E. O. RICHARD.

CHAIN AND BELT COUPLINGS FOR RAILROAD-CAR BRAKES.

No. 195,400. Patented Sept. 18, 1877

Fig. 1.

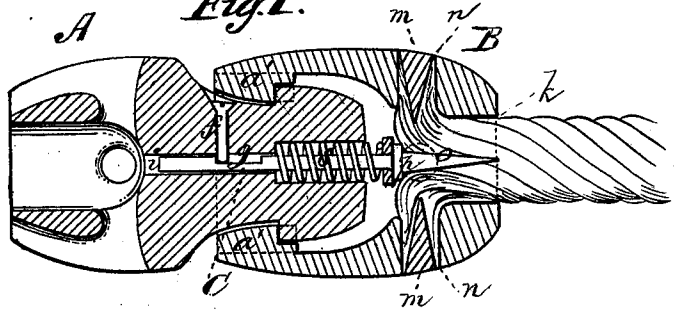


Fig. 2

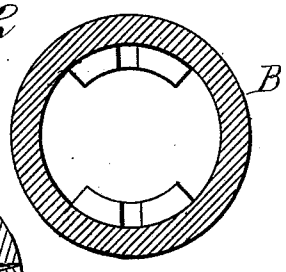


Fig. 3

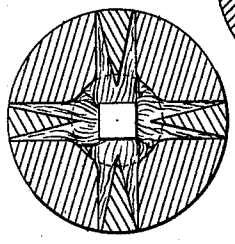


Fig. 5.

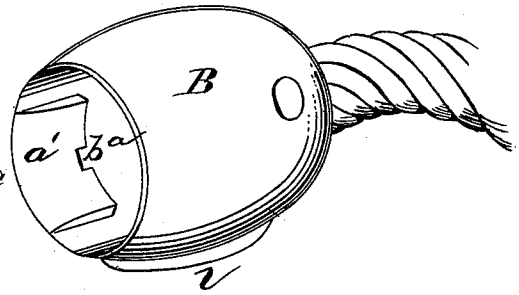


Fig. 4.

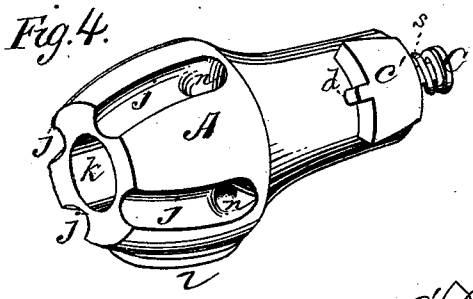
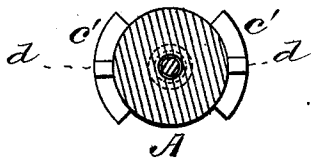


Fig. 6.



WITNESSES

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EDMOND O. RICHARD, OF ST. ROCHE, QUEBEC, CANADA.

IMPROVEMENT IN CHAIN AND BELT COUPLINGS FOR RAILROAD-CAR BRAKES.

Specification forming part of Letters Patent No. **195,400**, dated September 18, 1877; application filed April 14, 1877.

To all whom it may concern:

Be it known that I, EDMOND OVIDE RICHARD, of St. Roche, in the Province of Quebec and Dominion of Canada, have invented a new and valuable Improvement in Couplers for Car-Brake Chains and Ropes; 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, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a longitudinal central section of my invention. Figs. 2, 3, and 6 are sectional details; and Figs. 4 and 5 are perspective detail views.

This invention has relation to improvements in devices for coupling the brake chains or ropes of railroad-cars when the brake-shoes are applied at one end of the train, and for other purposes; and it consists in coupling-heads, the one male and the other female, that are applied upon the adjacent ends of the brake ropes or chains, adapted to engage the one with the other, and provided, respectively, with a spur and recess adapted to interlock the one with the other, and held to such interlocking by a spring, all as hereinafter shown and described.

In the annexed drawings, the letter A designates the male, and B the female, head of my improved coupler. These are, respectively, secured to the ends of the brake chains or ropes in any suitable manner.

The female coupling B has a recessed chamber, *a*, extending a sufficient distance inward, and provided with two opposite offsets, *a' a'*, upon its front edge that are beveled or curved inward and extend at or about one-half the depth of the chamber. These offsets have upon their heels a notch, *b*, the object of which will hereinafter become apparent.

A represents the male coupler, having upon its rabbeted front end two opposite dovetailed offsets, *c' c'*, that are adapted to pass between the offsets *a' a'* of the female head. These offsets have upon their heels each a spur, *d*, that is adapted to be received in the notch *b* aforesaid.

The operation of my coupler is as follows: The reduced end *e* of the male head is passed into the chamber *a*, its offsets *c c'* being inserted between those *a a'* of the female head, and forced inward until they pass them. The male head is then turned one-fourth round, when the notches *b* and spurs *d* will be opposite each other. These latter being engaged the one with the other, the coupling is complete.

In order to prevent the offsets *a'* and *c c'*, which in this position are interlocked, from becoming disengaged from each other by the casual turning of the heads and escape of spurs *d* from the notches *b*, I use the following: A headed bolt, C, is passed into an axial orifice, *i*, in the end of the mail head, and confined therein by means of a screw, *f*, that extends through the neck of the head into a longitudinal slot, *g*, in the bolt. The latter is thus allowed an extent of endwise play proportionate to the length of said slot, and is forced outward from its recess by means of a spring, *s*, that is arranged on the said bolt, and compressed between the head thereof and a shoulder of the recess in which the said bolt works. When the heads are coupled the head of the bolt bears forcibly against the rear end of the chamber of the female head, and compresses the spring *s* aforesaid, which thus prevents the disengagement of the spurs from the notches and an uncoupling of the head. These heads will be made of any suitable metal, and will have ridges *l* upon their outer surfaces, which serve as guides at night to indicate when the spurs and notches aforesaid are in proper position for engagement with each other. Where wire ropes are used as the medium of applying the brakes the end of the rope is passed through an opening, *k*, of suitable size in the rear wall of the couplers, divided into four strands or branches, more or less, and each branch passed outward through an aperture, *n*, in the side of the coupling-head. Metallic wedges *m* are then driven in to secure the said strands to the head, and the projecting ends of the strands evenly cut off. I also drive a wedge, *o*, having a broad head, *p*, between the branches of the rope at the bottom of the chamber, so as to jam it against the wall of the orifice *k* aforesaid. The headed bolt C then has a bearing upon the head of this wedge.

Instead of wedging the ends of the strands, as aforesaid, to the couplers, they may be drawn through the orifices *n* and spliced in the usual manner to the body of the rope. In this case the couplers will have grooves *j* formed in rear of said orifices for the reception of the strands, in order not to increase unduly the size of the coupler. Where chains are used to apply the brakes the coupling-heads will have each a metallic ring secured thereto in any suitable manner, to which the ends of the brake-chains will be properly secured.

When the wire ropes are properly secured to the coupling-heads, as above described, they are dipped into melted tin or other suitable metal, so as to make the union of the rope and couplers practically solid.

Having thus described my invention, I claim—

1. A coupler for chains or ropes consisting of the male and female coupling-heads A B, having, respectively, the spurred offsets *c' c'* and notched offsets *a' a'*, adapted to interlock the one with the other, substantially as specified.

2. The female chambered head B, having spaced offsets *a' a'* provided with notches *b*, in combination with the male head A having spaced offsets *c' c'* and spurs *d*, a bolt, C, and a retainer-spring, *s*, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

EDMOND OVIDE RICHARD.

Witnesses:
P. FALING,
CHAS. A. PARENT.