(No Model.)

T. BARNES.

CAR COUPLING.

No. 442,412. Patented Dec. 9, 1890.

Fig. 1.

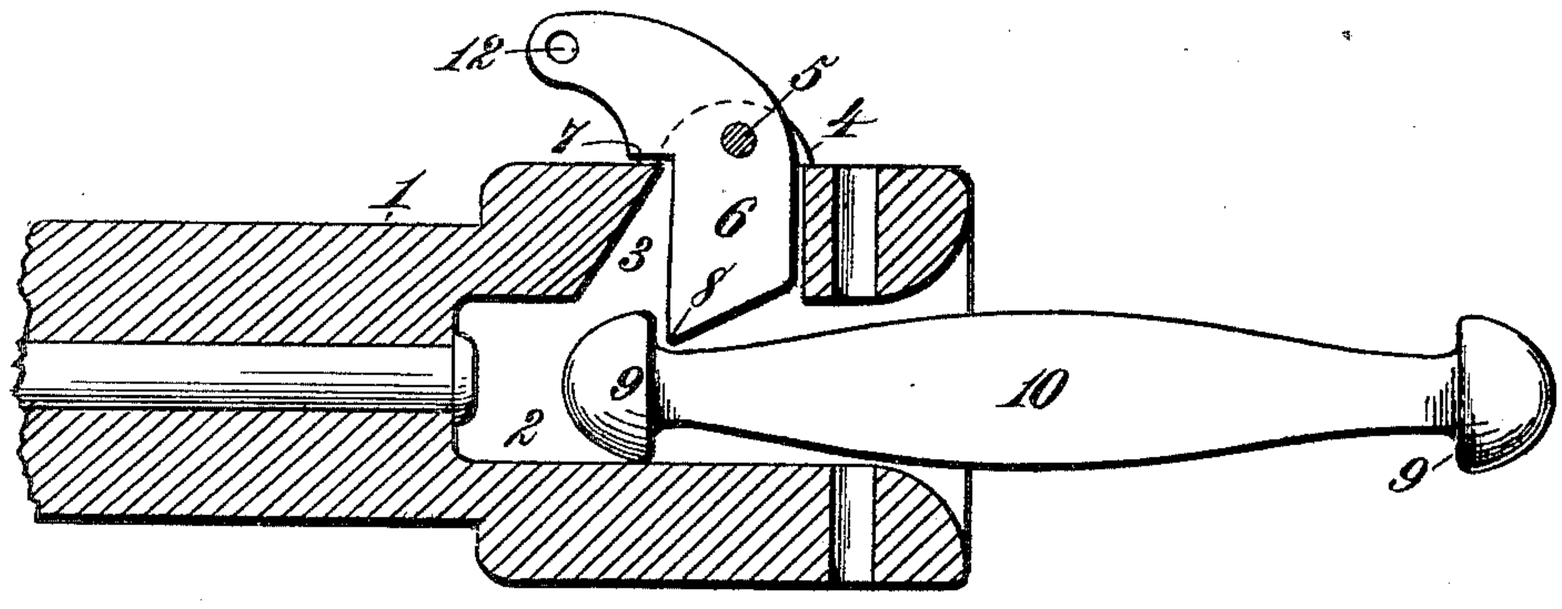

Fig. 2.

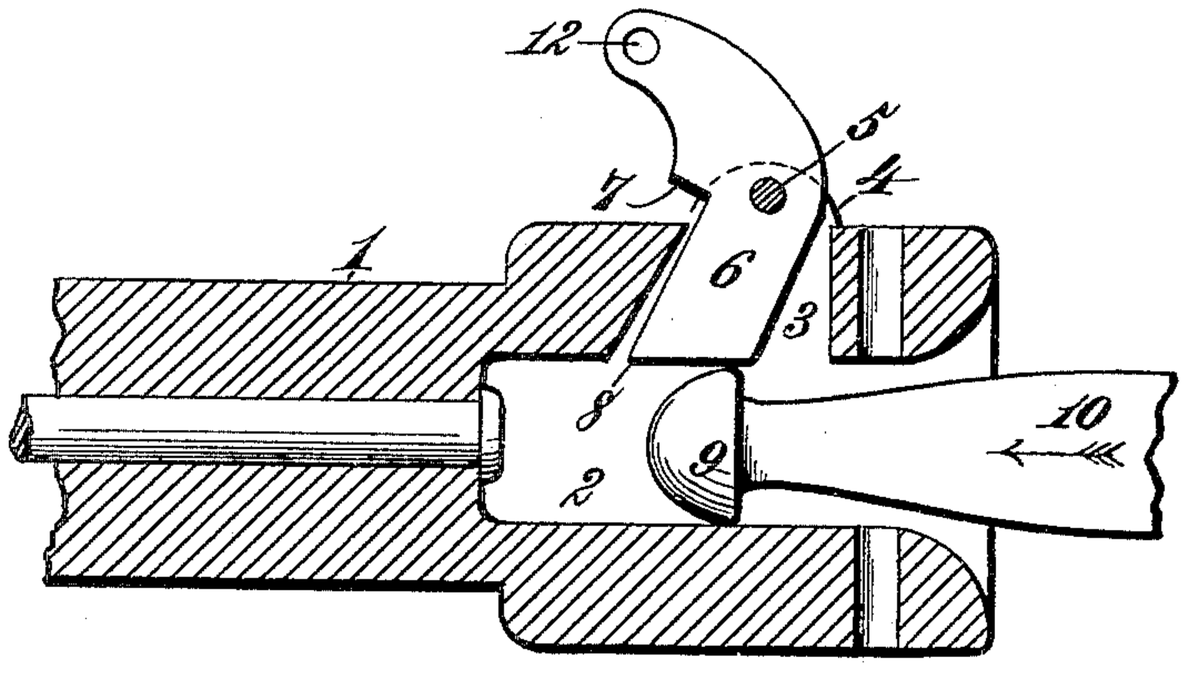

Fig. 3.

Witnesses.
Robert Everett.
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UNITED STATES PATENT OFFICE.

THOMAS BARNES, OF RAWLINS, WYOMING, ASSIGNOR OF ONE-HALF TO FENIMORE CHATTERTON, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 442,412, dated December 9, 1890.

Application filed May 15, 1890. Serial No. 351,939. (No model.)

To all whom it may concern:

Be it known that I, THOMAS BARNES, a citizen of the United States, residing at Rawlins, in the county of Carbon and Territory of Wyoming, have invented new and useful Improvements in Car-Couplings, of which the following is a specification.

My invention relates to that class of car-couplings in which the upper side of the draw-head is provided with a slot or opening in which is pivotally supported a coupling-hook that is adapted to become automatically engaged with a shoulder or projection on the end of a preferably solid or unslotted link; and the invention consists in the construction and combination of parts in an automatic car-coupling, as hereinafter described and claimed.

In the annexed drawings, illustrating the invention, Figure 1 is a vertical longitudinal section of my improved car-coupling, showing the link engaged with the coupling-hook. Fig. 2 is a similar view showing the coupling-hook and link disengaged. Fig. 3 is a detail perspective of my improved coupling-hook.

As shown in the drawings, my invention is applied to a draw-head 1, having the usual chamber 2 for receiving the coupling-link. In the upper side of the draw-head is a slot or opening 3, that communicates with the link-chamber 2, and, as shown, the rear end of the slot is inclined downward and backward, so that the lower end of the slot is of greater length than its upper end. On the top of the draw-head, and preferably cast integral therewith, are parallel lugs 4, which lap by the opposite sides of the slot 3 at its forward end. These lugs support the pivot 5 of the coupling-hook 6, and they also serve to materially strengthen the slotted draw-head when formed integral therewith. The coupling-hook 6 is provided on its rear edge about midway its length with a transverse shoulder 7, that is substantially in the same horizontal plane with the pivot 5, which is located near the front edge of said coupling-hook. This shoulder 7 is sufficiently broad to have a firm and secure bearing on the top of the draw-head at the rear of the slot 3, the mass of metal at the contacting point of the shoulder and draw-head being such as to relieve the pivot 5 from all strain. The rear edge of the coupling-hook below the shoulder 7, is slightly inclined or beveled rearward and downward, and the lower end of said hook is also beveled rearward to its meeting point with the rear edge of the hook, thus forming on the rear lower edge of said hook a beveled lip 8 to engage a projection 9 on the link 10, as shown in Fig. 1. The lower front edge of the hook 6 when in its lowest position is substantially parallel to and in contact with the vertical front wall of the slot 3, which thus affords an additional bearing for said hook in carrying the load and relieving the pivot 5 from strain. The link 10 is preferably a solid rounded bar, bulged or swelled at its center to increase its strength and provided at its ends with shouldered projections 9 to engage the lip 8 of the coupling-hook. These projections 9 extend continuously around the ends of the link so that their shouldered ends will readily engage the coupling-hooks in whatever position the link may enter the draw-head. By making the outer ends of the projections 9 rounded and somewhat pointed, as shown, they are better adapted to enter the mouth of the draw-head and will easily pass beneath the lower beveled end of the coupling-hook 6 and into engagement with the lip 8 at the rear lower edge of said hook.

In entering the draw-head the link 10 bears against the under edge of the coupling-hook 6 and swings the hook back until its rear edge is in contact with the rear inclined end of the slot 3, as shown in Fig. 2, and when the end of the link has moved inward beyond the hook the latter falls by gravity and its lip 8 engages the shouldered end of the link, as shown in Fig. 1. While in this position the broad transverse shoulder 7 on the rear or inner edge of the hook 6 bears on the top of the draw-head at the rear end of the slot 3 and the front lower edge of the hook comes in substantial contact with the front vertical wall of said slot. It will be seen that by this construction the strain exerted from the hook by the link is transferred to the draw-head without exposing the pivot 5 to injury or breakage. By means of a cord, chain, rod, or

other lifting device connected with an eye 12 in the upper rearwardly-extended end of the coupling-hook 6 the said hook can be easily raised or swung backward to release the link in uncoupling. The rearwardly-extended upper end of the hook 6 when released acts by its weight to cause the hook to drop into engagement with the link in the draw-head on again coupling.

It will be observed that the draw-head and its accompanying coupling devices are simple in construction and strong and durable, and that when necessary the link, the coupling-hook, and its pivot can be replaced without great expense. For the purpose of coupling with foreign cars the draw-head may be provided with the usual openings for passage of an ordinary straight coupling-pin to engage an open link, or a slotted link having projections 9 at its ends may be used, so that it can be engaged at the same time with the coupling-hook 6 of one car and with an ordinary coupling-pin in the draw-head of an adjoining car.

What I claim as my invention is—

In a car-coupling, the combination, with the draw-head provided at its upper side with a slot having its front end vertical and its rear end beveled downward and rearward, of a swinging coupling-hook supported in said slot and provided on its rear edge about midway its length, at a point outside of and above the draw-head, with a transverse shoulder to bear on the top of the draw-head at the rear end of said slot, a pivot located near the front edge of said hook in line with said shoulder, and lugs on the top of the draw-head, at the front end of the slot, to support the pivot, said hook having its upper end projecting above the pivot and shoulder above the draw-head and extended rearward, substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

THOMAS BARNES.

Witnesses:

F. CHATTERTON,

C. MCDANIEL.