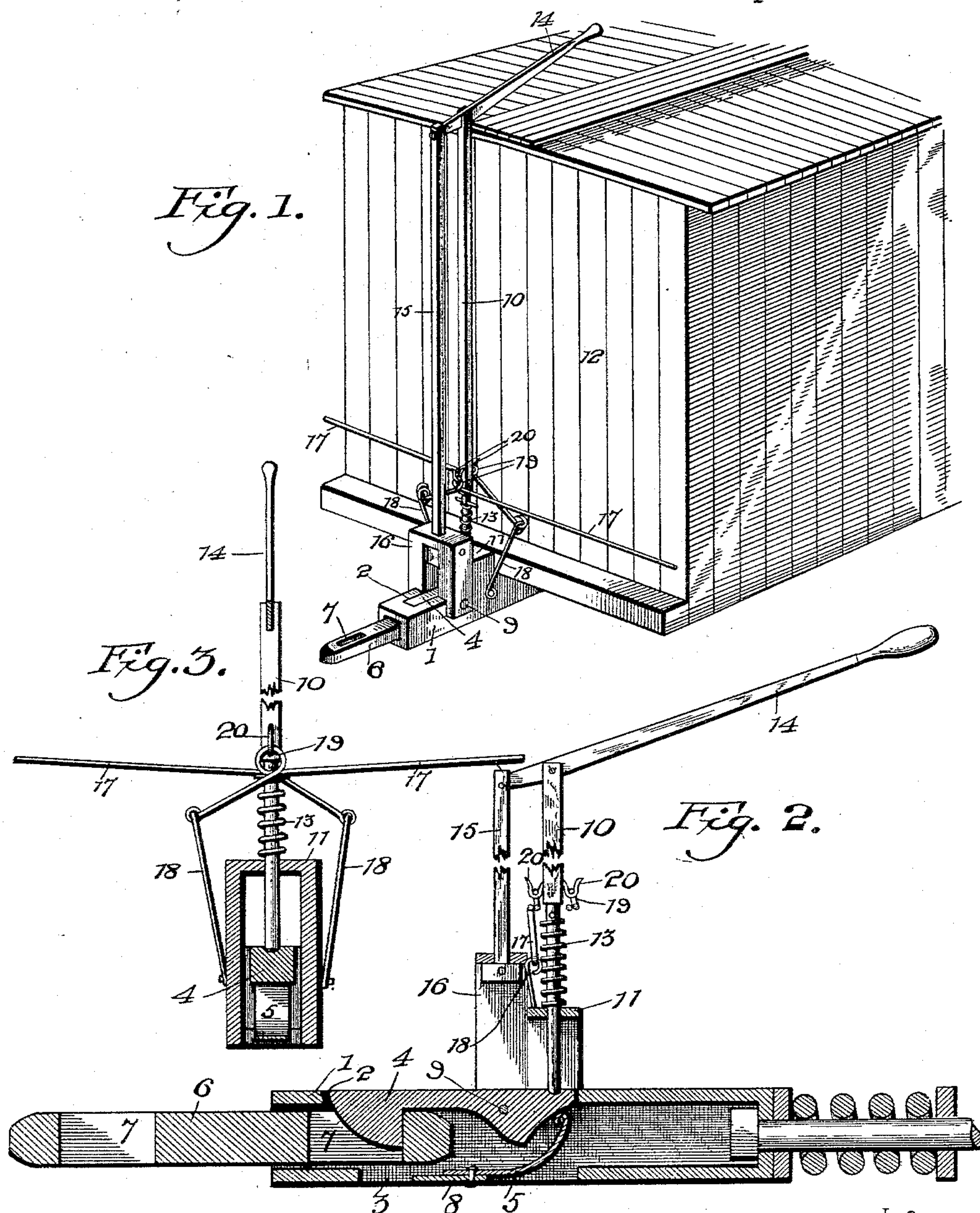


(No Model.)

J. R. BEARD.
CAR COUPLING.

No. 589,591.

Patented Sept. 7, 1897.



Inventor

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Witnesses

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UNITED STATES PATENT OFFICE.

JAMES ROBERT BEARD, OF HARRISBURG, ARKANSAS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 589,591, dated September 7, 1897.

Application filed June 25, 1897. Serial No. 642,316. (No model.)

To all whom it may concern:

Be it know that I, JAMES ROBERT BEARD, a citizen of the United States, residing at Harrisburg, in the county of Poinsett and State of Arkansas, have invented a new and useful Car-Coupling, of which the following is a specification.

The invention relates to improvements in car-couplings.

The object of the present invention is to improve the construction of car-couplings and to provide a simple, inexpensive, and efficient one, which will be strong and durable and which will be capable of coupling automatically and of being readily uncoupled from the tops and sides of cars without going between them.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated 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 and shown applied to a car. Fig. 2 is a vertical longitudinal sectional view. Fig. 3 is a transverse sectional view.

1 designates a draw-head provided at its top and bottom with longitudinal slots 2 and 3, receiving a hook 4 and a spring 5, which engages the rear end of the shank of the hook and is adapted to hold the front end of the same into engagement with a link 6. The link 6, which is provided at each end with a slot to receive the engaging portion of the hook, is of a length that will permit the draw-heads to come together to relieve the hooks or pivoted catches of strain during backing and during the operation of coupling, and the slots 7 of the link are of sufficient length to permit the draw-heads to have a limited longitudinal movement independent of each other, whereby the cars of a train may be successfully started. By this construction the car-coupling has all the advantages of the ordinary pin-and-link car-coupling, and all the strain incident to drawing the train of cars is not thrown on an engine in starting.

The spring 5, which is located at the lower slot 3 of the draw-head, is secured at its front end to a cross-bar 8, but, if desirable, it may

be formed integral with the same. The rear end of the spring curves upward and engages the rear portion of the shank of the hook. The shank of the hook is pivoted between its ends by a transverse pin or fastening device 9, and the front engaging portion of the hook is beveled, as shown, in order that the link may readily raise it and pass under it, and the ends of the link are also beveled to facilitate such automatic coupling.

The rear portion of the shank of the hook is depressed against the action of the spring 5 for releasing the link and effecting the operation of uncoupling by a vertically-reciprocating rod 10, mounted in a guide 11 of the draw-head, and having its lower end engaging a socket or depression of the shank of the hook. The guide 11, which is substantially rectangular, as shown, is formed integral with the draw-head and abuts against the car 12, as shown, and takes the place of the flange or enlargement ordinarily employed for this purpose.

The lower portion of the rod 10 is rounded and passes through a perforation of the guide 11, and the spring 13, which is disposed on the rounded portion of the rod, is interposed between a pin at the upper end of the rounded portion and the top of the guide, whereby the rod is normally supported in an elevated position to relieve the lower spring 5 of the weight of the operating mechanism.

The upper end of the rod 10 is connected with an upper operating-lever 14, which is fulcrumed at its outer end upon a standard 15 and which is designed to extend within convenient reach from the top of a box-car in order that the operation of uncoupling may be performed from that point to avoid the inconvenience of descending to the ground and uncoupling the car from that position. The handle end of the operating-lever 14 is depressed to effect the operation of uncoupling, and the standard 15, which has its upper end slotted to receive the lever 14, is mounted upon a bracket or support 16, which is suitably secured to the draw-head, preferably by means of the transverse pin upon which the hook is fulcrumed. The bracket or support 16, which is substantially rectangular, as shown, is recessed at the lower ends of its sides to fit the draw-head and to form

shoulders for resting upon the upper face thereof. The top of the bracket or support is provided with a rectangular opening for the passage of the standard, which has its lower end enlarged and secured between the sides of the support at a point beneath the top.

The operation of uncoupling is performed at the sides of the car by means of transverse levers 17, extending inward from the sides of the car, crossing each other at the vertically-reciprocating rod 10, and arranged in advance and in rear of the same. The transverse levers 15, which are fulcrumed at their ends on link-rods 18, are provided between their ends with eyes 19, which engage hooks 20 of the reciprocating rod, whereby when the outer ends of the transverse levers are depressed the front end of the hook will be raised to release the link. The inner ends of the transverse levers are provided with eyes and are linked into similar eyes or hooks of the upper ends of the rods 18, which are secured at their lower ends to the draw-head, at opposite sides thereof.

The advantages of the invention are as follows:

The operation of coupling is purely automatic, and the operation of uncoupling may be performed from the tops and sides of cars without going between them.

The link will permit the draw-heads to come together in order to relieve the pivots or fastening devices of the hooks during the operation of coupling, and when the cars are being backed sufficient longitudinal play is provided to enable the cars of a train to be successively started.

What I claim is—

1. In a car-coupling, the combination of a draw-head, a spring-actuated hook mounted in the draw-head and disposed longitudinally thereof for engaging a link, a vertically-reciprocating rod arranged to engage the hook and adapted to release the same, a standard rising from the draw-head, a longitudinally-disposed operating-lever fulcrumed on the standard and connected with the rod and adapted to be operated from the top of a car, and transverse levers connected with and adapted to operate the rod from the sides of a car, substantially as described.

2. In a car-coupling, the combination of a draw-head, a spring-actuated hook mounted within the draw-head and disposed longitudinally thereof, a vertically-reciprocating rod mounted above the hook and provided at its front and back with hooks, a spring disposed

on the rod and supporting the same, link-rods mounted on the draw-head and extending upward from the sides thereof, the transverse levers fulcrumed on the link-rod and provided between their ends with eyes engaging the hooks of the said rod, and means for operating the rod from the top of the car, substantially as specified.

3. In a car-coupling, the combination of a draw-head, a hook mounted in the draw-head and pivoted to the same at a point between the ends of its shank, a spring mounted on the draw-head at a point below the hook, and having its rear portion extended upward and bearing against the rear portion of the shank of the hook, a guide rigid with the draw-head and adapted to abut against a car, a vertically-reciprocating rod passing through the guide and engaging the rear portion of the shank of the hook, a spring disposed on the rod and bearing against the guide and supporting the former, the support mounted on the draw-head in advance of the guide, a standard rising from the support, a longitudinal operating-lever fulcrumed on the standard and pivoted to the rod, supporting-hooks connected with the rod and arranged in advance and in rear of the same, and the oppositely-disposed transverse levers fulcrumed at their inner ends and provided between their ends with eyes engaging the supporting-hooks, substantially as described.

4. In a car-coupling, the combination of a draw-head, a hook arranged within the draw-head, a transverse pin passing through the hook and the sides of the draw-head and extended beyond the latter, the substantially rectangular support provided at its top with an opening and recessed at the lower ends of its sides to form supporting-shoulders, the standard passing through the opening of the top of the support and having its lower end enlarged and fitting between the sides of the same, a transverse fastening device passing through the sides and the lower end of the standard, a vertically-reciprocating rod engaging the hook, and a lever fulcrumed on the standard and connected with the rod, substantially as set forth.

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

JAMES ROBERT BEARD.

Witnesses:

E. N. BECKLEY,
THOMAS L. BEARD.