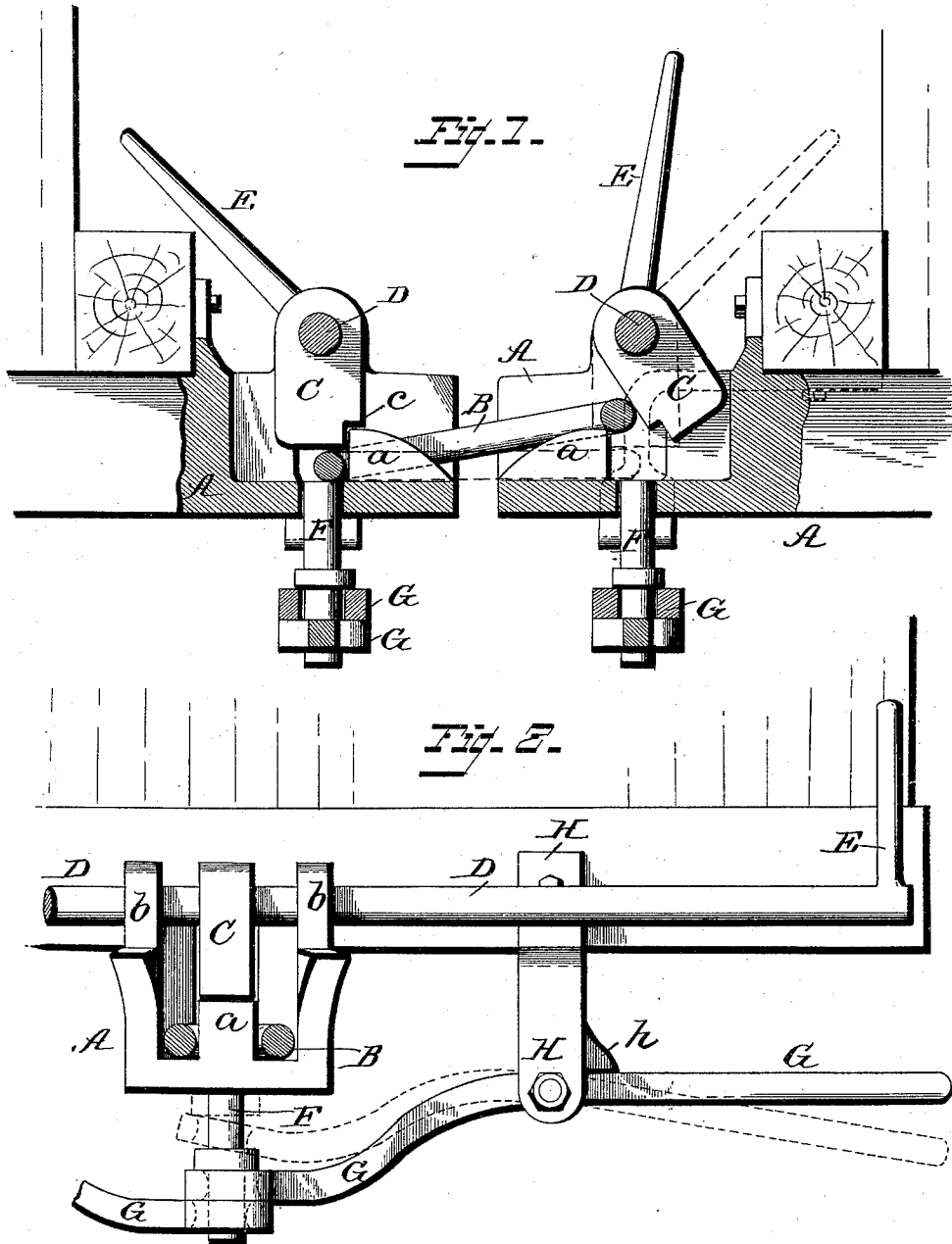


(No Model.)

W. GREENLEES.  
CAR COUPLING.

No. 476,742.

Patented June 7, 1892.



Witnesses  
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# UNITED STATES PATENT OFFICE.

WILLIAM GREENLEES, OF BROOKLAND, DISTRICT OF COLUMBIA.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 476,742, dated June 7, 1892.

Application filed March 3, 1892. Serial No. 423,617. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM GREENLEES, residing at Brookland, in the District of Columbia, have invented a new and useful Improvement in Car-Couplings, of which the following is a specification.

My invention is an improvement in that class of automatic link-couplings in which the link engages a lug or hook fixed on the floor of a draw-head and in which means are provided for holding the link in such normal position, and other means for disengaging it for uncoupling.

My improvement is embodied in the construction, arrangement, and combination of parts, as hereinafter described, reference being had to the accompanying drawings, in which—

Figure 1 is mainly a sectional elevation of two draw-heads provided with attachments forming a coupling according to my invention. Fig. 2 is an end elevation of one-half of the complete coupling.

Each draw-head A has a recess, which is open at the front and also on the upper side. A lug or hook *a*, having an inclined front side and vertical rear side, is fixed on the bottom or floor of the draw-head A at the front end of the said recess. In Fig. 1 the link B is shown engaged with the lug or hook *a* of the left-hand draw-head and as riding over and about to drop behind the lug *a* of the opposite or right-hand draw-head.

The means I employ for holding the link B, engaged with the lugs or hooks *a a*, whereby two cars are coupled, consists of a swinging block or weighted arm C, which is attached to and operated by a transverse rod D, having each of its ends provided with a lever-arm E, that stands at a right angle to the axis of the rod and which is inclined backward at an angle of, say, forty-five degrees to the axis of the aforesaid swinging block or weighted arm C. The transverse rods D D have their bearings in perforated lugs *b*, that project upward from the draw-heads A A, and are of such length that the lever-arms E on their ends are adjacent to the sides of the car, and hence easily accessible, so that it is not requisite to enter between cars for the purpose of operating the coupling. The weight of the block or arm C causes it to hang normally

vertical, as shown in the left-hand side of Fig. 1, in which position its lower end is directly over the end of the link B, whereby the latter is held engaged with the contiguous lug or hook *a*. The rearward inclination of the lever-arms C tends to throw the lower free end of the block C forward; but this action is resisted by the lug or hook *a*, whose upper angle enters a notch *c* in the block. This construction contributes to the safety of the link and lug engagement, since the block C must be swung back, as shown on the right-hand portion of Fig. 1, far enough to allow the link to pass the overhang of the block C.

It is obvious that the coupling operates automatically. For this purpose the link B is held in horizontal position in one draw-head, and its projecting free end rides up on the incline or face of the lug *a* in the opposite draw-head, thus coming in contact with and pushing back the swinging block C, as shown on the right-hand side of Fig. 1, when it drops behind the shoulder of the lug *a*, and the said block resumes its normal vertical position, as shown by dotted lines, thereby locking the link B in place.

The uncoupling is effected manually by operating the rock-rod D by means of one of its lever-arms E, whereby the block C is swung back out of the way, (see right-hand portion of Fig. 1,) and by operating a link-lifter consisting of a vertical push-rod F and a lever G. The latter is pivoted centrally in a pendant bracket or hanger H beneath the rock-rod D, its free end being accessible at the side of the car. The push-rod or link-lifter proper F works in an opening in the floor of the draw-head, and is loosely coupled with the inner end of the lever G, so that it retains its vertical position despite the movement of said lever, as indicated by dotted lines, Fig. 2. The upper end of push-rod F is normally flush with the floor of the draw-head, (see Fig. 1,) but may be projected upward far enough to raise the contiguous end of the link B above the adjacent lug *a*, as required for uncoupling.

The hanger H has a laterally-projecting finger *h*, against which the outer arm of the lever G normally bears, whereby the said lever is held in the position required to support the push-rod F.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a car-coupling, the combination, with  
5 a recessed draw-head provided with a lug or hook having an inclined front side and vertical rear side, of a transverse rock-rod having a lever-arm and a gravity-arm fixed at an angle to each other, whereby the one is normally inclined rearward and the other is normally pendent, the said gravity-arm bearing normally against the said lug, as shown and described.

2. In a car-coupling, the combination, with  
15 the draw-head having an opening in its floor and a lug or hook fixed in front of the same, of a link-lifter consisting of a push-rod working in said opening and a lever connected with the push-rod and pivoted beneath the car  
20 transversely thereof, as shown and described.

3. In a car-coupling, the combination, with the draw-head having an opening in its floor and a lug or hook fixed in front of it, of a push-rod and lever connected therewith and a hanger in which said lever is pivoted and  
25 having a projecting portion that bears on the outer arm of said lever, and thus supports the push-rod in proper position, as shown and described.

4. In a car-coupling, the combination, with  
30 the draw-head having a lug, as specified, and a link-locking pendent gravity-block, of the rock-rod and its lever-arm and a lever and push-rod, arranged as and operating as specified.

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Witnesses:

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