(No Model.)

J. N. VALLEY.

BRAKE FOR ELEVATED RAILWAY CARRIAGES.

No. 456,866. Patented July 28, 1891.

Fig 1.

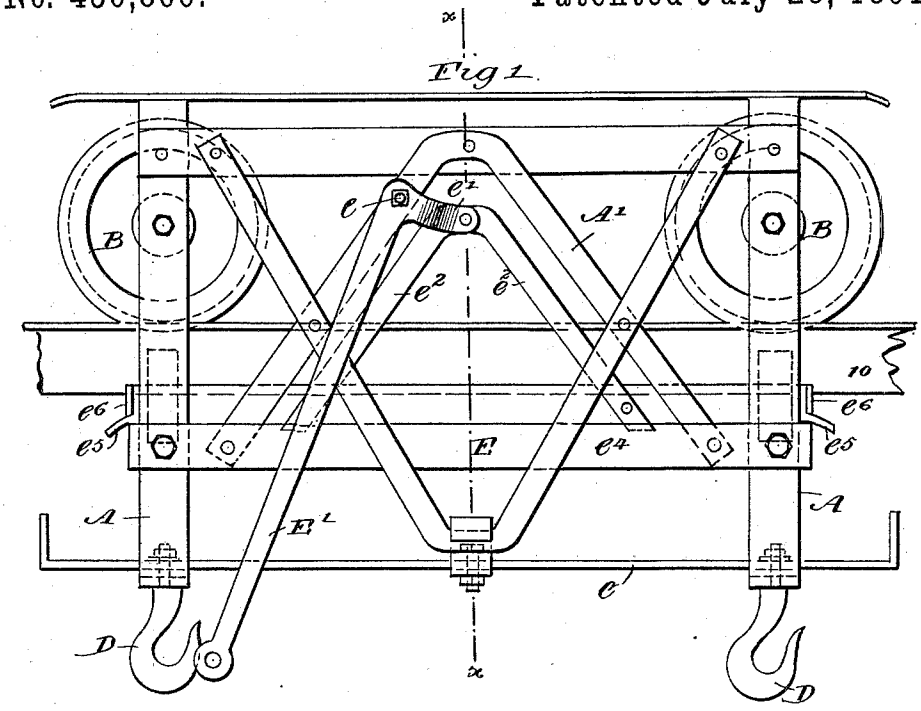


Fig 2.

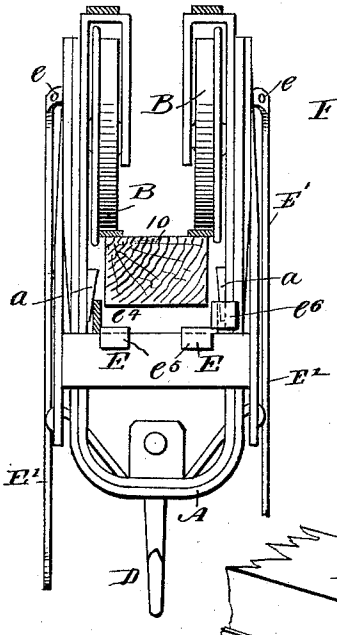


Fig 3.

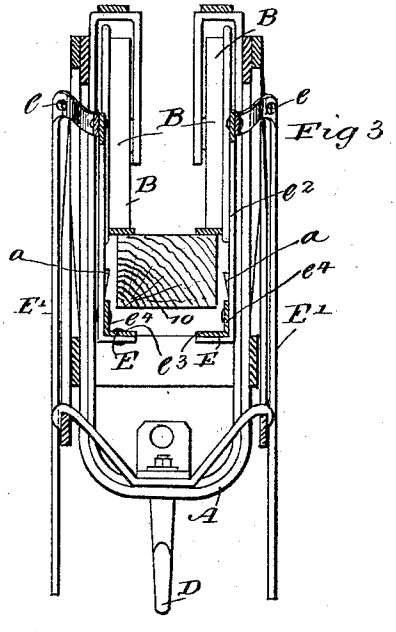
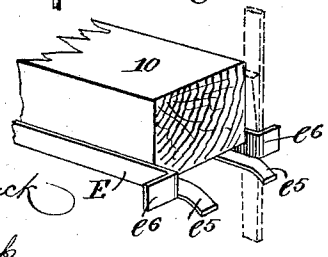


Fig 4.



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BRAKE FOR ELEVATED-RAILWAY CARRIAGES.

SPECIFICATION forming part of Letters Patent No. 456,866, dated July 28, 1891.

Application filed February 20, 1891. Serial No. 382,159. (No model.)

To all whom it may concern:

Be it known that I, JOHN N. VALLEY, of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and Improved Brake for Elevated-Railway Carriages, of which the following is a full, clear, and exact description.

The invention relates to the carriages of elevated railways having a suspended track; and the object of the invention is to provide an efficient brake for such carriages.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of a carriage provided with my improved brake. Fig. 2 is an end view thereof. Fig. 3 is a sectional elevation on line $x\,x$, Fig. 1; and Fig. 4 is a perspective view of a portion of the brake.

I have shown the carriage provided with two brakes, one at each side, but in practice but one brake may be employed. The carriage is of U shape, its upwardly-extending sides passing at each side of the track 10, which in practice is suitably suspended, and at the upper end the wheels B are mounted. In the form shown the carriage is formed of two yokes A, suitably connected and braced. At the bottom of the carriage hooks D are provided for suspending a load. The carriage, however, apart from the brake, forms no part of the present invention, it being claimed in a separate application filed concurrently herewith. The brake-shoe E ranges longitudinally at the inside of the carriage and is suspended from the brake-lever E′, which is fulcrumed on the brace A′ of the carriage, as at *e*, the connection between the lever and brake-shoe being effected in any suitable manner. In the present instance the shoe is provided with vertically-extending diverging arms e^2, formed integrally and bolted to the shoe, the upper end of the arms at the point of divergence being pivoted to the bent end e' of the lever E. The end e' of the lever is laterally offset to bring it into line with the shoe, as shown. The brake-shoe is of angular form, its horizontal member e^3 being adapted to bear against the under side of the track 10 and the vertical member e^4 being adapted to bear against the side of said track. On the inner side of the carriage a beveled surface *a* is formed, which may consist of separate projections formed on or secured to the carriage. With this construction as the lever E′ is thrown the brake-shoe will be raised to bring its horizontal member e^3 against the under side of the track, and in rising the beveled projections *a* will cause it to move laterally, throwing the vertical member e^4 against the side of the track. At the ends the horizontal member of the brake-shoe is bent downwardly, as at e^5, and the vertical member bent laterally, as at e^6, whereby the brake-shoe will be prevented from displacement.

The above-described brake, it will be seen, is of simple and durable construction and may be operated conveniently, the brake-lever being in convenient reach of the attendants, and owing to the large bearing-surface obtained the carriage can be conveniently controlled.

In mountainous regions, where steep grades are frequent, the mere braking of the wheels would not always be effective, as with a heavy load the wheels would slip on the track, especially in wet weather. The track-brake working against the under side of the track can be made to completely control the carriage, as it may be made almost the whole length of the latter, and the leverage exerted on the brake also tends to exert a downward pressure of the wheels against the track, thus gripping the track between two opposed surfaces.

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

1. The combination, with a carriage, of a brake-shoe held thereto and movable in the vertical plane, and a lever connected with said brake-shoe and with the carriage, the said lever when thrown tending to exert a downward pressure on the wheels and an upward pressure on the brake-shoe for gripping the track between the same, substantially as described.

2. The combination, with a carriage, of a brake-lever pivoted thereto, a brake-shoe held to said lever below the wheels and forming

a space between itself and the wheels that the brake may be embraced between them, the said brake-shoe having a horizontal and a vertical braking member, substantially as described.

3. The combination, with a carriage, of a brake-lever, a brake-shoe suspended therefrom to range below the wheels, said shoe having a horizontal and a vertical braking member and being movable vertically in the direction of the wheels, and the carriage having a beveled surface lying in the vertical path of the brake-shoe, substantially as described.

4. The combination, with a carriage of the character described, of a brake-shoe having bent ends forming guides for preventing undue play of the brake-shoe, and a lever for throwing the same, substantially as described.

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Witnesses:
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