R. A. COWELL.

Car Coupling.

No. 82,807. Patented Oct. 6, 1868.

Fig. 1.

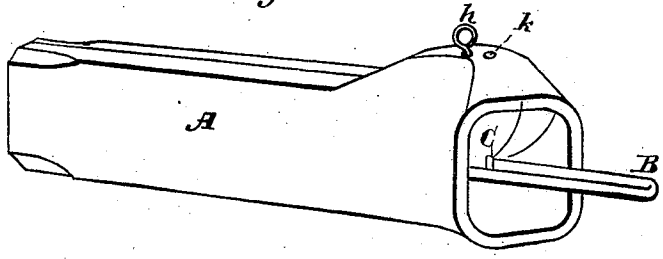


Fig. 2.

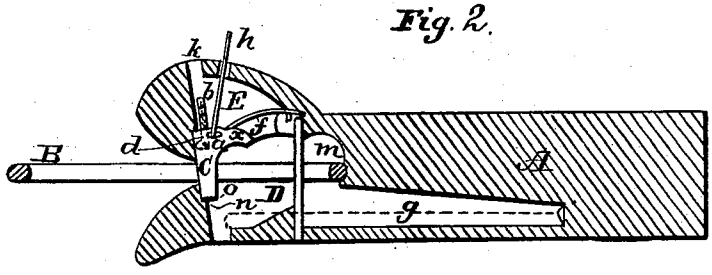
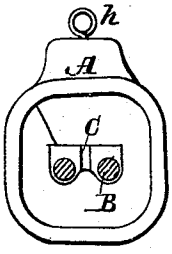


Fig. 3.



Witnesses:

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R. A. COWELL, OF CLEVELAND, OHIO.

Letters Patent No. 82,807, *dated October* 6, 1868.

IMPROVED 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, R. A. COWELL, of Cleveland, in the county of Cuyahoga, and State of Ohio, have invented a new and useful device for coupling or shackling together railroad-cars, which device is known as "Cowell's Union Car-Coupler;" and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the coupler,

Figure 2 a vertical and longitudinal section, and

Figure 3 is a front view of the concave face of a draw-head adapted to this invention.

The principle on which my coupler operates is self-acting or automatic, its parts being so constructed and arranged that, by its use, railway-cars may be coupled securely together or uncoupled, without the necessity of a person placing himself between the cars for that purpose, thus greatly reducing the risks of life and limb to which railway-employees are ordinarily subjected, and securing dispatch and economy in the composition and management of railway-trains.

To enable others skilled in the art to make and practise my invention, I now proceed to fully state its construction and operation.

A is a draw-head or bumper.

B is an ordinary link used in coupling cars.

C is a bolt or pin, working into said link, and thereby securing the coupling in the manner hereafter to be explained.

D is a chamber in the draw-head, so constructed as to receive on its floor a reserve connecting-link, as shown by the dotted line *g*, and furnished with a shoulder, against which the end of the connecting-link may firmly rest when required.

E is a smaller chamber in the draw-head, in which the connecting-pin or bolt C is lifted by the act of uncoupling, or is held in position when coupling.

There are two pivots, one on each side of the bolt C, as shown at *a*, working in corresponding vertical grooves in the walls of the chamber E, as shown at *b*.

f is a spring, which holds the connecting-pin or bolt C in place.

l is a rod, passing vertically through the chamber D and through the connecting-link B, preventing the misplacement or loss of the link.

h is a rod attached at its lower end to the pin or bolt C, and working nearly vertically through an orifice in the top of the draw-head.

k is a vertical pin-hole through the front part of the draw-head, provided for instant use in connection with an ordinary connecting-pin, in the old and common mode, in case of emergency.

From the description above given it will be readily seen that the bolt or connecting-pin C has both a swinging or oscillating and a vertical motion, the former, when, yielding to the percussive force of a link entering the mouth of the draw-head in the act of coupling, the lower part of the bolt moves around the point *a* as a centre, taking the direction of the dotted line *n o*, and so soon as the end of the entering link has passed beyond the end of the bolt, the force of the spring *f* is exerted to place the bolt within the link and restore the lower end of the bolt to its former position against the jaw of the draw-head at *n*, thus firmly coupling the draw-head A, for example, with that which presents the entering link.

The bolt C has its vertical motion when the lifting-force is applied to the rod *h* in the act of uncoupling. In this case the lateral pivots, as shown at *a*, in connection with the corresponding vertical grooves, as shown at *b*, serve as guides to give to the bolt C its vertical direction; and it is manifest that when the lower point of said bolt is raised above the link, the latter may be withdrawn from the draw-head, and the uncoupling is effected, whereupon the spring *f* is again effectual to return the bolt C to its former position.

It will be observed that whenever, by the process just described, a particular draw-head is coupled to

another, the link belonging to the one lies on the floor of the chamber D, as shown by the dotted lines *g*, while the connection is formed by the link belonging to and presented by the other.

The bolt C may be constructed with the arm *x*, which acts as a lever, and aids the spring *f* to perform its function in the act of coupling, as described.

The mouth of the draw-head may be large enough to admit the hand for placing the link in position, or there may be an opening for this purpose in the bottom of the draw-head.

The lifting-force may be applied to the rod *h*, in uncoupling, by means of a cord or chain and pulley attached to the platform or top of the car, or by a lever operated at the side of the car, or by any other equivalent device.

The rod *l* should be located at a distance from the jaw of the draw-head less than half the length of the accompanying link, so that when the latter is drawn from its chamber into position for coupling, the superior weight of the front part of the link, operating on the jaw of the draw-head as a fulcrum, shall always lift the rear end of the link before and against the shoulder at *m*.

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

1. The connecting-bolt or pin C, constructed with the pivots *a* and arms *x*, and operating in combination with the spring *f* and slot *b*, substantially as and for the purposes described.

2. In a railway-car draw-head, arranging the chamber D with the superior recess or apartment E, in combination with a connecting-bolt or pin, as C, having a rotary and vertical action, all constructed and operated substantially as herein described.

R. A. COWELL.

Witnesses:

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J. M. HENDERSON.