

(No Model.)

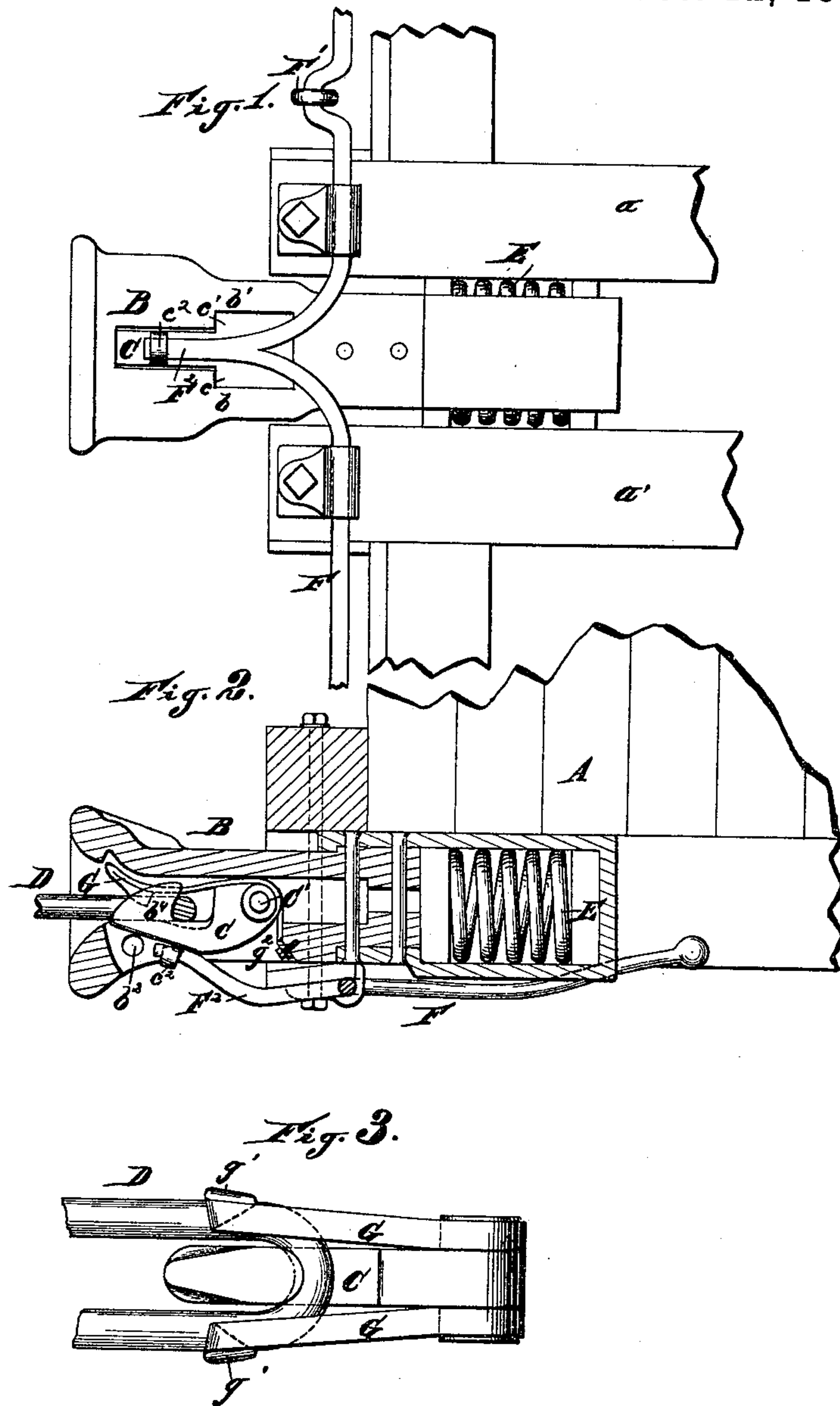
2 Sheets—Sheet 1.

S. G. HOWE.

CAR COUPLING.

No. 350,745.

Patented Oct. 12, 1886.



WITNESSES

Geo. E. Stiles.
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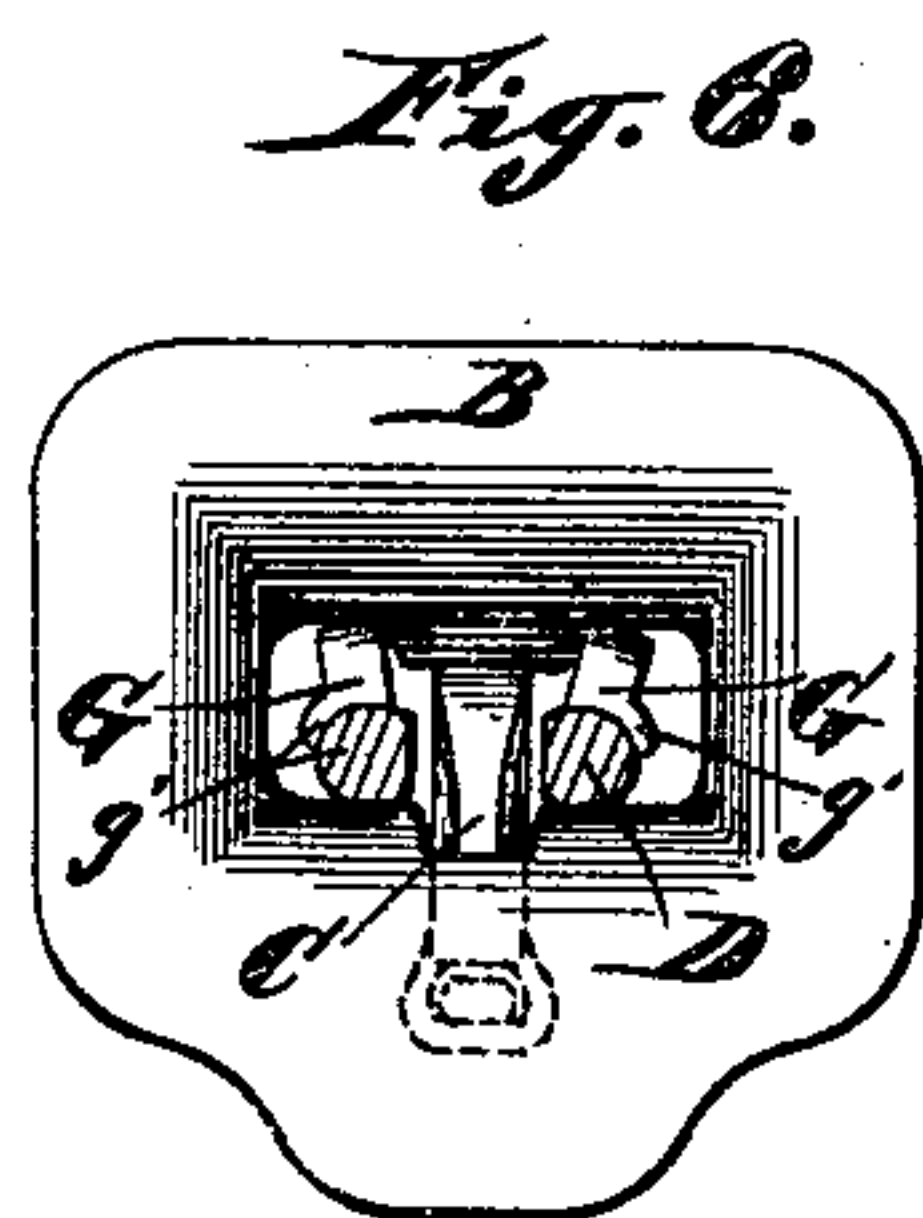
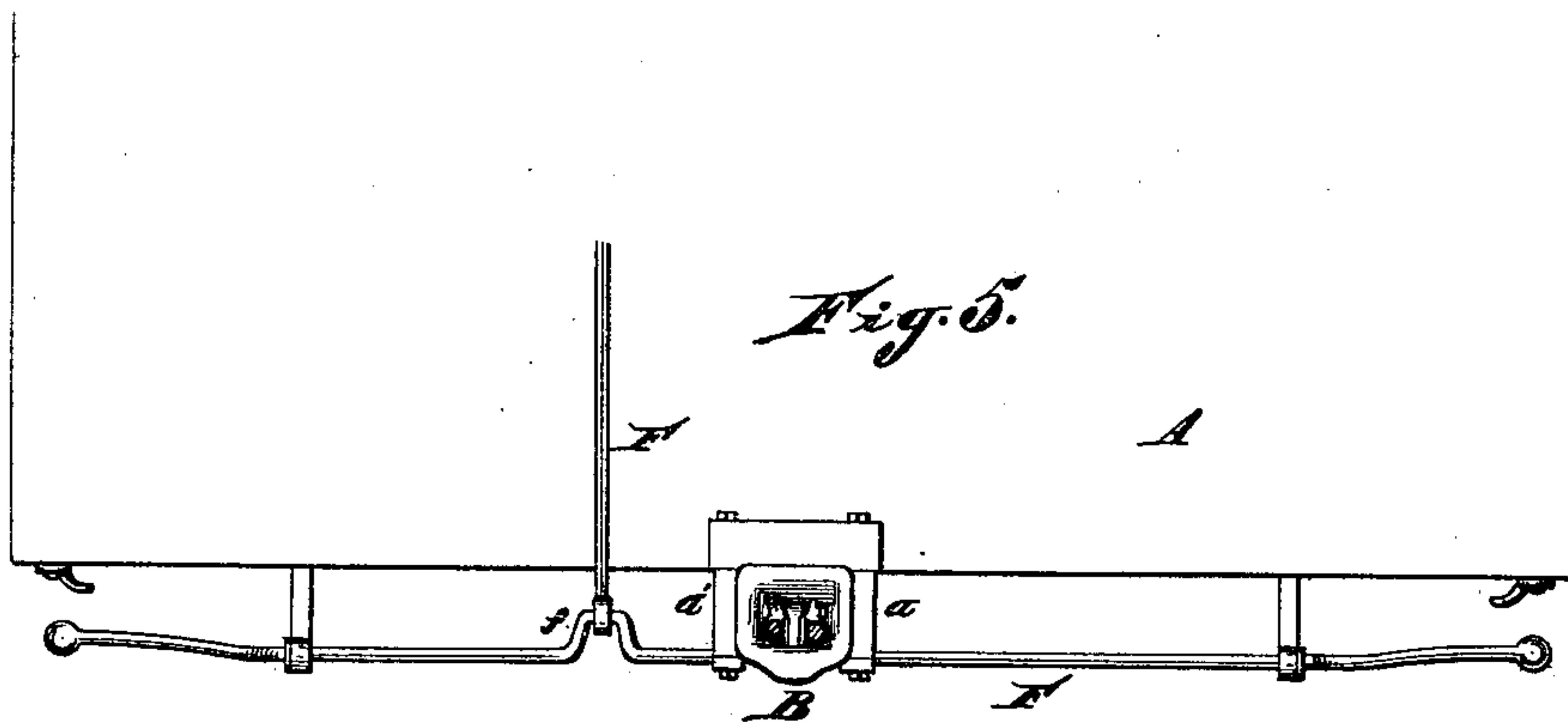
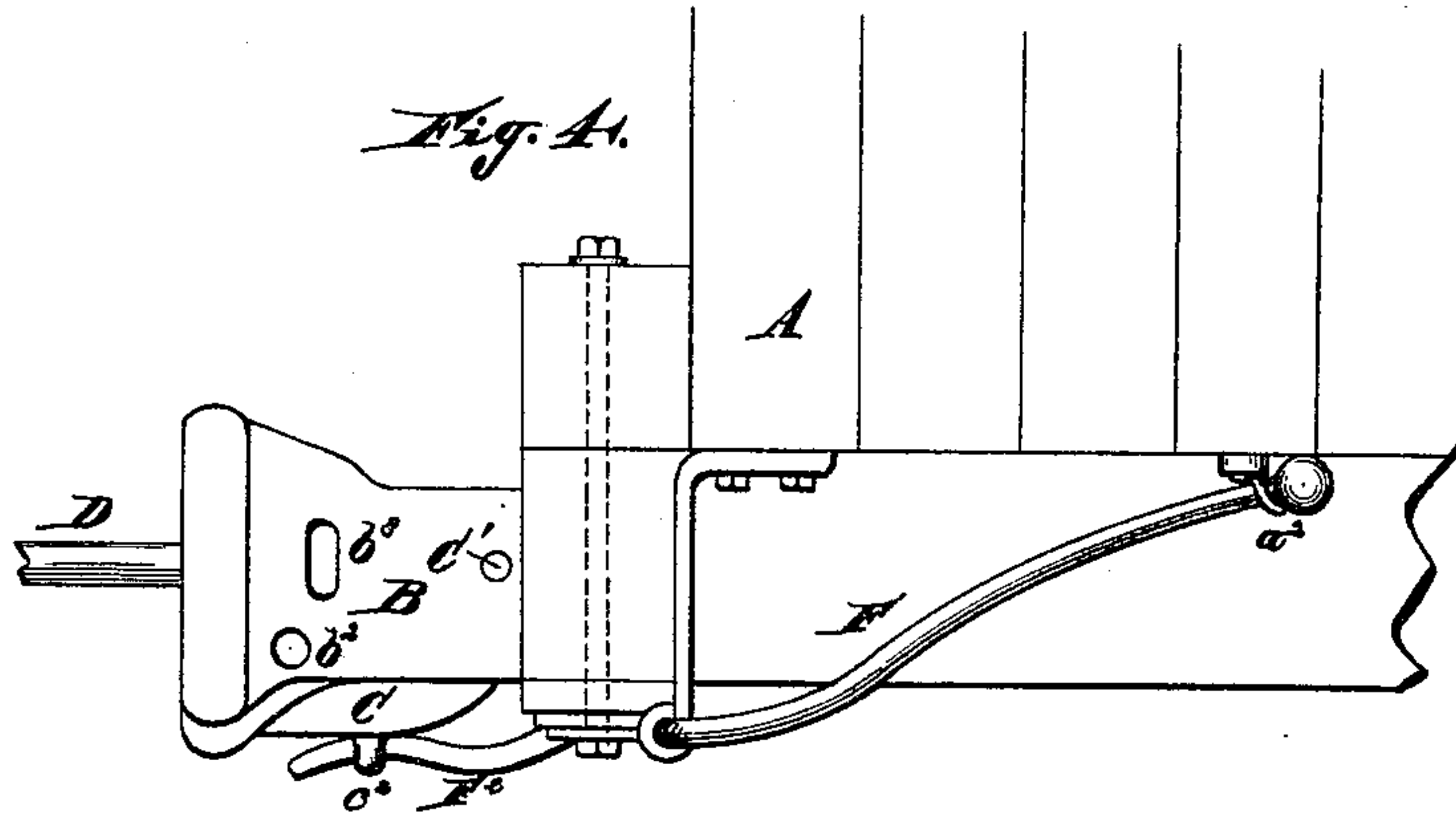
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UNITED STATES PATENT OFFICE.

SOLON G. HOWE, OF DETROIT, MICHIGAN.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 350,745, dated October 12, 1886.

Application filed July 7, 1886. Serial No. 207,349. (No model.)

To all whom it may concern:

Be it known that I, SOLON G. HOWE, of Detroit, county of Wayne, State of Michigan, have invented a new and useful Improvement in Car-Couplers; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to certain new and useful improvements in car-couplers; and it consists, essentially, first, in a novel construction and combination of devices for operating the hook; second, in a novel construction and arrangement of the hook itself; third, in a novel construction of the draw-head; fourth, in a novel construction of the spring for guiding the link; and, fifth, in the general construction, combination, and arrangement of devices, as hereinafter more fully described, and more particularly pointed out in the claims.

In the drawings, which form a part of this specification, Figure 1 is an inverted plan view of a device embodying my invention. Fig. 2 is a vertical section showing parts in elevation. Fig. 3 is a separate view more fully illustrating the spring for guiding the link. Fig. 4 is a side elevation of the end of a car, showing the operating-bar raised and held in position. Fig. 5 is an end view of a car with my improved operating-bar attached, and Fig. 6 is a separate and enlarged view of the front of the draw-head.

In the accompanying drawings, A represents a car; B, a draw-head secured in position in any desired manner. This draw-head is made open on the under side, as shown in Figs. 1 and 2, and is provided with a hook, C, pivotally engaged therein, adapted to permit the engagement of a link, D, therewith.

E is the usual spring, connected with the draw-head in any way preferred.

The hook is preferably constructed with shoulders, as shown at $c\ c'$, to extend into corresponding recesses at $b\ b'$ in the draw-head, so that the hook will have a bearing upon the draw-head to relieve the strain from coming entirely upon the journal C' , whereby the hook is pivoted in the draw-head.

To operate the hook, I provide a bar, F,

which may be extended to either side, or to the top of the car, as shown in Fig. 5. In event of its being extended to the top of the car an auxiliary bar, F' , may be engaged with a cranked section, f , of the main bar F. I prefer, also, to weight the extremities of the bar, F, so that it will operate automatically when free to move to engage the hook with the coupling-link. To render this operation more effective, I design to extend the ends of said bar F rearward from the draw-head, as shown, and to weight the rear extremities. The bar is secured upon the car in any proper manner, so as to be rotatable, as upon the timbers $a\ a'$, and is provided with an extended arm, F^2 , to engage the hook and tilt the same. This may be done by providing the hook with an eye or loop, c^2 , into which the arm F^2 may be engaged. I have shown the hook pivoted at its rear end, and the arm F^2 extended forward and engaged with the hook in front of its pivotal engagement in the draw-head. By this construction it will be seen the weighted bar F tends to keep the forward end of the hook thrown upward, while at the same time the hook is free to tilt downward to admit the entrance of the link into the draw-head, the weighted bar keeping the hook in engagement with the link.

When it is desired to uncouple, the bar F may be tilted from either side or top of the car to open the hook, and when it is desired to keep the draw-head open, so that a link will not be coupled therewith, the hook may be kept thrown downward by means of a button, a^2 , or other device, to hold the extremities of the operating-bar in an upward position, as shown in Fig. 4.

I prefer to construct the draw-head with an orifice, b^2 , so located that a coupling-pin or other bar may be inserted therein to support the forward end of the hook in case of a possible breakage of the connection of the operating-bar with the hook. So, also, the draw-head may be constructed with an orifice, b^3 , preferably elongated and adjacent to the rear end of a link engaged with the hook, so that a pointed bar may be inserted therein to engage against the link upon the bottom or the top to lift or depress the forward end of the link to facilitate its entrance into a draw-bar of uneven

height should a crooked link be wanting. This pointed bar could be inserted in said orifice b^3 , and the link so operated from the side of a car without going in between the cars to manipulate the link by hand.

G is a spring arranged to bear upon the rear end of a link to hold it in substantially a horizontal position ready for engagement in a corresponding draw-head, the draw-head being constructed to form a bearing for the link, as shown in dotted lines at b^4 .

In order that the spring may guide the incoming link toward the center of the draw-head to facilitate the passage of the link properly over the hook, I design to construct said spring with its forward ends bent downward and under and toward the rear, the said ends being curved, as shown in Fig. 6, to form a flange, g' , and being also of double thickness, as shown, the construction being such that the link striking the spring will be directed toward the center and over the hook. The point of the hook being nearly as wide as the space between the sides of the link, the benefit of so constructing the spring is evident.

The draw-head is preferably so constructed that the rear of the spring G may be turned down in the rear of the hook, as shown in Fig. 2, and be secured by means of a bolt, g^2 .

By the construction and arrangement of the hook and its operating-bar the necessity of a spring to retract the hook is dispensed with.

What I claim is—

1. The combination of a draw-head, B, open on its under side, a hook, C, pivoted at its rear end in the draw-head, a transverse operating-bar, F, extended to either side or the top of car, and having a forwardly-projecting arm, F^2 , and a loose connection, substantially such

as described, between the extremity of said arm and the hook.

2. The combination, with a draw-bar open on its under side, of a hook pivotally engaged therein, a weighted rock-bar extended to either side or top of the car and engaged with said hook, and a fastening device to hold said bar in a given position, substantially as described.

3. The combination of a draw-head, B, open on its under side, a hook, C, pivoted at its rear end within the draw-head, and a transverse rock-bar extended to either side of the top of the car, and provided with a forwardly-projecting arm, F^2 , loosely connected with the pivoted hook and with a bent rearward-projecting weighted arm to automatically swing the hook into the draw-head, substantially as described.

4. A draw-bar open on its under side, having in combination therewith a hook pivotally engaged therein, said draw-bar constructed with an orifice, b^2 , substantially as and for the purpose described.

5. A draw-bar constructed with an orifice, b^3 , adjacent to the rear of a coupling-link engaged therein, substantially as and for the purpose described.

6. The combination, with a draw-bar, of a spring engaged therein to bear upon the link, said spring bent to form a double thickness at its end, and a downwardly-projecting guide-flange, g' , substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

SOLON G. HOWE.

Witnesses:

N. S. WRIGHT,

M. B. O'DOHERTY.