(No Model.)

E. N. JONES.

CAR COUPLING.

No. 421,285. Patented Feb. 11, 1890.

Fig. 1.

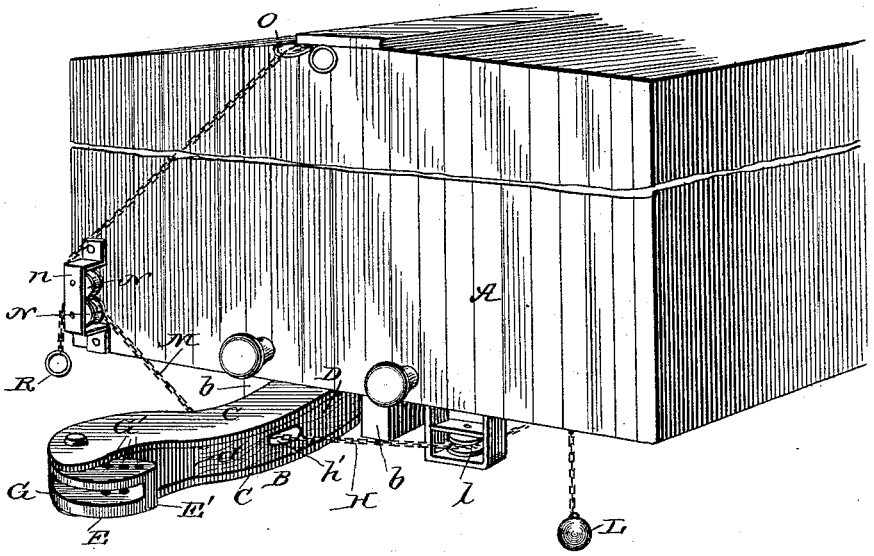


Fig. 2

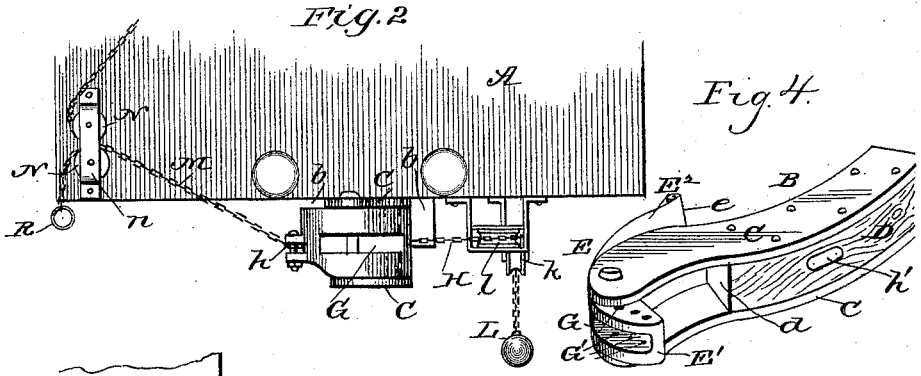
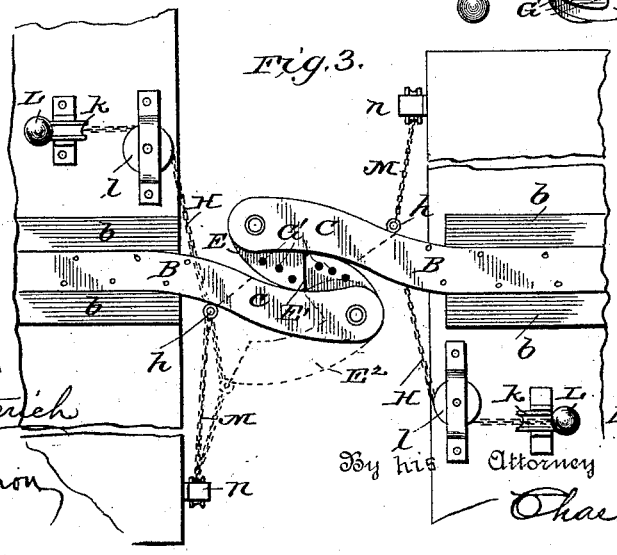


Fig. 4.

Fig. 3.



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ERASTUS NEWHALL JONES, OF ST. JOHN, NEW BRUNSWICK, CANADA, ASSIGNOR OF ONE-HALF TO THOMAS McAVITY, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 421,285, dated February 11, 1890.

Application filed December 10, 1889. Serial No. 333,220. (No model.)

To all whom it may concern:

Be it known that I, ERASTUS NEWHALL JONES, a subject of the Queen of Great Britain, residing at St. John, in the county of St. John and Province of New Brunswick, Dominion of Canada, have invented certain new and useful Improvements in Automatic Car-Couplers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates generally to automatic car-couplers, and particularly to that class thereof known as "twin jaw-couplers," and has for its object to produce a coupler which shall be thoroughly automatic and safe in its action, one that can be used in connection with any other coupler, and one in which the mechanism shall be simple and durable; and with these objects in view my invention consists in the improved construction and combination of the various parts hereinafter fully set forth in the description and claims.

In the accompanying drawings, forming a part of this specification, and in which the same letters of reference indicate the same or corresponding parts, Figure 1 is a perspective view of the end of a car provided with my improved coupler. Fig. 2 is a front view of the same. Fig. 3 is a bottom plan view of a pair of couplers in coupled position, and Fig. 4 is a detail view in perspective of the combined draw bar and head.

Referring to the drawings, A indicates a car provided with the usual buffers, and to the under side of the said car is secured the draw-bar B of my improved coupling, said draw-bar being secured in the usual manner, and at each side of the rear portion are secured the blocks *b b*, whereby all lateral movement of said draw-bar is prevented.

The draw-bar consists of two flat metallic plates C C and a block D, of wood or other suitable material, interposed and secured between the rear portions of said plates by bolts passing therethrough. The plates are somewhat serpentine in shape, as shown, the portion that projects beyond the car being curved the most. The block D extends outward about as far as the end of the car, and between the forward ends of the plates is pivoted a head E, consisting of a hook-shaped nose E′, adapted to project outward from the concave edges of the plates and having a curved outer face and flat rear face and a body portion E^2, curved similar to the forward portion of the plates, and between which it normally rests, said head E being pivoted upon a bolt F, passing through the plates and said head near the forward ends of the same. The forward end of the block D is beveled, as at *d*, toward the nose E′ and the rear end of the body portion E^2 is beveled, as at *e*, to abut against the said block, thereby forming a stop to prevent said body portion swinging between the plates. It will of course be understood that I do not confine myself to making the draw-bar of the separate plates and interposed block, but I may cast the said draw-bar in a single piece, and in many cases this method is to be preferred. The forward face of the head E is provided with a transversely-elongated recess G, and passing through the head and communicating with the said recess are a series of vertical apertures G′, the purpose of which will appear farther on.

The couplers are so arranged upon the cars that the draw-bars will be in horizontal alignment with each other, so that the strain will be directly and not laterally upon said draw-bars.

To operate the draw-head, I employ a chain H, connected to the rearmost end of the body portion E^2 by means of an eye *h* or other suitable means, said chain passing through an aperture *h′* in the block D, around a horizontal pulley *l*, and over a vertical pulley K, said pulleys being journaled in the frames *i* and *k*, respectively, attached to the under side of the car, and upon the free end of the chain H is attached a weight *t*, considerably heavier than the draw-head E. Connected also with the eye *h* is another chain M, said chain extending in an opposite direction to the chain H and over a vertical pulley N, journaled in a frame *n* at the end of the car, and upon the end of said chain M is a hand ring or grip R. When it is desired to arrange the coupler to be uncoupled from the top of the car, the chain M is passed under the pulley N and up to the top of the car through a suitable guide O, and

on the end is secured a hand ring or grip. Where it is desired to uncouple from either the top or side of the car, I employ two pulleys N N, and make the chain M in two sections, as shown in Fig. 2, and in which the pulleys N N are arranged in vertical alignment adjacent to each other and journaled in a common frame *n*. This is not an essential, but a convenient, feature, and may be varied without departing from the spirit of my invention. By means of the transversely-elongated recess G and vertical apertures G′ I am enabled to make a coupling with any other form of coupler by inserting a link in recess G and securing it by means of a pin passed through one of the apertures G′, and by having the recess elongated and a series of vertical apertures I can always accommodate any eccentricity of the other coupling.

The construction and arrangement of the various parts of my invention having been fully described, its operation is as follows: The weight upon the end of the chain H is sufficient to always keep the nose E′ of the draw-head ready for engagement, and when two couplers of the above description are brought together the curved faces of the head slide along each other and press each other inwardly, thereby raising the weight L. The moment the point of either nose has reached and passed the point of the nose of the opposite head the flat surfaces are brought into contact and the coupling made, the weights serving to throw the noses into engagement with each other. To uncouple, the hand-ring R (either on the top or to the side of the car) is pulled, when the nose is brought back within the curved plates, and the opposite draw-head can pass freely out.

The advantages of my improved coupler are that it is simple in construction, safe in its action, and is not liable to get out of order, is easily operated, can be used upon either freight or passenger cars, and is adapted for use with any other form of coupler.

Having thus described the construction, operation, and advantages of my improvement, what I claim is—

1. In an automatic coupler, the combination, with a draw-bar, of a hook-shaped draw-head pivoted at the forward end of the same, a chain connected to the rear end of said head, and a weight attached to said chain, whereby the head is always held ready for coupling, substantially as shown and described.

2. In an automatic coupler, the combination, with a draw-bar, of a hook-shaped draw-head pivoted at the forward end of said draw-bar, the contiguous ends of said bar and head being beveled, as described, a chain connected to the rear end of the draw-head, and a weight attached to said chain, substantially as shown and described.

3. In an automatic coupler, the combination, with a draw-bar composed of the upper and lower plates and block interposed between the same, the forward end of said block being beveled, as described, of the hook-shaped draw-head pivoted between the forward ends of the plates, the rear end of said head being beveled to abut the beveled end of the block, a chain connected to the rear end of the head, a weight attached to said chain, and a second chain connected to the rear end of said head, whereby uncoupling is accomplished, substantially as shown and described.

4. In an automatic coupler, the combination, with a draw-bar composed of the top and bottom plates and the intermediate block beveled at its forward end, of a hook-shaped draw-head pivoted between the forward ends of said plates, its rear end being beveled to abut against the beveled end of the block, the chain H, connected to the rear end of the head and passing through an aperture in the said intermediate block, a weight attached to said chain, and the chain M, also connected to the end of the draw-head, the free end of said chain being divided into two parts, one adapted to extend to the side of the car and the other to the top of the car, substantially as shown and described.

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