(No Model.)

P. LEE.

CAR COUPLING.

No. 463,522. Patented Nov. 17, 1891.

Fig. 1.

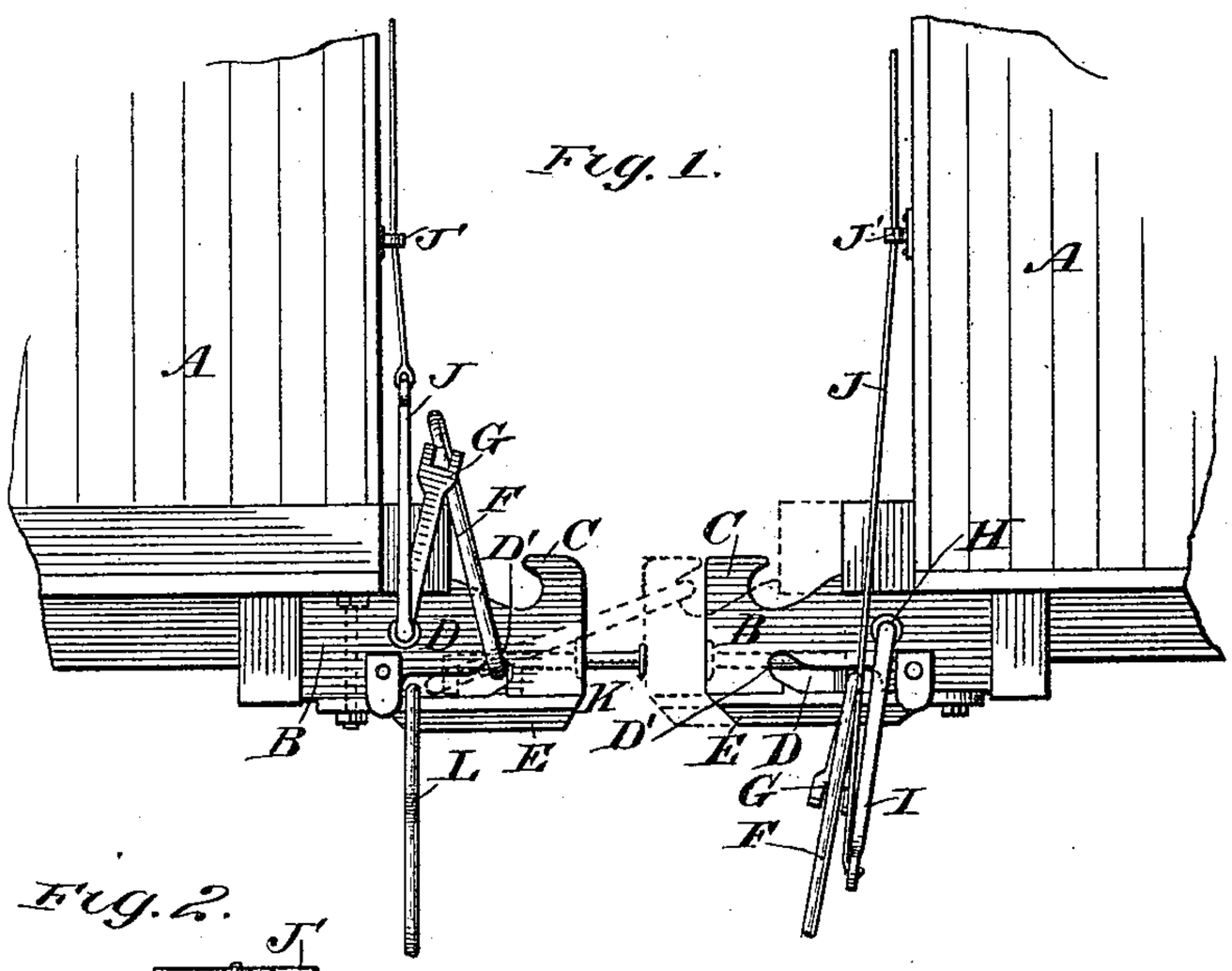


Fig. 2.

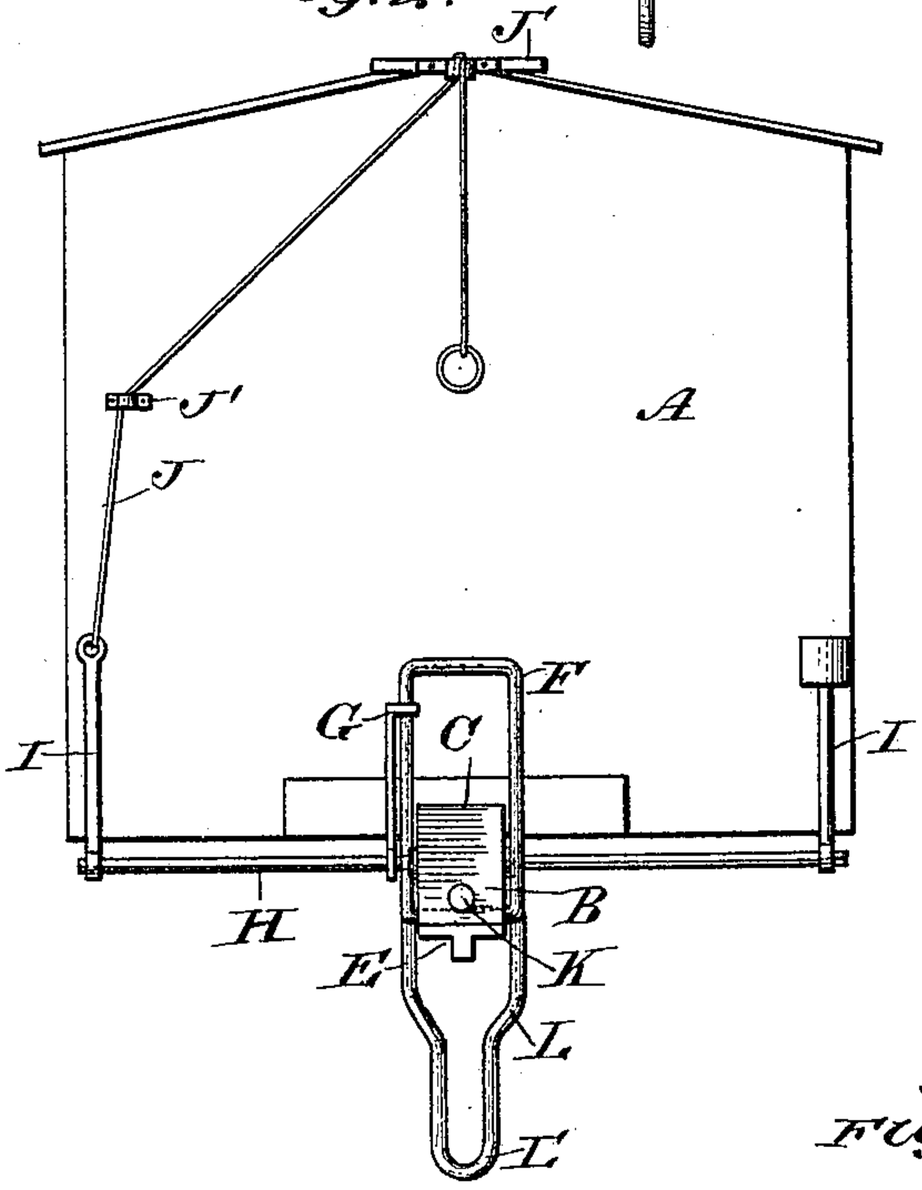


Fig. 3.

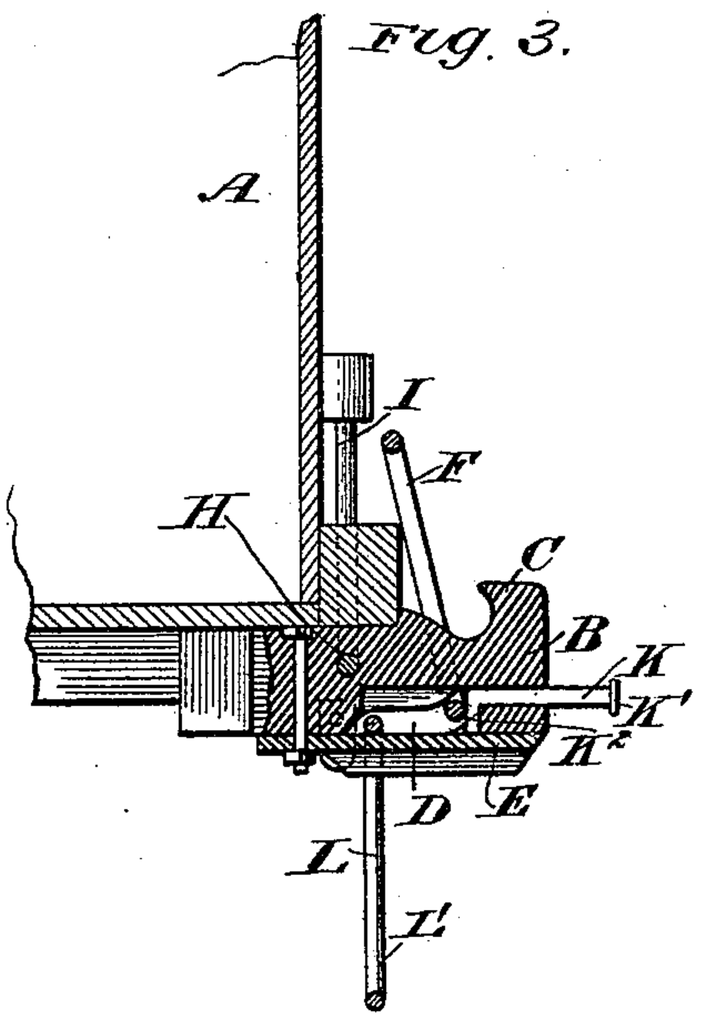
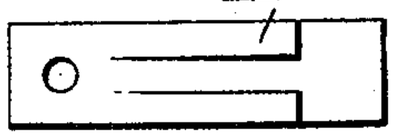


Fig. 4.



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UNITED STATES PATENT OFFICE.

PATRICK LEE, OF BOISÉ CITY, IDAHO, ASSIGNOR OF ONE-HALF TO MIKE MALCOLM, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 463,522, dated November 17, 1891.

Application filed May 14, 1891. Serial No. 392,711. (No model.)

To all whom it may concern:

Be it known that I, PATRICK LEE, of Boisé City, in the county of Ada and State of Idaho, have invented a new and Improved Car-Coupler, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved car-coupler which is simple and durable in construction, adapted to couple cars of equal or different heights, and arranged to be coupled from either side or the top of the cars without forcing the operator to step between the cars.

The invention consists of a link pivoted at one end in the draw-head and a pin fitted to slide in the draw-head and adapted to be pressed on by the opposite draw-head of the car to be coupled, the said pin being adapted to engage the said link to swing the latter downward to couple the other draw-head.

The invention also consists of certain parts and details and combinations of the same, as will be hereinafter described, and then 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 side elevation of the improvement, showing two cars ready to be coupled. Fig. 2 is an end elevation of the improvement. Fig. 3 is a sectional side elevation of the same, and Fig. 4 is a plan view of the bottom plate for the draw-head.

The improved car-coupler is applied to cars A, carrying on each end a draw-head B, formed at its front end on the top with a hook C, adapted to be engaged by the link of the draw-head of the opposite car. In the under side of the draw-head B is formed a longitudinally-extending recess D, closed by a bottom plate E so as to form a slot, the said bottom plate being bolted or otherwise secured to the under side of the draw-head. The slot D is engaged by one end of a rectangular link F, extending with its sides on the sides of the draw-head B, so as to be free to swing up and down, the outer or free end of the said link being adapted to engage the hook C of the opposite draw-head. One side of the link F is engaged by the forked end of an arm G, secured on a shaft H, extending transversely and mounted to turn in suitable bearings in the draw-head B. The outer ends of the shaft H are formed with arms or handles I which may be weighted or not, as shown, and serve to swing the arm G upward so as to move its link F into the uppermost position. (Shown at the left in Fig. 1 and in Figs. 2 and 3.) One of the arms I is connected with a rope J extending upward on the end of the car and passing through bearings J′ to the top of the car so that the shaft H can be operated by the operator standing on top of the car.

In the draw-head B is mounted to slide a pin K, adapted to extend with its front end beyond the front surface of the draw-head, the outer end of the said pin being formed with a round head K′ and the inner end with a downwardly-extending arm K^2, adapted to abut against a projection in the draw-head so as to prevent displacement of the pin in the draw-head B. The arm K^2 of the pin K is adapted to slide longitudinally in the slot D, the said arm passing between upwardly-curved and longitudinally-extending lugs E′, formed on the top surface of the bottom plate E. The slot D is curved upwardly, as at D′, near the front end in line with the top surface of the projections E′, so that this end of the link readily passes up into the end D′ of the slot to be engaged by the arm K^2, as plainly shown in Fig. 3.

In order to couple a car provided with my improvement with a car having a draw-head for the ordinary link-and-pin coupling, I provide a link L, which is hung in the slot D and has its free end L′ constructed similar to an ordinary link, the free end being adapted to pass into the ordinary draw-head to be locked in place by the ordinary pin.

The device is used as follows: When the link F is in the lowermost position and the operator desires to couple two cars he throws one of the links F of the cars into the uppermost position by turning the shaft H, as previously described. By turning the shaft H the arm G engages the outer part of the link so as to swing the latter in an uppermost position, at the same time bringing its lower pivoted end into the upwardly-curved

end D′ of the slot D, as is plainly shown in Fig. 3. This movement of the pivoted end of the link F pushes the pin K outward so that the head K′ projects a suitable distance from the end of the draw-head C, and when now two cars come together the opposite draw-head presses upon the end K′ of the pin K, thus causing the latter to slide inward so that the foot K^2, acting on the lower end of the link F, causes the latter to swing downward, whereby the free swinging end passes over the hook C of the opposite draw-head. The two cars are thus coupled.

The cars are uncoupled in the usual manner by backing up one of the cars so that the link F can be swung upward on turning the shaft H. The bottom plate E is preferably pivoted at one end of the draw-head, as shown in the drawings, so that the said bottom plate can be readily swung to one side in case of injury to the links and replaced when necessary.

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

1. In a car-coupler, the combination, with a slotted draw-head, of a link loosely mounted in the slot and a pin fitted to slide in the draw-head and engage the link to swing the latter downward, substantially as described.

2. In a car-coupler, the combination, with a draw-head, of a rectangular link engaging with one end a slot in the said draw-head and a pin fitted to slide in the said draw-head and provided with an arm adapted to pass longitudinally into the said slot, the outer end of the said pin being adapted to be engaged by the said draw-head to be coupled, substantially as shown and described.

3. In a car-coupler, the combination, with a draw-head provided at its front end on top with a hook and also provided with a slot, of a rectangular link having one end engaging the said slot, the other end being adapted to engage the hook on the opposite draw-head, and a pin fitted to slide longitudinally in the said draw-head and provided on its inner end with an arm adapted to engage the end of the link in the said slot, substantially as shown and described.

4. In a car-coupler, the combination, with a draw-head provided at its front end on top with a hook and also provided with a slot, of a rectangular link having one end engaging the said slot, the other end being adapted to engage the hook on the opposite draw-head, a pin fitted to slide longitudinally in the said draw-head and provided on its inner end with an arm adapted to engage the end of the link in the said slot, and means, substantially as described, for swinging the said link in an uppermost position so that the said pin is forced into an uppermost position, substantially as shown and described.

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