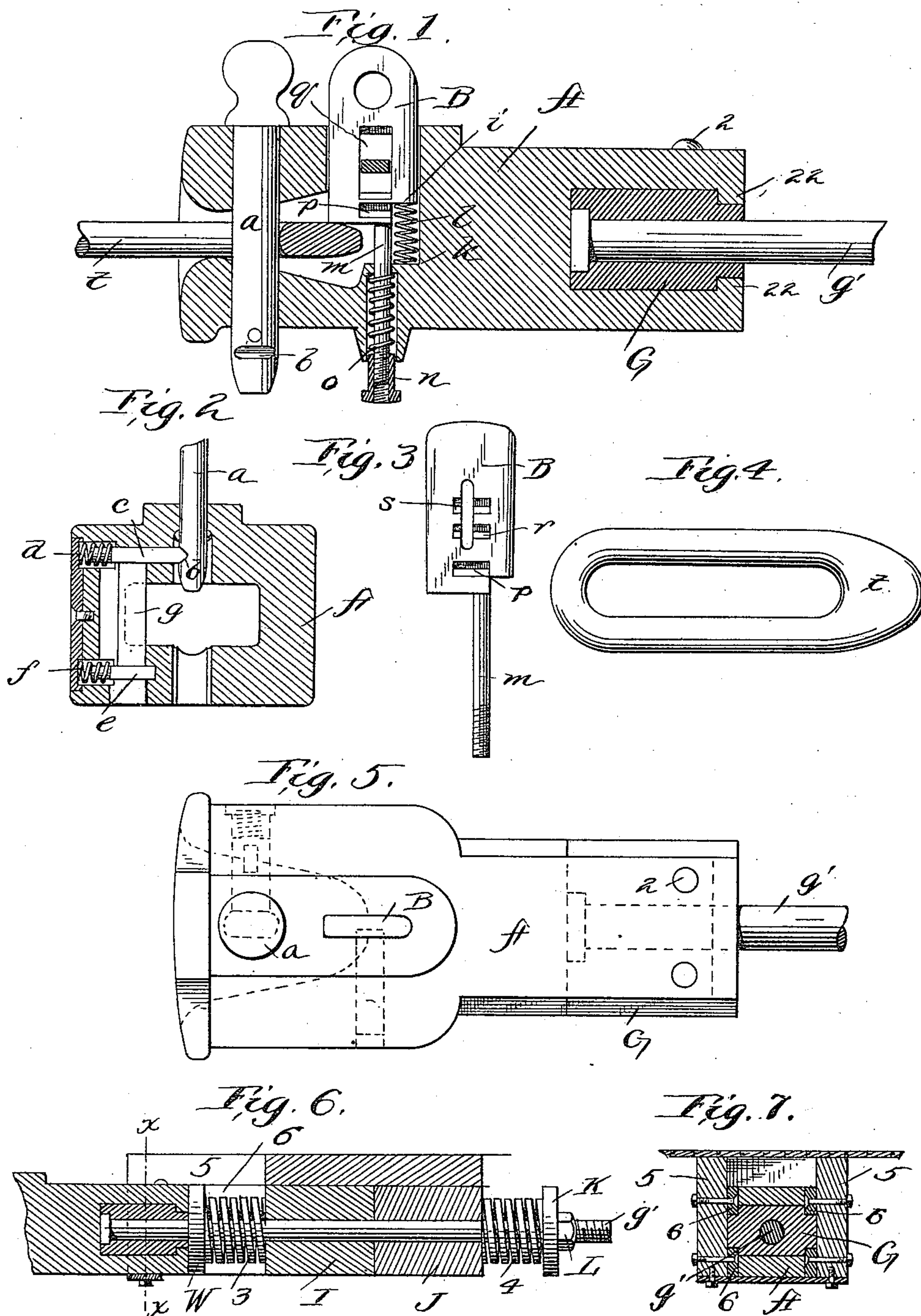


(No Model.)

D. D. GREEN.
CAR COUPLING.

No. 440,825.

Patented Nov. 18, 1890.



Witnesses
J. L. Middleton
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Inventor
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UNITED STATES PATENT OFFICE.

DANIEL D. GREEN, OF SCOFIELD, UTAH TERRITORY.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 440,825, dated November 18, 1890.

Application filed March 28, 1890. Serial No. 345,728. (No model.)

To all whom it may concern:

Be it known that I, DANIEL D. GREEN, of Scofield, in the county of Emery and Territory of Utah, have invented a new and useful
5 Improvement in Car Draw-Heads and Car-Couplings; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention is an improvement in car
10 draw-heads and couplings, and relates more especially to the means for securing the draw-head to the car, the means for holding the pin elevated, the link, and its adjustment.

15 The invention consists, first, of a draw-bolt supported by the car and under spring-tension, a block in the end of said bolt, and a draw-head removably connected to said block.

20 The invention further consists in a latch adapted to hold the pin in a raised position with the controlling-bar for said latch extending into the path of the link so that the said bar is operated by the movement of the link
25 in coupling and the pin thus allowed to fall, making the coupling automatic and rendering unnecessary the presence of the operator between the cars.

The invention further consists of a link
30 with a tapered solid end for the purpose of increasing the leverage when elevating the same.

It also consists of a link-adjuster adapted to hold the link in the desired position under
35 a spring-tension, so that the position in which the link is held may be varied without causing breakage of the parts.

The invention still further consists of a link-adjuster adapted to hold the link with its
40 exposed end in a raised, lowered, or level position, according to the relative height of the cars to be coupled.

The invention also consists in the details of construction hereinafter more fully de-
45 scribed.

In the drawings, Figure 1 is a central longitudinal section of the draw-head, showing the link-adjuster in place. Fig. 2 is a cross-section representing the latch for holding the

pin with its controlling-bar. Fig. 3 is a modified form of a link-adjuster. Fig. 4 represents a plan view of the link. Fig. 5 represents a plan view of the draw-head. Fig. 6 represents the block and draw-bolt for fastening the draw-head to the car; and Fig. 7 is a
50 section on line *x x*, Fig. 6.

The draw-head (shown at A) is detachably secured to the car by means of a block G and draw-bolt *g'*. The rear end of the draw-head is bifurcated and adapted to fit the block G,
55 and to be held securely thereto by lips 22 on the end of the draw-head, fitting corresponding depressions on the upper and under face of the block. The draw-head is placed in position by lateral movement, and to secure
60 it against displacement in this direction I pass headed bolts 2 2 through both draw-head and block, as shown in Fig. 5. The block is held on the end of the draw-bolt *g'*, which has a headed end fitting a countersink in the
65 front end of the block G. The bolt passes through the block and thence through a cross-beam or block I, and thence through the ordinary bolster. (Shown at J.)

Between the end of the draw-head and block
70 G and the beam I is placed a washer W and a spring or nest of springs, as shown at 3, and between the bolster and the washer K is a second spring or nest 4, the extreme end of the bolt *g'* being screw-threaded and having
75 a nut L, to increase or diminish the tension of the springs. Sills 5 5 extend centrally of the car on each side of the draw-head and supporting beams or blocks, as in Fig. 7, and secured to the sides of these sills are slides 6 6, which
80 engage tenons formed on the sides of the draw-head shank and block G, thus serving to support the same, but permitting longitudinal movement to take the shock as the cars are coupled.

When it is desired to remove the draw-head
85 for any purpose, it is only necessary to remove the nut L and move the bolt *g'* forward to advance the draw-head beyond the line of the supporting-slides, and then in the removal of
90 the bolts 2 2 the draw-head may be detached from the block G by lateral movement. The space between the sills is sufficient to allow

the admission of the draw-head shank between them.

The coupling-pin is shown at *a*, and is of ordinary construction, except that it is provided on one side or both, if desired, with a notch *b*, with which, when the pin is lifted, as shown, engages a latch *c*, which is fitted to a recess in the upper part of the draw-head, extending inwardly from the side to the opening through which the pin passes. A spring *d* encircles the reduced end of the latch and thus keeps it pressed constantly inward. A recess is also formed in the lower part of the draw-head extending inwardly from the same side, and in this recess is fitted a guide-block *e*, which is also provided with a spring *f*, encircling its spindle, as shown. The latch *c* and the block *e* are connected by a bar *g*, which is fitted in a recess extending to the interior of the draw-head opening on one side. This recess extends also through the bottom of the draw-head, by means of which access may be had to the bar *g*. This bar *g* is kept pressed inward constantly by the springs *d* *f*, and thus projects into the space formed by the inner walls of the head. As the pin is lifted by the operator the latch is kept pressed back until it engages with the notch in the end of the pin, when the spring forces it into the notch and thus holds the pin up. As the car is approaching to be coupled (this car containing the link) the end of the link enters the draw-head, and as the space between the inner end of the bar *g* and the opposite wall of the draw-head is of less width than the width of the link the inward movement of the link forces the bar *g* to one side. The end of the link is made rounding, as shown, so that the bar *g* is not pressed entirely aside until the link has entered far enough to allow the pin to drop as it is released into the opening of the link. As the link is in engagement with the draw-head the latch is kept pressed back and the pin is free to be raised or lowered. As soon as the link is withdrawn, however, the latch is in position to engage the pin as soon as it is lifted.

In order to adjust the position of the forward end of the link so as to permit of the coupling of high and low cars together, I provide a link-adjuster *B*, which is supported in the draw-head immediately in rear of the pin and in the rear of the recess constituting the mouth of the draw-head. The adjuster is fitted to move up and down in a recess extending from the upper part of the draw-head through to the draw-head opening, and it is provided with a shoulder *i*, between which and the ledge *k* is interposed a spring *l*, which has a constant tendency to force the adjuster upward. The adjuster is also provided with a spindle *m*, which extends entirely through to the under side of the draw-head, having a threaded end, which is engaged by a nut, as shown at *n*. A spring *o* encircles the end of the spindle, being covered by an encircling-

case, and the tendency of this spring is to equalize the pressure of the spring *l*, so that the normal position of the adjuster is central, and in this position the link is held in a horizontal plane, but under spring-tension, so that it will yield when the front end of the link is depressed. When it is desired to hold the link-adjuster out of operation, it is simply lifted, and when in this position a latch engages with a notch *p*, made in the side of the adjuster. When the adjuster is in operation, the end of the latch plays freely in the cut-away portion *q* in the side of the adjuster without causing any friction or rubbing contact. In the form of adjuster which I have described I have made provision only for holding the link in a horizontal position; but in the modified form of adjuster I have provided two additional notches *r* and *s*, so that I may, by causing the latch to engage with the notch *s*, elevate the front end of the link, hold the link level by engaging with the notch *r*, and allow the front end to fall by gravity, when the adjuster is lifted so that the latch engages with the notch *p*. It will thus be seen that with my improvements cars may be coupled or uncoupled and the links adjusted to varying heights of cars without requiring the brakeman to handle the link, and thus the danger of injury is avoided. The link *t* is made with a tapering solid end, as shown, which increases the leverage when elevating the same.

I claim as my invention—

1. In combination, a headed draw-bolt supported by the car, a block mounted on the bolt, and a draw-head detachably connected to said block, substantially as described. 100
2. In combination, a headed draw-bolt, supporting-beams *I* *J*, a nut and washer on one end, a spring or springs between the washer and the beam *J*, a block *G*, supported on the end of the draw-bolt, a spring or springs between the block and the beam *J*, and the draw-head having its end recessed to receive the block *G*, substantially as described. 105
3. In combination, a headed draw-bolt, a block *G*, held on said bolt, and a draw-head having its end recessed to receive the block *G*, substantially as described. 110
4. In a car-coupling, a pin having a notched end, a spring-actuated latch for engaging said notch, and an operating-bar held normally in the path of the link, substantially as described. 115
5. In a car-coupling, a pin having a notched end, a latch *c*, a guiding-block *e*, a connecting-bar *g*, and springs in rear of the latch *c* and block *e*, substantially as described. 120
6. In combination with a pin having a notched end, a latch for engaging said end, an operating-bar extending into the draw-head opening, and a link having a solid end and tapering sides, substantially as described. 125
7. In a car-coupling, a link-adjuster under spring-tension, a spring-latch, and a notch in 130

the adjuster for the engagement of the latch, substantially as described.

5 8. In a car-coupling, a link-adjuster having a series of notches and a latch for engaging said notches, whereby the link may be adjusted to different heights of cars, substantially as described.

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

DANIEL D. GREEN.

Witnesses:

JOHN J. CRANER,
HENRY ELLISON.