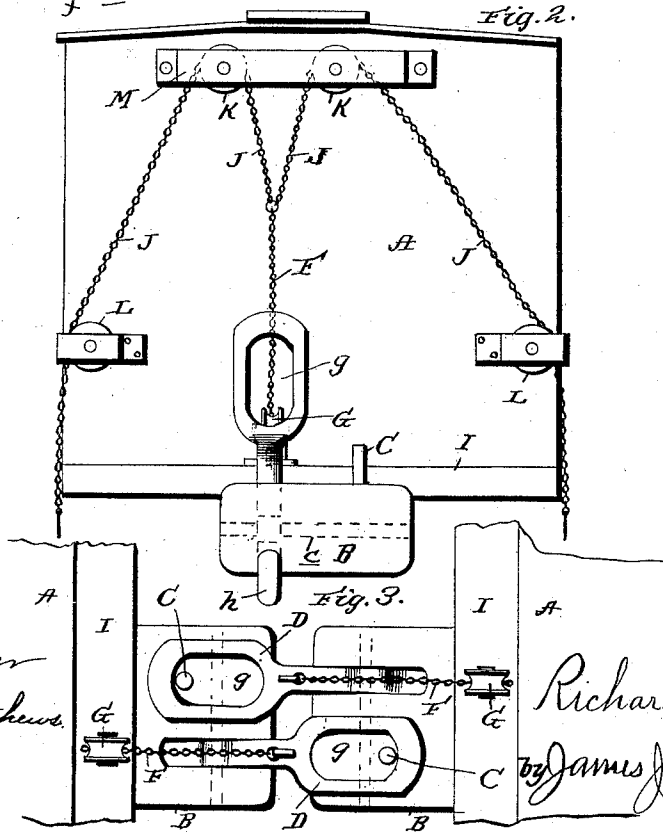
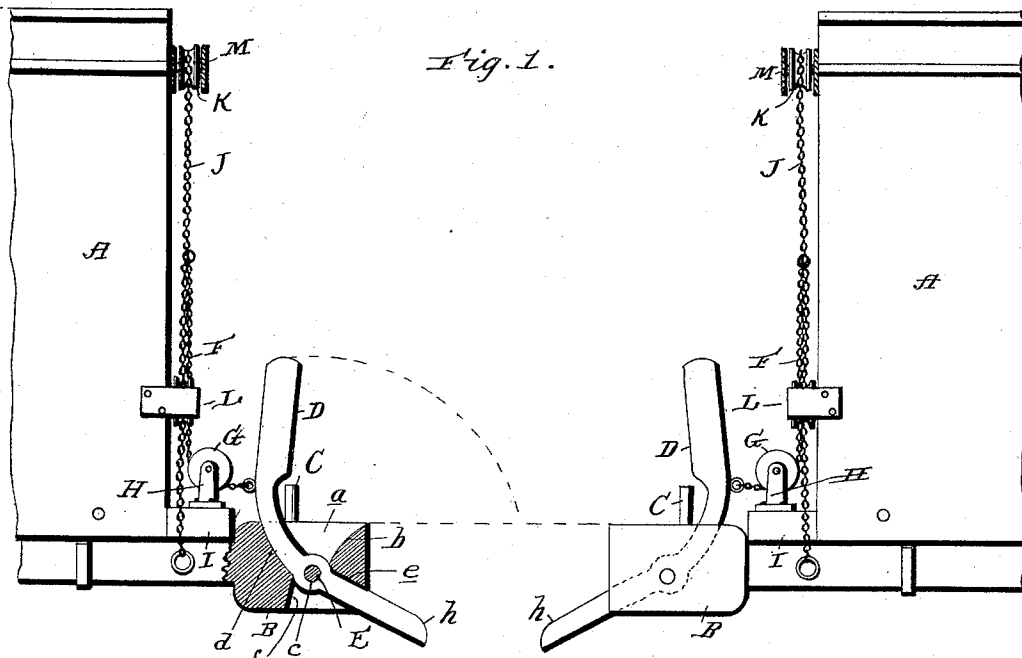


(No Model.)

R. M. TUCKER.
CAR COUPLING.

No. 468,846.

Patented Feb. 16, 1892.



Witnesses:

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UNITED STATES PATENT OFFICE.

RICHARD M. TUCKER, OF CONWAY, MASSACHUSETTS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 468,846, dated February 16, 1892.

Application filed November 4, 1891. Serial No. 410,885. (No model.)

To all whom it may concern:

Be it known that I, RICHARD M. TUCKER, a citizen of the United States, residing at Conway, in the county of Franklin and State of Massachusetts, have invented certain new and useful Improvements in Car-Couplers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an improvement in devices for coupling cars, and is more particularly designed for use on freight-cars, although it is obvious that modifications might be made by which the essential features of the invention might be applied to passenger-cars.

The prime object of the invention is to render the coupling positive and automatic and to provide such means for uncoupling them as will obviate the dangerous and objectionable necessity of going between the cars in coupling and uncoupling.

Other objects and advantages will appear from the following description and claims when taken in connection with the annexed drawings, in which—

Figure 1 is a side elevation of a portion of a pair of cars with my improvements applied, showing one of the draw-heads in section, so as to better illustrate the internal construction of the same. Fig. 2 is a front view of a box-car equipped with my improvements and illustrating the coupling lever or link in a raised position, and Fig. 3 is a plan view of a pair of draw-heads coupled with the cars broken away.

Referring by letter to said drawings, A indicates a freight-car which may be of any ordinary or approved construction and is here shown as a box-car, although it is obvious that it might be a low car.

B indicates the draw-heads, which differ in general appearances from the draw-head at present in use in being a little broader, as better shown in Figs. 2 and 3, and in having a solid abutment at the meeting or outer ends instead of a slot for the reception of the usual coupling-link. The draw-head is provided at a suitable point from one side with a vertical slot *a*, and this slot has tapering walls *b*, ris-

ing upwardly and forwardly from a transverse pivot-aperture *c*, and a tapering wall *d*, rising upwardly and rearwardly from said aperture. Said slot also has an oblique or beveled wall *e* in advance of and below the pivot aperture or hole and a rear wall *f* below said aperture, of a less angular inclination than the forward wall *e*. The draw-head is furthermore provided near its opposite upper side with a stud or lug C, for a purpose which will be presently explained, and it will be observed that the stud or lug of one draw-head is arranged in the same longitudinal plane as the slot *a* of the opposite draw-head, for a purpose which will be presently explained.

D indicates one of the coupling links or levers. These levers are of a form substantially as shown, having their upper ends expanded and slotted at *g*, and their opposite ends, which are preferably reduced, curved downwardly and forwardly and provided with a hole or pivot-aperture *c*, through which and a corresponding aperture in the draw-head is arranged a pivot-pin E. When the coupling-levers are placed in the slots *a* of the draw-heads and pivoted, as described, it will be observed that their lower ends or branches *h* extend below the draw-heads, and when the levers are raised in a position for coupling the said branches or ends *h* project forwardly and downwardly in an oblique position and in advance of the abutting ends of the draw-heads, so that when two cars are brought together their draw-heads cannot fail to contact with the projected or extended ends of the levers, which, as a result, throw down the upper or opposite ends of said levers to a horizontal position and at such time that the pins or studs C of the opposite edge will receive the slots *g*, thereby effecting an automatic coupling. By reason of the upper ends of the coupling-levers being expanded and owing to the point at which they are pivoted in the draw-heads said upper ends will have sufficient weight over the opposite ends or branches *h* that when once thrown up they will remain so until the said projected ends have been struck, as before described.

F indicates a chain. This chain is attached at one end to the coupling-levers at a suitable point above their pivots, and is then carried

under a vertically-disposed guide sheave or pulley G, which is sustained in a suitable bracket H, fixed to the usual cross-timber I on the platform of the car. This chain is in turn connected with two branch chains J, which are carried over guide sheaves or pulleys K, arranged on the front wall of the car near its upper end, and are thence carried over pulleys L, which are also arranged on the front of said car, but at a less altitude, so that lower ends of said pull or branch chains J may be brought within convenient reach of an attendant standing on the ground and at the side of the car.

As it is desirable in some cases that the coupling-levers should remain raised, I provide the pull-chains with rings, as shown, and a stud or hook may be provided on the car-body to receive said rings when the chains have been drawn down. In the present illustration I have shown the upper guide sheaves or pulleys K connected to the car by a bracket M, although it is obvious that they might be secured in any suitable manner, and it is also obvious that when it is desirable to operate the coupling devices in the top of the car another chain may extend from the chain F to the roof of said car.

In operation, should it be found necessary to couple a car equipped with my improvements with a car having the usual link-slot and pin one end of said link may be placed over either of the studs or pins C while the coupling-lever is held up, as before described and for the sake of convenience, I design carrying with each car a link of angular form or of expanded S shape, so that one of the branches of the link which shall always be elevated may pass over the coupling stud or lug C and the outer end, which will be on a lower plane, will enter the usual slot in the draw-head of the abutting car to receive the ordinary coupling-pin.

From the construction shown and described it will be seen that I have an automatic coupler, and being double I attain the double strength of the ordinary coupler. It will also be seen that should one car become turned over and leave the rails it will not carry with

it the other car, but will detach itself therefrom while in a tilting or tipping-over position, and while the breaking apart of cars is absolutely prevented yet should one coupler become broken or injured the other would serve effectively in holding the cars.

Having described my invention, what I claim is—

1. In an automatic car-coupling, the combination, with a draw-head having a vertical slot near one side and said slot having angular walls, as described, and also having a coupling stud or lug on its upper side, of the angular coupling-lever pivoted in said slot and having a slot at one end and its opposite end adapted to project below and in advance of the draw-head, and suitable means for raising the slotted end of said lever, substantially as specified.

2. The combination, with two draw-heads, one having a vertical slot and the other having a vertical stud or lug in the same longitudinal plane as the slot, and the other having a corresponding slot and stud or lug, of the curved connecting-levers pivoted in said slots and having their upper ends slotted and their lower ends adapted to project in advance of the draw-heads, and the operating-chains connected with said levers and guided over suitable sheaves or pulleys to within convenient reach of an operator, substantially as specified.

3. The combination, with a pair of draw-heads, each having a vertical slot and a stud or lug, the stud of one draw-head being in the same longitudinal plane as the slot in the opposite draw-head, of the coupling-levers having their upper ends slotted and their opposite ends pivoted within the slots of the draw-head and adapted to project in advance of said draw-heads, said coupling-levers being also adapted to remain in a vertical position when uncoupled, and a chain or chains for raising said levers, substantially as specified.

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

RICHARD M. TUCKER.

Witnesses:

ROY SCOMMELL,
R. D. COULTER.