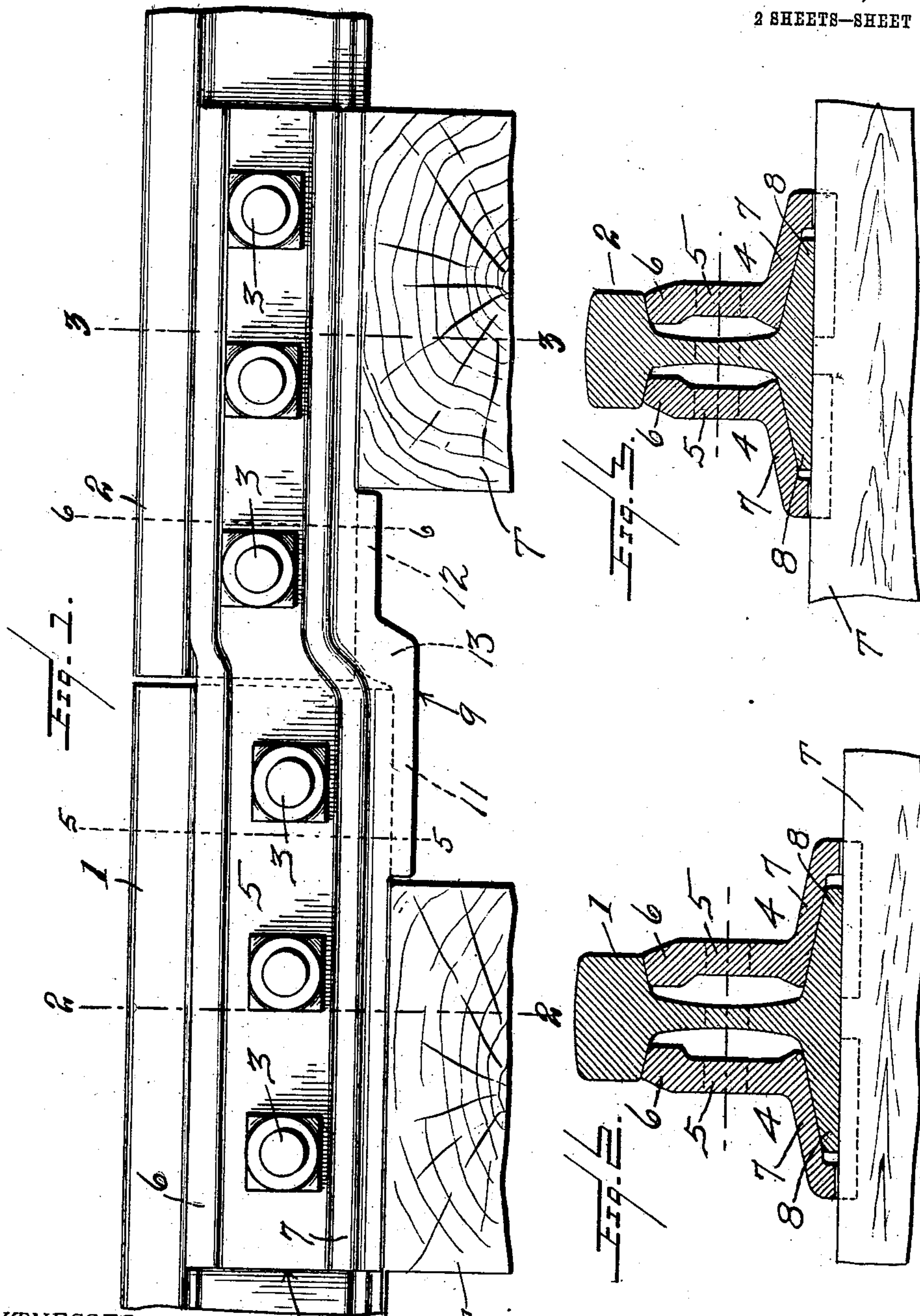


V. C. ARMSTRONG.
 COMPROMISE RAIL JOINT.
 APPLICATION FILED SEPT. 26, 1907.

912,640.

Patented Feb. 16, 1909.
 2 SHEETS—SHEET 1.



WITNESSES:

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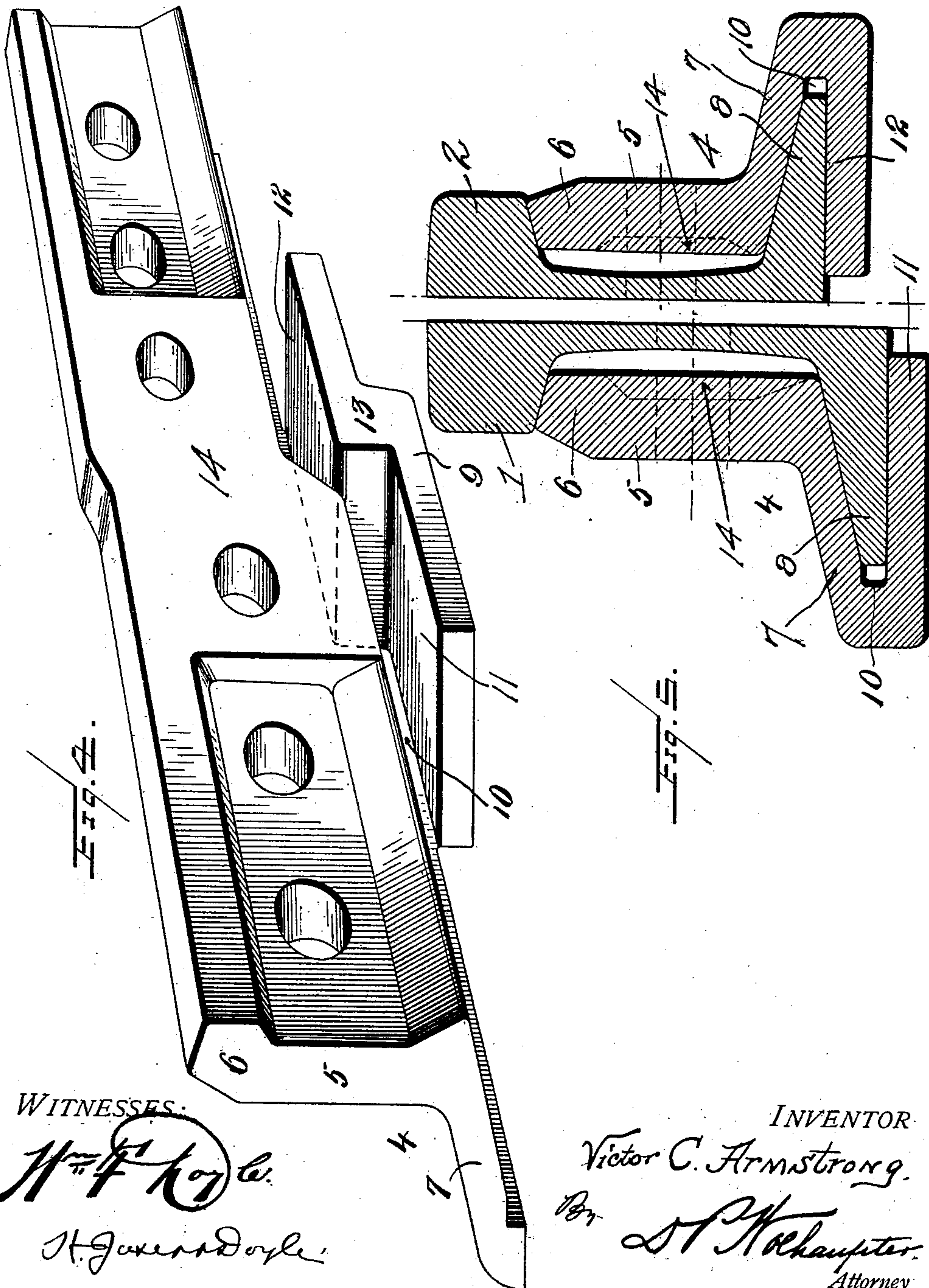
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

VICTOR C. ARMSTRONG, OF NEW YORK, N. Y., ASSIGNOR TO THE RAIL JOINT COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

COMPROMISE RAIL-JOINT.

No. 912,640.

Specification of Letters Patent.

Patented Feb. 16, 1909.

Application filed September 26, 1907. Serial No. 394,674.

To all whom it may concern:

Be it known that I, VICTOR C. ARMSTRONG, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Compromise Rail-Joints, of which the following is a specification.

This invention relates to the subject of rail joints of the compromise or step type, which are employed to connect rails of different heights and sections, so that the tops and inner sides of these dissimilar rails are supported in alinement.

To this end the invention contemplates a novel construction of compromise rail joint possessing special utility as an improvement upon joint bars of a continuous type that are utilized to provide for the stepping and alining of dissimilar rails.

Heretofore, in the formation of the continuous type of joint bars for use in a compromise or step joint, the bars are generally made of steel or malleable iron castings, and of a design and configuration corresponding to that of the rail sections to be united, besides providing for the stepped relation of the rail supporting base sections by making the base supporting section for the lighter rail thicker than the other, thereby disposing the upper supporting faces of the separate base sections in different elevations, that is, in different horizontal planes.

The well known construction described, involving the idea of a thick, heavy, rail-supporting base section for light rail ends, and a relatively thinner rail supporting base section for heavy rail ends, necessarily provides heavy and somewhat cumbersome joint bars in which one end is much heavier than the other, with the consequence of there being an uneven distribution of weight and material in the joint bar. This feature in the conventional continuous types of joint bars employed in compromise or step joints, is entirely obviated by the present invention, which has in view the provision of a joint bar having a comparatively light and short rail supporting base section so designed and arranged as to provide for the effective support of both rails in their stepped relation.

With these and many other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction,

combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

A practical embodiment of the invention is exemplified by the accompanying drawings, in which:

Figure 1 is a side elevation of a compromise rail joint embodying joint bars constructed in accordance with the present invention. Fig. 2 is a cross sectional view of the joint on the line 2—2 of Fig. 1. Fig. 3 is a similar view on the line 3—3 of Fig. 1. Fig. 4 is an inside perspective view of one of the improved joint bars embodying the present invention. Fig. 5 is a zigzag sectional view of the joint, showing two half cross sections respectively on the lines 5—5 and 6—6 of Fig. 1.

Like references designate corresponding parts in the several figures of the drawings.

As shown in the drawings, the improved compromise rail joint contemplated by the present invention comprises in its general organization the dissimilar service rails 1 and 2 of different height and section, the joint bolts 3, and the oppositely arranged joint bars 4 preferably of the angle bar type.

Each of the joint bars 4, by reason of being preferably of the angle bar formation, is provided with an upright member or splice bar portion 5 formed at its upper edge with a thickened bearing head 6 engaging against the under side of the rail heads, and at the lower edge of the said upright member 5, each joint bar is constructed with an outwardly extending foot flange 7 overlying and contacting with the base flanges 8 of the rails. According to the present invention, each joint bar is so designed as to have integrated with the central or intermediate part of the outer edge portion of the foot flange 7, an inwardly extending rail supporting base section 9; there being a relatively short flange-receiving pocket or space 10 provided between the flange 7 and the base section 9 for the reception of the base flanges of the rails contiguous to the meeting ends of the latter.

The rail supporting base section 9 of each joint bar is of a materially shorter length than the body or upright member 5 of the bar, so as to be located only between the opposite ties T on which the dissimilar rails 1 and 2 rest, as plainly shown in Fig. 1 of the drawings, and on account of the differ-

ence in height of the dissimilar rails 1 and 2, the upper supporting surfaces of the track ties T are necessarily arranged in stepped relation. In this connection, an important feature of the present invention resides in forming the one-piece base section 9 of each joint bar with what may be properly termed separate supporting members 11 and 12 of substantially the same thickness of material and arranged in stepped relation, so that their upper supporting surfaces shall maintain positions in different horizontal planes corresponding to the differential height of the two rails. At a point intermediate its ends, and hence, at the juncture of the separate stepped members 11 and 12 thereof, the said rail supporting base section 9 may be formed with an offset portion 13 materially thicker than the uniform members 11 and 12, and therefore, serving to materially reinforce and stiffen the base part of the joint bar at the center thereof, that is, in the transverse plane of the meeting ends of the rails in the joint.

From the construction described, it will be observed that the portions of the joint bars 5 overlying the track ties T are of the plain angle bar formation, and have no rail supporting base section, and another feature of the invention to which attention is directed is that of having the inner sides of the joint bars, along the end portions thereof, of the standard channeled formation,

while the central portion of each joint bar, above its short base section 9, is filled out at the inner side, as at 14, to provide a central thickened member for the bar, which also contributes to the strength and stability thereof at the weak point of the joint.

I claim:

1. In a compromise rail joint, the rails, and the joint bars each of which is provided intermediate its ends with a base section having supporting surfaces arranged in stepped relation, each bar being further provided with a central thickened portion on its upright member.

2. In a compromise rail joint, the rails, and the opposite joint bars, each of which joint bars is of plain angle-bar formation along its opposite end portion and is provided centrally between its ends with an inwardly extending stepped base section for both rails, each of said bars being further provided above its base section with a thickened part filling out the inner side of the central portion of the upright member of the bar.

In testimony whereof, I hereunto affix my signature in the presence of two witnesses.

VICTOR C. ARMSTRONG.

Witnesses:

BENJ. A. WOLHAUPTER,
J. McNALLY.