

C. A. ALDEN & G. S. VICKERY.

RAIL JOINT.

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925,552.

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Fig. 1.

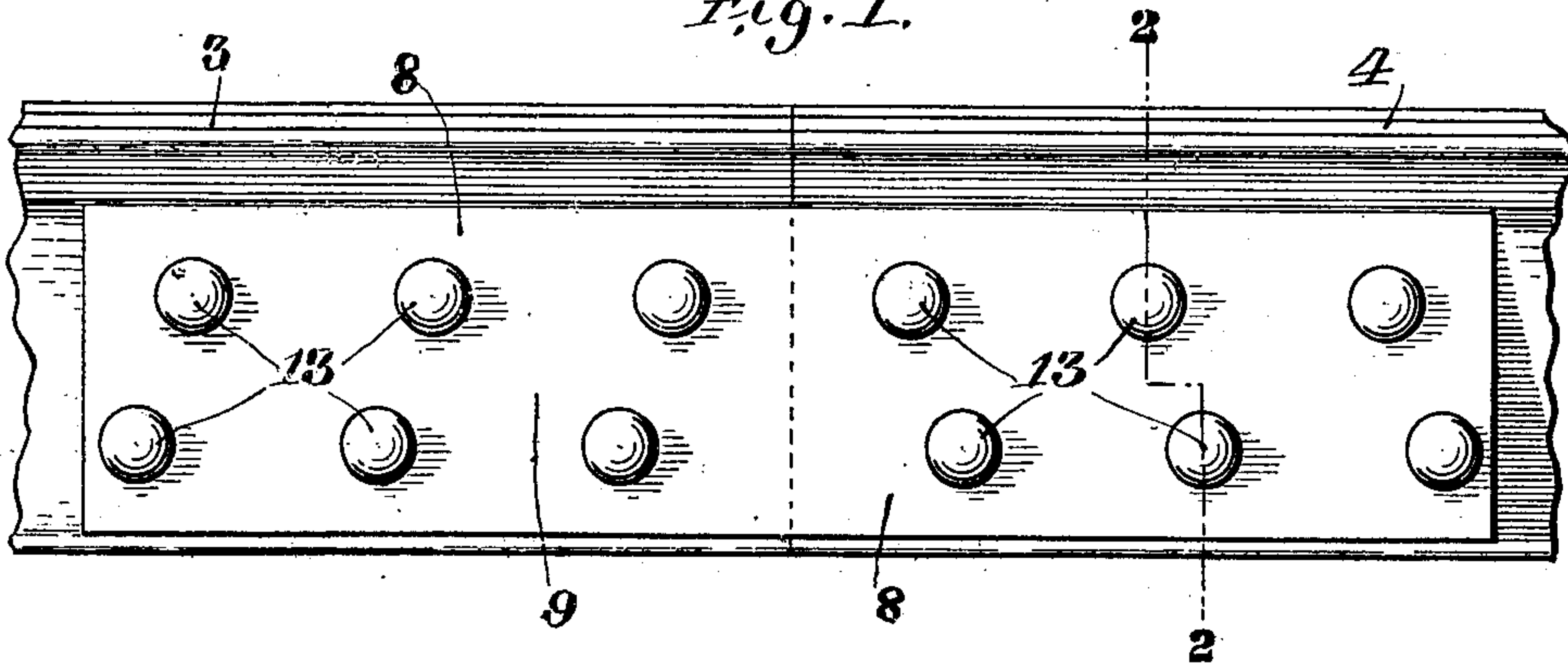


Fig. 2.

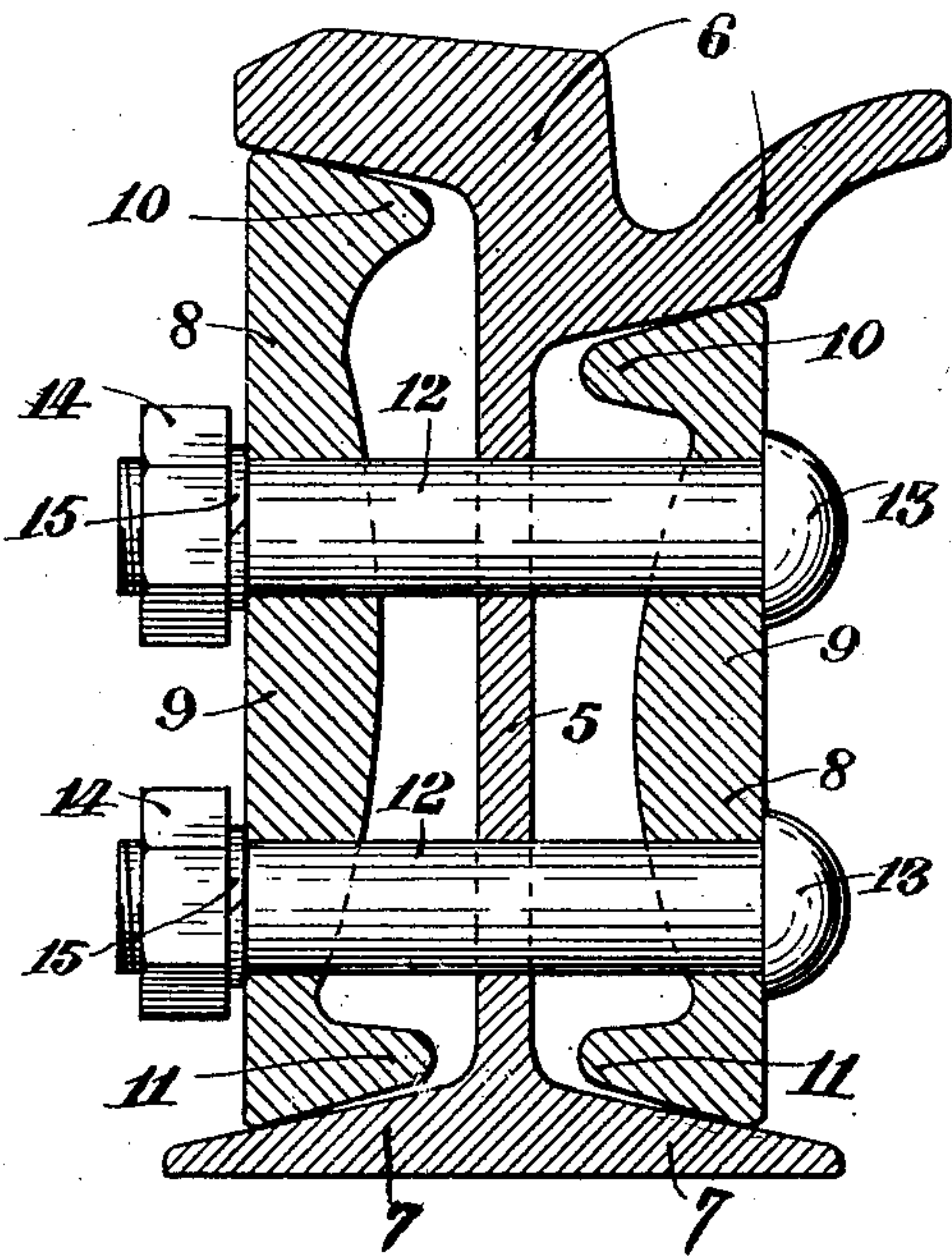
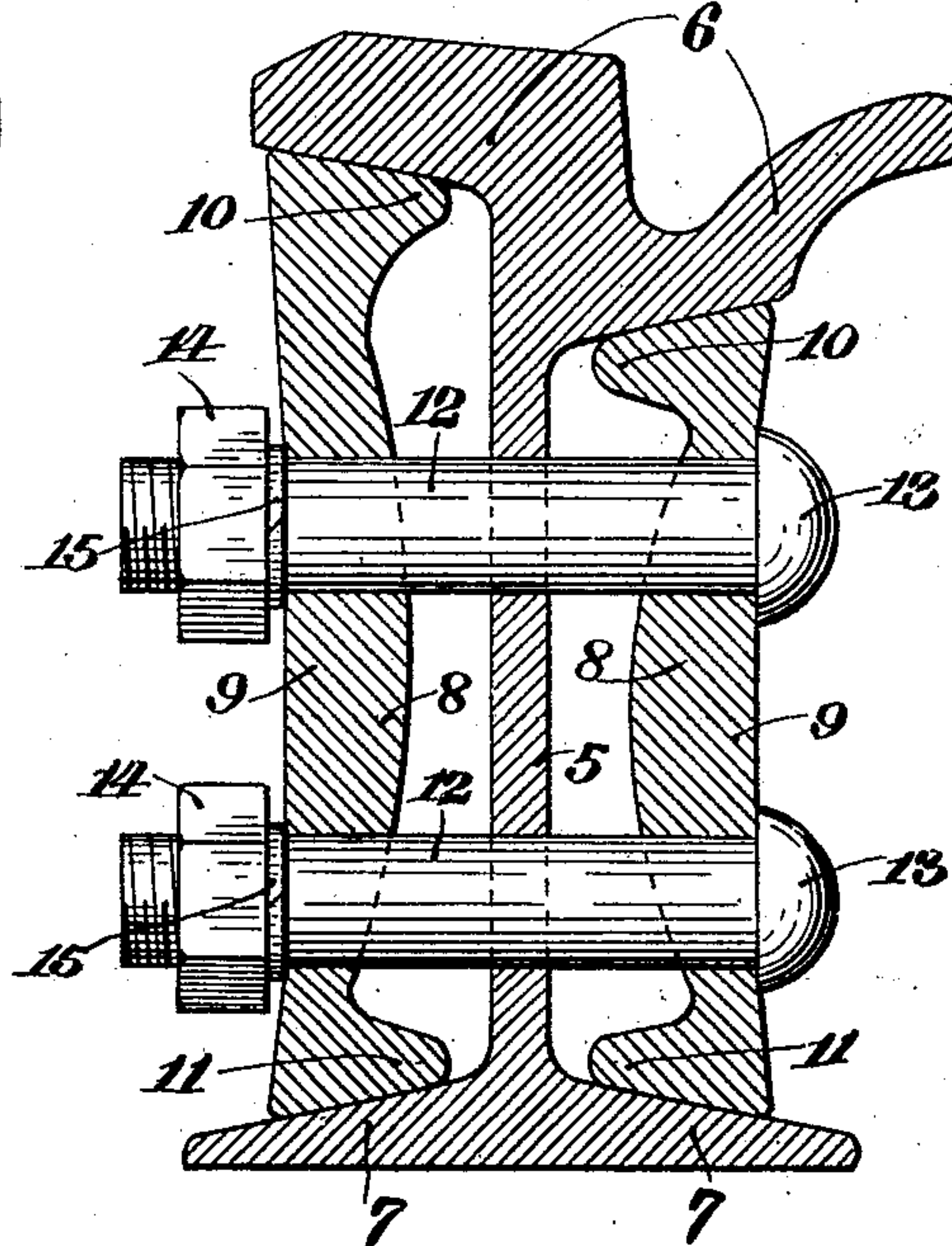


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES A. ALDEN, OF STEELTON, AND GILBERT S. VICKERY, OF HARRISBURG,
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RAIL-JOINT.

No. 925,552.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, CHARLES A. ALDEN and GILBERT S. VICKERY, citizens of the United States, said ALDEN residing at Steelton, Dauphin county, State of Pennsylvania, and said VICKERY residing at Harrisburg, in the county of Dauphin and State of Pennsylvania, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention relates to railroad rail joints, the object being to provide a simple, durable, and efficient means for securely holding together and in proper relation to each other the adjacent ends of two sections of a railroad rail, as will be hereinafter fully described and claimed.

In the drawings:—Figure 1 is a side elevation of the meeting ends of two rail sections of a railroad rail, showing our improved means for securing said ends together. Fig. 2 is a transverse section, as on the line 2—2 of Fig. 1, showing the position of the parts before the nuts on the transverse bolts have been tightened to draw the parts together. Fig. 3 is a view similar to Fig. 2, showing the position of the parts after the nuts on the securing bolts have been tightened to draw the parts together.

3 and 4 designate the adjacent meeting ends of two rail sections of a railroad rail, comprising a web 5, a head 6 and foot flange 7. Arranged on each side of the rail web 5 and extending between the rail sections 3 and 4, is a connecting member 8, comprising a plate 9, extending vertically between the head 6 and foot-flange 7, outwardly of the rail web 5, an upper flange 10 and a lower flange 11. The flanges 10 and 11 extend longitudinally of the plate 9 the full length thereof, and they also extend inwardly from the plate 9 toward the vertical center of the rail, as shown. Extending transversely through the plates 9 and rail web 5, are bolts 12, each bolt having an integral head 13 on one end engaging the outer face of one plate 9, and an adjustable nut 14 on the other end engaging a washer 15 which in turn engages the outer face of the other plate 9.

In assembling the parts, the members 8 are first placed in position between the head 6 and foot flange 7 of the rail, and the bolts 12 are then passed through the openings in the members 8 and rail web 5, and the washers 15 and nuts 14 are applied to the ends of the

bolts 12. When the members 8 are in normal position: that is to say, after they have been applied to the rail and before the nuts 14 have been tightened—the said members 8 occupy the position shown in Fig. 2. In this normal position of the members 8 the outer portion of the upper surface of each member is in engagement with the under surface of the head 6 of the rail, and the outer portion of the lower surface of each member 8 is in engagement with the upper surface of the foot flange 7; and in this normal position of the members 8, the upper surface of each member 8 diverges inwardly with relation to the adjacent under surface of the rail head 6; and the lower surface of each member 8 diverges inwardly with relation to the adjacent upper surface of the foot flange 7 of the rail.

After the parts have been assembled, with the members 8 in the normal position as shown in Fig. 2, the nuts 14 are tightened or screwed up upon the bolts 12, thus drawing the plates 9 inwardly centrally between the upper and lower surfaces thereof. This operation forces the upper surfaces of the members 8 parallel to and into engagement with the under surfaces of the rail head 6, and the lower surfaces of the members 8 parallel to and into engagement with the upper surfaces of the foot flange 7, thus providing an exceedingly firm and rigid connection for the adjacent ends of the sections of the rail.

The flanges 10 and 11 of each plate 9, extending inwardly, engage the under surface of the rail head 6 and the upper surface of the foot flange 7 inwardly of the plate 9, and thus engage the rail in a manner to prevent the plates 9 from buckling inwardly when the nuts 14 are tightened to draw the central portions of the plates toward each other. The inner faces of the plates 9 are curved so that that portion of each plate adjacent each of its flanges 10 and 11 is thinner than the central portion of the plate, thus increasing the strength and rigidity of the structure.

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

1. The combination of a rail having a vertical web, a laterally extending head and a laterally extending foot flange; a member extending between said head and said foot flange and having a bearing surface which, when said member is in normal position, di-

verges inwardly with relation to an opposite bearing surface of the rail, said bearing surfaces being positioned to engage each other when said member has been adjusted; and
5 bolts extending through said member and said rail, substantially as described.

2. The combination of a rail having a vertical web, a laterally extending head, and a laterally extending foot flange; a member
10 extending between said head and said foot flange and having an upper bearing surface adjacent the under surface of said head and a lower bearing surface adjacent the upper
15 surface of said foot flange, said upper bearing surface diverging inwardly with relation to the under surface of said head and said lower bearing surface diverging inwardly
with relation to the upper surface of said foot flange when said member is in normal
20 position; and bolts extending through said member and said rail, substantially as described.

3. The combination of a rail having a vertical web, a laterally extending head, and a
25 laterally extending foot flange; a member extending between said head and said foot flange and having an upper inwardly-extending flange adjacent the under surface of the rail head and a lower inwardly-extending
30 flange adjacent the upper surface of the foot flange, the upper face of the upper flange diverging inwardly with relation to the under surface of the rail head and the lower face of the lower flange diverging inwardly with re-

lation to the upper face of the foot flange 35 when said member is in normal position; and bolts extending through said member and said rail, substantially as described.

4. The combination of a rail having a vertical web, a laterally-extending head, and a
40 laterally-extending foot flange; a plate extending between said head and said foot flange and having an upper bearing surface adjacent the under surface of said head and a lower bearing surface adjacent the upper
45 surface of said foot flange, said upper bearing surface diverging inwardly with relation to the under surface of said head, and said lower bearing surface diverging inwardly
50 with relation to the upper surface of said foot flange when said plate is in normal position; a bolt extending through said plate and said rail in one horizontal plane and a
bolt extending through said plate and said rail in another horizontal plane, the central
55 portion of said plate between said bolts being thicker than a portion of said plate above the upper bolt and a portion of said plate below the lower bolt, substantially as
described. 60

In testimony whereof we affix our signatures in presence of two witnesses.

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GILBERT S. VICKERY.

Witnesses:

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WM. R. MILLER.