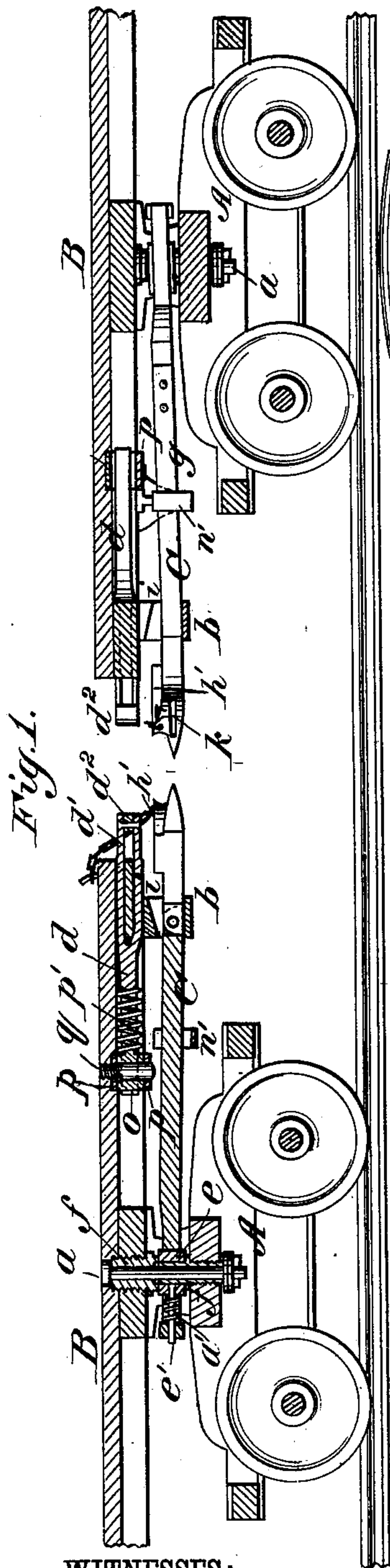


(No Model.)

C. H. SHIPPEE.
Car Coupling.

No. 229,763.

Patented July 6, 1880.



WITNESSES:

Donn J. Twitchell
C. Seagurick

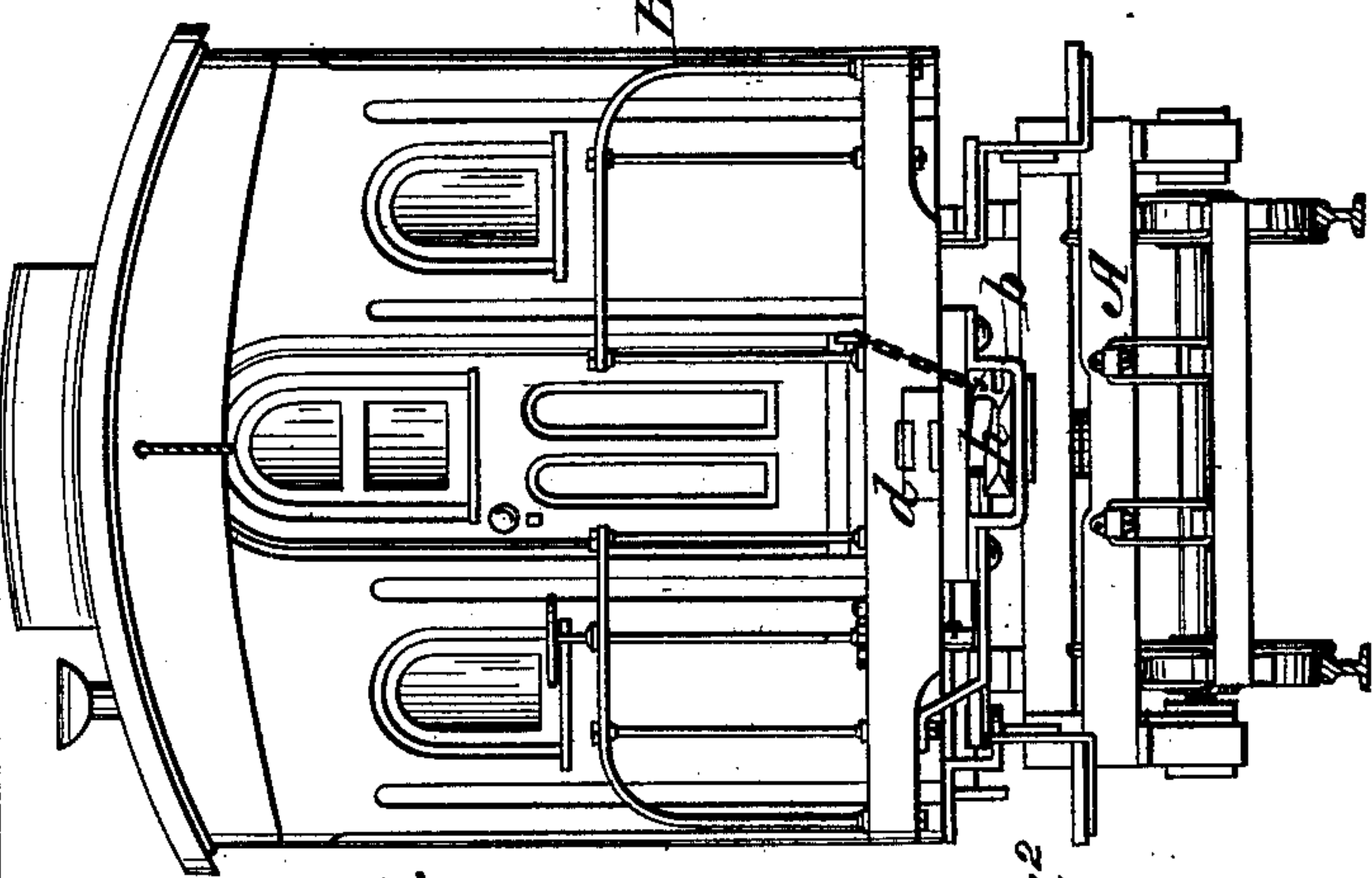


Fig. 4.

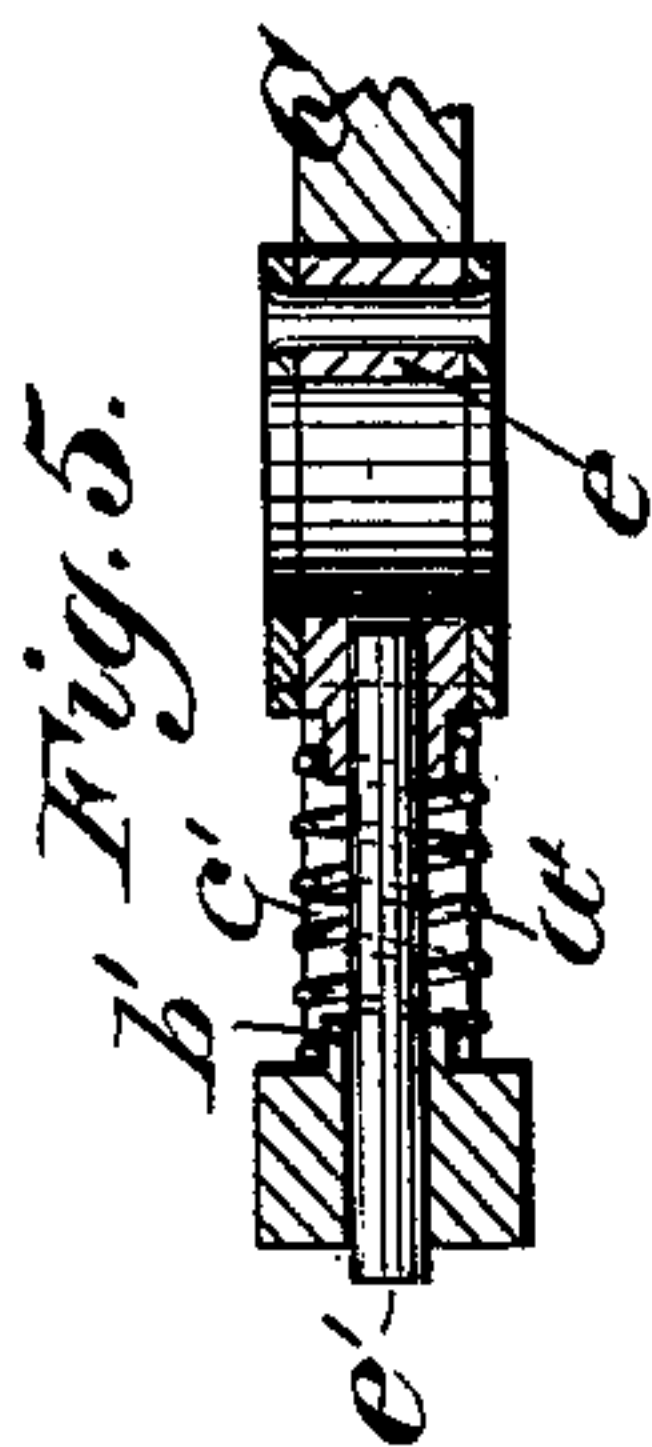


Fig. 5.

Fig. 2.

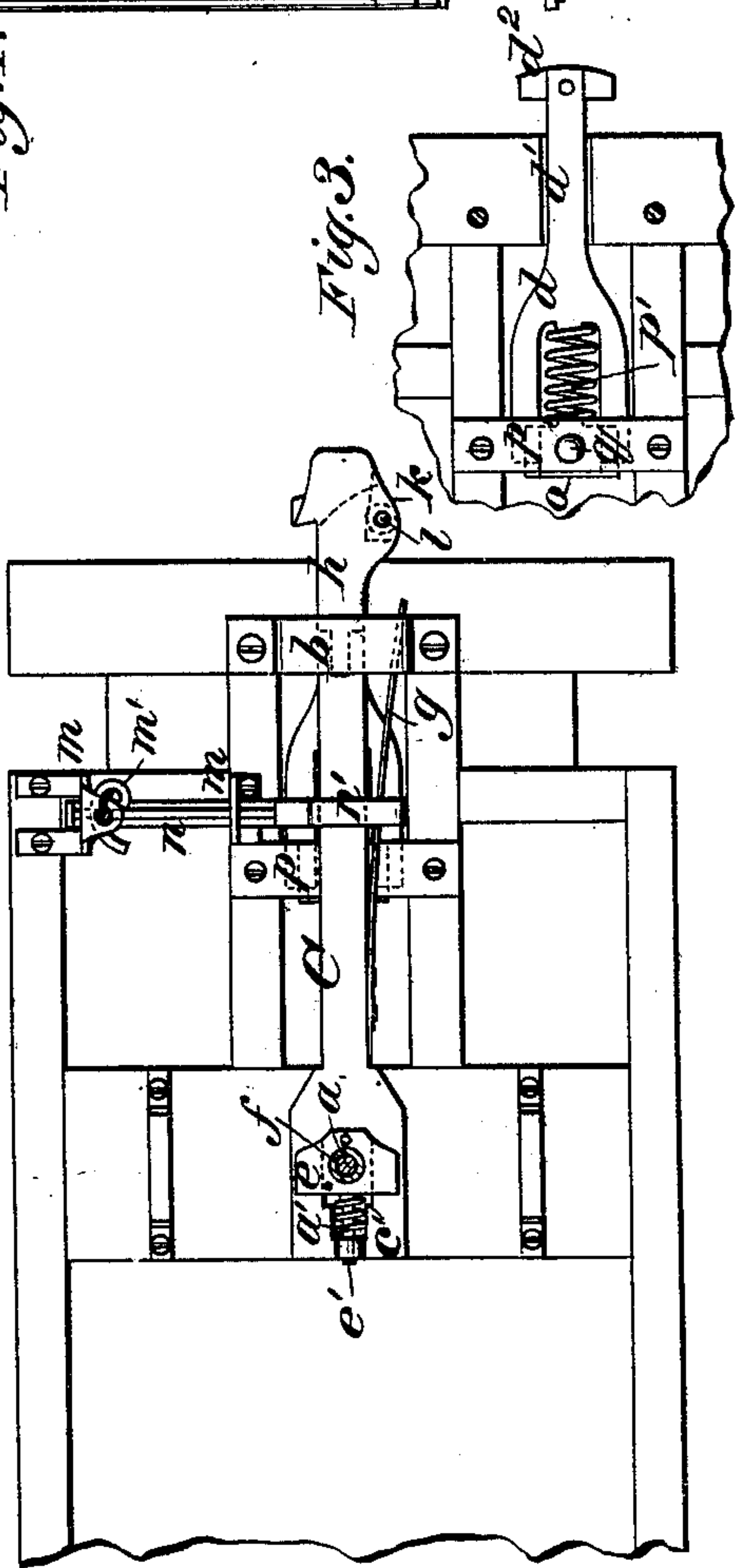


Fig. 3.

INVENTOR:

C. H. Shippee

BY

~~ATTORNEYS.~~

UNITED STATES PATENT OFFICE.

CHARLES H. SHIPPEE, OF WICKFORD, RHODE ISLAND.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 229,763, dated July 6, 1880.

Application filed April 16, 1880. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. SHIPPEE, of Wickford, in the county of Washington and State of Rhode Island, have invented a new and useful Improvement in Car-Couplings, of which the following is a specification.

The object of my invention is to arrange car-couplings so that cars can be coupled automatically and avoid danger to life and limb; also, to construct couplings so that they will couple with the Miller coupling and with a common link to any usual form of draw-head; further, to allow application of the couplings to freight-cars in such manner that they can be all arranged at one height.

Another object of my invention is to shorten the space between the cars and leave only the space required in turning a curve.

My couplings are constructed to remain coupled together so long as the cars are on the track, but are immediately disconnected by the cars leaving the track. Thus, in case of accident, a car leaving the track would not drag the others off. The buffers are arranged to remain under tension at all times while the cars are connected, even before the hooks connect, and thus the hooks will be kept in place without the use of side springs. As most freight-cars with ordinary couplings have solid or very slight spring-buffers, my buffers will take the greater part of the shock and concussion when the cars are brought together and save the evil effects from such shocks. The spring draw-bar acts in the same manner to relieve the shock of starting the train.

My present invention is an improvement on the coupling shown in an application of mine heretofore made; and it consists in certain novel details of construction, which will be described hereinafter with reference to the accompanying drawings, forming part of this specification.

In the drawings, Figure 1 is a vertical longitudinal section of cars having my coupling devices applied thereto. Fig. 2 is an inverted plan view of one car-platform with the truck removed. Fig. 3 is an inverted plan view, showing the buffer. Fig. 4 is an end elevation of a car. Fig. 5 is a detail view.

Similar letters of reference indicate corresponding parts.

A is a car-truck of any usual construction. *a* is the king-bolt on which car B swivels. C is the draw-bar, swinging horizontally on its connection to the car, which connection, as shown, is by the bolt *a*, and sustained at its outer end by a hanger, *b*. *d* is the spring-buffer fitted in the car-platform, as hereinafter described. These parts are the same on each car, and their description as fitted to one car will apply to both.

The draw-bar C is formed at its inner end with an oblong aperture, in which is fitted the block *e*, which is upon the king-bolt *a*.

The block *e* is formed with side flanges that take at opposite sides of bar C, so that the block is retained in place in the aperture, while the bar may slide on the block, and the block *e* is also formed with a pin, *e'*, that projects backward through an aperture in the end of bar C.

Around the pin *e'* is a spiral spring, *a'*, that acts to draw the bar C backward and to hold the spring *a'* in place. The pin *e'* is enlarged next to the block, and there is a boss, *b'*, around the aperture for the pin *e'* in bar C. (Shown most clearly in the detail, Fig. 5.)

To relieve the bar C of any pressure from the weight of the car, the bolster of the truck B and the cross-timber of the car are fitted with tubular bearings *f*, which contain the king bolt, and upon which the block *e* is fitted.

The bearings *f* are secured by bolts or screws in any suitable manner, and the bearing on the truck-bolster is formed with an annular flange, on which the block *e* rests, while the upper tube *f* bears on the upper side of block *e*.

By this construction the bar C may swing freely, and it will be seen that the height of the car-platform above the truck may be regulated by making the bearings *f* longer or shorter, and the bar C hung closely down to the truck or elevated by placing washers around the lower bearing *f*.

I prefer to make the block *e* in two or more pieces connected together by bolts, as shown in Fig. 5.

The slot in the bar C is formed with shoulders *c'*, which limit the forward movement of the bar and prevent the spring from being crushed. Upon one side of the draw-bar C is

a spring-arm, *g*, that bears at the inner side of the hanger *b*, and acts to retain the bar C in position for coupling with a similar bar on an adjacent car. When coupled with a similar bar the spring *g* is but slightly compressed; but when coupled with a Miller coupling the spring *g* will be fully compressed. Upon the outer end of the draw-bar C the coupling-hook *h* is hung by a knuckle-joint, so that the hook may swing upward.

The hanger *b* is made wide enough to protect the joint and hold the bar C. Upon the cross-timber of the platform, above the hanger *b*, is fitted a beveled plate, *i*, which prevents the bar C from rising, but permits the upward swinging movement of the hook *h*. The projection forming the hook is at one side, and the outer end of the hook is tapered to form a knife-edge.

The upper side of the hook *h* is formed with an inclined shoulder, *h'*, for the purpose of causing side movement of the hooks by contact with the point of the opposite hook. The face of the shoulder *h'* is undercut, as seen most clearly in Fig. 1, so that when the point of the opposite hook strikes the shoulder it will be prevented from rising. I prefer to form the face of the shoulder *h'* and all wearing parts of the hook of steel, attached in any desired manner.

In the side of hook *h*, opposite to the hook-projection, a horizontal slot, *k*, is formed for receiving an ordinary coupling-link, which will be retained by inserting a pin through the hole *l* in hook *h*, the said hole being counter-sunk to allow the head of the pin to drop down flush with the surface of *h*. This permits the connection of the hook *h* with an ordinary draw-head, or, by a link, to a similar hook, *h*, if required. The slot *k* in the hook is not carried through at the back, but is left with a solid portion, which acts as a stop for the link. When the slots *k* are in use it is necessary that they be in line, and the bars C must be moved sidewise for that purpose.

To move and retain the bar C there is fitted in hangers *m*, beneath the car, a slide rod or bar, *n*, which carries a loop or stirrup, *n'*, that is around the draw-bar C. The bar *n* is held in a normal position by a pin, *m'*, or a padlock inserted through it at the side of one of the hangers *m*, in which position the loop *n'* allows movement of bar C, as required, for coupling to a similar bar or a Miller hook.

To bring the slots *k* into line the pin or lock *m'* will be removed, and the bar *n* may then be moved endwise, and bar C brought to the desired position in strap *b*.

The buffer *d* is fitted between the longitudinal timbers of the platform, above the draw-bar C, and extends in front at the center of the platform. The rear end of the buffer *d* is

forked or slotted to pass at opposite sides of a block, *o*, and between the top and bottom plates, *p p*, which carry the block *o*. The plates *p* are bolted to the timbers of the platform, and block *o* is held by a pin, *q*, or bolt, which passes through it and the plates *p*. This construction permits endwise movement of buffer *d* on block *o*, and the buffer may be allowed a slight lateral movement by block *o* turning on its pin. A spring, *p'*, between the block *o* and the bottom of the slot in *d* serves to project the buffer forward. The forward part of the buffer *d* is formed of two straps, *d'*, that pass above and below a cross-timber of the platform, as shown in Fig. 1, and receive between them, at their outer ends, the buffer-head *d²*. The straps *d'* are preferably of wrought-iron, attached to the rear part, which is a casting, in any suitable manner, and the buffer-head *d²* will be of steel or chilled iron, attached by any means sufficient to retain it in place.

In some cases, where no king-bolt is used, or when it is not desired to hang the draw-bar C on the king-bolt, the pin *q*, which carries the block *o* of the buffer, may be extended down to receive the block *e* of the draw-bar. The pin *q* will, in that case, be the pivot of the draw-bar, and it may be carried back as near as possible to the center of motion of the truck and car.

While the cars are coupled together the buffers will be in contact and be under constant tension, which will prevent disengagement of the coupling-hooks. The hooks, when they come together, pass one upon the other, and also move sidewise until the hooks clear and the upper one drops behind the other.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In car-couplings, the tubular bearing *f*, fitted in the bolster of the truck and the cross-timber of the car, combined with the king-bolt *a*, block *e*, and slotted draw-bar C, substantially as and for the purpose set forth.

2. The hook *h*, hung on the swinging draw-bar C, and formed with the inclined shoulder *h'*, that is undercut on its face, as and for the purposes set forth.

3. In combination with the swinging draw-bar C and its coupling-hook *h*, the slide-rod *n* and hook or stirrup *n'*, fitted for retaining the draw-bar in place, substantially as shown and described.

4. In combination with the slotted buffer *d*, the block *o*, plates *p*, spring *p'*, and pin *q*, substantially as shown and described.

CHARLES HORACE SHIPPEE.

Witnesses:

HENRY T. CHADSEY,
JEREMIAH CARPENTER.