

(No Model.)

2 Sheets—Sheet 1.

R. M. FORD.
CAR COUPLING.

No. 545,645.

Patented Sept. 3, 1895.

Fig. 1

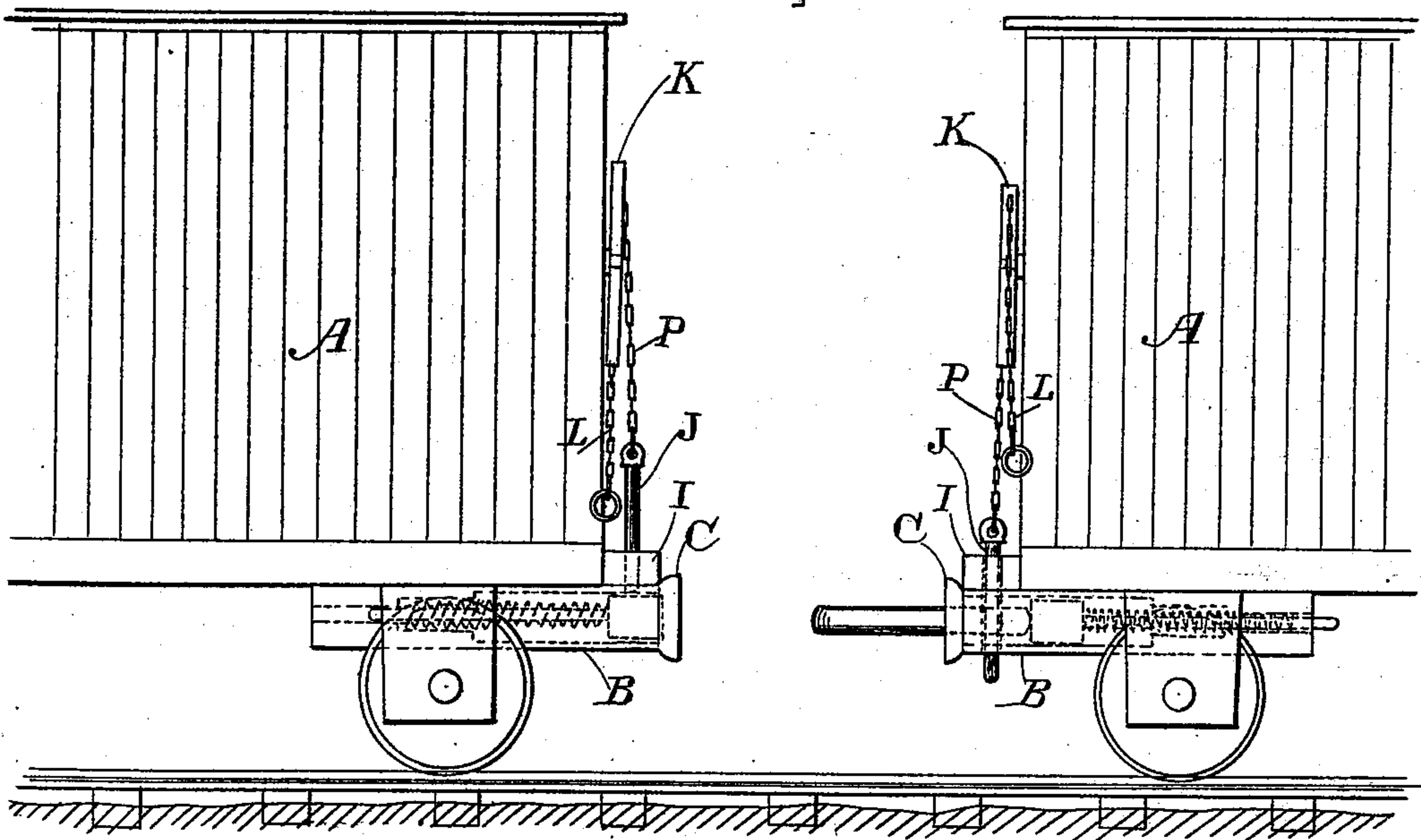
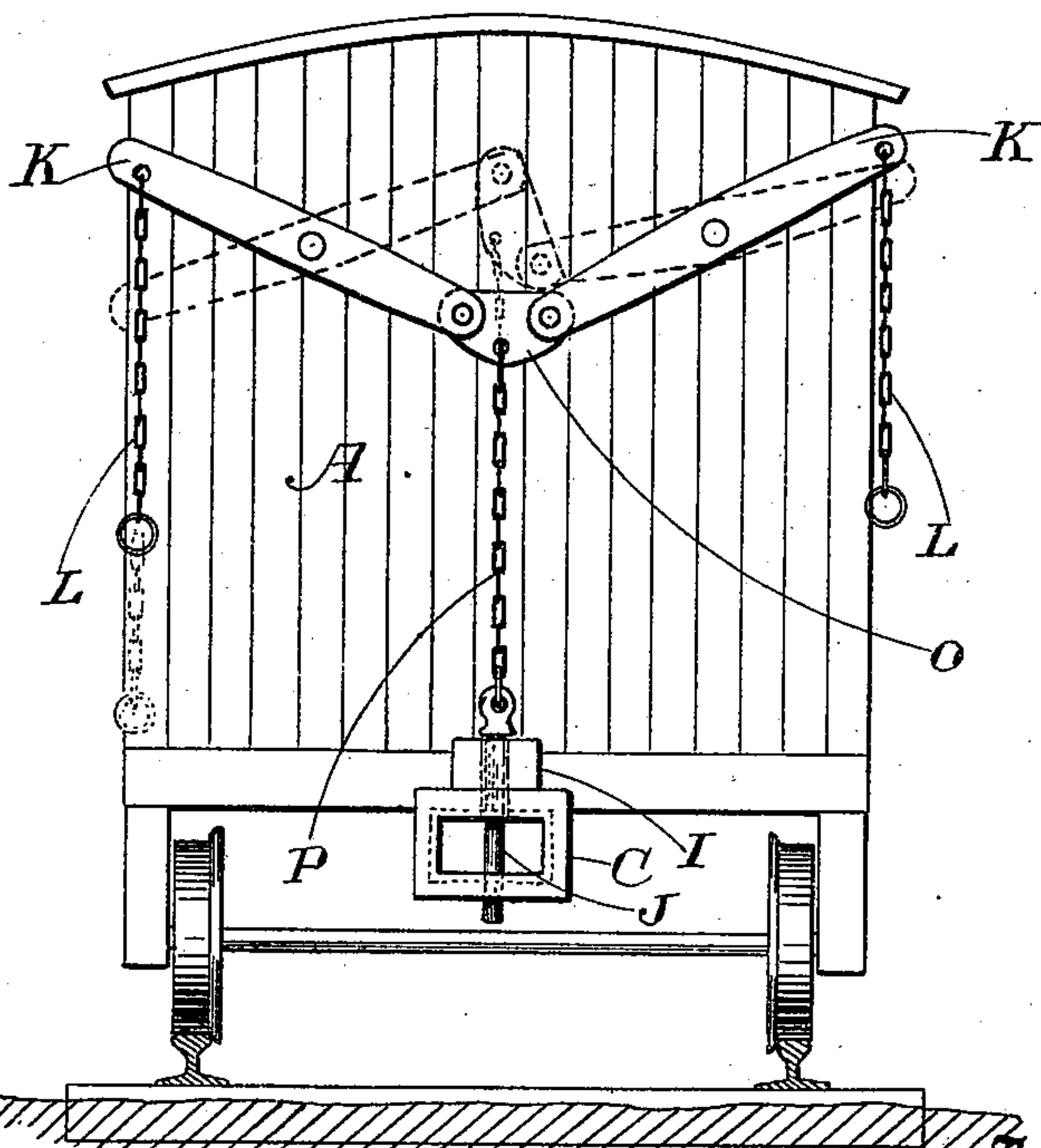


Fig. 2



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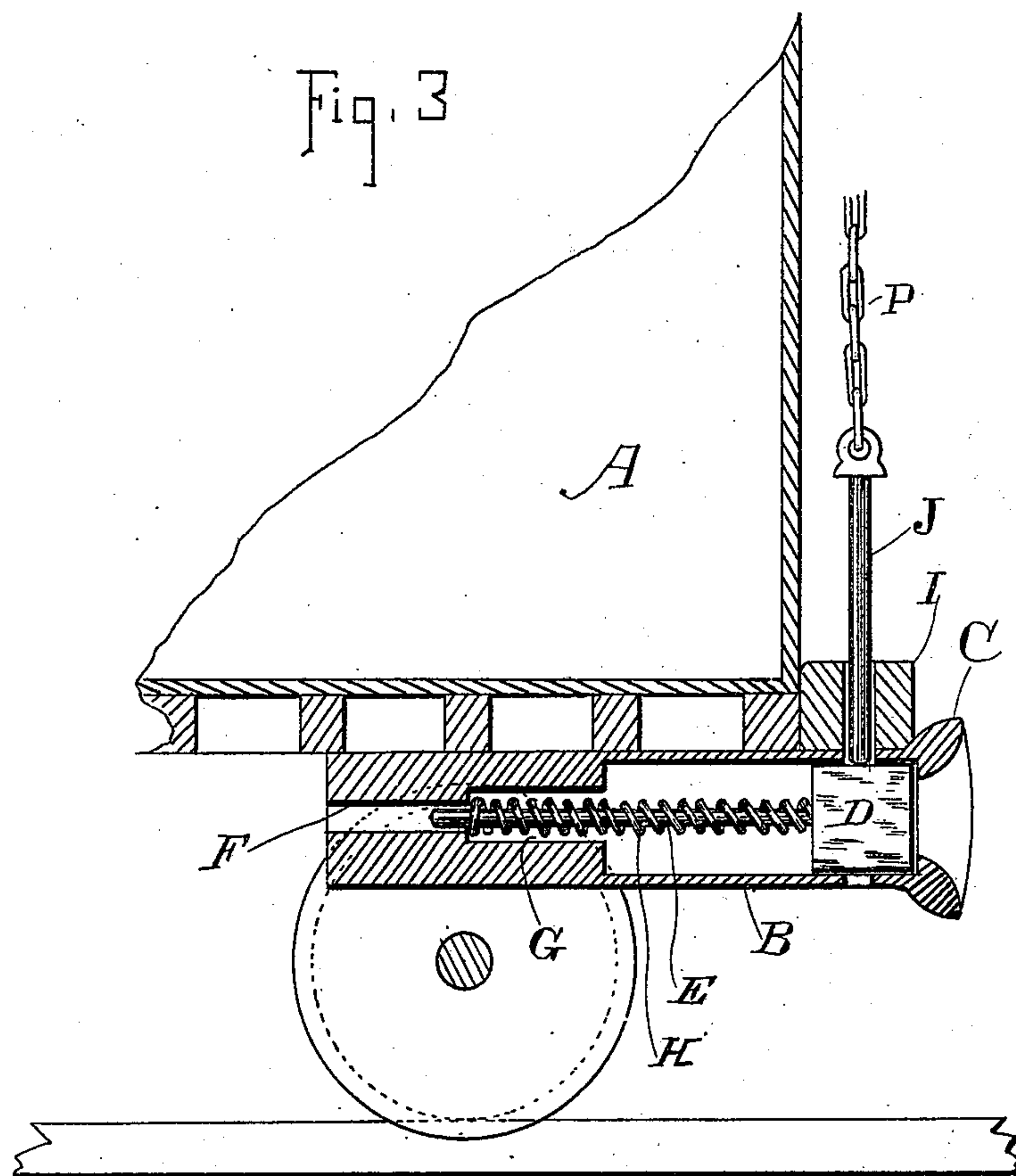
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UNITED STATES PATENT OFFICE.

REBECCA M. FORD, OF OAKLAND, CALIFORNIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 515,645, dated September 3, 1895.

Application filed February 5, 1895. Serial No. 537,386. (No model.)

To all whom it may concern:

Be it known that I, REBECCA M. FORD, a citizen of the United States, residing in Oakland, county of Alameda, State of California, have invented an Improvement in Car-Couplings; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to certain improvements in car-couplings. It is especially adapted for use upon freight-cars and those using links, so as to form what are known as "loose" couplings.

It consists in certain details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a side view showing the application of my invention. Fig. 2 is an end view of one of the cars with my attachment. Fig. 3 is a vertical section taken through the couplings, showing the interior construction.

The object of my invention is to provide a device by which the cars are automatically coupled when they come together, and a means for withdrawing the pin and releasing the coupling from either side without passing between the cars.

A A are the cars, B the draw-bars, and C the bumpers, which are adapted to strike each other when the cars come together. The draw-bars are made hollow or with chambers adapted to receive the hammer or mallet heads D and the rearwardly-extending guiding rods or stems E. The position of the chamber nearest the link-opening in the end of the draw-bar is made of sufficient size to receive and guide the head D, which is slidable within this chamber. The stem or shank E is fixed in the rear of this head and extends rearwardly, moving in a guiding channel or slot F of sufficient size to allow it to move longitudinally. In front of the channel F, and between it and the chamber in which the head D moves, is a channel G of somewhat larger diameter, and within this lies the spiral spring H, which surrounds the shank E, one end abutting against the head D and the other against the shoulder formed between the channels F and G. This spring is of sufficient tension to normally press the head D toward the front of the chamber in which it

is movable and against a shoulder formed around the mouth or entrance to the chamber, the rear end of the spring pressing against the shoulder, as before described, which serves as a bearing for it. Upon the top of the draw-bar is formed an extension or projection I, and a vertical hole is made through this and through the top and bottom of the draw-bar for the reception of the coupling-pin J.

When the coupling is in its normal condition without any coupling-link in the draw-bar, the head D, being forced to the front of its chamber, extends across the vertical pin-opening, and thus serves as a support for the lower end of the pin, which rests upon it, and the depth of the hole through the block or extension and the top of the draw-bar is sufficient to guide and retain the pin in an approximately-vertical position. Whenever a link is introduced to press the head D backward in its chamber, the pin will at once fall through the link and through the hole in the bottom of the draw-bar, thus securing the link in place. The pressure of the head D against the inner end of the link serves to keep the link in an essentially straight or horizontal position, so that it will readily enter the corresponding link-opening in the draw-bar of any car which has moved up into contact with it. The pin of the approaching car being sustained by the head D in a like manner, will be allowed to drop through the link as soon as the link enters and forces the head D backward.

The uncoupling device consists of two levers K K, fulcrumed upon the end of the car above and at each side of the coupling-pin. The outer ends of these levers project to points sufficiently near the sides of the car to be easily reached, and for convenience they may have chains or cords L, by which they may be pulled downwardly. The inner ends of these levers are connected by a loosely-pivoted link O, and from the center of this link a chain P extends down and is attached to the coupling-pin.

The operation of this part of the device will then be as follows: Whenever it is desired to withdraw the coupling-pin, either of the levers K will be moved by pulling downward upon the outer end, and the link O, being ful-

crumed in the other lever, will be turned about its fulcrum-point, acting as a sort of intermediate or compound lever to raise the pin from its position. The link being turned up, 5 as shown in dotted lines, the continued movement of the lever will withdraw the pin and raise it to the point where the head D will be allowed to move forward, when relieved from the pressure of the link, by reason of the 10 spring pressing upon its rear end, and when the outside lever, by which the pin is raised, is released the pin will drop by its own weight and again rest upon the top of the head D. Whenever the head D is forced backwardly 15 by the pressure of the link, the weight of the pin is sufficient to cause it to drop and pass through the pin-hole, the connecting-link O assuming a horizontal position between the ends of the levers K K.

20 It will be understood that the draw-bars and bumper-heads may be made of any usual or well-known pattern and in any manner which will allow access to the interior with the least amount of trouble, so that in case 25 the spring needs to be replaced or any other repair made to the interior it can be easily effected. The head D and its shank E are, however, so constructed that there is no force which can be applied to them which is liable 30 to disarrange or injure them or the spiral spring.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

An improved car coupling consisting of a 35 draw-bar and bumper, a spring-actuated sliding block movable in the chamber within the draw-bar and normally held in line beneath the pin opening so that the pin is prevented from falling through the draw-bar, the in- 40 clined levers K fulcrumed at their central points upon the ends of the car above and to each side of the line of the pin, having their outer ends to receive a chain or connection by which the links are operated, a link O oc- 45 cupping the space between the separated inner ends of the levers and pivotally connected at its ends with said levers, and a chain extending from a point between the opposite ends of the link and connected with the coup- 50 ling-pin, said link O being interposed between the inner ends of the levers K whereby one of the levers serves as a fulcrum about which the link is movable when the outer end of the other lever is moved downward, and the chain 55 connecting the link with the coupling pin is moved in a vertical line to withdraw the pin.

In witness whereof I have hereunto set my hand.

REBECCA M. FORD.

Witnesses:

GEO. H. STRONG,
S. H. NOURSE.