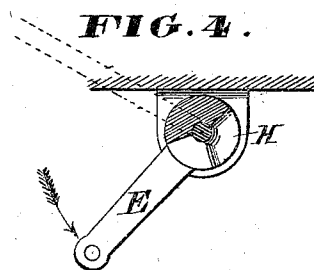
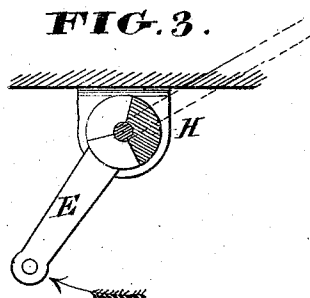
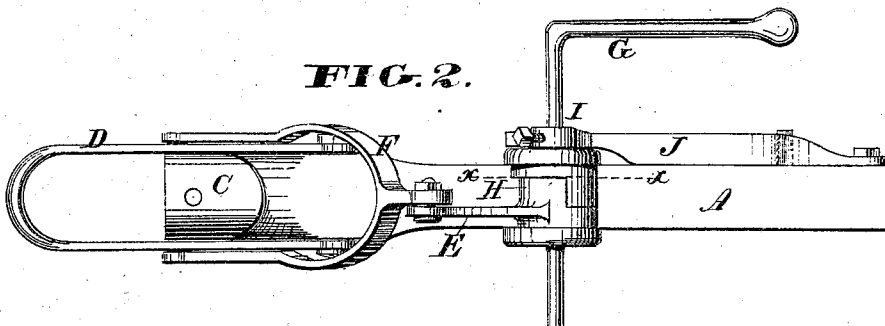
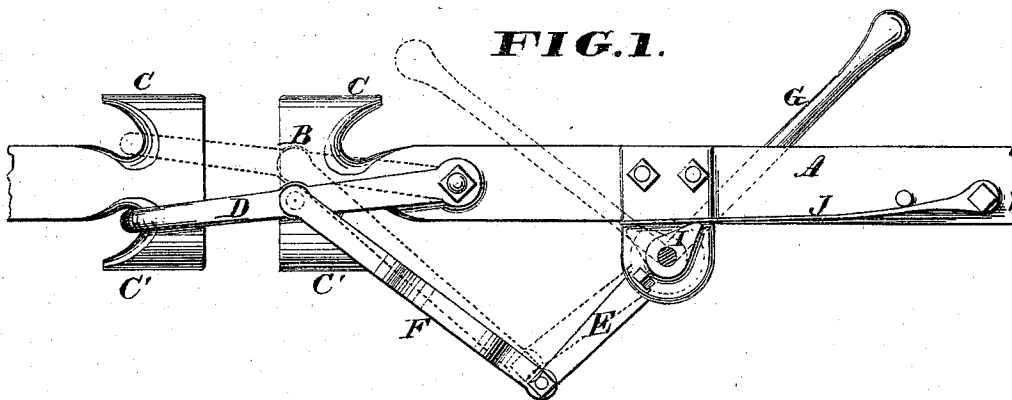


A. TRUXELL & F. J. WILLIAMS.

Car-Couplings.

No. 135,866.

Patented Feb. 11, 1873.



WITNESSES:

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FIG. 5.

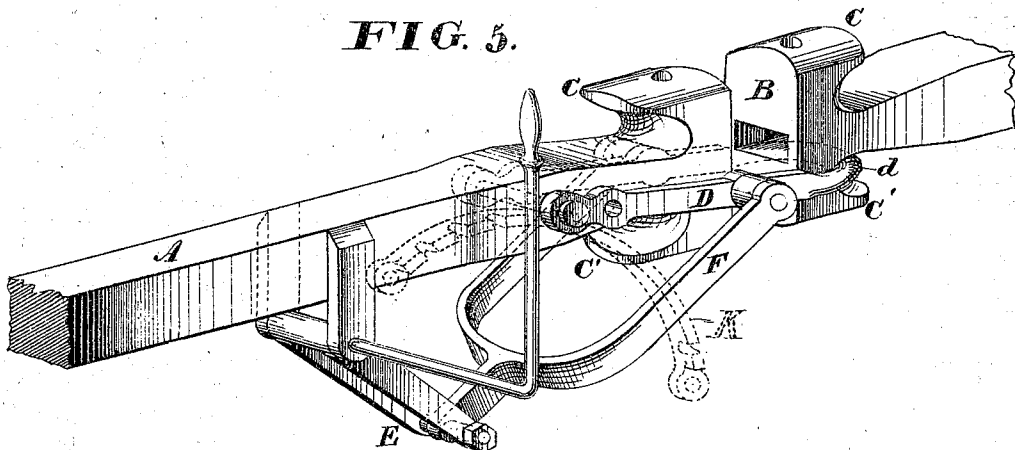
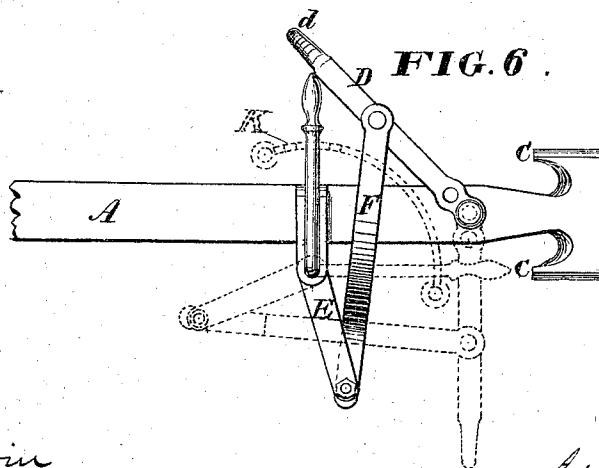


FIG. 6.



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UNITED STATES PATENT OFFICE.

ADDISON TRUXELL AND FREDERICK J. WILLIAMS, OF TOLEDO, OHIO.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. 135,866, dated February 11, 1873.

To all whom it may concern:

Be it known that we, ADDISON TRUXELL and FREDERICK J. WILLIAMS, both of Toledo, in the county of Lucas and State of Ohio, have invented a new and useful Railway-Car Coupling, of which the following is a specification:

Nature and Objects of the Invention.

Our invention relates to a peculiarly-formed draw head or bar for coupling railway cars, the same having two hooks to receive a link or clevis from the corresponding bar of the opposing car, said clevis being operated by means of a suitable lever through the medium of a bifurcated rod, as hereinafter described. Our invention is designed to afford an efficient and reliable car-coupling, capable of being very quickly engaged and released, and which is also self-releasing the instant that one or other car jumps from the track, so that in no event can any car be dragged down an embankment or be drawn from the track by one in front of or behind it.

General Description.

Our coupling is made up of two precisely similar members, either of which may be coupled onto the other. The invention will therefore be clearly understood from a representation and description of one of these members with so much of the other as is required for it to take hold of.

In the accompanying drawing, Figure 1 is a side elevation of one part or member of the coupling with the end of the draw-bar of the other member. Fig. 2 is an under-side view. Figs. 3 and 4 are vertical sections on the dotted line *x* in Fig. 2, showing the parts in different positions, as hereinafter explained. Fig. 5 is a perspective view, showing a modification in the operating devices. Fig. 6 is a side elevation of the same.

Each draw-bar *A* is expanded at its front end into a head, *B*, which extends upward and downward, and takes the form of two spurs or hooks, whose points are directed rearward, and of which one hook, *C*, is on the upper, and the other hook, *C'*, is on the lower side of the bar. Pivoted to each bar, as shown, is a U-formed strap, link, or clevis, *D*, whose bent extremity *d* is capable of being engaged at will over either the upper or the lower hook

of the opposing draw-bar. The said clevis is lifted onto or off of the hook of the opposing bar by means of an arm, *E*, which is pivoted to the draw-bar, and is connected to the clevis by means of a bifurcated rod, *F*. We preferably employ to operate the arm *E* a weighted lever, *G*, connected therewith through the medium of a knuckle-joint, *H*, arranged to permit an independent movement of about ninety degrees, so that, when the said lever is placed in the position shown in full lines in Fig. 1 and in dotted lines in Fig. 3, it will apply an upward pressure to the arm *E* and rod *F*, and thus support the weight of the link *D*; but when the lever is placed in the position shown in dotted lines in Figs. 1 and 4, it will tend to hold the link down. The lever is placed in the latter position when the link is coupled to the upper hook *C*, as in dotted lines in Fig. 1, and in the former position when coupled to the lower hook *C'*, as in full lines. To supplement this effect of the lever in keeping the link in the hook, or as a substitute for the weighting of the lever, we employ a cam, *I*, fixed to the shaft thereof in line with the lever, and pressed down by a spring, *J*, on the draw-bar. In the modification shown in Figs. 5 and 6, we dispense with the knuckle-joint *H*, and connect the lever *G* rigidly to the arm *E*. To hold the link coupled, we propose to employ a segment-rack, *K*, shown in dotted lines, which is to be attached to the car-body.

Operation.

While the parts are in the position shown in full lines in Fig. 1, the link remains coupled to the lower hook. If, now, the draw-heads be run together and the lever *G* thrown over to the position shown in dotted lines in Figs. 1 and 4, the link *D* and arm *E* will fall by their own gravity into vertical positions. If the draw-heads then be separated, and the lever restored to the position shown in full lines and further depressed, the link will be lifted so as to permit the draw-head to pass beneath it. It can then be dropped into the upper hook, and the lever, being placed in the position shown in dotted lines, will tend to hold it there. In Fig. 6, full lines show the link in its uppermost position ready to be coupled to the upper hook of the opposing draw-head, into which it may be thrown by a backward movement of

the lever G. Dotted lines show it hanging in readiness to be coupled to the lower hook, into which it is thrown by an upward movement of the lever. Each draw-bar being provided with a similar coupling apparatus, either link may be used at will, and the cars are always prepared for coupling, either end to. It is preferred to employ both links together, one link or clevis engaging with the upper hook, and that from the other car engaging in the lower hook of the first. A complete double coupling is thus provided. The lever connections afford ready means for operating the coupling from the ground on either side of the cars, or from the top of a car by means of a chain or cord attached to the end of the lever and provided with a ring to slip over a pin. A pull on the chain will throw the lever back or forward, as required, to effect the connection or disconnection.

It will be seen that our apparatus is so arranged that one motion of the lever will couple and at the same time hold the clevis in its proper place until it is moved by the lever under control of the brakeman or conductor; or it is uncoupled by the jumping from the track of one of the cars thus coupled.

The above-described form of our improve-

ment may be varied from in non-essential particulars; for example, when the coupling is applied to passenger-coaches, the draw-bar is designed to be placed so the hook will be on the sides, and the clevis will have a horizontal motion.

While preferring the form of bar shown, having hooks on opposite sides of the bar, it is evident that our clevis may be made available with a single hook in the opposing bar.

Claims.

We claim as new and of our invention—

1. The combination and arrangement of the hooked draw-bars A B, clevis D, arm E, rod F, and operating-lever G, substantially as and for the purposes set forth.

2. The knuckle-joint H, having its respective members attached to the operating-lever G, and arm E, substantially as and for the purposes explained.

3. The cam I and ring J, in combination with the lever G, as set forth.

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Witnesses:

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