

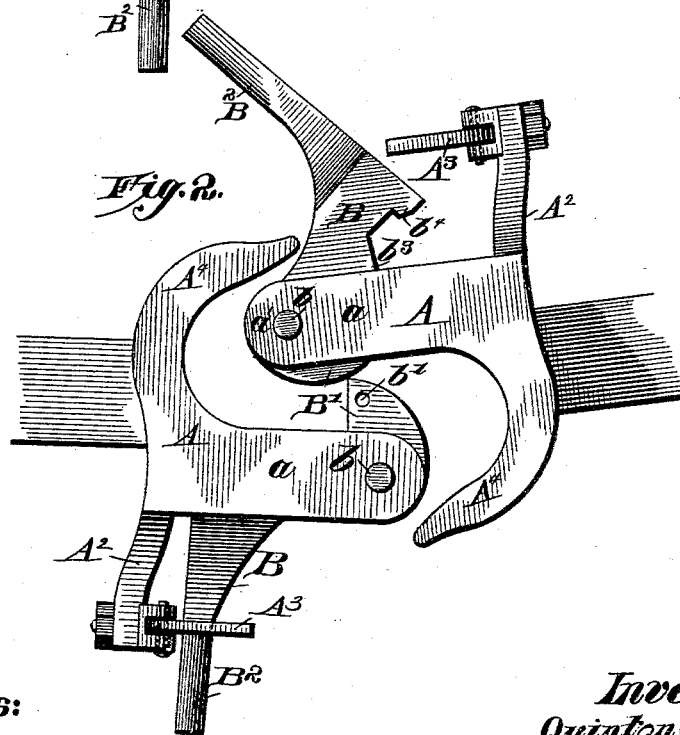
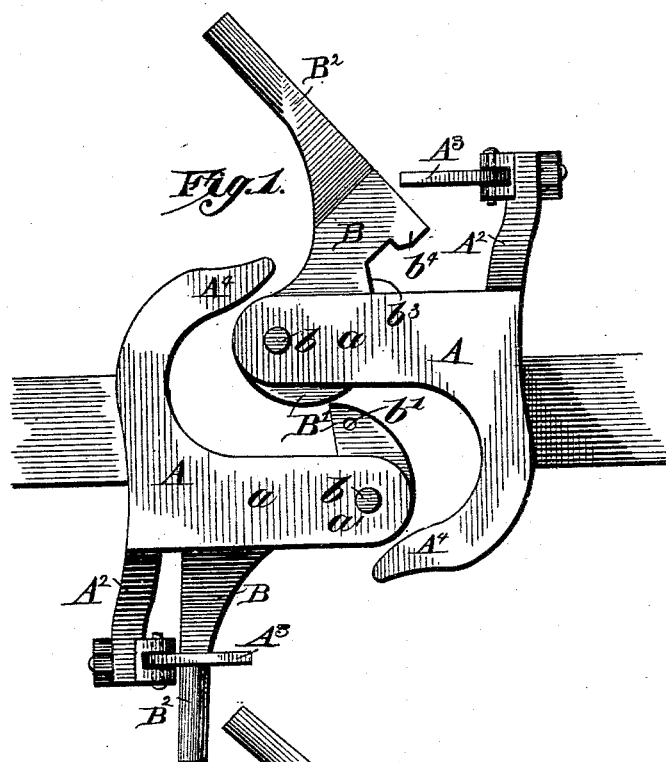
(No Model.)

4 Sheets—Sheet 1.

Q. J. HOKE.
CAR COUPLING.

No. 425,509.

Patented Apr. 15, 1890.



Witnesses:

Henry S. Düterich,
Thomson Cross

Inventor:

Quinton J. Hoke,
per. *Quint J. Hoke*

Att'y's:

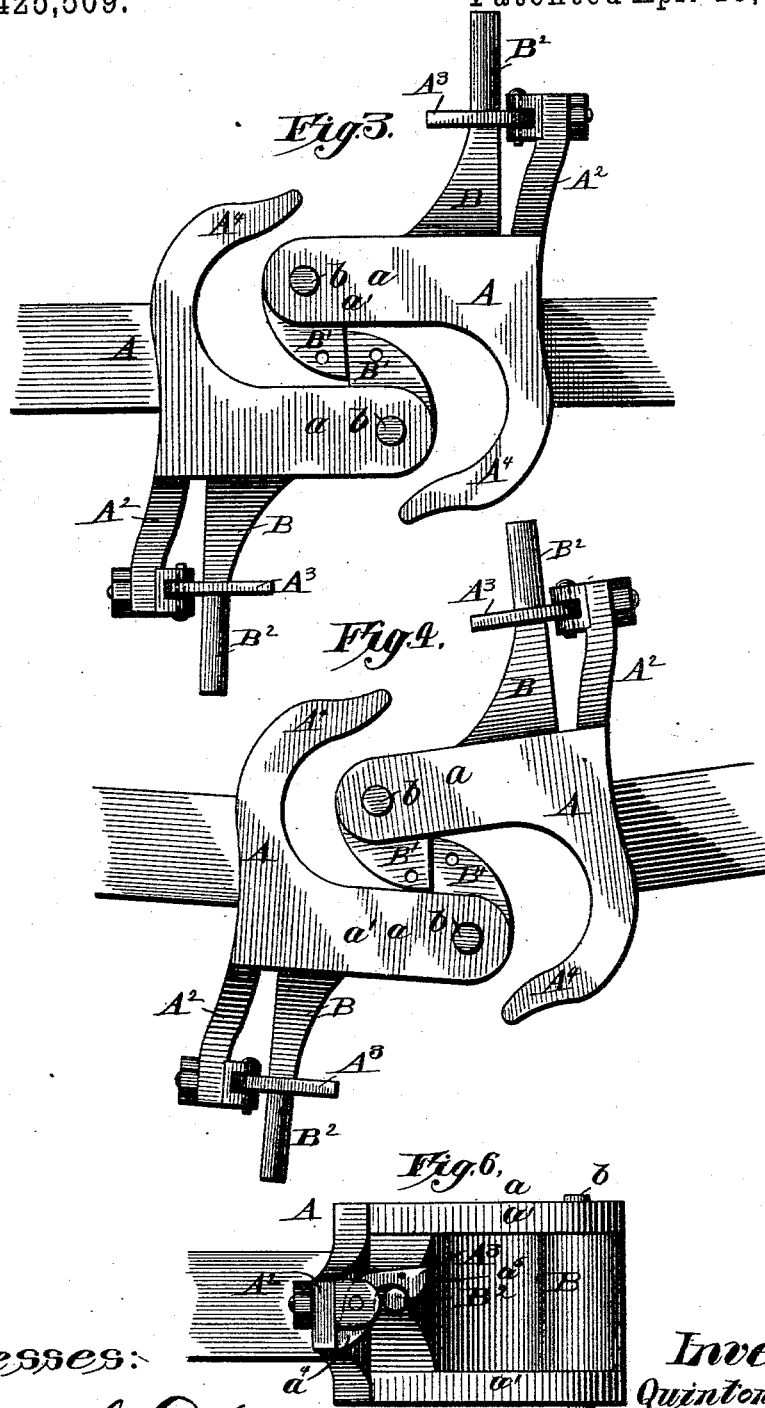
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4 Sheets—Sheet 2.

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No. 425,509.

Patented Apr. 15, 1890.



Witnesses:

Henry G. Dietrich,
J. Thomson Cross

Inventor:

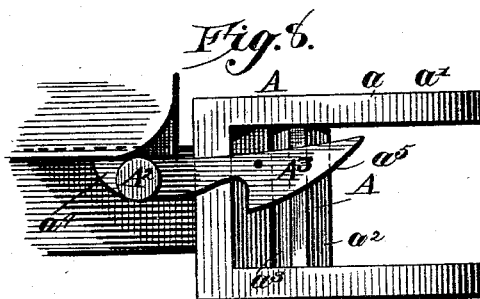
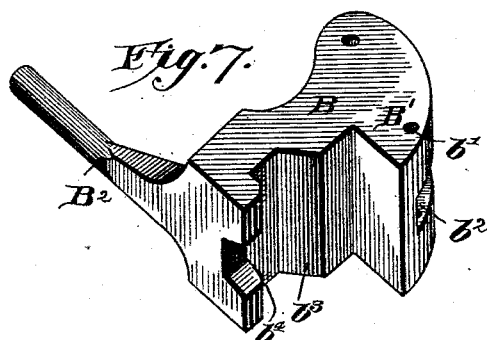
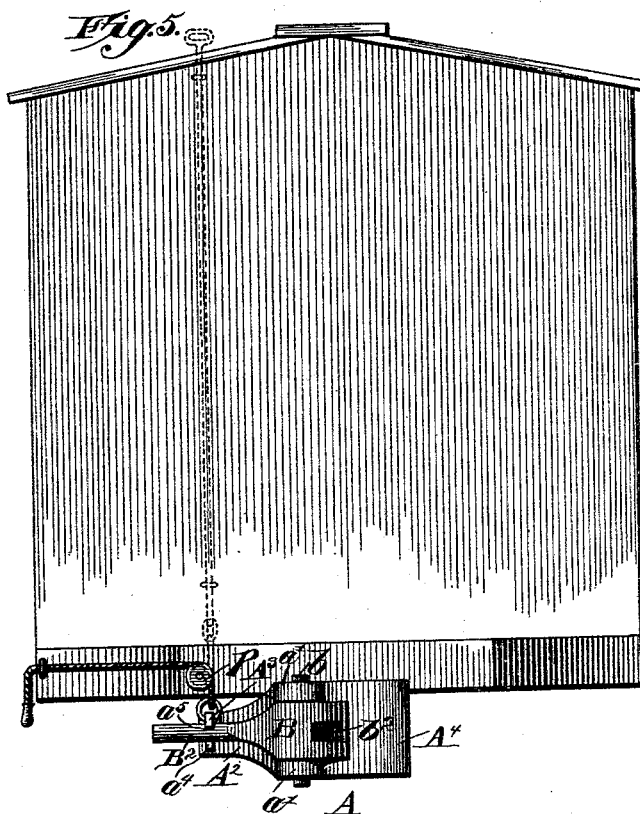
Quinton J. Hoke,

per
Henry M. Hoke
Att'y's:

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Henrij G. Diëterich
J. Thomson Cross

Inventor:
Quinton J. Hoke,
Per. [Signature]

Atty's:

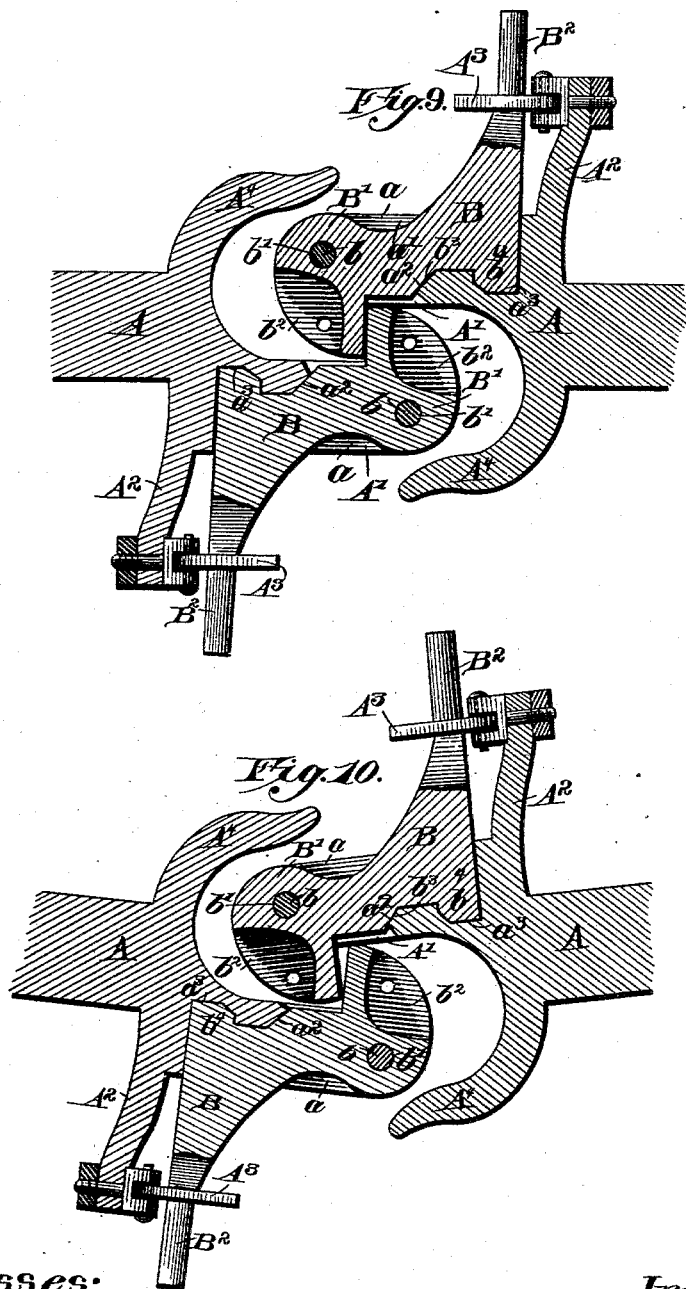
(No Model.)

4 Sheets—Sheet 4.

Q. J. HOKE.
CAR COUPLING.

No. 425,509.

Patented Apr. 15, 1890.



Witnesses:

Henry J. Dieterich
J. Thomson Cross

Inventor:
Quinton J. Hoke,
per. *Harry M. Hoke*
Attys:

UNITED STATES PATENT OFFICE.

QUINTON JEROME HOKE, OF YORKVILLE, SOUTH CAROLINA, ASSIGNOR TO HIMSELF AND PAUL R. BRATTON, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 425,509, dated April 15, 1890.

Application filed February 12, 1890. Serial No. 340,126. (No model.)

To all whom it may concern:

Be it known that I, QUINTON JEROME HOKE, a citizen of the United States, residing at Yorkville, in the county of York and State of South Carolina, have invented certain new and useful Improvements in Car-Couplers; and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification, and in which—

Figure 1 is a top plan view showing two couplers embodying my invention in the act of coupling on a straight track. Fig. 2 is a like view showing the couplers in the act of coupling on a curve. Figs. 3 and 4 are views similar to Figs. 1 and 2, respectively, showing the couplers in engagement. Fig. 5 is a front elevation of one of the couplers, and Fig. 6 a side elevation showing the coupling-hook locked against rotation. Fig. 7 is an isometric view of the coupling-hook. Fig. 8 is a side elevation of the draw-head, the coupling-hook being removed; and Figs. 9 and 10 are horizontal sections of Figs. 3 and 4, respectively.

The invention relates to that class of couplers known as "hook-couplers," and has for its object to so construct the draw-head and hook as that two couplers will automatically couple either on a straight track or on a curve of any radius now considered practicable.

The invention has for its further object to provide means for uncoupling either from the side or from the top of a car, and also to so construct the coupler as to take the strain off the hook-pivot.

To these ends the invention consists in the construction of the draw-head and coupling-hook and in their co-operation, and in combination therewith of a locking device for the coupling-hook, as will now be fully described.

In the drawings, A indicates the draw-head, that is constructed with a straight jaw a , provided with perforated ears a' for the pivot-pin b of the coupling-hook B. The jaw a and ears a' are so constructed as to form a recess A' for the reception of the shank of the coupling-hook B, the front face of the wall of the recess being inclined in opposite directions,

the outer or left inclined face a^2 forming a bearing for a corresponding bearing-face on said coupling-hook. In rear of the inclined bearing-face a^2 the depth of the recess A' is increased to form a locking-shoulder a^3 , with which engages the heel of the coupling-hook B.

At its rear end the draw-head is provided with a laterally-extending arm A^2 , to which is fulcrumed a locking dog or hook A^3 , that projects in a direction at right angles to the said arm or extension A^2 , said locking dog or hook A^3 being provided with a heel a^4 to hold the same in a substantially horizontal position, the front face a^5 of said dog being rounded for purposes presently explained.

A^4 is the outwardly-curved jaw of the draw-head and serves to guide the hook of an adjacent coupler in coupling.

The coupling-hook B, pivoted to the ears of the jaw a by means of the pivot-pin b has a hook portion B' , perforated at b' for the reception of the usual link-pin to adapt the coupler for coupling with a link-coupler, the hook being recessed, as at b^2 , for the reception of the link. The front face of the shank B' of the hook B has an inclined bearing-surface b^3 , that seats upon or bears against the inclined bearing-face a^2 when the hook is in its normal position, and the said shank is provided with a heel b^4 , that enters the deeper portion of the recess A' , and is locked by the shoulder a^3 , hereinbefore referred to. From the rear end of the shank B' projects an arm B^2 , adapted to be engaged by the locking dog or hook A^3 as the coupling-hook swings back into position for coupling, thus locking the hook against motion on its pivot.

By providing the draw-head with a locking-shoulder a^3 and the shank of the coupling-hook with a heel b^4 , that interlocks with the said shoulder, the strain is entirely removed from the pivot-pin b , whether such strain is in a straight line or at an angle to the longitudinal axis of the coupler. It will also be observed that when the hooks B are once coupled they cannot uncouple so long as there is a strain on the hooks to hold the heels b^4 thereof in engagement with their locking-shoulders a^3 , whether the locking dogs or hooks A^3 are in engagement with the arms B^2 of the coupling-hooks B or not.

Inasmuch as the entire front surface of the coupling-hooks B bears against a corresponding face in the draw-head, a breakage of the hook from shock or otherwise is almost impossible, thus forming a solid, simple, and efficient coupler.

In uncoupling the locking dog or hook A³ may be lifted out of engagement with the arm B² of the coupling-hook in any suitable manner. A cord or chain may, for instance, run over a suitable guide-pulley *p* on the platform-guard to the side of the car, or such a cord may be run to the top of a car, as shown in dotted lines in Fig. 5, so that the uncoupling may be effected either from the side or from the top of a car, according as the coupler is used on passenger or freight cars.

In uncoupling, when the locking-dog A³ is disengaged from the arm B² of the coupling-hook B, a pull forward upon the arm B² of said coupling-hook B will throw the hook portion B' inward between the lugs or ears *a'* on the draw-head to allow the hook on the adjacent car to pass freely out from between the jaws *a* and A⁴, at the same time throwing the arm B² forward out of reach of the locking dog or hook A³, that when disengaged from the said arm falls back into its normal approximately horizontal position.

In coupling the jaw A⁴ of the draw-head of the approaching coupler strikes the shank of the coupling-hook about at the point of junction of said shank and its arm B², which is a curvilinear surface, thereby forcing the hook portion B' outwardly and the arm B² rearwardly, the said arm B² striking the curved under face of the locking dog or hook A³, lifting the same so as to engage and lock the arm and coupling-hook.

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

1. In a hook-coupler, the combination, with the draw-head provided with a lateral extension and a locking dog or hook A³, pivoted to said extension, of a coupling-hook pivoted in said draw-head and provided with a later-

ally-projecting arm adapted to be engaged and locked by said dog or hook A³, substantially as and for the purposes specified. 50

2. In a hook-coupler, the combination, with the draw-head provided with a lateral extension and with a recess in one of its outer lateral faces adapted to form a locking-shoulder *a*³, and a locking dog or hook A³, pivoted to the extension of the draw-head, of a coupling-hook pivoted in said draw-head and having a shank provided with a heel *b*⁴, adapted to engage the shoulder *a*³, substantially as and for the purposes specified. 60

3. In a hook-coupler, the combination, with the draw-head provided with a recess in one of its outer lateral faces to form a locking-shoulder *a*³, and with an extension projecting laterally from the rear end of said recessed portion, and a locking dog or hook pivoted to said draw-head so as to lie in substantially a horizontal plane at right angles to said extension, of a coupling-hook whose shank is provided with a heel adapted to engage the locking-shoulder *a*³ and with an arm B², substantially at right angles to the heel end of the hook-shank, adapted to be engaged by the locking dog or hook, substantially as and for the purposes specified. 75

4. In a hook-coupler, the combination, with a draw-head A, provided with the jaws *a* A⁴, said jaw *a* having bearing lugs or ears *a'*, the bearing-face *a*², locking-shoulder *a*³, and lateral extension A², and the locking dog or hook A³, pivoted to said extension, as described, of the coupling-hook B, pivoted between the lugs or ears *a*³, the shank of said hook having the bearing-face *b*³, heel *b*⁴, and the laterally-projecting arm B², said parts being constructed and arranged for co-operation substantially as and for the purposes specified. 85

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

QUINTON JEROME HOKE.

Witnesses:

J. FRANK HART,
GEO. W. S. HART.