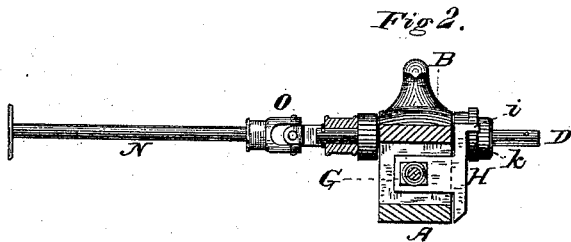
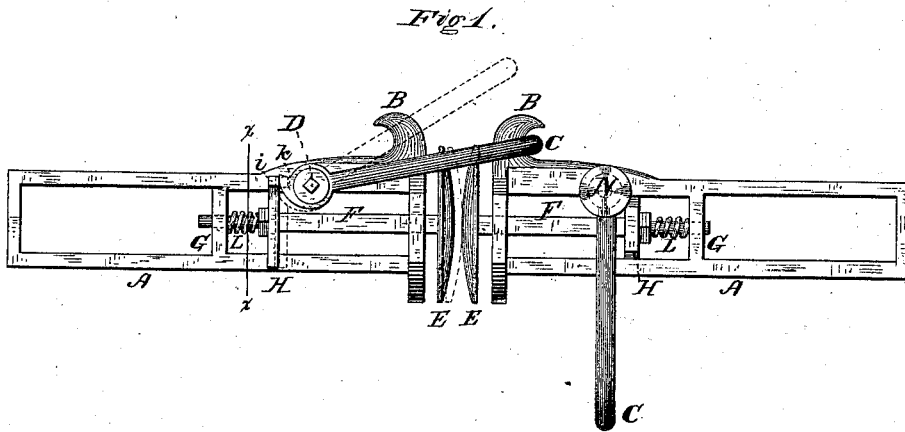


J. B. RABY & D. J. SUMMERS.
Car-Couplings.

No. 203,772.

Patented May 14, 1878.



Witnesses

Harry King
per.
W. C. Johnston

Inventors.

James B. Raby
Daniel J. Summers,
By Hill Villsworth,
Their Atty.

UNITED STATES PATENT OFFICE.

JAMES B. RABY, OF QUINCY, AND DANIEL J. SUMMERS, OF SHADY GROVE,
PENNSYLVANIA.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. 203,772, dated May 14, 1878; application filed
February 28, 1878.

To all whom it may concern:

Be it known that we, JAMES B. RABY, of Quincy, in the county of Franklin and State of Pennsylvania, and DANIEL J. SUMMERS, of Shady Grove, in the county of Franklin and State of Pennsylvania, have invented certain new and useful Improvements in Car-Couplings; and we do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of two draw-heads coupled together by our improvements; and Fig. 2 is a transverse section taken in the line *x x*, Fig. 1.

Similar letters of reference in the several figures denote the same parts.

Our invention has for its object to provide an improved automatic car-coupling, which shall be simple in construction and efficient in operation; and to this end it consists in a novel construction and arrangement of the various parts, which we will now proceed to describe, and point out particularly in the claims.

In the accompanying drawings, A A are the draw-heads, constructed with a flat face and a hook or horn, B, upon the upper front edge, over which the links catch to effect the coupling. These horns take the place of coupling-pins, and are never liable to be lost or broken.

C C are the links, each hung upon a transverse shaft or pivot, D, having its bearings in the upper side of the draw-head at or near the base of the horn, such links being made of sufficient size to fall over the end of the draw-head and hang beneath it when not in use, as shown in Fig. 1.

E E are the buffers, made in the form of plates, with convex faces, and about equal in area to the front of the draw-heads. They are each formed on or secured to rods or bars F, which pass centrally through the front of the draw-head, a wall or partition, G, in such head, and also through an intermediate upright guide and catch-plate, H.

The lower end of this catch-plate rests against the lower side edge of the draw-head, and its upper end against the upper side edge thereof, where it is formed with a shoulder, *i*, to catch over the shoulder of a cam, *k*, formed upon the

end of the link or firmly keyed to the shaft D. A spring, L, on the bars F, interposed between the wall G and a nut near the catch-plate, serves to hold the latter forward, together with the buffers, in the position shown in Fig. 1.

To uncouple the cars or hold the link in an upright position, (shown by dotted lines, Fig. 1,) the pivot or shaft is turned by any suitable means, so that the cam *k* shall press back the sliding catch-plate until their shoulders register with each other, when the spring L throws the plate forward with its shoulder above the shoulder of the cam, thereby locking the two and holding up the link. When the cars are to be coupled, the contact of the spring-buffers moves back the sliding catch-plates, and thereby automatically releases the elevated link, so that it shall fall over and catch upon the horn of the opposite draw-bar.

By making the links large and the faces of the buffers convex they will operate upon very short curves, as will be readily understood.

As one means for raising the links I employ a rod, N, connected to the shaft by a universal joint, O, so that it may be operated from the side of the cars without the necessity of going between them, thereby avoiding the danger of injury to the operator.

The springs L may be made sufficiently strong to hold the buffers constantly together when the cars are in motion, to prevent sudden shocks and jars from injuring the coupling or disconnecting it in any way.

We claim as our invention—

1. The combination of the sliding spring catch-plate H and shouldered cam *k* with the pivoted links, substantially as described, for the purpose specified.

2. The combination of the spring-buffer E, sliding catch-plate H, pivoted links C, shouldered cams *k*, and the draw-heads, having horns or catches B, substantially as described, for the purpose specified.

JAMES B. RABY.

DANIEL J. SUMMERS.

Witnesses:

W. C. JIRDIUSTON,

M. CHURCH,

WM. B. RABY,

CHARLES MITCHELL.