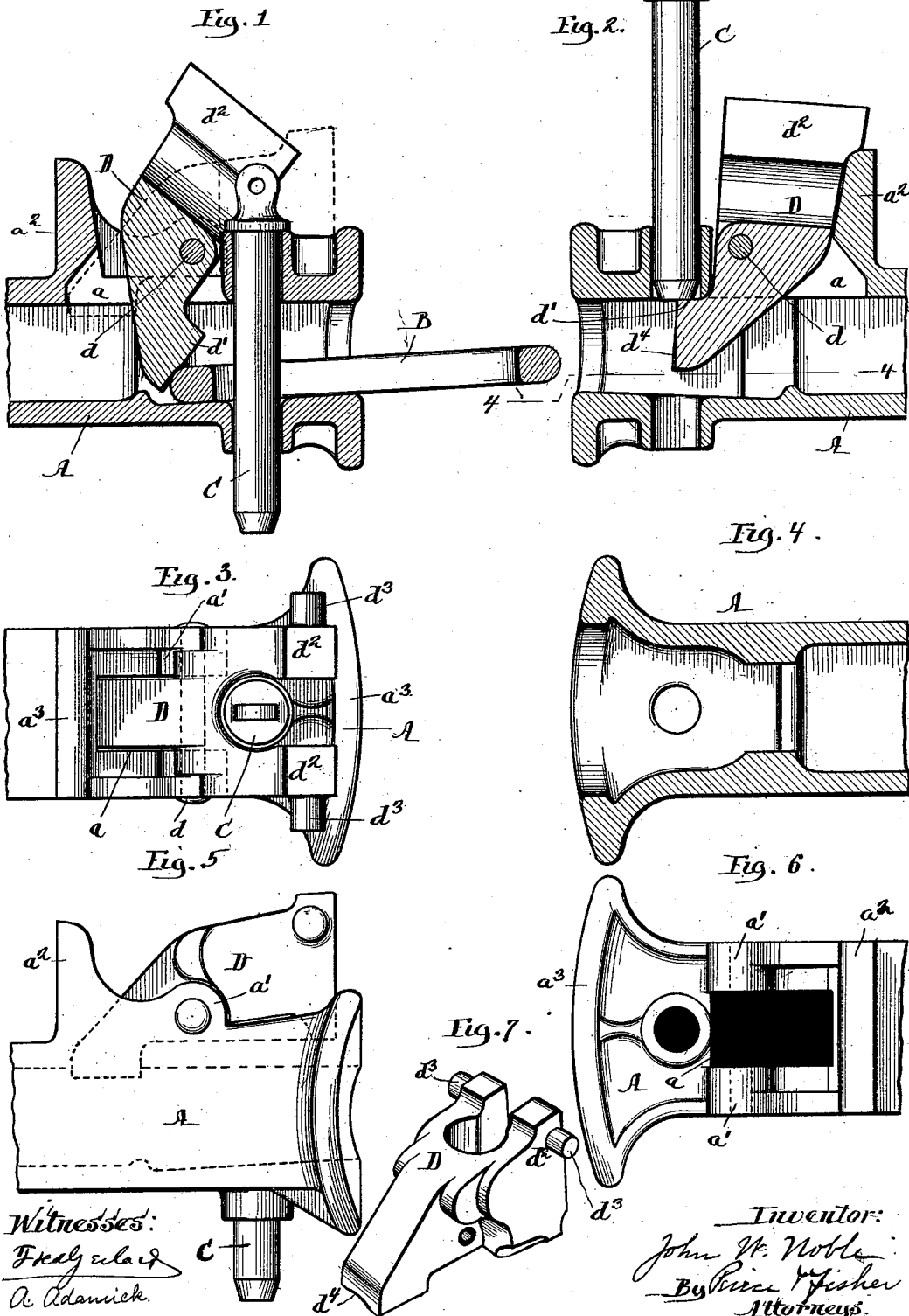


(No Model.)

J. W. NOBLE.
CAR COUPLING.

No. 558,414.

Patented Apr. 14, 1896.



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UNITED STATES PATENT OFFICE.

JOHN W. NOBLE, OF ANNISTON, ALABAMA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 558,414, dated April 14, 1896.

Application filed February 10, 1896. Serial No. 578,692. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. NOBLE, a citizen of the United States, and a resident of Anniston, in the State of Alabama, have invented certain new and useful Improvements in Car-Couplers, of which I do declare the following to be a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My present invention has relation more particularly to that class of car-couplers commonly known as "automatic pin-and-link couplers," and the object of the invention is to so improve the coupler that not only may the automatic coupling of the cars be more readily accomplished, but that the parts shall be so disposed as to much more effectively resist the shocks and strains and wear incident to service.

With this object in view my invention consists in the novel features and combination of parts hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the claims at the end of this specification.

A serious objection to the prior constructions of couplers is that after the draw-heads have been coupled together the gravity-pawls or like devices whereby the pins and links are sustained when not in use are not moved to such position as to be free from contact with the links or as to avoid being struck or pounded by the links as the draw-heads violently contact and recede, as constantly occurs while the cars are in motion.

By my present invention I have produced an improved construction of pin-and-link coupler in which the pawl or latch that sustains the coupling-pin in readiness to drop into the link, and also sustains the link in proper position for entering the opposite draw-head, will be held, when not in use, in such position that it will not be struck or pounded by the link while the cars are in motion.

Referring to the drawings, Figures 1 and 2 are views in vertical section through the opposing draw-heads of two railway-cars, the draw-head in Fig. 1 being shown with a coupling-pin dropped through the link and with the link in position to enter the mouth of the opposite draw-head, while Fig. 2 shows the coupling-pin raised in position to drop into

the link as it enters the draw-head. Fig. 3 is a plan view of my improved coupler, the pin-support being shown in the dotted position illustrated in Fig. 1. Fig. 4 is a view in horizontal section on line 4 4 of Fig. 2. Fig. 5 is a view in side elevation with the parts in the position seen in Fig. 3. Fig. 6 is a plan view of the draw-head with the coupling-pin support removed. Fig. 7 is a detail perspective view of the pin-support.

A designates the draw-head that will be provided at its front with the usual mouth or opening to receive the coupling-link B. Through the draw-head A will extend the usual hole or opening to receive the coupling-pin C. Within the upper part of the draw-head A is formed an opening *a* to admit a part of the pin-support D, this pin-support D being pivoted preferably by a pin or bolt *d* that passes through the pin-support and through lugs or ribs *a'* that rise from the top of the draw-head A. The pin-support D has its lower end formed with a suitable angular portion or shelf *d'*, whereon the coupling-pin will rest when the parts are in the position seen in Fig. 2.

The upper part of the pin-support D is preferably provided with the side portions *d²*, but in any event the pin-support has its weight so disposed with respect to the pivot-point *d* that the pin-support will not only serve to sustain or aid in sustaining the coupling-pin but when not in use will remain in such position that no part of the pin-support will be subjected to the pounding or striking of the coupling-link while the cars are in motion.

In the form of pin-support D shown the side portions *d²* are separated such distance as to clear the coupling-pin C and its head, and the side portions *d²* are shown as provided with lateral projections *d³* to permit the pin-support D to be more readily manipulated.

Upon the top of the draw-head A and at the rear of the slot or open space *a* is formed the stop *a²*, against which the pin-support D will rest when it is in position for sustaining the coupling-pin, as seen in Fig. 2.

The pin-support D is preferably so arranged as to rest against the front flange *a³* at the top of the draw-head and preferably also the rear end of the pin-support is so shaped that when in the position shown in Figs. 3 and 5 it will come in close proximity to the vertical rear wall of the slot *a*. The purpose of this ar-

rangement is to save the pivot-bolt d and the lugs a' from the severe strains incident to the violent bumping together of the draw-heads.

The bottom of the draw-head opening is depressed somewhat toward its rear, as clearly seen in Figs. 1 and 2, so that when the coupling-link B is held thereon by the pin-support D, as shown in Fig. 1, the outer end of the link B will be in proper position for entering the opposite draw-head. Preferably the lower end of the pin-support D will be slightly cut away, as at d' , so as to better retain the coupling-pin B in position.

From the foregoing description it will be seen that when cars are to be coupled together the coupling-link B will be set in place in one draw-head, as shown in Fig. 1, the pin-support D being turned to the position there shown, so that the weight of the pin-support bearing upon the rear end of the link B will hold this link with its outer end raised slightly above the horizontal. The draw-head of the opposite car will have its coupling-pin C raised and the pin-support D turned to the position there shown, so that the end d' of the pin-support shall pass beneath the pin-hole of the draw-head and hold the coupling-pin C in raised position. Now from a consideration of Figs. 1 and 2 it will be seen that as the opposite draw-heads are brought together the coupling-pin B will strike the lower end d' of the pin-support D, thereby turning said pin-support to the position shown by dotted lines in Fig. 1 and to the position seen by full lines in Fig. 5, thus permitting the coupling-pin C to drop within the eye of the link B. At the same time the thrust upon the link B will cause the pin-support D of the draw-head (shown in Fig. 1) to be turned from the position illustrated in full lines to that shown by dotted lines in said figure. When the pin-support is in the position shown by dotted lines in Fig. 1, it is obvious that no part of the pin-support can be struck or pounded by the coupling-link as the draw-heads bump together and vibrate while the cars are in motion. Moreover, inasmuch as the ends of the pin-support D are adapted to abut against the vertical portions of the draw-head it is manifest that the pivot-pin d will in great measure be relieved from the strain incident to the violent action of the draw-heads while the cars are in motion.

By my present invention I have provided an exceedingly simple, cheap, effective, and durable construction of automatic coupler, the construction being such that the parts can be readily cast and at an expense but little in excess of the ordinary automatic car-coupler such as is commonly employed by freight-cars. In practice the pin-support D of my improved coupler and the pin C will be provided with some suitable or familiar means, such as a chain or lever, whereby these parts may be manipulated without the necessity of the operator passing between the ends of the cars, but any suitable one of the many famil-

iar forms of devices heretofore patented or used for this purpose may be conveniently employed in connection with my coupler. I have not deemed it necessary to illustrate such device, as the same forms no part of my present invention.

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

1. In a car-coupler the combination with the draw-head having a cut-away space in its top, of a vertically-swinging pin-support having at its lower end an arm or shoulder to sustain the coupling-pin and having its upper part weighted whereby said pin-support will sustain said coupling-pin when said upper part is turned to a vertical position, and will remain in a horizontal position when turned thereto, substantially as described.

2. A car-coupler comprising the combination with the draw-head having a cut-away space in its top, of a pin-support D pivotally mounted so that its lower end shall swing within said cut-away space, said lower end having an arm or shoulder to swing beneath the pin-hole and engage the coupling-pin, and the upper end of said pin-support being provided with forwardly-swinging weighted arms, substantially as described.

3. In a car-coupler the combination with the draw-head, of a vertically-swinging pin-support pivoted in the top of said draw-head, a suitable stop a^2 against which said pin-support will rest when turned to vertical position, the upper part of said pin-support being weighted and adapted to rest normally upon the top of the draw-head, substantially as described.

4. In a car-coupler the combination with the draw-head, of a vertically-swinging pin-support pivoted in its top, said pin-support extending to a considerable distance above its pivot-point and having a part (such for example as the arms d^2), adapted to turn in proximity to a raised part of the draw-head in order to relieve the strain upon the pivot-bolt when the draw-heads are violently brought together, substantially as described.

5. In a car-coupler the combination with the draw-head having the inner face of its bottom higher at the front than at the rear, a pivotal pin-support mounted in the upper part of the draw-head and having an arm adapted to swing down upon and retain in proper position the coupling-link when it rests on the upper portion of said bottom of the draw-head, said pin-support being weighted upon the opposite side of its pivot-point, so that when said pin-support is turned downward and toward a horizontal position it will there remain out of contact with the link, substantially as described.

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