(No Model.)

J. M. BROSIUS.

RAILWAY RAIL.

No. 423,371. Patented Mar. 11, 1890.

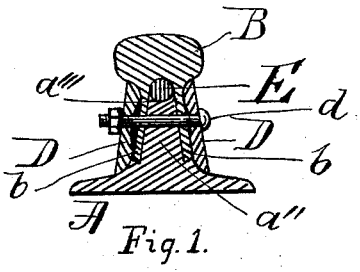

Fig. 1.

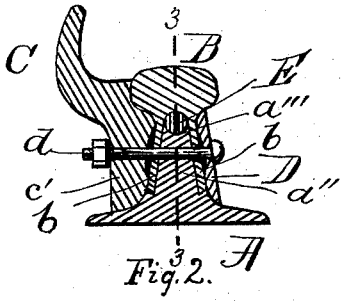

Fig. 2.

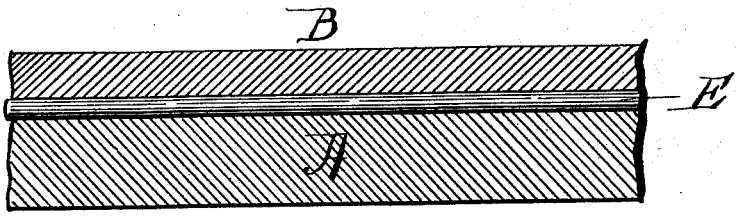

Fig. 3.

WITNESSES:

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JOHN M. BROSIUS, OF ATLANTA, GEORGIA.

RAILWAY-RAIL.

SPECIFICATION forming part of Letters Patent No. 423,371, dated March 11, 1890.

Application filed November 18, 1889. Serial No. 330,773. (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 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 improvements whereby the noise of the impact of the wheels is lessened as far as practicable.

For the purpose of the exposition of the device in connection with a desirable rail for elevated ways the device is shown in the drawings as applied to a sectional safety-rail such as shown in United States Letters Patent to me, No. 367,500, granted August 2, 1887.

In the said drawings, Figure 1 is a vertical cross-section of a section-rail, showing the various parts. Fig. 2 is also such a view with one joint-plate removed and a guard-rail such as exhibited in the hereinbefore-mentioned patent supplied, said guard-rail taking the place of the joint-plate. Fig. 3 is a longitudinal vertical section on the line 3 3, Fig. 2.

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, and has a concave a''' along its top edge for the purpose hereinafter set forth. The 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 part 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 sides of the tapering web on the base-rail A, by which web it is held in an upright position, and also has an extension of this space to conform to the concavity of the top edge of the flange a''. 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. 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 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 place it obviates the necessity of slowing a train down, and conse-

quently 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.

The parts A and B of the rail may be of any form that admits of the insertion of the muffler E in the bearing-joint between the two parts, substantially as shown. This muffler E is made of medium hard rubber, made round in cross-section, and extends, preferably, continuously the whole length of a rail. To furnish the best operative construction the parts A and B of the rail should so contact as to throw the principal pressure on the muffler E, all other points of contact merely acting as a re-enforcement under heavy strains. It is preferable, in fact almost necessary, that the muffler be almost entirely incased in its seat to prevent its spreading to each compression and the wear consequent thereto. In the specific construction shown there should be, as above inferred, a little looseness in the fit between the upwardly-projecting web of the part A and the downwardly-projecting flanges of the part B. This muffler E is for the purpose of deadening the sound caused by the impact of the wheels on the rail, which is especially advantageous in elevated railways over streets in the vicinity of buildings, &c.

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

In a railway-rail, the combination of the base-rail A, having the web extending upward from the same, wedge-shaped and concaved at its top, the cap-rail B, seated on the wedge-shaped web and having its lower edges resting on projections formed on said base, the muffler seated in the concavity in the top of the web and forming an elastic support for the top rail, and the means, consisting of the fish-plates and bolts for combining the different parts, as set forth.

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

JOHN M. BROSIUS.

Witnesses:
A. P. WOOD,
C. E. LUCAS.