

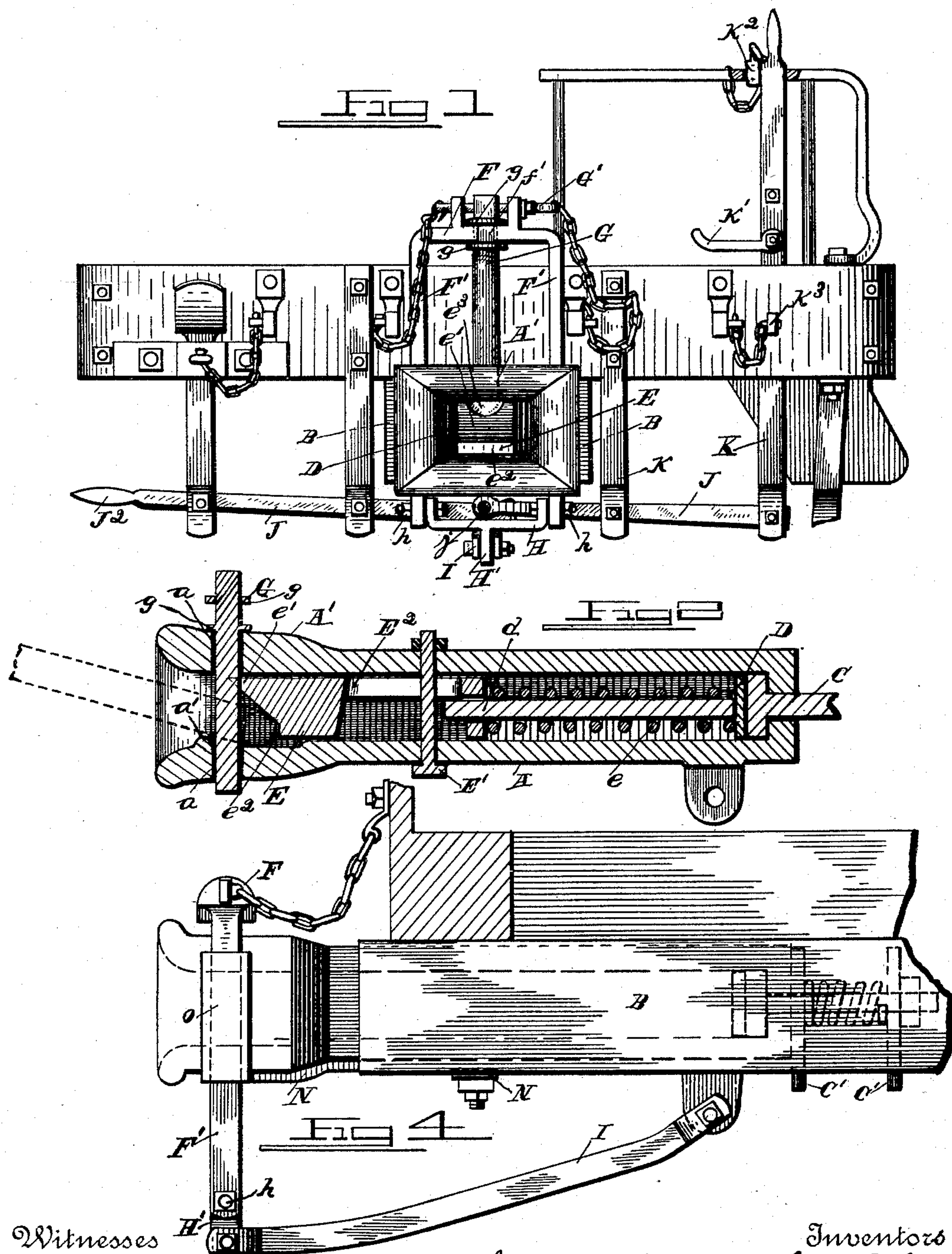
(No Model.)

2 Sheets—Sheet 1.

S. J. GALLOWAY & G. P. CRAMER.
CAR COUPLING.

No. 488,922.

Patented Dec. 27, 1892.



Witnesses

C. W. Seville.
James Mansfield.

Inventors

Samuel J. Galloway & George P. Cramer.
By *their Attorneys*
Alexander F. Dowell.

2 Sheets—Sheet 2.

Patented Dec. 27, 1892.



Inventors

By their Attorneys

By their Attorneys
Alexander & Fowell

UNITED STATES PATENT OFFICE.

SAMUEL JAY GALLOWAY AND GEORGE P. CRAMER, OF PLAINVIEW, OREGON.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 488,922, dated December 27, 1892.

Application filed October 3, 1892. Serial No. 447,706. (No model.)

To all whom it may concern:

Be it known that we, SAMUEL JAY GALLOWAY and GEORGE P. CRAMER, of Plainview, in the county of Linn and State of Oregon, have invented certain new and useful Improvements in Car-Couplings; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a detail end elevation of a car showing our improved coupling devices. Fig. 2 is a longitudinal, vertical central section through the draw-bar in Fig. 1. Fig. 3 is a detail end view of the car showing the manner of applying the coupling devices to an ordinary draw-bar, and also the levers for operating the coupling on a box car. Fig. 4 is a side view of the draw-bar and connections shown in Fig. 3. Fig. 5 is a bottom view of Fig. 2. Fig. 6 is a detail view of the bail and connections between the same and coupling pin. Fig. 7 is a detail view.

This invention is an improvement in coupling and uncoupling devices for rail-way cars, and its object is to produce an improved link and pin coupling which can be set to couple automatically, or to prevent coupling at all, and which can be uncoupled without danger to the brakeman; to these ends the invention consists in the novel construction and combination of parts hereinafter particularly described and claimed.

Referring to the drawings by letters;—A represents a draw-bar much similar in appearance to the ordinary freight draw-bars but having an unusually large bellmouthed head A' the walls of which are made heavy so that the bar may also serve as a bumper without injury from shocks. The bar is secured between guide timbers B, B, on the bottom of the car as usual, and to its rear end is connected a bolt C which passes through plates C' C' the ends of which are retained between flanged plates c, c, firmly secured to the timbers as shown, and stout coiled springs c' c' are interposed between said plates on said bolts, by which means the draw bar is allowed a limited movement forward or back-

ward, and sudden push or pull thereon is cushioned. Within the throat of the draw bar is slipped a block D and a catch block E and a rod or bolt d may be attached to block D and loosely engaged with an opening in the rear end of block E so that said blocks may be moved toward or from each other. A coiled spring e is slipped on rod d between the blocks, and as block D abuts against the rear end of the bar it tends to force block E out of the draw-bar. Said block E is however retained in the draw bar by means of a bolt E' secured to the draw bar and passing through a longitudinal slot E² in said block, by which means the play of said block is limited. While rod d might be omitted we prefer to employ it to keep spring e from catching or rubbing on the sides of the draw-bar.

Block E may be solid but is preferably cut out transversely at bottom, between its ends, as shown, so as to reduce its weight and the frictional contact surfaces between said block and bar. The front end of said block has an upwardly and forwardly inclined portion or lip e' which extends close to the roof of the draw bar, and when the block is projected forward (when the pin is raised) underlies the upper pin opening so that a pin in said opening will rest thereon. Said lip does not extend entirely to the lower edge of the block, leaving a squared portion e² which receives the impact of the entering link, in coupling. The said lip has a vertical arc-shaped recess e³ in it which bites upon the pin when the coupling is effected.

a, a, are the coupling pin openings in the draw-bar and a' is a transverse rib on the floor of the draw-bar just in front of the pin opening.

In coupling, a pin is set in the upper opening and is supported upon the lip e' of block E; then when the link enters the mouth of the draw bar as in ordinary couplers, it strikes the front end of block E and forces the latter backward until the superimposed pin drops in front of the block and through the link, when the coupling is effected. The rib a' and lip e' hold the link as indicated in Fig. 2 and enable the link to be adjusted up or down so as to properly engage and enter the mouth of an opposed draw-bar, in coupling.

F designates an inverted U-shaped pin-lifter the legs F' of which pass through vertical openings in the sides of the draw bar beside the pin openings. The top piece of this
 5 lifter is provided with a central opening f directly over the pin openings, which has an inlet slot f' at front through which the flattened sides of the pin head can be passed. The pin G as shown is provided with a double
 10 flanged head and an intermediate cylindrical portion adapted to fit in opening f , said portion being flattened however on opposite sides so as to allow the head to be slipped in through slot f' and then by giving it a quarter
 15 turn it is locked in place, while the flanges g, g , respectively above and below the top piece prevent longitudinal movement of the pin therethrough. As a further precaution the pin may be locked to the lifter by means
 20 of a bolt G' passing through an opening in the top of the pin and through perforated lugs on the top of the lifter as shown. This construction of lifter is designed for use with the ordinary forms of pins, which can be
 25 readily secured thereto. But the form of pin and the manner of attaching it to the lifter may be varied in some cases.

The lower ends of the legs F' are connected by a bolt h on which is hung a swinging bar H
 30 as shown. This latter is provided with a central depending ear H' which is pivoted to the front end of a suspended lever I , the rear end of which is pivoted to a lug or lugs depending from the rear end of the draw-bar, so that by
 35 swinging said lever up or down the pin lifter is raised or lowered. This lever may be raised or lowered from the top or sides of the car by the means indicated in Figs. 1 and 3. When the coupling is applied to passenger coaches
 40 lever I is pivotally connected by a loose joint or link connection j to the end of a horizontal lever J which is fulcrumed on the lower end of a hanger k attached to the car platform. The outer end of lever J is pivotally connected
 45 to the lower end of a vertical rod K which rises up through suitable guides attached to the platform beside the guard rails as shown, and is provided with a foot piece k' by which it can be depressed, and by so doing, lever J
 50 is oscillated and lever I and the pin-lifter and pin, raised, as is evident. The upper end of lever K which passes through a slot in the guard rail has a limited amount of oscillation during its vertical movement, and it may be
 55 locked by means of a wedge block k^2 attached to the guard by a chain or cord, and by inserting this block in the slot on the out or inside of the lever K the parts will be locked so as to hold the lifter or link up or down, as desired. Instead of block k^2 a key k^3 may be
 60 passed through openings in the frame and lever, when they are caused to register by movement of the lever, thereby locking the parts.

When attached to a flat car, lever K may be
 65 shortened and the foot piece attached to its upper end as indicated by the levers at left-hand side of Fig. 1, such levers being simply a

duplication of those just described, or lever J might be provided with a hand piece at its outer end as indicated at J^2 . 70

When applied to box cars, a vertical rod L is attached to the end of lever J in place of lever K as shown in Fig. 5, and is extended if desired, to the top of car and there provided with a foot piece L' pressing said rod down- 75 ward, the pin lifter and attached pin will be raised, and the uncoupling effected. The rod extends through suitable guides attached to the end of car, and it may be connected near its lower end to a lever M pivoted to the end 80 of the car and projecting to the side thereof, past rod L , and by raising and lowering lever M rod L will be shifted. This lever may be provided with a locking pin m adapted to pass through an opening in the lever and en- 85 gage an opening in the end of car or fixed block attached thereto.

In applying the invention to draw-bars already made, we use the device shown in Figs. 3 and 4. This is a metallic plate N bolted to 90 the bottom of the draw-bar and having at its front end upstanding tubes O, O , which stand at opposite sides of the head of the ordinary draw-bar, as shown, in line with the pin openings; and in this case the legs F' of the pin 95 lifter play through said tubes the other parts are constructed about as described and the operation is similar. The pin lifter also serves to guide the pin in its descent and to make it drop more rapidly and accurately, so that the 100 coupling will be effected before the cars rebound.

It will be apparent from the foregoing that we have a self acting pin and link coupler, and by means of the pin lifter and levers as 105 described, the pin can be raised and the uncoupling effected from top, bottom, or side of car, and the parts can be locked in either coupled or uncoupled positions.

Having described our invention what we 110 claim as new and desire to secure by Letters Patent thereon is;—

1. In a car coupling the combination of the draw bar having pin openings; the sliding block therein, the loose block in the rear end 115 thereof, and the spring interposed between said blocks, substantially as specified.

2. The combination of the draw-bar having pin openings and a transverse interior rib in front of the lower pin opening; with the lipped 120 and slotted block therein, the bolt engaging the slot thereof to limit its movement, and the spring interposed between the rear end of the bar and said block, all constructed and arranged to operate substantially as and for 125 the purpose described.

3. The combination of the draw-bar having pin openings, the pin lifter guided thereby, the lever I attached at one end to the rear end of the draw bar and at the other to the 130 lower end of the pin lifter, and the oscillating lever and connections for shifting said lever I , substantially as and for the purpose specified.

4. In a car coupling the combination of the draw-bar having pin openings, the sliding block therein having a lip on its front end as described, and a spring for forcing said block forward and means for retaining it in the bar, with the pin and pin lifter and levers for operating the same, substantially as and for the purpose described.

5. The combination of the draw-bar having pin openings, the pin, and the vertically movable U-shaped pin lifter having its legs guided beside the pin opening, the swinging bar attached to the lower end of the lifter, the suspended lever pivotally connected to said bar and to a fixed part at its opposite ends, and the oscillating lever and connections for shifting said suspended lever, substantially as set forth.

6. The combination of the draw-bar with the vertically movable pin lifter having an opening in its top part and a slot leading into said opening, and the pin having a head provided with upper and lower flanges engaging said openings, substantially as specified.

7. In a car coupling the combination of the draw-bar having pin openings, the sliding block therein, the loose block in the rear end

thereof, and the spring interposed between said blocks, with the coupling pin, the pin lifter, and levers for shifting the same, substantially as and for the purpose set forth.

8. The combination of the draw-bar, the coupling pin, and the vertically movable pin lifter; with the hanger bar H, and levers I and J, and connections for shifting the pin lifter, substantially as and for the purpose described.

9. The combination of the draw-bar of a plate attached thereto having upstanding tubes at opposite sides of the draw-bar; with the U-shaped pin lifter whose legs play through said tubes, the pin connected thereto, the suspended lever connected to the lower end thereof, and oscillating lever and connections for shifting said suspended lever, substantially as and for the purpose described.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

SAMUEL JAY GALLOWAY.
GEORGE P. CRAMER.

Witnesses:

J. R. WYATT,
GEO. E. CHAMBERLAIN.