(No Model.)

E. McC. REYNOLDS.

CAR COUPLING.

No. 375,386. Patented Dec. 27, 1887.

Fig. 1.

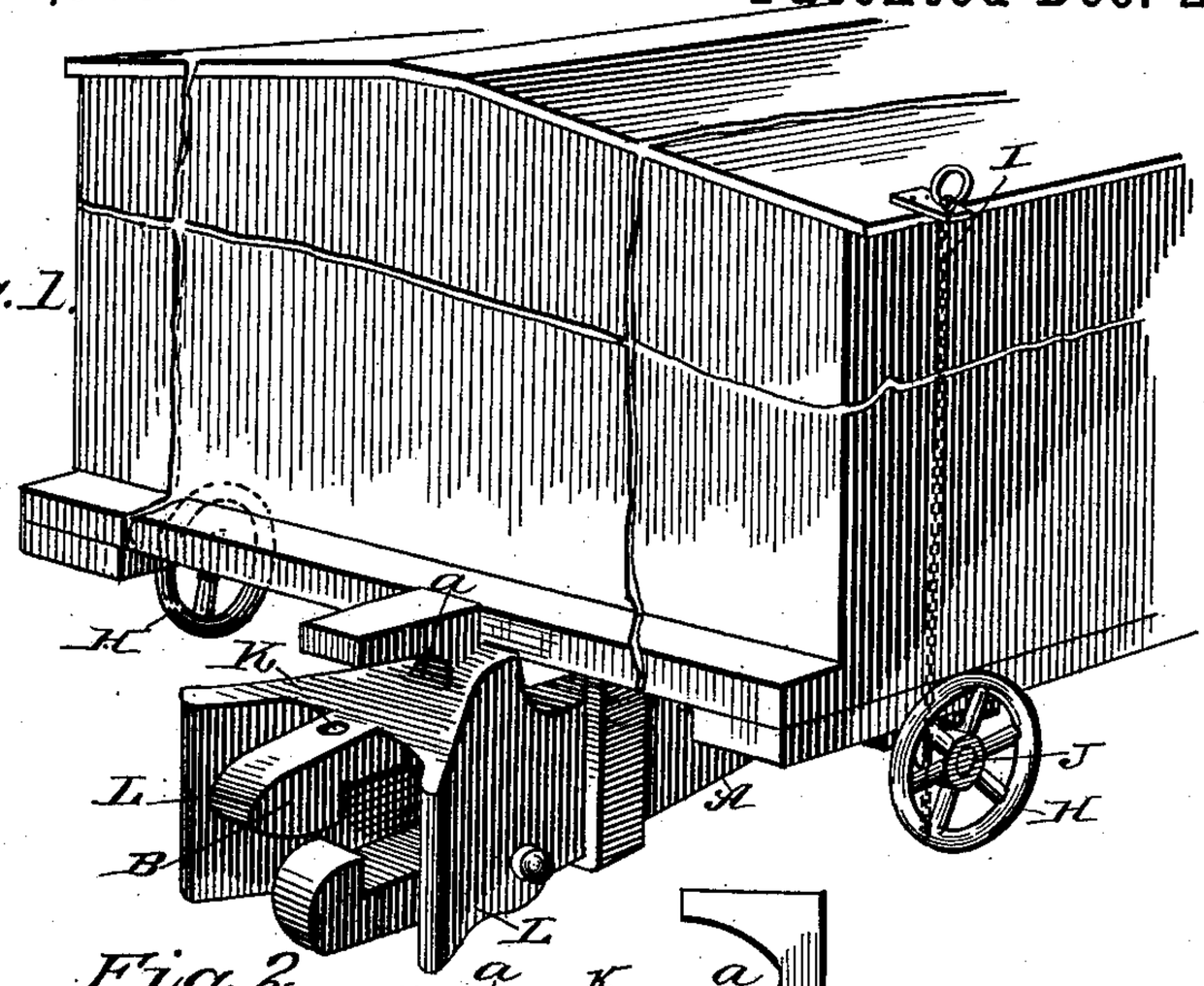


Fig. 2.

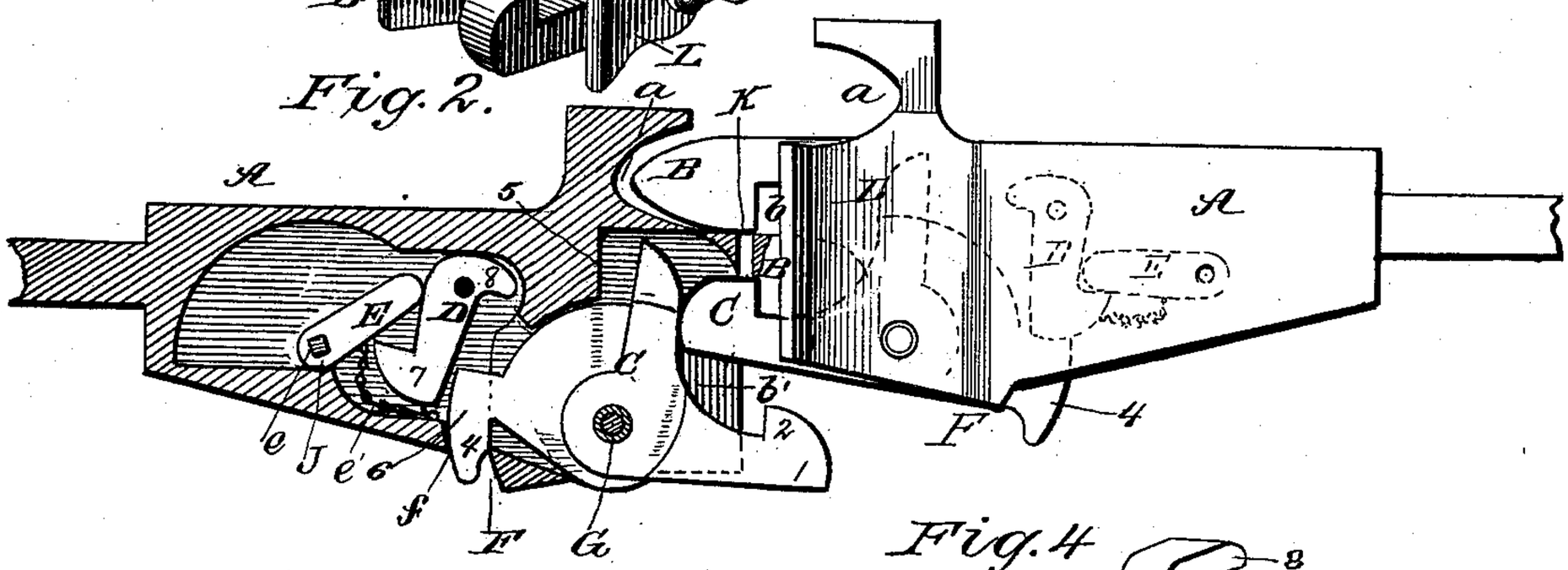


Fig. 3.

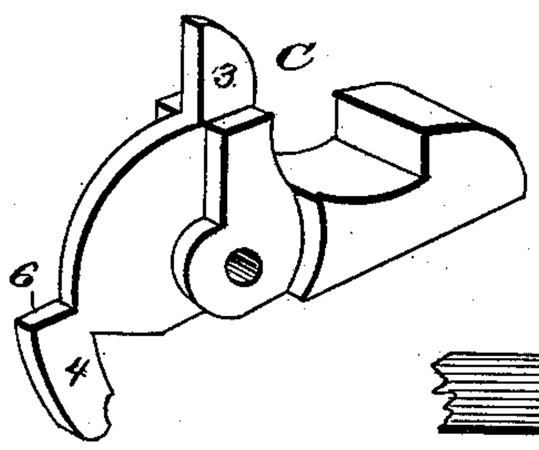


Fig. 4

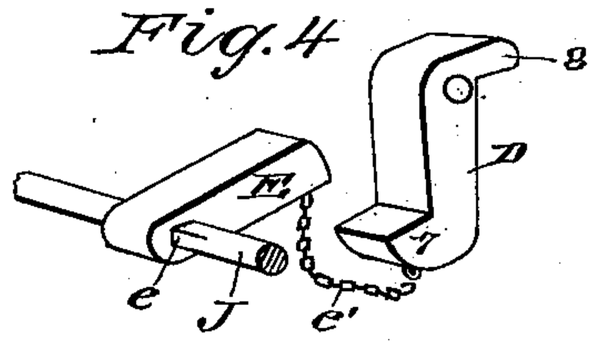


Fig. 5.

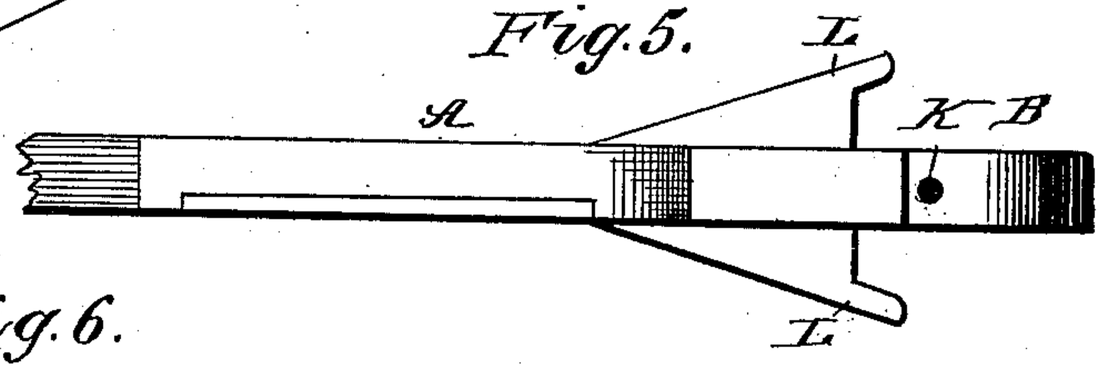
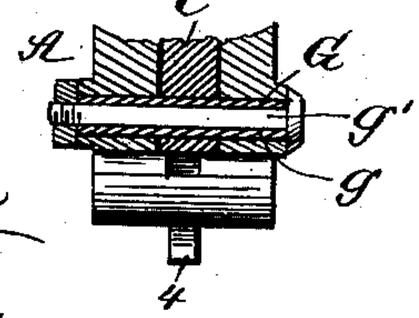


Fig. 6.



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EDWARD McC. REYNOLDS, OF ST. LOUIS, MISSOURI.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 375,386, dated December 27, 1887.

Application filed February 12, 1887. Serial No. 227,447. (No model.)

To all whom it may concern:

Be it known that I, EDWARD McC. REYNOLDS, of St. Louis, in the State of Missouri, have invented a new and useful Improvement in Car-Couplings, of which the following is a specification.

My invention is an improved car-coupling; and it consists in certain features of construction and novel combinations of parts, as will be hereinafter described.

In the drawings, Figure 1 is a perspective view of one end of a car provided with my improvements. Fig. 2 is an elevation of two couplings, one of the same being shown in longitudinal section. Fig. 3 is a detail perspective view of the draw-bar or coupling-hook. Fig. 4 is a perspective view detached of the detent and latch. Fig. 5 is a top plan view of the coupling; and Fig. 6 is a cross-section, showing the pivot-pin for the coupling-hook.

The draw-head A is provided at its forward end with a buffer-recess, *a*, below which is formed a hook, B, having a downwardly-facing shoulder, *b*, and forming a part of the grappling or coupling devices, and the draw-head is recessed at *b'*, below such hook B, for the coupling-hook or draw-bar C, and such recess is extended rearwardly to properly receive the latch D and detent E, presently described. An opening, *f*, is formed through the base-wall of the draw-head, providing the shoulder or abutment F for engagement by the rear or supplemental hook of the coupling-hook or draw-bar C. This draw-bar C has at its forward end a hook, 1, the shoulder 2 of which projects upwardly, and the forward end of this hook terminates short of that of hook B, as shown.

The draw-bar is pivoted between its ends on pivot-pin G, and has a trip projection, 3, arranged about radially to its pivot, and is provided at its rear end with a supplemental hook, 4, which engages the shoulder or abutment F of the draw-head in the coupled position of the hook, as shown in Fig. 2. In such coupled position the trip projection 3 abuts a surface, 5, of the draw-head. At its rear end above hook 4 the coupling-hook has a surface, 6, and the latch D is pivoted at its upper end and rests at its lower end on the surface 6 of the draw-bar when the draw-bar is in coupled position. At its lower end this latch has a rearwardly-projected hook, 7, while at its upper end it has a forwardly-projected crank-like portion, 8, the functions of which will more fully appear hereinafter.

The detent E is pivoted at *e e*, being by preference secured on a shaft, J, which is journaled in the draw-head, and this shaft in practice extends to the sides of the car and has at such points hand-wheels H, by which it may be turned, and to one of these wheels I secure a chain, I, which extends to the top of the car, so the device may be uncoupled from such point. A connection, *e'*, which may be a chain, as shown, connects the detent and the latch, so that the detent may, when properly moved, draw the latch away from engagement with the coupling-hook to release the same. In order to couple with an ordinary link-coupling, I provide a pin-hole, K, through the hook B.

The draw-head is provided with flanges L, which are united with the draw-head in rear of the grappling devices and extend on opposite sides thereof and flare outward toward such forward ends, as shown. These flanges serve to keep the coupling devices properly in engagement, and yet permit the movement of such devices from side to side, as may be necessary—for instance, in rounding curves.

The pivot-pin G is formed of a sleeve, *g*, a bolt, *g'*, extended therethrough, and a fastening-nut, as shown most clearly in Fig. 6. This construction is preferred, because of its superior wearing properties, as will be understood.

The operation is simple and will be readily understood.

In Fig. 2 the meeting draw-heads are shown coupled, the one on the right grappling the one on the left, as shown. In effecting this coupling the parts of the coupler are in the position shown on the left in said figure, and the hook B of the coupler on the left enters the opposite coupling, engages the projection 3 of the hook, and forces the several parts of the coupler on the right to the position shown and indicated in Fig. 2, the latch and detent by gravity assuming the dotted-line position shown, the detent and latch dropping to such position from the position thereof shown in the coupler to the left. It will be noticed that hook 4 sustains in large part the draft on the coupling-hook, to a certain extent

relieving the pivot-pin of the draft strain. When coupled, the greatest strain on the coupling-hook cannot release the fastenings. To release the coupling-hook, the detent should be turned back, the latch being drawn thereby out of engagement with the coupling-hook and releasing the same. It will be noticed that the frictional strain of the coupling-hook on the latch is but slight; so the coupling can be easily released, even when the greatest draft strain is exerted on said hook. It will further be noticed that the coupling-hook when in uncoupled position engages at its rear end the projection 8 of the latch and forces such latch and the detent as well into the position shown at the left in Fig. 2, from which position they will readily adjust to the coupled full line position when the coupling-hook is properly moved. Thus, if in uncoupling the devices the detent should be thrown over to a position diametrically opposite that indicated at the right in Fig. 2, the impact of the coupling-hook against projection 8 will draw the latch and detent into the proper position to couple.

Having thus described my invention, what I claim as new is—

1. In a car-coupling, the draw-head having a surface, 5, and a shoulder or abutment, F, combined with the coupling-bar pivoted to the draw-bar in advance of abutment F, and having an extension in rear of its pivot provided with a hook, 4, to engage in rear of abutment F, and the trip projection 3, engaging the surface 5, substantially as and for the purposes specified.

2. The combination, in a car-coupling, of a pivoted coupling-hook and a pivoted latch arranged to engage the same, and having a crank-like projection arranged to be engaged by the coupling-hook in the uncoupling movement of the latter, substantially as set forth.

3. In a car-coupling, the combination, with the draw head or support having an abutment or shoulder, of the pivoted hook having in rear of its pivot a hook arranged to extend behind and engage the rear side of the said abutment or shoulder in the coupled position of hook, substantially as specified.

4. The draw-head A, having buffer-recess *a*, hook B, and abutment F, in combination with the hook C, having trip projection 3 and hook 4, the latch D, and detent E, substantially as set forth.

5. In a car-coupling, a coupling-hook or draw-bar adapted to be pivotally supported between its ends, and having its forward end provided with means for coupling with a meeting draw-bar, and having at its rear end a hook or shoulder formed to engage against the rear side of a suitable shoulder or bearing on the draw-head or support, substantially as set forth.

6. A draw-head having at its forward upper end a buffer-recess and provided below the same with the coupling devices, substantially as set forth.

7. The combination of the draw-head, the pivoted coupling-hook, the pivoted latch, and the detent, substantially as set forth.

8. The combination, with the coupling-hook and the latch arranged to engage the same, of the pivoted detent arranged to engage the latch, and a connection between said detent and latch, substantially as set forth.

9. The combination of the coupling-hook pivoted between its ends and having a trip projection, the latch arranged to engage the rear end of the hook and having a crank-like projection arranged to be engaged by the coupling-hook in the uncoupled position of the latter, the pivoted detent, and a connection between the detent and the latch, substantially as set forth.

10. The improved car-coupling, substantially as herein described, consisting of the draw-head provided with a buffer-recess and with an abutment or shoulder for engagement by the coupling-hook, the coupling-hook, the pivot-pin having a sleeve and a bolt fitted to pass through said sleeve, the latch, the detent, and the connection between said detent and latch, substantially as set forth.

EDWARD McC. REYNOLDS.

Witnesses:
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W. M. SLEEPER.