

(No Model.)

O. SHAFER & J. STRASIN.

CAR COUPLING.

No. 348,785.

Patented Sept. 7, 1886.

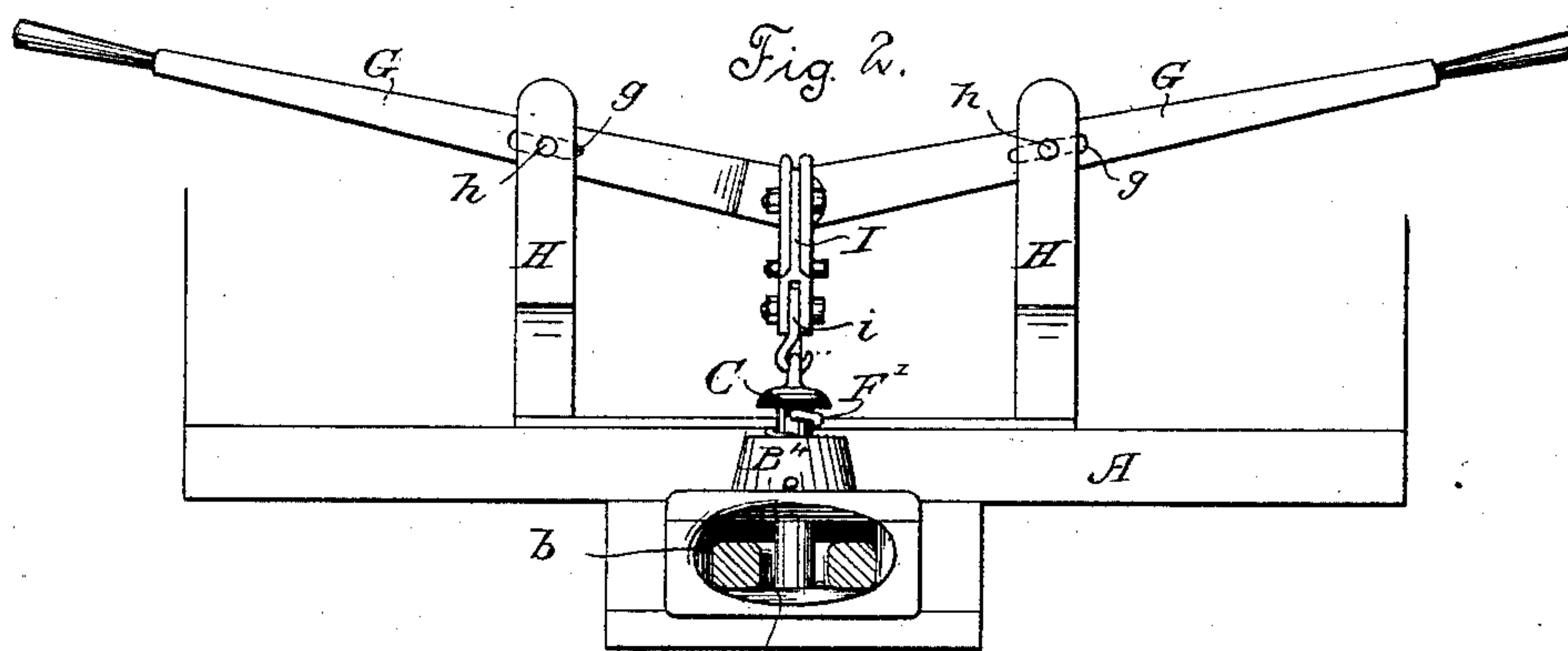
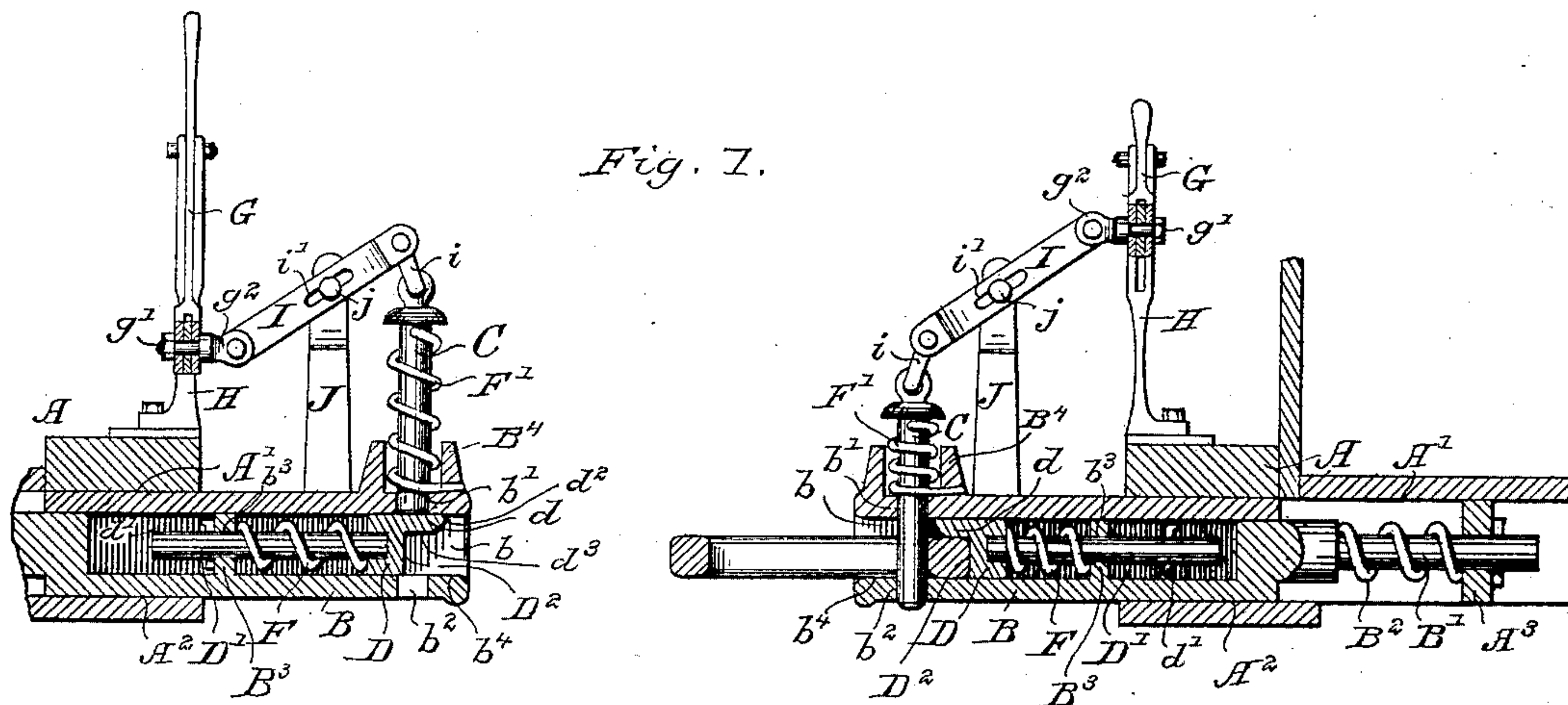
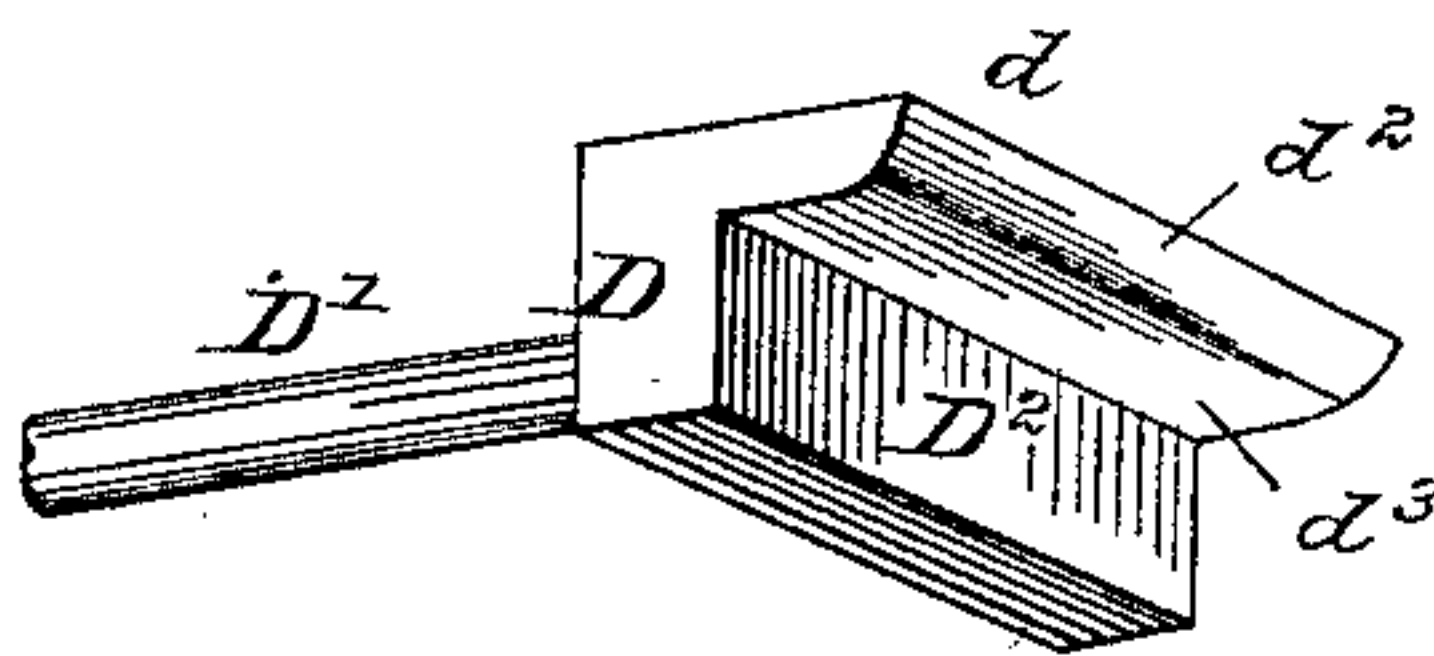


Fig. 3.



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UNITED STATES PATENT OFFICE.

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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 348,785, dated September 7, 1886.

Application filed May 24, 1886. Serial No. 203,060. (No model.)

To all whom it may concern:

Be it known that we, OTTO SHAFER and JOHN STRASIN, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Car-Couplings; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The object of this invention is to provide an improved construction in automatic car-couplings; and it consists in the matters hereinafter described and pointed out in the appended claims.

The car-coupler herein shown as embodying our invention is of that class comprising a recessed draw-head, a vertically-sliding coupling-pin, and a sliding spring-block located within the cavity of the head, and in which an open link is employed for engagement with the coupling-pin, said block being held at the outward limit of its movement and in position to engage and hold the coupling-pin in an elevated position by a spring adapted to allow the block to yield backwardly when encountered by the end of a link held in the draw-head of another car, whereby the pin may be allowed to drop and engage the link at the time the latter has entered the draw-head sufficiently to engage the pin.

As an improved construction in devices of the character above described, I provide the sliding block with a forwardly-projecting flange or lip at its upper edge arranged to overhang the contact-face of the block, and somewhat wider than the thickness of the bar composing the link, said lip being constructed to engage the upper surface of the end of the link in such manner as to sustain the link horizontally and in position to enter the cavity of an opposing draw-head. As herein shown, a spring is applied to the pin for throwing it promptly downward into engagement with the link, and hand-levers pivotally supported upon the car and connected with the pin are employed to raise the latter in opposition to the action of the spring. As far as the main feature of our invention is concerned, however, these and other details may be other-

wise constructed, as found convenient or desirable.

The invention may be more readily understood by reference to the accompanying drawings, in which—

Figure 1 is a central vertical section through two opposing draw-heads, one of which contains a link, and the other of which is in position for engagement with the link held in the other draw-head. Fig. 2 is an end elevation or face view of the end of a car and one of the draw-heads shown in Fig. 1. Fig. 3 is a perspective view of the sliding block shown in Fig. 1 removed from the draw-head.

In said drawings, A indicates the end portion of a car, and B the draw-head, herein shown as mounted to slide between guide-surfaces A' A² upon the frame, and provided at its inner end with a rearward prolongation or stem, B', arranged to slide in a guide, A³, a spiral spring, B², being placed around the stem B', between the guide A³ and the body of the head, to throw the latter outwardly, while at the same time allowing the head to yield backwardly to relieve the shock in the contact of the cars in a well-known manner. The draw-head B is provided with the usual link-cavity, b, and with opposite vertical apertures, b' b², in its top and bottom walls, to receive a straight coupling-pin, C, of a common construction. The cavity b is extended inwardly from the coupling-pin a considerable distance, and within said cavity, and held and guided by opposing parallel walls thereof, is located a sliding block, D, which is provided at its forward upper edge with a flange or lip, d, constructed, when the block is at the forward limit of its movement, to rest beneath the pin-aperture b', and to thereby sustain the pin in its elevated position. The said block D is held at the forward limit of its movement by a spring, F, which may be applied between the block and an opposing part or surface of the draw-head in any way suitable for the purpose.

In the particular construction shown the block D is provided with a cylindric rearward prolongation or shank, D', which is held and guided by passing through a guide-aperture, b³, in a cross bar or wall, B³, formed in or upon the draw-head, the spring E in this

case being of spiral form and placed around the shank D' , between the block and the cross piece or wall B^3 . A pin, d' , is herein shown as inserted through the end portion of the shank D' , so as to encounter the wall B^3 , and thereby limit the outward movement of the block; but any suitable stop upon one or the other of the parts may be employed for the same purpose. The front face, D^2 , of the block D , which is below the flange d , and with which the end of the link comes in contact, is made of about the same width vertically as the diameter or vertical thickness of the bar composing the link, and the lower surface of the said lip is so located relatively to the bearing or supporting surface b^4 , forming lower wall of the opening of the link-cavity, that when a link is inserted in the cavity and engages at its inner end the sliding block and the flange thereon said link will be sustained horizontally and in position for the entrance of its opposite end into the cavity of an approaching draw-head, so that it becomes unnecessary to hold or guide the link by the hand in order to bring it properly into engagement with such approaching draw-head. The lip d is, as shown, inwardly and downwardly inclined or beveled in its outer part, as indicated at d^2 , to direct or guide the end of a link entering the draw-head, and said lip is made with an approximately-horizontal surface, d^3 , in its under part, adjacent to the vertical face D^2 of the block D , said surface d^3 being for the purpose of properly engaging the end surface of the link.

From the construction above described, it is entirely obvious that when a draw-head containing a link engaged with the pin and held horizontally by resting against the opening of the head and the lip d , as above described, and shown at the right hand in Fig. 1, is brought toward a draw-head in which the pin is elevated and held in its raised position by resting upon the lip d of a sliding block held in its advanced position by the spring behind it, the end of the link when it encounters the block will force the latter backward until the pin is released and allowed to descend through the opening of the link, thus completing the coupling without any manipulation by an attendant.

As illustrated in the drawings, a spiral spring, F' , is placed around the pin C , and is attached at its upper end to the top of the pin, and at its lower end to the draw-head, said spring tending to draw the pin downwardly, and thereby insuring its prompt engagement with the link when the block D is thrust backwardly in the manner above stated. The draw-head is, as shown, provided with a tubular part, B^4 , to receive the spring F' , but this construction is used merely to cover and protect the spring, and is not essential to the operation of the parts.

In order to enable the pins to be conveniently raised in unclamping the cars without the necessity of going between the cars for

this purpose, hand-levers G are provided, which are pivoted between their ends upon standards H upon the car-frame, and are connected at their inner ends with one end of a transversely-arranged lever, I , also pivotally sustained between its ends by means of a support, J , and connected at its opposite end with the coupling-pin, preferably by means of a short pivoted connecting-bar, i . The levers G are, as shown, slotted longitudinally at g g for engagement with the pivot-pins h h of the standards H , this construction being employed to enable the inner ends of said levers to move in a vertical line, and the lever I is similarly slotted at i' for engagement with the pivot-pin j of the standard J , for the reason that one end of said lever is pivotally connected with the levers G G , which swing in a vertical plane. In the particular construction illustrated the said levers G G are engaged at their inner ends with a horizontal pivot-pin, g' , having a forked head, g^2 , to which the end of the lever I is pivotally attached; but this and other features of construction in the levers may be varied in practice, as may be found convenient or desirable.

The principal feature of novelty in the device described is embraced in a construction comprising a freely movable pin and a sliding spring-block provided with a projection or lip, d , and this construction is herein broadly claimed without restriction to the other features of construction illustrated.

We claim as our invention—

1. The combination, with a recessed draw-head, of a vertically-sliding pin, a sliding spring-block within the recess of the draw-head, provided with a forwardly-projecting lip or flange constructed to sustain the pin, and to engage the top surface of the end of a link, and a spiral spring, F' , surrounding the said pin, and connected at its upper end with the top of the pin and at its lower end with the draw-head, whereby said spring will tend to draw the pin downwardly when said pin is lifted, substantially as described.

2. The combination, with a recessed draw-head provided with a transverse plate or partition, B^3 , having in it a guide-aperture, b^3 , of a vertically-sliding pin passing through suitable guide-apertures in the said draw-head, a sliding block, D , provided with a forwardly-projecting lip or flange, d , and with a stem, D^2 , passing through the said guide-aperture b^3 , a spiral spring, F , placed between said block D and the plate or partition B^3 , and a pin, d' , inserted through the stem D' at the rear of the said partition B^3 , substantially as described.

In testimony that we claim the foregoing as our invention we affix our signatures in presence of two witnesses.

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Witnesses:

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