

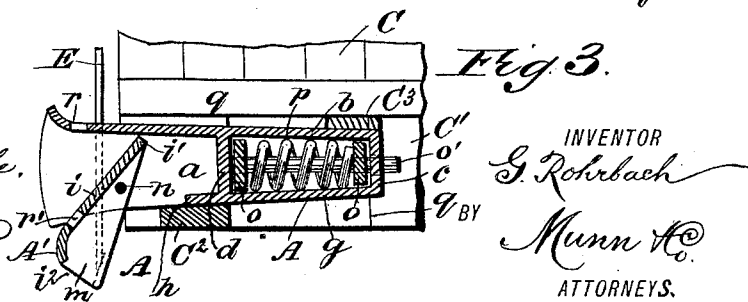
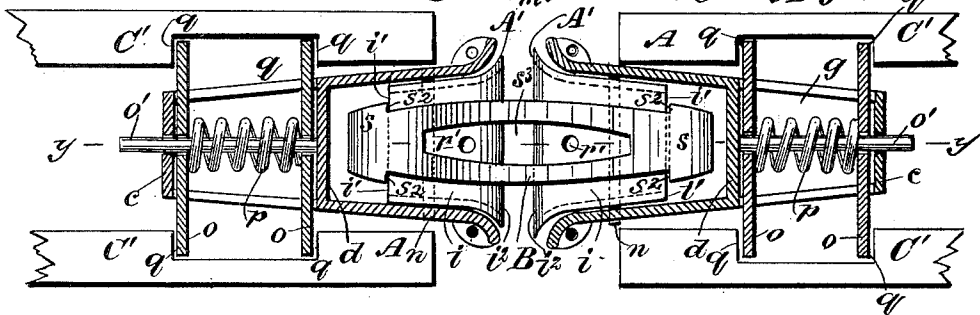
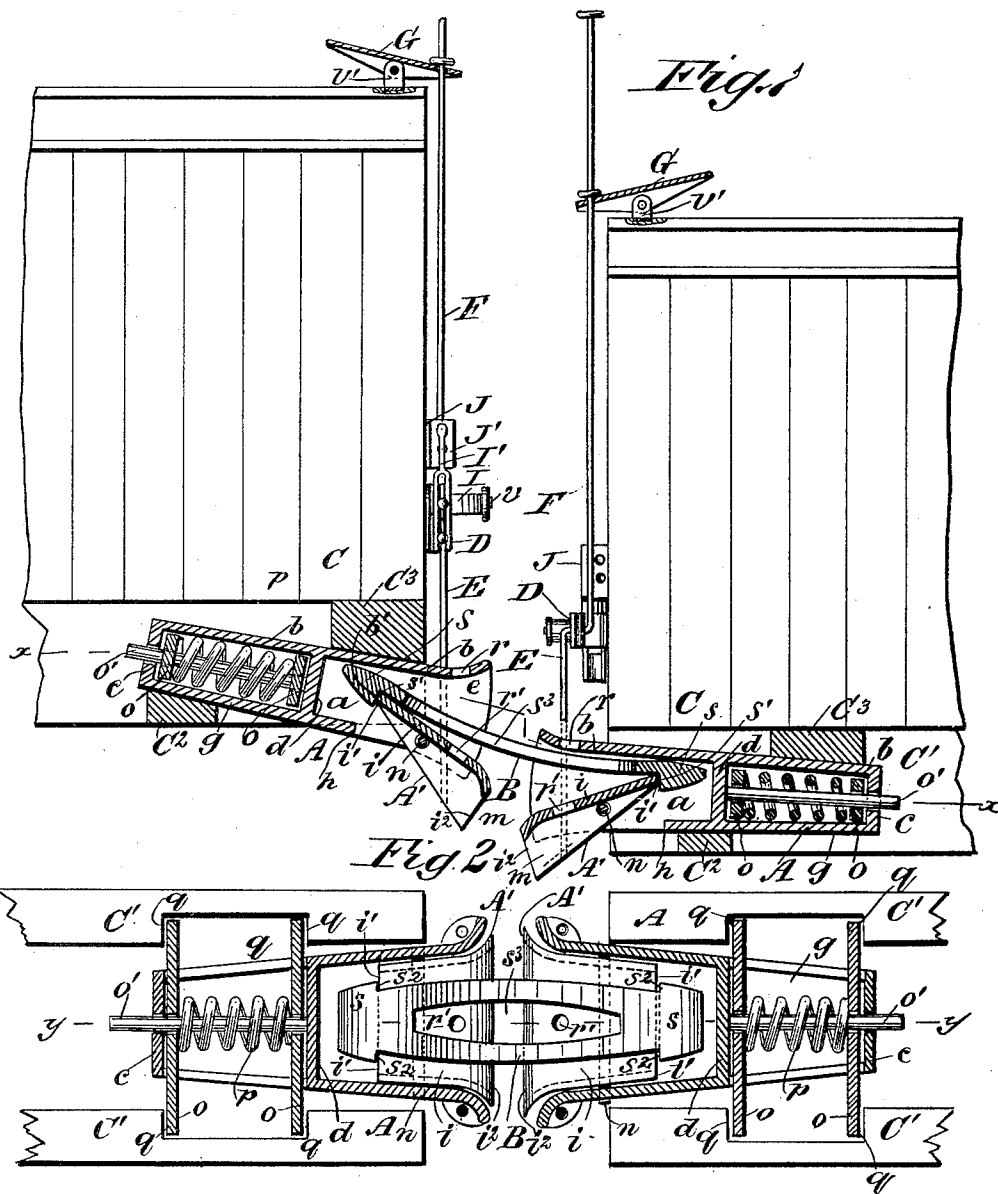
(No Model.)

2 Sheets—Sheet 1.

G. ROHRBACH.  
CAR COUPLING.

No. 462,511.

Patented Nov. 3, 1891.



WITNESSES:

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*Fig. 4*

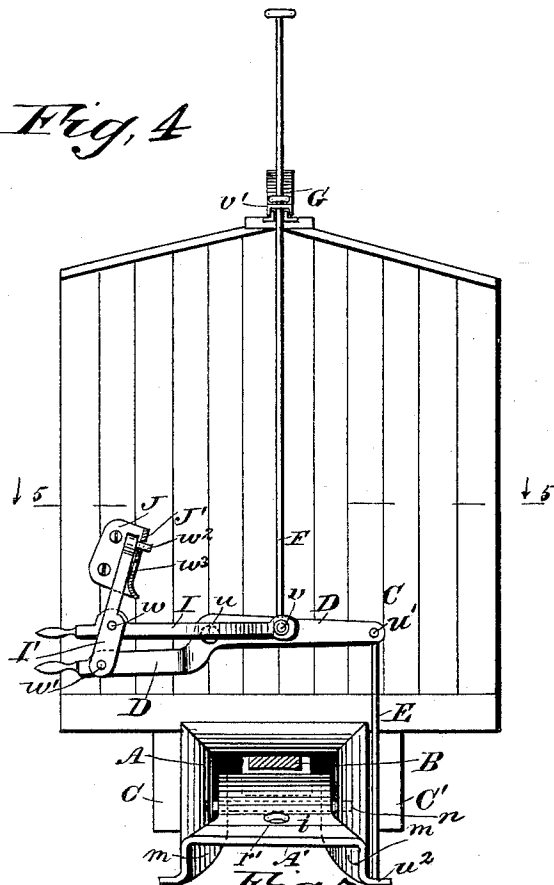
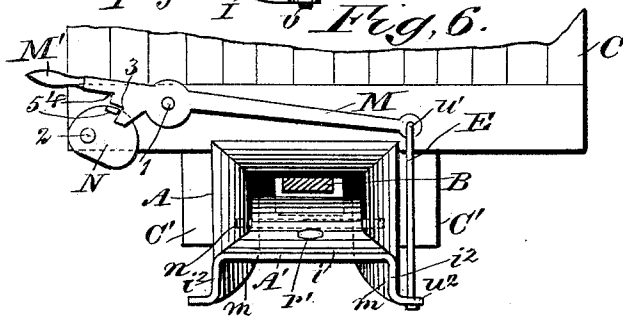


*Fig. 5.*



*Fig. 6.*



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# UNITED STATES PATENT OFFICE.

GABRIEL ROHRBACH, OF DEL RIO, TEXAS.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 462,511, dated November 3, 1891.

Application filed May 6, 1891. Serial No. 391,766. (No model.)

*To all whom it may concern:*

Be it known that I, GABRIEL ROHRBACH, of Del Rio, in the county of Val Verde and State of Texas, have invented a new and useful Improvement in Car-Couplings, of which the following is a full, clear, and exact description.

The object of this invention is to provide a simple, inexpensive, and convenient car-coupling which will afford means to automatically connect cars and release them in a safe manner from the roof or side of a car, a further object being to adapt the improved coupling for connection with one of the ordinary type with a link and pin.

To these ends my invention consists in the construction and combination of parts, as is hereinafter described and claimed.

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

Figure 1 is a broken sectional side elevation, taken on the line *y y* in Fig. 2, of two of the couplings applied to connect cars of differing height. Fig. 2 is a broken sectional plan view of the same, taken on the line *x x* in Fig. 1. Fig. 3 is a broken sectional side elevation of one of the couplings adjusted in a level position. Fig. 4 is a front elevation of a car having the coupling applied, showing the devices for operating the coupling from the side or top of the car. Fig. 5 is a broken horizontal sectional view taken on the line 5 5 in Fig. 4; and Fig. 6 is a broken front elevation of a car, showing a modified form of locking device for the coupling.

The draw-head A of the improved coupling is preferably cast into form from suitable metal and is rectangular in cross-section, having four walls that are integral. Each side wall *a* and the top wall *b* are flared at their outer ends to facilitate the introduction of a coupling draw-bar B, which will be further described. All the draw-head walls are preferably converged toward the rear end of the same, where an end wall *c* is formed, which closes the hollow draw-head at this point. At a proper distance from the wall *c* another transverse wall *d* is formed within the draw-head, and the side walls *a* are re-

moved between the walls *c d*, for a purpose that will appear.

The forward chamber or throat *e* of the draw-head A is open at the front, and the lower wall *g* of the same is cut away or entirely removed from a suitable point *h* forwardly, thus affording freedom for the reception of a rocking jaw A', which is an essential feature of the invention.

As represented, the jaw A' consists, essentially, of a flat plate *i*, that is shaped on its side edges to loosely fit between the side walls *a* of the draw-head A, from which edges similar depending flanges *m* are projected, which are sloped forwardly and downwardly on their lower edges from the top plate *i*, at its rear edge *i'*, to the junction therewith of the forward edges *i''*, these upright walls or flanges *m* being outwardly flared to correspond with the similar formation on the front ends of the side walls *a*.

The jaw A' is supported to rock within the throat of the draw-head A by the insertion of a pivot-bolt *n* through aligning perforations made for it in the draw-head side walls *a* and the flanges *m* of the jaw, this point of support being located near the longitudinal center of the plate *i* and below it, so that the increase in width of the forward portion, together with the superior depth of the flanges *m* at their front ends, will by their gravity throw the front edge of the rocking jaw A' downwardly and the inner edge *i'* upwardly.

Between the transverse walls *c d* and the top and bottom walls *b g* of the draw-head A two spring buffer-plates *o* are introduced, which project at each end sufficiently to enter channels formed in two longitudinal and adjacent timbers C' of the car C, between which the draw-head is sustained by a cross-piece C<sup>2</sup>, that is secured on the timbers, or by any other preferred means.

When the cars upon which the improved coupling is to be placed are abnormally high or low, as compared with the usual height of the car-timbers with the rails of the railroad, the draw-head on a high car is secured between two cross-timbers C<sup>2</sup> C<sup>3</sup>, which are of such a relative thickness and are so placed that the forward end of the draw-head A will be projected a proper distance below a hori-

zontal plane, which latter is the normal position of the draw-head, the location of a draw-head on a high car being represented at the left side of Fig. 1. Should the car be lower than the normal standard, the timbers  $C^2 C^3$  are proportioned in thickness and properly shaped to retain the draw-head A, with its front end pitched upwardly a suitable degree, as represented at the right side of Fig. 1, so that a coupling may be readily effected, as will be further mentioned. The rear wall  $c$  is centrally perforated to align with similar holes in the buffer-plates  $o$ , through which is inserted a guide-rod  $o'$ , that has one end secured in the cross-wall  $d$ , and between the plates  $o$  a spiral spring  $p$  is located upon the guide-rod, the force of which is adapted to spread the plates, which latter have contact with the shoulders  $q$  on the timbers  $C'$ , said shoulders being the terminals of the channels the buffer-plates slide in.

The draw-bar B is preferably made of wrought-iron and consists of a plate having substantially parallel top and bottom sides and thickened end portions  $s$ , which are cut away to produce a locking-shoulder at  $s'$  on each a proper distance from the ends of the portions  $s$ , that are tapered on their top and bottom surfaces from the shoulders mentioned to the terminal ends, there being lateral shoulders  $s^2$  formed on said end portions, as is indicated in Fig. 2. The draw-bar B is centrally and longitudinally slotted from two points equally distant from the shoulders  $s'$ , said slot  $s^3$  having sufficient width to freely receive an ordinary coupling-pin, if such a means of coupling is necessary to connect the improved coupling with an ordinary draw-head of the pin-and-link type, and to this end the top wall  $b$  and jaw-plate  $i$  are each perforated oppositely, as shown in Figs. 1 and 2, so that a coupling-pin may be utilized to connect a common link or oblong ring with the improved draw-head by its insertion in the holes  $r r'$  and through the link that should be introduced between these parts.

The draw-bar B is bent flatwise to give it the form shown in Fig. 1, and when inserted in the draw-head, if its shoulder  $s'$  is interlocked with the rear edge  $i'$  of the jaw  $A'$ , the weight of the draw-bar will cause said jaw to be held in a depressed condition, and the free end of the draw-bar will be projected to enter the draw-head it is to be coupled with, engaging an approaching draw-head that is higher or lower than normal standard, as may be seen in Fig. 1.

The device whereby the rocking jaw  $A'$  is vibrated consists of a lever D, which is pivotally secured at  $u$  on the end wall of the car C, one end  $u'$  of which lever is vertically aligned with an ear  $u^2$  on the lower edge of the flange wall  $m$  of the jaw  $A'$  near its front edge, this end of the lever being connected to said ear loosely by the link-rod E, that is jointed thereto at its end, the other terminal

of the lever being extended across the end wall of the car to the side of the same, so that it may be manipulated from the ground without danger to the operator.

At  $v$  a vertical rod F is pivoted to the lever D and thence extended upwardly to the car-roof, where it is loosely connected to one end of a treadle G, which is pivoted near its center of length upon a bracket-stand  $v'$ , that is secured upon the roof near the end wall of the car, this construction of parts affording means to rock the jaw  $A'$  upwardly when the free end of the treadle is depressed by the foot of the trainman, and above the treadle the rod F is sufficiently extended to permit it to be manipulated for the adjustment of the jaw.

Upon the outer side of the lever D, on the outwardly-bent end  $v$  of the vertical rod F, one end of a latching-bar I is loosely connected, said bar being perforated at said end to engage the lateral rod extension named, and thence the latching-bar is projected toward the side of the car C, terminating in a handle at the outer end.

An upright latch-dog I' is pivoted at  $w$  on the side of the latching-bar I and lower down on the side of the main lever D, as at  $w'$ , there being a portion of the latch-dog upwardly extended above the bar I and provided with a laterally projecting locking-pin  $w^2$ , which may enter either one of two or more holes  $w^3$ , that are formed in the projecting flange  $J'$  of a keeper-plate J, so that by the manipulation of the latching-bar I, dog I', and lever D the lower jaw  $A'$  of the coupling draw-head A will be locked or released, as may be desired, from the side of the car, the rotative movement of the rod F producing a like result.

When it is desired to detach cars provided with the improved coupling, it is only necessary to vibrate the jaw  $A'$ , so as to depress its inner edge  $i'$  slightly below a horizontal plane, which will release the hooked connection of the draw-bar with said edge, as indicated in Fig. 4.

In Fig. 6 a simple adjustable device for retaining the jaw  $A'$  at different points of depression is shown, consisting of a lever M, pivoted on the car-front end at 1, having two or more locking-shoulders 3 4 cut on the lower edge near the handle end  $M'$ , which handle is located near the side of the car-body to permit it to be moved manually.

There is a locking-disk N pivoted at 2 on the front of the car below the lever M, having a laterally-extended toe 5, that is on its upper edge, in a proper relative position to be engaged by either of the shoulders 3 4 of the lever mentioned, said toe being caused to assume a proper point below the shoulder it is to engage by a rocking movement of the disk on its pivot-bolt 2, so that the jaw  $A'$  may by reason of its connection with the end of the lever M through the link E be set to incline more or less from a horizontal position in a downward direction, and thus throw

the rear edge of the jaw up or down, as may be required, to hold a draw-bar B properly projected.

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

1. The combination, with a draw-head having its lower wall recessed, of a jaw-plate having depending flanges and pivoted by said flanges in the said draw-head, so that its inner edge will be held raised by gravity, substantially as described.

2. The combination, with a draw-head having its lower wall cut away and its upper wall provided with a pin-hole, of a jaw-plate having depending flanges and a pin-hole, and pivoted by said flanges in the draw-head, so that its inner edge will be held raised by gravity, substantially as described.

3. The combination, with a draw-head having its lower wall recessed, of a jaw-plate having depending flanges and pivoted by said flanges in the said draw-head, so that its inner edge will be held raised by gravity, and a draw-bar provided with a hook-shoulder at each end, substantially as described.

4. The combination, with a draw-head having its lower wall cut away and its upper wall provided with a pin-hole, of a jaw-plate having depending flanges and a pin-hole and pivoted by said flanges in the draw-head, so that its inner edge will be held raised by gravity, and a draw-bar provided with a hook-shoulder at each end and longitudinally slotted, substantially as described.

5. The combination, with a draw-head provided with a vibrating jaw, which jaw is ele-

vated at its inner edge by gravity, of a draw-bar having its body bent to afford a convex lower side and provided with a hook-shoulder near each end on said lower side, substantially as described.

6. The combination, with a chambered draw-head having its lower wall slotted from the front end inwardly and spring-supported at its inner end upon timbers of a car, of a flanged jaw pivoted within the draw-head and having its rear edge free, a device to rock and retain the jaw, which can be moved from the top or side of a car, and a draw-bar having its body convex on the lower side and provided with a hook-shoulder on each end, which will interlock with the free inner edge of the jaw, substantially as described.

7. The combination, with a draw-head which is spring-supported on a car at its rear end and is forwardly-chambered to receive a jaw, and a flanged lower jaw pivoted therein to have its free inner edge normally elevated by gravity, of a concavo-convex draw-bar having a hook-shoulder on the convex lower side near each end and on each side, a lever pivoted on the car and connected at its inner end by a link to an ear on the draw-head jaw, a vertical draft-rod loosely secured at its lower end to the lever and above to a treadle that is pivoted to a bracket-stand on the car-roof, and a locking device for the lever and lower jaw, substantially as described.

GABRIEL ROHRBACH.

Witnesses:

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PETER ZEIB.