

United States Patent Office.

DANIEL HART, OF ROMULUS, NEW YORK, ASSIGNOR TO HIMSELF AND
JESSE YERKES, OF SAME PLACE.

Letters Patent No. 104,024, dated June 7, 1870.

IMPROVEMENT IN RAILWAY CAR-COUPLING.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, DANIEL HART, of Romulus, in the county of Seneca and State of New York, have invented a new and useful Improvement in Car-Couplings; and I do hereby declare the following to be a full and correct description of the same, sufficient to enable others skilled in the class to which my invention appertains to fully understand and use the same, reference being had to the accompanying drawing which forms part of this specification, and in which—

Figure 1 is a side elevation of two car-bumpers, with my improved device attached.

Figure 2 is a front view of one of the bumpers with my improvement attached.

Figure 3 is a plan of the link used with my device.

Figure 4 is a side view of the pin and device for keeping it elevated.

Like letters of reference indicate like parts in the several figures.

My invention consists in a pivoted frame, operated laterally by an elliptical or other spring, which frame, when acted upon by the peculiarly-shaped link, withdraws the support of the spring coupling-pin, and thus automatically effects the coupling, as the spring pin drops downwardly through the link.

In the drawing—

A B represent the draw-heads or bumpers of two cars, formed with open sides to allow of the lateral movement of bars C D, from the ends of which hangers *c d* are rigidly connected to horizontal pieces *e f*, so that, when the bars C D are moved forward or backward, the pieces *e f* follow them in their movement.

Between the bars C D and the ends of the draw-heads A B, and secured to both, are elliptical springs E F, which tend to keep the bars C D held toward the free ends of the draw-heads.

Two standards, G and H, are formed on or secured to the draw-heads, being on their outsides provided with bearings *g* and *h*, on which latter levers I J are suitably pivoted, the lower ends of which have their fulcrum in the ends of pieces *e f*, while their upper ends are connected by a cross-piece, *i* and *j*.

These cross-pieces extend upwardly a sufficient distance from the draw-head to support the coupling-pins L, when in an elevated position, so that their lower ends shall be free of the inside of the draw-heads; suitable notches in the front ends of the standards, and corresponding notches in the cross-pieces, allowing the central portions of the cross-pieces to pass in between the standards, which central portions are rounded off on their under sides.

The pin L is pivoted between the forked arms *m* of a piece, M, from which latter rises an elevating-pin N, passing through an opening in the cross-pieces K, connecting the two standards of each draw-head.

This piece M is provided at its sides with bearings *n*, sliding in slots *o* in the sides of the standards, and has a notch, *p*, formed on its face, forming a shoulder, *r*, which, when the pin is elevated by means of raising

the pin N, passes under the central portion of the cross-pieces *i j*, which latter then enter the notch *p*, and thus hold the piece M elevated, the shoulders *r* resting on the cross-pieces.

A spiral spring, *s*, surrounding the elevating-pin N, bears with its upper end against the under side of cross-pieces K, resting with its lower end on the top of piece M, thus keeping the latter downwardly, when not supported by the cross-pieces *i j*.

The link O has at one end an opening, *t*, of elongated form, so as to allow it to play freely around its pin L; its end bearing against the bar D and spring F, thus preventing any sudden jar.

The other end of the link has a circular opening, *u*, of sufficient size to allow the pin L to pass through, without enabling the link to play around the pin as at its other end.

The operation of my device is as follows:

The end of the link provided with the opening *u* being secured in the draw-head A, the other end enters the draw-head B, the pin L of which is then in an elevated position, as above described.

As the link presses against the bar D, the latter is forced backward, compressing the spring F, and carrying with it, by means of hangers *d* and pieces *f*, the lower ends of levers J, the upper ends of which are, by this movement, thrown forward, withdrawing the cross-piece *j* from its notches in the standards, and the central portion of the cross-piece from under the shoulder *r* of piece M, which then is forced downward by means of spring *s* passing the pin L through the opening *t* of the link, and thus effecting the coupling. At the same time the spring F, expanding, replaces the different parts to their normal condition.

Were the link to have both openings elongated, the spring E might be compressed instead of spring F, and thus no coupling effected, but, as the pin L in draw-head A holds the link by the opening *u* firmly, and prevents its extending backward, thus exerting all force against spring F.

As the coupling devices on draw-heads A and B are exactly the same, the end of the link having the opening *u* may be applied to either draw-head.

Having thus described my invention,

What I claim as new therein, and desire to secure by Letters Patent, is—

1. The device for holding the coupling-pin in an elevated position and for automatically releasing it, consisting of spring F, bar D, hangers *d*, pieces *f*, and levers J, with their cross-piece *j*, substantially as and for the purpose set forth.

2. The coupling-pin, consisting of the pin proper L, the piece M with its notch *p* and shoulder *r*, elevating-pin N, and springs, constructed and operating in connection with the bar *i* and its attachment, substantially as described.

DANIEL HART.

Witnesses:

JESSE YERKES,

JOHN A. WEIDERSHEIM.