

(No Model.)

J. B. GRANGER.  
CAR COUPLING.

No. 427,683.

Patented May 13, 1890.

Fig 1.

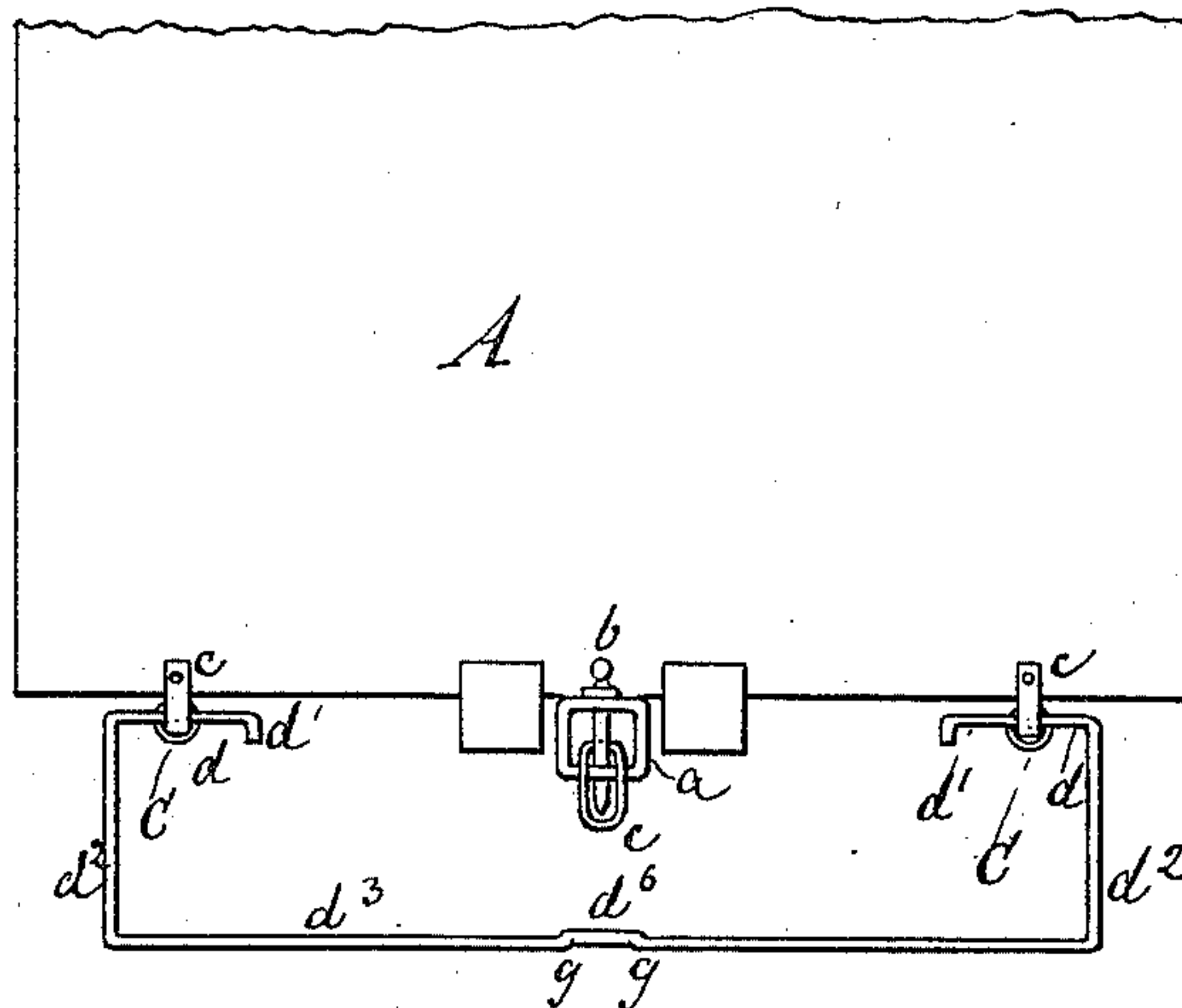


Fig 2.

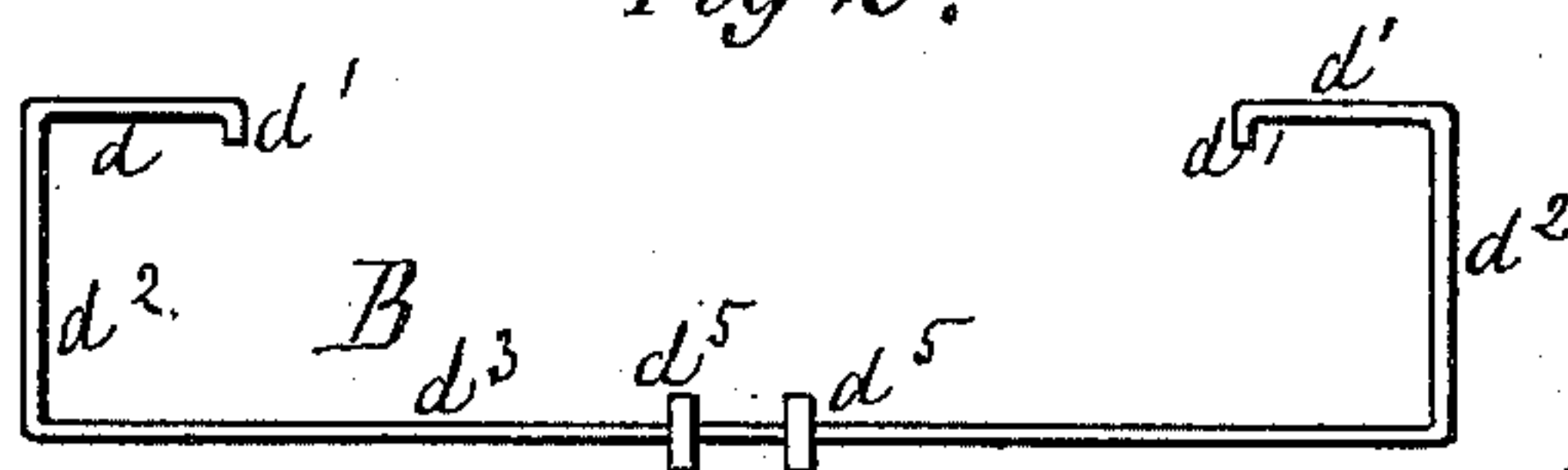


Fig 3.

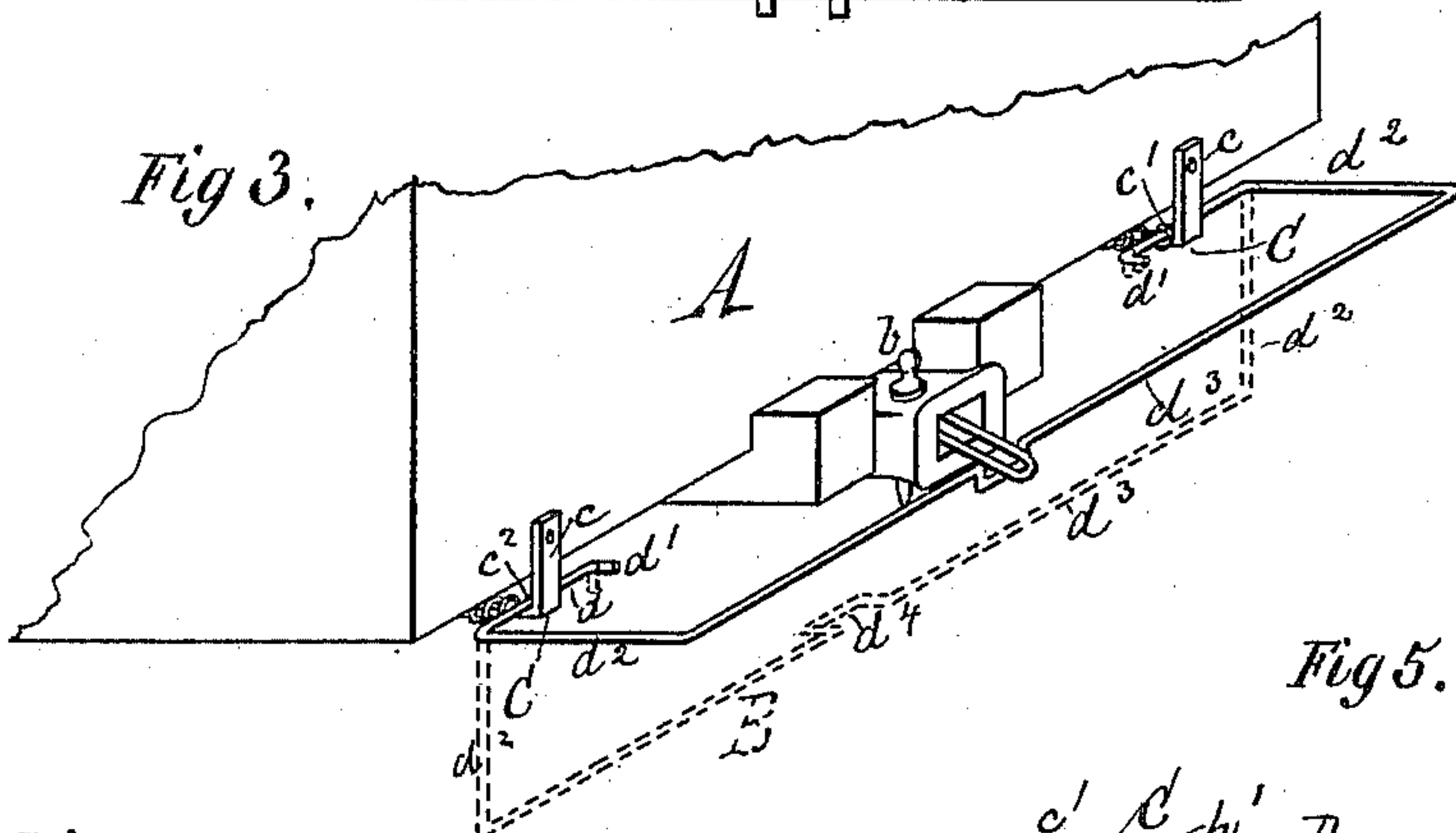


Fig 4.

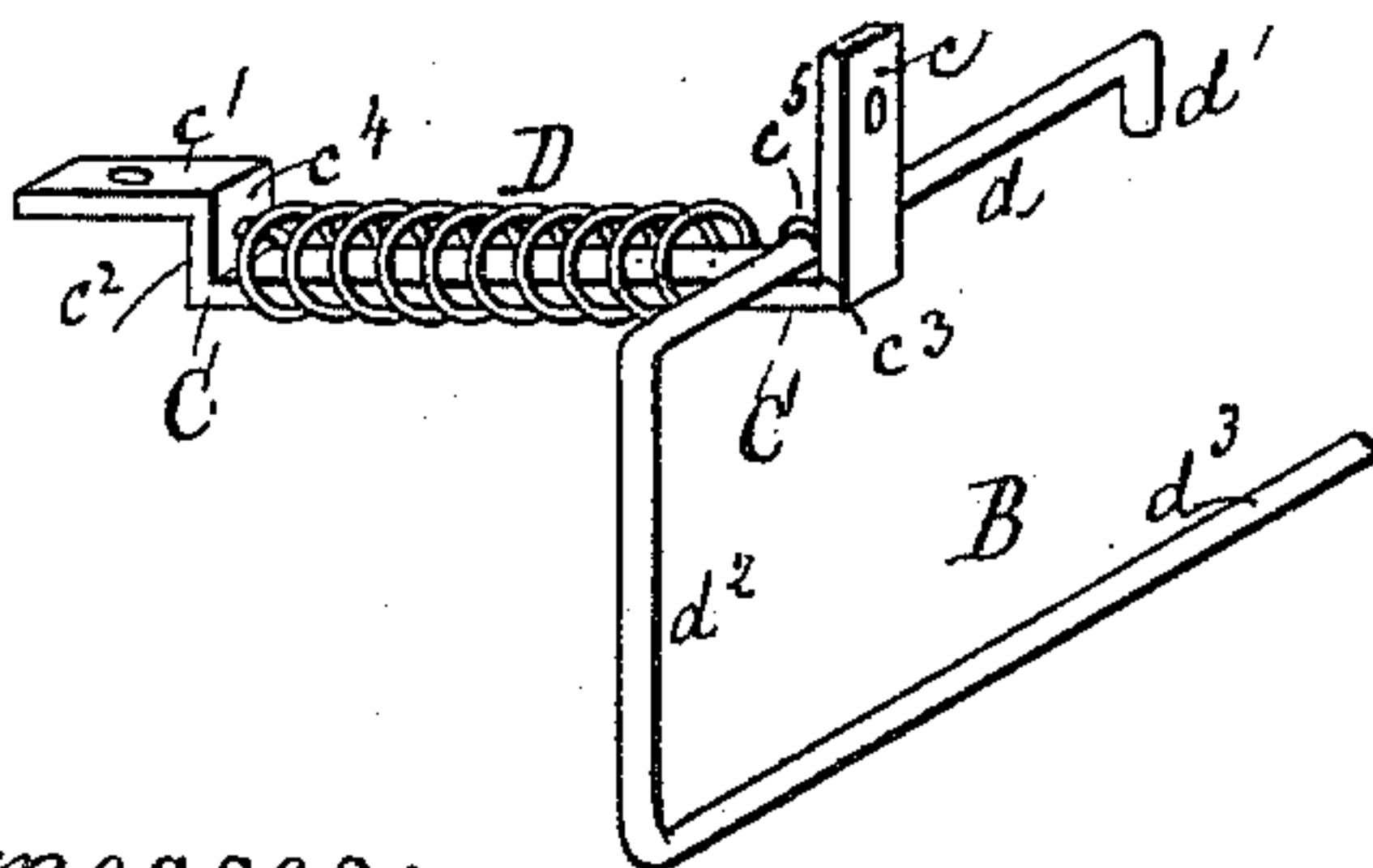
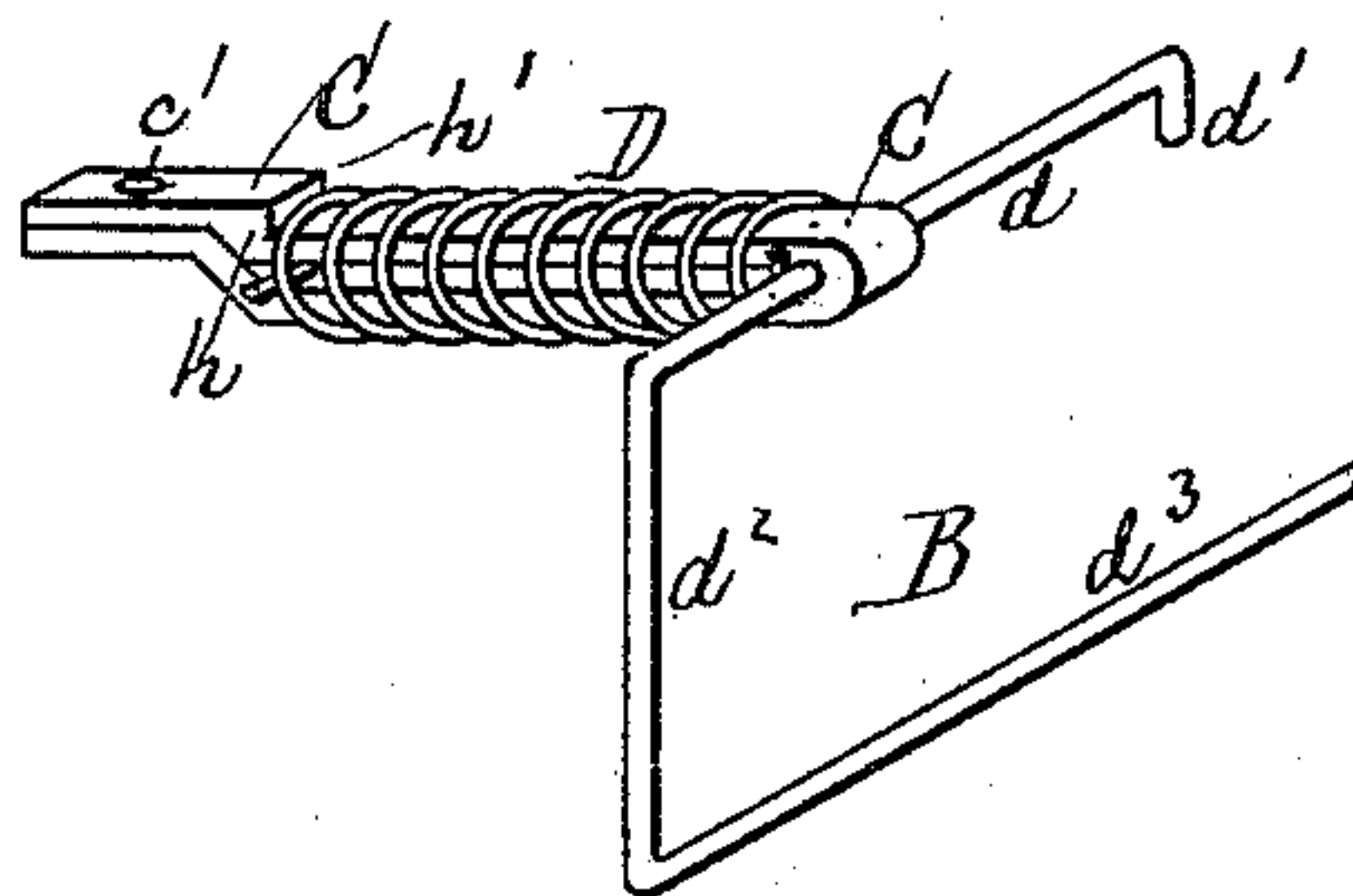


Fig 5.



Witnesses:

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Inventor:

James B. Granger  
by his Attorneys  
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# UNITED STATES PATENT OFFICE.

JAMES B. GRANGER, OF DELHI, NEW YORK, ASSIGNOR OF ONE-HALF TO  
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## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 427,683, dated May 13, 1890.

Application filed March 4, 1890. Serial No. 342,627. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES B. GRANGER, a citizen of the United States, residing at Delhi, in the county of Delaware and State of New York, have invented certain new and useful Improvements in Car-Couplers; 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.

My invention relates to that type of car-coupler which is provided with a link-lifter; and it consists in a novel link-lifting bail-like lever-frame applied in supports or brackets on each side of the draw-head and on a plane below the bottom or sills of the car, and which is adapted to be swung up by its front handle-bar underneath a link within the draw-head of a stationary car, and thereby lift said link to a coupling position with respect to the draw-head of a moving or approaching car.

It also consists in certain novel features of construction, combinations, and arrangements, whereby the said frame is protected from injury when the cars come together before the handle portion thereof has fallen from its horizontal or nearly horizontal lifting position, its automatic return to its normal position insured, and provision made for taking hold of the link and effecting any necessary lateral adjustment of the frame and link together for bringing the link to a sure coupling position, as will be hereinafter described.

In the accompanying drawings, Figure 1 is a front or end view of a freight-car with my link-lifter applied to it, the link-lifter being shown hanging down at right angles to the draw-head and the coupling-link inclined with respect thereto. Fig. 2 is a perspective view of the same, the lifter and link being shown by full lines raised to the proper position for a moving or approaching car to be coupled to the stationary car, which latter is equipped with the link-lifter, the dotted lines showing the position that the link is caused to drop to by its gravity and the manipulation of the operator during the said coupling operation. Fig. 3 is a front view of the link-

lifter, showing collars or shoulders shrunk or otherwise formed on or applied to it, instead of its being bent for the purpose of forming jaws to take hold of the link and move it laterally, as occasion may require, in order to insure the coupling of the cars. Fig. 4 is a detail perspective view of a portion of the lifter and one of its loop-like guiding supports or brackets and one of the springs, whereby the lifter is kept in connection with the car and yet allowed to recede and get out of the way without injury when it is accidentally struck by an approaching car and is returned to its normal position. Fig. 5 is another perspective view showing a modification of the support or bracket shown in Fig. 4.

A in the drawings designates a car having an ordinary sliding spring draw-head *a*, coupling-pin *b*, and link *c*.

B is the bail-like lever-frame, formed with short transverse axial or pivotal arms *d*, having bent retaining ends *d'*, vertical end limbs *d''*, and a long transverse lever-handle portion *d'''*, extending from near one side of the car to the other side thereof. At a point midway of the length of the handle portion and directly central of the chamber of the draw-head a U-shaped bend *d<sup>4</sup>* is formed in the said handle portion *d'''* by bending the same horizontally in a rearward direction, as illustrated by full lines in Fig. 1, and more clearly by the dotted lines in Fig. 3.

Instead of bending the handle portion of the frame, collars *d<sup>5</sup>*, as in Fig. 2, may be shrunk or otherwise applied on said handle portion for the same purpose as the bend *d<sup>4</sup>* is provided. This frame is applied below the car in loop-like supports or brackets C, fastened by their front ends to the lower edge of the front sill or other part of the front of the car, as indicated at *c*, and by their rear ends to the under side of the side sills or other portion of the bottom of the car by bolts passed through holes *c'* in the said rear end of the said supports or brackets. It will be observed that the brackets are formed with heels or shoulders, as at *c<sup>2</sup>*, and that the bottom portions of the brackets are thereby depressed below the bottom of the car on about a horizontal plane, the said shoulders and the shoul-



ders  $c^3$ , formed by the front vertical portions  
 of the bracket, giving the brackets, when in  
 position, a loop-like form, as represented, and  
 in these loop-like brackets the pivotal arms  
 5  $d'$  of the frame are allowed freedom to move  
 back and forth underneath the car, and thus  
 provision is made for the frame B to move  
 back out of the way without being injured in  
 the event of its being struck by an approach-  
 10 ing car before it has descended out of the way.  
 Around these loop-like brackets, between the  
 shoulders  $c^2$   $c^3$ , spiral springs D are coiled,  
 the rear ends of said springs being fastened  
 to the rear ends of the brackets, as indicated  
 15 at  $c^4$ , and the front ends connected to the piv-  
 otal arms of the frame, as indicated at  $c^5$ . By  
 thus applying these springs the frame is pro-  
 vided with yielding cushions against which it  
 can come in contact, and by the compression  
 20 and yielding action of the springs it is allowed  
 to recede and save itself from injury when it  
 is accidentally struck by an approaching car.  
 These springs serve another important pur-  
 pose—that of returning the frame to its nor-  
 25 mal position as soon as it drops to a vertical  
 position, and thus placing it in position at  
 the front of the car for its adjustment to a  
 horizontal position for lifting the link to a  
 coupling position.  
 30 The frame B is constructed with its pivotal  
 arms of sufficient length right and left of the  
 brackets to allow it to be moved sidewise to  
 any extent necessary for adjusting the link  
 laterally to a proper coupling position. The  
 35 U-shaped bend  $d^4$  of the long transverse lever-  
 handle portion  $d^3$  of the frame forms a de-  
 pression of greater width than the link, and  
 the link is caught in this depression and held  
 from a disconnecting sidewise movement by  
 40 the side jaws  $g$   $g$  of the bent portion, while if  
 the frame is moved laterally the link will be  
 drawn or thrust to the right or left, and there-  
 by brought into proper coupling range with

the chamber of the draw-head of the approach-  
 ing car. 45

In Fig. 5 the angular front portions of the  
 brackets C (shown in Figs. 2, 3, and 4) are left  
 off, and the loops of the brackets are formed  
 by doubling a metal bar provided with shoul-  
 50 ders  $h$   $h'$ , and around these brackets springs  
 are coiled, being fastened at their rear ends  
 to the brackets, as shown. The pivotal arms  
 $d$  of the frame B are fitted in the loop-brackets  
 forward of the springs and move against the  
 55 springs, as will be clearly understood from the  
 drawings. This construction of the brackets  
 admits of the frame being set farther forward  
 in cases where the draw-heads are of uncom-  
 mon length, and thus adapting the invention  
 to varying styles of cars. This link-lifter 60  
 might be applied to platform or passenger cars  
 and serve a useful purpose.

What I claim is—

1. In a car-coupler, the bail-like lever-frame B, applied in supports below the car, substan- 65  
 tially as described.
2. In a car-coupler, the bail-like lever-frame B, applied in loop-like brackets below the bot-  
 tom of the car, substantially as described.
3. In a car-coupler, the bail-like lever-frame 70  
 B, in combination with loop-like brackets and  
 springs, substantially as described.
4. In a car-coupler, the laterally-sliding bail-  
 like lever-frame B, formed with a U-shaped  
 bend or collars and applied below the bottom 75  
 of the car, substantially as described.
5. In a car-coupler, the longitudinally or  
 backwardly and laterally sliding bail-like  
 lever-frame B, substantially as described.

In testimony whereof I hereunto affix my 80  
 signature in presence of two witnesses.

JAMES B. GRANGER.

Witnesses:

W. G. EDGERTON,  
 GEO. A. STURGES, Jr.