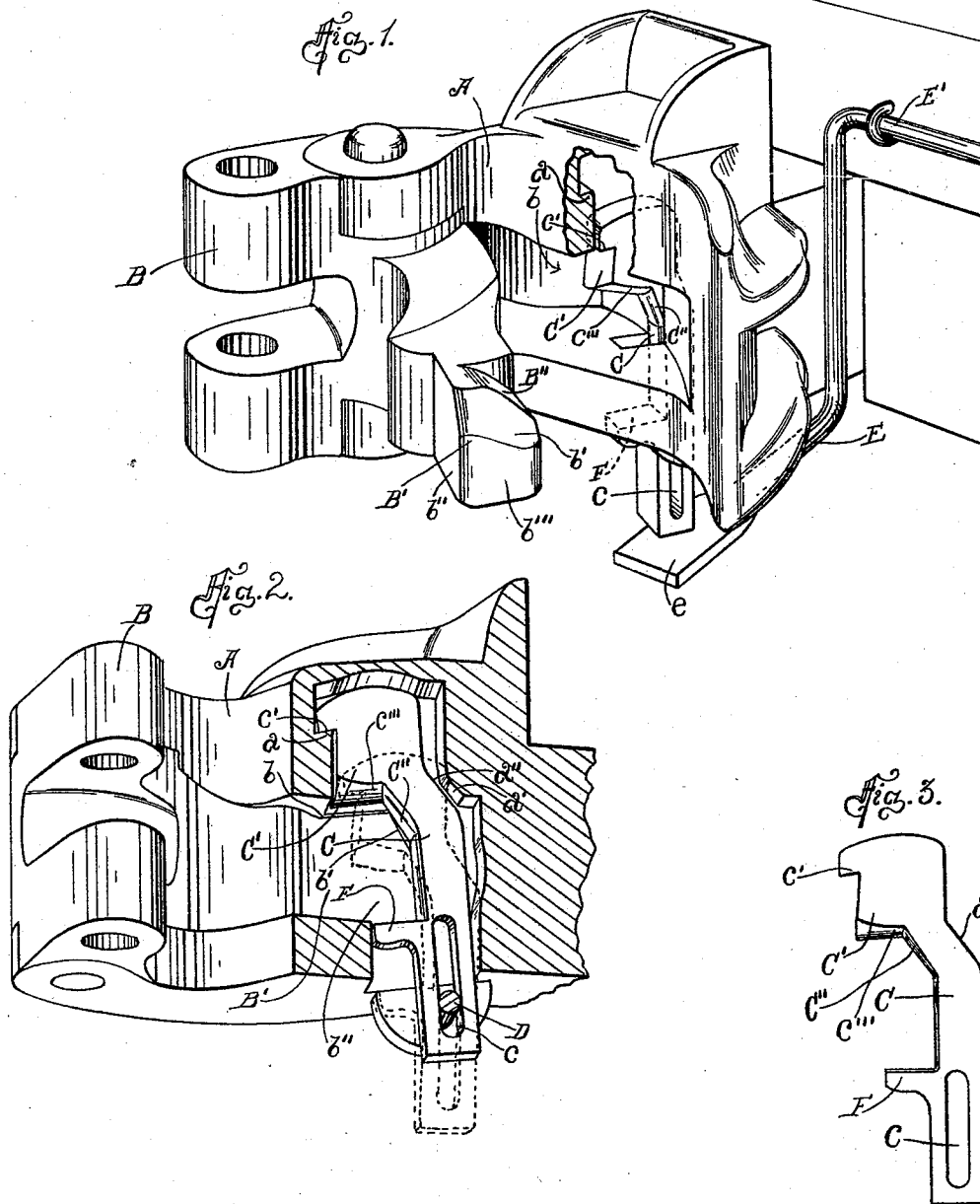


(No Model.)

C. W. HINTON.
CAR COUPLING.

No. 536,284.

Patented Mar. 26, 1895.



Witnesses.

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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 536,284, dated March 26, 1895.

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To all whom it may concern:

Be it known that I, CHARLES W. HINTON, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Car-Couplers, of which the following is a specification.

My invention relates more particularly to that class of couplers known as the "Janney type" in which a swinging knuckle is provided with an arm rigidly fixed thereto, and adapted to be chambered in the drawhead, and to be engaged by a locking bar which is arranged to extend across the path of the arm and to lock the arm in its seat in the drawhead, to thereby hold the knuckle in its coupled position.

My invention relates more particularly to that class of couplings having a reciprocating locking bar which is provided at its upper end with a shoulder arranged to project into and to be removed from the path through which the arm moves when the knuckle is swung in coupling and uncoupling.

One object of my invention is to provide a device of this kind in which the locking bar will have a greater bearing surface upon the arm than any device of this class heretofore in use.

A further object of my invention is to provide a device of this class which may be placed in position for uncoupling and will remain in that position until the knuckle is swung to uncouple it from the opposing drawhead, and in which the operation of swinging the arm will disengage the locking bar from its uncoupled position and cause it to fall downward into its normal position in the path of the arm.

A further object of my invention is to provide a coupler of this class in which the coupling will be automatic and certainly effected, no matter in what position the locking bar is arranged, so that there will be no liability of any one who is unauthorized, tampering with the drawhead and deranging the parts so that the coupling will not be effected automatically when the cars are forced together.

My invention comprises the various features of construction and combinations of parts hereinafter fully set forth and claimed.

Figure 1 is a perspective fragmental front elevation of a drawhead embodying my in-

vention. In this view the knuckle is shown in its uncoupled position, and a portion of the drawhead is broken away for clearness of illustration. Fig. 2 is a perspective fragmental side elevation partly in section, showing the locking bar arranged in its unlocked position. Fig. 3 is a plain side elevation of the locking bar removed from the drawhead.

In the drawings, A represents the drawhead which is provided with a swinging knuckle B having an arm B' rigidly fixed thereto and adapted to be chambered in a suitable arm receiving chamber *b* which is provided in the drawhead.

C represents the reciprocating locking bar which is provided at its upper end with a locking shoulder C' which is adapted to be thrown into and out of the path through which the arm B' travels when the knuckle is swung to couple and uncouple the coupling. A bolt D is arranged to pass through a slot *c* in the locking bar to support the bar, to allow it to be reciprocated in the drawhead, and to prevent it from being removed from the drawhead. The top of the locking bar is provided with a suitable catch *c'* which is arranged to catch upon a shoulder *a* which is provided in the drawhead to receive the catch upon the locking bar and to thereby engage and retain the locking bar in its uncoupled position, as shown in Fig. 2.

In order to give a greater bearing surface between the locking bar and the arm B' I bevel the end of the arm, as shown at *b'* in Fig. 1, and I also bevel the front face C'' of the locking bar below the locking shoulder C' to correspond with the beveled face *b'* of the arm. Thus when the locking bar is thrown into its unlocked position, as shown in Fig. 2, the beveled portion *b'* of the arm B' will pass the beveled face C'' of the locking bar, and the arm is free to swing out to bring the knuckle into uncoupled position, shown in Fig. 1. When the bar is lowered into its locked position, shown in solid lines in Fig. 1 and in dotted lines in Fig. 2, the locking shoulder C' of the bar engages with the front face *b''* of the arm, and that portion of the bar which is immediately at the rear of the beveled face C'' extends diagonally upward across and engages with the unbeveled portion of the end

of the arm B'; thus providing a bearing surface between the locking bar and the arm B' of nearly the full width of the arm.

The locking shoulder C' of the locking bar is arranged on the front side of the locking bar, and the bar is arranged inclined forward so that the normal tendency of the bar is to pitch forward in the drawhead. Thus the tendency of the weight of the bar is to throw the catch into engagement with the shoulder a of the drawhead. In order, however, to insure that the catch will be brought into engagement with the shoulder a when the bar is raised in the drawhead, I provide the drawhead with an inclined face a' arranged at the rear of the locking bar and provide such locking bar with an inclined face a'', and so arrange the various parts with relation to each other that when the bar is reciprocated to raise it in the drawhead, the inclined face a'' of the bar is brought into engagement with the inclined face a' of the drawhead and the bar is thus forced forward and the catch c' is carried into position to engage with the shoulder a.

The rear face B'' of the arm is beveled from the rear toward the front, as shown in Fig. 1 and the front face c''' of the bar is also beveled toward the front, so that when the arm B' is forced into the drawhead in the act of coupling, the beveled face B'' of the arm will engage with the beveled face c''' of the locking bar, and the bar will slide along the inclined face of the arm and be forced upward out of the path of the arm until the arm has fully passed the bar, after which it will drop down across the path of the arm, and prevent it from being removed from its seat until the bar is again reciprocated to bring the shoulder C' out of the path of the arm.

The end b''' of the arm B' is slightly rounded, as shown in Fig. 1, and the body of the bar C extends slightly into the path of this rounded end of the arm, so that when the bar is thrown into its unlocked position, shown in Fig. 2, and the arm B' is swung in the act of coupling or uncoupling the coupler, the rounded end b''' will engage with the body of the bar C and will force it toward the rear, thus disengaging the catch c' from the shoulder a, and allowing the bar to drop down until it rests upon the arm B', and as soon as the arm is removed out of the path of the bar, the bar drops down into its normal position, as shown in Fig. 2, so that the bar is in position ready for coupling.

The means I have shown for reciprocating the locking bar C in the drawhead consists of a crank lever E, which is secured to the frame of the car by suitable means, and is operated by the rod E', which extends outward to the side of the car and is provided with a suitable handle. The handle is not shown for the reason that this construction is old and well known and forms no part of my invention and no claim thereto is made herein. The end e of the crank arm E is flattened, as

shown in Fig. 1, in order to allow the drawhead A to swing to one side or the other without bringing the lower end of the locking bar C out of the path of the flattened end e of the actuating lever.

In practice, to uncouple the coupler, the crank arm E is actuated to force the locking bar C upward in the drawhead, and the inclined face a'' of the bar engages with the inclined face a' of the drawhead to throw the catch c into engagement with the shoulder a'. The locking bar, which normally inclines forward, is thus forced toward the front of the drawhead to cause the catch c' to engage with the shoulder a and hold the bar in the position shown in Fig. 2. When the arm B' is swung to uncouple or couple the coupler, the rounded end b''' engages with the body of the locking bar C and forces it toward the rear, thus disengaging the catch c' from the shoulder a and allowing the bar to drop down into its coupled position after the arm has passed out of the path of the locking bar.

To couple the coupling, the arm B' is forced into the drawhead and the beveled face B'' engages with the beveled face c''' of the locking bar and the bar is forced upward thereby to allow the arm to pass. In order to prevent the arm from throwing the locking bar high enough to cause the catch c' to engage with the shoulder a, I provide upon the locking bar a stop F, and so arrange the stop with relation to the catch c' and the shoulder a, that the stop F will engage with the bottom of the arm B' and prevent the bar from being thrown sufficiently high by the arm during the operation of coupling to allow the catch c' to catch upon the shoulder a, so that after the arm B' passes the bar C the bar will be certain to fall into its coupled position. Furthermore the rounded end b''' of the arm also operates to force the body C of the bar sufficiently far to the rear to prevent the catch c' from engaging with the shoulder a.

Now, having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a car coupling, the reciprocating locking bar arranged to engage the arm of the draw-bar, to incline forward and provided on its front face with the catch arranged to engage the drawhead to support the bar in its elevated position, and also provided with the stop arranged to limit the upward movement of the bar while the coupling is being effected.

2. In a car coupling, the reciprocating locking bar provided with the shoulder and with the beveled face arranged below such shoulder, and also provided on its front face with the catch arranged to support the bar in its elevated position: such bar being arranged to engage an inclined face in the chamber to force the bar forward to throw the catch into engagement.

3. A car coupling, provided with a swinging knuckle having an arm rigidly fixed

thereto and adapted to be chambered in the
drawhead: a locking bar arranged to recip-
cate vertically in the drawhead and provided
with a locking shoulder adapted by the recip-
5 rocation of the bar to be thrown into and out
of the path of the arm, and provided with a
suitable catch arranged to engage the draw-
head to hold the locking shoulder of the bar

out of the path of the arm, such bar being ar-
ranged to be engaged by the arm to release 10
the catch from the shoulder.

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Witnesses:

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