(No Model.)

C. W. FERGUSON.

CAR COUPLING.

No. 345,036. Patented July 6, 1886.

Fig. 1.

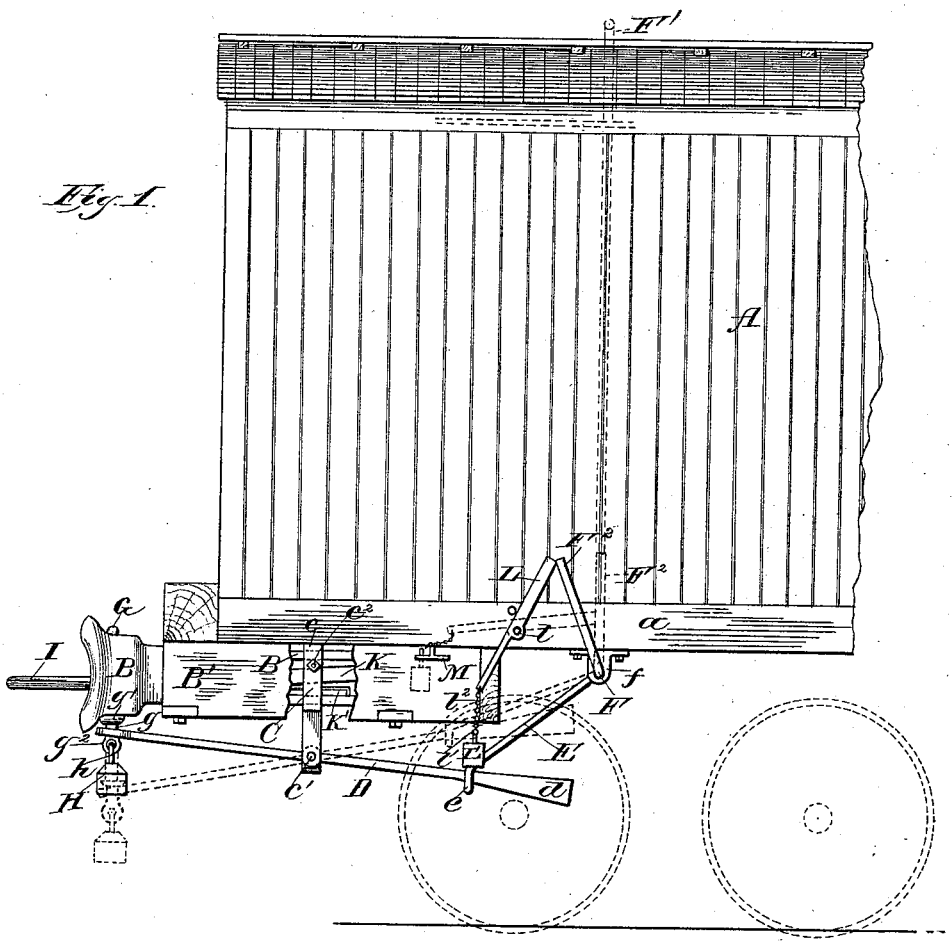


Fig. 2.

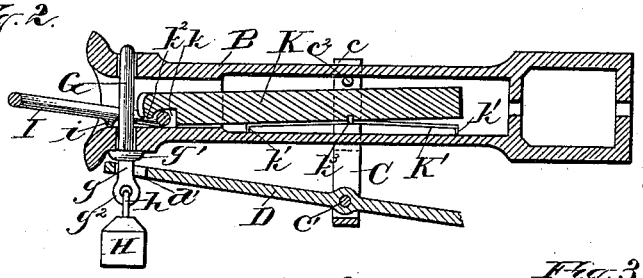


Fig. 4.

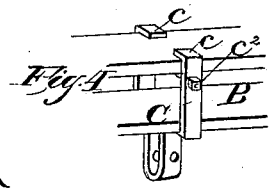
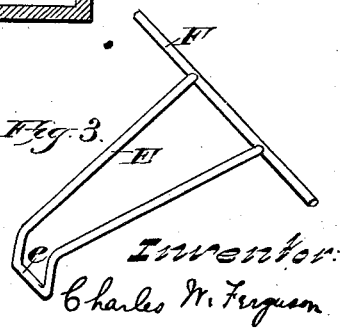


Fig. 3.



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UNITED STATES PATENT OFFICE.

CHARLES W. FERGUSON, OF JANESVILLE, WISCONSIN.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 345,036, dated July 6, 1886.

Application filed February 6, 1886. Serial No. 190,989. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. FERGUSON, of Janesville, in the county of Rock, and in the State of Wisconsin, have invented certain new and useful Improvements in Car-Couplings, and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to car-couplings; and it consists in certain peculiarities of construction, as will be fully set forth hereinafter.

In the drawings, Figure 1 is a side elevation of a portion of a railway-car embodying my invention. Fig. 2 is a vertical longitudinal section through the draw-bar. Fig. 3 is a perspective view of the supporting arm or bracket of the operating-lever, and Fig. 4 a detail perspective view.

A represents an ordinary freight-car, and B a draw-bar of ordinary construction, having the usual longitudinal play in its casing B'.

C is a continuous metal strap or hanger, the upper portion of which is square, to embrace the draw-bar, having the inwardly-bent upper ends, *c c*, resting on the top thereof, while below the said draw-bar the hanger is contracted in width, its lower portion being of a general U shape, to form a bearing for the coupling-lever D, passing therethrough and supported therein on a pin or pivot, *c'*.

In adjusting the hanger C to a draw-bar its upper ends are sprung apart, and it is pushed to place, and then the sides spring back against the sides of the draw-bar with the bent upper ends, *c c*, resting on top thereof, as described, and a screw-bolt, c^2, is passed through holes in the hanger C, just under the top of the draw-bar, and tightened by a nut.

The rear end of the coupling-lever D is weighted or made heavy, as shown at *d*, so that normally its position will be as shown in full lines in Fig. 1, the said weighted end resting in looped end *e* of the bracket or arm E of the operating-lever F. The forward end of the lever D is slotted, as shown at *d'*, for the reception of the neck *g* of the inverted pin G, above which point the pin has the ordinary shoulder, *g'*, which prevents it from dropping down through the slot in the lever, while the (inverted) head g^2 has a perforation (below the neck in this position) which receives the hook *h*, rising rigidly from the weight or counterpoise H, thereby serving to keep the pin always in a vertical position.

The operating-lever F extends entirely across from one side of the car to the other and under the same, forming a rock-shaft, having its bearings in the boxes *f*, secured to the under side of the longitudinal floor-beams *a*, and the ends of said lever are brought up outside of the car at each side. One of these ends may extend up to the top of the car, as shown at F' in dotted lines, Fig. 1, while the other end will preferably extend up only a short distance on the other side of the car, as shown at F^2, in full (and dotted) lines, also in the same figure.

I is the link, the preferred construction of which is shown in Fig. 2, having calks *i* cast or formed therewith at one-third of the length of the link, whereby by placing the link in the mouth of the draw-bar, with said calks down, the said link will be given an upward outer inclination, as shown in Fig. 2, to more readily couple with a "foreign" car, having a higher truck and draw-bar, while for a "domestic" car of the same height the link may be turned over, so as to project horizontally, as in Fig. 1.

K is my link-retaining bar, which is a solid casting of less diameter and height than the opening and space within the draw-bar. The forward end is recessed on the under side, as at *k*, to receive the inner end of the link, which is further retained in position by a downwardly-projecting lip, k^2. This bar K is retained in operative position by its own gravity, (it being of considerable weight,) aided by the flat spring K', having downwardly-bent ends *k' k'*, and at the middle, at k^3, being secured to the under side of the bar K, (which may be somewhat beveled out, if desired, for the reception of said spring.)

In order to set my device for automatic coupling with the link of another car, I draw back the lever end F' or F^2 to a vertical position, as shown in dotted lines, Fig. 1, which turns the rock-shaft lever F and raises its bracket or arm E, thereby also raising the weighted rear end, *d*, of the coupling-lever D, which rests in the loop *e* of said arm. The lever D is fulcrumed at *c'* in the hanger C, and as its rear or inner end is thus raised its front or outer end is necessarily depressed, drawing

down the pin G, as shown in dotted line, Fig. 1, so that its top is flush with the bottom of the mouth of the draw-bar, (of course, it being understood that there is no link in this draw-bar.) In order to retain the parts in the described position, the weighted pawl L (pivoted to the side of the car, as at *l*) is turned to the position—nearly horizontal—shown in dotted lines, with its inner end pressed against the upright end F^2 (or F') of the rock-shaft lever F, while its weight L' (suspended normally by chain l^2 to the other end of the pawl L) is raised, and the hook l' of said weight is slipped upon one of the projecting arms of a bracket, M. This will serve to retain all the parts in a receptive condition, and when the other car is forced against this one the link of said other car will enter the draw-head and slip to place under the bar K, while at the same time the jar of the contact will cause the hook l' of the weight L' to slip off from the arm of the bracket M, and this weight will then suddenly drop, freeing the pawl L from contact with the lever end F^2, (or F',) and permitting the weighted end *d* of the coupling-lever to drop, thereby elevating the other end of said lever D, which carries the pin G, and forces the pin up from below to place, all as shown in full lines in Fig. 1, and securely coupling the cars.

My device, as described, is adapted for use with the draw-bars, links, and pins already in every-day use throughout the country, and the novel part of my device may be attached thereto without change, which is a great advantage in economy and practicability. If desired, the pin-openings in the draw-bars may be reamed out so as to make these openings round instead of oblong, and a round pin used which would be larger, stronger, and last longer than the ordinary pins; but, as stated, the ordinary pins and draw-bars may be used without change.

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

1. In an independent weighted car-coupling, the combination of a draw-head provided with holes for the pin, and a pin supported below said draw-head and adapted to be forced upward from below through said holes in coupling, substantially as set forth.

2. In a car-coupling, the combination of a draw-head provided with holes for the pin, a link, a link-retaining bar adapted to keep the link in operative position by the gravity of the bar, and a pin supported below the draw-head and adapted to be forced upward from below in coupling, substantially as set forth.

3. In a car-coupling, the combination of a draw-head provided with holes for the pin, an independent weighted pin supported below said draw-head, a coupling-lever suspended from the draw-bar and slotted at one end to receive and support the said pin and weighted at its opposite end, and a rock-shaft lever extended under the car, and having a bracket or arm for supporting and operating the weighted end of the coupling-lever, substantially as set forth.

4. In a car-coupling, the combination of a draw-head provided with holes for the pin, a pin supported below said draw-head, a coupling-lever suspended from the draw-bar and slotted at one end to receive and support the said pin and weighted at its opposite end, a rock-shaft lever extended under the car, and having a bracket or arm for supporting and operating the weighted end of the coupling-lever, and ends extended up on the outside of the car, and a weighted pawl pivoted to the side of the car and adapted for engagement with the upward-extended end of the rock-shaft lever, substantially as set forth.

5. In a car-coupling, the combination of a draw-head provided with holes for the pin and an independent weighted pin supported below said draw-bar on the slotted end of a coupling-lever, the weight attached to said pin keeping the same always vertical in line with its center of gravity, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

CHARLES W. FERGUSON.

Witnesses:
H. G. UNDERWOOD,
E. G. SOMERS.

Corrections in Letters Patent No. 345,036.

It is hereby certified that in Letters Patent No. 345,036, granted July 6, 1886, upon the application of Charles W. Ferguson, of Janesville, Wisconsin, for an improvement in "Car-Couplings," errors appear in the printed specification requiring correction, as follows: On page 2, in line 46, the words "an independent weighted" should be stricken out and the letter *a* inserted; in line 48, same page, the letter "*a*" should be stricken out and the words *an independent weighted* inserted; and that the Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 20th day of July, A. D. 1886.

[SEAL.]

H. L. MULDROW,
Acting Secretary of the Interior.

Countersigned:

M. V. MONTGOMERY,
Commissioner of Patents.