

(No Model.)

A. SWITZER.  
CAR COUPLING.

No. 386,505.

Patented July 24, 1888.

Fig. 1.

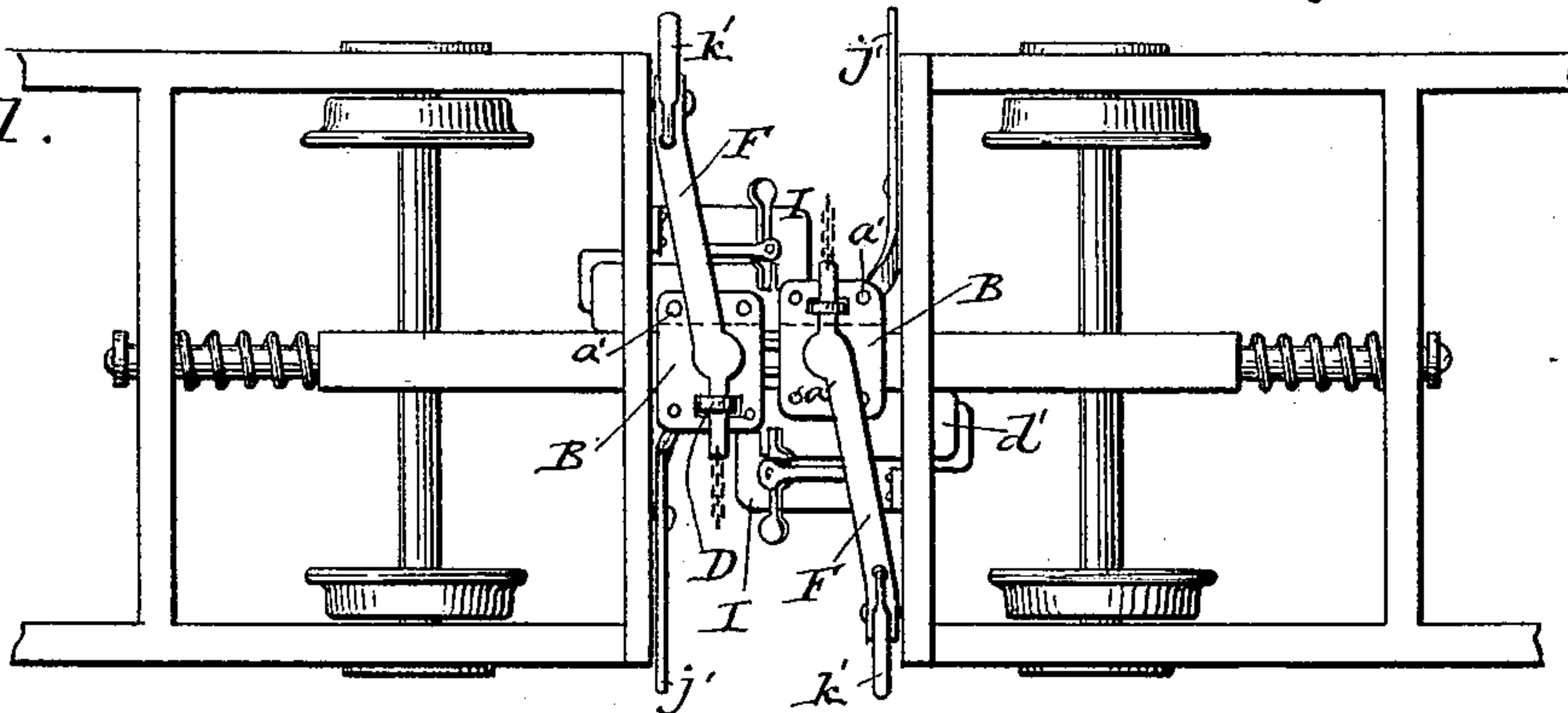


Fig. 2.

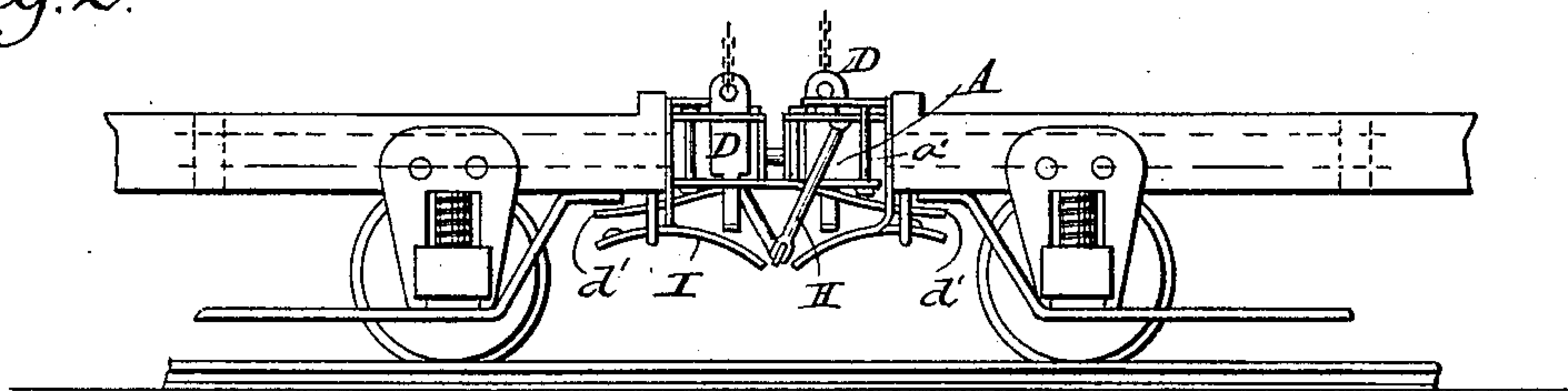


Fig. 3.

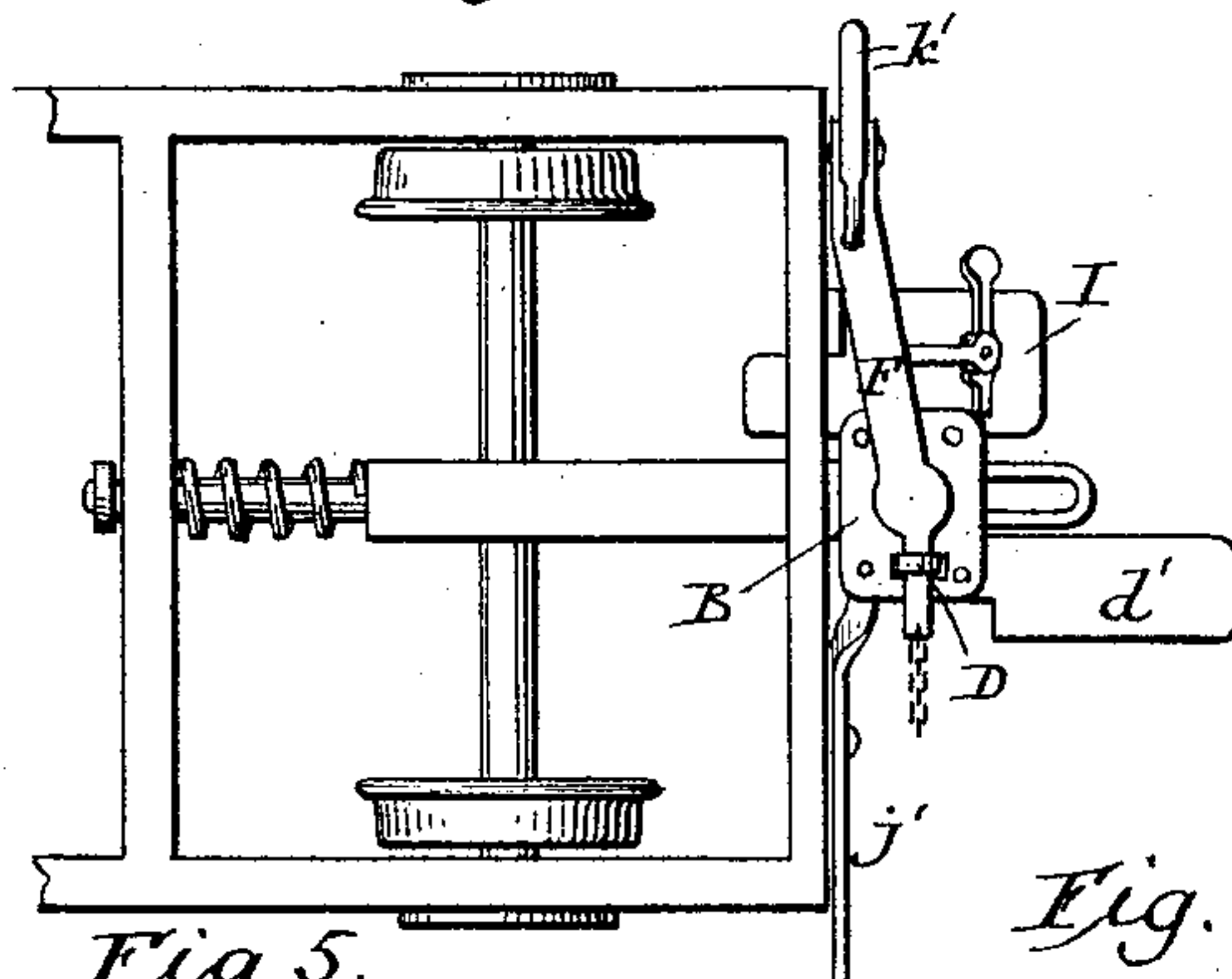


Fig. 4.

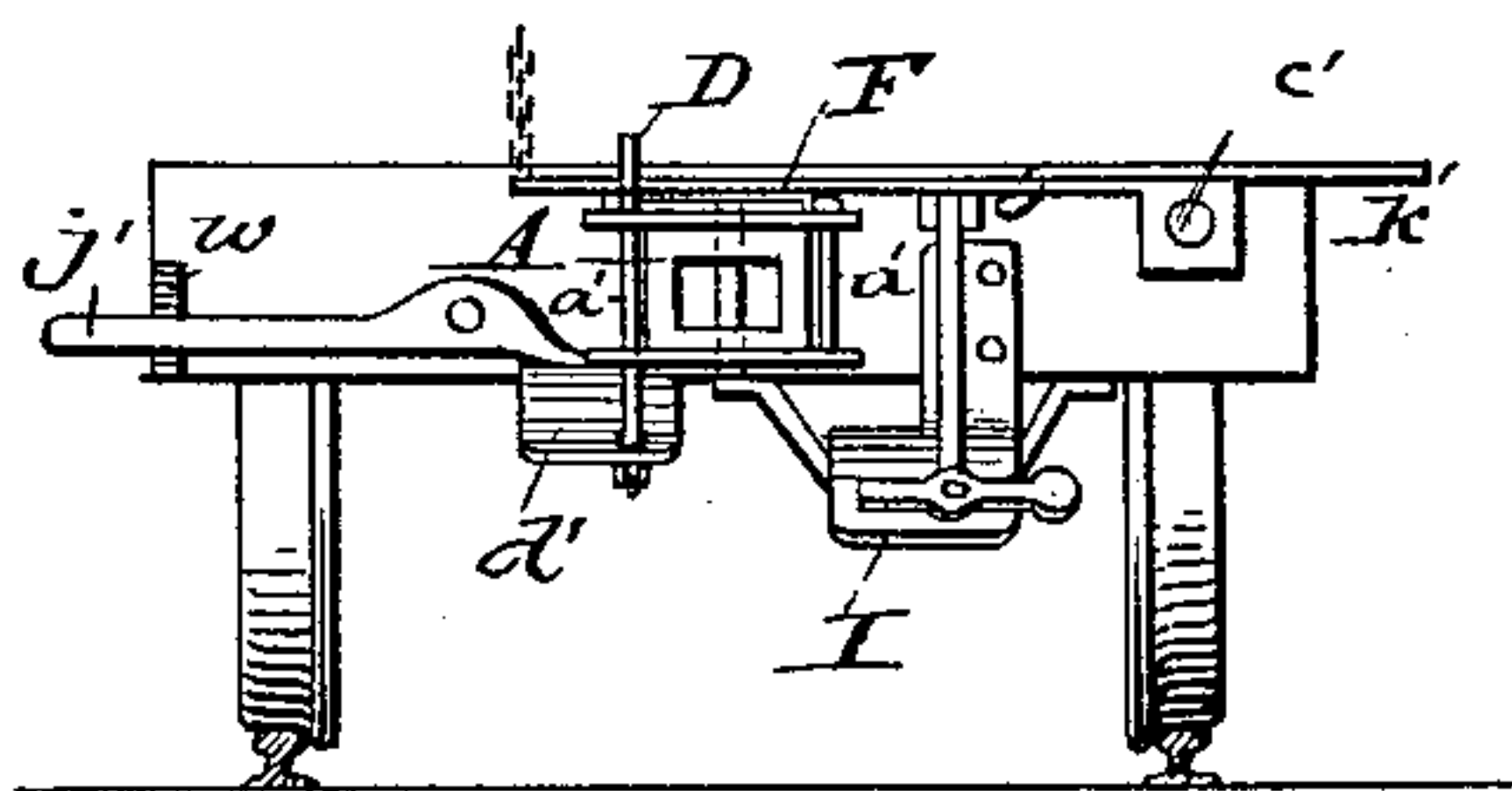


Fig. 5.

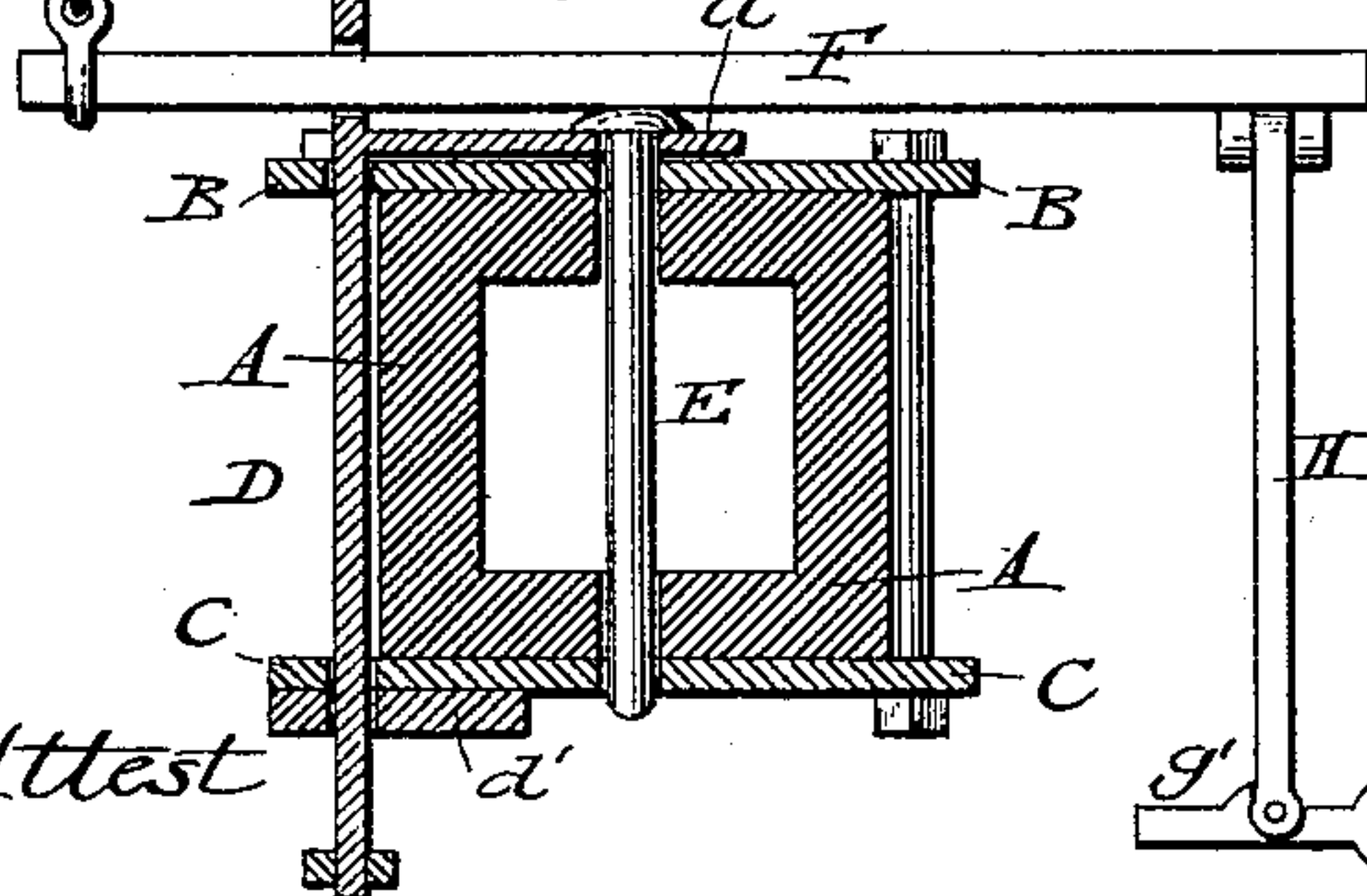


Fig. 6.

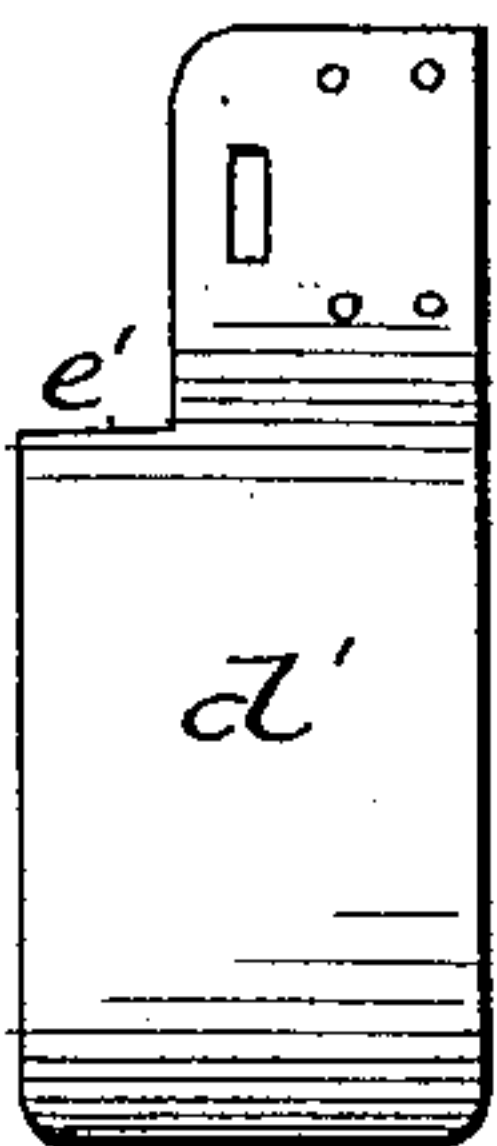
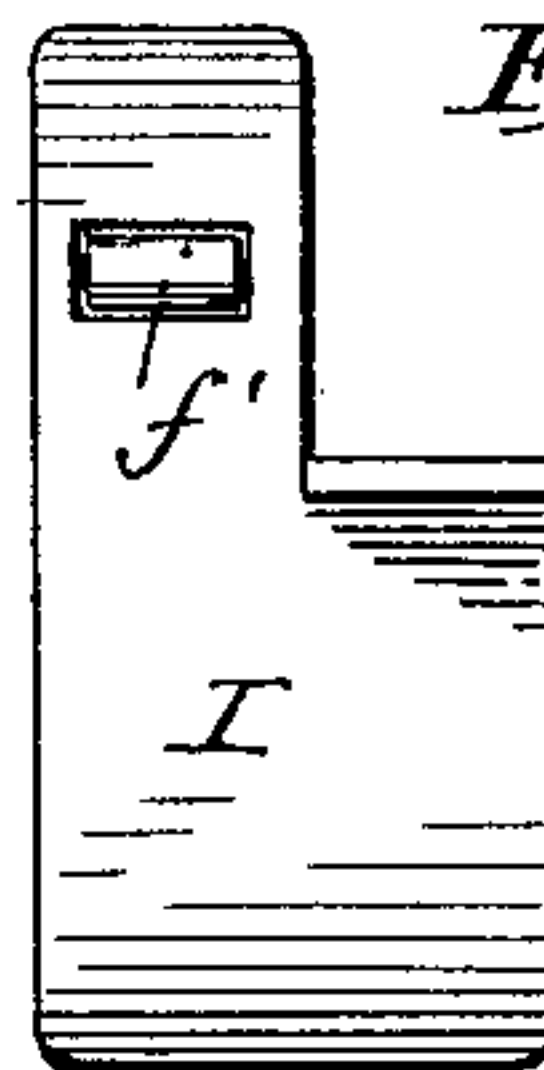


Fig. 7.



Attest

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# UNITED STATES PATENT OFFICE.

ALBERT SWITZER, OF GRENFELL, NORTH-WEST TERRITORY, CANADA.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 386,505, dated July 24, 1888.

Application filed March 10, 1888. Serial No. 266,917. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT SWITZER, a citizen of the Dominion of Canada, residing at Grenfell, in the North-West Territory, have invented certain new and useful Improvements in Automatic Car-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, and forming part of this specification.

My invention relates to improvements in automatic couplers for railway-cars, and has for its object economy in first cost, simplicity of construction, non-liability to breakage or derangement of its parts, and also a lessening of the risk of injury to persons employed about railway-trains. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of portions of two cars coupled together with my improved coupler, and Fig. 2 is a side view of the same. Fig. 3 is a part plan view, and Fig. 4 a part end view, of one of the cars separately. Fig. 5 is an enlarged transverse sectional elevation of the draw-head, and Figs. 6 and 7 are plan views of the bottom and guide plates, respectively, which are attached to the draw-head.

Similar letters refer to similar parts in the several views.

The draw-head, with its bar and spring attachments, are of the ordinary patterns, and no new features are claimed in them. To the top and bottom, however, of the draw-head two plates, B and C, are secured by the bolts *a*, and the purpose of which will be hereinafter fully explained.

The pin-lifter D is movable vertically through openings made in the plates B and C, and is provided with an arm, *b'*, which extends over the draw-head and supports the coupling-pin E, which hangs through an opening in said arm as far as its head, which is made larger than the opening in the arm. The pin-lifter passes through the lower plate, C, and has its lower end bent laterally; or it may be provided with a nut or pin, for the purpose of preventing its being unintentionally drawn up

out of place. The upper part of the pin-lifter, which protrudes through the top plate, B, is perforated to receive the end of the lever F, which is fulcrumed by the pin *c'* on any suitable or convenient part of the car. A limb or plate, *d'*, is secured to the lower plate, C, projects forward from one side of the draw-head, and is bent downward, as shown in Fig. 2, thus forming a curve or incline plane, which serves for raising the coupling-pin of the car toward which it is moving, so as to admit the coupling-link G. This raising of the coupling-pin is effected by the inclined limb *d'* of one car being driven under a depending arm, H, which is attached to the lever F of an adjacent car, thereby raising the lever, and with it the pin-lifter and coupling-pin. So soon as the draw-heads have come sufficiently near together that the coupling-pin might draw through the link the shoulder *e'* of the limb *d'* passes the arm H, which immediately drops behind the shoulder, and so allows the coupling-pin to drop into the link. An inclined guide-plate, I, is secured to the car-truck, substantially as shown. The purpose of this plate is to assist in bringing the two draw-heads to a common level, as when the downwardly-turned end of the limb *d'* of the other car impinges on and is caused to slide up the inclined surface of the guide-plate it raises the draw-head to which said limb is attached. A small roller, *f'*, is journaled in the guide-plate I, to lessen the friction between it and the limb *d'* as the latter passes over it.

To the bottom end of the depending arm H a small tilting lever is hinged, having a light end, *g'*, provided with a shoulder on its upper side to come against the arm and prevent the weighted end, *h'*, descending below a level position, and its other end provided with a weight for holding the lever normally in a horizontal position. When two cars are to be separated, the light end of the lever has to pass under the inclined limb *d'*, and in so doing must necessarily be turned downward, but on passing the end of the limb immediately attains its level position.

For uncoupling the car, the coupling-pin may be raised by means of a rod or chain attached to the pin-lifter and extending up to the car platform or roof, as found more suitable, or by

means of a lever attached to the pin lifter and extending outward to the side of the car; or also by means of the hand-levers  $k'$ , which extend outward laterally to the outside of the car, as shown in the drawings.

To allow the coupling of cars of different heights to be brought to a common level, the opening in the end girt of the car-truck frame is made of such depth vertically as will allow the draw-head bar, which passes through it, sufficient up-and-down play for that purpose. This car-coupling may be connected and coupled to any other car having ordinary couplings by means of the lever  $j'$ , which will lift the draw-head to any desired position and retain it there by the end of the said lever engaging in one of the notches of catch  $w'$ , which is secured to the car-truck for that purpose.

Having thus described my invention, what I

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

1. The combination, in a car-coupler, of the plate C, secured to the draw-head and having the limb  $d'$ , on which is formed the shoulder  $e'$ , with the lever F, having the arm H, and engaging with the pin lifter D, which is provided with the arm  $b'$ , which carries the coupling-pin E, substantially as herein shown and described.

2. The combination of the plate C, having the inclined limb  $d'$ , and its shoulder  $e'$ , with the inclined guide-plate I, secured to the car-truck, substantially as shown, and for the purpose herein set forth.

ALBERT SWITZER.

Witnesses:

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