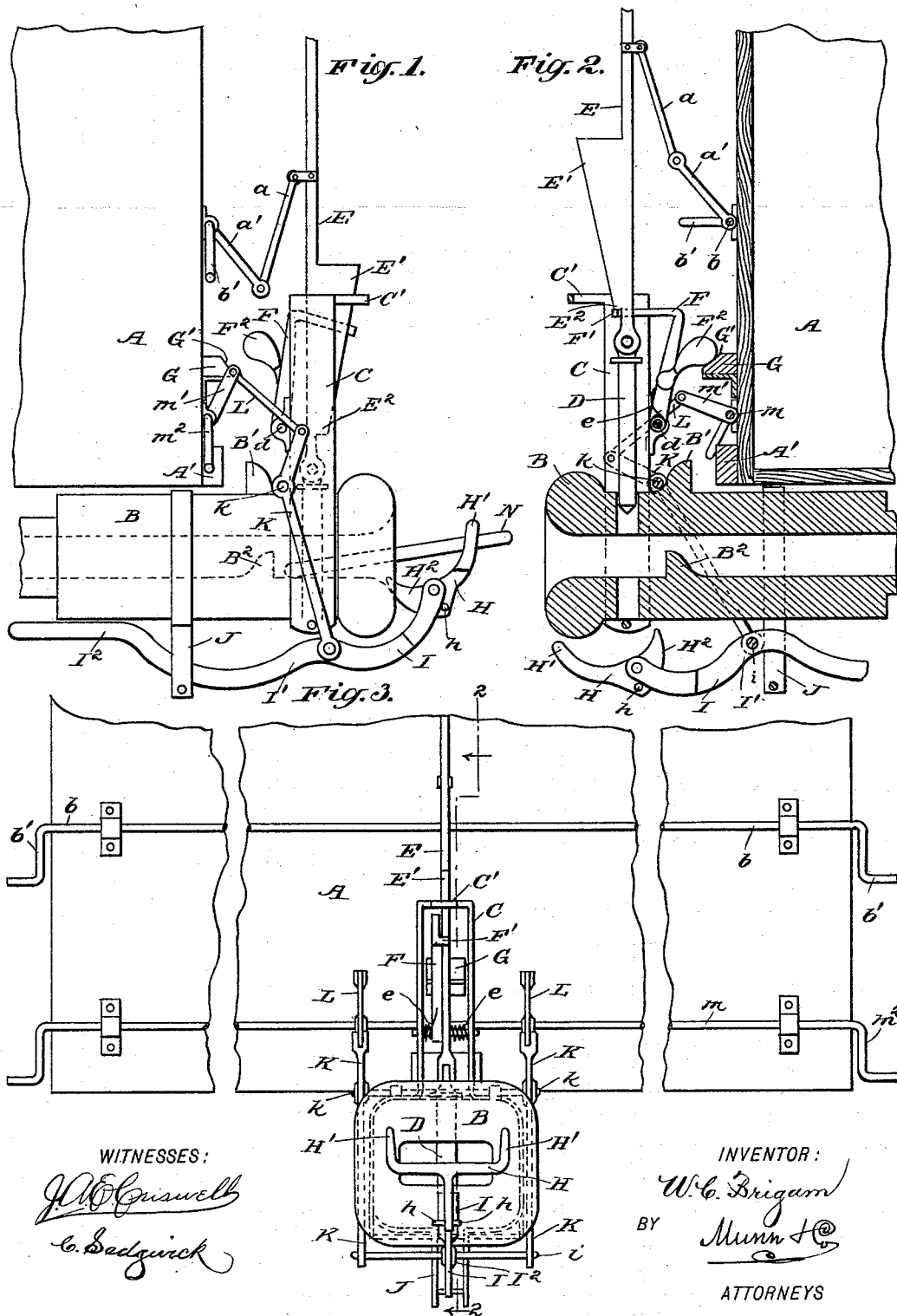


(No Model.)

W. C. BRIGAM.
CAR COUPLING.

No. 440,000.

Patented Nov. 4, 1890.



WITNESSES:

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WILLIAM C. BRIGAM, OF BONHAM, TEXAS, ASSIGNOR OF ONE-HALF TO
CHARLES D. GRACE, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 440,000, dated November 4, 1890.

Application filed May 29, 1890. Serial No. 353,590. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. BRIGAM, of Bonham, in the county of Fannin and State of Texas, have invented a new and Improved Car-Coupling, of which the following is a full, clear, and exact description.

My invention relates to improvements in car-couplings; and the object of my invention is to produce a coupling of comparatively few parts that may be cheaply built, may be attached to the ordinary draw-head, will automatically couple cars of different heights, and may be quickly and easily operated either from the side of the car or from the top, so that it will not be necessary for the operator to go between the cars to either couple or uncouple them.

To this end my invention consists in certain features of construction and combinations of parts, which will be hereinafter described, and pointed out in the claims.

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

Figure 1 is a broken side elevation of the device as applied to an ordinary freight-car with the coupling-pin dropped through the draw-head. Fig. 2 is a broken vertical section of the same on the line 2 2 of Fig. 3 with the coupling-pin in an elevated position, and Fig. 3 is a broken end view of the device.

My invention is intended chiefly for use upon freight-cars; and in the accompanying drawings, A is a car, and B the draw-head, which is attached thereto in the usual manner, having a limited longitudinal movement, said movement being limited by the lug B' striking the buffer A' of the car. The draw-head B is also provided internally with a boss or lug B², which projects from the lower portion of the entrance to the draw-head, and which is adapted to prevent the link from being pushed too far into the draw-head. In carrying out my invention it is desirable to have the draw-head provided with this lug, but it is not absolutely necessary, as it will operate well without it, and instead of the lug a wooden plug may be driven into the draw-head, or a stud or pin be substituted.

Mounted upon the draw-head is a vertical frame C, which is attached to the sides of the draw-head, and the side pieces of which are connected by the forwardly-extending portion C'.

The draw-head B is provided with the usual coupling-pin D, and pivoted to the upper end of the said coupling-pin is a rod E, which should extend upwardly to the top of the car, so that the coupling-pin may be thereby lifted, and said rod is provided near its lower end with an angular projection E', which narrows toward the bottom, and which terminates in a shoulder E², adapted to rest upon the angular arm F, as described below.

The rod E is pivotally connected by the connecting-rod a with the arm a' of the shaft b, which is mounted in suitable supports and extends across the front end of the car, being provided with a suitable crank-handle b' at each end, so that by turning the shaft the arm a' will be raised, thus raising the connecting-rod a, rod E, and coupling-pin D. The arm F is pivoted at its lower end in the frame C in the rear of the coupling-pin D on the rod d, which extends through the suitable lugs on the frame C.

The arm F is provided with a horizontal portion, which extends forwardly, and which at its outer end is formed into a tripping-piece F', adapted to engage the shoulder E² of the angular projection E' and hold the rod, E and coupling-pin D in an elevated position, as shown in Fig. 2. The arm F is also provided with a rearwardly-extending weight F², which tends to swing the arm rearwardly, so as to hold it in engagement with the angular projection E², and the arm is also provided with a spring e, which is wound around the rod d, and which also presses the arm rearwardly.

Fixed to the car A, opposite the weight F², is a projection G, having an upwardly and rearwardly inclined face G', adapted to operate the weight F² and arm F, as hereinafter described. Pivoted in the forward end of the rod I, suspended beneath so as to be vertically movable in front of the draw-head, is a link-lifter H, having a horizontal portion extending at right angles to the draw-head, hav-

ing upwardly-extending members H', which are arranged upon each side of the entrance to the draw-head, and having a lower portion extending rearwardly and rounded, as shown, 5 so as to rest in the mouth of the draw-head, said link-lifter being provided with suitable pins h, which engage the bifurcated end of the rod I and prevent the link-lifter from being turned in the wrong direction.

10 The rod I extends below the draw-head B, and is curved in such a manner that it will easily swing beneath the draw-head, having an upwardly-curved portion I', which is pivotally connected with the operating-levers, as 15 described below, and a rearwardly-extending portion I², which rests against the lower side of the draw-head, the said rod I being held in position by the keeper J, which is suspended from the draw-head, so as to loosely 20 inclose the said rod.

The rod I is pivoted at the upwardly-curved portion I' by the rod i to the lower end of the bell-crank levers K, said levers being pivoted at the elbow on the rod k, engaging 25 lugs on the upper side of the draw-head. The upper end of each lever K is connected by a connecting-rod L with a crank m' of the shaft m, said shaft being mounted in suitable supports upon the front end of the car, and 30 having the crank-handles m², by which it may be operated. - A lever K with its connecting-lever is arranged on each side of the draw-head.

The coupling operates as follows: To set 35 the pin D in a position for coupling, the shaft b is turned so as to raise the rod E, thus raising the pin D, and the pin is held in this position by the tripping-piece F' of the arm F, engaging the notch E² of the angular portion E' of the pin-rod E, and if the car to be 40 coupled is higher than the one on which the device is operated the shaft m is turned so as to actuate the connecting-rods L and bell-crank levers K and swing the rod I upwardly. 45 The outer end of the link N will thus be engaged by the link-lifter H and elevated, as shown in Fig. 1, the weight of the link and of the outer portion of the lifter causing the outer end of the lifter to swing outwardly and 50 the inner lower end H² thereof to swing inwardly and engage the mouth of the draw-head, so that the weight of the parts will hold them in this position. When the cars approach each other and the draw-heads are 55 driven back in the usual manner, the weight F² will travel up the incline G' of the projection G, thus raising and pushing forwardly the arm F and disengaging the tripping-piece F' from the notch E². The rod E then drops, 60 and the pin D drops through the draw-head and link in the usual manner. At the same time the draw-head, acting on the upper portion of the link-lifter H, will swing said portion inwardly, thus swinging the lower portion H² outwardly and disengaging it from 65 the mouth of the draw-head, and the link-lifter, and rod I, to which it is attached,

will then swing beneath the draw-head upon which they are pivoted, so as to be out of the way. When the pin D and rod E are dropped, 70 as described above, the inclined or angular projection E' of the rod E will strike the tripping-piece F' of the arm F and draw the arm and weight F² forward, as shown in Fig. 1, and hold said parts in this position, and when 75 the rod E and pin D are raised said parts will drop back in position for another operation.

While I have described a particular system of levers for operating the coupling-pin and 80 link-lifter, I do not confine myself to the construction shown, as any suitable levers may be substituted.

Having thus fully described my invention, I claim as new and desire to secure by Letters 85 Patent—

1. In a car-coupling, the combination, with a draw-head suitably supported upon the car and provided with the usual pin and link, of a vertical frame fixed to the draw-head, a rod 90 mounted in the frame and pivoted to the coupling-pin, a lever mechanism for raising said rod, a weighted tripping-arm for engaging a notch of the rod and holding it in position, and means for releasing said tripping- 95 arm, substantially as described.

2. In a car-coupling, the combination, with a draw-head suitably supported upon the car and provided with the usual pin and link, of a frame fixed to the draw-head, a vertical rod 100 pivoted to the coupling-pin, a shaft extending across the front of the car and provided with a crank and crank-handle, and a suitable connecting-rod connecting the shaft with the coupling-pin rod so that by turning the 105 shaft the rod may be raised, substantially as shown and described.

3. In a car-coupling, the combination, with a draw-head suitably supported upon the car and provided with the usual pin and link, a 110 vertical frame fixed to the draw-head, a rod pivoted to the upper end of the coupling-link and extending upwardly through the frame, said rod being provided with an angular strip having at its lower end a shoulder, as shown, 115 and a lever mechanism for operating said rod, of an angular arm pivoted to the frame and provided with a tripping-piece adapted to engage the shoulder of the coupling-pin rod, a rearwardly-extending weight fixed to the 120 arm, as shown, and a projection fixed to the front of the car opposite said weight and provided with a rearwardly-inclined face adapted to operate the weight and tripping-arm, substantially as described. 125

4. In a car-coupling, the combination, with a draw-head suitably supported upon the car and provided with the usual pin and link, of a rod pivotally suspended beneath the draw-head, a link-lifter pivoted in the end of the 130 rod and adapted to engage the link of the coupling, a shaft mounted on the front of the car and provided with a suitable crank-handle, and a lever mechanism connecting said

