

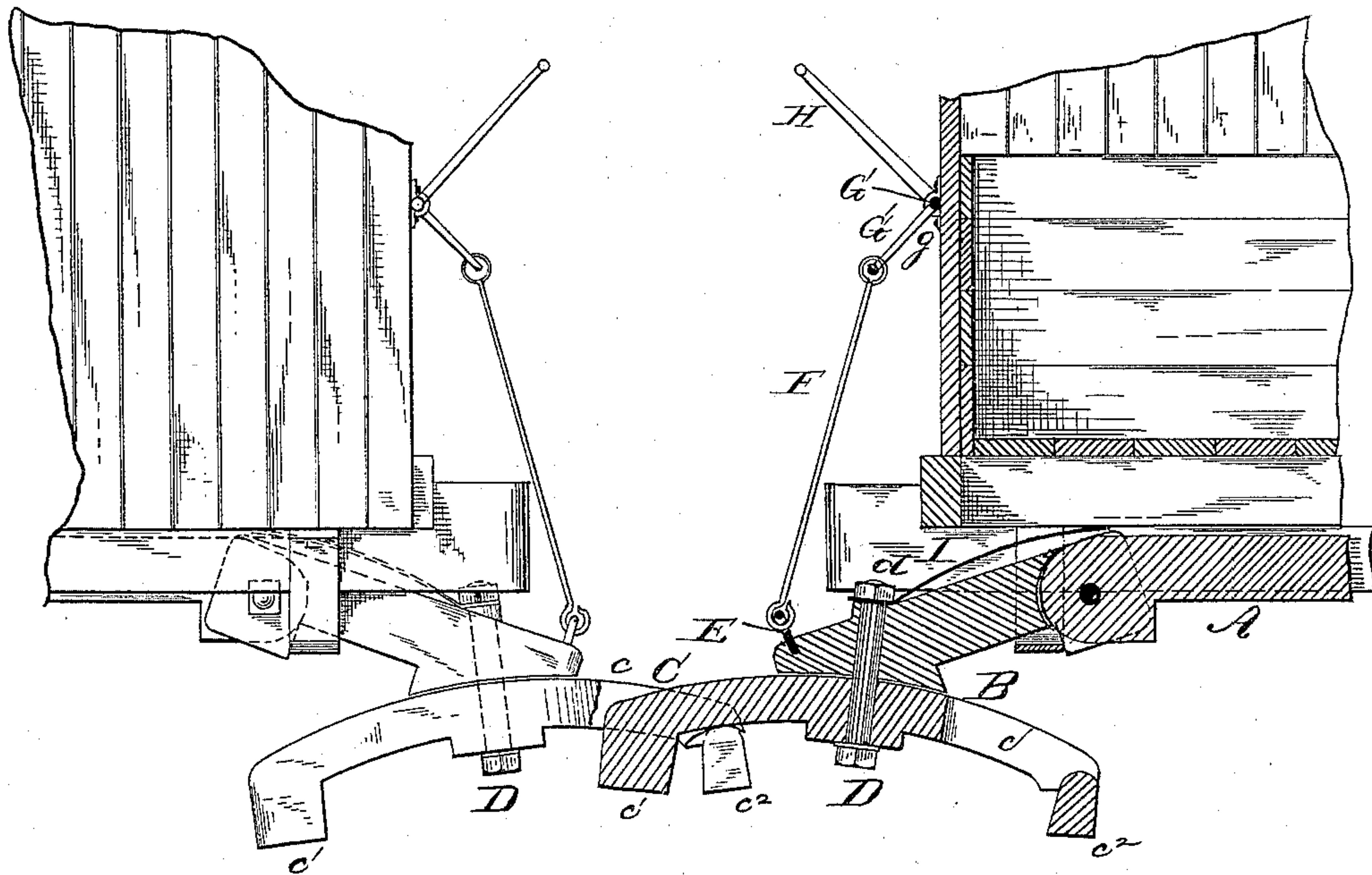
(No Model.)

E. M. LANE.  
CAR COUPLING.

No. 371,953.

Patented Oct. 25, 1887.

*Fig. 1.*



*Fig. 2.*



Witnesses  
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# UNITED STATES PATENT OFFICE.

EDWARD MEAD LANE, OF MIDDLETOWN, NEW YORK.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 371,953, dated October 25, 1887.

Application filed August 30, 1887. Serial No. 248,280. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD MEAD LANE, a citizen of the United States, residing at Middletown, in the county of Orange and State of New York, have invented certain new and useful Improvements in Car-Couplers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to the mechanism for coupling together railway-cars, and its nature and objects will be readily understood from the following specification and claims, taken in connection with the accompanying drawings, in which—

Figure 1 represents the ends of two freight-cars equipped with my coupler, and Fig. 2 is a plan view of the combined coupling-hook and link.

The same letters refer to the same parts in both figures.

The draw-bar is composed of two parts, a tail, A, and head B. The enlarged end of the tail A is pivoted in the forked end of the head B. The outer end of the head B is beveled off on its under side, preferably on a slight curve, as shown. To this beveled face is pivotally secured a coupling-bar, C, having a slot, *c*, near one end, and a narrow hook, *c'*, at the other end, thereby forming a combined link and hook. Beyond the slot *c*, and on the same side of the bar as the hook *c'*, is a lug, *c''*, to strengthen the end of the link. This bar C is pivoted to the head B by means of a bolt, D, which passes through a hole at or near the middle of the bar C and up through the end of the head B. The bar can thus be turned end for end in a plane substantially parallel with the floor of the car, so that the same coupler can be used at each end of the car.

Attached to the outer end of the head B, by means of an eyebolt E, is a rod or chain, F, which runs to an arm, G', on a rock-shaft, G, mounted in suitable bearings, *g*, on the end of the car. At each end of the shaft G is a handle, H, by means of which the brakeman can lift the head B to uncouple the car or to hold

the hook *c'* in readiness to engage with the slot *c* of another coupler.

A flat spring, I, is secured to the upper side of the head B, with its free end extending rearwardly under the car and pressing against the floor-timbers. In the drawings this spring is shown as fastened to the head B by having its end clamped under the nut *d* of the bolt D. The spring exerts a downward pressure on the head B, and prevents the couplers from becoming disengaged by the motion of the cars when running.

The coupling-bar C is preferably bow-shaped, as shown, in order to give the hook and link a firmer hold on each other, and also in order that the end under the car may not strike the draw-bar when the head B is raised. It is obvious, however, that a straight bar could be used, and that the end of the head need not be beveled off, as shown. The bevel, however, serves to elevate the working end of the coupling-bar and bring the coupled hook and link more nearly into line with the draw-bars.

The hook and the slot of the coupling-bar lie substantially in the same vertical plane, so that when two cars are coupled the idle ends of the coupling-bars lie under the car out of the way and do not interfere with the movements of the cars nor impede the entrance of the brakeman between the cars, if necessary.

The slot *c* is preferably of such a length that its inner end is about in line with the end of the head B, so that when the train is backed the hook of the opposite coupler will slide back until it strikes the end of the head B, and the pressure is thus transmitted directly to the draw-bar.

The advantages of a reversible coupling-bar are obvious. It practically furnishes each car with a link and pin at each end, one pair of which is always in reserve. It does away with the necessity of making couplers "rights and lefts," since if the brakeman sees that two approaching cars have the hooks opposed he can quickly reverse one of them to present the slotted end.

My coupler is strong, simple, and cheap. The main parts can all be cast and assembled with little or no machine-work.

Having thus described my invention, what I

claim, and desire to secure by Letters Patent, is—

1. The combination, with a draw-bar, of a coupling-bar having a hook at one end and a link at the other end, and pivoted at or near its middle to the draw-bar, the hook, link, and pivot lying in substantially the same vertical plane, as and for the purpose set forth.

2. The combination, with the draw-bar, of the bow-shaped coupling-bar C, pivoted to the draw-bar at or near its middle, and having at one end a downwardly-projecting hook, *c'*, and at the other end a slot, *c*, forming a link, the hook, the slot, and the pivot lying in substantially the same vertical plane, as and for the purpose set forth.

3. The combination, with a draw-bar composed of a tail having a head pivoted thereto, of a combined link and hook pivoted to said head, substantially as described.

4. The combination, with the tail A, of the head B, pivoted thereto, the coupling-bar C, having the slot *c* and the hook *c'*, the bolt D, pivotally uniting the parts B and C, the spring I, and suitable means for lifting the head B, substantially as and for the purpose set forth.

5. The combination, with a railway-car, of the draw-bar composed of the tail A and head B, pivoted thereto, the combined link and hook C, pivoted to the head B, the rod F, and the rock-shaft G, having arm G' and handle H, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD MEAD LANE.

Witnesses:

NATHANIEL T. SMITH,  
JOHN L. WIGGINS.