

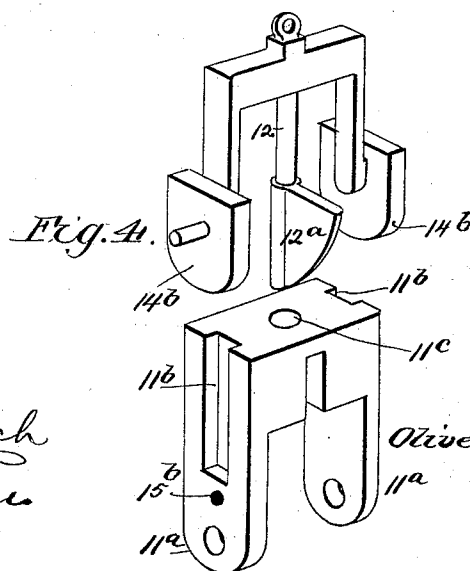
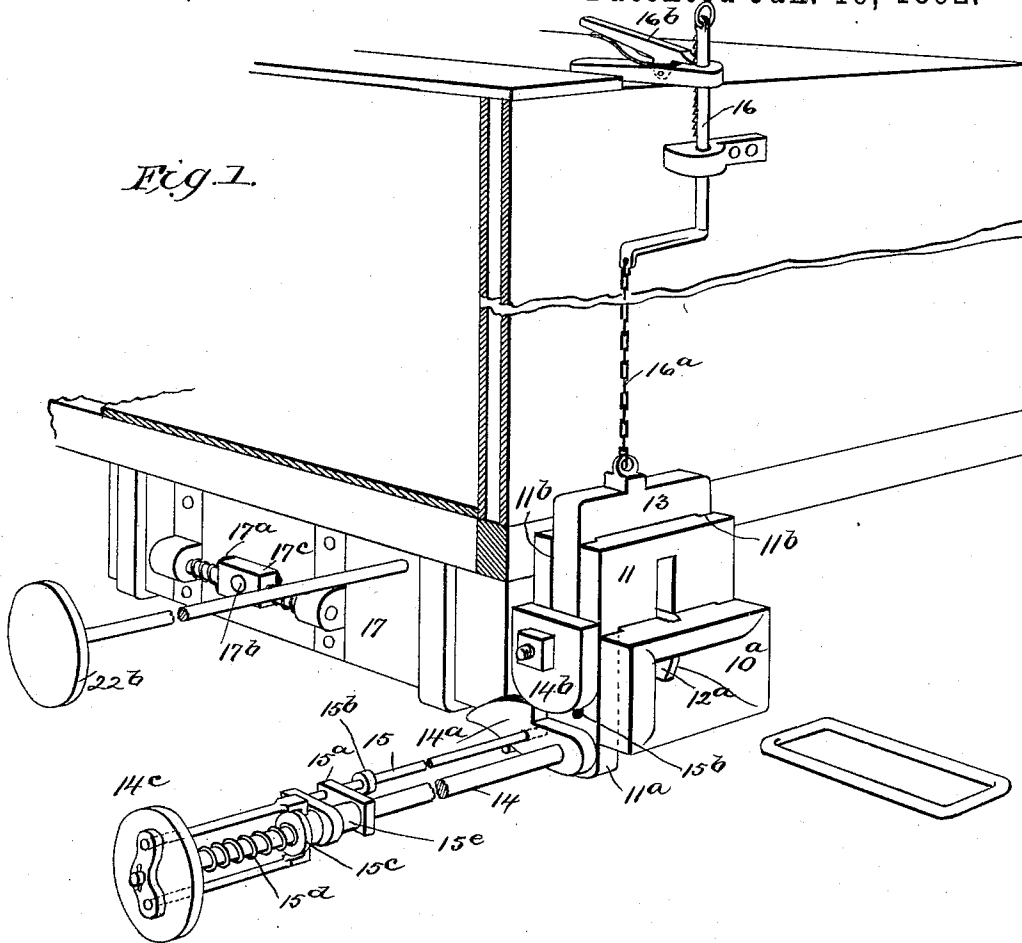
(No Model.)

2 Sheets—Sheet 1.

O. M. BRIMINGHAM.
CAR COUPLING.

No. 467,365.

Patented Jan. 19, 1892.



WITNESSES:

Fred G. Dieterich
Joe A. Ryan

INVENTOR:

Oliver M. Brimingham.

BY *Wm. L. G.*

ATTORNEYS

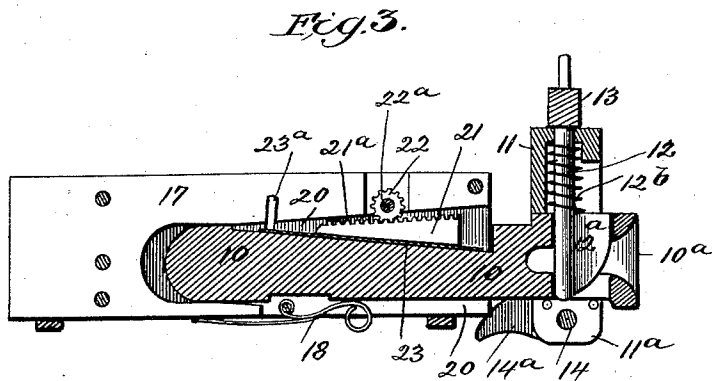
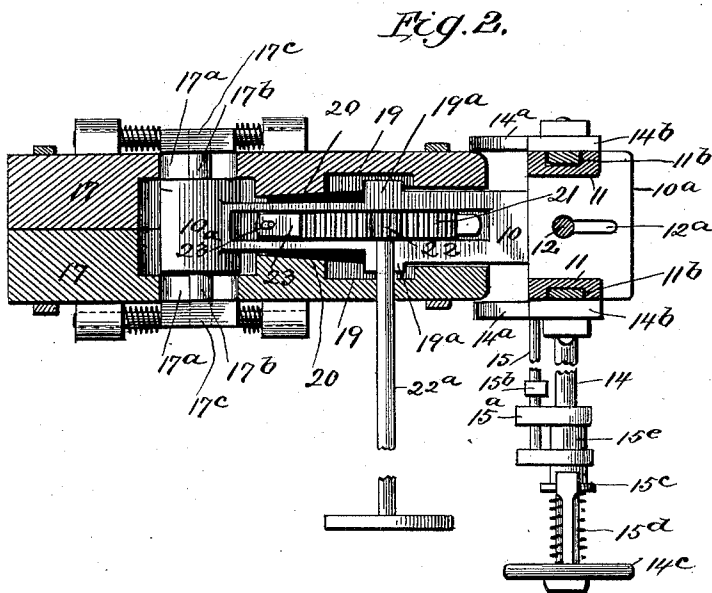
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2 Sheets—Sheet 2.

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CAR COUPLING.

No. 467,365.

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WITNESSES:

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UNITED STATES PATENT OFFICE.

OLIVER M. BRIMINGHAM, OF VICTORIA, TEXAS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 467,365, dated January 19, 1892.

Application filed September 10, 1891. Serial No. 405,263. (No model.)

To all whom it may concern:

Be it known that I, OLIVER M. BRIMINGHAM, of Victoria, in the county of Victoria and State of Texas, have invented a new and useful Improvement in Car-Couplers, of which the following is a specification.

This invention relates to an improved coupler, the object of the invention being to provide an improved means for elevating, holding, and releasing the coupling-pin, and also to provide a vertically-adjustable draw-head, which can be readily adjusted either during coupling or before or after.

With these objects in view my invention consists in the peculiar construction of the various parts and their novel combination and arrangement, all of which will be fully described hereinafter, and pointed out in the claims.

In the drawings, forming a part of this specification, Figure 1 is a perspective view of my improved coupler. Fig. 2 is a horizontal section. Fig. 3 is a vertical longitudinal section, and Fig. 4 is a detail view of the coupling-pin and guide.

In carrying out my invention I employ a draw-bar 10, carrying a draw-head 16^a, and upon the said draw-head is secured a guiding-block 11, said block having depending members 11^a, which straddle the draw-head and project a short distance below the bottom of the same. The sides of the block 11 are provided with vertical grooves 11^b, and at the center of said block is produced the vertical passage or bore 11^c, adapted to receive the coupling-pin 12, which works in the link-cavity, as usual. The coupling-pin is provided with a longitudinal tongue or blade 12^a near its lower end, said tongue working in a groove or slot produced in the pin-passage 11^c, said slot or groove extending a definite distance up into the guiding-block, whereby the upward movement of the pin is limited. A coiled spring 12^b is arranged upon the pin above the tongue 12^a and below the top of the block, the tendency of the spring being to normally hold the pin within the link-cavity. The upper end of the pin projects above the block and is connected to a vertically-movable frame 13, which straddles the block 11 and works in the grooves 11^b. An operating rock-shaft 14 is journaled in the lower end of the pendent members 11^a of the block 11 and extends outwardly to the side of the car, and

upon said shaft are mounted the eccentric lifting arm or arms 14^a, preferably one upon each side of the draw-head, said arms being adapted to engage bearing-blocks 14^b, attached to the lower ends of the vertically-movable frame, the arms serving to lift the frame upward in the grooves of the guiding-block. The lower faces of the bearing-blocks are curved to aid the arms in their lifting operations. An operating-wheel 14^c is mounted upon the outer end of the rock-shaft, whereby the operator may turn the shaft from the side of the car, thus elevating the pin to uncouple or prepare the device for effecting a coupling.

To hold the frame, and hence the pin, in an elevated position I employ a spring-actuated locking-bolt 15. This bolt 15 is arranged in parallel relation with the rock-shaft, and is connected thereto by means of a guiding-arm 15^a, mounted upon said shaft, the bolt sliding freely therein, the inner end of said bolt working through the lifting-arms, and is adapted to engage an aperture 15^b, produced in the side of the member 11^a, and hold the frame in an elevated position. The outer end of the bolt 15 is connected with a collar 15^c, which slides upon the outer portion of the rock-shaft, and connected to this collar is the hand rod or rods which are passed through the operating-wheel and provided with a suitable hand-grip. A coiled spring 15^d is arranged upon the rock-shaft between the sliding collar and the operating-wheel to throw the locking-bolt inwardly into engagement with the aperture in the member 11^a. A shoulder 15^e is produced upon the rock-shaft between the guide-arm and sliding collar, and a similar shoulder 15^f is arranged upon the locking-bolt 15, said shoulders limiting the in and out movements of the hand-rod and locking-bolt. The hand rod or rods may be connected with the sliding-collar in any suitable manner.

A vertically-movable rock-bar 16 is secured upon the end of the car near the top of same, and a chain 16^a connects the said bar and the vertically-movable frame 13. A spring locking-pawl 16^b is pivoted upon the top of car and is adapted to engage the teeth of the rock-bar and hold it in any desired position. By means of the rock-bar and pawl the pin may be elevated from the top of the car and held in such position.

In operation the pin is normally held down

by means of the coiled spring, and in order to elevate the same the operating-wheel is given a forward turn, which rocks the shaft, turns the lifting-arms which engage the bearing-blocks and slide the frame upward, carrying with it the pin, until the locking-bolt, which moves with the rock-shaft and lifting-arms, engages the aperture in the side of the guiding-block, thereby holding the frame and pin in an elevated position. When it is desired to release the pin, the hand-rod is pulled out, thereby operating the sliding collar and withdrawing the locking-bolt from the aperture, and the spring upon the pin throws it down and thus effects a coupling.

The draw-bar 10 is arranged in a guiding box or case 17, which is attached to the bottom of the car, said box or case being composed of two longitudinal sections cut out sufficiently to receive the draw-bar. Elongated apertures 17^a are produced in the sides of the box near its rear end, said apertures being adapted to receive a pivotal bolt 17^b, passed transversely through the rear end of draw-bar, the said bolt being journaled in spring-actuated movable journal-boxes 17^c, arranged upon the exterior of the box or case opposite the elongated openings, said boxes permitting a limited movement of the draw-bar when the cars bump together, thereby acting as a buffer. The chamber in the casing in which the draw-bar rests is made tapering, as shown, being broader at its forward end, the lower forward side being opened for a purpose hereinafter explained. A spring 18 is arranged beneath the box or casing and normally holds the draw-bar up against the upper face of the chamber. The sides of the chamber near their forward ends are recessed, as at 19, said recesses being adapted to receive the lateral projections 19^a, formed upon the sides of the draw-bar. A forwardly-inclined longitudinal recess 20 is produced in the upper face of the draw-bar, and in said recess is arranged a wedge-shaped block 21, its broad end forward, the upper face of said block being provided with the rack-teeth 21^a, which are engaged by a pinion 22, mounted upon a shaft 22^a, passed transversely through the guiding box or case, and provided at its outer end with a hand-wheel 22^b. The block 21 is adapted to be moved backward and forward in the inclined recess by means of the pinion, thereby lowering the draw bar and head as it is moved rearward or allowing it to be elevated by the spring beneath the draw-bar as it is moved forward. The opening in the bottom of case permits the spring to bear upon the draw-bar and also permits the draw-bar to be pressed downward. By this means the draw-head can be adjusted, as desired, either during coupling or before or after. It is preferred to have the block slide upon a plate 23, held within the recess by means of a pin 23^a, as clearly shown. It will of course

be understood that the rock-shaft may extend entirely across the end of car and also the pinion-shaft, whereby the pin and draw-head can be operated from either side of the car.

Having thus described my invention, what I claim as new is—

1. In a car-coupler, the combination, with a draw-head, of a guiding-block attached thereto, a vertically-movable sliding frame working thereon, and the pin connected with the frame and having a guiding-tongue working in the guiding-block, substantially as shown and described.

2. In a car-coupler, the combination, with a draw-head, of the guiding-block, the sliding frame, the rock-shaft, the lifting-arms, and the pin connected with the sliding frame and working in the guiding-block, substantially as shown and described.

3. In a car-coupler, the combination, with the draw-head, of the sliding frame and pin, the rock-shaft, and lifting-arms, all arranged substantially as shown and described.

4. In a car-coupler, the combination, with the draw-head, of the vertically-sliding frame and pin, the rock-shaft, the lifting-arms, and locking device for holding the said arms in an upright position, substantially as shown and described.

5. In a car-coupler, the combination, with a draw-head, of the vertically-movable pin and frame carrying bearing-blocks, the rock-shaft, the eccentric lifting-arms, and the spring-actuated locking-bolt connected with the rock-shaft, substantially as shown and described.

6. In a car-coupler, the combination, with a draw-head, of a vertically-movable frame and pin, the bearing-blocks, the rock-shaft, lifting-arms, the locking-bolt, guide-arm, sliding collar, hand-rod, operating-wheel, and stop-collars, all arranged substantially as shown and described.

7. In a car-coupler, the combination, with a guide box or case, of a draw-bar arranged therein, the pivotal bolt, and the movable spring-actuated journal-boxes arranged substantially as shown and described.

8. In a car-coupler, the combination, with a guide-box having a tapering chamber, of a draw-bar pivoted therein, a spring arranged beneath the bar to hold the same elevated, and a sliding block adapted to depress the said draw-bar, substantially as shown and described.

9. In a car-coupler, the combination, with a guide-box, of a draw-bar pivoted therein, a spring for supporting the same, a wedge-shaped block sliding on the draw-bar, and intermediate devices for operating the same, substantially as shown and described.

OLIVER M. BRIMINGHAM.

Witnesses:

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EUGENE S. WHEELER.