R. G. RANKIN.
Car-Coupling.

No. 196,539 Patented Oct. 30, 1877.

Fig 1.

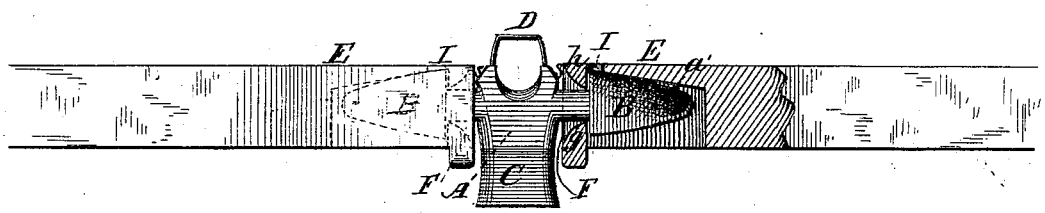


Fig 2.

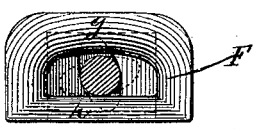
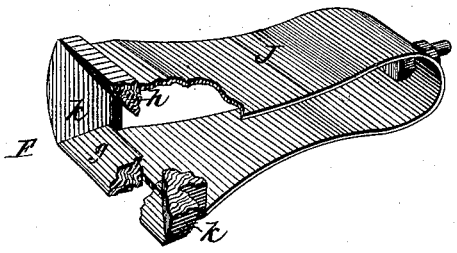


Fig 4.

Fig 3



Witnesses

Harry King

Fred. Kenny

Inventor:

Robert G. Rankin

By Hill Ellsworth

His Atty.

UNITED STATES PATENT OFFICE.

ROBERT G. RANKIN, OF WAVERLY, MARYLAND, ASSIGNOR OF ONE-HALF HIS RIGHT TO JOHN S. GREEN, OF SAME PLACE.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **196,539**, dated October 30, 1877; application filed March 17, 1877.

To all whom it may concern:

Be it known that I, ROBERT G. RANKIN, M. D., of Waverly, in the county of Baltimore and State of Maryland, have invented a new and Improved Car-Coupling; and I do hereby declare the following to be a full, clear, 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 the coupling-link applied to the draw-heads, which are shown partly in section. Fig. 2 is an end view of the draw-head. Fig. 3 is a perspective view, partly in section, of the means employed to adapt the ordinary draw-head for use with my coupling-link; and Fig. 4 is a transverse section of one of the draw-heads of the coupling-link.

Similar letters of reference in the accompanying drawings denote the same parts.

My invention has for its object to improve the means for coupling and uncoupling railroad-cars, whereby these operations are simplified and facilitated; and to this end the invention consists, first, in an arrow-headed coupling-link weighted upon one side between the heads, and so constructed that when the heads are inserted within the mouth of a draw-head they, together with the link, turn automatically to permit the passage of the arrow-heads completely therein, when the weight automatically turns the link back again, so that its shoulders shall stand behind the upper and lower edges of the draw-head mouth, and thereby form the coupling.

It further consists in the construction of the draw-head for use with the weighted coupling-link, and in the means for adapting the ordinary draw-head to a like use.

In the accompanying drawings, A is the coupling-link, composed of a metal bar having an arrow-head, B, at each end, and a weight, C, upon one side between the heads. These parts may all be cast in one piece, with a loop or handle, D, upon the upper side of the bar, by which the link can be handled, or suspended from a hook or pin in the side of the car. The weight is so applied as to hold the arrow-heads up edgewise, as shown in Fig. 1, in which position they are designed to work within the draw-heads, and each of such arrow-heads is made with a bevel or incline upon opposite sides, so as to form a diagonal edge or point, a', as shown in the drawings. E E are the draw-heads, each constructed with a long lateral mouth, F, the lower edge, g, of which is curved downward, as shown, for the purpose of guiding the coupling-link in the center of draw-head. This edge, together with the opposite one, h, above it, form shoulders to catch against the shoulders of the arrow-heads, and form the coupling, as shown in Fig. 1. The inner side walls of the draw-head incline outward to the ends of the mouth, being practically flush therewith, to prevent the shoulders of the arrow-heads, when turned flatwise, from catching against such ends.

The operation of coupling is performed in the following manner: The link being held in a horizontal position, by hand or by the draw-head of a car, the free arrow-head is directed into the draw-head of the opposite car. The beveled or inclined sides of the arrow-head, encountering the upper and lower edges g h of the mouth F, operate to turn the link so that the arrow-head shall enter the mouth flatwise, until it clears the edges g h, when the weight C turns the link back again to its working position, with the shoulders of the arrow-head behind the edges g h of the draw-head, as shown in Fig. 1, and thereby completing the coupling.

To uncouple the link it is only necessary to turn it, by hand or other means, and then withdraw it from the draw-head, as will be readily understood.

The weight holds the coupling-link in its upright position under all the various positions of the cars when running; but should any one of the cars be tipped over, its draw-head will turn so as to release the arrow-head and uncouple the car from the train. Holes I are provided in the draw-heads for the insertion of a coupling-pin, if, for any reason, it becomes desirable or necessary to use the ordinary coupling-link.

Fig. 3 of the drawings represents the ordinary draw-head adapted for use with my improved coupling-link. This is effected by applying to the front end of such head a metal

plate, J, having a mouth, F, and holding and guiding edges *g h*, already described, together with two beveled or other guide-blocks, *k k*, secured to its inner side next the ends of the mouth, to take the place of the inclined side walls above referred to, as shown in Fig. 1.

I claim as my invention—

1. The arrow-headed coupling-link having the shoulders *s s*, which act as buffers between the draw-heads, and prevent the points of the links being injured by contact with the inner rear walls of the draw-heads when the cars come together, substantially as described.

2. The arrow-headed coupling-link, weighted upon one side, and provided with a loop or handle, D, whereby the link can be adjusted and rotated for the purpose of uncoupling, substantially as described.

3. The draw-head constructed with mouth F, having the straight upper edge *h* and the curved or concaved lower edge *g*, whereby the link is securely held and kept always in the center of the draw-head, substantially as described, for the purpose specified.

R. G. RANKIN, M. D.

Witnesses:
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