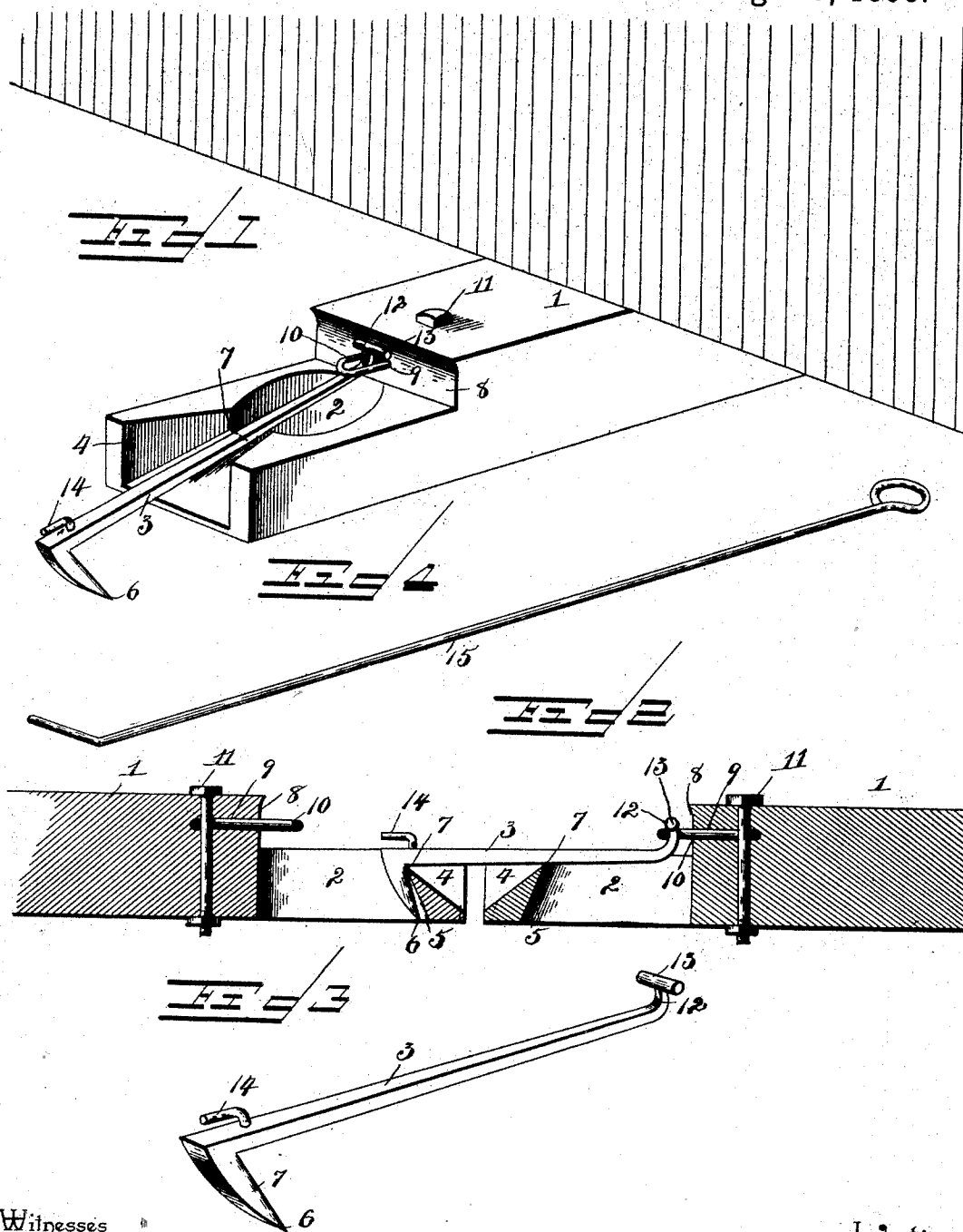


(No Model.)

C. T. HARRISON.
CAR COUPLING.

No. 503,346.

Patented Aug. 15, 1893.



Witnesses

W. E. Schneider.
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By his Attorneys.

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UNITED STATES PATENT OFFICE.

CHARLES T. HARRISON, OF FALLING SPRING, WEST VIRGINIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 503,346, dated August 15, 1893.

Application filed April 27, 1893. Serial No. 472,075. (No model.)

To all whom it may concern:

Be it known that I, CHARLES T. HARRISON, a citizen of the United States, residing at Falling Spring, in the county of Greenbrier and State of West Virginia, have invented a new and useful Car-Coupling, of which the following is a specification.

The invention relates to improvements in car couplings.

10 The object of the present invention is to improve the construction of car couplings, and to provide one which will be simple and inexpensive in construction, capable of coupling automatically and adapted to obviate the necessity of going between cars both in coupling
15 and uncoupling.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated
20 in the accompanying drawings and pointed out in the claims hereto appended.

In the drawings—Figure 1 is a perspective view of a car coupling constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view showing two draw-heads, and illustrating the manner of coupling. Fig. 3 is a detail perspective view of the coupling hook. Fig. 4 is a similar view of the hooked rod.

30 Like numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a draw-head having a vertical throat or opening 2 to be engaged by a coupling hook 3, and provided at its front end with an entrance recess 4 having an inclined bottom, and inwardly converging sides, to direct the hook 3 to the opening 2. The opening 2 is oval or rounded, and its front wall 5 inclines downward and forward to enable the point 6 of the hook to obtain a secure grip or hold. The point or front of the hook inclines downward and inward to conform to the configuration of the front wall of the opening 2, and its engaging face 7 is slightly rounded to enable
45 it to move without friction on the concave front wall of the opening 2, to enable curves to be readily rounded without wearing or wrenching the hook. The front of the hook has a curved bevel or rounded face to enable
50 it to readily ride up the inclined bottom of the entrance recess or mouth of the draw-head for

coupling. The draw-head is provided in rear of the opening 2 with a vertical shoulder 8, which is provided with a horizontal link cavity 9, adapted for the reception of a detachable link 10; and the latter has the coupling hook attached to it. The link 10, which is located above the upper face of the front portion of the draw-head, is secured in the cavity 60 9 by a removable pin or bolt 11, and it projects outward from the cavity and extends forward and receives the rear end 12 of the shank of the hook. The rear end 12 of the shank of the hook extends upward, and is provided with an integral cross-bar 13, which projects laterally from opposite sides of the shank of the hook. The link is designed to be narrow, and the cross-bar short; and the hook, which is detachable, and which is capable of use on cars similar to the ordinary link, is attached or connected to the link by turning transversely of the draw-head to bring the cross-bar longitudinally of the projecting portion of the link, in which the cross-bar is inserted from the bottom. The projecting portion of the link should be of a length to permit the cross-bar, when the latter is arranged longitudinally of it, to be easily inserted, and not longer. When the coupling hook is in operative position and arranged longitudinally of the draw-head, it is impossible for the cross-bar to become disengaged from the link. When the coupling hook is set for coupling, the cross-bar is preferably moved rearward against the shoulder 8, which is slightly concave, and in this position the front portion of the hook will not drop as low as it would were the cross-bar at the outer end of the link.

90 The pin or bolt 11 is arranged in a suitable perforation; and the link may be readily detached when worn or broken; and a new link or coupling hook can be supplied to the draw-head as readily as the pin and link of an ordinary pin and link coupling can be replaced in case of breakage.

In order to enable the operation of uncoupling to be readily performed from the top or sides of a car the coupling hook is provided at its top with an angle arm 14 forming an outwardly opening catch or hook to be engaged by a hooked rod 15. The outwardly opening catch 14 is arranged at the outer end
100

of the hook 3, and forms a recess between it and the top of the hook to receive the rod; and as the recess or opening is open at the outer end it is impossible for the rod to become caught and pull the operator from the top of a car in event of the cars becoming separated through shifting or the like. The hooked rod is provided at its handle end with an eye, and is designed to be hung on an end of a car in order to be within easy reach of a train hand. The opening or throat 2 extends entirely through the draw-head, and it will be apparent that it cannot become clogged or filled with accumulation of snow and ice. The bottom of the mouth 4 is slightly convex at the upper portion in order to present a uniform thickness as the front wall of the opening 2 is concaved. The upper edge of the bottom of the mouth is arranged below the upper face of the front portion of the draw-head to limit the lateral swinging of the hook; and it will be apparent that the hook is adapted to swing freely laterally, and that it will not be subjected to the strain incident to hooks having transverse pivot pins.

It will be apparent that the car coupling is exceedingly simple and inexpensive in construction, that it does not necessitate persons going between cars, that it is capable of automatic coupling, and that the parts may readily be replaced in event of breakage.

Changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

What I claim is—

1. In a car coupling, the combination of a draw-head having an opening and provided in rear thereof with a shoulder having a link cavity, a link detachably secured in the cavity and projecting therefrom, and a hook detachably connected to the link and adapted to engage the opening of a similar draw-head, substantially as described.

2. In a car coupling, the combination of a draw-head having an opening, a link detachably secured to the draw-head and located at the back of the opening, and a hook detachably secured to the link and adapted to engage the opening of a similar draw-head, substantially as described.

3. In a car coupling, the combination of a draw-head having an opening and provided in rear thereof with a link cavity, a link detachably secured in the cavity and projecting forward therefrom, and a hook detachably

secured to the link and having the rear end of its shank extending upward through the link and provided with a cross-bar located above the link and projecting laterally from the shank of the hook, substantially as described.

4. In a car coupling, the combination of a draw-head having an opening and provided in rear thereof with a shoulder having a link cavity, a link arranged in the cavity and projecting forward from the shoulder, a removable bolt passing through the draw-head and the link and securing the latter in the cavity, and a hook having the inner end of its shank extended upward through the link and provided with a cross-bar arranged above the link and projecting laterally from the opposite sides of the shank of the hook, substantially as described.

5. In a car coupling, the combination of a draw-head provided with an opening, a coupling hook connected at its inner end to the draw-head and adapted to engage the opening of a similar draw-head and provided at its outer end with an outwardly extending L-shaped arm forming an outwardly opening catch adapted to be engaged by a rod and having a free unobstructed opening to receive the rod, whereby cars of a train may be cut off without liability of the rod becoming accidentally retained by the catch after such uncoupling, substantially as and for the purpose described.

6. In a car coupling, the combination of a draw-head having an opening with a concaved downwardly and forwardly inclined front wall and provided with a mouth 4 having an inclined bottom and converging sides, said draw-head being provided in rear of the opening with a shoulder having a link cavity, a link detachably secured in the link cavity and projecting therefrom, a coupling hook having the inner end of its shank bent upward and provided with a cross-bar and engaging the link, an angle arm mounted on the hook and forming an outwardly opening catch, and a hooked rod for engaging the catch to lift the coupling hook, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CHARLES T. HARRISON.

Witnesses:

J. H. SIGGERS,
H. T. RILEY.