

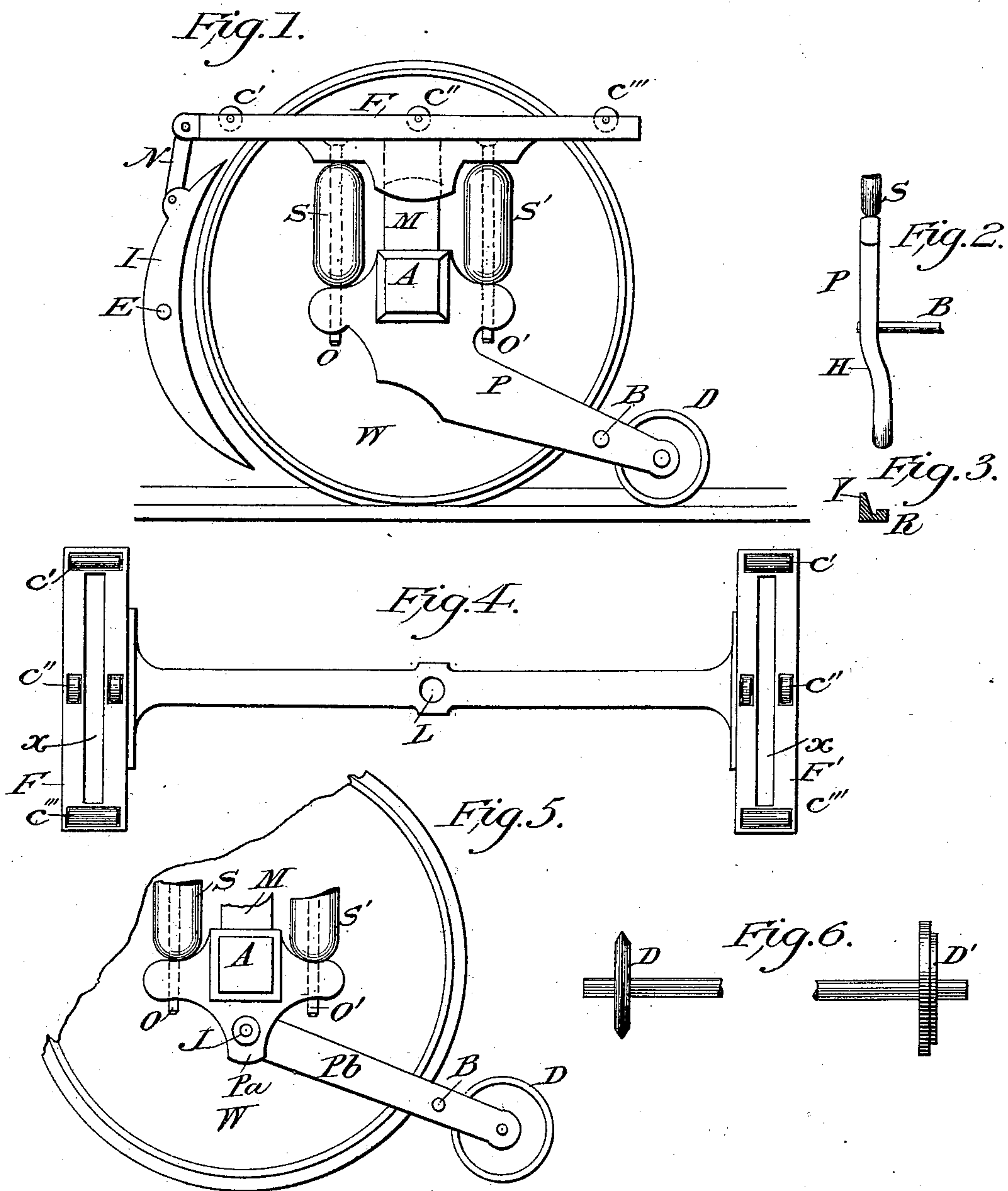
(No Model.)

2 Sheets—Sheet 1.

J. D. GRACE.  
STREET CAR TRUCK.

No. 398,040.

Patented Feb. 19, 1889.



Witnesses.

Robert F. Grace.  
William Grace.

Inventor.

John D. Grace.

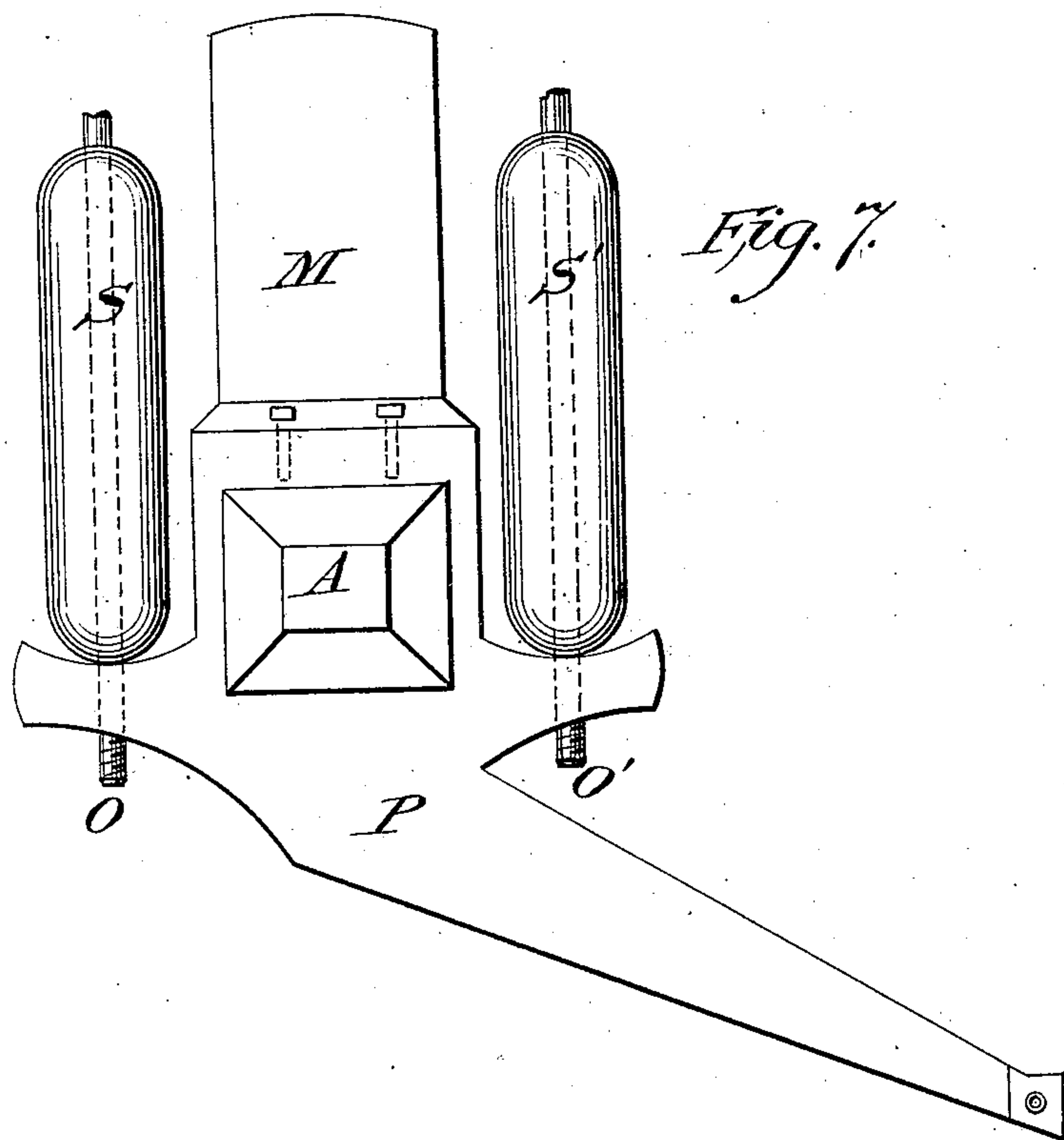
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# UNITED STATES PATENT OFFICE.

JOHN D. GRACE, OF NEW ORLEANS, LOUISIANA.

## STREET-CAR TRUCK.

SPECIFICATION forming part of Letters Patent No. 398,040, dated February 19, 1889.

Application filed May 26, 1888. Serial No. 275,262. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN D. GRACE, a citizen of the United States, residing at New Orleans, parish of Orleans, State of Louisiana, have invented a new and useful Mechanism or Street-Car Truck, of which the following is a specification.

The object of my invention is to permit the placing of street-car wheels any desired distance apart, so as to obviate to a great extent the rocking motion to be now experienced when riding on street-cars and to facilitate the turning of curves. I attain this object by means of the mechanism illustrated in the accompanying drawings, made part hereof, wherein—

Figure 1 is a side view of shaft P, springs S S', axle-box A, bar M, spring-rods O O', rollers in top of frame,  $c' c'' c'''$ , ordinary rail, R, raised rail Y for wheel D to work against in curves, and rod N, connecting brake-blocks I with end of frame F; rod E connects opposite brake-blocks, and the brake-rods for applying brakes are attached thereto in the usual manner. Fig. 2 is an end view of shaft P, curved inward at H, so as to permit the lower end thereof to work in grooved rail instead of small wheel D. Fig. 3 is a sectional view of rail shown in Fig. 1. Fig. 4 is a top view of frame. Fig. 5 is a side view similar to that shown in Fig. 1 in all respects excepting shaft P, which in this is jointed at J, thereby permitting the lower part (Pb) to be raised and lowered at will by means of a wire, rope, chain, or like article, one end of which is attached underneath car to brace B, the other end brought up through platform within easy reach of the driver. Fig. 6 are views of wheels D and D'. The size or style is immaterial. Fig. 7 shows connection between the bar M and the shaft P.

The shaft P may be cast, forged, or otherwise constructed in one or more parts. In either case a portion of the upper part of said shaft shall form an axle-box for the axle of wheel W, or form the top, sides, and bottom of an axle-box for said axle, or constructed to rest on the top, sides, and bottom, or any part of an axle-box made separate from said shaft, each side of said shaft to be provided with a

suitable seat for springs S S', through which seat the spring-rods O O' pass. Said shaft P may be placed before or behind wheel W on the front or rear set of wheels. It may be constructed with a joint at J to permit the lower part to be raised and lowered, as aforesaid. The lower end of shaft may be curved inward and used without wheel D, or made straight and used with wheel D. When the shaft is made without joint at J, the shaft and the wheel are carried a short distance above the ordinary rail, but sufficiently low to work in raised double or grooved rail, or against a raised rail when turning curves. The wheel D may also be drawn or pushed along on ordinary rail at all times. Suitable bearings are provided in shaft P for wheel D, which wheel is made smaller than wheel W. Shaft P may be jointed at J, whether used with or without wheel D.

The frame shown in Fig. 4 is used in connection with shaft P. Up through that space marked X in each end piece, F F', are placed rollers ( $c' c'' c'''$ ) or blocks of any suitable style, to permit free movement of the body of car over frame when the car is turning a curve. The end pieces of frame F F' are connected by means of a bar, through the center of which (at L) a pin is passed from the bottom of car. This pin secures the frame and connections in their proper place under car. The other set of wheels used on car and its accessories are fastened to either end of car in the usual manner, and is not provided with my invention.

The bar M is cast, forged, or otherwise constructed solid with shaft P and as a part thereof; or, if desirable to make it of a different kind of metal from that used in shaft, it may be securely bolted or otherwise fastened to shaft. It operates in connection with shaft P or wheel D to hold the frame steady while the body of car is turning on frame when going around a curve. The upper end of bar is made to work freely in the lower part of the ends of frame F F', so as to allow for compression of springs.

The brake-blocks I are securely attached to frame by means of rods N; in other respects are connected with brake substantially as at

present connected, and may be applied even when the car is in a curve, notwithstanding the movements of the body of car.

What I claim as my invention, and desire to  
5 secure by Letters Patent, is—

1. In combination with an axle-box, the inwardly-curved shaft P, provided with the seats for the springs S S', and jointed at J, substantially as described herein.

10 2. In combination with an axle-box, the inwardly-curved shaft P, provided with the seats for the springs S S', substantially as and for the purpose set forth.

15 3. In combination with an axle-box, the straight and rigid shaft P, provided with the seats for the springs S S', and with wheel D, all substantially as described.

4. In combination with an axle-box, the straight shaft P, provided with the seats for the springs S S', and with wheel D, and said 20 shaft jointed at J, substantially as described.

5. The frame herein described, consisting of the ends F F', containing rollers or blocks c' c'' c''', and forming also a support for brake-blocks I, substantially as described. 25

6. The bar M, in combination with the shaft P, substantially as and for the purpose set forth.

JOHN D. GRACE.

Witnesses:

WILLIAM D. GRACE,  
ROBERT F. GRACE.