

No. 818,385.

C. E. LUNDAHL.
RAIL JOINT.
APPLICATION FILED OCT. 7, 1904.

PATENTED APR. 17, 1906.

Fig. 1.

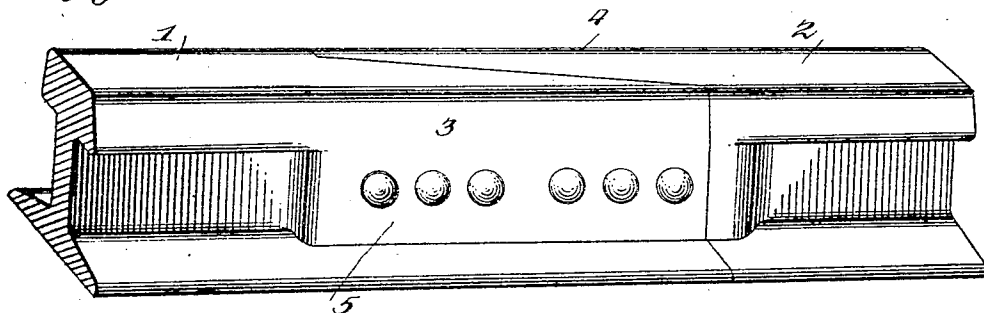


Fig. 2.

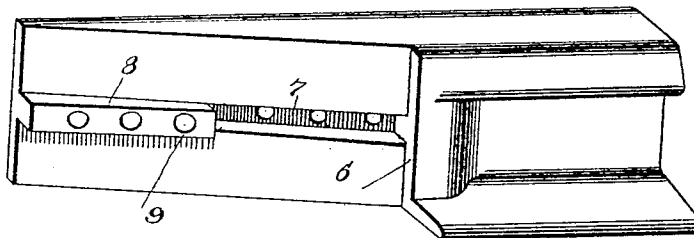


Fig. 3.

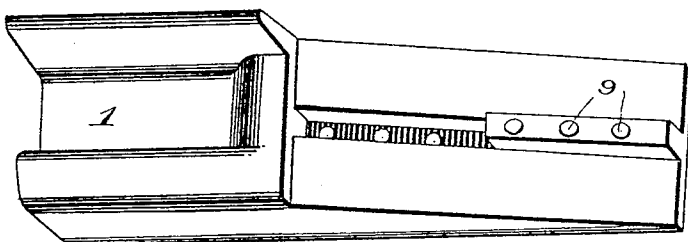
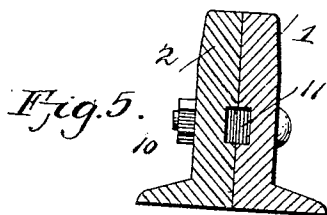
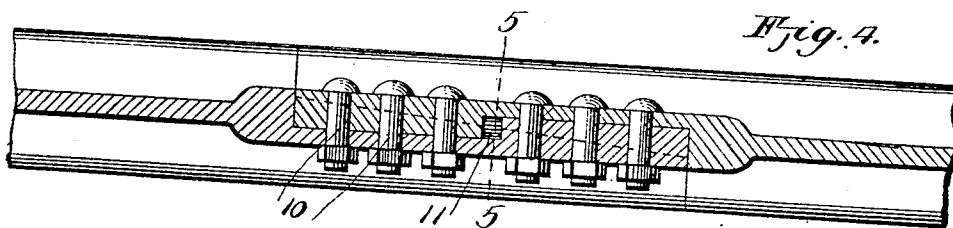


Fig. 4.



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RAIL-JOINT.

No. 818,385.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLIE EMIL LUNDAHL, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented new and useful Improvements in Rail-Joints, of which the following is a specification.

My invention relates to improvements in rail-joints; and its object is to provide a novel, simple, and efficient joint or connection between the meeting ends of rails which will form a smooth tread-surface and prevent pounding of the car-wheels at the joint, which will prevent sagging of the adjoining ends of the rails, which obviates the use of fish-plates and similar splicing devices, which allows free expansion and contraction under climatic changes, and which holds the ends of the rails securely locked or tied together.

With the above and other objects in view the invention consists of the features of construction, combination, and arrangement of parts hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of the meeting ends of rails embodying my invention. Fig. 2 is a perspective view of the end of one of the rails. Fig. 3 is a similar view of the connecting end of the other rail, the rail being inverted. Fig. 4 is a longitudinal transverse section through the coupled rail ends on the line of the securing-bolts; and Fig. 5 is a vertical transverse section on line 5 5, Fig. 4.

Referring more particularly to the drawings, 1 and 2 are adjoining rails whose meeting ends 3 and 4 are halved for overlapping connection, the inner or meeting faces of the said ends 3 and 4 being beveled to form a scarf-joint. As the ends of the rails are alike in construction and differ only in that they are reversed or oppositely arranged, a description of one will suffice for both, and I will therefore proceed to describe the construction of the end 3 of the rail 1. As shown, the web of the rail is enlarged, as indicated at 5, to increase the thickness of the end 3 between the flange and head of the rail, and this enlarged portion is provided with a vertical shoulder 6 at the inner end of the beveled face or inner side of the end 3. From this shoulder 6 extends a longitudinal groove 7, arranged centrally of the beveled face and terminating at its outer end about midway of the length thereof. The beveled face is formed between the said outer end of the

groove and the outer end of the halved portion 3 with a longitudinal tongue or rib 8, extending inwardly at right angles to the plane of the web of the rail. Opening through the outer wall of the groove 7 and extending through the outer end of the end 3 and the tongue or rib 8 are holes 9 for the passage of bolts 10 to secure the ends 3 and 4 of the rails together.

When the ends 3 and 4 of the rails 1 and 2 are joined or coupled together, as shown in Figs. 1, 4, and 5, the tongue 8 of the end 3 of the rail 1 fits within the groove 7 in the end 4 of the rail 2, while the corresponding tongue of the rail 2 fits within the complementary groove in the end of the rail 1, and the outer end of the beveled extremity of each rail engages the abutting shoulder 6 of the other rail. Thus when the parts are so connected the tongues will hold the rail ends 3 and 4 against vertical movement, while the bolts 10 when applied will hold the rails against endwise movement, except to a limited extent to compensate for expansion and contraction. It will be observed by reference to Figs. 4 and 5 that the tongue 8 of the meeting end of each rail is of slightly less length than the groove 8 of the other rail, so that when the rail ends are joined a space 11 will be left between the adjacent ends of the two tongues to allow the parts to have sufficient movement to expand and contract from variations of temperature.

A joint constructed in accordance with my invention as above described is simple, durable, and efficient and securely locks the ends of the rails together without the use of fish-plates or other similar splicing connections, while the interconnecting parts by being arranged and cooperating as described form a smooth joint which will prevent sagging of the rail ends at the joint and pounding of the car-wheels thereon and also securely hold the parts against lateral displacement or deflection.

From the foregoing description, taken in connection with the accompanying drawings, the construction, mode of operation, and advantages of my invention will be understood without a further extended description.

Changes in the form, proportions, and minor details of construction may be made within the scope of the invention without departing from the spirit or sacrificing any of the advantages thereof.

Having thus described the invention, what is claimed as new is—

1. A rail having an end formed with a beveled face extending obliquely to the plane of the rail and terminating at its inner end in a square shoulder, said face being formed with a central longitudinal groove extending outwardly from said shoulder, and a rib between said groove and the outer end of said beveled face, said rib having its contact-face disposed coincident with or parallel to the plane of the rail and being of slightly less length than the groove substantially as described.

2. In a rail-joint, the combination with rails provided with halved overlapping ends beveled upon their inner faces obliquely to the plane of the rails to form a scarf-joint, each of said ends being formed at its inner extremity with a square shoulder and formed upon its beveled face with a longitudinal groove extending from said shoulder to a

point about midway the length of the beveled face, and a tongue projecting from said beveled face between the outer end of said groove and the outer extremity of the rail end, said tongue having its contact-face disposed coincident with or parallel to the plane of the rail and being formed at its inner end with a straight transverse shoulder, and fastenings for connecting the rail ends together, the grooves in the respective ends of the rails exceeding in length the coacting tongues to provide an intervening space between the inner ends of the tongues to allow for expansion and contraction of the joint substantially as described.

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

CHARLIE EMIL LUNDAHL.

Witnesses:

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G. DE WITT HEDDING.