E. S. GILLIES.

Car-Couplings.

No. 152,479. Patented June 30, 1874.

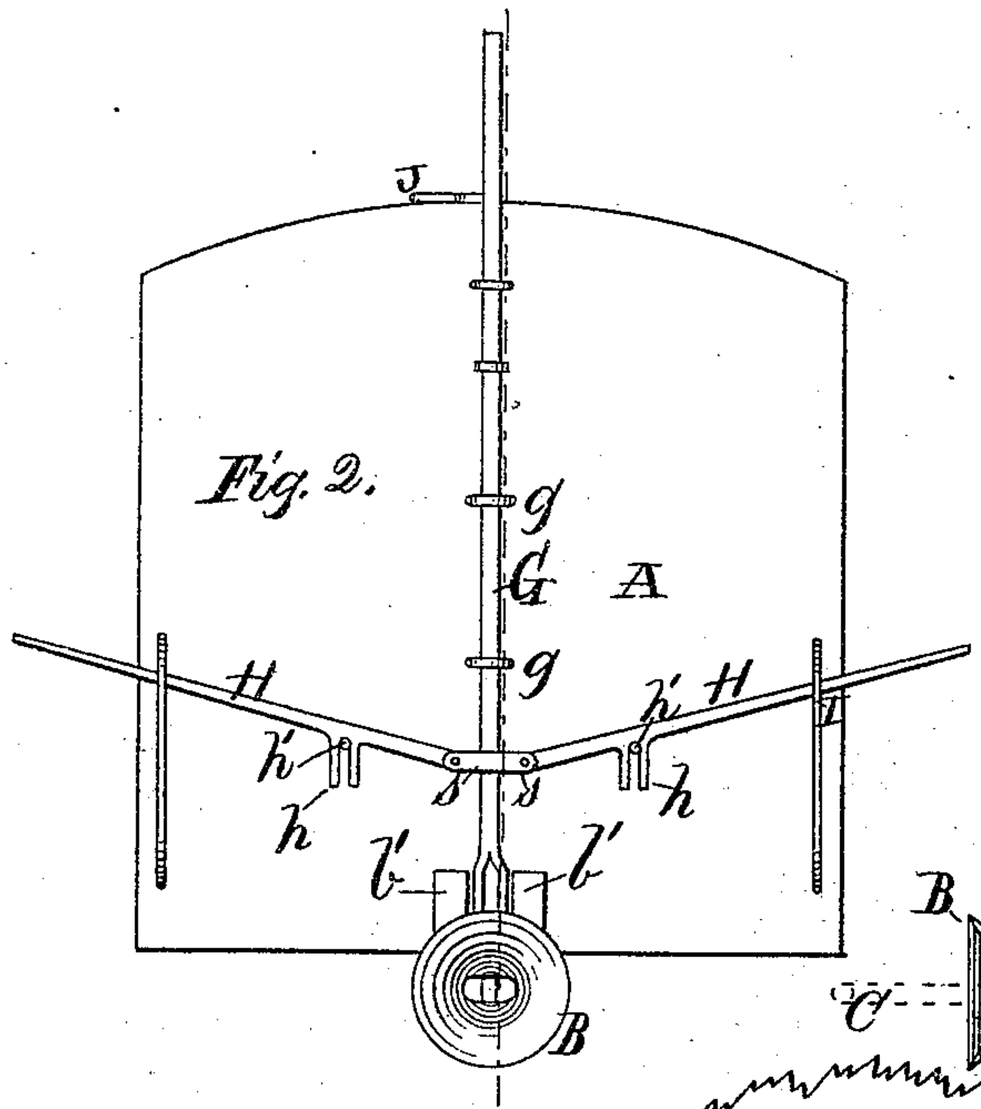

Fig. 2.

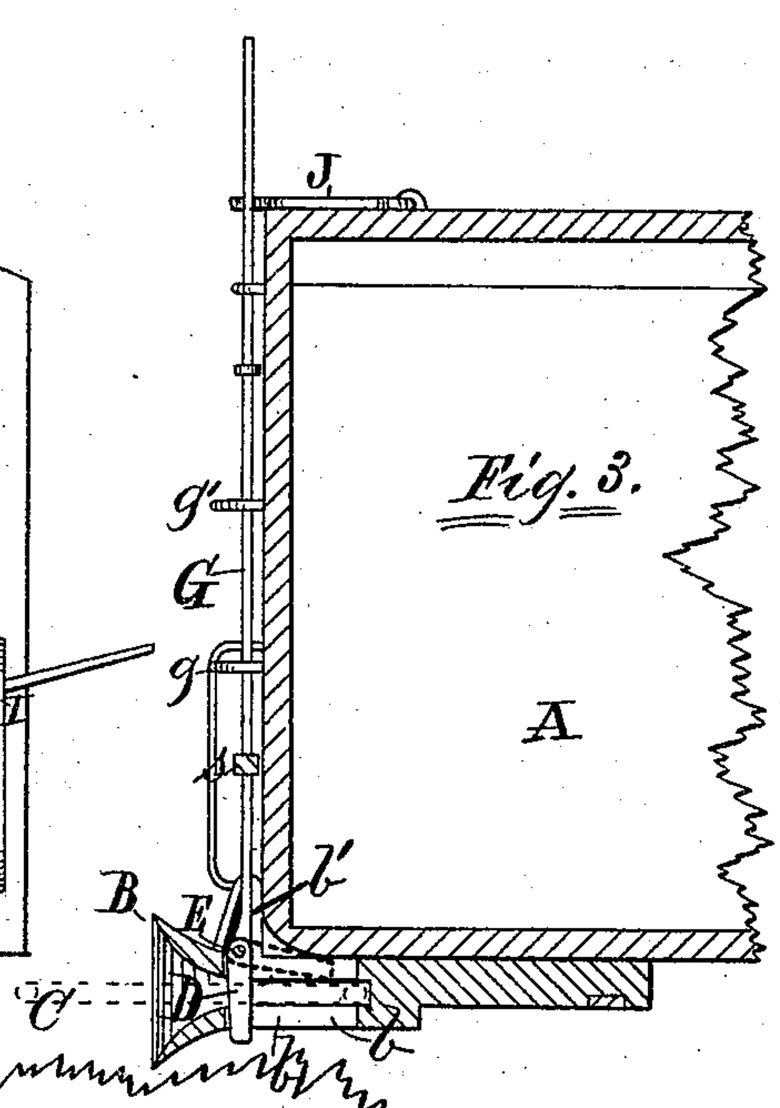

Fig. 3.

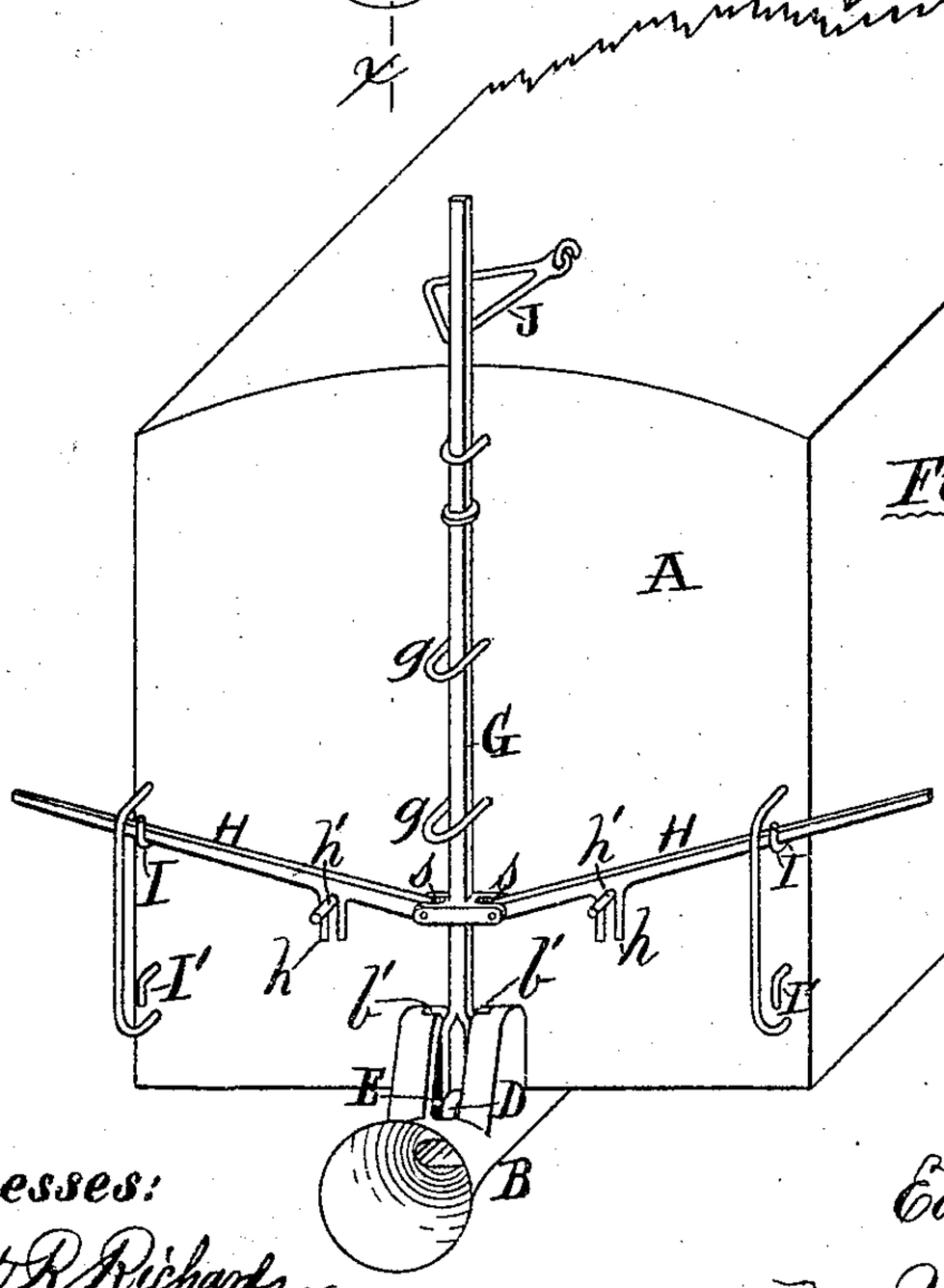

Fig. 1.

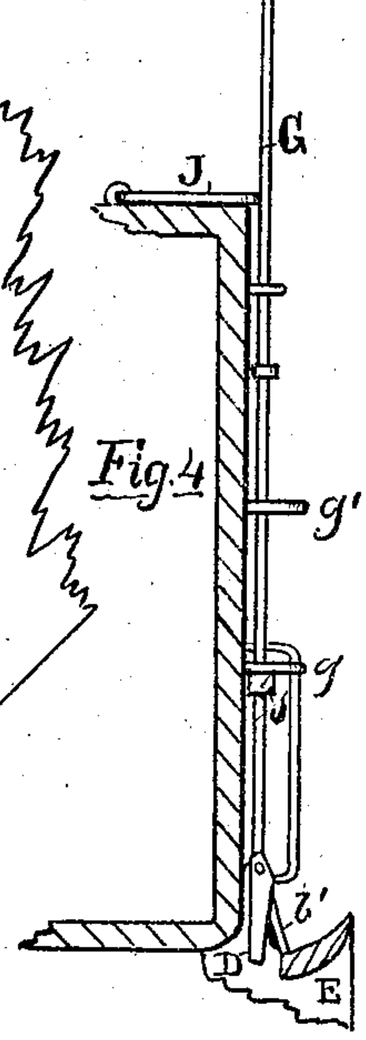

Fig. 4

Witnesses:
Platt R. Richards,
M. H. Barringer,

Inventor;
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by W. B. Richards,
his atty.

UNITED STATES PATENT OFFICE.

EDWARD S. GILLIES, OF CROMWELL, IOWA, ASSIGNOR OF ONE-HALF HIS RIGHT TO H. C. DODGE, OF SAME PLACE.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **152,479**, dated June 30, 1874; application filed October 15, 1873.

To all whom it may concern:

Be it known that I, EDWARD S. GILLIES, of Cromwell, county of Union and State of Iowa, have invented certain Improvements in Car-Couplings, of which the following is a specification:

The nature of my invention relates to improvements in that class of railway-car couplings in which devices are provided for coupling or uncoupling the cars from the top, or from either side of the cars, without the usual and dangerous necessity of a person standing between the adjacent ends of the cars; and the invention consists, first, in suspending the coupling-pin, by its upper end, from a movable rod or bar, through an elongated vertical mortise or hole through the draw-head, in such manner that it may swing back to receive the coupling-link within the draw-head, and be elevated to release it. It further consists in the arrangement of devices by which the link may be operated by a person at either side of the cars, all as hereinafter fully described.

Referring to the accompanying drawings, Figure 1 is a perspective view of one end of an ordinary railway freight box-car with my invention attached. Fig. 2 is an end elevation of the same, and Fig. 3 is a vertical sectional view of Fig. 2 on the line *x x*. Fig. 4 is a similar view, showing the lifting-bar and coupling-pin elevated.

Referring to the parts by letters, letter A is the end of a freight box-car. B is the draw-head, constructed, as shown in the drawings, with a very flaring mouth leading to a long seat for the end of the coupling-link C, and is pierced through vertically by a mortise, *b*, which is flat at its sides, and narrow and elongated in the direction of the draw-head's length, for purposes hereinafter fully explained. It is also constructed with grooved projections *b' b'* from its upper side, for purposes hereinafter described. D is the coupling-pin, made flat-sided, and to fit snugly, but loosely, within the mortise *b*, and is provided with a hole transversely through its upper end, through which a pivot-bolt, E, passes, and by which it is pivoted or hinged to the lower end of a bar, G, which extends upward and above the car, and is held loosely in position by guides *g g'*, through which it may have a longitudinal reciprocating movement. The advantages of this elongated slot *b* in the draw-head, and the hollow projections *b' b'*, are, that while the lower end of the lifting-bar and the coupling-pin are thereby retained in proper position for operation, they are also permitted to move back and forth and to rise slightly as the link bears against the pin in entering, so that the pin cannot jam, whatever be its position within the draw-head. H H are levers, pivoted at their inner ends to projecting arms *s s* from the bar G. The outer ends of the levers H extend beyond the side of the car, and their central parts are provided with slotted projections *h*, which rest on fulcrum-pins *h'*. I I' are catches. J is a cam pivoted upon the top of the car A, so that it can be turned against and hold the bar G from longitudinal movement, and hold it, together with the coupling-pin D, in an elevated position, when desired.

The operations of my invention not already described are as follows: The free end of the levers H are sustained in the upper catches I, and thus hold the coupling-pin D at its lowest or normal position, as shown by the full lines in the drawings, and where it is held by the levers H H, resting on their fulcrums *h'*; and while in this position, it will be plainly seen, by the dotted lines at Fig. 3, that the lower end of the coupling-pin D may be pushed backward by an entering link, C, and again drop into place by its own gravity when the link has fully entered. The projecting arms *s s* will strike the lever-guide *g'*, and prevent the bar G from being raised so far as to draw the coupling-pin D entirely out of the draw-head. The levers H may be held by the lower catches I', to hold the coupling-pin up in an inoperative position.

To uncouple, it is only necessary to lift the pin D by the upper end of the bar G, or by bringing either lever H down to the catch I, when the coupling-link may be withdrawn.

It will be plainly seen that the slots *h* will allow the bar G to be drawn upward by its upward end while the free end of the lever H

is in either catch I I′, and also that the bar G may be held at its highest position by either the levers H, or by the cam J.

When it is desired to separate the cars of a train while in motion backing into the switch, this cam J is of great service, as it enables one man to pass along the train, raise the bars G, and push the cams against the bars, so as to hold the coupling-pins up, and permit the links to pass out of the draw-heads as the engine or balance of the train moves forward again. The operator can then move back along the released cars, and release the bars G from the cams J, when the separated cars are again ready to be united automatically.

I claim—

1. The draw-head B, having the elongated mortise *b* and grooved projections *b′*, the rigid draw-bar G, and the pivoted coupling-pin D, all to operate in combination, so that the end of the draw-bar may be moved back and forth in the mortise, and the coupling-pin oscillated freely within the draw-head, so that it may be raised or lowered by the bar G or levers H, substantially as and for the purpose specified.

2. The combination of the pivoted coupling-pin D, rigid draw-bar G, lever H, having fulcrum *h′* and couplings I I′, and the cam J, all constructed and operating substantially as and for the purpose specified.

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Witnesses:

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