

(No Model.)

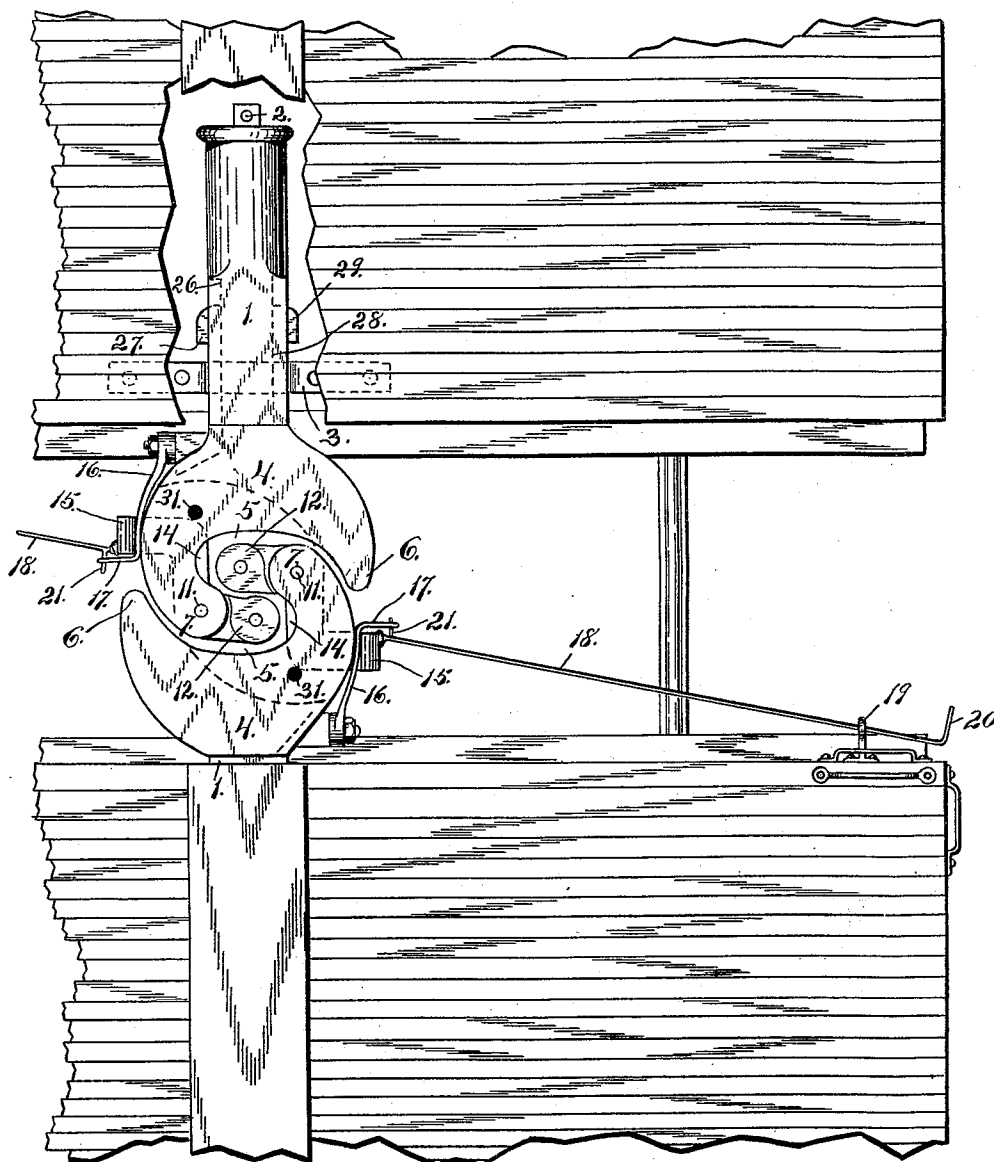
2 Sheets—Sheet 1.

P. McMULLEN.
CAR COUPLING.

No. 509,388.

Patented Nov. 28, 1893.

Fig. 1.



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Fig. 2.

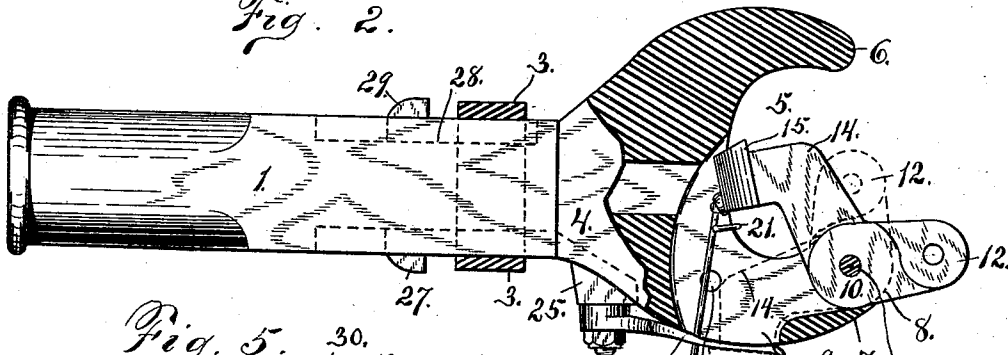


Fig. 5.

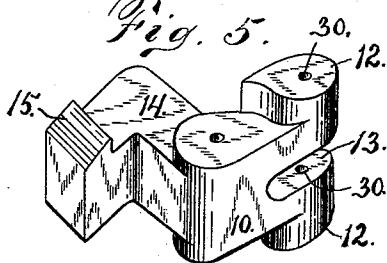


Fig. 7.

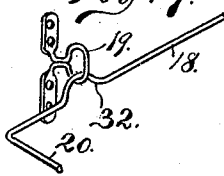


Fig. 3.

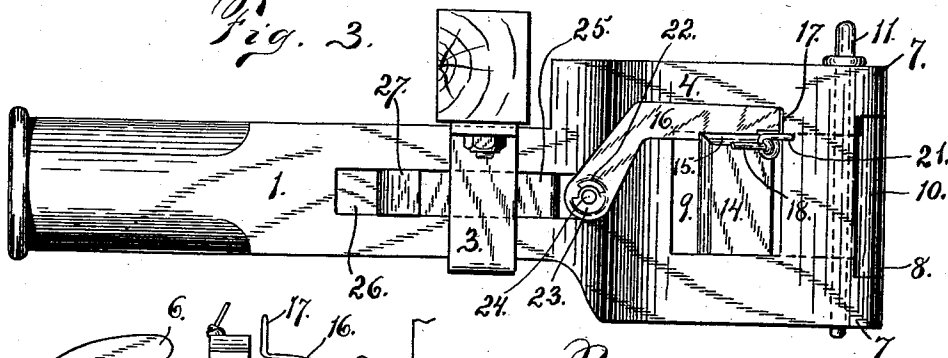


Fig. 4.

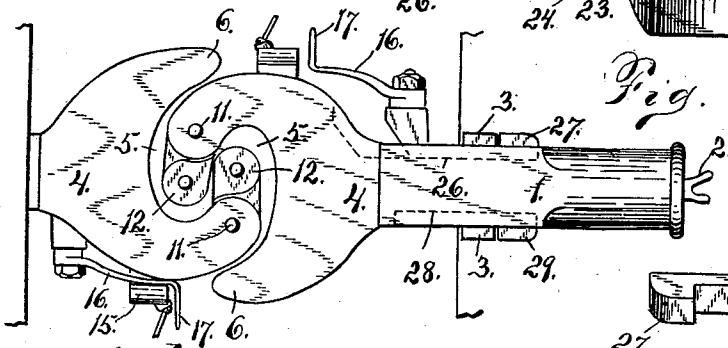
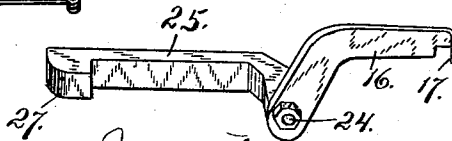


Fig. 6.



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UNITED STATES PATENT OFFICE.

PETER McMULLEN, OF BUFFALO, NEW YORK, ASSIGNOR OF ONE-HALF TO
ROBERT B. FITZGERALD, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 509,388, dated November 28, 1893.

Application filed May 18, 1893. Serial No. 474,629. (No model.)

To all whom it may concern:

Be it known that I, PETER McMULLEN, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in 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, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

My invention relates to that class of car-couplers which can be automatically engaged and which have their disengagement controlled at the side of the car.

The draw-bar of my improved coupler is similar to what is known as the Janney type. To this I attach and combine a peculiar form of knuckle which can be automatically locked in engagement with the corresponding knuckle of the opposite drawhead, each knuckle being adapted to be thrown out of locked engagement with its drawhead by novel means operated and controlled at the side of the car. I have also combined with my improved coupler a construction and arrangement of parts acting in conjunction with the knuckle by means of which the two cars are instantly uncoupled should one or both of the drawheads be wrenched from their fastenings, in the event of derailment of one or both of the cars, the drawhead, at the same time, being held attached to the car.

I will now proceed to minutely describe the manner in which I have carried out my invention and then claim what I believe to be novel.

In the drawings, Figure 1 is a top plan view of the coupler shown in locked engagement. Fig. 2 is an enlarged top plan view of one side partly in section. Fig. 3 is a side elevation of one side. Fig. 4 is a top plan view of the coupler showing the locking device detached when the drawhead is wrenched from its fastening. Fig. 5 is a detached perspective view of the knuckle. Figs. 6 and 7 are other detached detail views.

Referring to the drawings, each drawhead has a shank 1 extending under the car and

secured at its rear end through the orificed tongue 2. A metallic band 3 in which the forward end of the shank rests, is secured to the bottom of the car. 4 is the head proper protruding from the end of the car. This head has the recess 5 for the reception of the engaging ends of the knuckles. On one side of the recess is the guiding nose 6 and on the other side the pivot-point 7 for the reception of the knuckle which is pivoted in the recess 8 of the pivot-point 7 and 9 is an opening in the side of the drawhead.

10 is the knuckle (see Fig. 5) which is hinged in the recess 8 of the pivot-point 7 of the head 4 by the pin 11 passing down loosely through both parts. This knuckle is provided with the engaging end 12 bifurcated centrally by the horizontal slot 13 and the right-angled locking end 14, its outer end being provided with the upper beveled projection or shoulder 15. At the rear of the opening 9 is pivoted the angular latch 16 which engages with the shoulder 15 on the arm 14 of the knuckle. Its outer end 17 is bent at right angles as shown.

18 is a rod loosely attached by ball and socket joints to the arm 14 of the knuckle and extending through the ring 19 to the side of the car where its end is bent to form the handle 20. A projection 21 is secured to the rod 18 near the ball and socket joint for engagement with the end 17 of the latch 16.

The parts thus far described operate as follows: Fig. 1 shows two cars coupled, the engaging ends 12 of the knuckles overlapping each other, each end resting in the recess 5 of the opposite drawhead; the latches 16 resting between the beveled shoulders 15 of the arms 14 and the sides of the drawheads thus locking the knuckles as shown. To disengage the same the rods 18 are turned in their bearings and the projections 21 lift the latches 16 when the cars can be readily uncoupled and pulled apart. To prepare the coupler for automatic locked engagement the latch 16 can be lifted as just described and the arm 14 pushed in by the rod 18 to the position shown in Fig. 2. The engaging end 12 projecting outwardly, the latch 16 is held from dropping down too far by the segmental projection 22 stocking the shoulder 23

upon the pivot pin, the knuckle in the opposite drawhead being similarly adjusted. When the cars come together, the projecting ends 12 of the knuckles strike the inner faces of the guiding noses 6. 6. turning the knuckles in their bearings and with them the arms 14. As the beveled shoulders pass out through the openings 9 they strike the pivoted latches 16 which are thrown up a limited distance and then fall back behind the shoulders, thus locking the knuckles as shown in Fig. 1 and the coupling is complete. To insure the holding of the knuckles in position for coupling as shown in Fig. 2 the following provision is made. In the rod 18 near its outer end I make the bend 32 (see Fig. 7) which receives the loop 19 when the knuckle is in the position shown in Fig. 2 and holds the same against accidental displacement except when the coupling is made in which event the rod is forced free from the loop. It will be seen that the latch 16 is pivoted to a slide 25 which operates in a recess 26 in the side of the shank 1 of the drawhead. This slide is provided at its inner end with the projection 27 which is located on the inner side of the metallic band 3 in which the drawhead rests. A shorter slide 28 with projection 29 is similarly located on the opposite side of the shank. In the event of the derailment of one or both of the cars, it often happens that the drawheads are wrenched from their fastenings and thrown upon the track. To prevent this I have provided the construction just outlined which operates as follows: When the apertured tongue 2 (see Fig. 4) gives way, the shank of the drawhead is pulled outwardly until the band 3 strikes the projections 27 and 29 of the slides 25 and 28 which causes them to be forced backward. The slide 25 carries back with it the attached latch 16 drawing it out of engagement with the projection or shoulder 15 of the knuckle (see Fig. 4) thus releasing the same and permitting the instant uncoupling of the cars and at the same time holding the drawhead in the bend 3 and preventing it from being dropped upon the track.

The slot 13 in the engaging end 12 of the knuckle together with the circular holes 30 permit of the attachment of a link and pin should the next car be without my improved coupling attachment and should both knuckles become accidentally useless the holes 31 in the two drawheads may be used in the employment of the ordinary link and pin.

I claim—

1. A car coupler consisting essentially of a drawhead having a recess at the forward end for the reception of the engaging ends of the knuckles a pivot-point at one side of the recess in which the knuckle is movably secured and a guiding nose at the opposite side of the recess a knuckle movably secured at the pivot-point provided with an engaging end and a shouldered arm adapted to extend beyond the side wall of the drawhead for automatic engagement with a locking device and

a rod loosely attached to the shouldered arm of the knuckles and extending to the side of the car for moving the knuckle to its disengaged position and a projection upon the rod for releasing the knuckle from the locking device all combined and operating substantially as and for the purpose stated.

2. In a car coupler having a drawhead with recess, pivot-point, and guiding nose as shown and a knuckle with engaging end and shouldered arm as shown, a locking arm for engagement with the shouldered arm of the knuckle, attached to and forming a part of a slide with shouldered inner end adapted for engagement with the metallic band in which the drawhead rests substantially as and for the purpose stated.

3. In a car coupler a movable slide upon the drawhead its inner end adapted for contact with the inner sides of the metallic band in which the drawhead rests, its outer end being attached to the disengaging device of the coupler substantially as and for the purpose stated.

4. A car coupler consisting of the drawhead 1. 4. having the recess 5, the pivot-point 7 at one side of the recess 5 in which the knuckle is movably secured, the guiding nose 6 at the opposite side of the recess and the side opening 9, the knuckle 10 pivoted in the drawhead at 7 and provided with the engaging end 12 and the arm 14 with shouldered end 15 adapted for engagement with the pivoted latch 16 all combined and operating substantially as shown and described.

5. A car coupler consisting of the drawhead 1. 4. having the recess 5, the pivot-point 7 at one side of the recess 5 in which the knuckle is movably secured, the guiding nose 6 at the opposite side of the recess and the side opening 9 the knuckle 10 pivoted in the drawhead at 7 and provided with the engaging end 12 and the arm 14 with shouldered end 15 adapted for engagement with the pivoted latch 16 with end 17 and the rod 18 attached by ball and socket joint to the arm 14 of the knuckle and pivoted with projection 21 for engagement with the end 17 of the latch 16 all combined and operating substantially as shown and described.

6. In a car coupler having the drawhead 1. 4. with recess 5, pivot-point 7 and guiding nose 6 and the knuckle 10 having engaging end 12 and arm 14 with shouldered end 15 as shown the locking arm or latch 16 adapted for engagement with the shouldered arm 14, 15 of the knuckle and pivoted to the shouldered slide 25, with end projection 27 adapted for engagement with the metallic band 3 all combined and operating substantially as and for the purpose stated.

7. In a car coupler the movable slide 25 with end projection 27 located in the recess 26 in the shank of the drawhead the projection 27 being adapted for contact with the inner side of the metallic band 3, the outer end of the slide being attached to the releas-

ing device of the coupler substantially as shown and described.

8. In a car coupler the combination with the shouldered end 15 of the arm 14 of the
5 knuckle, of the rod 18 attached thereto by ball and socket joint and having the bend 32 for locking engagement with the loop 19 substantially as and for the purpose stated.

In testimony whereof I have hereto set my hand in the presence of two subscribing witnesses. 10

PETER McMULLEN.

Attest:

W. T. MILLER,
O. E. HODDICK.