No. 724,922. PATENTED APR. 7, 1903.

J. G. McMICHAEL.

RAILWAY RAIL JOINT.

APPLICATION FILED MAY 20, 1901.

NO MODEL.

Fig. 1.

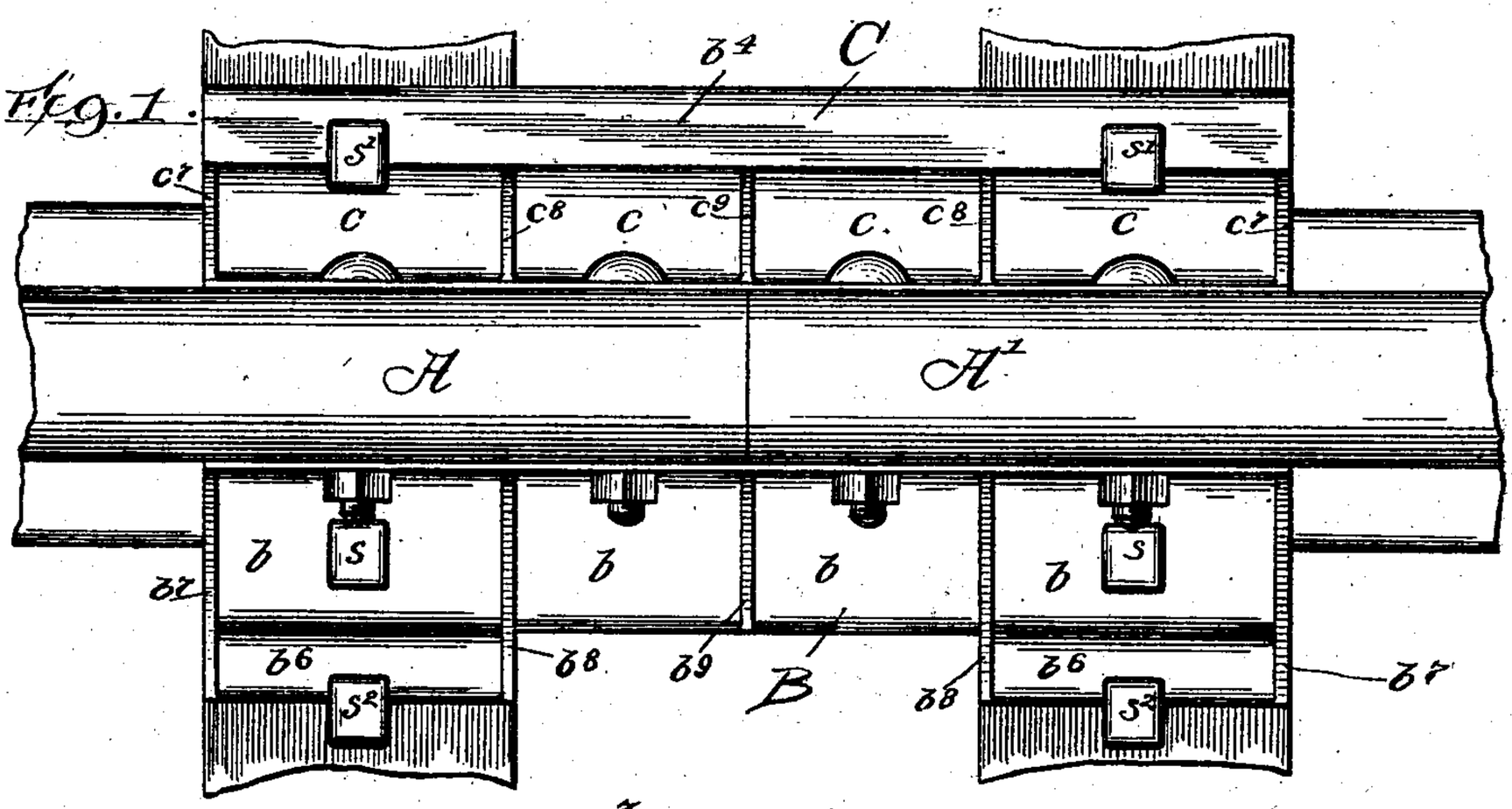


Fig. 2.

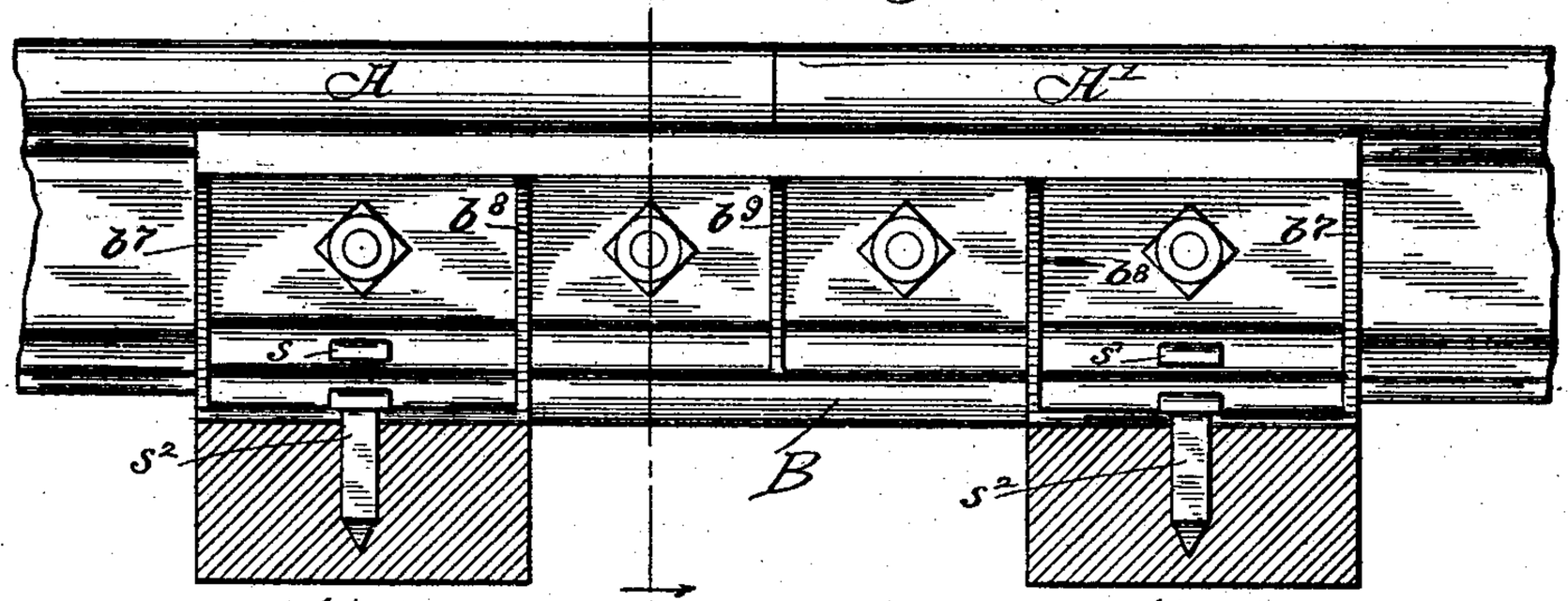
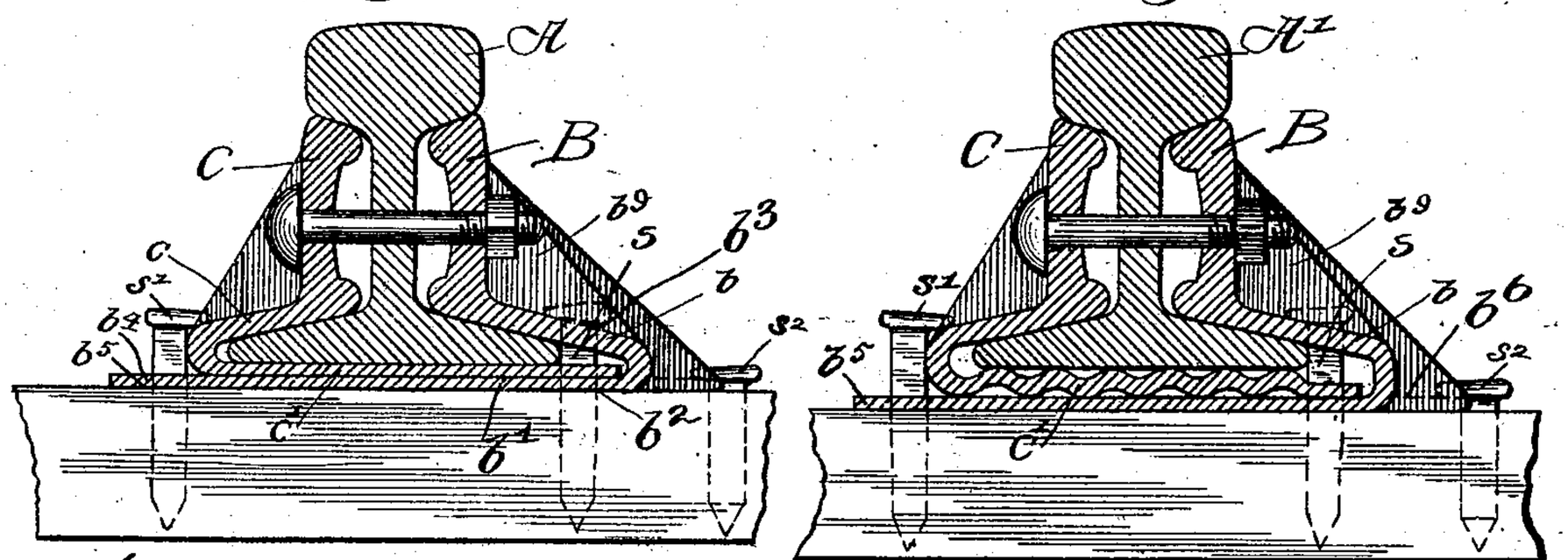


Fig. 3.

Fig. 4.



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UNITED STATES PATENT OFFICE.

JAMES G. McMICHAEL, OF CHICAGO, ILLINOIS.

RAILWAY-RAIL JOINT.

SPECIFICATION forming part of Letters Patent No. 724,922, dated April 7, 1903.

Application filed May 20, 1901. Serial No. 61,013. (No model.)

To all whom it may concern:

Be it known that I, JAMES G. MCMICHAEL, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Railway-Rail Joints; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in railway-rail joints.

The object of my invention is to provide a joint by which the rails will be held in perfect alinement in all directions.

A further object of my invention is to provide a joint having a large base-surface immediately over the ties upon which the joint rests, so that the weight of the passing trains will be carried by a larger surface than is usual with such joints.

A further object of my invention is to lock the base portion of the joint under the rail to prevent the said base portion from creeping out from under the rail when the pressure is applied immediately above the joint.

With these and other objects which may appear my invention consists in the constructions and combinations hereinafter claimed.

In the drawings, Figure 1 is a plan view of my joint applied to two abutting ends of adjacent rails, showing two adjacent cross-ties upon which the said joint rests. Fig. 2 is a side elevation showing the cross-ties in section. Fig. 3 is a section through line 3 3 of Fig. 2. Fig. 4 is a modification taken on line 3 3 of Fig. 2.

In all of the views the same letters of reference indicate similar parts.

A and A′ are the abutting ends of the railway-rails.

B is one of the members or sections of my joint. C is a similarly-formed member or section to be placed on the opposite side of the rail to constitute the said joint. The angle-bar portions of the sections are held to the rail by means of four or more bolts, which pass through the rails and the said sections and are tightened therein for this purpose. The folded portion b extends from the said angle-bar and terminates in the base-plate b'. This base-plate extends laterally beyond the joint and is perforated at b^4 for a spike s^2. It is also perforated at b^2 and b^3 for a spike s. The base-plate b' also extends laterally in the opposite direction beyond the folded portion, as shown at b^6. A series of ribs b^7, b^8, and b^9 join the fish-plate with the angle-folded portion b. These ribs are not essential; but when the joints are cast they add considerably to their strength. If, however, the joint is rolled instead of being cast, these ribs may be left off. The section C has similar parts, which are indicated by reference-letter c, to the section B. The base-plate c' is intended to be included between the base of the rail and the base b' of section B. This base-plate is also provided with perforations for the spikes s. In the modification shown in Fig. 4 the base part c' is shown corrugated for the purpose of providing an element of elasticity between the base of the rail and the tie. The effect of this elastic quality of the joint is to prevent sudden and abrupt concussion and jars to the machinery of the train as it passes over the joint, and it further provides a means whereby all of the parts of the joint are held under tension and in position with respect to themselves and to the rail. When the two sections are drawn together by means of the lateral bolts and into contact with the rails, the tension provided by the corrugated base serves to hold all of the parts under tension and in position. Therefore the parts are not so liable to become loosened by jar or by the number of concussions applied to the joint as the trucks of the train pass over it. The perforations in the sections for the spikes s are so made that the spike when it enters the said perforations draws all the parts of the base close up and in proper position, and they are thereby maintained in this position. It is impossible for them to creep out from under the rail when the pressure due to the passing train is applied thereto.

It will be noticed that the corrugated base c' has a metallic bearing upon the under part of the rail and upon the upper portion of the base b', and therefore the resilience of this elastic portion of the joint is not impaired, as, for instance, it would be if the said portion was located immediately upon the top of the yielding tie.

Having described my invention, what I claim as new and useful, and desire to secure by Letters Patent of the United States, is—

1. A railway-rail joint comprising two similar members, a vertical longitudinally-extending plate adapted to fit between the under surface of the head and the top surface of the rail-flange, a base portion extending under the rail, an intermediate folded portion, the base portion of one of the members adapted to be contained between the base portion of the other member and the rail, and corrugations in the intermediate base portion, substantially as set forth.

2. A railway-rail joint comprising two complementary members each having a vertical portion adapted to fit between the head and base flange of a rail, a flat base portion adapted to extend beneath the rail, and a folded intermediate portion adapted to embrace the rail-flange, the flat portion of one of said members being arranged to be superposed upon the flat portion of the other to be laterally slidable thereon, and provided with a perforation, and the folded portion of the exterior member being extended beyond the rail-flange and provided with a perforation arranged intermediate the rail-flange and the exterior of the folded portion and adapted to be brought into registering alinement with the perforation in the flat portion of the interior member, and a spike having a pointed end adapted to be inserted through said registering perforation whereby said members may be drawn together by the spike when the parts are assembled, substantially as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JAMES G. McMICHAEL.

In presence of—
FORÉE BAIN,
M. F. ALLEN.