

J. G. McMICHAEL.
RAIL JOINT.
APPLICATION FILED OCT. 25, 1909.

973,952.

Patented Oct. 25, 1910.

2 SHEETS-SHEET 1.

Fig 1

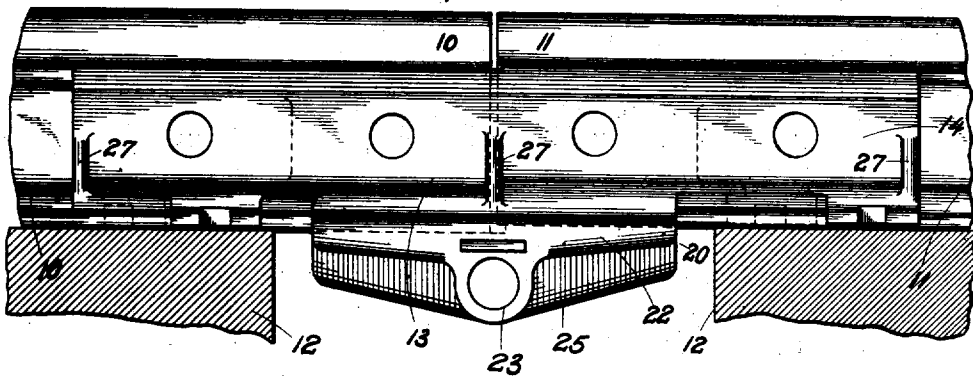


Fig 2

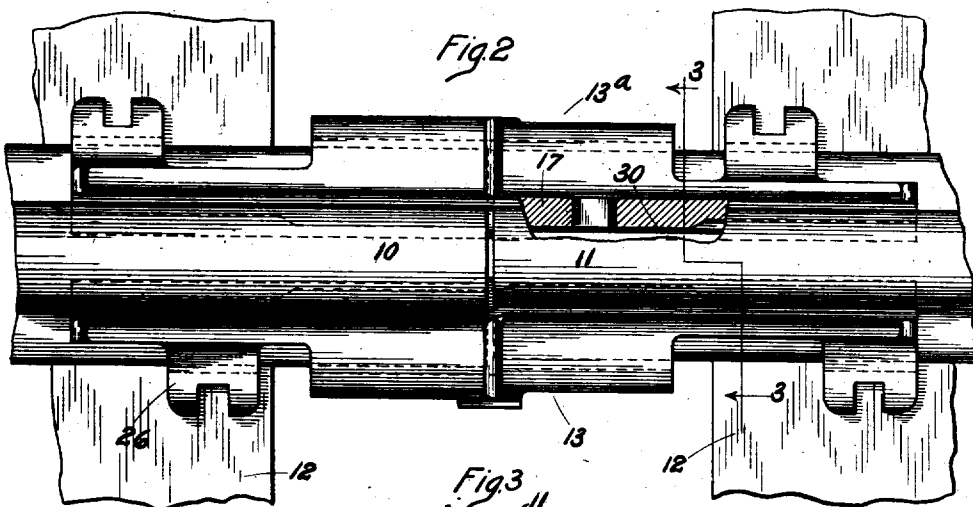
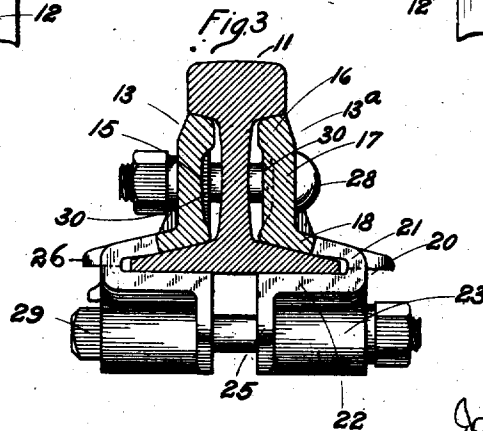


Fig 3



WITNESSES:

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2 SHEETS—SHEET 2.

Fig 4

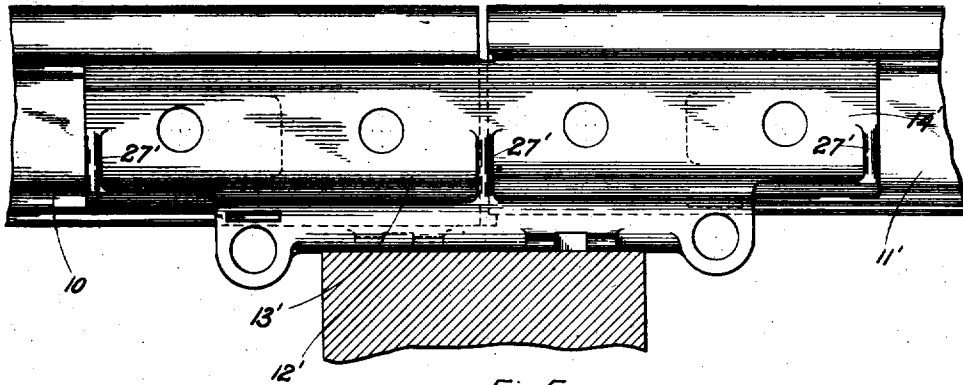


Fig 5

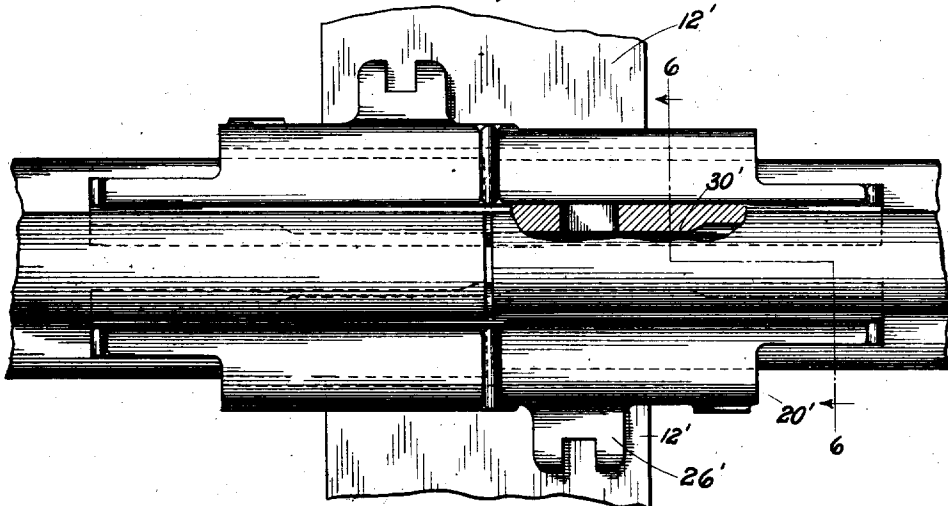
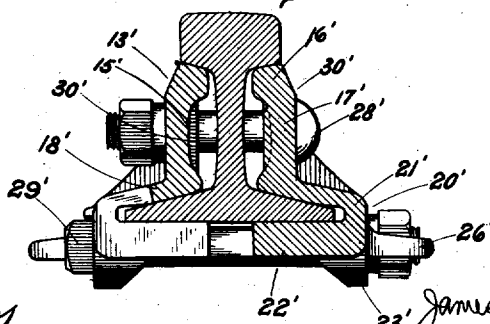


Fig 6



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JAMES G. McMICHAEL, OF CHICAGO, ILLINOIS.

RAIL-JOINT.

973,952.

Specification of Letters Patent.

Patented Oct. 25, 1910.

Application filed October 25, 1909. Serial No. 524,554.

To all whom it may concern:

Be it known that I, JAMES G. McMICHAEL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

My invention relates to improvements in rail joints, and has for its general object to provide a joint construction especially adapted to be made in cast metal, as steel or malleable iron, which will combine great strength and facility of application with low weight, comparative cheapness in cost, and ease of manufacture.

Other advantages of my invention will become apparent to those skilled in the art from the following description taken in conjunction with the accompanying drawings, in which—

Figure 1 is a side elevation of the rail joint of the suspended type; Fig. 2 is a plan view of the same with parts broken away; and Fig. 3 is a section on line 3—3 of Fig. 2. Figs. 4, 5, and 6, are views similar in character to Figs. 1, 2, and 3, respectively, showing the application of some of the features of my invention to a supported rail-joint.

In the drawings, 10 and 11 indicate the meeting rail-ends,—herein shown as specifically different in form for joinder to a compromise joint,—and 12—12 indicate ties of the road bed.

Referring specifically to the embodiment of my invention shown in Figs. 1 to 3, 13 and 13^a indicate respectively companion halves of the joint, made, of course, right- and left-handed. The joint section or half comprises an angle-plate portion, 14, preferably dished, as at 15, on its inner side, providing a head part, 16, conforming to the under side of the rail head, the generally upright web portion, 17, extending the depth of the rail web, and an angular base portion, 18, conforming to the upper surface of the rail base near the web to rest thereon. These parts extend the full length of the joint. Each section has integrally connected with its angle plate 14 a base-supporting portion, 20, local to the central part of the joint to underlie the plane of juncture of the rails, said base-supporting portion 20 of each section comprising a folded part, 21, enveloping the edges of the rails, a seat portion, 22, extending under the contiguous part of the rail bases, and a bolt-

receiving boss, 23, depending from the seat 22. In the suspended-type joint, the base-supporting portion 20 is short enough to lie between ties, the seat portion 22 preferably tapering in thickness from its central portion toward both ends and having but a single bolt lug, 23, strengthend on both sides by laterally disposed ribs, 25, depending from the inner edge of the seat portion 22. At each end, beyond the central base-supporting part, 20, each member is provided with a spike ear, 26, extending down to the plane of the subjacent tie 12, said ears 26 on the companion sections being preferably staggered, as shown. The web portion 17 of each joint section is reinforced at both ends and at its center by ribs, 27, angling outwardly from about the mid-portion of the web to the edge of the base portion 18. Suitable bolts, 28, are, of course, provided to cross-connect the companion joint members through the web of the rail, and a machine bolt, 29, is provided to connect the base-supporting members below the rail through the bolt lugs, 23. Further to reinforce the rail, I provide a longitudinal reinforcement 30, extending opposite the central part of the rail, preferably beyond the longitudinal limits of the base-supporting portion 20, such reinforcement being preferably put on the inner side of the joint section within the dished portion thereof.

In adapting the invention to a supported joint, as shown in Figs. 4 to 6, the angle-plate arrangement may be substantially that heretofore described, but the base-supporting portions 20' are elongated to a length greater than the width of the tie and are flat on their under surface for contact with the tie, there being provided bolt lugs, 23', at both ends of each base-supporting seat, 22', and the reinforcement, 30', not necessarily being of such length as to extend beyond the length of the base-supporting seat. The ears, 26', provided upon this form of joint need be but one to each section, arranged to rest upon the supporting tie 12'.

In the drawings I have illustrated the invention as embodied in a compromise joint for dissimilar rails, but it will be obvious that only a slight change would be necessary to provide the same joint for plain or similar rails.

It will be observed that in using the suspended type shown in Figs. 1 to 3, it is not necessary to depress the tie or raise the rail

from the ordinary line of contact, as the end portions of the joint overlying the ties and secured thereto have no rail-underlying bases.

5 The joint as above described is cheap and simple of manufacture, is easy to apply, has great strength and efficiency, and the bolt-
10 ing beneath the rails through the base-supporting portion tends always to maintain proper and efficient positioning of the joint members relative to the rail.

What I claim is:

15 In a rail joint, the combination of an angle-bar part, comprising a head, shaped to interfit beneath the head of a rail, a web portion coincident with the web of the rail and internally dished, and an angle-bar portion arranged to overlie the upper surface of the base of the rail throughout its length; with

a base-supporting portion extending only a 20 part of the joint-length and arranged at the middle thereof, comprising a folded part embracing the edge of the rail base, and a seat member for extending beneath the rail 25 base, said base-receiving seat providing a bolt-receiving boss extending below and transversely of the center of the seat portion coextensive with the width thereof and flanged by ribs, extending longitudinally below the seat portion near the center of the 30 rail.

In testimony whereof I hereunto set my hand in the presence of two witnesses.

JAMES G. McMICHAEL.

In the presence of—

W. LINN ALLEN,
MARY F. ALLEN.