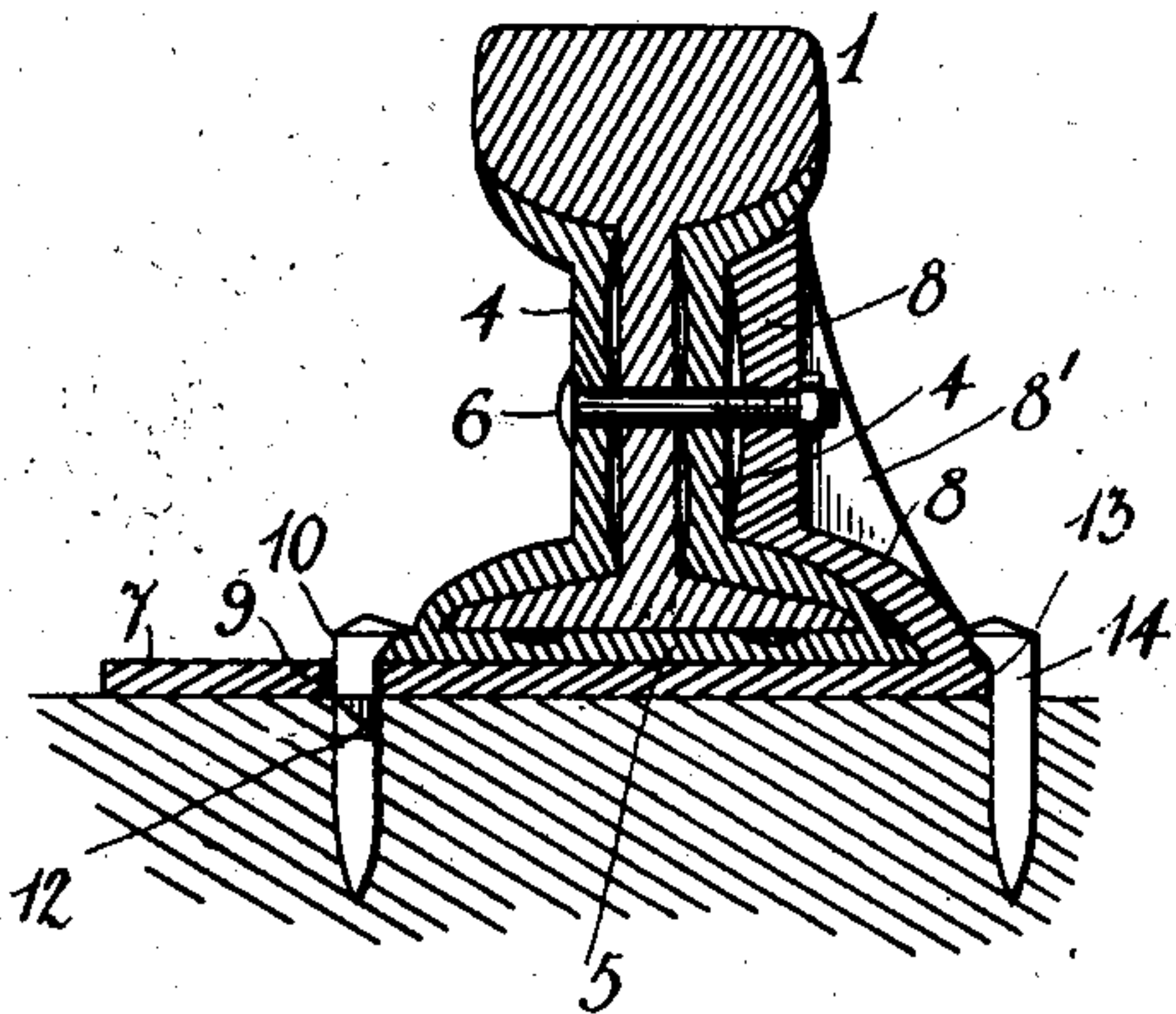


FIG. 4

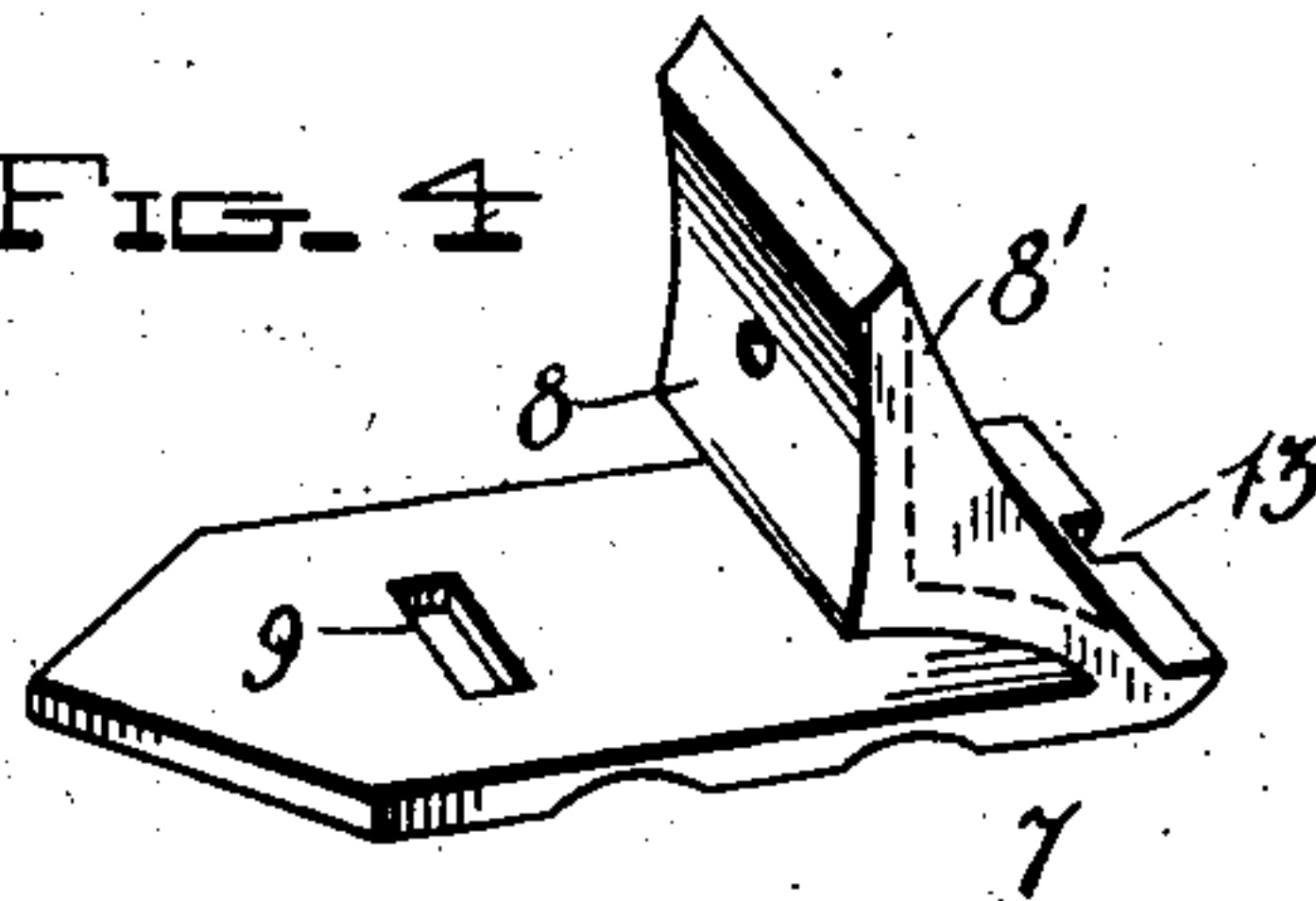
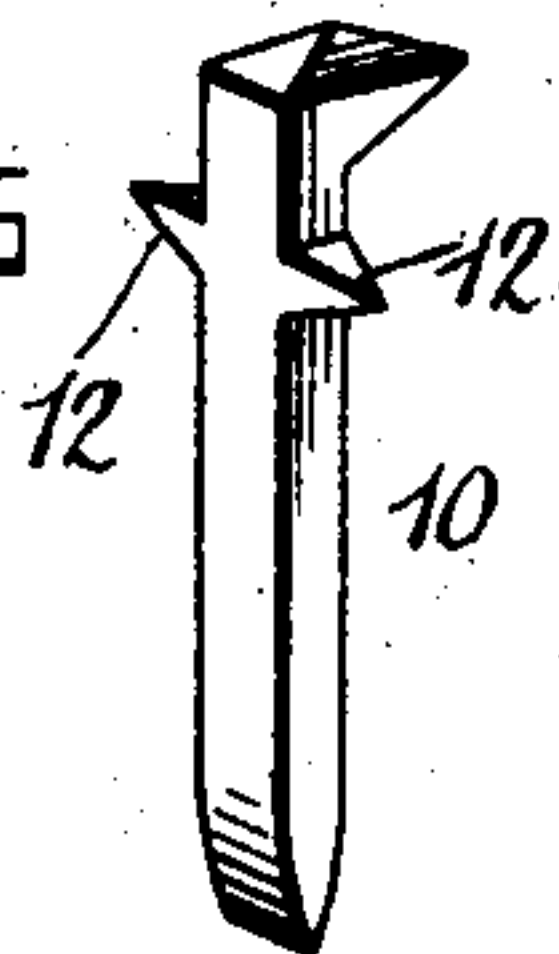


FIG. 5



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## RAIL-JOINT.

No. 835,087.

Specification of Letters Patent.

Patented Nov. 6, 1906.

Application filed January 22, 1906. Serial No. 297,289.

*To all whom it may concern:*

Be it known that we, THOMAS WIGNALL and JOHN O. KRIDELBAUGH, citizens of the United States, residing at Hynes, in the county of Monroe and State of Iowa, have invented certain new and useful Improvements in Rail-Joints; and we do 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 make and use the same.

This invention relates to improvements in railway-rail joints.

The object of the invention is to provide means whereby the meeting ends of two rails may be securely joined to prevent the spreading or creeping of the same.

A further object is to provide means whereby the pounding of the wheels as the train is passing over a joint is prevented, means being also provided for the contraction and expansion of the rails.

With the above and other objects in view the invention consists of certain novel features of construction, combination and arrangement of parts, as will be hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of the meeting ends of two rails formed in accordance with the invention. Fig. 2 is a similar view of the chair for connecting said ends of the rail. Fig. 3 is a vertical sectional view through the rails, chair, and the plate for holding said rails in place on the ties. Fig. 4 is a detail perspective view of the chair-holding plate, and Fig. 5 is a similar view of the plate-spike.

Referring more particularly to the drawings, 1 1 denotes the meeting ends of two rails, said meeting ends being cut on a slant or mitered, as shown at 2. Adapted to receive said mitered ends of the rails is a joint chair 3, said chair consisting of parallel side plates 4, which are adapted to engage and fit the sides of the web portion of the rail, the under side of the head, and the upper side of the flange or base of the same, thereby securely bracing the rails at all points. The side plates 4 of the chair are connected on their lower edges by a base-plate 5, which engages the under side of the base-flanges of the rails and is formed integrally with the side plates of the chair. The base-plate 5 is adapted to extend a short distance beyond the meeting ends of the rails, but does not extend entirely to either end of the side plates 4. The rail

ends are securely attached to the chair by means of bolts 6, which are passed through the same and through the adjacent sides of the side plates of the chair, as shown.

Arranged below the base-plate of the chair is a fastening-plate 7, on one end of which is formed an upwardly and inwardly projecting brace 8, adapted to engage the edge of the chair on one side and to bear against the side plate 4 and the under side of the portion of the chair which engages the under side of the head of the rail. The brace 8 of the plate 7 is strengthened by webs or flanges 8', formed in the corners of the same, as shown. In the opposite end of the plate 7 is formed a slot 9, through which is adapted to be driven a spike 10, the head of which engages the adjacent edge of the chair, as shown. The spike 10 is preferably provided on two of its opposite sides with laterally-projecting segmental wings 12, located a suitable distance below the head of the spike, whereby when said spike is driven through the slot in the plate and into said tie the wings 12 will also be driven into the tie a sufficient distance to cause the upper face of the wings to lie flush with the under side of the plate, after which the plate is shifted in one direction or the other to cause the under side thereof to move over or onto the upper side of one of said wings, thereby preventing the spike from becoming loose or being removed from the tie. The opposite end of the plate is provided with a notch 13, with which is adapted to be engaged a spike 14, driven into the ties at the opposite end of the plate, thus securely holding the plate in position over the winged spike. By thus providing a fastening-plate such as herein described the chair will be securely held on the tie against lateral movement, thus preventing the ties from spreading. The chair is provided on each side and at each end with notches 15 to receive spikes, whereby the same is held against longitudinal movement on the ties.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention as defined by the appended claims.



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

1. In a railway-rail joint, the combination  
5 with the rails having their meeting ends mitered, of a chair to receive said ends of the rails, said chair consisting of parallel, longitudinally-disposed side plates adapted to be bolted to the sides of the rails and connected  
10 at their lower edges by a base-plate which engages the bottom of the rail, a fastening-plate arranged below said base-plate of the chair, a brace formed on one end of the plate to engage the edge and side plate of the chair  
15 on one side of the rails and means to secure said plate to the ties, substantially as described.

2. In a railway-rail joint, the combination  
20 with the rails having their meeting ends mitered, of a chair to receive said ends of the rails, said chair consisting of parallel, longitudinally-disposed side plates adapted to be bolted to the sides of the rails and connected at their lower edges by a base-plate which engages the bottom of the rail, a slotted fastening-plate arranged beneath said base-plate  
25 of the chair, a brace formed on one end of the plate to engage one edge and side of the chair, a spike adapted to be driven through said slot in the plate and into engagement with the opposite edge of the chair, means where-  
30 by said spike is locked by said plate against

removal and a spike to hold said plate in place, substantially as described.

3. In a railway-rail joint, the combination 35  
with the rails having their meeting ends mitered, of a chair to receive said ends of the rails, said chair consisting of parallel, longitudinally-disposed side plates adapted to be bolted to the sides of the rails and connected 40  
at their lower edges by a base-plate which engages the bottom of the rail, a slotted fastening-plate arranged beneath said base-plate of the chair, a brace formed on one end of the plate to engage one edge and side of the 45  
chair, a spike adapted to be driven through said slot in the plate and into engagement with the opposite edge of the chair, laterally-projecting wings formed on two sides of said spike and adapted to be driven into a tie 50  
whereby the plate may be shifted over or onto said wings to hold said spike against removal and a spike adapted to be driven into engagement with a notch in the opposite end of said plate, substantially as described. 55

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

THOMAS WIGNALL.  
JOHN O. KRIDELBAUGH.

Witnesses:

F. G. KRIDELBAUGH,  
P. B. JENKINS.