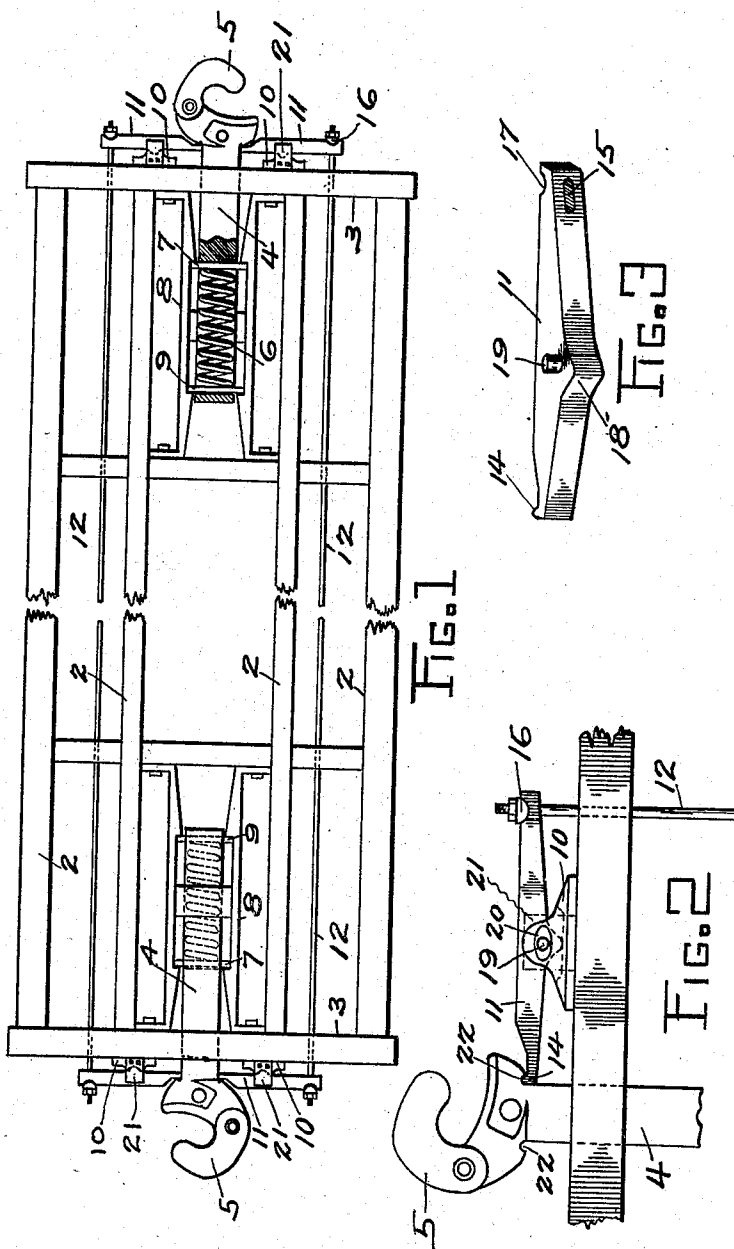


P. RECCONI.
 BUFFER FOR RAILROAD CARS.
 APPLICATION FILED MAR. 20, 1909.

933,204.

Patented Sept. 7, 1909.



WITNESSES:
H. G. Gunt.
M. Regner

INVENTOR
Peter Recconi.
 by *B. B. Osborn*
Miller & White
 ATTORNEYS

UNITED STATES PATENT OFFICE.

PETER RECCONI, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR OF ONE-THIRD TO GEORGE J. GIANNINI AND ONE-THIRD TO LOUIS ABRATE, OF SAN FRANCISCO, CALIFORNIA.

BUFFER FOR RAILROAD-CARS.

933,204.

Specification of Letters Patent.

Patented Sept. 7, 1909.

Application filed March 20, 1909. Serial No. 484,806.

To all whom it may concern:

Be it known that I, PETER RECCONI, a citizen of the United States, and a resident of the city and county of San Francisco, State of California, have invented new and useful Improvements in Buffers for Railroad-Cars, of which the following is a specification.

The invention relates to improvements in buffers for railroad cars in which the draw-bars at the ends of the car are connected and operate to mutually absorb or neutralize the shock when the ends of the cars or their coupling strikes.

The object of the invention is to relieve the bodies and truck-frames from shocks and strains when the cars are being coupled up, and also to prevent the buffer-carrying timbers of the car bodies from being crushed or broken by the repeated shocks or blows to which they are exposed.

To these ends and objects chiefly the invention consists in means of novel construction connecting the draw-bars on the car, in such manner that the shocks sustained in coupling-up are transferred from one draw-bar to the other through all the cars in the train, each draw-bar taking up or absorbing a share or portion of the shock instead of transmitting it to the frame or timbers of the next car.

The invention embraces also certain novel parts and combination of parts producing an improved buffer device or means as hereinafter described and set forth in the claims at the end of this specification.

The following description explains at length the nature of the said improvements, and the manner in which I proceed to construct and apply the same in the production of a buffer-device of my invention, reference being had to the accompanying drawings.

Figure 1 is a plan or top-view of a car frame, showing my invention in place with part of one draw-bar broken away to show the spring. Fig. 2 is an inverted plan, on a larger scale, showing part of the device in place. Fig. 3 is a view of the underside of the lever.

The portion of the car frame shown in the drawings to indicate the relative position of the parts of the device comprises the longitudinal stringers 2 and the cross-beams or "bumper-timbers" 3. The tractive or pushing force applied to the car is applied

through either of the yielding draw-bars or bumpers 4 at the ends of the car-frame.

The draw-bars 4 and couplings 5 are of the approved type now used extensively on railroad cars in which the rear portion of the draw-bar is slotted to receive the bumper-spring 6, the slot being of proper length to allow the spring when in the inoperative position to be slightly compressed.

A follower-plate 7 inserted through the forward end of the slot, between the spring and the draw-bar, is held rigid by the guides 8 when a pull is exerted on the coupling and a similar follower-plate 9 in a like position at the other end of the slot is arranged to produce compression of the spring on being drawn forward. In like manner the follower-plate 9 is held rigid by guides 8 and is so connected that the follower-plate 7 will be moved inward with the effect to compress the spring 6 when the coupling receives impact or pressure. The spring is therefore arranged to be compressed either by a tractive or a pushing force on the draw-bar.

Mounted on the outer bumper timbers 3 on both sides of the draw-head are bearings 10 supporting levers 11 by which the draw-bars are connected with the tension rods 12. The tension-rods extend the length of the car, connecting the levers at each end. They are supported from the frame to prevent sagging.

The couplings shown in the drawings are of larger dimensions than the draw bars, and the levers 11 engage them at the point of connection between the coupling and the draw-bar. The draw-bars on a car have considerable play laterally and on rounding curves they are shifted more or less to the side. To prevent the levers 11 from becoming disengaged in this instance, the teeth 14 engage in slots 22 in the couplings and as the draw-bars move laterally the levers move with them, slipping in their bearings.

The levers 11 are provided on one end with a tooth 14 for engaging the draw bar and on the other end with a slot 15 through which the tension rod 12 passes. A swivel 16 fitted in the groove 17 in the lever and through which the tension rod 12 passes is provided to allow the rod 12 to remain straight at the ends as the lever rocks due to the motion of the draw bar. The fulcrum portion 18 at the center of the lever

is fitted to a seat in the bearing 10 with the projection 19 on one side of the lever in the slot 20 in the lower side of the bearing to hold the lever loosely in place. This allows the lever to slide in the bearing without becoming disengaged therefrom. A plate 21 is bolted to the upper side of the bearing and holds the lever in its seat. The projection 19 is preferably made integral with the lever so as not to weaken the lever at the point of greatest strain.

It will be observed that the apparatus is only operative when the draw-bar is driven inward in the shock of coupling-up cars in a train in which operation, usually, the shock of the coupling-up, especially, when several cars are already coupled to the locomotive, is sometimes so excessive, as to crush the outer bumper timbers. In the present invention the draw-bar at one end of the car is forced inward due to the shock of coupling-up, the motion is transmitted by the levers and tension rods to the draw-bar at the other end of the car which is forced outward. When several cars are connected together the shock is transferred from one car to the other through the train, the buffer springs in the draw-bars of the cars each taking up part of the shock. It will therefore be seen that the shock of coupling-up will be taken up by the buffer springs throughout the train and the car frames will not be subjected to the severe strain. It will also be seen that both draw-bars cannot be driven inwardly at the same time, but may be pulled out simultaneously. A shock on one coupling is transmitted to the coupling at the other end of the car and from there throughout the train until the shock is absorbed by the springs in the draw-bars, the cars remaining stationary due to their inertia.

As it is not necessary for the car frame to move to transmit the motion from one coupling to the other, the cars of a train may remain stationary when they are being coupled up, and not be subjected to the shocks.

I claim:—

1. In a buffer device for a railway car, the combination of the car frame, of separately movable draw bars on the opposite ends of the car frame, levers and rods actuated by the movement of the draw-bar at one end under impact or pressure of another car in the train to cause the draw-bar at the opposite end to move in the same direction independently of the car frame.

2. In a buffer mechanism for a railway car, the combination with a slidable draw-bar on each end of the said frame movable to a limited extent separately of the frame, levers of the first order fulcrumed on the frame at each end of the car, the levers at one end of the car having their arms on one side of the fulcrum engaging the draw-bar, and their arms on the opposite side of their fulcrums connected with the corresponding arms of the levers at the opposite ends of the car.

3. In a buffer mechanism for railway cars, the combination of slidable draw-bars having yielding movement separately of each other on opposite ends of the car-frame, of the levers at each draw-bar fulcrumed on the frame, the ends of said levers on one side of their fulcrum-points adapted to be engaged by the draw-bar, and means connecting the said levers on the opposite side of the fulcrum-points at one end of the frame, with the corresponding members of the levers at the other end of the frame, the last named levers being also adapted to engage the draw-bar at that end, whereby pressure against one draw-bar causes the other draw-bar to move in the same direction.

4. In a buffer device the combination with movable draw-heads, of connecting means operating by the movement of either draw-head toward the vehicle to cause the movement of the other draw-head away from the vehicle.

PETER RECCONI.

Witnesses:

LOUIS ABRATE,
H. G. PROST.