

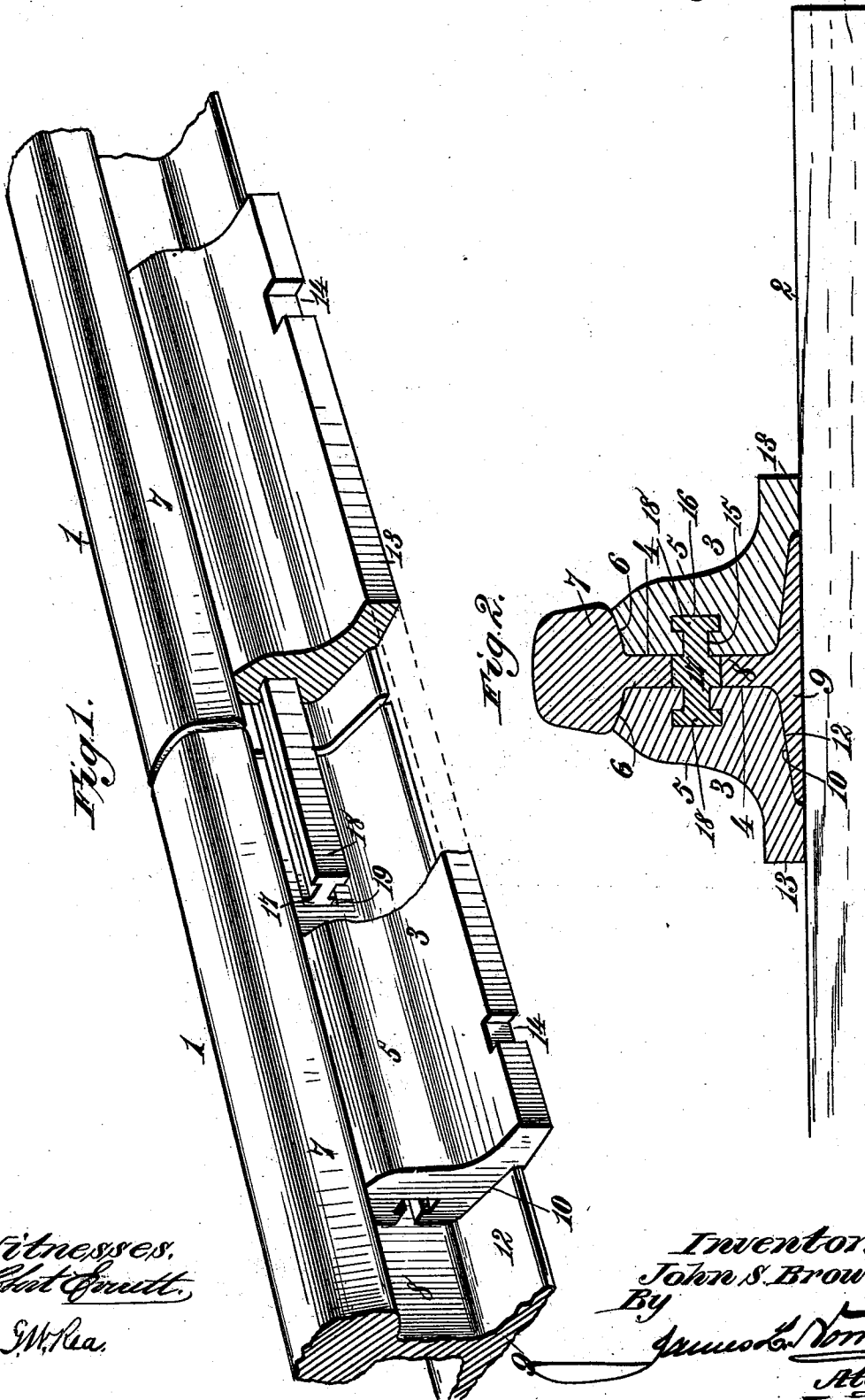
(No Model.)

2 Sheets—Sheet 1.

J. S. BROWN.
RAILWAY JOINT.

No. 503,071.

Patented Aug. 8, 1893.



Witnesses,
Robert G. Smith,
J. W. Rea,

Inventor,
John S. Brown,
By
James H. Norris,
Atty.

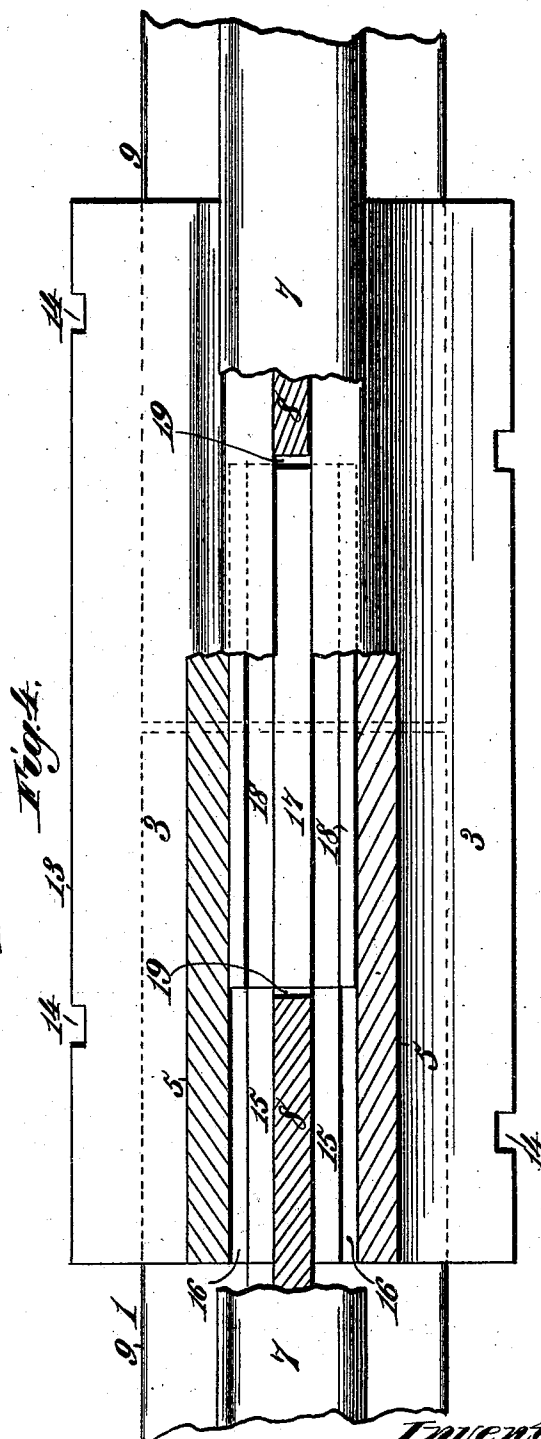
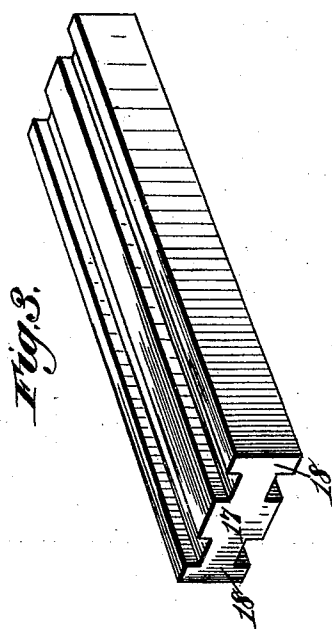
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Inventor:
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UNITED STATES PATENT OFFICE.

JOHN S. BROWN, OF GALVESTON, TEXAS.

RAILWAY-JOINT.

SPECIFICATION forming part of Letters Patent No. 503,071, dated August 8, 1893.

Application filed December 31, 1892. Serial No. 456,907. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. BROWN, a citizen of the United States, residing at Galveston, in the county of Galveston and State of Texas, have invented new and useful Improvements in Railway-Joints, of which the following is a specification.

This invention relates to railway rail joints, or couplings of that type wherein the chairs at the sides of the rails have a dovetail connection with a connecting block or tie extending through the webs of the rails.

The objects of my invention are to improve the prior construction and render the connecting block susceptible of being adjusted, and also capable of removal laterally from the rails after detaching either one of the chairs, or lengthwise from the end of either rail after detaching the chairs.

To accomplish this object my invention consists in the combination with rails having longitudinal slots in their webs, and chairs having dovetail channels in their inner faces, of a detachable head-block fitting the slots in the rail webs and formed with dovetail projections which engage the dovetail channels, and are of such dimensions as to pass laterally through the slots in the rail webs, whereby the head-block with its dovetail projections can be removed and replaced laterally with respect to the rails by detaching either one of the chairs.

In the accompanying drawings—Figure 1 is a perspective view illustrating my invention. Fig. 2 is a transverse section of the parts shown in Fig. 1. Fig. 3 is a detail view of the head-block, removed from the coupling or chair. Fig. 4 is a view partly in plan, and partly in horizontal section, showing the several parts of the coupling in connection with the ends of the rails.

The reference-numeral 1 in said drawings indicates the railway-rails, which are of the usual pattern, commonly known as T rails. I have shown in the drawings only those portions of said rails which are immediately connected with the coupling, or chair, constituting my invention. The numeral 2 denotes the sleepers, or ties, to which the said rails are spiked in the ordinary manner, except at the ends, where they are supported by the chairs, or couplings. Each chair is composed

of two lateral parts or members, 3, substantially identical in form and construction. Each member, when viewed, in transverse section, or end elevation, will be seen to consist of a solid bar, or block, of metal, or other suitable material, or materials, having a substantially vertical inner face, 4, and an outer inclined face 5, which converges upwardly, toward the vertical face 4. Upon the upper edge of each member is formed a comparatively narrow face 6, usually having a slight transverse concave, or such other formation as will enable it to fit closely upon the lower face of the T head 7 upon one side of the vertical web 8. The width of the vertical face 4 of each part 3 is such as to enable it to occupy the space between the head 7, and foot 9 of the rail, its width being substantially equal, therefore, to the height of the rail-web 8. As the upper face 6 corresponds practically, with the shape and inclination of the lower face of the head of the rail, upon one side of the web, so, also, the lower face 10 of said member 3 is so formed and inclined that it will lie upon the upper, slightly inclined face 12 of the foot of the rail. Upon the lower and outer edge of the part 3 is formed a thick, strong, rail, or bar, 13, which lies against, or immediately adjacent to, the outer margin of the rail-foot, the lower face of said rail, or bar, being brought into the plane of the lower face of the rail-foot 9, which rests upon the sleepers. One or more notches, or recesses, 14 are formed in said rail or bar 13, to receive spikes which fasten it securely to the sleeper, or sleepers. In the inner, vertical face 4 is formed a slot, or channel 15, parallel with and intermediate of the upper and lower edges of the vertical face. This slot, or channel, communicates with a channel 16, extending on both sides of the channel 15, the two channels thereby forming a T-shaped, longitudinal channel, resembling, approximately, a dove-tail. The channel 15 opens through the vertical face 4 of the part 3, at a point not far from mid-way between the upper and lower margins of the rail-web 8. Each part, or member 3, is substantially identical in construction with the other part, so that a description of one will suffice for both. The two members 3 of the chair are positively

connected by a head-block 17, having substantially the thickness of the web 8 of the rail, and of such width, measured vertically, as to afford the necessary strength and rigidity. Upon its opposite vertical sides are formed similar T bars or dovetail-projections 18, having such size and proportions that they can enter the channels 15 and 16 in the members 3 and fit therein as closely as is consistent with the longitudinal movement, or adjustment of the head-block. Open slots 19 are cut into the ends of the webs 8 of the rails, at such a point and of such length that the head-block 17 will enter the same and afford a support of great strength and rigidity to the abutting ends of the rail. Displacement of the head-block is prevented by the ends thereof abutting against the closed ends of the slots 19 in the webs. The head-block 17 and the heads of the T-bars or dove-tailed projections 18 are approximately coextensive in height with the slots 19 in such a manner that the head-block 17 with its T-bars or dove-tailed projections 18 can be inserted into or removed from the slots in the rails in a lateral or sidewise direction, which obviously could not be effected if the dove-tailed projections 18 were of a height greater than the height of the slots 19.

My construction is desirable, in that the head-block can be quickly and rapidly adjusted to the required position, and also removed laterally from the slots in the rail webs after detaching either one of the chairs.

My invention affords a coupling, or chair, of simple and comparatively cheap construction, capable of giving a support to the rail-ends of such character that they will be maintained permanently in their true alignment, prevent the pounding and speedy destruction of their abutting ends, sustain the treads of the rails in the same true level or line to ren-

der the passage of the wheels smooth, safe, and without increased noise, and at the same time permitting the free expansion and contraction of the parts without causing displacement and especially avoiding the wear and tear produced by such causes, when the rail and its couplings are connected by bolts, or rivets.

My improved construction affords a coupling in which the number of parts is reduced to the minimum, the employment of bolts, or rivets, is wholly avoided, and a positive and rigid coupling connection provided to unite the opposite laterally arranged members, said connection having all the strength, rigidity, and durability afforded by bolts, or rivets, while permitting the head block to be easily removed lengthwise from either rail after the chairs are detached.

What I claim is—

The combination with the rails having longitudinal slots 19 in their webs, and chairs 3 having dove-tailed channels in their inner faces, of an adjustable head-block 17 fitting the slots in the rail-webs and formed with dove-tailed projections 18 which engage the dove-tailed channels, and are of such dimensions as to pass laterally through the slots in the rail webs, whereby the head-block with its dove-tailed projections can be removed and replaced laterally with respect to the rails by detaching either one of the chairs, substantially as described.

In testimony whereof I have hereunto set my hand and affixed my seal in presence of two subscribing witnesses.

JOHN S. BROWN. [L. s.]

Witnesses:

THEO. NASH,
WM. B. HIX.