(No Model.)

R. J. EDWARDS.

CAR COUPLING.

No. 426,786. Patented Apr. 29, 1890.

Fig. 1.

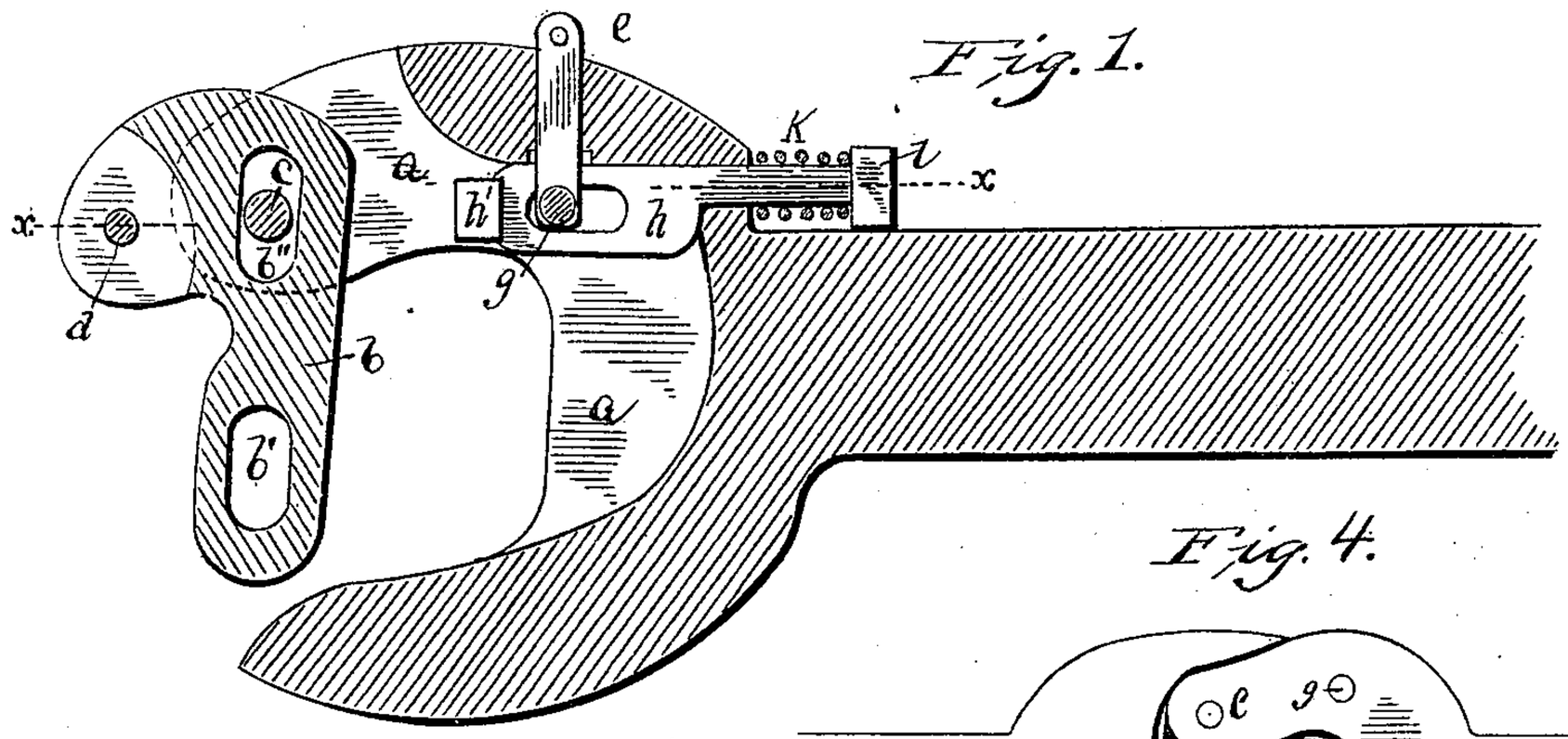


Fig. 4.

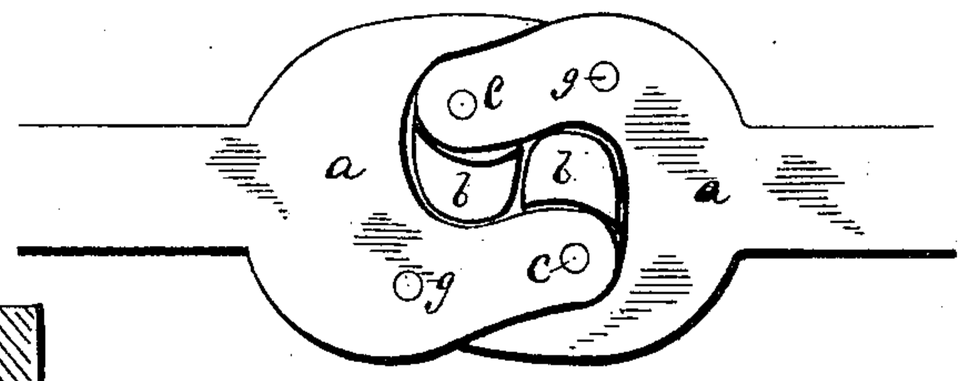


Fig. 2.

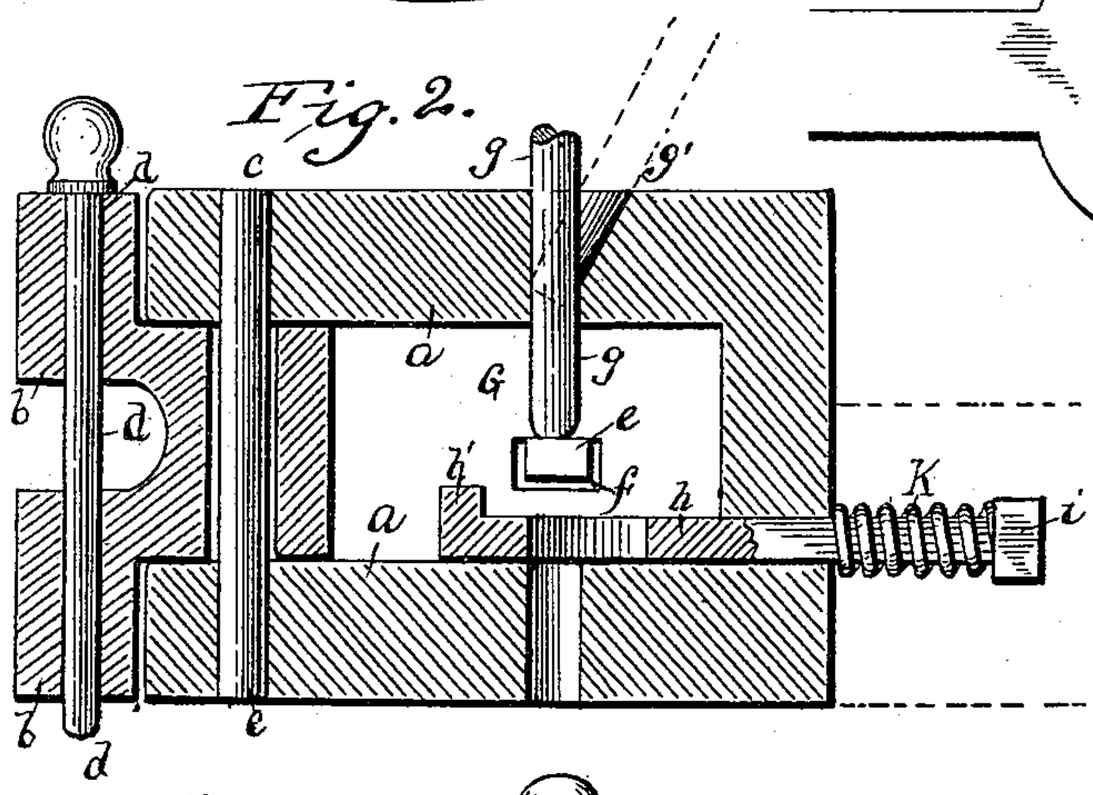
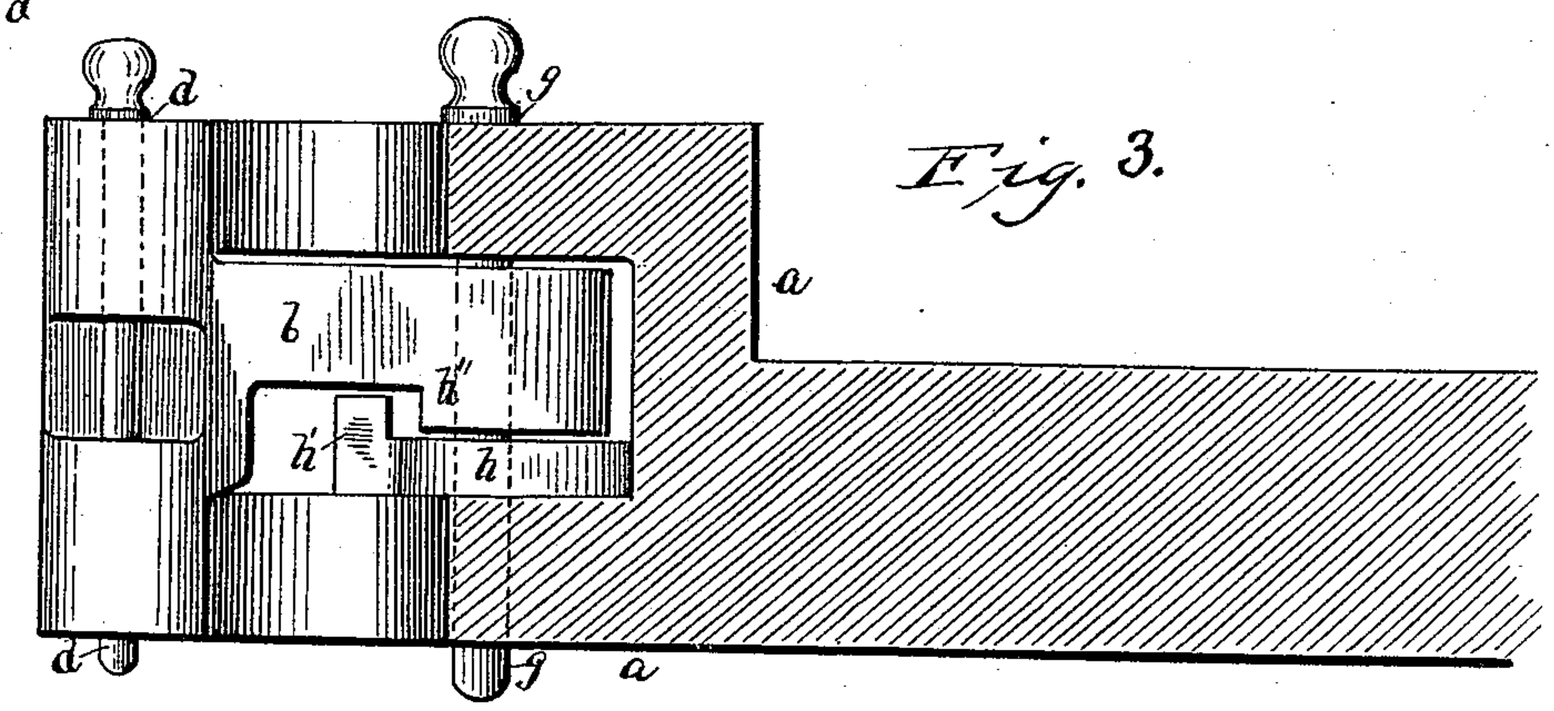


Fig. 3.



WITNESSES

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RICHARD J. EDWARDS, OF GALENA, ILLINOIS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 426,786, dated April 29, 1890.

Application filed February 5, 1890. Serial No. 339,263. (No model.)

To all whom it may concern:

Be it known that I, RICHARD J. EDWARDS, a citizen of the United States, residing at Galena, in the county of Jo Daviess and State of Illinois, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 represents a horizontal sectional view of my improved car-coupling, the parts being in a position to "couple;" Fig. 2, a vertical longitudinal sectional view of the same, taken on the line X X, the parts being in the same position; Fig. 3, a vertical longitudinal sectional view of one of the draw-bars, the parts being shown in the position they occupy when "coupled;" Fig. 4, a detail plan of two draw-bars coupled.

The invention relates to that class of car-couplings wherein two "hooks" or similar devices are employed to do the coupling, these hooks being pivoted upon their respective draw-heads by means of vertical pins and adapted to automatically interlock with each other when the cars come together, as is well known.

The object of the present invention is to overcome the objections to the employment of this class of coupling and combine therewith the well-known advantages of the ordinary "link-and-pin" couplings, thereby producing a device eminently more practical than any now in use for the purpose.

This invention is designed particularly for use in connection with my air-brake and car-coupling devices recently patented by me; but it is evident that this invention may be employed with advantage by itself, as will presently appear.

The special advantage of the particular construction and arrangement of parts here claimed will fully appear in the course of this specification.

In the annexed drawings, *a* designates the draw-head, recessed and bifurcated in the usual manner for the reception of the swinging hooks *b*, pivoted upon a vertical pin *c* near the forward end of the draw-head. In order that the hooks *b* may be coupled to cars using a link, they are recessed or chambered at their front ends and provided with removable vertical coupling-pins *d*.

The letter *e* designates a sliding dog working in an opening formed through the right side of the draw-head, and provided with a head on its inner end to prevent its withdrawal, the interior wall of the draw-head being recessed at *f* to receive this head when the dog is pressed outwardly. This sliding dog is adapted to hold the coupling-pin *g* in a raised position and automatically drop the same when the cars come together. When the arm of the hook swings around and pushes back the sliding dog, the coupling-pin automatically drops through the slot *b'* in the said arm, and thereby locks the hook in such position. Besides the slot *b'* for the passage of the coupling-pin, this hook is provided with another slot *b''* for the passage of the pivotal pin *c*, both slots running in the same direction and being the same length. The object in thus slotting the hook *b* is to permit of a limited longitudinal movement of the same, thereby obtaining in this species of car-coupling the advantages of the "slack" common to all link-and-pin couplings.

In order that the hooks *b* may oscillate slightly sidewise on their pins, which movement is particularly advantageous in turning curves, I form the slots *b' b''* slightly wider than the pins, as shown.

Under the arm of the hook is located a longitudinally-slotted bar *h*, which is provided with an upward projection or shoulder *h'* at its forward end, and has its rear reduced end passed through a horizontal passage in the rear of the draw-head and provided with a nut or head *i*. Between the head or nut and rear end of the draw-head is interposed a strong spring *k*, the tendency of which is to hold the slotted bar back against the rear interior wall of the draw-head. The slot in this bar *h* is in a direct vertical line with the coupling-pin, so that when the cars are coupled the pin will drop through this slot as well as slot *b'* in the hook-arm. The slot in this bar *h* allows the bar a limited forward and backward movement when the coupling-pin is down, as is evident. The lower side of the hook-arm is also provided with a shoulder *h''*, which is adapted at some period of the longi-

tudinal movement of the hook to engage the shoulder h' on the bar h. When the cars are coupled together and started, the interlocked hooks b will slide freely until their shoulders h'' come in contact with the shoulders h' on the bars h, when the springs on the ends of these bars will commence to compress and continue compressing until the pins c and g come against the rear ends of the slots b' b'' in the hooks, after which the pull is directly on the said two pins. The advantage of thus cushioning the sudden pull upon the hooks, and thereby avoiding to a material extent the sudden jarring usually resultant from starting a train of cars, is obvious.

In the old form of coupling the cushioning-spring is usually located in the rear of the draw-bar, and is therefore very inconvenient to remove when worn or broken, (which is quite frequently the case in view of the strain they are being continually subjected to,) whereas in my invention the spring may be readily removed and renewed without disturbing the coupling in the least by simply removing the head-block i, which may be removably secured to the bar h in any convenient manner.

Another important feature of my invention is that the pulling strain is distributed equally between the two pins c and g—a great desideratum with this class of devices, inasmuch as the efficiency and durability will be greatly increased thereby.

Another feature of, perhaps, equal advantage is the side movement or oscillation of the coupling-hooks, for which I provide by widening the pin-slots in the hooks. This is particularly advantageous in turning curves, and is therefore an important provision, inasmuch as a great portion of the mileage of railroads in this country is built upon a curvature.

It will also be observed that by my device the cars will not couple when they come together unless the pin is raised and resting in the dog, which is an advantage in some instances.

The rear wall of the aperture in draw-head for the pin g is beveled off, as at g', in order that the pin may be set in the inclined position shown in dotted lines in Fig. 2, in case it is so desired for any reason.

Having thus fully described my invention, what I desire to secure by Letters Patent is—

1. The combination of the draw-head, constructed substantially as shown, the pivoted coupling-hook b, provided with slots b' b'' of approximately equal length, and the vertical pins c g, passing through said slots, substantially as described.

2. The combination of the draw-head, the pivoted hook b, the sliding dog e, passing through an aperture in the side of draw-head, and a coupling-pin, substantially as described.

3. The combination of a draw-head, a pivoted coupling-hook b, provided with slots b' b'', the pins c g, passing through the slots, and a spring-retracted bar located in the draw-head and adapted to engage the said pivoted hook b at some period of its movement, substantially as described.

4. The combination of the draw-head, the sliding pivoted hook provided with slots, the pins c g, the spring-retracted slotted bar h, passed through an aperture in rear wall of draw-head, a retracting-spring on the protruding end, and a shoulder h' on the bar h, adapted to engage the said sliding hook at some period of its movement, substantially as described.

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

RICHARD J. EDWARDS.

Witnesses:

JAS. S. BAUME,

JOHN M. LEEKLEY.