

(No Model.)

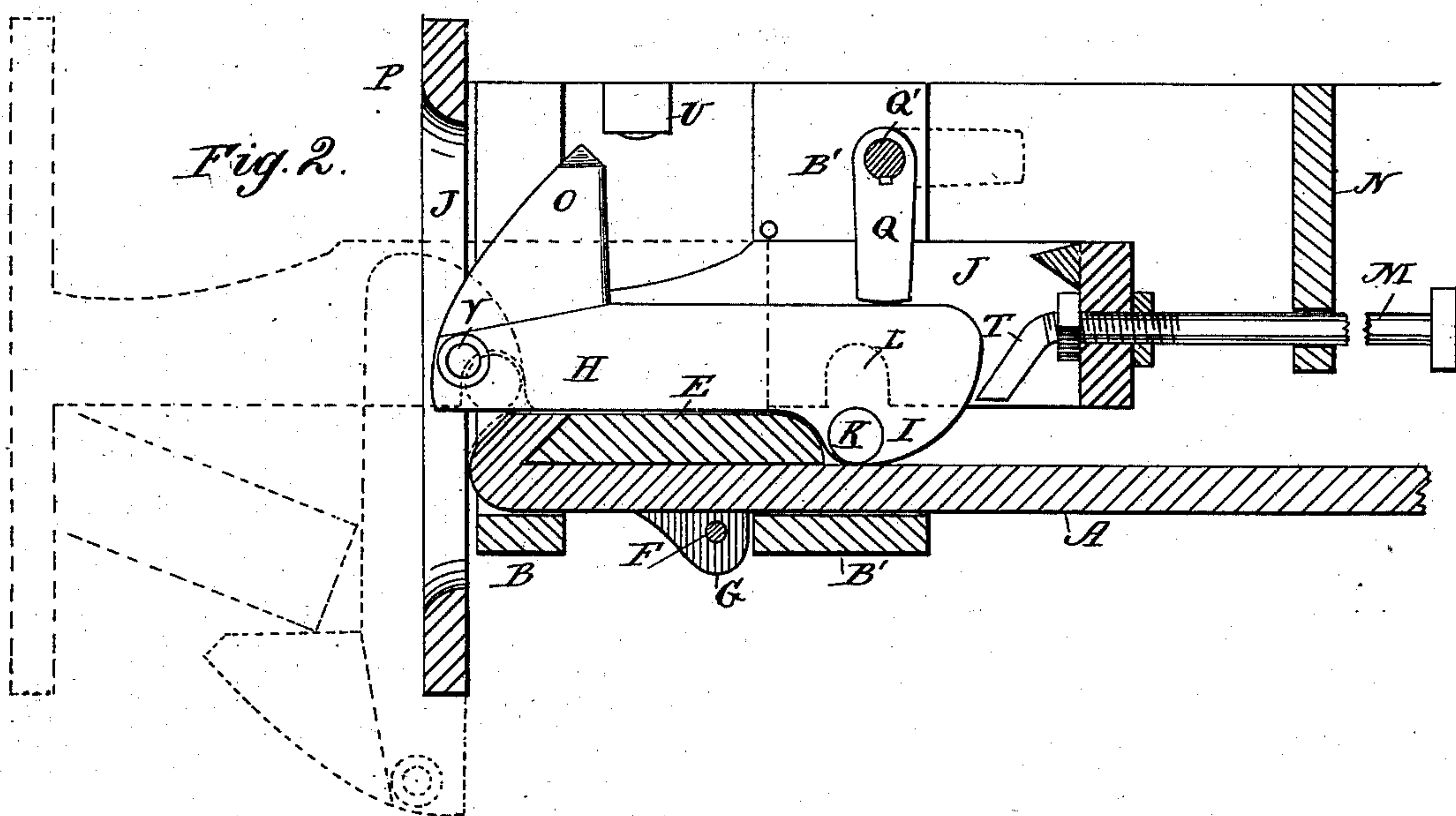
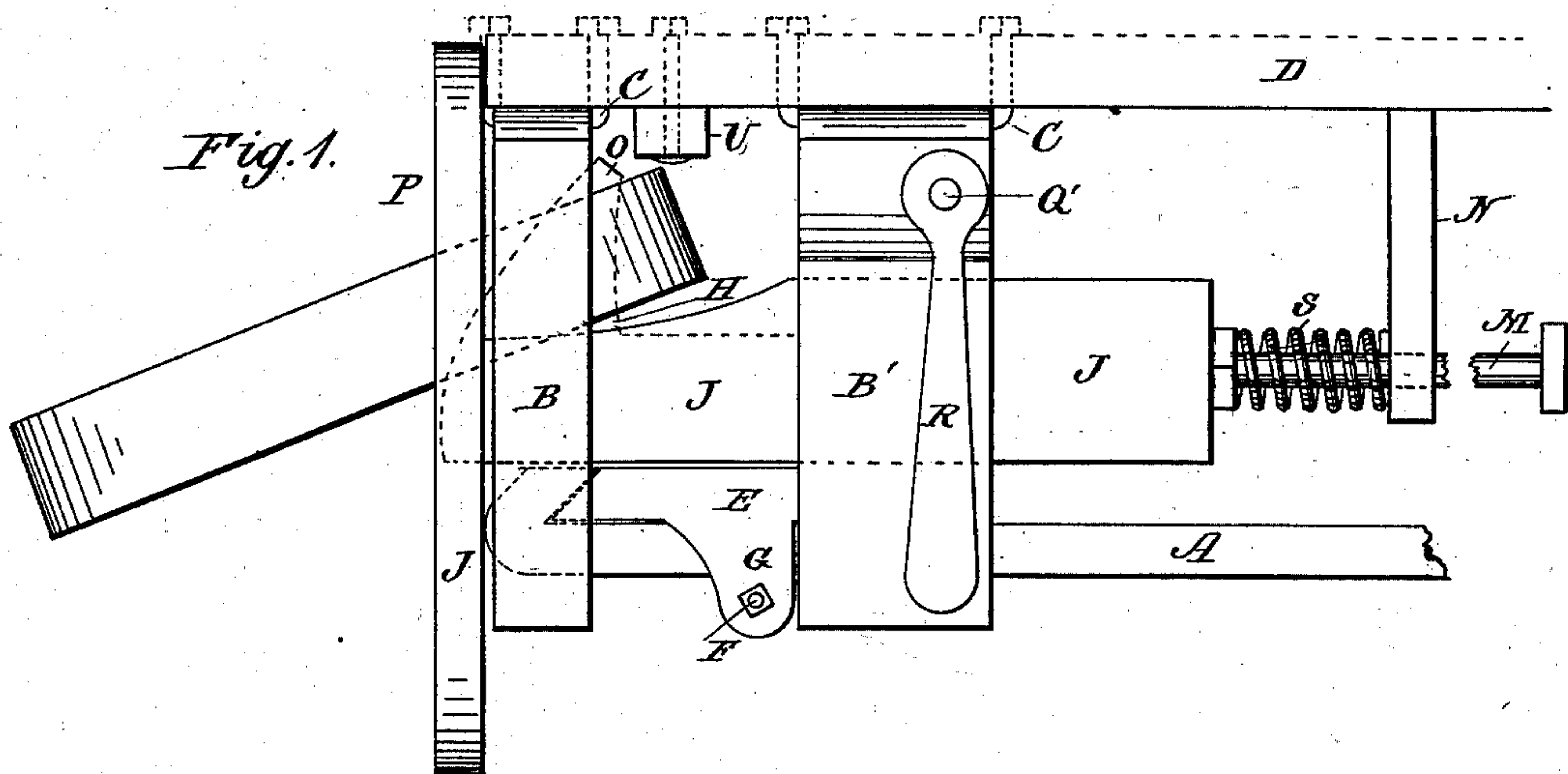
2 Sheets—Sheet 1.

C. H. SCHAAFF.

CAR COUPLING.

No. 278,605.

Patented May 29, 1883.



WITNESSES:

W. W. Hollingsworth  
A. G. Lyne.

INVENTOR:

C. H. Schaaff  
BY *Mann & Co.*

ATTORNEYS.

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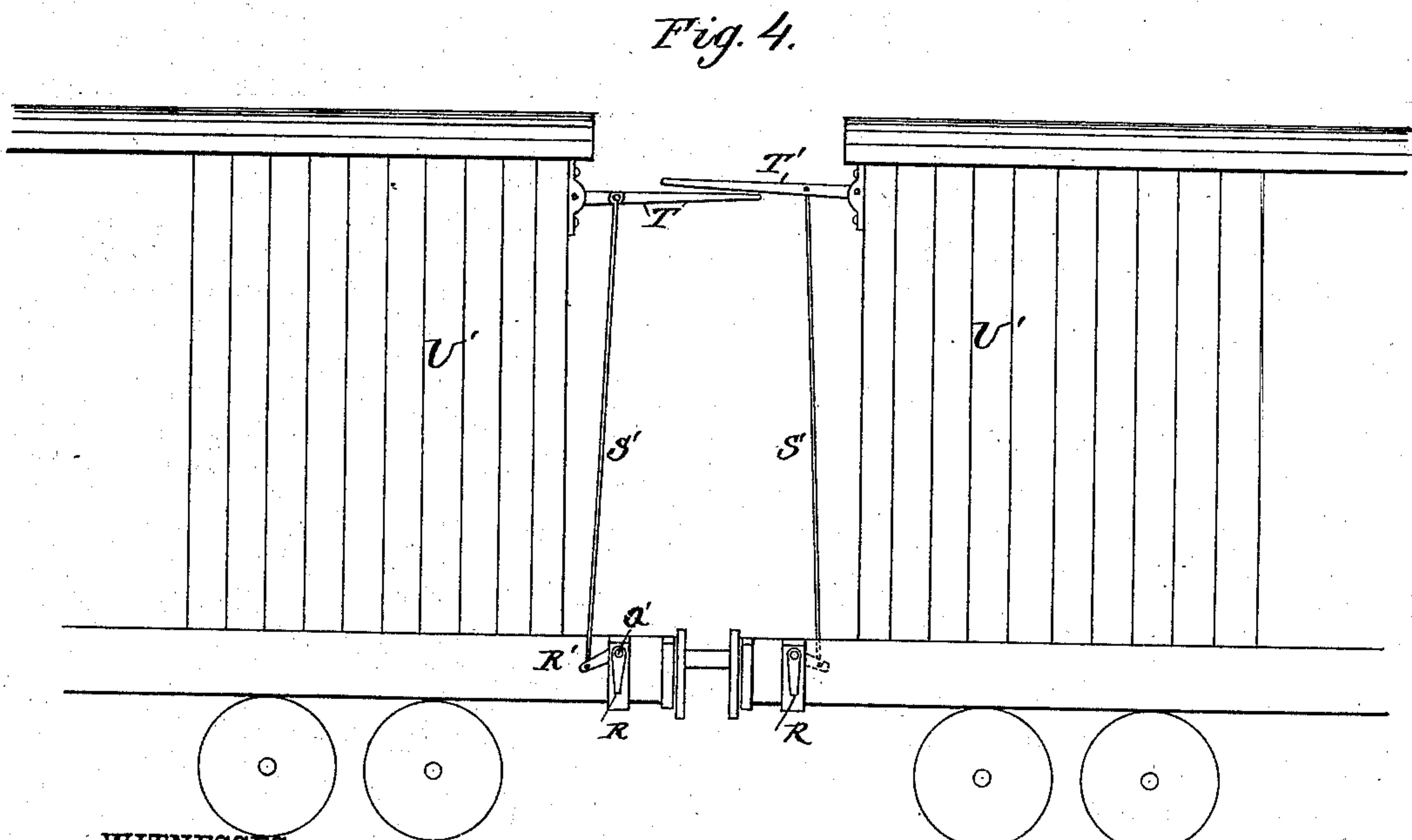
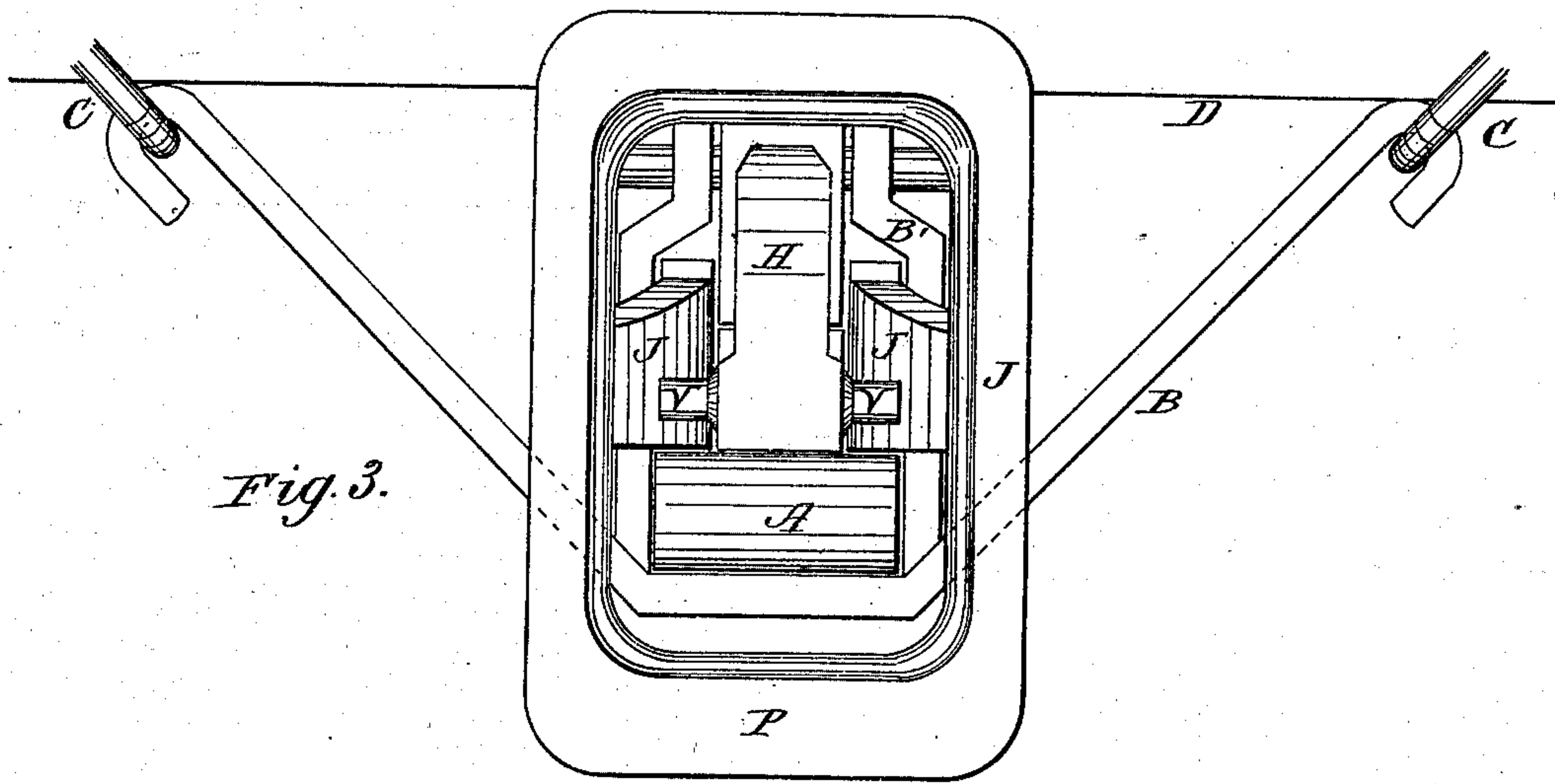
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*A. G. Seyne.*

INVENTOR:

*C. H. Schaaff*  
BY *Man*

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# UNITED STATES PATENT OFFICE.

CHARLES H. SCHAAFF, OF ALEXANDRIA, VIRGINIA.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 278,605, dated May 29, 1883.

Application filed February 24, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES H. SCHAAFF, of Alexandria, in the county of Alexandria and State of Virginia, have invented a new and useful Improvement in Car-Couplings, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, forming part of this specification.

The object of this invention is to provide an automatic coupling adapted for both passenger and freight cars, and also for coupling with cars of different heights; and the invention consists of the novel construction herein-after described and claimed.

In the drawings, Figure 1 is a side elevation of the coupling. Fig. 2 is a vertical longitudinal section of the same. Fig. 3 is an end view of the coupling, and Fig. 4 is a view showing means for uncoupling from the top of a freight-car.

A indicates the draw-bar, and B B' are two stirrups, connected by loop-bolts C to the under side, D, of a car, as supports for the draw-bar. The outer end of the draw-bar is turned up to form an angular recess, in which a steel plate, E, is fitted and secured in position by a bolt, F, arranged underneath the draw-bar and passed through perforated flanges G on the sides of the plate.

On the plate E is arranged a sliding hook, H, having a projection, I, at its inner end; which is adapted to drop behind the inner edge of plate E when the hook is moved inward to its farthest limit. The hook is arranged between the sides of a sliding frame or bumper, J, and is connected therewith, when not in coupled position, by means of gudgeons K, located at its sides, in alignment with the projection I, and recesses L, in the sides of the frame J, adapted to receive the gudgeons when the inner end of the hook is lifted out of engagement with the inner edge of the plate E. The inner end of the frame J is secured to a rod, M, which is adapted to slide in perforated bar or plate, N, attached either to the car or the draw-bar, and the inner end of this rod is provided with a head, which is to be drawn against the plate N to limit the outward movement of the frame J. The rod and frame J are to be so adjusted that the hook may be

drawn outward until the projection I is brought to the outer end of the draw-bar, so that the hook will swing downward when in said position. When the hook is thus thrown from a horizontal to a pendent position the end O of the hook will be in position to catch the link of the next adjacent car, whether said car is higher or lower than that carrying the hook. The outer end of the frame J consists of a flaring rim, P, which is adapted to guide the link into engagement with the hook, and also serves as a bearing by which the frame J may be moved inward to carry the hook to coupled position when the two cars are brought together.

To hold the hook securely in coupled position a gravity-cam, Q, is keyed to a shaft, Q', which is journaled in the sides of the stirrup B' in such manner that the inward movement of the hook will rotate the cam out of its way until the inner end of the hook drops behind the inner edge of the plate E. The cam will then be free to return to its normal position, and it is to be of such a length that it will rest immediately above the hook and prevent the latter from being accidentally disengaged from the edge of the plate E. The ends of the shaft Q' are provided with levers R, which are adapted to hang down with the cam, thus adding weight to the latter, and by which the cars are to be uncoupled from the sides.

I have shown a spiral spring, S, arranged around the rod M and between the inner end of the frame J and the plate N, to prevent the sliding frame from being pushed inward accidentally, and thus thrown out of position for automatic coupling. The spring, however, is not essential. The outer end of the rod also I have shown inclined downward at T. The object of this is to provide an incline which will be drawn under the inner end of the hook in the act of uncoupling to lift the hook and thus facilitate its disengagement from the inner edge of the plate E.

U is a bar or block bolted to the car just above the inner end of the link, to take the wear caused by any upward movement of the link. To hold the link in proper position for coupling, the hook is provided with lateral projections V at its outer end, upon which the link is supported.



The stirrup B, which supports the outer end of the draw-bar, is made wide to accommodate the flaring outer end of frame J, while the stirrup B' is contracted at its upper part, to provide a guide for the inner end of frame J and to prevent the link from being jammed against the cam, and thus moving it out of engagement with the hook.

In adapting my coupling to freight-cars, besides the levers R at the sides, I provide a lever, R', extending from the shaft Q', and connect the end of said lever, by means of a rod or chain, S', to a lever, T', which is pivoted to the upper part of a car, U', in such manner that its free end shall extend from said car. With this construction, the brakeman may stand or kneel on a car attached to a train and reach the lever and uncouple a car in rear of the one he rests on, thus avoiding the danger of uncoupling a car and then jumping forward onto the moving train. For passenger-cars a chain may be connected to the lever R', and to a rotary crank-rod adapted to lift the cam out of engagement with the hook.

It is understood that the cars are to be provided with suitable bumpers to limit the action of the impact of two cars upon the sliding frames carrying the coupling-hooks.

What I claim is—

1. The combination of the sliding hook having means for engaging with a part of the draw-bar when moved inward, the sliding frame carrying the hook and adapted to hold the same in a pendent position at the end of the draw-bar, whereby it may reach and couple with a link, and a cam for holding the hook in engagement with the draw-bar after the link has been coupled with the hook, substantially as shown and described.

2. The combination of the sliding hook having a projection at its inner end adapted to

drop behind a shoulder in the draw-bar and having gudgeons at its sides, the sliding frame having bearings in its sides for said gudgeons to regulate the movement of the hook and to allow it to swing into a pendent position when drawn to the end of the draw-bar, the draw-bar having the plate adapted to form a shoulder at its inner end for engaging the hook, and the gravity-cam for holding the hook in engagement with said shoulder, substantially as shown and described.

3. The combination of the sliding hook adapted to engage with the draw-bar, the sliding frame carrying said hook and adapted to hold it in a pendent position at the end of the draw-bar, and the rod connected to the inner end of said frame and adapted to slide in a stop-plate to limit the outward movement of the frame, and having its outer end inclined downward under the inner end of the hook, substantially as shown and described.

4. The combination of the sliding hook having lateral projections at its outer end to support a link placed in engagement with the hook, the sliding frame carrying said hook, and the cam for holding the hook in engagement with the draw-bar, substantially as shown and described.

5. The combination, with the sliding hook and its carrying-frame, and with the cam, of a lever pivoted to one end of a car and extended from said car, so that it may be operated from the next adjacent car, and a rod for connecting said lever with a lever or arm on the cam-shaft, substantially as shown and described, and for the purpose set forth.

CHAS. H. SCHAAFF.

Witnesses:

CHARLES E. STUART,  
SAML. G. BRENT.