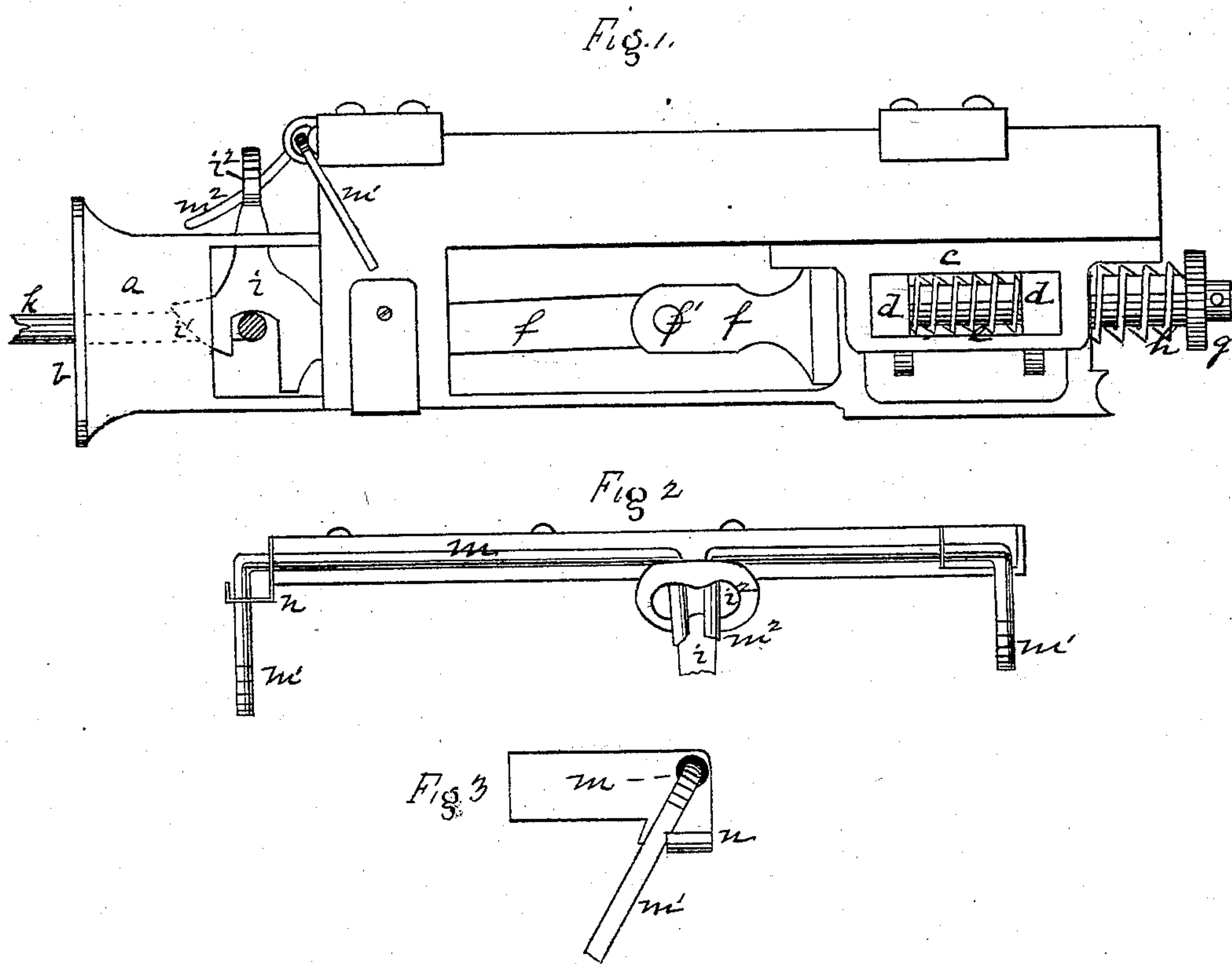


W. D. RINEHART.  
Car-Couplings.

No. 151,244.

Patented May 26, 1874.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

WILLIAM D. RINEHART, OF ALLEGHENY CITY, PENNSYLVANIA.

## IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. 151,244, dated May 26, 1874; application filed March 6, 1874.

*To all whom it may concern:*

Be it known that I, WILLIAM D. RINEHART, of Allegheny City, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Draw-Head and Coupling; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a side view of my improved draw-head, as attached to the timbers. Fig. 2 is a side view of the device for operating and locking the coupling-hook, and Fig. 3 is a view of the lock.

Like letters of reference indicate like parts in each.

My invention consists of an improved construction of the draw-head, and in an improved coupling specially adapted to my draw-head.

To enable others skilled in the art to make and use my invention, I will describe its construction and mode of operation.

I make the head *a* of the usual form, having a bell-mouth, *b*, a pocket, *c*, containing the follower-plates *d*, and draft-spring *e*. Extending longitudinally through the head *a* is a bar, *f*, which I term the draft-bar. The rear end of the bar is fitted with a collar, *g*, between which and the end of the head is a spring, *h*. The front end of the bar *f* is fitted with the coupling device. In order to adapt the bar to this device, which is automatic or self-coupling, I pivot the forward end at *f'*. The front side of the hook *i* is beveled or inclined, as at *i'*, so that when struck by the link *k* it shall throw up and allow it to pass. In order to uncouple the cars without going between them to direct the link at any angle in coupling cars of different heights, and to lock the hook *i* either down or up, I make a lifter, *m*, having handles or cranks *m*<sup>1</sup> at both sides of the car, and a center arm, *m*<sup>2</sup>, projecting through the slot *i*<sup>2</sup> in the handle of the hook *i*. At one side of the car there is a stop, *n*, for locking the lever *m* to hold the hook either up or down.

The operation is as follows: The relative position of the head and coupling-hook is such that the former must be pressed back before the cars can be coupled. This position is the

result of the pressure of the spring *h* throwing the head forward. The head is then always in position to prevent or take up any slack between the opposite heads. The greater the strain or draft the more certainly will the slack be prevented, because the entire draft is on the bar *f*, and it presses on the spring *h*. The jar of the cars in coming together is sufficient to force back the heads and couple them. For uncoupling or directing the link the hook *i* is operated from the outside by the handles *m*<sup>1</sup>. To lock the hook *i* either up or down, the rod or lifter *m* is pushed or drawn out laterally until the handle *m*<sup>1</sup> will swing free of the stop *n*. This lateral movement is permitted by the slot *i*<sup>2</sup>. The handle *m*<sup>2</sup> is then turned forward if it is desired to raise the hook, or back if it is desired to lock it down, and then pushed inward until it locks on the stop, as shown in Fig. 3. The latter position prevents the hook from springing up and uncoupling.

The advantages accruing from the use of my invention are very great. The racking and jarring of the cars during the braking, stopping, and starting of the train are almost entirely obviated. On trains in which the air-brake is used it is customary to insert a wooden plug or pin into the link between the heads to take up the slack and prevent jarring, which has been found to be injurious to the brake-attachments. This expense is unnecessary where my improvement is used.

I am aware that rubber buffers have been placed on the rigid bar which runs back through the cross-timber of the car, so as to bear against the timber on both sides, but such rubber springs or buffers do not and cannot operate to throw forward the head for the purpose of taking up the slack.

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

A draw-bar, *f*, having the link-connection at its forward end, in combination with a spring mounted upon it and bearing against the head, for the purpose of drawing the head forward to take up the slack, as described.

In testimony whereof I, the said WILLIAM D. RINEHART, have hereunto set my hand.

WM. D. RINEHART.

Witnesses:

JAMES I. KAY,  
HUGH QUIGG.