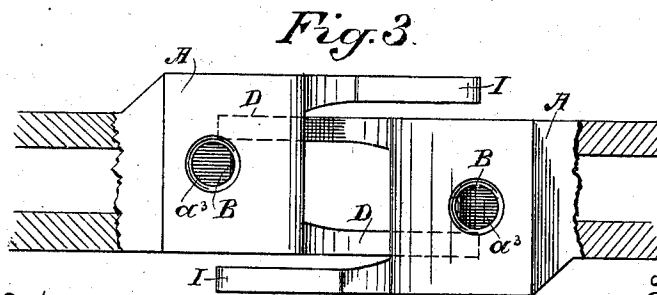
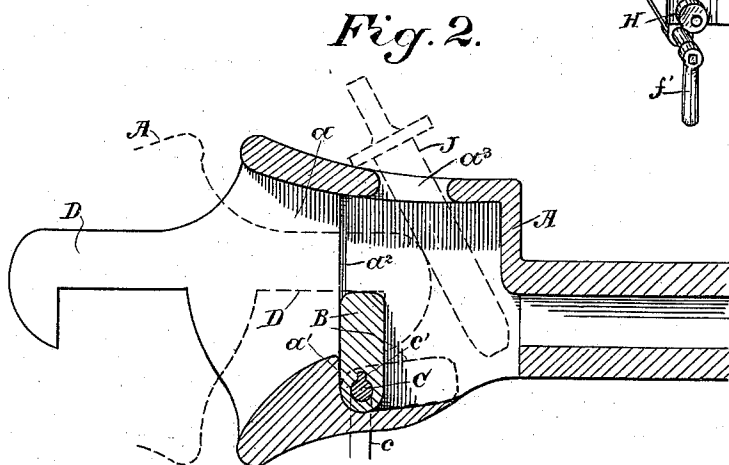
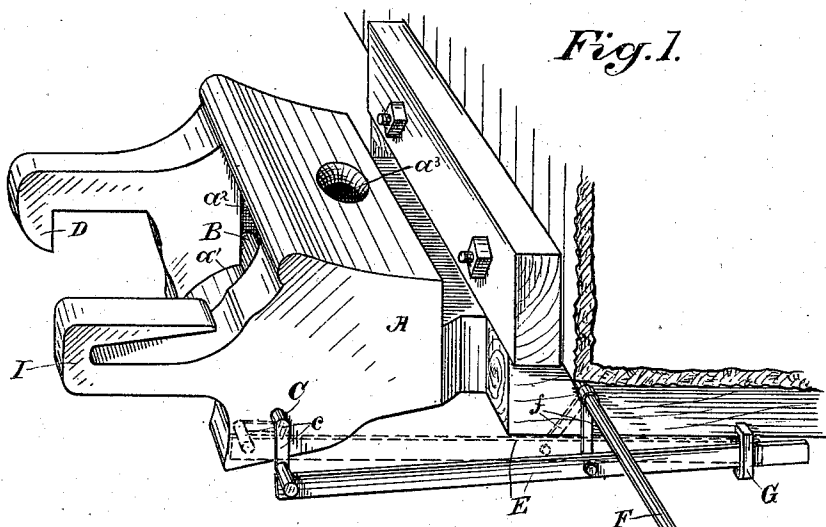


(No Model.)

D. J. STEVENSON.
CAR COUPLING.

No. 558,620.

Patented Apr. 21, 1896.



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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 558,620, dated April 21, 1896.

Application filed January 22, 1896. Serial No. 576,363. (No model.)

To all whom it may concern:

Be it known that I, DAVID J. STEVENSON, a citizen of the United States, residing at Bakersfield, county of Kern, State of California, have invented an Improvement in Car-Couplings; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the class of car-couplings; and it consists in the novel construction of the engaging devices, the means for releasing them to uncouple, the means for adapting the coupling for use with an ordinary link and pin, and for coupling with the draw-bar of a locomotive, and other details of combination, arrangement, and construction, all of which I shall hereinafter fully describe.

The object of my invention is to provide a simple and effective automatic coupling which, in its best form, may be described as an automatic double-hook coupler.

Referring to the accompanying drawings, Figure 1 is a perspective view of my car-coupling. Fig. 2 is a longitudinal vertical section of the draw-head. Fig. 3 is a plan of the coupled draw-heads.

The opposing couplings are similar, and a description of one applies to the other.

A is the draw-head, the rear portion of which is of the ordinary form and is attached, as usual, to the car. The front portion is provided with the draw-head chamber *a*, having a properly-flaring entrance. In the lower wall or floor of this chamber is formed a shoulder *a'*, and in its side walls are formed shoulders *a''*. Behind these shoulders is located a latch or tumbler B, which bears against the shoulders, the upper portion projecting above said shoulder *a'*, as shown. This latch or tumbler is a gravity one, and its normal position is vertical, in which position it bears firmly against the shoulders *a'* and *a''*. To maintain it in this normal position, it is mounted rigidly upon a gravity pivotal shaft C, which projects transversely through the lower portion of the chamber *a*, and extends out on each side thereof, and has attached to each end a crank extremity *c*, which gives to said shaft its gravity character, holding it

normally in one position and returning it thereto.

The rigid connection between the shaft C and the latch or tumbler B may be formed in any suitable manner, the best form being that of a spline or feather, such as I have shown at *c'*.

The latch or tumbler extends across the full width of the draw-head chamber, its ends bearing behind the shoulders *a''*, formed in the side walls of said chamber, so that when the tumbler or latch B is in a vertical position it has a full and complete bearing behind the shoulders *a''* and *a'*. The weight of the cranks *c* is such that they normally hold said tumbler or latch B up in its vertical and operative position.

Upon the front of the draw-head is a downturned coupling-hook D. The hook on one of the draw-heads is on the opposite side to the side on which the corresponding hook D of the other draw-head is located, so that the hook of each draw-head is adapted to enter the chamber of the opposing draw-head.

The coupling is effected by the entrance of the opposing hook D into the draw-head chamber, where, meeting with the upright gravity latch or tumbler B, it forces the latter to lie down backwardly, and when said hook has passed the plane of the latch or tumbler said latch or tumbler rises by gravity in front of the hook, so that the hook engages behind it and the coupling is effected.

By having the opposite draw-heads identical, the hook of each engages the tumbler or latch of the other simultaneously, and the coupling is a double one, and requires, for uncoupling, the release of both hooks by the turning down of both latches or tumblers. This insures safety, because if one hook should break or should otherwise become disengaged the other hook would still remain coupled. The necessary play is obtained by having the shank of the hook D long enough, and the draw-head chamber deep enough, to permit said play, and this play is sufficient, when the draw-heads are close together, to throw the hooks far enough back in the draw-head chamber to permit the release or uncoupling by allowing the tumblers or latches

B to be moved backwardly. In order to effect this uncoupling, I have under the car a bar E, which is suspended at a point between its extremities from the lower end of a crank-arm *f*, which is on a rock-shaft F, extending outwardly in suitable bearings to the corner of the car, where it is provided with a handle *f'*, by which it may be rocked. The rear end of the bar E plays freely in a depending staple or guide G, in which its up-and-down movement is limited by the length of said guide. The forward end of the bar E bears under the crank *c* of the shaft C. When now the shaft F is rocked, its crank *f* will cause, when moving in one direction, the forward and upward movement of the bar E due to the limited movement of the rear extremity of said bar in the depending staple or guide G. The forward end of said bar will therefore bear up under the crank *c* and will thereby rock the shaft C, so that said shaft will turn backwardly the tumbler or latch B to a horizontal position, and so effect the uncoupling. The reverse movement of the rock-shaft F will cause the depression of the bar E, and will allow the crank *c* to return by gravity, thereby throwing up to a normal and operative position the latch or tumbler B. In order, however, to hold the latch or tumbler in an inoperative position when necessary, I provide for holding the rock-shaft F in the position to which it is turned to throw the latch B backwardly, and for this purpose I have a turnable eccentric H, against which the shaft F in turning bears, so that said shaft is cramped in its bearing, and will remain in position until released.

In order to adapt the device for use with an ordinary link and pin when, for example, a car furnished with my coupling is to be coupled to a car furnished with the ordinary link-and-pin coupler, I form or provide the forward end of the draw-head on the side opposite to the hook D an upturned catch-hook I, with which the common link is adapted to engage, and, further, in order to adapt my coupling to the draw-bar of the locomotive-pilot, I provide a coupling-pin J, which is adapted to be dropped through a hole *a*³ in the top of the draw-head and to find a seat behind the latch or tumbler B. This pin serves for the pulling movement of the locomotive, and for the pushing movement the ordinary shoulder or lug on the draw-bar of the pilot is adapted to come in contact with the lower lip of the draw-head chamber and effect the pushing. As, in some instances, the pin J may be forgotten and allowed to remain in place in my draw-head, I provide for getting it out of the way of the latch or tumbler B in lying down before the entering-hook D in the act of coupling two cars together by making the hole *a*³ in the top of the draw-head chamber sufficiently large to permit such a play of the pin J that said pin will be forced backwardly by the latch or tumbler moving backwardly before the entering hook D.

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

1. A car-coupling, comprising opposing draw-heads, one of which has projecting from its side wall an integral coupling-hook, and the other of which has an internally-shouldered chamber, and a latch or tumbler to automatically engage the hook of the opposing draw-head, and to be seated against the shoulder of its own chamber.

2. A car-coupling, comprising a draw-head having, at its front, a coupling-hook, and having an internal chamber provided with shoulders, and a swinging gravity latch or tumbler, adapted to be seated against said shoulder and to automatically engage the hook of an opposing draw-head.

3. A car-coupling, comprising opposing draw-heads, each having a rigid downwardly-projecting hook on relatively opposite sides of its front, and each having within its chamber a latch or tumbler adapted to automatically engage opposing hooks.

4. A car-coupling, comprising opposing draw-heads, each having an internal shoulder and a rigid downwardly-projecting hook on relatively opposite sides of its front, and each having within its chamber, a swinging gravity latch or tumbler adapted to automatically engage opposing hooks, and to be seated against said shoulder.

5. A car-coupling, comprising opposing draw-heads, one of which has projecting from the front of one of its side members a downturned hook and the other has shoulders formed within its chamber, and a latch or tumbler pivoted within said chamber and adapted to automatically engage the hook of the opposing draw-head and to bear against the shoulders under the engagement of said hook.

6. A car-coupling, comprising opposing draw-heads, one of which has a hook upon its front and the other has shoulders formed within its chamber, a tumbler or latch within said chamber adapted to bear behind said shoulders and to yield before the entering hook of the opposing draw-head, and a gravity-shaft upon which said tumbler or latch is mounted, whereby it is returned automatically to its normal position to engage with said hook.

7. A car-coupling, comprising opposing draw-heads, one of which has a hook upon its front, and the other has shoulders formed within its chamber, a tumbler or latch within said chamber adapted to bear behind said shoulders and to yield before the entering hook, a rocking shaft upon which said tumbler or latch is mounted, and gravity-cranks on the shaft ends whereby the tumbler or latch is returned automatically to its normal position to engage with said hook.

8. A car-coupling, comprising opposing draw-heads, one of which has a hook upon its front, and the other has within its chamber

a tumbler or latch adapted to yield before the entering hook, a shaft upon which said tumbler or latch is mounted, said shaft having a gravity-crank whereby the tumbler or latch is returned automatically to its normal position to engage with the hook, and means for uncoupling consisting of the bar bearing with one extremity under the crank of the latch or tumbler shaft and limited in its movement at the other extremity, the crank suspending the bar between its extremities, and the rock-shaft of said crank extending outwardly to the side of the car.

9. A car-coupling, comprising opposing draw-heads, one of which has a hook upon its front and the other has within its chamber, a tumbler or latch adapted to yield before the entering hook, a shaft upon which said tumbler or latch is mounted, said shaft having a gravity-crank whereby the tumbler or latch is returned automatically to its normal position to engage with the hook, means for uncoupling consisting of the bar bearing with one extremity under the crank of the latch or tumbler shaft and limited in its movement at the other extremity, the crank suspending the bar between its extremities and the rock-shaft of said crank extending outwardly to the side of the car, and the turnable eccentric for cramping the rock-shaft in its bearing, and holding the tumbler or latch in an inoperative position.

10. In a car-coupling, a draw-head having on one side of its front a rigid downturned coupling-hook, and on the other side a rigid

upturned catch-hook for an ordinary link, and a latch or tumbler within the draw-head chamber, and to be seated against a shoulder therein.

11. A car-coupling comprising opposing draw-heads, each having upon one side of its front a downturned hook and on the other side an upturned catch-hook for the engagement of an ordinary link, said hooks being relatively on opposite sides in the two draw-heads and a latch or tumbler in each draw-head chamber adapted to automatically engage with the hook of the opposing draw-head, and to be seated against a shoulder therein.

12. In a car-coupling, a draw-head having on its front a coupling-hook and within its draw-head chamber a latch or tumbler for engaging the hook of the opposing draw-head, and a hole in the top of the draw-bar adapted to receive a pin for coupling the draw-bar of a locomotive-pilot, said hole being of greater diameter than the pin which it is adapted to receive, whereby said pin may be moved backwardly within the draw-head chamber to permit the operation of the tumbler or latch.

In witness whereof I have hereunto set my hand.

DAVID J. STEVENSON.

Witnesses:

WM. F. BOOTH,
T. T. NEWLOVE,
GEO. HELLWEGEN.