

(No Model.)

N. MERENESS.
CAR COUPLING.

Patented Aug. 15, 1882.

No. 262,809.

Fig. 1.

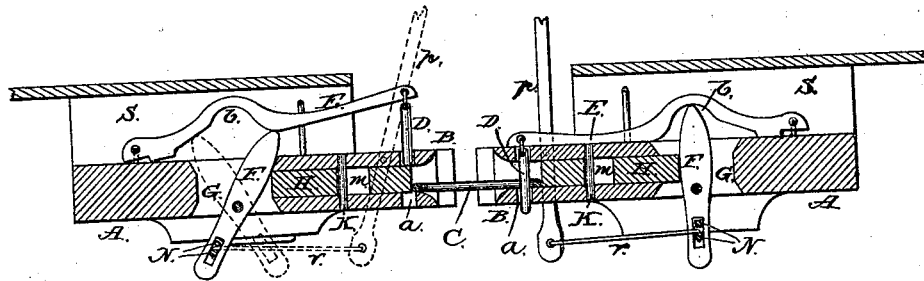
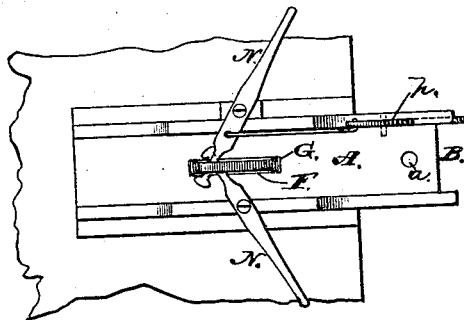


Fig. 2.



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UNITED STATES PATENT OFFICE.

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CAR-COUPLING.

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Application filed May 22, 1882. (No model.)

To all whom it may concern:

Be it known that I, NORMAN MERENESS, of Seward, in the county of Schoharie and State of New York, have invented certain new and useful Improvements in Car-Couplers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

My invention relates to an improved device for connecting the cars in a railway-train, in which the ordinary form of coupling-link may be employed, and which is therefore adapted for use in making a coupling with draw-heads in common use upon railways.

Its essential features are a lifting-bar hinged at one end to the inner end of the draw-bar, and extending thence forward to the draw-head; a lever pivoted within a vertical longitudinal slot in the draw-head to swing therein in a vertical plane, and whose upper end fits into a notch on the under side of the lifting-bar, so formed with inclined sides as that when the vertical lever is swung in either direction its upper end will operate to elevate the front end of the lifting-bar; a coupling-pin suspended from the forward end of the lifting-bar, so as to drop into and through an aperture in the draw-head when the bar is down and be lifted out therefrom when the bar is up; a sliding bar fitted within a central longitudinal aperture extending from the throat of the draw-head through the draw-bar to the slot in which the vertical swinging lever plays, so as to bear against the same when pushed inward by the entrance of a link within the draw-head, and thus force the lever into a vertical position to allow the lift-bar and coupling-pin to drop; and suitable devices for actuating the vertical lever for the purpose of setting the lift-bar and coupling-pin or for uncoupling the cars, as herein-after more fully described.

In the accompanying drawings, Figure 1 is a horizontal vertical section of a pair of draw-bars and draw-heads fitted with my improved coupler, the coupling-pin being lifted in the one and dropped into the other. Fig. 2 is a bottom view of one of the draw-bars, illustrating the combination of side levers with the vertical lever for uncoupling the link and setting the coupling-pin.

My invention is applicable to any of the customary forms of draw-bars in use for connecting the cars in freight or passenger trains.

The draw-bar A is formed with a suitable draw-head, B, having an outwardly-flaring throat and mouth, serving to engage the link C, used for coupling the cars, and to guide it to a central recess in line with a vertical transverse aperture, *a*, through which drops the pin D, by which the link is coupled to the draw-head.

A long lifting-bar, E, is hinged at its inner end to the upper side of the draw-bar A and left free to extend thence centrally forward to the link-aperture *a* in the draw-head B, and the coupling-pin D is suspended loosely therefrom. The lifting-bar E, when left free, will rest upon the upper surface of the draw-bar, in which case the coupling-pin D hangs within the aperture *a*. It is thrown up to lift the pin D clear of the coupling-recess in the draw-head, and thus uncouple and release the link C by means of a lever, F, pivoted in the lower portion of a vertical slot, G, cut centrally through the draw-bar, near to the hinged end of the pin-bar E, the pivot-point being below the center of the draw-bar. The upper end of this vibrating lever F projects beyond the upper face of the draw-bar, but the under side of the lifting or pin bar E is so recessed at a point, *b*, immediately over the end of the pivoted lever F as that when the lever assumes a vertical position its end, passing into the recess *b*, will not engage the lifting-bar, but allow it to rest closely down upon the draw-bar. The sides of the recess, front and back, are so inclined as that a movement of the pivoted vibrating lever F in either direction will, by causing its upper end to bear against these inclined sides, force up and elevate the free end of the lifting-bar, and thus lift the coupling-pin to release the link. The pivot-point of the vibrating lever F is placed near to the lower side of the draw-bar, and an aperture is cut centrally in the draw-bar to extend from the slot G, in which the lever plays, forward to the throat of the draw-head, into which the end of the coupling-link is led, so as to be engaged by the coupling-pin. A sliding rod or bar, H, is fitted to play in this aperture, its length being so adjusted as that when the upper end of the swinging lever F is thrown forward to elevate the lifting-bar,

and the rear or inner end of said sliding bar H is in contact therewith, the front or outer end of the sliding bar will project out so far as that it must needs be forced inward by the coupling-link before the latter shall be in position to be engaged by the coupling-pin. The forcing in of the sliding bar H by the coupling-link C will operate to throw back the swinging lever F into its vertical position, and thereby allow the lifting-bar, and with it the coupling-pin, to drop, so that the latter shall engage the link. The movement of the sliding bar is duly restricted by means of a transverse pin, K, fitted in the draw-bar, and which passes through a longitudinal slot, m, in the sliding bar.

The lower end of the vibrating lever F extends below the under side of the draw-bar, and is engaged by the inner ends of horizontal hand-levers N N, pivoted to the under side of said bar or to blocks fitted thereon or detached therefrom, on each side of the slot in which the lever F is pivoted. The outer ends of the levers project out far enough to reach the sides of the car, so as to be in ready reach of the train-men. By throwing the outer end of either of said hand-levers N forward the upper end of the lever F is thrown forward, so as to throw up the lifting-bar E and uncouple the link, and the lever is thus set so as to be thrown back by the inward movement of the sliding bar H when the coupling-link is pushed inward into the throat of the draw-head. If the upper end of the vibrating lever is thrown back instead of forward, it will still raise the lifting-bar E; but it will not in that position be influenced by the sliding bar, so that the coupling-pin will then remain elevated until the vibrating lever F is set by hand either by means of the side levers or otherwise.

To enable the lever F to be operated from the platform or the top of the car, a lever, p, is pivoted to the side of the platform, and its lower end is connected by a wire, r, with the inner end of one of the hand-levers N, so that the movement of said lever p shall actuate the lever N to throw the vibrating lever F backward or forward, as occasion may require.

The lifting-bar E is protected by an inclosing-case S.

When the draw-bars are on the same plane a straight coupling-link is used. When the cars are of different heights a curved link is employed. The flaring shape of the mouth and throat of the draw-head will admit of the use

of a straight link where the differences in height of the draw-heads above the tracks are inconsiderable, and facilitates coupling the cars on curves or grades.

This coupling device admits of being operated by the usual appliances for hand-coupling. It may be set to couple automatically; it forms a strong reliable coupling with a pin and link; it avoids danger to the train-men in its opening, and it is peculiarly well adapted for use upon freight-cars.

I claim as my invention—

1. In a car-coupling device, the combination, with a lifting-bar, E, carrying a coupling-pin, D, suspended freely therefrom, of a vertical lever, F, pivoted in a slot in the draw-bar, so that its upper end, fitted loosely in a beveled notch on the under side of the lifting-bar, shall operate, when swung out of the vertical in either direction, to lift the bar and coupling-pin, substantially in the manner and for the purpose herein set forth.

2. The combination, with the hinged lift-bar E and coupling-pin K, and with the vibrating lever F, pivoted in a vertical slot in the draw-bar under the lift-bar, of a sliding bar, H, working in a longitudinal aperture in the draw-head, extending from the lever E to the throat of the draw-head B, and adapted to throw the lever into its vertical position by the entrance of the coupling-link into the throat of the draw-head, substantially in the manner and for the purpose herein set forth.

3. The combination, with the vibrating lever F, actuating the hinged lift-bar E and coupling-pin D in a car-coupling device, of the horizontal hand-levers N N, pivoted to the under side of the draw-bar or car-frame, and adapted to actuate the vibrating lever F, substantially in the manner and for the purpose herein set forth.

4. The combination, with the vibrating lever F, actuating the hinged lift-bar E and coupling-pin D in the car-coupling device, of the vertical lever H, pivoted to the draw-head or car-frame, and adapted to actuate the vibrating lever F, substantially in the manner and for the purpose herein set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

NORMAN MERENESS.

Witnesses:

CHARLES MERENESS,
J. E. PRESTON.