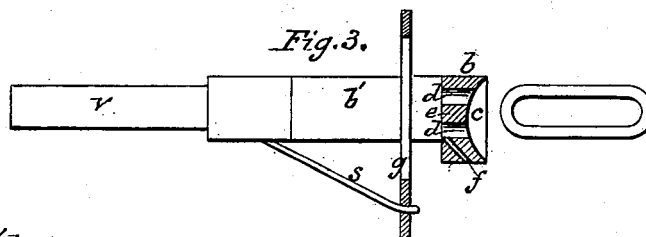
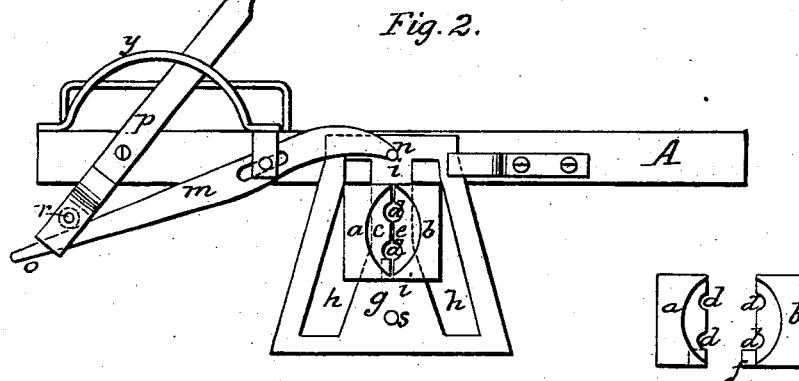
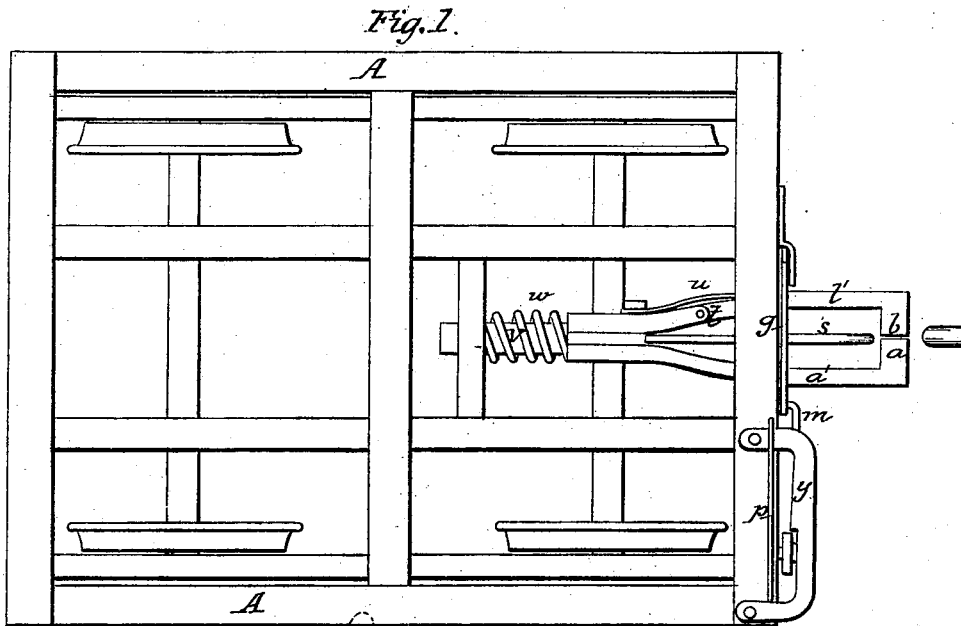


J. R. PALMER.  
Car Coupling.

No. 109,932.

Patented Dec. 6, 1870.



Witnesses.  
Geo. H. Strong.  
G. Fitzgerald.

Inventor:  
Jay R. Palmer.  
By his Atty  
Deady & Co.

# UNITED STATES PATENT OFFICE.

JAY R. PALMER, OF MARIPOSA, CALIFORNIA, ASSIGNOR TO HIMSELF AND JAMES H. HATCH.

## IMPROVEMENT IN CAR-COUPINGS.

Specification forming part of Letters Patent No. **109,932**, dated December 6, 1870.

*To all whom it may concern:*

Be it known that I, JAY R. PALMER, of Mariposa, county of Mariposa, State of California, have invented certain Improvements in Car-Couplings; and do hereby declare the following description and accompanying drawing are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use said invention or improvements without further invention or experiment.

The nature of my invention consists in the use of a series of levers, which operate a plate having two inclined slots, by means of which the jaws of the bumper are opened and the link released without the necessity of going between the cars and the consequent danger.

Referring to the accompanying drawing for a more complete explanation of my invention, A A is a car-frame, mounted on trucks in the ordinary manner. The bumpers are made in two parts, *a* and *b*, and so arranged as to open in a horizontal plane, the division being vertical.

The front end of the bumper is formed into a wide mouth, *c*, converging toward the back, so that the link from the other car will be guided on entering.

The rear part of the tapering mouth is formed with two openings, *d d*, sufficiently separated and large enough to admit and clasp the sides of the link when it is in place.

Between the holes *d* is a tongue, *e*, formed when the sides *a b* close, and this tongue holds the link in place, projecting between the sides of the link.

To prevent the link from falling out of the proper position when the sides of the bumper open to admit it, I form a tongue, *f*, near the bottom, on one of the sides, *b*, of the bumper, and a corresponding groove in the other side, *a*, so that when they are fully separated this tongue will extend across the opening at the bottom of the mouth *c*, and thus continue to support and guide the link till it has fully entered and the jaws have closed.

The mechanism for opening the jaws and uncoupling the cars consists of a plate, *g*, having the two inclined slots *h h*, separated at

the bottom and converging toward the top. The sides *a' b'*, which extend back from the bumper-head, pass through these slots, so that there is a sort of tongue, *i*, between them, formed in the plate *g*. This tongue is that part of the plate *g* which lies between the slots *h*, and it tapers from the bottom upward a short distance till it becomes narrow enough to just pass between the bars *a' b'*, after which its sides continue to the top parallel, the plate with its tongue and slots appearing as at Figure 2.

A lever, *m*, is pinned to the cross-beam B, forming the front of the car, and connects with the top of the plate *g*, in some suitable manner, at *n*. The opposite end, *o*, is operated by another lever, *p*, also pinned to the beam B, and extending up within easy reach of a person on the platform. A friction-roller, *r*, may be employed to ease the movement of one lever over the other.

When it is desired to release the link, the lever *p* is drawn back, and, by its action and that of the lever *m*, the plate is raised. This brings the diverging sides of the tongue *i* between the sides *a b*, and separates them sufficiently to allow the link to escape. A suitable spring, *s*, draws the plate down when the lever is released.

In order to allow the jaws *a* and *b* to separate, one of them, as *b*, is hinged, as at *t*, and a stout spring, *u*, serves to close it immediately when the link or the separating pressure of the tongue *i* is removed.

The sides *a b* continue back and are made fast to or end in a suitable bar, V, having the spring W or other suitable arrangement for relieving the shock of the meeting bumpers.

By this arrangement I am enabled to construct an automatic car-coupling which shall be cheap, easily applied to existing forms of cars, and which is not liable to get out of repair. The device for uncoupling is at once effective and safe.

If necessary or desirable, a catch may be made in the guiding-rack *y*, so as to retain the lever *p* and prevent its moving after the coupling is effected; but it is better to leave it free, so that in case of accident, if either car

leaves the track, the plate *g* will strike the ground, and, being forced upward, will open the bumper and uncouple the cars.

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

In combination with the bumper divided vertically, the wedge-shaped tongue *i* and levers *m* and *p*, to enable the brakeman to open the coupling either from the platform or side of the car.

In witness that the above-described invention is claimed by me I have hereunto set my hand and seal.

JAY R. PALMER. [L. S.]

Witnesses:

DEXTER WHITE,  
CHARLES HOWARD.