(No Model.)

G. F. HOEFFER.

CAR COUPLING.

No. 260,295. Patented June 27, 1882.

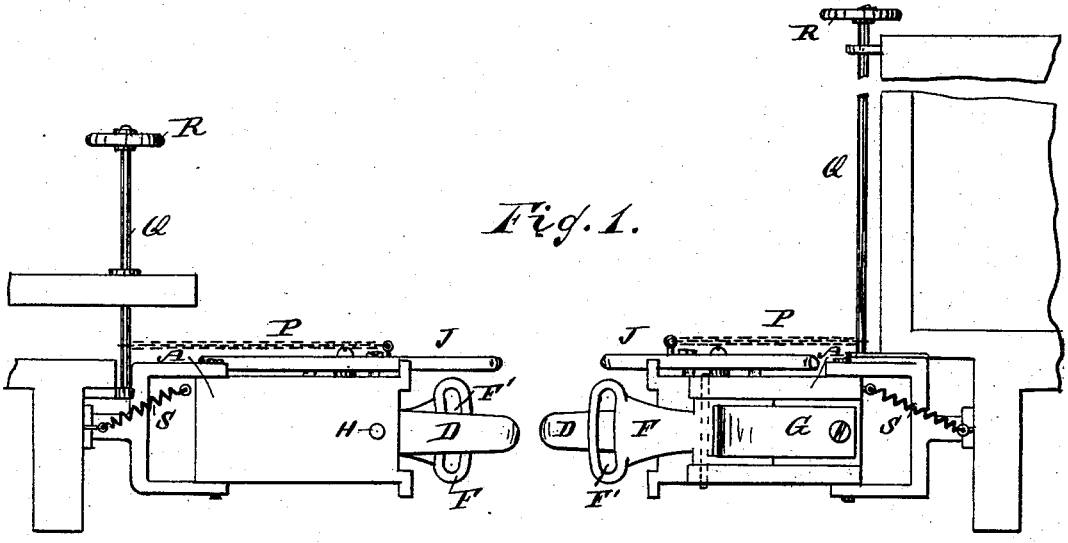

Fig. 1.

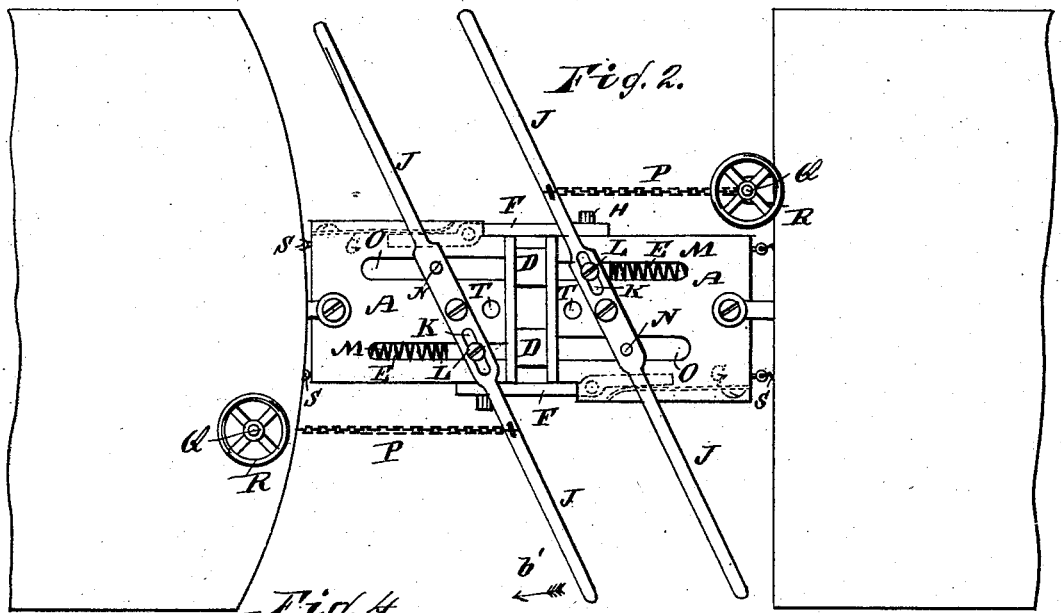

Fig. 2.

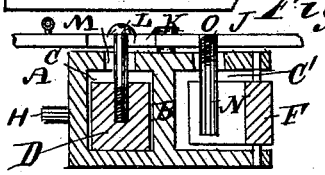

Fig. 4.

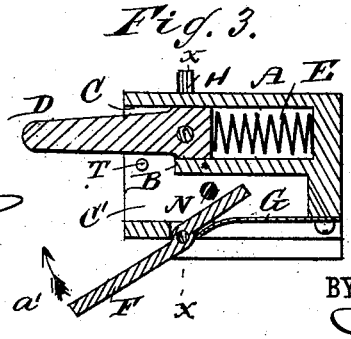

Fig. 3.

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UNITED STATES PATENT OFFICE.

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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 260,295, dated June 27, 1882.

Application filed May 11, 1882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. HOEFFER, of Chicago, in the county of Cook and State of Illinois, have invented a new and Improved Car-Coupling, of which the following is a full, clear, and exact description.

The invention consists in a draw-head divided by a vertical longitudinal partition into two compartments, one of which contains a sliding plunger pressed outward by a spring, and the other compartment having its outer side formed of a swinging latch-wing provided at its free end with a slot, into or through which a stud on the side of the other draw-head passes when the cars are coupled. A lever pivoted on the top of the draw-head is connected with the sliding plunger, and is provided with a downwardly-projecting stud or rod, which passes through a slot into the draw-head, and is used to push back the plunger of the opposite draw-head.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 shows the longitudinal elevations of two of my improved car-couplings. Fig. 2 is a plan view of the same. Fig. 3 is a sectional plan view of one of the draw-heads. Fig. 4 is a cross-sectional elevation of the same on the line *x x*, Fig. 3.

The draw-head A is divided by a longitudinal vertical partition, B, into two compartments, C C′, of which the compartment C contains a longitudinally-sliding plunger-bar, D, which has its outer-projecting end tapered and rounded off.

A spring, E, is interposed between the rear end of the plunger D and the rear end of the compartment C, which spring presses this plunger-bar outward.

A latch-wing, F, is pivoted in the outer side of the compartment C′, near the outer end of the same, in such a manner that this latch-wing rests on its edge and swings in the horizontal plane.

The latch-wing F is provided at its outer end with a vertical slot, F′, which may be slightly curved, if desired, and against the outer surface of the inner end of the latch-wing F a spring, G, is pressed, which is attached to the draw-head, which spring G throws the latch-wing F from the side of the draw-head in the inverse direction of the arrow *a′*, as shown in Fig. 3.

A stud, H, projects from the outer side of the compartments C at the front end of the same, on which stud the latch-wing F of the opposite draw-head is adapted to catch.

A transverse lever, J, is pivoted on the top of the draw-head with a longitudinal slot, K, through which a screw or stud, L, passes into the plunger D, this screw or stud also passing through a longitudinal slot, M, in the top of the draw-head.

A stud or rod, N, projects down from the lever J through a longitudinal slot, O, in the top of the compartment C′ into this compartment.

The levers J reach almost to the sides of the car. Chains P, attached to these levers, are attached to vertical shafts Q, journaled on the ends of the cars and provided with hand-wheels R or equivalent devices. The draw-heads are pivoted to the car-frame, and have springs S, for holding them in place attached to each side and to the car-frame.

The partition B does not extend to the outer end of the draw-head, so that a link can be inserted in the draw-head and can be held by a pin passed through an aperture, T, in the draw-head. The draw-heads may be rigidly fastened to the draw-bar, the springs *e* dispensed with, and the usual buffer-springs provided.

The operation is as follows: The plungers D project from the ends of the compartment C, and the levers pass across the draw-heads at an angle to the longitudinal axis. If the draw-heads come together, the plunger D of one draw-head A passes into the compartment C′ of the other or opposite draw-head, and strikes against the inner end of the pivoted latch-wing F, and presses this inner end outward, thereby swinging the outer end in the direction of the arrow *a′* against the side of the other draw-head, so that the stud H passes into the slot F′. As each draw-head is provided with a plunger and a latch-wing, the draw-heads will be coupled at both sides, as shown in Fig. 2, the slots F′ permitting of vertical movements of the draw-heads. If the cars are to be un-

coupled, one of the levers J is moved in the direction of the arrow *b'*, whereby the plunger D of the draw-head on which this lever J is pivoted will be drawn inward—that is, into the compartment C. At the same time the stud or rod N pushes the plunger D of the other draw-head out of the compartment C' of the draw-head on which the operated lever J is pivoted; but by this movement of the plunger, forced outward by the stud or rod N, the other lever, J, will also be operated—that is, both plungers D are withdrawn from the compartments C' of the opposite draw-heads, and as the studs or rods N also move toward the outer ends of the compartments C' the springs G can swing the latch-wings F from the sides of the opposite draw-heads, whereby the draw-heads will be disengaged from each other and the cars will be uncoupled.

The advantages of my invention are—

First. That the coupler is adapted for both passenger and freight cars.

Second. That the coupler is always ready for coupling. The spring E holds projected the plunger D, and the spring G keeps open the latch-wing F when the coupler is disengaged. Shove the cars together and the coupling is effected.

Third. That the coupler can be uncoupled by simply operating either lever at either side of the car or the rod Q and chain P from the platform of the passenger-coach or the roof of the freight-car, thereby rendering it unnecessary for the operator to go in between the cars for that purpose.

Fourth. That the coupler will couple cars of different heights. The plunger D, whose sole duty is to swing the latch-wing F into position and to keep it there, being tapered, as shown in the drawings, is thereby enabled to enter the opposite draw-head, although the latter may not be on a horizontal plane with the plunger's own draw-head, while the latch-wing F, having a long segmental slot, F', is thereby enabled to close therein the stud H of the opposite elevated or depressed draw-head.

Fifth. That the couplers effect a double coupling by coupling with their latch-wings on both sides of the draw-head.

Sixth. In that the springs S not only keep the pivoted draw-head in position ready for coupling, but also permit an easy swaying motion of the couplers, conforming to the motion of the train when rounding curves, thereby preventing the disengagement or breakage of the couplers.

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

1. A car-coupling made substantially as herein shown and described, and consisting of a draw-head divided into two longitudinal compartments, and provided with a plunger and a pivoted latch-wing adapted to catch on the opposite draw-head, as set forth.

2. In a car coupling, the combination, with the draw-head A, of the plunger D, the swinging latch-wing F, and the spring G, acting on the same, substantially as herein shown and described, and for the purpose set forth.

3. In a car-coupling, the combination, with the draw-head A, of the plunger D, the spring E, the swinging latch-wing F, and the spring G, acting on the same, substantially as herein shown and described, and for the purpose set forth.

4. In a car-coupling, the combination, with the draw-head A, of the plunger D, the swinging latch-wing F, provided with a slot, F', at the outer end, and the spring G, acting on the latch-wing F, substantially as herein shown and described, and for the purpose set forth.

5. In a car-coupling, the combination, with the draw-head A, of the plunger D, the swinging latch-wing F, and the lever J, pivoted on the top of the draw-head and connected with the plunger D, substantially as herein shown and described, and for the purpose set forth.

6. In a car-coupling, the combination, with the draw-head A, of the plunger D, the swinging latch-wing F, the lever J, pivoted on the draw-head and provided with a slot, K, and the screw or stud L, substantially as herein shown and described, and for the purpose set forth.

7. In a car-coupling, the combination, with the draw-head A, provided with slots M and O in its top, of the plunger D, the swinging latch-wing F, the lever J, pivoted on the draw-head, the stud or screw L, passed through the lever J into the plunger D, and the stud or rod N, passed through the lever J into the draw-head, substantially as herein shown and described, and for the purpose set forth.

8. In a car-coupling, the combination, with the draw-head A, of the plunger D, the swinging latch-wing F, the lever J, for withdrawing the plungers, the chain P, and the vertical shaft on the car, substantially as herein shown and described, and for the purpose set forth.

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Witnesses:
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