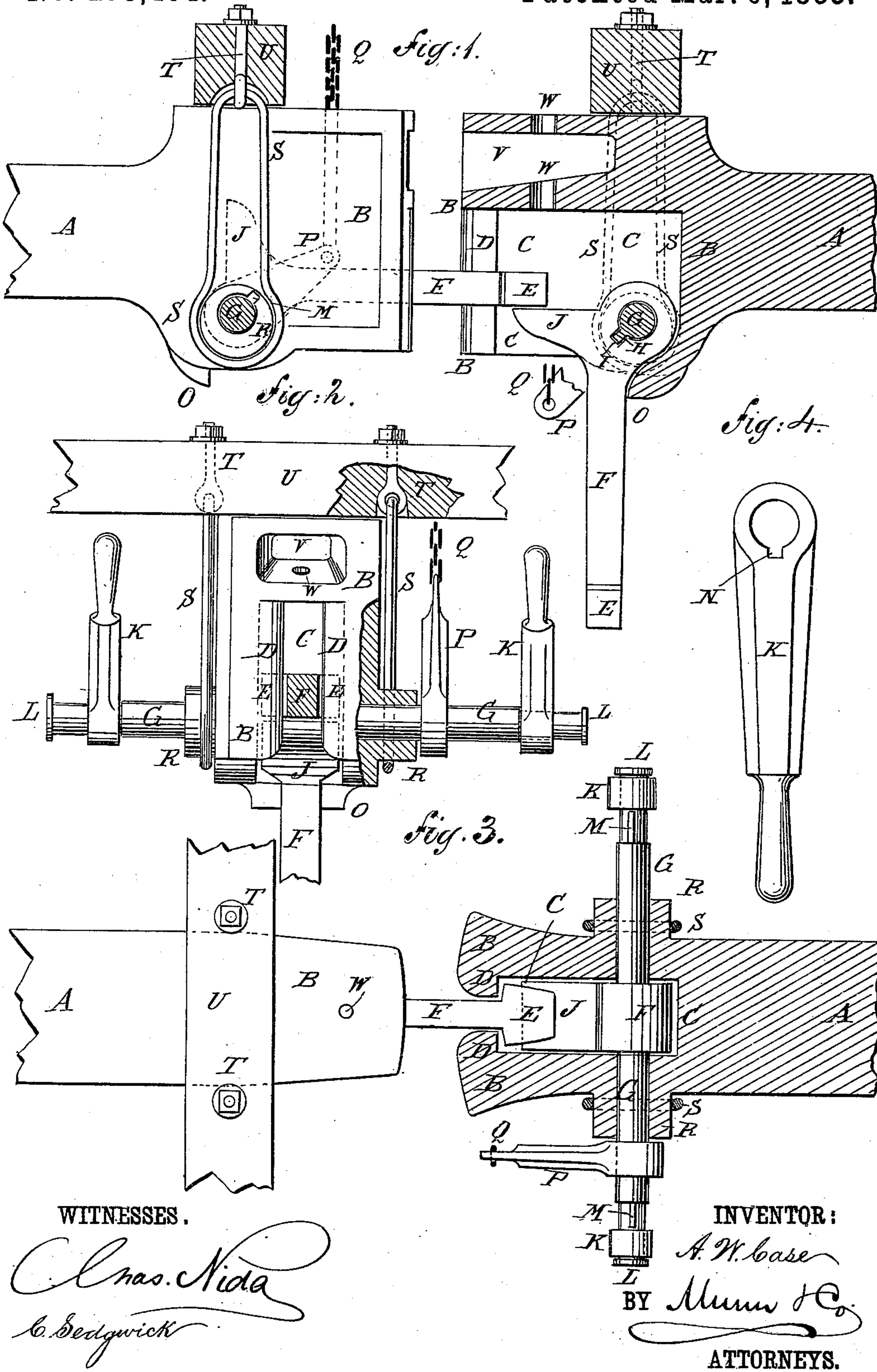


(No Model.)

A. W. CASE.
CAR COUPLING.

No. 273,464.

Patented Mar. 6, 1883.



UNITED STATES PATENT OFFICE.

A. WELLS CASE, OF SOUTH MANCHESTER, CONNECTICUT.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 273,464, dated March 6, 1883.

Application filed November 9, 1882. (No model.)

To all whom it may concern:

Be it known that I, A. WELLS CASE, of South Manchester, in the county of Hartford and State of Connecticut, have invented a new and useful Improvement in Car-Couplings, of which the following is a full, clear, and exact description.

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

Figure 1 is a side elevation of my improvement, partly in section. Fig. 2 is a front elevation of one part of the same, partly in section and parts being broken away. Fig. 3 is a plan view of the coupling, partly in section. Fig. 4 is a side elevation of one of the uncoupling-levers.

The object of this invention is to facilitate the coupling and uncoupling of cars and promote security in the use of car-couplings.

The invention consists in a car-coupling constructed with draw-heads having vertical slots in their lower forward parts and shoulders at the forward ends of the said slots, and provided with swinging coupling-bars having at their free ends cross-heads to engage with the shoulders of adjacent draw-heads, and having rigid projecting arms near their hinged ends to support the coupling-bars of adjacent cars, the said coupling-bars being hinged to the draw-heads by lever-operated rods. The operating-levers are connected with the hinging-rods by tongues and grooves, so that they can be readily adjusted to operate the said rods or to swing freely upon them. With the rods carrying the coupling-bars are connected rigid levers having chains attached to their free ends, so that the cars can be coupled and uncoupled from the roofs of the said cars. Upon the opposite sides of the draw-heads are formed collars, around which are passed the lower ends of links, the upper ends of which are hinged to the car-frame, whereby the said draw-heads are supported from the frames of the cars, as will be hereinafter fully described.

A represents the draw-bars, which are connected with the car-frame in the ordinary manner.

Upon the forward ends of the draw-bars A are formed the draw-heads B, which have slots

C formed in their lower and forward parts, the said slots extending upward from the lower sides of the said draw-heads, and being open upon the lower sides and forward ends of the said draw-heads.

At the opposite sides of the forward ends of the slots C are formed shoulders D, for the cross-heads E, formed upon the ends of the coupling-bars F, to rest against in sustaining the draft-strain. The other ends of the draw-bars F are hinged to the draw-heads B at the lower rear parts of the slots C by rods G, which pass through the said ends and the said draw-heads. The ends of the coupling-bar F are connected with the rods G by tongues H and grooves I, as shown in Fig. 1, so that the coupling-bars F can be raised into position by turning the said rods G. Upon the hinged ends of the coupling-bars F are formed projecting arms J in such positions that the said arms J will project forward horizontally when the bars F hang down vertically, as shown in the right-hand part of Fig. 1, and will project upward vertically when the said bars F are raised into a horizontal position, as shown in dotted lines in the left-hand part of Fig. 1. The ends of the rods G project upon the opposite sides of the draw-head B, and are turned down or made a little smaller than the bodies of the said rods for a distance about twice the width of the levers K, the inner ends of which are perforated to receive and fit upon the said reduced parts or necks, where they are secured in place by nuts or screws L, screwed upon or into the ends of the said rods G.

To the inner parts of the necks of the rods G are attached tongues M to enter grooves N in the inner surfaces of the perforated ends of the lever K. With this construction, when the levers K are at the outer ends of the necks of the rods G they will hang free, so that they cannot be operated to uncouple the cars by accidental contact with any object. When the levers K are turned upward and are moved inward the tongues M enter the grooves N, and the rods G can be turned by operating the levers K.

In coupling the cars one of the rods G is turned, which swings the free end of the coupling-bar F upward into the slot C of the other

draw-head B, so that the cross-head E of the said coupling-bar F will engage with the shoulders D. As the bar F swings upward it strikes against, raises, and passes the arm J, which immediately swings down beneath the coupling-bar F, so as to support the said coupling-bar in a horizontal position, the arm J being held from being pressed downward by the weight of the horizontal bar F, the vertical bar F resting against a shoulder, O, of the draw-head B at the inner end of the slot C, as shown in Fig. 1.

To uncouple the cars the rod G of the vertical bar F is turned, which raises the arm J of the said bar F and causes it to rise and pass above the cross-head end of the other bar F, so that the said cross-head end of the coupling-bar will drop out of the slot C, uncoupling the cars.

Other levers, P, can be attached to the rods G, having chains Q attached to their outer ends, which chains can be extended to the tops of the cars, so that the cars can be coupled and uncoupled by persons upon the roofs of the said cars.

The coupling-bars F should be made of sufficient length to couple cars of different heights.

Upon the opposite sides of the draw-heads B, at the ends of the holes for the rods G, are formed hollow projections R, which serve as lugs by which the draw-head may be suspended, and through which the said rods G pass, and over which are passed the lower ends of the links S. The upper ends of the links S are hinged, by eyebolts T or other suitable means, to timbers U of the car-frame, so that the draw-heads will be firmly supported and will be allowed to have the necessary play; or the draw-heads can be supported by hangers attached to the timbers of the car-frame and slotted to receive the rods G and allow the said draw-heads to have the necessary play.

The construction first described is preferred, as it relieves the rods G from the friction caused by the weight of the draw-heads B. The draw-heads B are made deep to allow deep slots C to be formed in them, so that cars of different heights can be coupled with the same facility as cars of the same height, and also to allow recesses V to be formed in the upper parts of the said draw-heads to receive the ends of ordinary coupling-links, so that cars provided with my improved coupling can be readily coupled with cars provided with the ordinary link-and-pin coupling, the bumper-heads B having holes W formed in them to re-

ceive the said coupling-pins. The recess V and pin-hole W are shown in Figs. 1 and 2.

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

1. A car-coupling constructed substantially as herein shown and described, and consisting of the draw-heads having vertical slots in their lower forward parts and shoulders at the forward ends of the said slots, and provided with swinging coupling-bars having at their free ends cross-heads to engage with the shoulders of adjacent draw-heads and rigid projecting arms near their hinged ends to support the coupling-bars of adjacent cars, the said coupling-bars being hinged to the draw-heads by lever-operated rods, as set forth.

2. In a car-coupling, the rocking arms J, adapted to support the coupling-bar, as shown and described.

3. In a car-coupling, the combination, with the draw-heads B, having slots C and shoulders D, of the hinging lever-operated rods G, and the coupling-bars F, having cross-heads E at their outer ends and rigid arms J at their inner ends, substantially as herein shown and described, whereby the draw-heads of adjacent cars can be readily connected and disconnected, as set forth.

4. In a car-coupling, the combination, with the coupling-bars F and the hinging rods G, having tongues M, of the levers K, having grooves N, substantially as herein shown and described, whereby the said levers can be readily adjusted to operate the said rods or to swing freely upon them, as set forth.

5. A draw-head having on each opposite side a hollow projection, R, by which it is suspended, and which also serves as an extension-bearing for the coupling-bar rods, as shown and described.

6. A coupling-bar rod, G, having the tongue M and the outer end turned down smaller than the main part, the headed end screw, L, and the arm K, having groove N communicating with its circular opening, whereby said arm may be placed in either of two positions without working off.

7. The combination of the coupling-bar F, the rod G, and the tongue M, constructed and arranged as and for the purpose specified.

A. WELLS CASE.

Witnesses:

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