

*C. B. Broadwell,*

*Car Replacer.*

*No. 112,215.*

*Patented Feb. 28, 1871.*

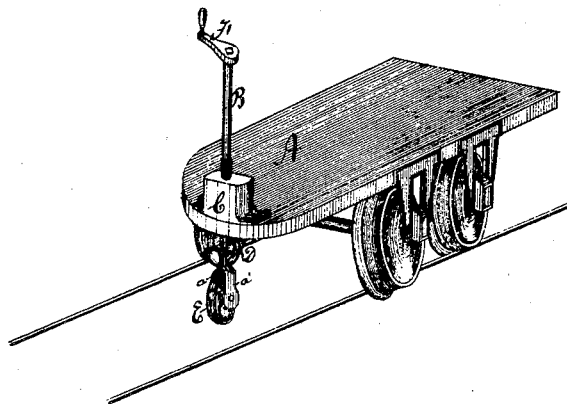


Fig. 1.

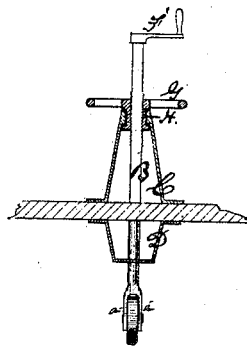


Fig. 2.

Witnesses.

*Rufus B. Rhodes*  
*Edw. A. Jenkins*

Inventor.

*C. B. Broadwell*



# UNITED STATES PATENT OFFICE.

CHARLES B. BROADWELL, OF NEW ORLEANS, ASSIGNOR TO HIMSELF AND  
IGNATIUS CAULFIELD, OF SAME PLACE.

## IMPROVEMENT IN STREET-CARS.

Specification forming part of Letters Patent No. **112,215**, dated February 23, 1871.

I, CHARLES B. BROADWELL, of New Orleans, Louisiana, have invented a certain Fifth-Wheel for City Railroad-Cars, of which the following is a specification:

My invention consists of a small wheel having a broad tire or tread, of convex form, on its circumferential surface, that is secured under the front end of the car by means of a bifurcated vertical shaft or axis that passes through the front platform of the car, and is sustained in position by means of socket-blocks or frames, above and below said platform, in such manner that it can be elevated or depressed by a ring-crank at some intermediate point between its upper extremity and the upper socket-bearing, and when in contact with the ground may be steered to guide the car onto or off the track or around curves, without stopping its progress, at the pleasure of the driver of the car.

The object of my invention is to provide a means for putting the car back on the track, when it is thrown off the same, without compelling the passengers to get out, or to throw the car off the track if for any reason it is desired to do so; to take the car over curves without the enormous friction which is incident and inevitable to the present plan of doing this, and without checking the speed of the car; and, finally, to supersede the use of switches at the intersection of two or more tracks; but my invention will be better understood by referring to the drawing, on which, at—

Figure 1, it is shown in connection with a car-floor on wheels, and, at Fig. 2, by a sectional view in a vertical transverse direction.

In the drawing, A marks the floor of the car; and B a bifurcated vertical rod, shaft, or axis, as it may indifferently be called, that passes through the same, and is sustained in position by means of a screw-socket, C, fixed on top of the platform or floor at its front extremity, as shown, and a yoke-frame, D, underneath the platform.

The screw-socket or frame C is provided with an aperture, in which a female screw-thread is cut to control the rod and permit it to move up and down by means of the yoke-frame D, which is provided simply with an

aperture on the same vertical line with the above-described hole, and serves as a brace to sustain and keep the rod in proper position.

The rod B is bifurcated at its lower extremity, so as to provide a yoke for the wheel E, which is sustained on an axis having its journals near the extremities of the jaws or arms *a a'* of the yoke. The bifurcation to produce the yoke must not extend sufficiently up on the rod to interfere with the drawing up of the wheel high enough above the ground to avoid all danger of it or the rod being broken by coming in contact with stones or other objects which may accidentally get upon the road-bed.

The elevation and depression of the wheel are effected through the agency of a ring-crank, G, and a rotating screw-collar, H, as shown, while a hand-crank, F, is employed to control the direction of the wheel E.

The operation of my invention is as follows: The wheel is drawn up off of the ground, and always maintained in that position until the occurrence of any of the contingencies requiring its use—as, for example, when the car is thrown off of the track, or it is desired to remove it therefrom, or a curve is to be turned, or an axle breaks, or the like.

When the car is off the track, as shown in Fig. 1, the wheel is brought down by means of the crank-ring G until the forward car-wheels are elevated above the rails, and then turned, by means of hand-crank F, to such angle as will bring the said wheels, by an oblique movement, on the car being drawn forward by the animal attached to it, over the rails. When this is accomplished the wheel E is again raised and the car proceeds on its way.

When the car is to be removed from the track the same operation of depressing the fifth-wheel will raise the car-wheels high enough to pass obliquely over the track.

When the front axle or one of the front wheels breaks my fifth-wheel serves the purpose of sustaining the car until it can be drawn to the shop to be repaired.

In turning curves, or in taking the car into a diverging track at an intersection of two or more roads without the use of a switch, the wheel E is run down on the ground sufficiently



to throw the weight of the front end of the car off the car-wheels proper, care being taken to put it in proper position to keep the car on the line of the curve of the rails, so that when the curve is passed the car-wheels will come down on the rails.

To insure the tracking of the fifth-wheel on the line of the curve I may employ a short center-grooved rail to receive the said fifth-wheel and hold it on the proper line. In this way my invention saves the rails at the curves from the effects of the severe friction to which they are now subjected, and makes them last as long as straight rails will, and avoids the

necessity of checking the speed of the car and losing its momentum.

What I claim is—

The application to a street or other railroad-car, at or near either or both of its ends, of a central vertically-adjustable wheel, made also capable of turning on its vertical axis, so as to steer the car onto or off the track, or around curves, substantially as specified.

C. B. BROADWELL.

Witnesses:

RUFUS R. RHODES,  
H. N. JENKINS.