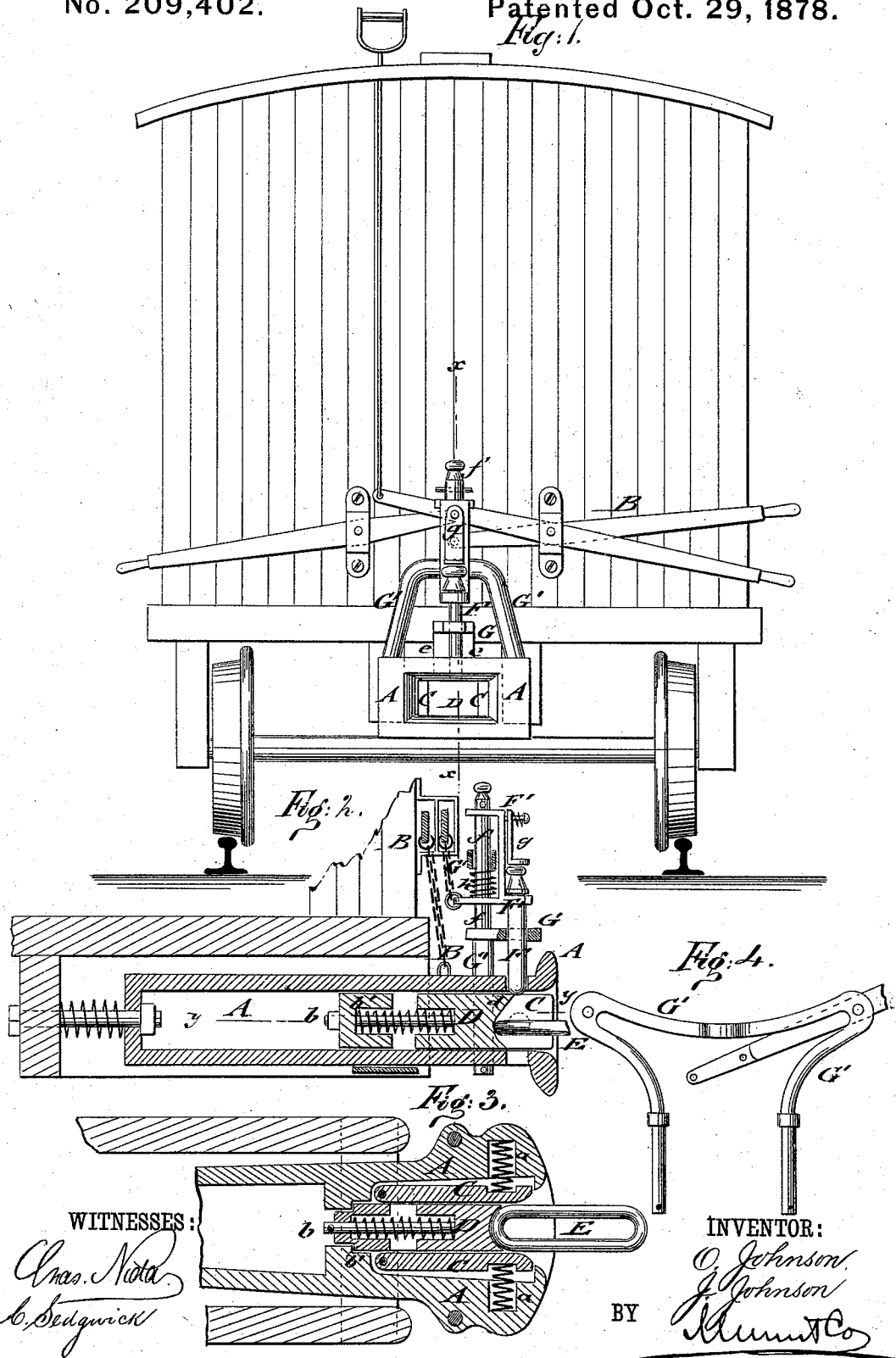


O. & J. JOHNSON.  
Car-Coupling.

No. 209,402.

Patented Oct. 29, 1878.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

OLE JOHNSON AND JOHN JOHNSON, OF CRESCO, IOWA.

## IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **209,402**, dated October 29, 1878; application filed June 29, 1878.

*To all whom it may concern:*

Be it known that we, OLE JOHNSON and JOHN JOHNSON, of Cresco, in the county of Howard and State of Iowa, have invented a new and Improved Car-Coupling, of which the following is a specification:

In the accompanying drawings, Figure 1 represents an end elevation of a car with our improved car-coupling. Fig. 2 is a vertical longitudinal section on line *x x*, Fig. 1. Fig. 3 is a horizontal section of the same on line *y y*; Fig. 2; and Fig. 4 is a detail side view of a modified form of pin and lever supporting frame.

Similar letters of reference indicate corresponding parts.

This invention relates to that class of car-couplings that couple the cars automatically without exposing the attendants to danger by requiring their stepping in between the cars, the coupling being adapted for cars of all kinds and heights, and uncoupled from the side or top of the car.

The invention consists of a draw-head with pivoted and spring-acted side jaws, and with a sliding and spring-acted center block, that sustains the coupling-pin and a vertically-sliding clutch until the entering link pushes the center block back. The coupling-pin is hung to a spring-acted frame that slides on the stem or spindle of the clutch that bears on the coupling-link. The clutch-spindle is guided in a fixed top frame of the draw-head, and the clutch proper in recesses of the top of the draw-head. The spring of the coupling-pin also actuates the clutch, so as to hold the link in position for coupling when the center block is pushed back sufficiently.

Referring to the drawings, A represents a draw-head of the usual construction, that is hung to the bottom frame of the car, and cushioned by rubber or other springs, so as to neutralize the force of the concussions of the draw-heads. The draw-head is arranged to be vertically adjusted to different heights by means of a chain and lever connection, B, for the purpose of admitting the coupling of the draw-head with the draw-heads of cars of different heights. The draw-head A is provided with an enlarged front cavity, in which are arranged at both sides spring-jaws C, that are

pivoted at their rear ends to the draw-head, and acted upon at their front ends by spiral springs *a*, which are set into sockets of the draw-head and jaws, as shown in Fig. 3. In the center of the draw-head, between the spring-jaws C, slides a spring-acted block, D, that is guided by its stem *b* in a socket, *b'*, resting on interior shoulders of the draw-head.

The center block, D, is concaved at the front end for the coupling-link E, which, in entering, pushes the side jaws and center block back and is held by the same after coupling. The center block, D, has a forward-projecting front part or lip, *d*, that passes below the upper pin-hole of the coupling-pin F, so as to support the same when the draw-head is uncoupled.

The coupling-pin F is guided in the horizontal plate of a clutch, G, which extends by two arms, *e*, through guide-recesses at both sides of the upper pin-hole into the cavity of the draw-head, while the upward-extending stem or spindle *f* of the clutch is guided in a supporting-frame, G', that is secured to both sides of the draw-head. The coupling-pin F is hung by its head to a frame, F', that slides on the spindle of the clutch G, and is connected by chains with suitable uncoupling mechanism, which is operated either from the top side or platform of the car. The coupling-pin is retained in the slide-frame F' by a pivot-stop, *g*, bearing on the head of the pin.

By pushing the stop sidewise, the coupling-pin may be removed.

The sliding pin-frame F is acted upon by a spiral spring, *h*, that is placed around the spindle of the clutch between the supporting-frame G' and the lower part of the pin slide-frame F'. This spring has the double purpose of dropping the coupling-pin as soon as the entering link pushes the center block back, so as to couple the link, and of forcing down the clutch when the center block has been pushed back sufficiently, so that the arms of the clutch bear on the top of the link and retain it in horizontal position. This action of the clutch also facilitates the coupling with the next car, as the link is held in horizontal position for entering the connecting draw-head. In uncoupling, the pin is first raised, so as to liberate the link, then the clutch, the center

block returning then to its forward position below the upper pin-hole and guide-recesses for supporting both pin and clutch, which are then ready for the next coupling.

In place of the supporting-frame G' shown in Fig. 1, a frame with outwardly-bent upper part may be used, as shown in Fig. 4, for guiding the spindle of the clutch and applying the uncoupling-levers. This latter form is especially adapted for flat cars, while the former is used for box and other cars.

The construction of the draw-head with side jaws and center block and the action of the coupling and clutch, in connection with the link, furnish a reliable and effective self-coupler for cars of all kinds.

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

1. The combination of a draw-head having interior spring-jaws and a sliding and spring-acted center block with a coupling-link, pin, and retaining-clutch, substantially as described, and for the purpose specified.

2. The combination of the draw-head having a sliding and spring-acted center block

with a guided and spring-acted pin and link-retaining clutch, so that by pushing back the center block the pin and clutch are dropped, substantially as specified.

3. The combination of the draw-head A, having supporting-frame G' and interior slide-block D, with a vertically-sliding and guided clutch, G, and with the coupling-pin hung to a sliding and spring-acted pin-frame, substantially as specified.

4. The combination, in a car-coupling, of the coupling-pin with a sliding spring-frame having a retaining pivot-stop, substantially as specified.

5. The combination, in a car-coupling, of the vertically-sliding and guided clutch, formed of a horizontal guide-plate, lower arms, and upper spindle, with a sliding and spring-acted pin-frame, and with the coupling-pin hung to pin-frame and guided in horizontal plate of clutch, substantially as specified.

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Witnesses:

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