# C. D. NORMAN.

## CAR-COUPLING.

No. 192,710. Patented July 3, 1877.

Fig. 1.

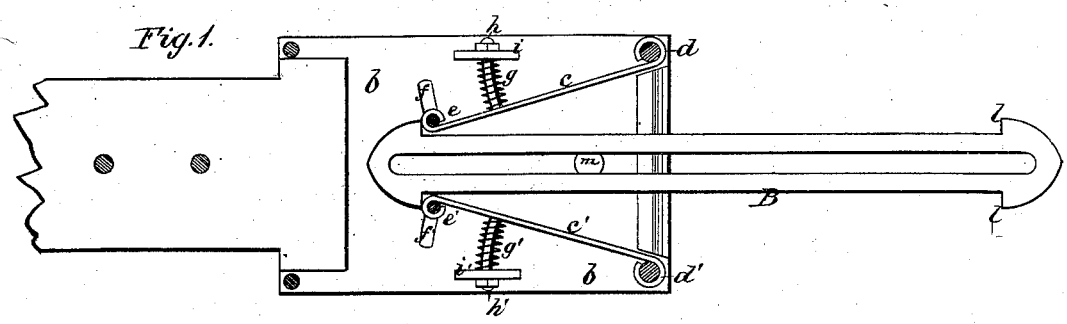



Fig. 2.

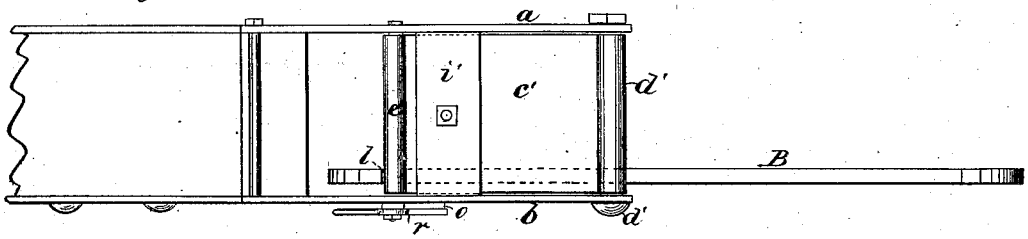



Fig. 3.

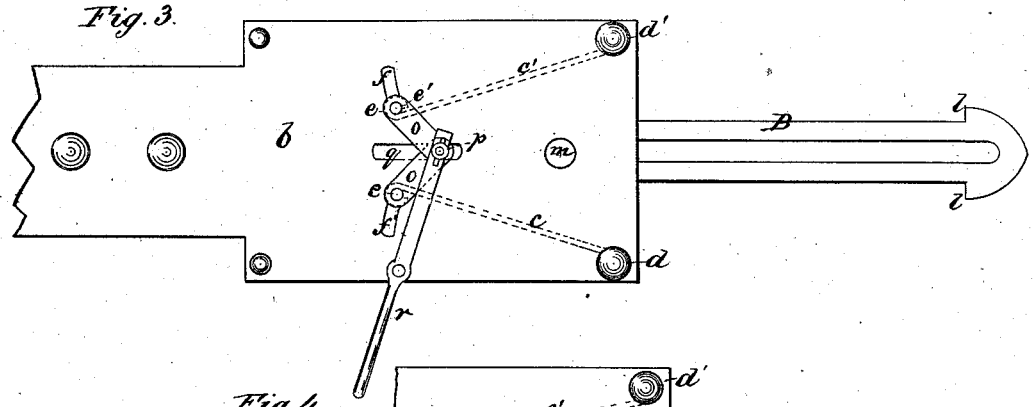
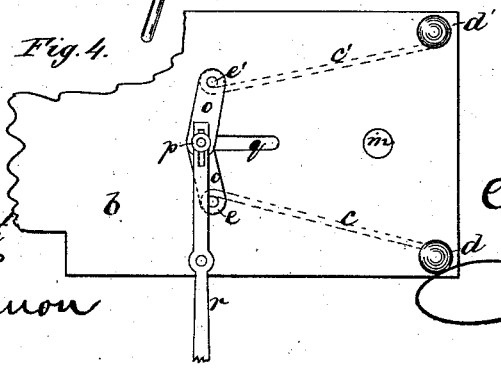



Fig. 4.




WITNESSES:

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# UNITED STATES PATENT OFFICE.

CHARLES D. NORMAN, OF AMES, IOWA.

## IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **192,710**, dated July 3, 1877; application filed March 13, 1877.

*To all whom it may concern:*

Be it known that I, CHARLES D. NORMAN, of Ames, in the county of Story and State of Iowa, have invented a new and Improved Car-Coupling; and I do hereby declare that the following is a full, clear, and exact description of the same.

This invention is an improvement in the class of car-couplings in which the draw-head is provided with spring-jaws hinged near the front thereof, and inclining inward or toward each other at their rear ends, to adapt them to engage with an arrow-headed draw-bar, and having mechanism for opening them against the stress of springs.

My improvement relates to the construction and arrangement of parts, as hereinafter described and claimed.

In the accompanying drawing, forming part of this specification, Figure 1 is a plan view of the draw-head, with the top plate removed. Fig. 2 is a side view. Fig. 3 is an inverted plan. Fig. 4 is an inverted plan, with the toggle device set to hold the hinged jaws of the draw-head open.

The parallel plates *a b* compose the main portion of the draw-head, and form the top and bottom thereof. They may be specially constructed for the purpose, or the plates of the draw-head used in the ordinary link-and-pin coupling may be employed instead; but in the latter case I dispense with the buffing-ring attached to the front of the draw-head.

The jaws *c c*, formed of wrought or boiler-plate iron, are hinged on the bolts *d d'*, which pass through and serve to connect the front corners of the plates *a b*. Said jaws extend backward, and their rear ends are attached to vertical guide and draft rods *e e'*, which work in slots *f f'*, formed in both the top and bottom plates *a b*, and corresponding to the arcs of circles described from the points (bolts) *d d'*, respectively.

The ends of the jaws are pressed inward by springs *g g'*, which encircle guide-rods *h h'*, that work through the vertical stay-bars *i i'*, connecting the sides of the plates *a b*. The slotted link B differs from the old form only in the provision of shoulders *l* on the ends thereof. These shoulders are formed by upsetting the metal in the operation of forming the link proper, and do not appreciably add to its cost. They engage the inner ends of jaws *c c'* when the link B enters the draw-head A, the springs *g g'* yielding to allow the jaws to open and close for the purpose.

The draft applied through the medium of the link tends to bring the inner ends of the jaws together; but this is prevented by the rods *e e'* and the location of slots *f f'*. The rods *h h'* likewise relieve the jaws *c c'* and pivot-bolts *d d'* of parts of the draft-strain.

The plates *a b* of the draw-head have coincident holes *m* to adapt the draw-head for use of the ordinary coupling-pin. The link B, being adapted for use with such, as well as with the hinged jaws *c c'*, it is apparent that my draw-head may be used on the cars of any road employing the ordinary link-and-pin coupling—that is to say, a car may be provided at one end with my draw-head and at the other with the common draw-head; and it may be coupled with either end of another car similarly provided.

The means for opening the jaws *c c'* and releasing the link B are links or toggle-arms *o*, which are attached to the lower ends of rods *e e'*. The arms are connected to a pin, *p*, which slides in a lengthwise slot, *q*, formed in bottom plate *b*, and so located that the movement of the pin is limited—that is to say, said slot extends back of a straight line, joining the outer ends of slots *f f'*. Hence, the jaws may be held open when the pin is moved back to the rear end of the slot *q*, since the inner ends of arms *o* are then thrown back of the straight line joining the rods. The arms and jaws may thus be set, as indicated in Fig. 4, as required, when cars are being moved or shifted on the tracks about a depot, and it is desired they shall not couple on meeting. The pin is moved in either direction by a lever, *r*, which is pivoted to the lower plate *b*, and projects laterally therefrom.

In the case of a car leaving the track and overturning, the shoulders of the link B will be disengaged from the draw-head.

What I claim is—

The combination of the wrought-iron jaws *c c'*, the pivot and guide rods *d d'* and *e e'*, the top and bottom draw-head plates *a b*, provided with the curved coincident slots *f f'*, and the bottom plate having the lengthwise slot *q* extending in rear of said curved slots, the toggle-arms *o o*, the joint and guide pin *p*, the hand-lever *r*, pivoted to plate *b*, all as shown and described, whereby the toggle-arms may be set to hold the jaws open, as specified.

The above specification of my invention signed this 10th day of March, 1877.

C. D. NORMAN.

Witnesses:

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AMOS W. HART.