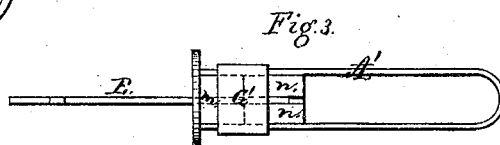
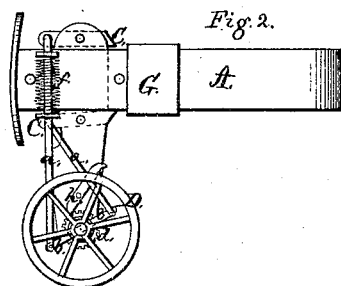
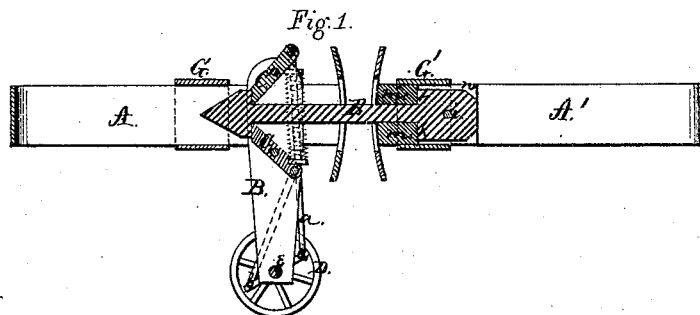


D. H. BALL.  
Car Coupling.

No. 111,419.

Patented Jan. 31, 1871.



Witnesses.

Henry A. Miller  
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Inventor.

David H. Ball.  
per  
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# United States Patent Office.

DAVID H. BALL, OF SINNAMAHONING, PENNSYLVANIA.

Letters Patent No. 111,419, dated January 31, 1871.

## IMPROVEMENT IN CAR-COUPPLINGS.

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, DAVID H. BALL, of Sinnamahoning, in the county of Cameron and in the State of Pennsylvania, have invented certain new and useful Improvements in Car-Coupling; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

The nature of my invention consists in the construction and arrangement of a car-coupling to be applied on the old style draw-heads, as will be hereinafter fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a horizontal section of my car-coupling looking upward;

Figure 2 is a plan view of one of the draw-heads; and

Figure 3 is a side view of the other draw-head.

A A' represent two of the old style draw-heads, to which I have applied a self-acting car-coupling of peculiar construction.

B B are two plates or bars, of suitable dimensions, secured near the front end, on the inside, to the top and bottom of the head A, directly opposite each other, and projecting for a suitable distance to the left of the draw-head.

Between and in the two plates, B B, are pivoted two jaws, C C, so arranged that the pivot-points will be one on each side of the draw-head A.

Through the front ends of these jaws pass rods *a*, which are bent toward the outer ends of the plates B and pivoted to arms *b b*, said arms extending in opposite directions from a collar, *d*. This collar is secured to an upright shaft, *e*, which has its bearings in the outer ends of the plates B B, and is at its upper end provided with a hand-wheel, D, so that the jaws may be opened from the platform of the car in the same manner as a brake is generally applied.

On one of these rods is a spiral spring, *f*, bearing against the elbow of the other rod, so as to separate the front ends of the jaws C C, and consequently close their rear ends.

By turning the hand-wheel D the jaws are readily opened to uncouple the cars.

The collar *d* is toothed, as shown in fig. 2, and upon the top plate B is pivoted a pawl, *h*, either end of which may be applied to the toothed collar, so that,

if desired or necessary, the jaws may be locked either open or closed.

The end of the coupling-bar E, which enters between the jaws C C, is spear-shaped, as shown in fig. 1, so that when it is inserted the jaws will catch on the same and hold it.

Around the draw-head A, immediately in rear of the jaws C C, is placed a band, G, which acts as a guide in uncoupling to prevent the coupling-bar from moving to either side, which would cause it to hang on to one of the jaws. The band G prevents this, and holds the coupling-bar in the center, so that it may be drawn out as soon as the jaws are opened.

The other end of the coupling-bar E is provided with a shoulder or offset, *k*, on each side, and held in the draw-head A' by means of a coupling-pin, *i*.

On each side of the coupling-bar, between the shoulder *k* and the front end of the draw-head A', is placed a rubber block, *m*, extending from top to bottom of the draw-head; and other blocks *n n*, of rubber, are placed one above and the other below the rear end of the coupling-bar, said blocks coming close up to the rear edges of the front blocks *m m*.

A metallic band, G, surrounding the draw-head, keeps all these blocks in their places, and, in addition, the pin *i* passes through the blocks *n n*, so that they cannot fall out.

By means of these rubber blocks the coupling-bar is held steady in the center, so as to enter the other draw-head properly when the cars are brought together for coupling, the spear-end of the coupling-bar pushing the jaws apart, and the spring *f* closing them when the coupling-bar has entered the proper distance.

It is, of course, evident that I may dispense with the arrangement inside the draw-head A', and use two of the heads A with the device described for the same, in which case the coupling-bar should be spear-shaped at both ends.

Having thus fully described my invention,

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

In combination with a draw-bar, A, the plates or bars B, jaws C C, rods *a a*, arms *b b*, spring *f*, and shaft E, constructed and used as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 27th day of December, 1870.

DAVID H. BALL.

Witnesses:

A. N. MARR,

JAS. E. HUTCHINSON.