(No Model.) 2 Sheets—Sheet 1.

E. S. HAWKINS.

CAR COUPLING.

No. 474,992. Patented May 17, 1892.

Fig. 1.

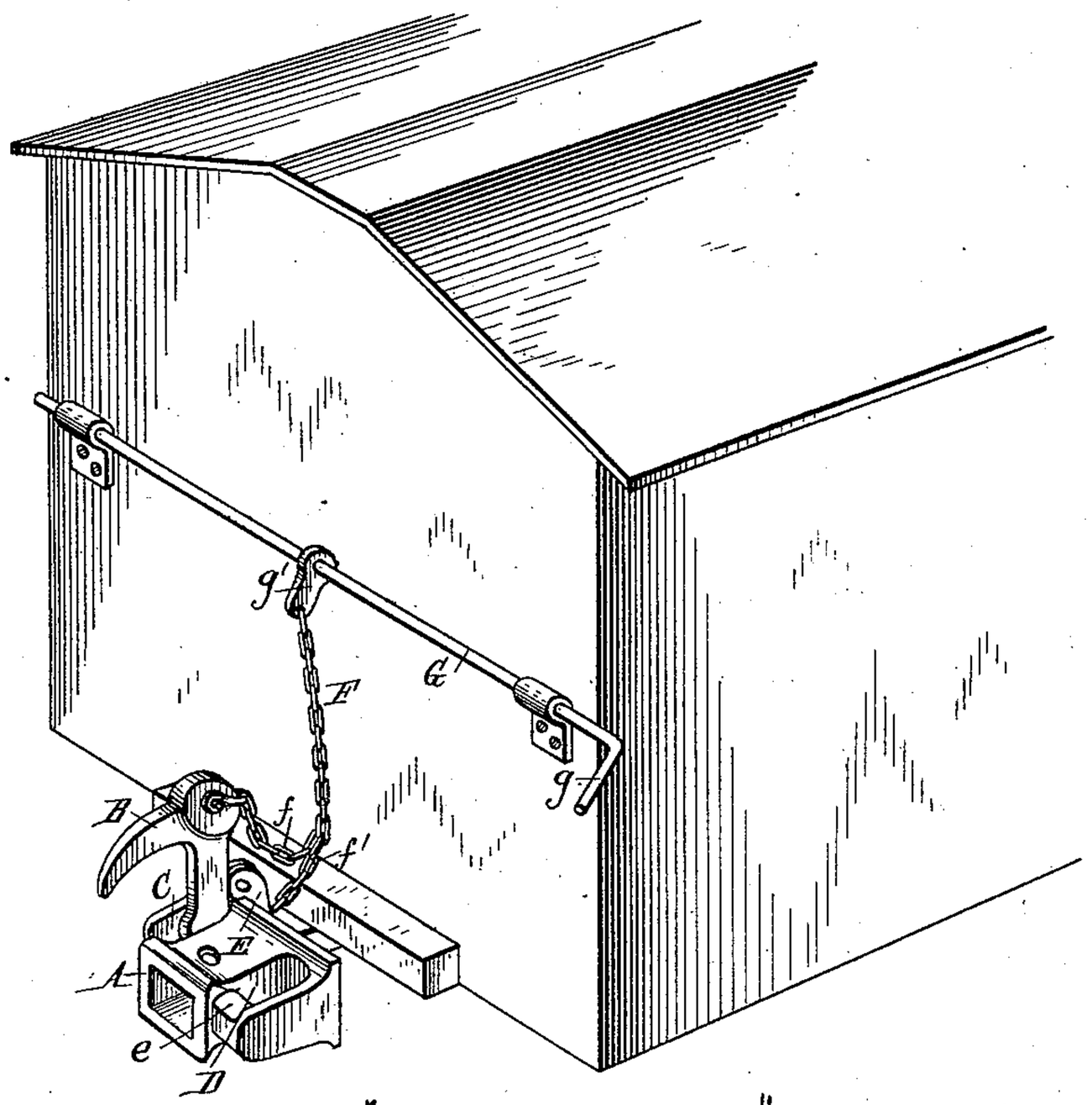
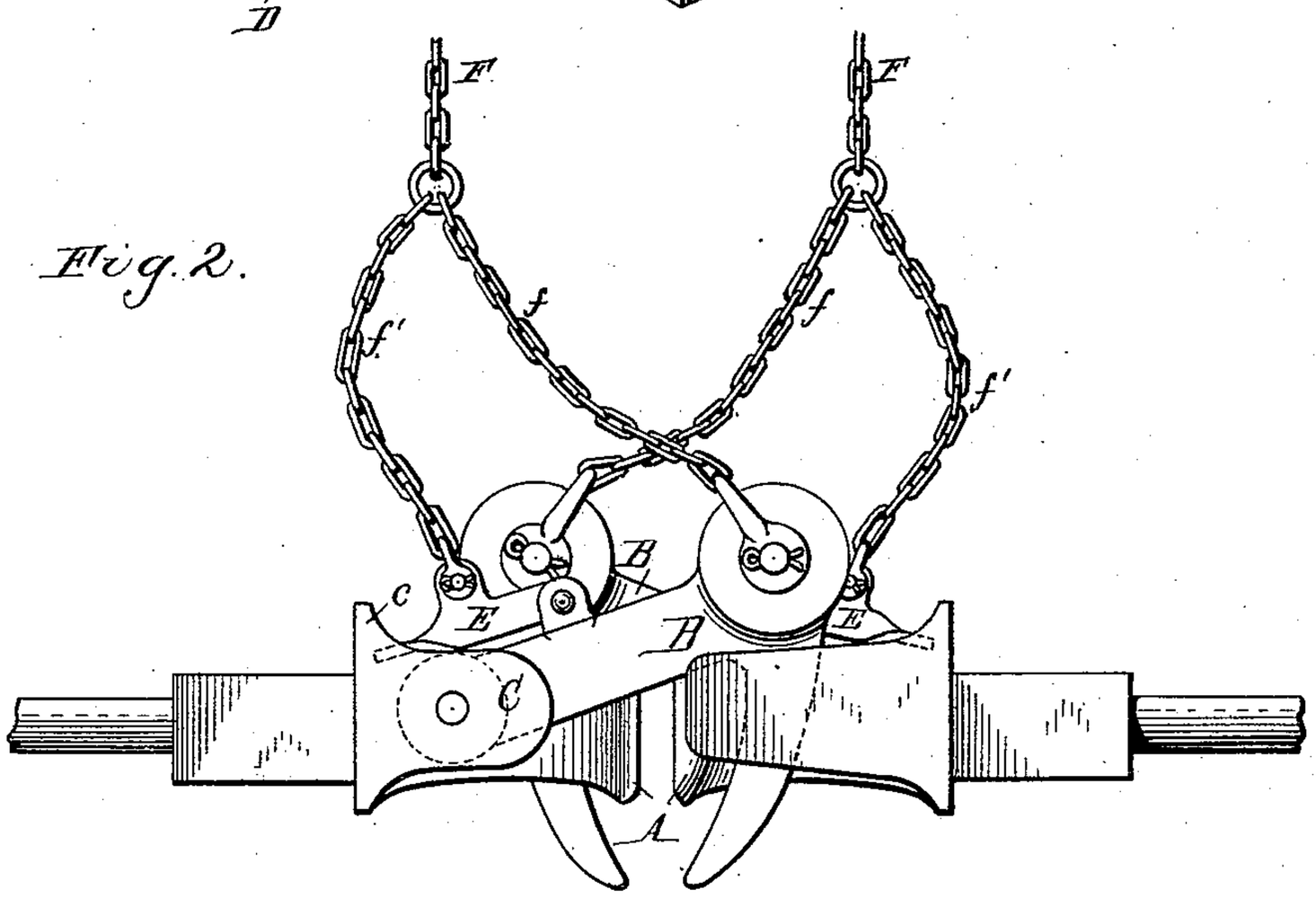


Fig. 2.



Witnesses:
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(No Model.) 2 Sheets—Sheet 2.

E. S. HAWKINS.

CAR COUPLING.

No. 474,992. Patented May 17, 1892.

Fig. 3.

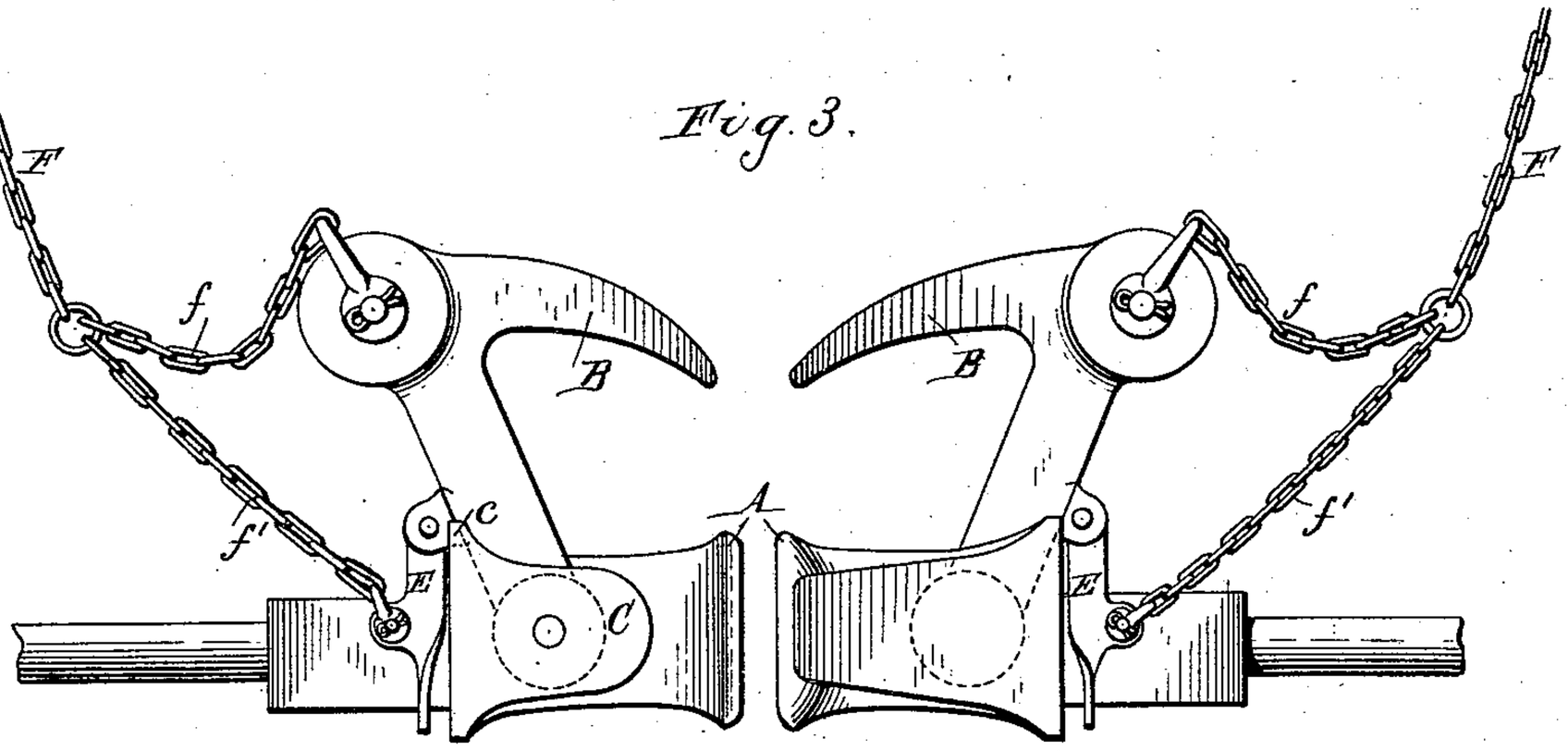
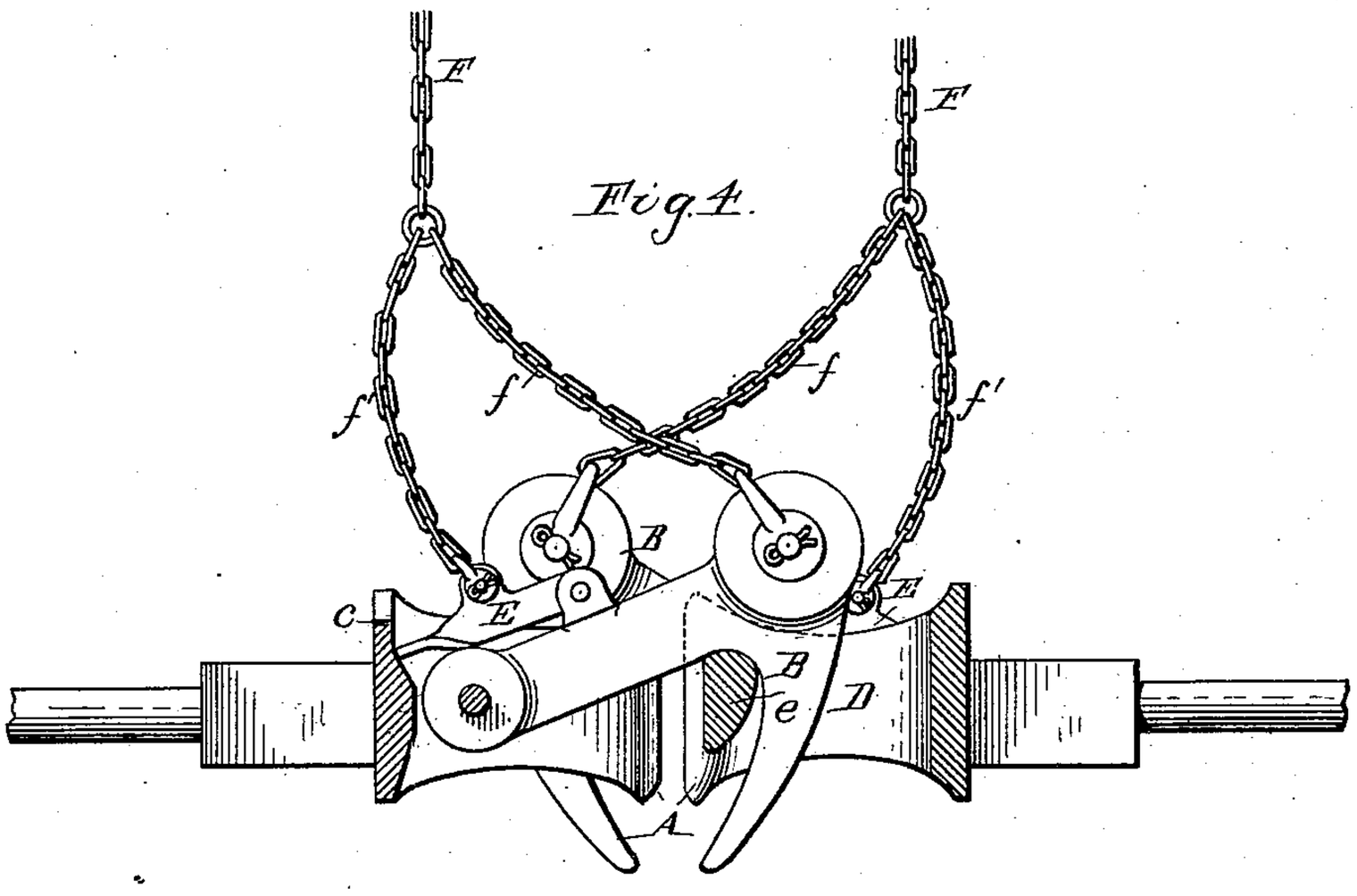


Fig. 4.



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UNITED STATES PATENT OFFICE.

EDWARD S. HAWKINS, OF BUFFALO, NEW YORK, ASSIGNOR OF ONE-HALF TO EDWIN G. S. MILLER, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 474,992, dated May 17, 1892.

Application filed December 14, 1891. Serial No. 414,913. (No model.)

To all whom it may concern:

Be it known that I, EDWARD S. HAWKINS, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Car-Couplings, of which the following is a specification.

This invention relates to the class of car-couplings which are provided with a vertically-swinging hook pivoted to the draw-head and interlocking with a loop or cross-bar arranged on the draw-head of an adjoining car.

The object of my invention is to produce a simple and inexpensive car-coupling of this general type which is automatic in action and to reliably lock the pivoted hook in its coupled position, so as to prevent accidental uncoupling of the cars.

In the accompanying drawings, consisting of two sheets, Figure 1 is a fragmentary perspective view of a freight-car provided with my improved coupling. Fig. 2 is a side elevation of the coupling on an enlarged scale, showing two adjoining draw-heads coupled together. Fig. 3 is a similar view showing the hooks uncoupled. Fig. 4 is a vertical longitudinal section of the coupling.

Like letters of reference refer to like parts in the several figures.

A represents the draw-head, which is preferably constructed with the usual flaring mouth, having pin-holes in its upper and lower sides, so that the ordinary pin-and-link coupling may be employed when necessary.

B is the vertically-swinging coupling-hook, pivoted to the side of the draw-head by a horizontal pin or bolt. The draw-head is provided on one side with a forwardly-projecting lug C, between which and the adjacent wall of the draw-head the inner end of the coupling-hook is pivoted, and on its opposite side with a loop or eye D, which receives the coupling-hook of an adjoining car. The web or shoulder *c*, which connects the lug C with the draw-head, extends above the pivot of the hook, so as to form a back-stop, which limits the rearward swing of the coupling-hook. This stop is located at a sufficient distance rearwardly from the pivot of the hook to cause the hook to remain by gravity in a rearwardly-inclined position under the ordinary shocks to which the car is subjected.

E is a locking dog or pawl attached to the rear side of the coupling-hook, whereby the hook is prevented from accidentally rising out of engagement with the loop of the opposing car. This locking-dog is pivoted to the coupling-hook by a horizontal pin, so that it can swing vertically, and its free rear end is adapted to abut against the web *c*, and thereby check the upward movement of the coupling-hook when the same is swung down into its coupled position, as represented in Fig. 4. The free end of the locking-dog is preferably bent into a horizontal plane, so as to lie flat upon the shank of the hook, as shown in Figs. 2 and 4.

F is a chain whereby the coupling-hook is raised for uncoupling it and which is connected with the hook and its locking-dog by branches *f f'*. This chain is preferably operated from a transverse rock-shaft G, supported in bearings secured to the end of the car. This shaft is provided at one end with a crank *g* for turning it and above the coupling with an arm *g'*, to which the upper end of the chain is attached. Upon turning the rock-shaft in the proper direction the chain is caused to lift the locking-dog above the web or shoulder *c* and the nose of the coupling-hook out of engagement with the loop of the opposing draw-head, the hook falling backward against its back-stop by gravity upon being swung rearwardly beyond a vertical position by the chain and remaining in this position. The branch chain of the locking-dog is made of such length that the dog is lifted clear of the shoulder *c* before the hook is raised sufficiently to allow the dog to strike said shoulder. When the coupling-hook is in its uncoupled position, as represented in Fig. 3, its locking-dog depends therefrom on the rear side of the draw-head. As soon as the draw-head strikes against an opposing draw-head the concussion causes the coupling-hook to swing forwardly beyond a perpendicular position and to drop by gravity into engagement with the loop D of the adjoining draw-head, the curved nose of the hook interlocking with the outer cross-bar *e* of said loop,

and thereby coupling the two cars together. The pivoted hook of the opposing car is swung into engagement with the loop of the draw-head of the first-mentioned car at the same time, thus forming a double automatic coupling of considerable strength. The forward and downward movement of the coupling-hook causes its dog to ride over the upper edge of the web or shoulder *c* and drop with its free rear end in front of the same, as shown in Fig. 4, thus locking the coupling-hook against upward displacement and rendering the coupling very reliable. The cars are readily uncoupled by turning the rock-shaft, as before described.

My improved coupling depends for its automatic action upon the concussion of the striking draw-heads, and it therefore dispenses with the trip devices for positively swinging the hook into a horizontal position which have been heretofore employed, thereby rendering the coupling simpler and enabling it to be manufactured at less cost. The coupling-hooks are given sufficient lengthwise play in the loops D to relieve the locking-dogs and their pivots from strain when the draw-heads come together.

I claim as my invention—

1. The combination, with the draw-head, of a vertically-swinging coupling-hook pivoted to the draw-head, and a dog or pawl pivoted to the coupling-hook and adapted to abut against the draw-head when the hook is in its coupled position, substantially as set forth.

2. The combination, with the draw-head, of a vertically-swinging coupling-hook pivoted to the draw-head and adapted to engage with a cross-bar or loop arranged on an opposing draw-head, and a dog or pawl pivoted to the coupling-hook and abutting with its free end against a shoulder on the draw-head, substantially as set forth.

3. The combination, with the draw-head, of a vertically-swinging coupling-hook pivoted to the draw-head and adapted to engage with a cross-bar or loop arranged on an opposing draw-head, a locking-pawl pivoted to the coupling-hook for holding it in a coupled position, a rock-shaft supported on the car, and an uncoupling-chain connected with the hook and the locking-pawl and operated from the rock-shaft, substantially as set forth.

Witness my hand this 18th day of November, 1891.

EDWARD S. HAWKINS.

Witnesses:

CARL F. GEYER,

F. C. GEYER.