

(No Model.)

H. SCHAEFFER.
CAR COUPLING.

No. 488,507.

Patented Dec. 20, 1892.

Fig. 1.

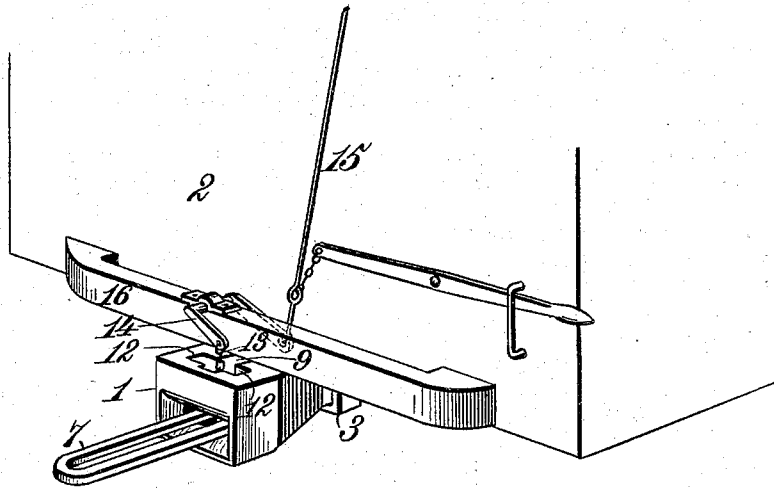


Fig. 2.

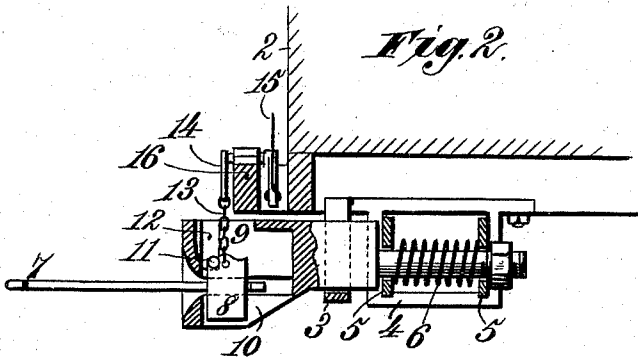


Fig. 3.

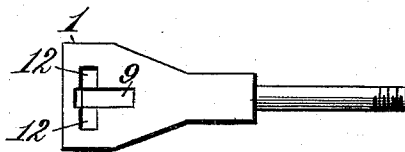
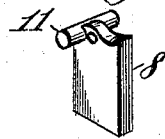


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

HENRY SCHAEFFER, OF RIDGWAY, COLORADO, ASSIGNOR OF TWO-THIRDS TO MARY EDITH CRISWELL, CHARLES ENOCH CRISWELL, AND JAMES LEANDER SMITH.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 488,507, dated December 20, 1892.

Application filed June 27, 1892. Serial No. 438,135. (No model.)

To all whom it may concern:

Be it known that I, HENRY SCHAEFFER, a citizen of the United States, residing at Ridgway, in the county of Ouray and State of Colorado, have invented new and useful Improvements in Car-Couplings, of which the following is a specification.

This invention relates to an automatic car coupling and consists in the peculiarities of construction and novel combination of devices hereinafter more particularly described and claimed.

In the annexed drawings illustrating the invention—Figure 1 is a perspective of a portion of one end of a car provided with my improved car coupling. Fig. 2 is a vertical longitudinal section of the draw head and a portion of the car body. Fig. 3 is a top view of the drawhead. Fig. 4 is a perspective of my improved automatic coupling pin or block.

Referring to the drawings, the numeral 1 designates the drawhead which is suitably supported beneath the car body 2 by a hanger or hangers 3 and by parallel longitudinally arranged keepers 4 that support the two vertically and transversely arranged follower-plates 5 through which the stem of the drawhead is extended. On the drawhead stem between the follower-plates 5, and bearing thereon, is a spiral spring 6 by which the drawhead is cushioned in both directions to obviate the strains of shocks and jars in coupling and in starting the cars.

The drawhead 1 is chambered sufficiently to receive one end of a coupling link 7 and to afford space for the vertical movement and rearwardly swinging operation of a coupling pin or block 8 that is T shaped in front elevation and also in top plan, as shown in Fig. 4. The top plan or cross section of the upper end of this T shaped coupling pin or block 8 corresponds with a T shaped slot 9 formed in the upper part of the drawhead 1 as shown in Fig. 3. In the bottom of the drawhead 1, as shown in Fig. 2, is a longitudinally arranged slot 10 that receives the lower end of the coupling pin or block 8, when lowered. This slot 10 is extended rearward a sufficient distance to permit the pin or block 8 to be swung rearwardly and upwardly, out of said

slot, by the impact of an entering link attached to the drawhead of another car. After the link 7 has thus been entered into the drawhead the pin or block 8 will swing forward to a vertical position in engagement with the link and will take its bearings against the abutments afforded by the forward ends of the slots 9 and 10.

The cross-arms 11 at the upper forward portion or corner of the T shaped coupling pin or block 8 normally rest in seats or open top recesses 12 formed in the side walls of the drawhead beneath the ends of the cross arms of the T shaped slot 9 in the top of said drawhead. To the top of the pin or block 8, adjacent to its cross-arms 11, is attached a short chain or flexible connection 13 that connects with one arm of a two-armed angle lever 14 to the other arm of which is attached a chain or rod 15 that is extended to the top of the car. By means of this rod or chain 15 the angle lever 14 can be rocked or oscillated in the proper direction to raise the coupling pin or block 8 and thus disengage it from the link 7 when it is desired to uncouple the cars. The angle-lever 14 is preferably journaled in or upon a guard 16 secured to the end of the car and extended across the top of the drawhead in position to serve as a stop for preventing the pin or block 8 from becoming disengaged from the drawhead when said pin or block is elevated in the act of uncoupling. When the rod or chain 15 is released, after uncoupling, the pin or block 8 will drop by gravity until its cross-arms 11 rest in the seats or recesses 12, thereby supporting the pin in proper position to be again engaged with a coupling link.

It will be observed that the broad vertical and parallel surfaces of the pin or block 8 serve to guide said pin or block in its movements in the slots 9 and 10 of the drawhead, so that there is no liability of the pin getting out of operative position. The cross-arms 11 and recesses or seats 12 also serve as guides for the pin in its vertical movements. The principal functions, however, of the cross-arms 11 and seats or recesses 12 are to serve as supports for the pin when lowered and as pivots and pivot bearings, respectively, whereby the

pin or block 8 can be swung rearwardly by the impact of an entering link and then return to a vertical position in engagement with the link after it has been passed fully beneath said swinging coupling pin or block.

I prefer to make the coupling pin or block 8 substantially rectangular in form, as shown, and of much greater thickness from front to rear than laterally, so that it will readily withstand the strains to which the body of the pin is subjected. As there is no strain, whatever, on the cross-arms 11 it is obvious that a coupling pin or block of this construction will not be liable to breakage. It will be seen that the draft of the link is transmitted through the body of the pin to the drawhead at the abutments afforded by the forward ends of the slots 9 and 10 thereby avoiding any exposure of the cross arms, or pivots of the pin to strain or injury.

The operations of coupling and uncoupling the cars are readily accomplished without risk of life or limb and when the link is in engagement with the vertically movable and swinging coupling pin or block the weight of the latter will hold it in place and prevent any accidental disengagement from the link.

What I claim as my invention, is:—

1. In a car coupling, the combination with a drawhead a longitudinal slot in its bottom a T shaped slot in its top and provided in its side walls with oppositely arranged open top

recesses or seats, of a vertically movable and rearwardly swinging coupling pin or block having a greater thickness from front to rear than in a lateral direction and provided at its upper front portion or corner with cross arms that are adapted to enter the said seats or recesses of the drawhead and serve as pivotal supports for the said pin, an oscillatory angle lever journaled or mounted above the drawhead and having a flexible connection with said coupling pin or block, and a rod or chain connected with said angle lever to operate the pin in uncoupling, substantially as described.

2. In a car coupling, the combination of the slotted drawhead having the open top recesses or seats 12, the vertically movable and rearwardly swinging coupling pin 8 having at its upper front corner the cross-arms 11 adapted to engage said recesses and serve as pivotal supports for the pin, the guard 16, above the drawhead, the two-armed angle lever 14, the chain 13 connecting said pin and lever, and the rod or chain 15 for operating said lever, substantially as described.

In testimony whereof I have hereunto set my hand and affixed my seal in presence of two subscribing witnesses.

HENRY SCHAEFFER. [L. S.]

Witnesses:

ERNEST C. BACON,
E. S. RICE.