(No Model.)

# D. FRANCE.

## CAR COUPLING.

No. 259,841. Patented June 20, 1882.

Fig. 1.

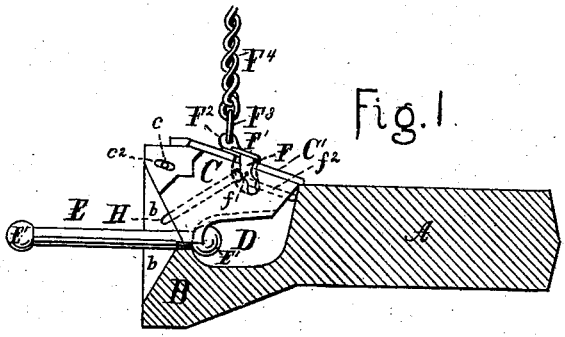


Fig. 2.

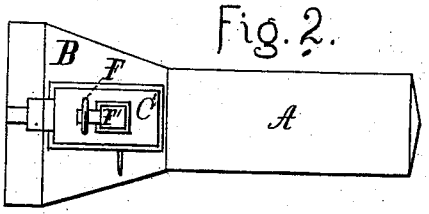


Fig. 5.

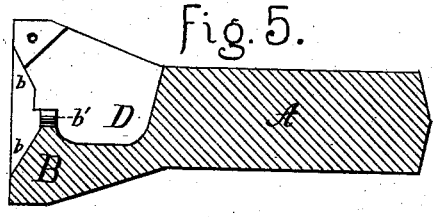


Fig. 8.




Fig. 9.

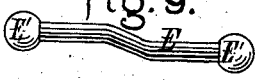


Fig. 10.


Fig. 11.


Fig. 3.

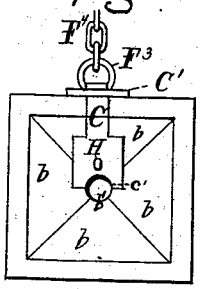


Fig. 4.

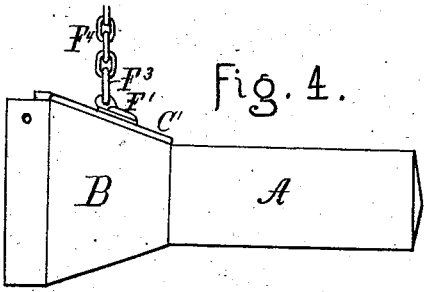


Fig. 6.

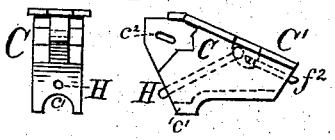


Fig. 7.


WITNESSES:

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# UNITED STATES PATENT OFFICE.

DAVID FRANCE, OF CROMWELL, ASSIGNOR OF ONE-HALF TO EDWARD SHELDON NORTON, OF ST. PAUL, AND EUGENE EDVERDO LUCE, OF WADENA, MINNESOTA.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 259,841, dated June 20, 1882.

Application filed April 27, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID FRANCE, a citizen of the United States, residing at Cromwell, in the county of Clay and State of Minnesota, have invented certain new and useful Improvements in Apparatus for Coupling and Uncoupling Railroad-Cars, &c., of which the following is a specification.

My invention relates to improvements in apparatus for coupling and uncoupling railroad-cars, wagons, &c., the nature of which is fully set forth in the following specification, aided by the accompanying drawings, which form part of this specification, as also the subject-matter claimed.

Referring to the drawings, Figure 1 represents a sectional view of my device complete with a coupling-link in position to couple with a car or locomotive. Fig. 2 is a plan. Fig. 3 is a front view; Fig. 4, a side view of the device complete without the coupling-link. Fig. 5 is a central vertical section of the main portion of the device. Figs. 6 and 7 show detail views of parts separately. Figs. 8, 9, 10, and 11 show some of the different modifications of links which may be employed.

In each of the views similar letters of reference are employed to indicate corresponding parts wherever they occur.

A represents the draw-bar; and B the bumper-head, the front face of which, according to my invention, is hollowed out and provided with inclined faces *b b b b*, as shown in Figs. 1, 3, and 5. The upper portion of the bumper-head B is slotted to receive a holding or latching piece, C, hereinafter more fully described, which is pivoted to the bumper-head by means of a pin, *c*.

D is a cavity formed in the bumper-head for the reception of the head of the link E, as hereinafter explained. The latching-piece C, at its upper side, is formed with a plate, C′, which, when the latching-piece C is in the closed position, as shown in Fig. 1, firmly clasping the end of the link E, rests on the upper surface of the bumper-head. The latching-piece C, at its under side, is formed with a semi-annular opening, *c′*, which, in conjunction with a semi-annular opening, *b′*, formed in the bumper-head B, forms a circular seat for the retention of the shaft *e* of the link E. The link E is by preference formed of a straight bar of iron, with two round knobs or balls, E′ E′, formed one on each end, as shown in Figs. 1, 8, and 9. In Fig. 1 I have shown one of these ball ends E′ of the link E firmly engaged with the draw-head A and bumper B and there retained by the locking-piece C, leaving the opposite ball end E′ ready for engagement with a similar device on another car or locomotive.

The latching-piece C is slotted at $c^2$ for the passage of the pin *c* therethrough, sufficient play being allowed for the free action of the locking-piece C when the same is lifted for the purpose of coupling or uncoupling a car, as hereinafter explained.

F is a counter-latching lever, which is pivoted to the locking-piece C by means of a pin, F, and at its lower end is forked to embrace a bolt, $f^2$, which serves to prevent the accidental uplifting of the locking-piece C, and the consequent disengagement of the link E. The counter-latching lever F is provided with a plate, F′, which rests, when the parts are in the position shown by Figs. 1, 2, 3, and 4, upon the upper surface of the plate C′ of the latching-piece C and retains the parts in proper position.

$F^2$ is a lug formed on the plate F′, to which is attached a ring, $F^3$, and chain $F^4$, for the purpose of raising the locking-piece C and allowing of the withdrawal of the link E. The chain $F^4$ may be operated from the platform or any other suitable position on the car or at one or both sides of the same, as desired, or in place of the chain I can employ a system of cords or levers, as desired or found most convenient.

H is a second bolt, which projects through the front face of the latching-lever C and is adapted to be struck by the ball or head E′ of a link, E, of an adjoining car in the act of entering the coupling so as to move the lever F, thereby withdrawing the bolt $f^2$ and releasing the counter-latching lever F and allowing of the temporary raising of the latching-lever C, in order to admit of the free entrance of the ball or head E′ of the link E into the cavity D. Immediately the ball E′ has passed the lever C the same will fall and lock the ball E′, and consequently the link E, securely in position.

At Fig. 8 I have shown a link adapted for cars of equal, and at Fig. 9 a link for cars of

unequal, height of bumper-head. At Figs. 10 and 11 I have shown a link, E, adapted to allow of my improved device being used with cars having couplings of the ordinary link-and-pin construction, one end being formed with a ball, E′, and the opposite end with a loop or open link, E².

When it is desired to uncouple a car it is simply necessary to pull on the chain F⁴ or its equivalent mechanism in order to raise the end F² of the plate F′. The lever F will then draw the bolt $f^2$ backward. A further pull on the chain F⁴ raises the plate C′ and locking-piece C, thereby allowing of the free passage of the ball E′ of the link E. The chain is then slackened, when the parts will assume their normal position, as indicated in the drawings.

In order to replace the link E it is simply necessary that one of the balls E′ shall come into position to push back the bolt H, the upper end of which will then come against a cam-shaped projection, F³, formed on the upper front face of the lever F, thereby causing the lever F to be thrown upward and backward and withdrawing the bolt $f^2$.

In some cases I can dispense with the locking-bolts $f$ and H and attach the lug F² and ring F³, or their equivalents, directly to the plate C′.

Having thus described my invention, I claim—

1. In a car-coupling, the combination, with a head, B, formed with front inclined faces, $b$ $b$, a hollow or space, D, and a semicircular seat, $b'$, as described, of the locking-piece C, elongated slot $c^2$, pin $c$, plate C′, lug F², ring F³, cord or chain F⁴, and semicircular opening $c'$, the whole being constructed and adapted to operate in conjunction with a ball or knob ended link, E, substantially as shown and described.

2. The combination, with the head B of a car-coupling provided with a link-locking piece, C, operating substantially as set forth, of a locking-bolt, $f$, pivoted lever $f^2$, and a releasing-lever, H, all constructed and adapted to operate substantially as shown and described.

3. The combination, in a car-coupling, of a head, B, formed with inclined faces $b$ $b$, a hollow or space, D, and seat $c'$, as described, and a pivoted locking-piece, C, having a semicircular opening, $c'$, and bearing-plate C′, of the bolts $f^2$ H, lever F, plate F′, and chain F⁴, or equivalent operating means, constructed and adapted to operate substantially as shown and described.

In witness whereof I have hereunto set my hand this 25th day of February, 1882.

DAVID FRANCE.

Witnesses:
JOHN COSTAIN,
F. MARION FRANCE.