(No Model.)

J. M. BROSIUS.

RAILWAY RAIL.

No. 367,500. Patented Aug. 2, 1887.

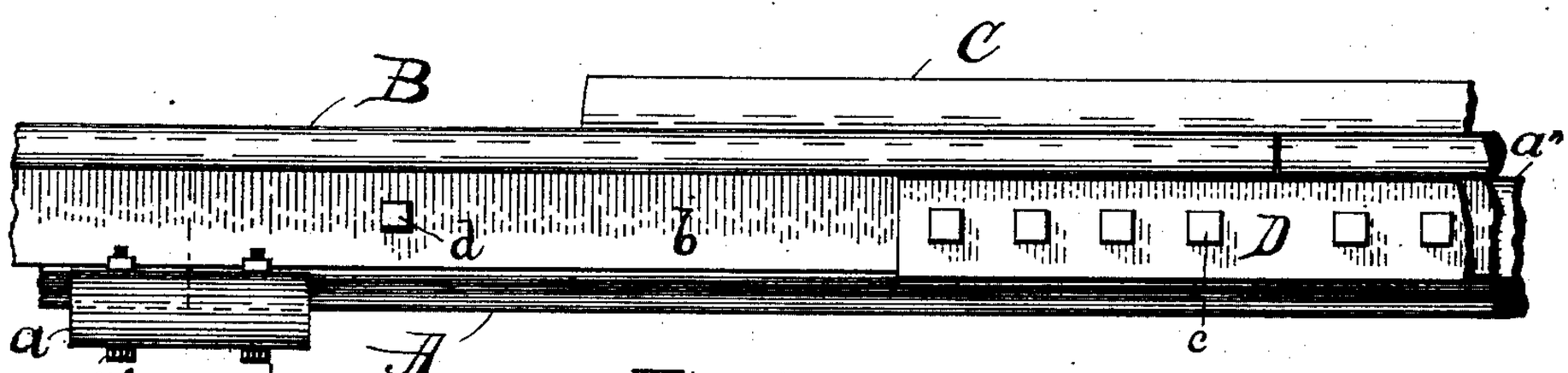

Fig. 1.

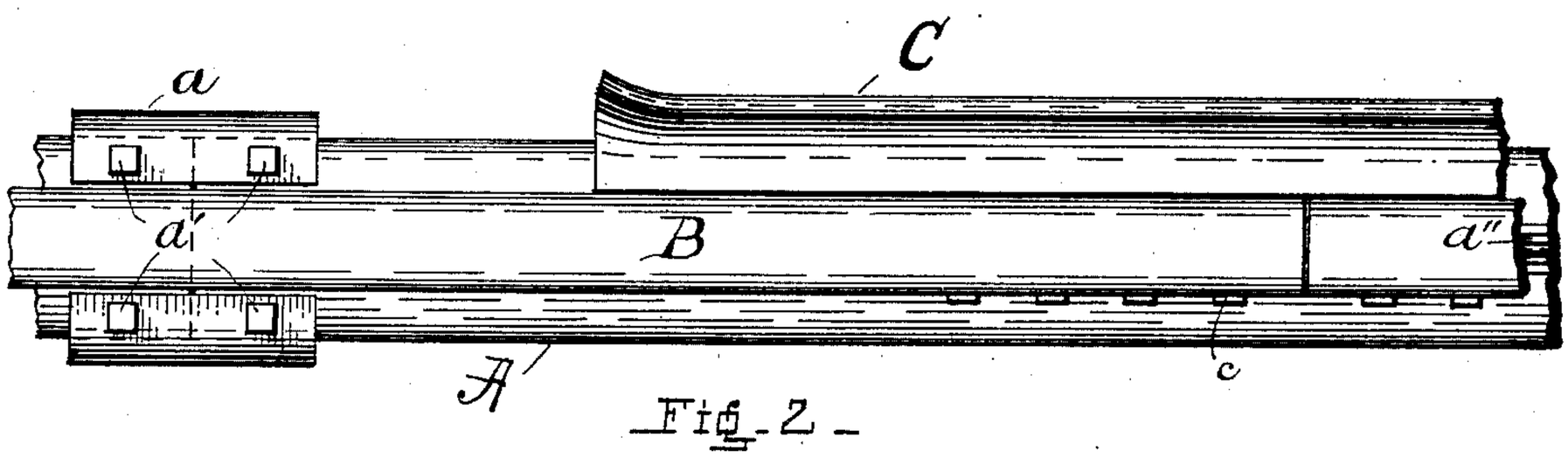

Fig. 2.

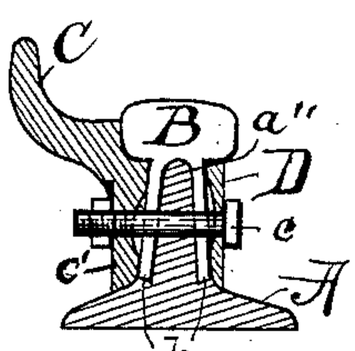

Fig. 4.

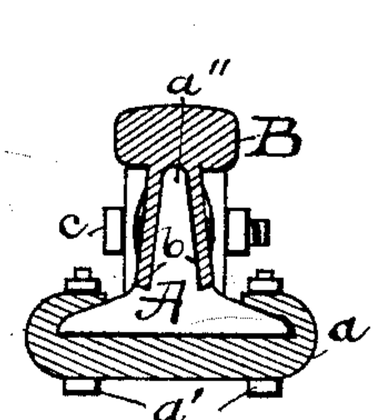

Fig. 3.

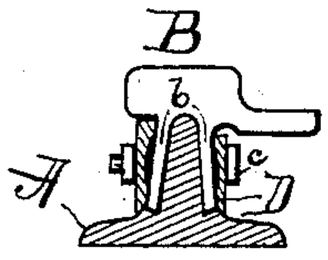

Fig. 5.

WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN M. BROSIUS, OF ATLANTA, GEORGIA.

RAILWAY-RAIL.

SPECIFICATION forming part of Letters Patent No. 367,500, dated August 2, 1887.

Application filed April 19, 1887. Serial No. 235,429. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. BROSIUS, a citizen of the United States, residing at Atlanta, in the county of Fulton and State of Georgia, have invented a new and useful Railway-Rail; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in railway-rails, and has for its object the supplying of a cheap, durable, and strong rail that is capable of being easily repaired, and safety attachments for the same; and it consists of a base-rail, a cap-rail, of any form, on top, a guard-rail, a joint-fastening for the base-rail, and a joint-fastening for the cap-rail, as will be hereinafter fully described, and then specifically claimed.

In the accompanying drawings, Figure 1 is a side elevation of my device. Fig. 2 is a plan showing the device and the form and position of the guard-rail. Fig. 3 is a cross-section at a joint of the base-rail, showing the parts as ordinarily applied, and also the base-rail fastening in section, but not showing the guard-rail. Fig. 4 is a cross-section at a joint in the cap-rail, showing means of attaching the guard-rail and also the end fastening for the cap-rail. Fig. 5 is a cross-section at a joint of the cap-rail, showing the manner of applying one of the many kinds and shapes of rails that are applicable to the base-rail shown, the cap-rail shown being, for convenience of description, a rail such as is commonly used in street-railways.

In the drawings like marks of reference referring to corresponding parts in the several views, the parts shown are as follows:

A is the base-rail, which has flanges on its bottom substantially the same as the flanges on the ordinary T-rail, and has a web, *a''*, projecting upwardly from the center of these flanges, which is tapering from bottom to top. This taper, however, is not confined to the exact angle shown, but may be made of any angle that is found practicable.

The cap-rail B may be of any conformation provided that it has the indentation shown, as this form may be varied to any extent without interfering with the practical application of any of the parts of my invention. The lower part of the cap-rail B has downwardly-projecting flanges *b*, as shown in Figs. 3, 4, and 5, the space between the inner sides of which conform to the shape of the tapering web on the base-rail A, by which web it is held in an upright position. The two bottom edges of the flanges on the cap-rail are beveled and are provided with seats or notches of the same form along each side of the tapering web on the base-rail A, for the purpose of assisting the bolts *d* in counteracting any tendency of these flanges to spread. The cap and base rails are fastened together with the same bolts that fasten the fish-joints or any other fastening used at the rail ends, in conjunction with the bolts *d*, passing through the flanges of the cap-rail and the web of the base-rail. The joints in the cap-rail and the joints in the base-rail are "broken" in order that there may be no weak places in the rail at joints, and also none of that breaking down at the ends of each rail, which is the greatest fault to be found in the ordinary T-rail. The joints in the cap-rail are secured by the fish-plates D, substantially as shown in Figs. 3 and 5, while at the joints of the base-rail is used the chair *a*, which is bolted to the flanges of the base-rail by means of the bolts *a'*, as many in each side as are found necessary. The guard-rail C, I place in the outer side of each or either rail, as shown in Figs. 1, 2, and 4. It differs from other guard-rails in that the horizontal part that projects out from the main rail is just a little below the level of the top of said rail, no space being necessary for the flange of the wheel. The upwardly-projecting flange rises above the level of the main rail, thereby preventing a wheel from derailment by the outer edge of the tread of the wheel coming in contact with it. This rail should be bent outwardly at the ends for the purpose of preventing the wheels from riding it should they be slightly shifted in its direction. This guard-rail will also counteract any tendency of the wheel-flange to "mount" the rail, which is the cause of many accidents. This guard I place on bridges and approaches thereto, sharp curves, precipices, and any other place on the railway where it is needed,

in which places it obviates the necessity of slowing a train down, and consequently much loss of momentum is saved. This guard-rail has a downward flange, *c'*, as shown in Fig. 4, which takes the place and performs the functions of the fish-plate fastening whenever a joint in the cap-rail is covered sufficiently by it.

I am aware that it is not new to form a railway-rail of two or more pieces united so as to form a compound rail; neither is it new to employ guard-rails secured to the ties adjacent to the main rail to prevent derailing of rolling-stock. I do not therefore claim such devices, broadly.

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

A compound rail consisting of a bed-plate, A, and cap B, in combination with a guard-rail, C, placed on the outer side of the rail, substantially as shown and described.

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

JOHN M. BROSIUS.

Witnesses:
A. P. WOOD,
THOS. M. MCKINNON.