

(No Model.)

2 Sheets—Sheet 1.

J. D. McDONALD.
CAR COUPLING.

No. 550,836.

Patented Dec. 3, 1895.

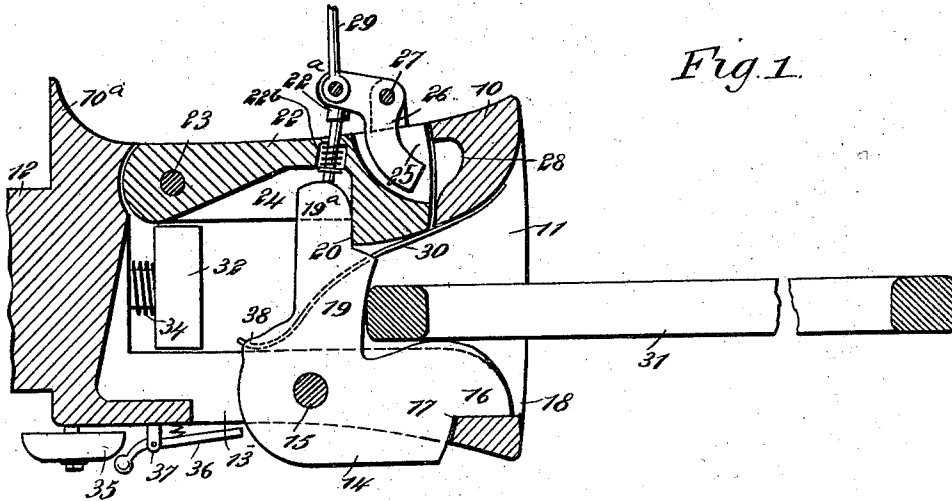


Fig. 1.

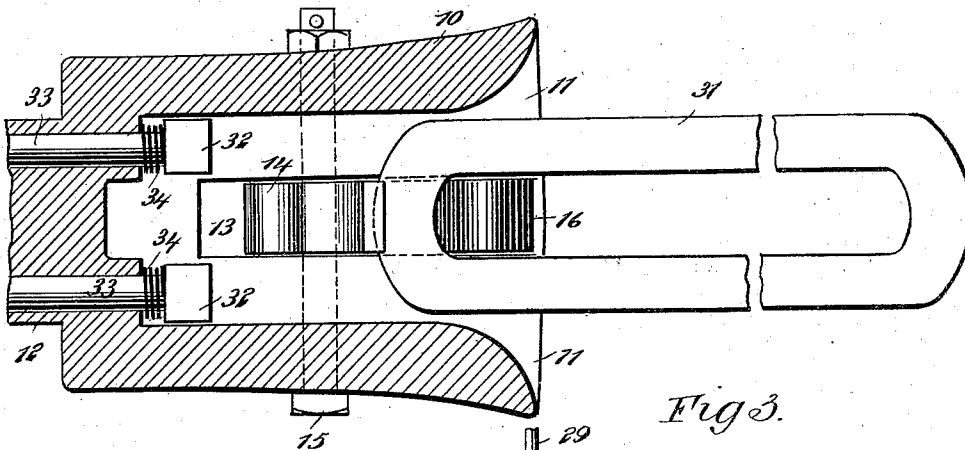


Fig. 2.

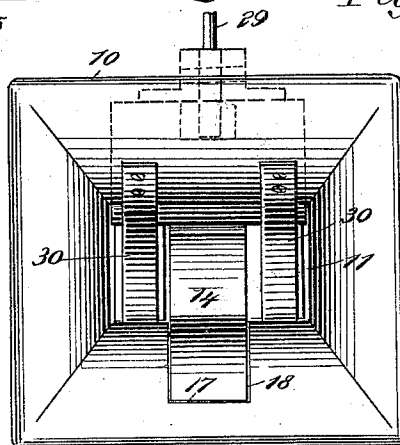


Fig. 3.

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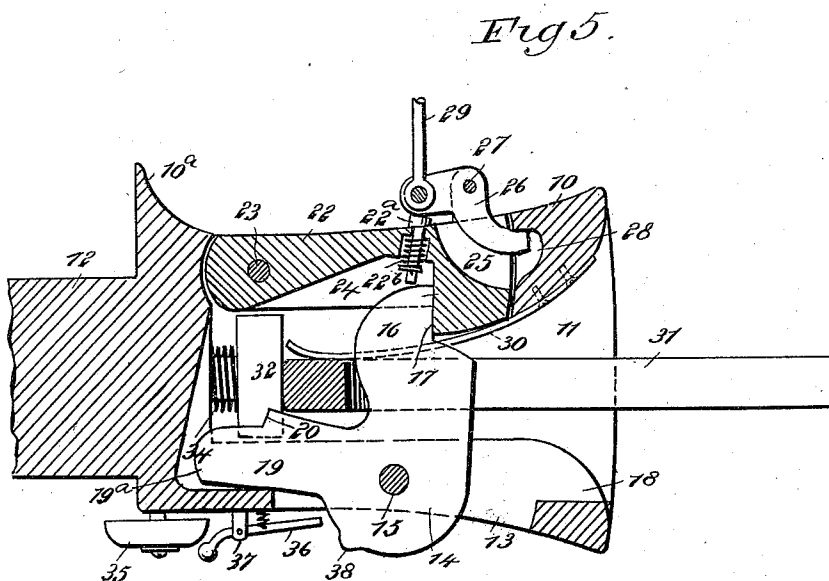
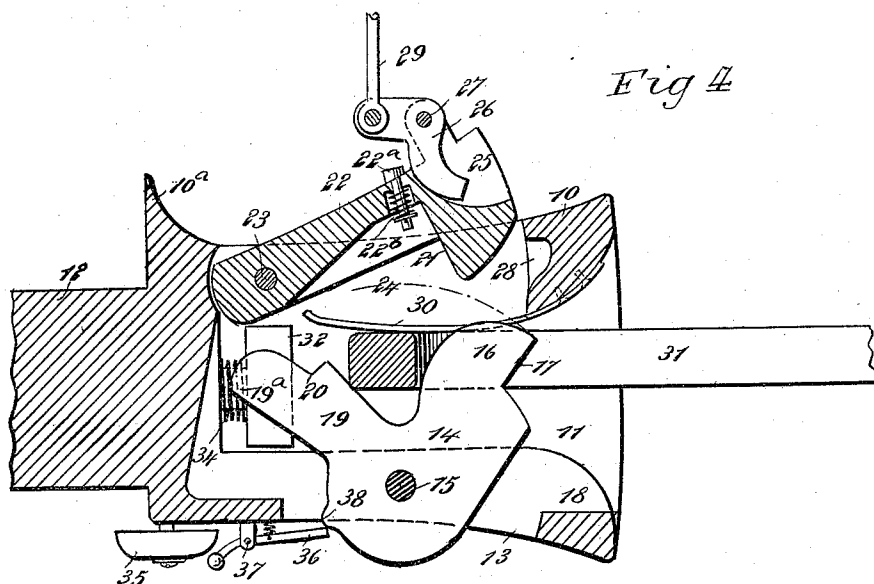
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WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES D. McDONALD, OF PORT MORIEN, CANADA, ASSIGNOR OF ONE-HALF TO DONALD N. CAMPBELL, OF NEW YORK, N. Y., AND COLIN CHISHOLM, OF SYDNEY, CANADA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 550,836, dated December 3, 1895.

Application filed March 18, 1895. Serial No. 542,212. (No model.)

To all whom it may concern:

Be it known that I, JAMES D. McDONALD, of Port Morien, Nova Scotia, Canada, have invented a new and Improved Car-Coupling, of which the following is a full, clear, and exact description.

My invention relates to improvements in car-couplings; and the object of my invention is to produce a cheap, strong, and simple coupling, which may be applied in the usual way to any ordinary car which is adapted to couple with another one like itself or with the ordinary old-fashioned link-and-pin coupling, which holds the link in a manner to guide it accurately into an opposing coupling, which has means for fastening the link automatically in such a way that it cannot accidentally get loose, which has spring-buffers arranged to absorb a portion of the shock and prevent a link from being badly bent, and which is adapted to automatically sound a gong or alarm when a coupling is made or when the cars are uncoupled.

To these ends my invention consists of certain features of construction and combinations of parts, which will be hereinafter described and claimed.

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

Figure 1 is a longitudinal section of my improved coupling, showing a link in the act of entering it. Fig. 2 is a sectional plan of the coupling with the link in position to enter it. Fig. 3 is a front end view of the coupling. Fig. 4 is a longitudinal section showing the link partly pushed into the draw-head and with the locking-dog and its securing-hook in the act of tilting, and Fig. 5 is a similar section showing the coupling in locked position.

The coupling is provided with a draw-head 10, having the usual open flaring mouth 11 and the ordinary shank or draw-bar 12, by which it is secured beneath the car. In the bottom of the draw-head is a recess 13, in which is pivoted to swing vertically an angular dog 14, which is fulcrumed on the cross-pin 15, and has one end 16 rounded to enable a link to easily slide over it, this rounded end being

also shouldered at one edge, as shown at 17, to enable it to lie snugly in the recess 18 at the bottom of the draw-head, and also to enable it to readily engage the locking-hook, to be presently described. The rear arm 19 of the dog 14 is provided with a front shoulder 20 at its free end, which is adapted to engage the shoulder 21 of the locking-hook 22 which is fulcrumed at its rear end, as shown at 23, and which swings in the recess 24 in the top of the draw-head. This hook serves as an abutment for the shoulder 20, and it also engages the shoulder 17 when the dog 14 is tilted and the arm 16 raised, and prevents the said arm from being pulled forward.

The free end of the hook 22 has a top recess 25, in which is pivoted a latch 26, this being pivoted near the center, as shown at 27, and it is adapted to engage a notch 28 in the draw-head 10 and so prevent the accidental raising of the hook 22. The rear end of the latch 26 is pivoted to an operating-rod 29, which may be worked by any usual chain-and-lever mechanism from the top or the sides of the car, and when the rod 29 is raised it releases the latch and at the same time raises the hook 22 from engagement with the dog 14.

At its extremity the rear arm 19 of dog 14 is provided with a cam-surface 19^a, arranged in position to engage a pin 22^a, mounted to slide in the hook 22 with its lower end inside the draw-head recess in position to be engaged by said cam-surface and its upper end in position to engage under the rear end of the latch 26, as clearly seen in the drawings. The pin 22^a is actuated by a spring 22^b in such a manner as to be normally pressed down into the recess in the draw-head. When the lower end of the pin 22^a is engaged by the cam-surface 19^a, the pin is pressed upward, so as to raise the rear end of the latch 26 and disengage said latch from its notch 28 in the draw-head.

Secured in the mouth of the draw-head on opposite sides of the dog 14 are rearwardly-extending flat springs 30, which are adapted to press down on the sides of the link 31 when the latter is pushed into the draw-head, and which, by such pressure, hold the link in a horizontal position, so that it may enter the

draw-head of an opposing coupling. There being two springs 30 independent of each other at their working parts it is evident that should one side of the link be bent or
 5 twisted the spring at that side of the draw-head will accommodate itself so as to securely hold the link in position.

When the link is pushed into the draw-head, it strikes against buffers 32, which slide in
 10 the back of the draw-head and which have rearwardly-extending sliding shanks 33, (see Fig. 2,) around which are coiled the buffer-springs 34. When the link strikes the buffers, the latter yield, so as to prevent the link
 15 from bending.

On the under side of the draw-head is a gong 35, which is adapted to be struck every time a coupling is effected, and any suitable means may be employed for doing this, the
 20 means illustrated comprising a spring-pressed hammer 36, which is fulcrumed at 37 and extends into the path of a boss 38 on the dog 14, and so when the dog is tilted the boss strikes the hammer and sounds the gong.

In its normal position the dog is held as shown in Fig. 1, and when a link 31 is pushed into the draw-head it strikes the arm 19 of the dog and pushes the said arm back, thus swinging up the end 16, which passes through
 30 the link 31 and raises the hook 22, which immediately falls back and engages the shoulder 17 while the latch 26 engages the notch 28, and thus the link 31 is securely locked in place. At the same time the coupling is effected the boss 38 strikes the hammer 36 and
 35 strikes the gong 35.

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

40 1. The combination with the open mouthed drawhead, of the two-armed dog pivoted in the bottom of the drawhead and having its arms adapted to swing through the mouth of the drawhead, the drop hook pivoted in the

top of the drawhead and adapted to alternately engage the arms, and the latch on the hook to lock the same to the drawhead, substantially as described.

2. The combination with the drawhead and the tilting locking dog therein, of the gong, 50 and the mechanism worked by the moving of the dog to sound the gong, substantially as described.

3. The combination of an open-mouthed draw-head, an angular dog pivoted in the
 55 draw-head and having arms extending into the mouth thereof, means for locking said dog in position, a coupling link adapted to be inserted in the mouth of the draw-head in engagement with the said dog, and springs having their upper ends secured to the top of the draw-head at opposite sides of the forward part thereof, the ends of said springs being free and being adapted to engage the upper surface of the sides of said link and hold the
 65 same in a horizontal position, substantially as set forth.

4. The combination of an open-mouthed draw-head, a two armed dog pivoted in the draw-head, a drop hook pivoted in the draw-
 70 head and adapted to engage and lock said dog, and a latch adapted to lock the drop hook to the draw-head, said latch being actuated by said dog when the same is moved, substantially as set forth.

5. The combination of an open-mouthed draw-head, a two armed dog pivoted in the draw-head with its arms adapted to swing through the mouth thereof, a drop hook pivoted at its rear end to the draw-head and hav-
 80 ing its forward end adapted to engage and lock the arms of the dog, and a latch adapted to lock the hook to the draw-head, substantially as set forth.

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Witnesses:

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