No. 630,444. Patented Aug. 8, 1899.

P. BROWN.

RAIL JOINT.

(Application filed Sept. 2, 1898.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

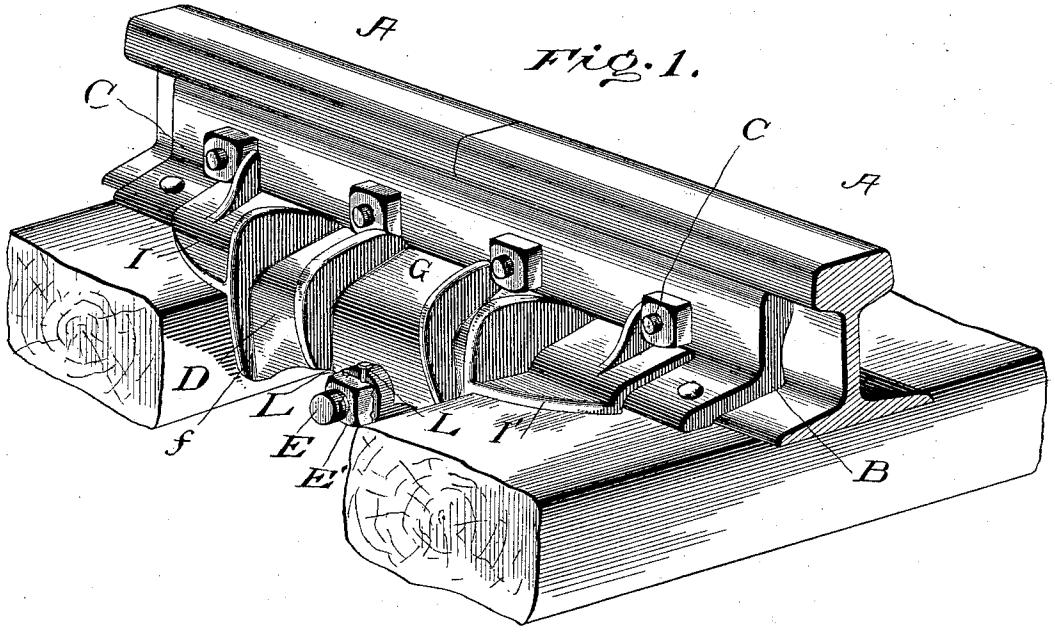


Fig. 2.

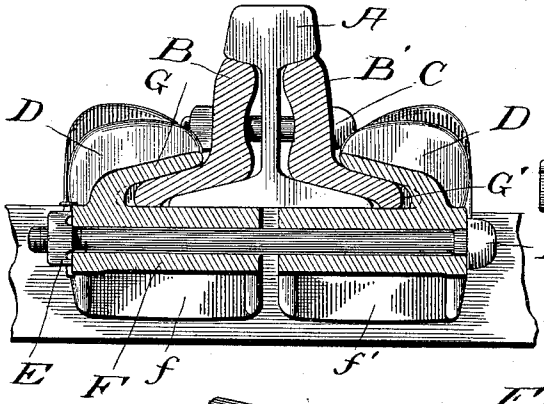


Fig. 4.

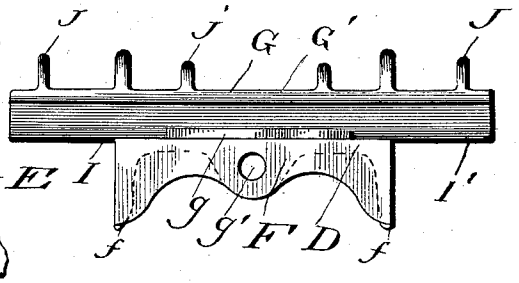
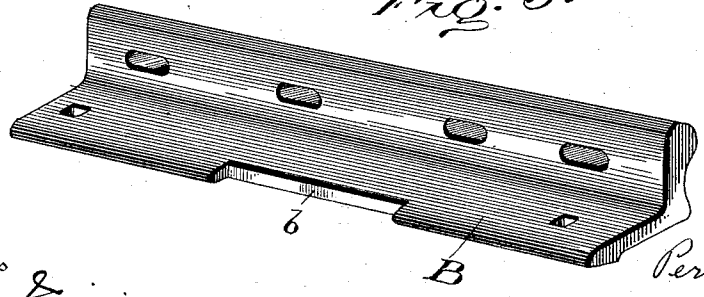


Fig. 5.



Witnesses
Jos. Timmie
Thos. E. Robertson.

Inventor
Perry Brown
By T. J. W. Robertson
Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 630,444. Patented Aug. 8, 1899.

P. BROWN.

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(Application filed Sept. 2, 1898.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 3.

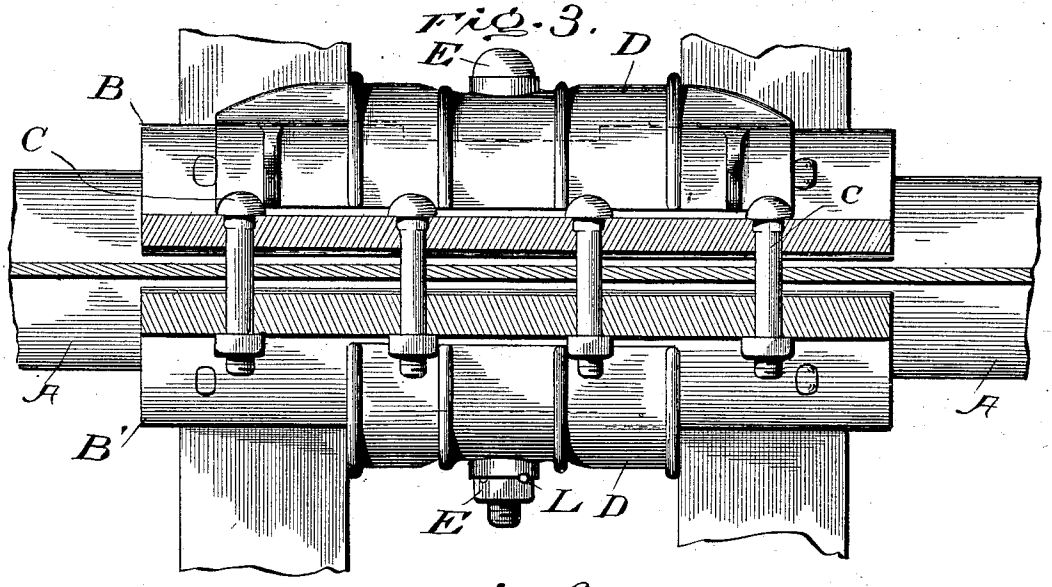


Fig. 6.

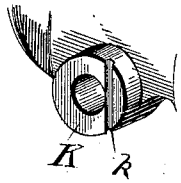


Fig. 7.



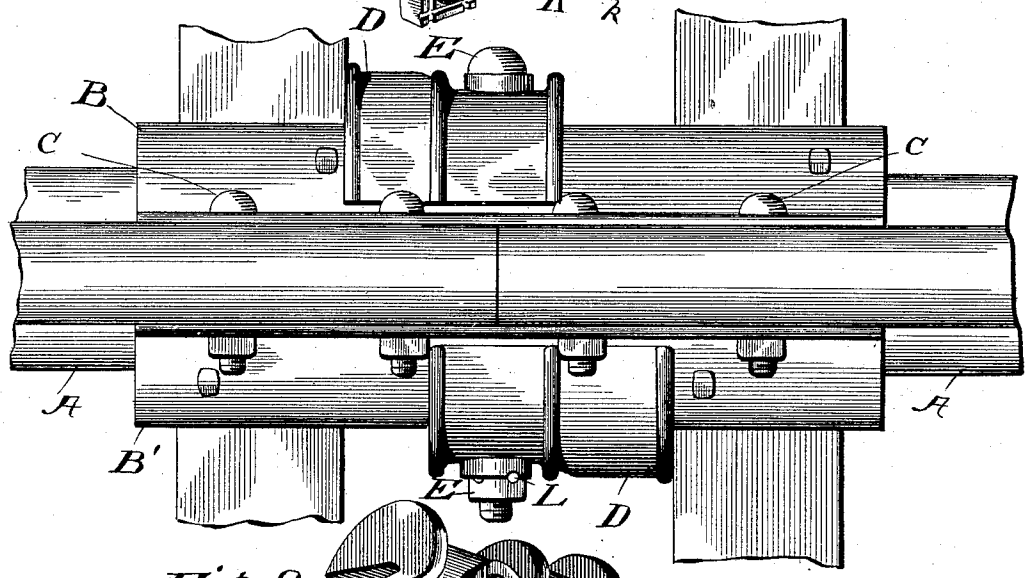
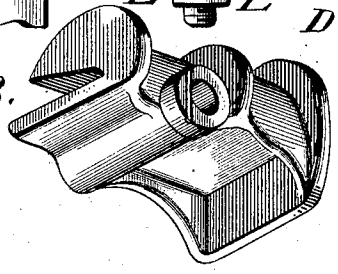


Fig. 8.



Witnesses
Jno. Imrie
Thos. E. Robertson.

Inventor
Perry Brown
By T. J. W. Robertson
Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

PERRY BROWN, OF WILMINGTON, DELAWARE.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 630,444, dated August 8, 1899.

Application filed September 2, 1898. Serial No. 690,123. (No model.)

To all whom it may concern:

Be it known that I, PERRY BROWN, a citizen of the United States, residing at Wilmington, in the county of New Castle, State of Delaware, have invented a certain new and useful Improvement in Rail-Joints, of which the following is a specification, reference being had to the accompanying drawings.

This improvement relates to that class of rail-joints in which there is a casting on each side of the rail, which castings are held together by a bolt passing through them beneath the foot of the rail; and the invention consists in the peculiar construction, arrangement, and combinations of parts hereinafter more particularly described and then definitely claimed at the end hereof.

In the drawings accompanying this application, Figure 1 represents a perspective view of part of a rail and one side of my rail-joint in its preferred form. Fig. 2 is a longitudinal cross-section of the same. Fig. 3 is a longitudinal section taken on a line running through the bolts of the fish-plates, but showing the casting on the lower side of the joint of a slightly-modified form. Fig. 4 is a side elevation of one of the castings looking at the inside thereof. Fig. 5 is a perspective view of one of the angle-bars or fish-plates. Fig. 6 is a detail perspective of the nut-lock for the castings. Fig. 7 is a top plan of a modified form, and Fig. 8 is a perspective view of one of the castings of the same.

Referring now to the details of the drawings by letters and more particularly to the first six figures, A A′ represent the ends of the rail, which are secured together by means of the angle-bars or fish-plates B B′ and the bolts C in the usual manner. This is the joint ordinarily used and is so common as to need no further mention. On each side of this joint I place a casting D, and these castings are secured together by the bolt E and nut E′, as shown in the drawings and as more particularly hereinafter described. The preferred form of these castings is shown in perspective in Fig. 1 and is also seen in Figs. 2, 3, 4, and 5 and comprises a main portion F, provided with feet *f f′*, which extend down and fit against the ties, as shown in Fig. 1. Rising from this main portion F and extending partially over the same is a flange G, and between this flange and the main portion F is formed a recess G′, which allows the casting to be slipped over the fish-plate and rail, as clearly shown in Fig. 2. The fish-plate is preferably cut away, as shown at *b* in Fig. 5, and a corresponding projection *g* is formed inside the recess G′, which when the casting is secured in place fits the cut-away portion *b* of the fish-plate B, and thus securely prevents the rails and its fish-plates from slipping or creeping on the ties. This projection *g* and cut-away portion *b*, however, are not absolutely necessary and may be dispensed with if preferred.

The flange G is preferably made to extend over each of the ties, as shown in I I′ in Fig. 1, and thus the casting is not only held from longitudinal movement by means of the feet *f f′*, but is given a firm support or seat on the ties by means of said portions I I′. For the purpose of strengthening these castings I form on each one of them ribs J J, and the end and two central ribs are so situated as to fit up against one side of the nuts on the fish-plate for the purpose of preventing said nuts from loosening or coming off. Through each of these castings is formed an aperture or bolt-hole *g′*, which apertures are in line with each other, and through each passes the bolt E, before referred to, on which bolt a nut E′ is screwed to hold the two castings together. A hub is formed on each casting to form surfaces against which the head of the bolt and the nut may fit. In the hub K of the casting A is formed a groove *k*, and in the said nut E′ are formed a plurality of grooves *e′*, as clearly shown in Fig. 6, and after the nut is adjusted a pin or cotter L is slipped through the opening made by one of these grooves *e′* and the groove *k′*, and thus the nut is securely locked in position.

On the lower side of Fig. 3 is shown a modified form of the casting, but a careful inspection of the drawings will show that it is precisely the same as the preferred form before described, with the exception that the seats or supports I I′ are left off.

In Figs. 7 and 8 is shown another modification where one section of the casting is entirely left off, which leaves only a simple casting formed with a foot to abut against the tie, as before described, and the ribs to hold the

two central nuts from shaking loose. As will be seen from the drawings, these castings are reversible, and one fits against the inner edge of one tie and the other against the inner edge of the opposite tie.

The essential features of my improvement are shown in each of the modifications—viz., the casting on each side of the rail provided with a recess or pocket to receive the fish-plate and rail and having a heavy or body portion which forms a seat for said rail, which castings are secured together by a single bolt and which are provided with feet to extend down and engage with the side of the tie and which also have ribs which serve to strengthen the casting and also to lock the nuts on the bolts projecting through the fish-plates.

What I claim as new is—

1. A rail-joint comprising two parts constructed and arranged to fit over the side of the fish-plate and having a heavy or body portion forming a seat under the rails, a bolt passing through said parts and firmly holding the rail ends and fish-plates between them, projections and recesses between the fish-plates and said two parts, and a foot on the said parts and extending down and coacting with the tie to prevent the rail from creeping or slipping, substantially as described.

2. A rail-joint comprising fish-plates, bolts securing them to the rails, body portions forming a seat or support for said rails and having means for locking the nuts as said body portions are placed in position, and a bolt securing said body portions together, substantially as described.

3. A rail-joint comprising two parts constructed and arranged to fit over the side of the fish-plate and having a heavy or body portion forming a seat under the rails, a bolt passing through said parts and firmly holding the rail ends and fish-plates between them, ribs on said parts arranged to coact with the bolts on the fish-plates and prevent them from loosening or turning, substantially as described.

4. A rail-joint comprising two parts constructed and arranged to fit over the side of the joint and having a heavy or body portion forming a seat for the rails, a bolt passing through said parts under the rails and firmly holding said rails between said parts, a nut for said bolt, and grooves in said nut and the part against which it fits, whereby a cotter or pin may be placed in said grooves and thus form a nut-lock, substantially as described.

5. A rail-joint comprising two parts constructed and arranged to fit over the sides of the fish-plates and having a heavy or body portion forming a seat under the rails, ribs on said portions coacting with the nuts on the fish-plates and preventing them from loosening, a bolt passing through said parts to hold the fish-plates and rails between them, a nut on said bolt, and grooves between said nut and the part against which it contacts, whereby a cotter or pin may be placed in said grooves and thus form a nut-lock, substantially as described.

6. A rail-joint comprising two parts constructed and arranged to fit over the sides of the fish-plates and having a heavy or body portion forming a seat under the rails, ribs on said parts coacting with the nuts on the fish-plates and preventing them from loosening, a bolt passing through said parts to hold the rails and fish-plates between them, a nut on said bolt, feet projecting downwardly from said parts and arranged to fit against the side of the tie, and flanges projecting horizontally to form a seat or support on the top of the tie, substantially as described.

7. A rail-joint comprising two parts constructed and arranged to fit over the sides of the fish-plates and having a heavy or body portion forming a seat under the rails, ribs on said parts coacting with the nuts on said fish-plates and preventing them from loosening, a bolt passing through said parts to hold the rails and fish-plates between them, a nut on said bolt and grooves between said nut and the part against which it contacts, whereby a cotter or pin may be placed in said groove and thus form a nut-lock, feet projecting downwardly from said parts and arranged to fit against the side of the tie, and flanges projecting horizontally to form a support on the top of the tie, substantially as described.

In testimony whereof I affix my signature, in the presence of two witnesses, this 25th day of August, 1898.

PERRY BROWN.

Witnesses:
THOS. E. ROBERTSON,
ALFRED ROBERTSON.