(No Model.)

J. STEPHENSON.

BRAKE SHOE FOR CAR TRACKS.

No. 403,229. Patented May 14, 1889.

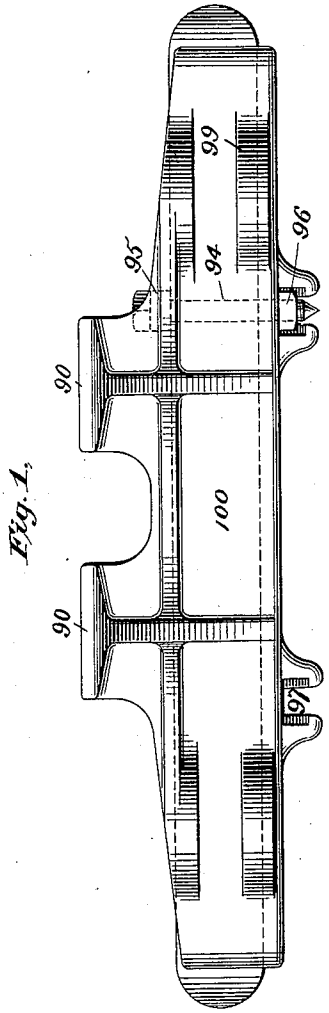

Fig. 1.

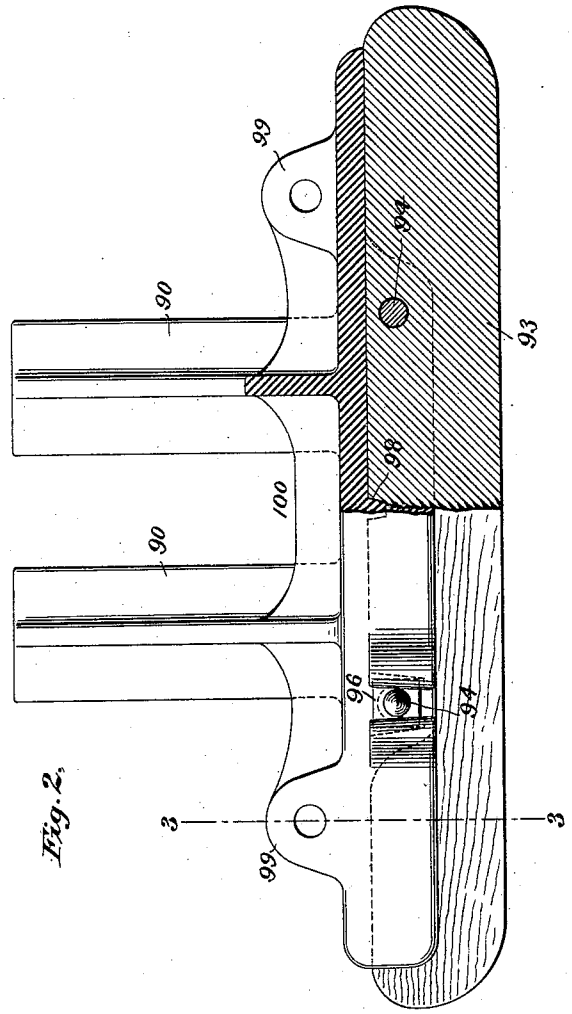

Fig. 2.

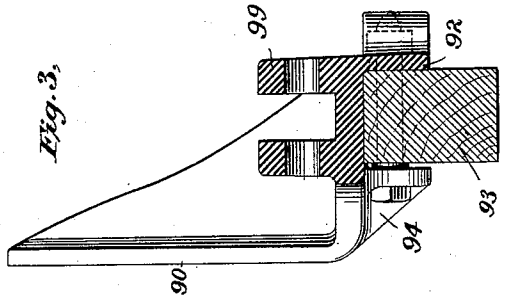

Fig. 3.

Witnesses
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UNITED STATES PATENT OFFICE.

JOHN STEPHENSON, OF NEW YORK, N. Y.

BRAKE-SHOE FOR CAR-TRACKS.

SPECIFICATION forming part of Letters Patent No. 403,229, dated May 14, 1889.

Application filed July 20, 1888. Serial No. 280,511. (No model.)

To all whom it may concern:

Be it known that I, JOHN STEPHENSON, a citizen of the United States, residing at New York, in the county and State of New York, have invented certain new and useful Improvements in Car-Track Brake-Shoes, of which the following is a full, clear, and exact specification.

My invention relates to improvements in track brake-shoes for tram-cars; and it consists in constructing the shoes as fully set forth hereinafter, and as illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of my improved shoe; Fig. 2, an elevation in part section; Fig. 3, a section on the line 3 3, Fig. 2.

The importance of being able to stop a car quickly is self-evident. Good wheel-brakes will arrest the car-wheels and prevent rotation, but on steep grades or wet or frosty rails the car slides. As accessory to the locked wheels, track-brakes of crude construction have been tried without success until shoes with wood soles were introduced. It is a principle in mechanics that increase of contacting surface to a given load does not increase friction, and therefore primary efforts with track-brakes (having metal soles) failed, but "wood soles" brought in a new factor, because the wood sole picks up and incorporates in its surface particles of sand, gravel, &c., whose sharp angles take hold of the rail and add efficiency to the brake system.

Track-brakes thus far constructed have been perishable, requiring frequent repairs and renewals. The work is hard to perform, because of unfavorable location.

My invention is to produce a track-brake with more power and efficiency, more easily operated, less liable to get out of order, and easy of access for adjustment and repairs.

I make a brake-shoe, 1, of metal, with a channel, 92, at the lower side, and place in the channel a wood block, which constitutes the sole 93, which is held in the shoe by one or more bolts, 94, near the upper surface of the wood sole, through which and the adjacent metal walls the bolts pass. The head of the bolt is a cylinder, 95, of larger diameter than the bolt, and at the top of its head is an angular crown adapted to receive a machine-wrench for tightening the bolt in its place. The cylinder-head goes through a fitting hole in the shoe-wall, and the bolt-shank through the block to a screw-nut, 96, held incapable of turning in a pocket, 97, of the farther wall, so that a person at one side of the shoe can put a sole-block into the shoe, and when it is in place push the point of the bolt through the larger hole in the side of the shoe and through the sole-block, the point of the screw entering into its screw-nut in the pocket, and then apply the wrench to the angular crown, and thus tighten up the bolt, pinching the sole-block between the cylinder-head and the shoe-wall at the other end of the bolt. Thus a workman at the outside of the car and unable to get under the car, having no assistant, can quickly remove the remains of an old shoe-sole and put a new sole in place and screw up the bolt, holding the sole tightly in place.

Auxiliary to the bolts through the sole and walls there is within the channel 92 a cross-bar, 98, indented into the upper side of the wood sole to prevent the sole from being jerked out of its place. On the upper side of the shoe I make, near each end, a lug, 99, prepared to receive one end of articulated coupling-bar, the other end of which bar connects with an arm of the rock-shaft, a similar bar and connections being at the other end of the shoe, as set forth in a separate application for Letters Patent, Serial No. 280,512. Toward the central part of the shoe rises one or more limbs, 90 90, constituting vertical members of the shoe integral therewith, projecting to one side of the shoe-wall, as shown, and adapted to enter vertical guides attached to the truck or carriage part, the guides being adapted to direct the vertical motion of the shoe and prevent the shoe from displacement.

I claim—

1. A car-track brake-shoe with a wood sole and an integral member projecting a distance from the side of the shoe and uprising to contact with stops adapted to prevent displacement of the shoe when operating on the tram-rail, substantially as and for the purpose described.

2. A track brake-shoe having a channeled under side suitable for receiving and holding a wood sole, and on the upper side of the shoe

lugs fitted for the actuating-rods, and projecting sidewise from one of the shoe-walls one or more uprising members integral with the shoe and adapted to guide-channels controlling the vertical motions of the shoe, substantially as and for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN STEPHENSON.

Witnesses:
STUART A. STEPHENSON,
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