(No Model.)

S. A. V. HARTWELL.

CAR COUPLING.

No. 264,288. Patented Sept. 12, 1882.

Fig. 1.

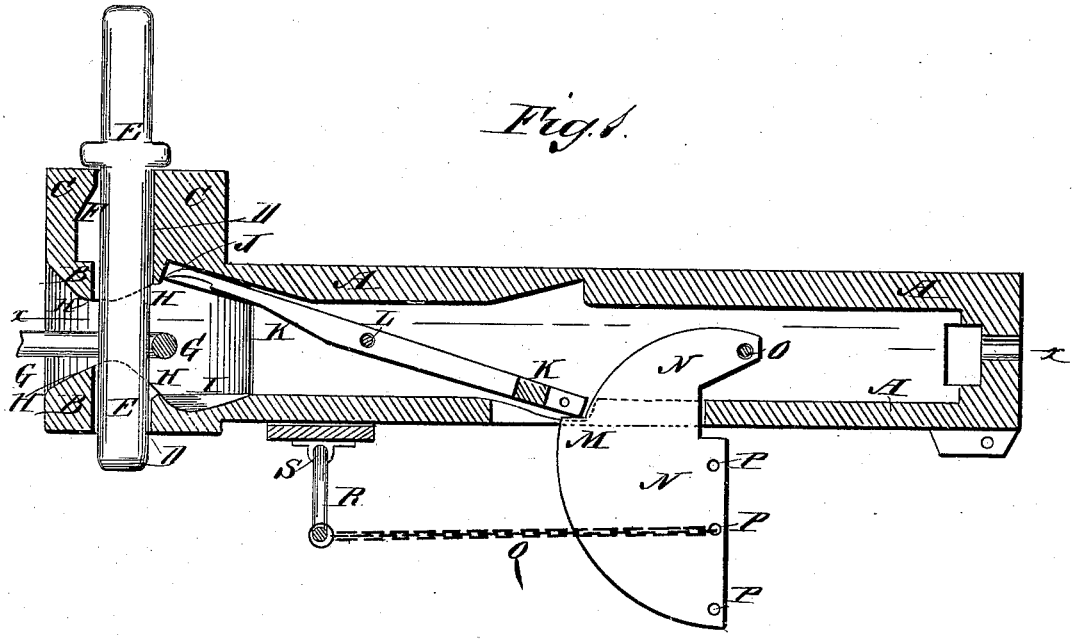


Fig. 2.

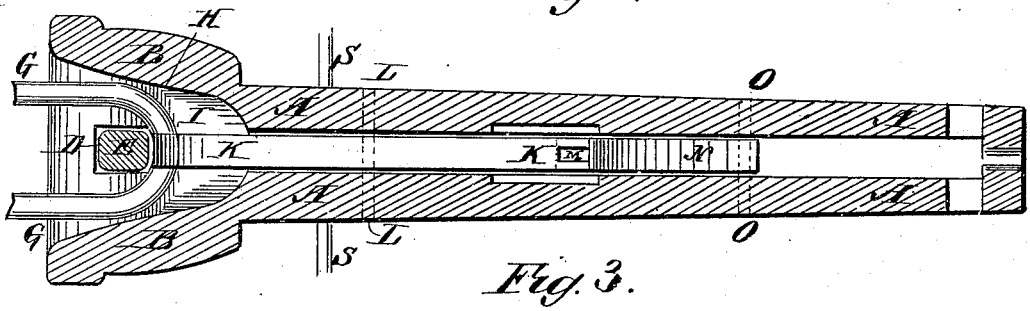
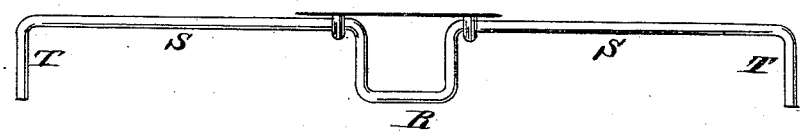


Fig. 3.



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UNITED STATES PATENT OFFICE.

SAMUEL A. V. HARTWELL, OF VALLEY CENTRE, KANSAS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 264,288, dated September 12, 1882.

Application filed July 22, 1882. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL A. V. HARTWELL, of Valley Centre, in the county of Sedgwick and State of Kansas, have invented a new and useful Improvement in Car-Couplings, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional elevation of my improvement. Fig. 2 is a sectional plan view of the same, taken through the line *x x*, Fig. 1. Fig. 3 is a front elevation of the bent rod for operating the improvement.

The object of this invention is to improve the construction of the car-couplings for which Letters Patent No. 260,195 were issued to me June 27, 1882, in such a manner as to make them more convenient in use.

The invention consists in a car-coupling constructed with a lever pivoted in the interior of the draw-bar, and having its inner arm the heavier and resting upon the shoulder of a pivoted trip-plate. To the trip-plate is attached the end of a chain, the other end of which is attached to a crank formed upon the middle part of a cross-rod pivoted to the draw-bar or other suitable support. The ends of the cross-rod have crank-arms formed upon them, so that the link can be guided from the side of the cars to enter the bumper-head of an approaching car, as will be hereinafter fully described.

A is the draw-bar of my improved coupling, and B is the bumper-head. The bumper-head B has an upward extension, C, upon its upper side, through which and through the bumper-head B passes the hole D for the coupling-pin E. In the upward extension C of the bumper-head B, at the forward side of the pin-hole D, is formed a recess, F, to receive the end of the coupling-pin E when the cars are uncoupled. With this construction, when two cars are run together to be coupled the jar of the impinging bumper-heads will throw the upper end of the coupling-pin E forward, withdrawing its lower end from the bottom of the recess F, and allowing it to drop through the link G, coupling the cars. The mouth of the bumper-head B is made flaring to guide the entering link G into proper position for the pin E to drop through it.

Upon the upper and lower inner surfaces of the part of the bumper-head B through which the coupling-pin E passes are formed rounded projections H for the link G to rock upon when upon the coupling-pin E, so that the outer end of the said link can be more easily raised and lowered to guide it into the bumper-head of the approaching car.

Upon the inner surface of the lower part of the bumper-head B, in the rear of the lower projection, H, is formed a recess, I, to receive the inner end of the link G when its outer end is raised.

Upon the inner surface of the upper part of the bumper-head B, in the rear of the projection H, is formed a recess, J, to receive the forward end of the lever K when raised, so that the said end will be out of the way of the entering link. The lower side of the forward end of the lever K is concaved, as shown in Fig. 1, to cause it to take a better hold upon the end of the link G. The lever K is placed in the interior of the hollow draw-bar A, and is pivoted at its middle part to the opposite sides of the said draw-bar by a bolt or pin, L. The rear end of the lever K is made the heavier, so that when the said lever is left free it will always stand with its upper end raised into the recess J, as shown in Fig. 1. The rear end of the lever K is slotted and perforated, as shown in Figs. 1 and 2, to adapt it to receive the end of the connecting-bar described in Letters Patent No. 260,195, when that construction is preferred. The rear end of the lever K rests upon the shoulder M of the trip-plate N, the upper part of which passes into the interior of the draw-bar A, through a slot in its bottom, and is pivoted at its rear upper corner to and between the opposite sides of the draw-bar A by a pin or bolt, O. The edge of the trip-plate N is curved upon the arc of a circle from the shoulder M to the pivoting-pin O, and is curved from its shoulders M to its lower end upon the arc of a larger circle. The lower part of the rear edge of the trip-plate N is vertical, and the upper part of the said rear edge is notched to receive the edge of the bottom of the draw-bar A, so that the slot that receives the trip-plate need not be so long as would be necessary were the trip-plate N made without

a notch. The pivotal point of the upper end of the trip-plate N is a little in the rear of the vertical line of the rear edge of the said trip-plate, as shown in Fig. 1, so that the trip-plate N will be held back by its own gravity, the edge of the bottom of the draw-bar A at the rear end of its slot serving as a stop to the said trip-plate.

In the lower part of the trip-plate N, near its rear edge, are formed a number of holes, P, to receive the end of the chain Q, so that the position of the said chain can be adjusted according as more or less leverage is required. The other end of the chain Q is attached to a crank, R, formed upon the middle part of the rod S, which is placed at right angles with the draw-bar A, and rocks in bearings attached to the said draw-bar or to the bar that supports the said draw-bar. The ends of the rod S extend to the sides of the car, and are bent downward, forming cranks T, as shown in Fig. 3, so that the said rod can be operated from the sides of the car. With this construction, by turning the cross-rod S, the chain Q will draw the lower end of the trip-plate N forward, causing the shoulder M to raise the rear end of the lever K, forcing the forward end of the said lever down upon the inner end of the link G with more or less force, according as it is necessary to raise the outer end of the said link more or less to bring it to the proper height to enter the bumper-head of the approaching car, so that the link can be adjusted into position to enter the bumper-head of the approaching car.

If desired, a forwardly-projecting arm can be formed upon or attached to the cross-rods S and the end of a chain attached to the outer end of the said arm, the other end of the chain being secured to the top of the car, so that the cross-bar can be operated from the top of the car to guide the link into the bumper-head of an approaching car.

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

In a car-coupling, the combination, with the lever K, having its rear arm the heavier, of the pivoted trip-plate N, having shoulder M, the chain Q, and the cross-rod S, having central crank, R, and end cranks, T, substantially as herein shown and described, whereby the link can be readily and accurately adjusted to enter the bumper-head of an approaching car, as set forth.

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Witnesses:
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