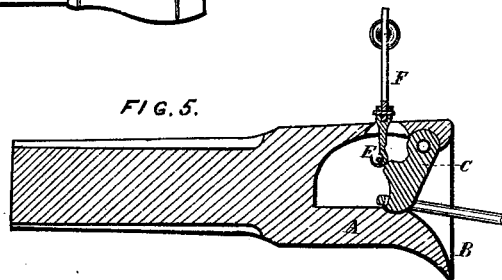
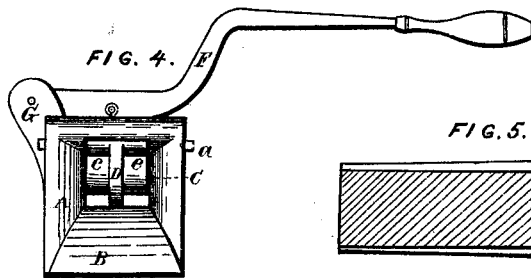
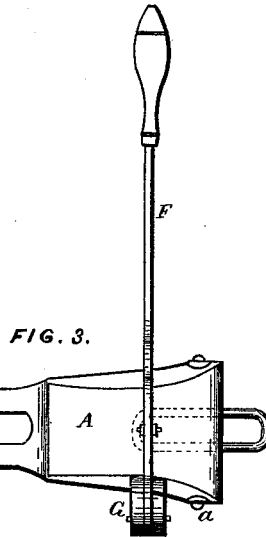
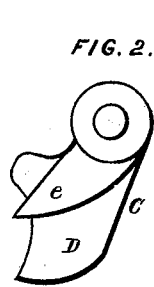
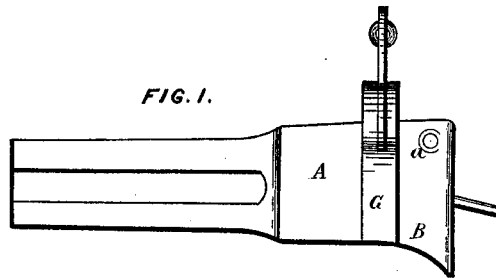


N. N. SPAFFORD  
 Car-Coupling.

No. 196,129.

Patented Oct. 16, 1877.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

NOAH N. SPAFFORD, OF STRONGSVILLE, OHIO.

## IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **196,129**, dated October 16, 1877; application filed March 14, 1876.

*To all whom it may concern:*

Be it known that I, NOAH N. SPAFFORD, of Strongsville, in the county of Cuyahoga and State of Ohio, have invented a certain new and Improved Car-Coupling; and I do hereby declare that the following is a full, clear, and complete description thereof, reference being had to the accompanying drawings, making a part of the same.

Figure 1 is a side view of the coupling. Fig. 2 is a detached section. Fig. 3 is a plan view of Fig. 1. Fig. 4 is an end view of Fig. 1. Fig. 5 is a longitudinal section.

Like letters of reference refer to like parts in the several views.

This invention is a coupling for railway-cars; and the object of the same is to have said coupling self-operative in coupling up cars, and in the event one of the cars of a train being thrown from the track, it would instantly become uncoupled from the train, and thereby avoid the danger of dragging the displaced car, or from throwing others from the track.

The following is a full description of the invention, the same being an improvement on a car-coupling for which a patent was granted to me August 31, 1875.

The coupling consists of the head A, Figs. 1 and 3, having a flaring mouth, as will be seen in Fig. 4, provided with a pendent lip, B. In said head is pivoted, at *a*, Fig. 5, a tongue, C, a detached view of which is shown in Fig. 2. Said tongue consists of a hook, D, having its rear face curved inwardly, to fit the form of the link-wire, to sustain said link in position by friction, on each side of which projects a convex shoulder, *e*, the purpose of its convexity being to allow the link to be placed in any suitable position to couple high or low cars, and be thus retained until the coupling shall have been completed, which will presently be shown.

To the tongue is attached a hook, E, the upper end of which is pivoted to the lever F, having its fulcrum in the stud G.

The practical operation of the coupling is as follows: The end of the link, on being inserted in the buffer-head, pushes inward the tongue until the end passes beyond the hook D thereof, which will then fall directly forward into the link, with each side, respect-

ively, under the shoulders *e* of the tongue. Said shoulders will retain the link in a horizontal position, so that it may enter the buffer-head of an approaching car, to be coupled therewith, which, on reaching the projecting end of the link, it enters. The head pushes back the tongue until it falls forward into the link, as aforesaid, thereby coupling the two cars together without going between them for that purpose.

The uncoupling of the cars is done by means of the lever F, on lifting the outer end of which (and which may be done from the side of the car) the tongue will be lifted, so that the link can be withdrawn from the head.

In the event of one of the cars being thrown from the track, the twisting of the coupling-link in the head would lift the tongue therein by the side of the link pushing upward against one of the shoulders *e*, which would allow the link to become disengaged from the hook D of the tongue and be drawn out, thereby liberating the car from the train, thus preventing it from being dragged along by the train, and from pulling other cars from the track, which it was liable to do in the event the displaced car remained uncoupled.

In my patented car-coupling referred to, of which this is an improvement, the tongue was not provided with a hook, D. The end of the tongue was straight across. Hence it was necessary to use a solid link, having a head on the end, forming a shoulder, to draw against the end of the tongue when inserted in the head. This was objectionable, as the coupling could not be used with an ordinary open or chain link, as can this my improved coupling, in which can be used the ordinary open link, thereby making the coupling more readily adaptable to general use.

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

Tongue C, provided with a hook, D, having its rear end curved inwardly, and on each side a curved shoulder, *e*, in combination with the link and head A, substantially as and for the purpose described.

NOAH N. SPAFFORD.

Witnesses:

S. C. SHEPARD,  
J. H. BURRIDGE.