(No Model.)

2 Sheets—Sheet 1.

S. S. ERRET.

CAR BRAKE.

No. 306,142. Patented Oct. 7, 1884.

Fig. 1.

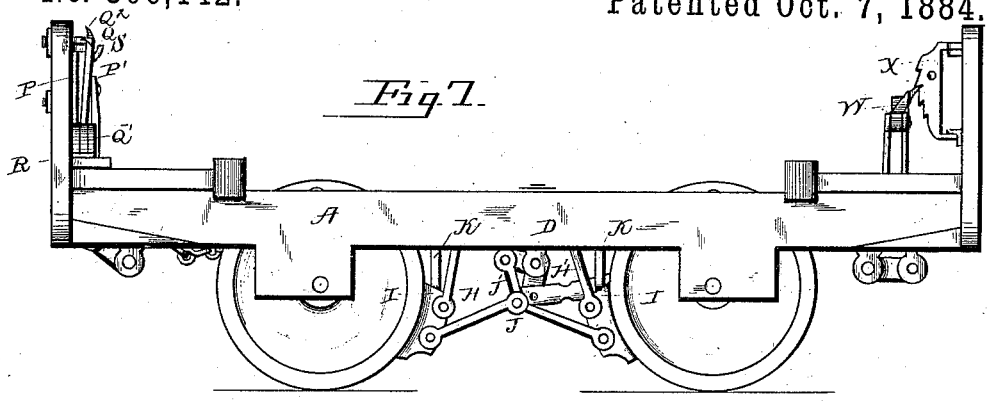


Fig. 3.

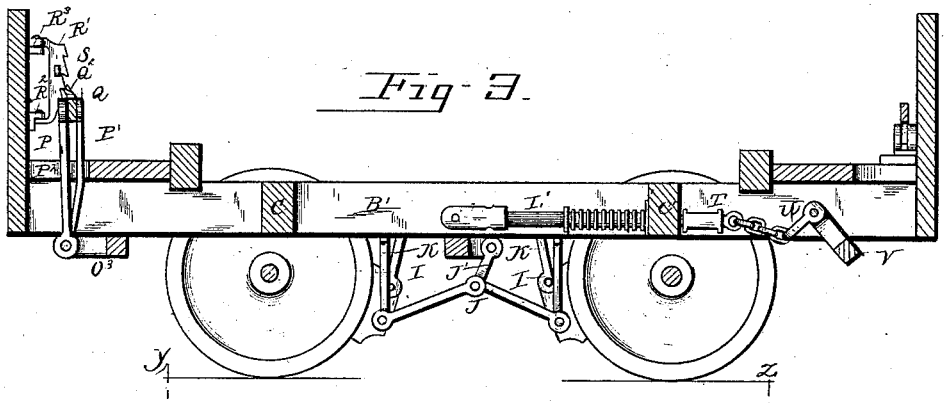
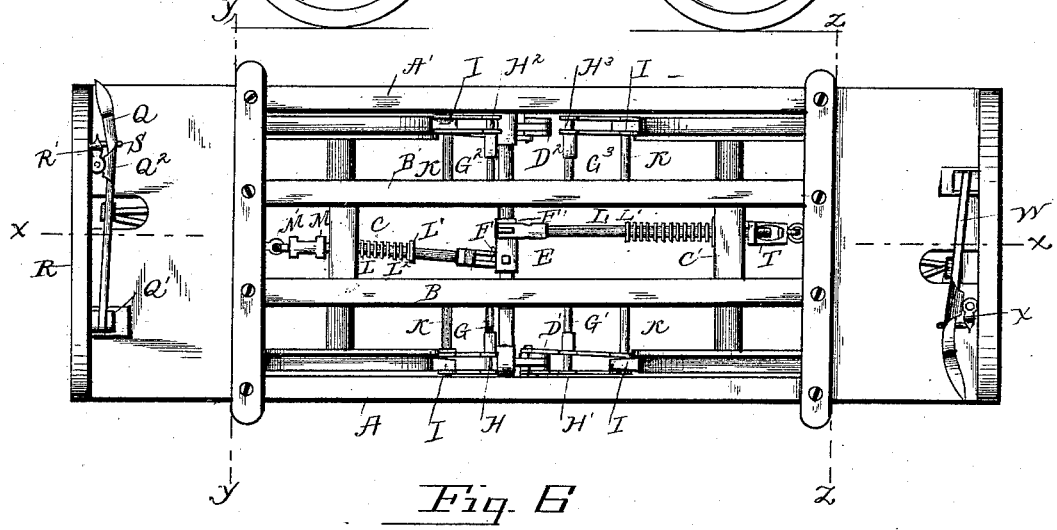


Fig. 6



WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

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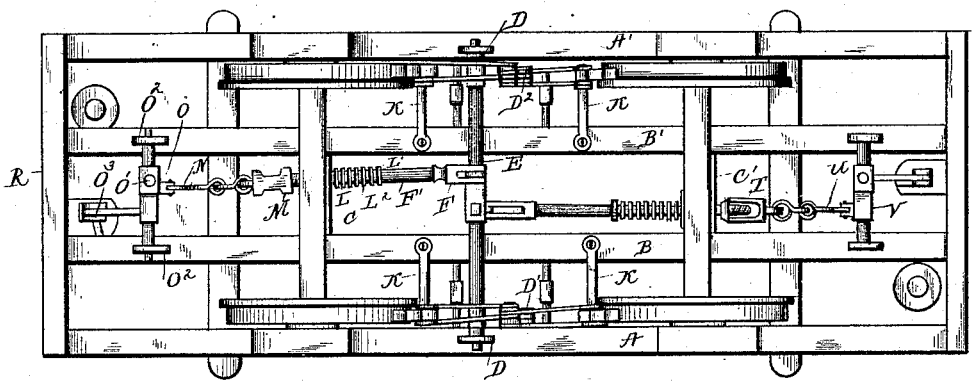

Fig. 2.

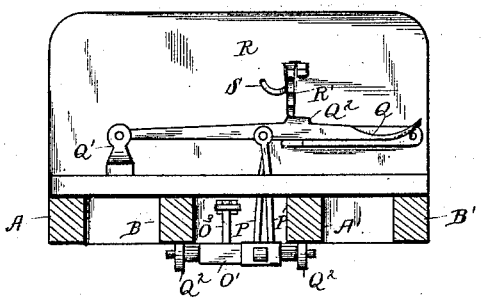

Fig. 4.

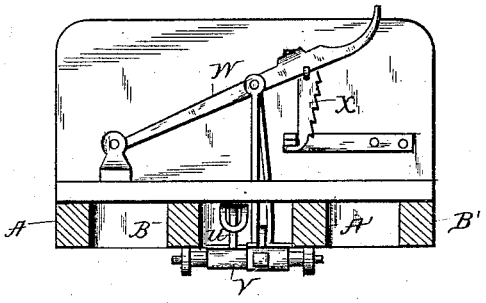

Fig. 5.

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UNITED STATES PATENT OFFICE.

SAMUEL S. ERRET, OF MAMMOTH HOT SPRINGS, WYOMING TERRITORY.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 306,142, dated October 7, 1884.

Application filed July 2, 1884. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL S. ERRET, a citizen of the United States, residing at Mammoth Hot Springs, in the National Park Reservation, Territory of Wyoming, have invented a new and useful Brake for Street-Cars, of which the following is a specification, reference being had to the accompanying drawings.

This invention has relation to brakes for street-cars, and it has for its object to provide a set of brakes of the class referred to that shall possess superior advantages in point of simplicity, durability, and general efficiency; and the invention consists in the construction and novel arrangement of parts, as will be hereinafter fully described, and particularly pointed out in the claims.

Figure 1 is a side elevation of a street-car truck with my improved brakes applied. Fig. 2 is a bottom view of the truck and brakes with the brake-shoes applied to the car-wheels. Fig. 3 is a vertical longitudinal section on the line *x x* in Fig. 6, showing the truck in its upright position. Fig. 4 is a vertical transverse section on the line *y y* in Fig. 6, showing the brake-lever in the position when the brake-lever is applied. Fig. 5 is a vertical transverse section on the line *z z* in Fig. 6, showing the brake-lever in the position when the brakes are applied; and Fig. 6 is a plan view of the truck.

Referring by letter to the accompanying drawings, A A′ designate the two outer beams, and B B′ the two intermediate beams, of the street-car truck. The two intermediate beams, B B′, are connected intermediate of their ends by cross-pieces C C′. The four beams are secured together by end pieces and cross-pieces, and are provided with platforms in the usual manner. The car-body is not shown in the illustration, in order that the parts referred to by letters of reference may be better shown. The wheels and axles and axle-boxes are of the ordinary construction.

At the middle of the truck the outside beams, A A′, are provided with bearings D D for the journals of a rock-shaft, E, provided near its ends with short arms D′ D², which extend toward the rear of the truck and incline slightly upward from a horizontal plane when the parts of the brake are in their normal positions—*i. e.*, when the brakes are not down. (For convenience in describing the parts I shall term the left end of the truck the "front" and the right end the "rear" of the truck.)

Near the middle of the rock-shaft E, and on opposite sides of the middle, I provide two short arms, F F′, one extending upwardly and the other projecting downwardly from the rock-shaft E, which is made rectangular at this part.

Between beams A B and A′ B′ are the short rigid shafts G G′ G² G³, upon which near their outer ends are articulated the hangers H H′ H² H³, between the lower ends of which the upper portions of the brake-shoes I are pivoted. The lower ends of the brake-shoes are pivoted between the outer ends of the arms of the toggle-levers J, the inner ends of the arms of said toggle-levers being pivoted to the lower ends of the arms J′, pivoted at their upper ends to the short arms D′ D² on the rock-shaft E.

Braces K, secured to the under faces of the intermediate beams, B B′, incline outwardly, and are pivoted at their lower ends to the lower ends of the inner arms of the toggle-levers J, and hold the brake in line with the tires of the wheels in such position that the brakes are always in place.

From the downwardly-projecting arm F′ a rod, L, extends forward on an upward incline and through an opening in the cross-piece C′. This rod L is bifurcated at its lower end, and is pivoted to the lower end of the short arm F′. This rod L is also provided with a shoulder, L′, and is encircled by a spiral spring, L², which bears against this shoulder L′ at one end, and against the rear face of the cross-piece C′ at the other end. The forward end of the rod L is provided with a swivel-nut, M, which is connected through an eye to a chain, M′, the other end of which is connected to a rod, N. The other end of the rod N is connected to an arm, O, on a short rock-shaft, O′, under the front platform of the truck, having its bearings O² secured to the under faces of the intermediate beams, B B′. The arm O of the rock-shaft O′ extends upwardly and toward the rear at an angle of about forty-five degrees when the rock-shaft is in its normal position, and an arm, O³, on the same shaft ex-

tends upwardly and toward the front at an angle of forty-five degrees, thus making the arms O and O^3 at right angles to each other. The upper end of the arm O^3 is pivoted between the lower ends of two metal straps, P P′, which extend up through an opening, P^2, in the platform, and connect at their upper ends with a foot-lever, Q, fulcrumed in a standard, Q′, near one side of the platform, as shown.

Near the opposite side of the platform the dash-board R is provided with a hinged rack, R′, hinged in bearings R^2 R^3, secured to the dash-board. The hinged rack R′ is provided on its left face with a hook, S, which, when the hinged rack is swung back against the dash-board, is designed to hold the foot-lever Q up, and thus hold the brake-shoes out of engagement with the car-wheels.

When it is desired to apply the brakes to the car-wheels, the foot-lever is lifted from its hook and swung slightly toward the rear of the truck, the fulcrum being pivoted in its standard for this purpose, and the hinged rack R′ is swung out from the dash-board, bringing its toothed edge toward the rear of the truck, and the foot-lever is depressed by the foot of the driver, and its dog Q^2 caused to engage with the teeth of the hinged rack, which operates the mechanism described and applies the brake-shoes to the car-wheels.

To the right or rear of the rock-shaft E the truck is provided with a rod, T, similar in construction to the rod L, which is pivoted to the arm F′ of the rock-shaft E, and extends to the rear through an opening in the cross-piece C, and is provided with a swivel-nut connected to a chain, which is in turn connected to a rod, U, which connects with a short rock-shaft, V, near the rear end of the truck. This rock-shaft V is connected to a second foot-lever, W, engaging a second hinged rack, X, the parts being duplications of the parts described for the front part of the truck.

Both levers Q and W apply all of the brake-shoes when either of them is operated, so that if the connection should be broken between the rock-shaft E and either one of the levers the other one could be used.

The chains are to enable the connections to be shortened or lengthened, as may be necessary. The springs on the rods L T are to keep the brake-pressure from the wheels when the brakes are not in use. The brake can be operated from either or both ends, if desired, so that it is really a double brake.

A brake of this construction is simple, inexpensive, direct and positive in its action, and is not likely to get out of order.

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

1. The combination, with the truck-frame provided between its beams A B and A′ B′ with short rigid shafts and bearings on the under faces of the outside beams at their middle portions, of the hangers articulated on the rigid shafts and pivoted to the upper ends of the brake-shoes, the brake-shoes, inclined braces, toggle-levers, and arms connecting them with the short arms of the rock-shaft E, the rod L, pivoted to the arm F of the rock-shaft E, extended through the cross-piece C′, and provided with the spiral spring, and mechanism, substantially as described, for operating the brake-shoes, as set forth.

2. The combination, with the rock-shaft E and mechanism, substantially as described, for connecting it with the brake-shoes, of the rod L, provided with the shoulder and encircling spiral spring, and projected through the cross-piece C′, and provided with a swivel-nut on its end, the chain connecting it to the rod N, the short rock-shaft O′, having arms O and W, the straps P P′, the foot-lever Q, and hinged rack R′, having the hook S, substantially as specified.

3. The combination, with the truck, the rock-shaft E, and mechanism, substantially as described, for connecting the said rock-shaft with the brake-shoes and with the foot-lever Q, of the rod T, pivoted to the arm F′ of the rock-shaft E, shouldered and encircled by a spiral spring and projected through the cross-piece C, provided on its end with a swivel-nut connected by a chain to a rod, U, the rock-shaft V, connected to the foot-lever W, and the hinged rack X with its hook, substantially as specified.

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

SAMUEL S. ERRET.

Witnesses:

BROWNLOW T. GRAY,

W. E. PYLE.