(No Model.)

T. GRIFFITH.

CAR COUPLING.

No. 545,795. Patented Sept. 3, 1895.

Fig. 1.

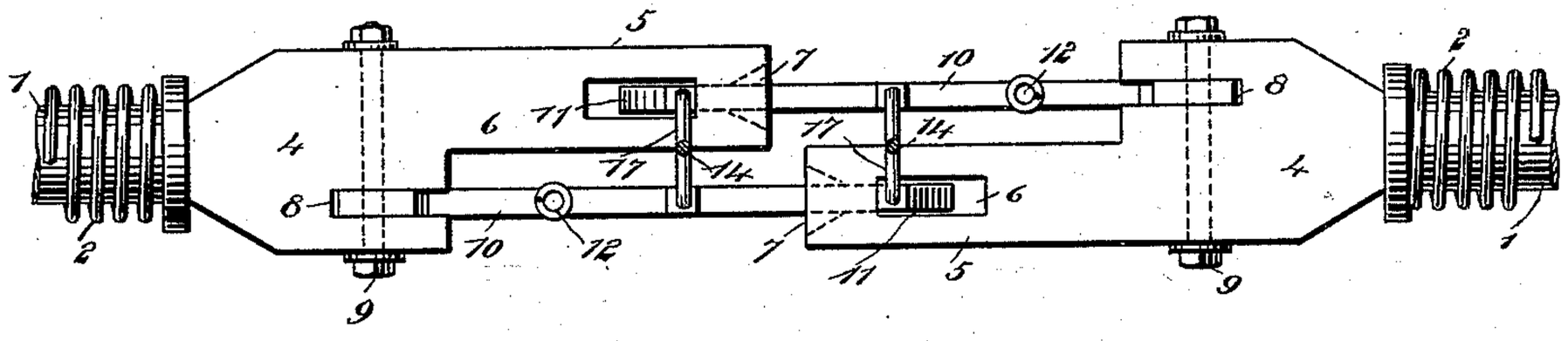


Fig. 2.

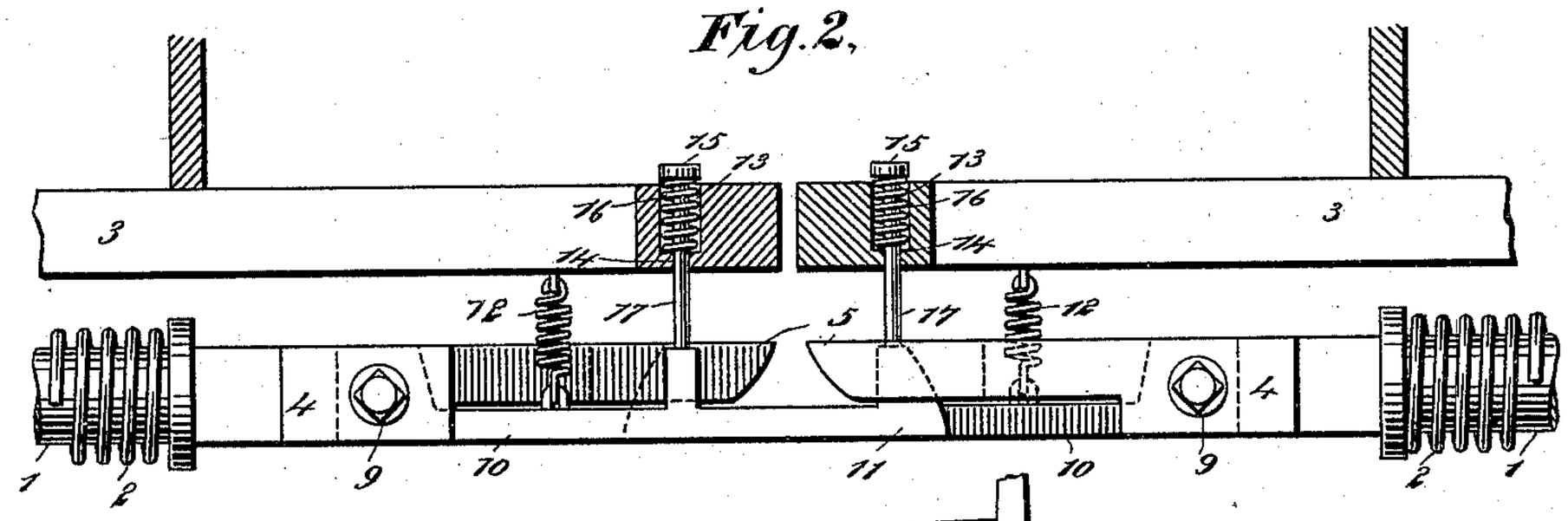


Fig. 5.

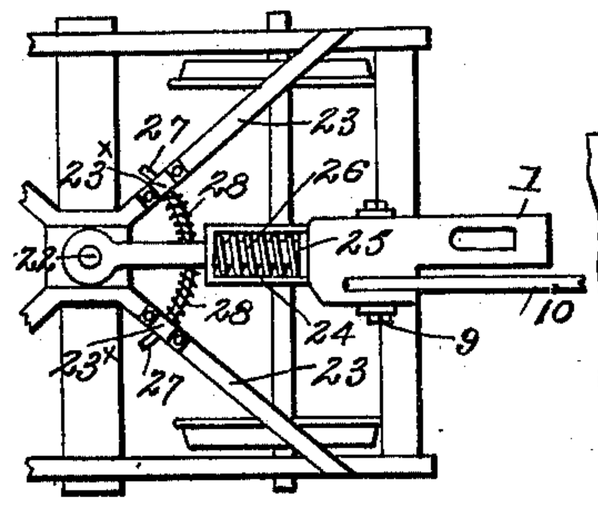


Fig. 3.

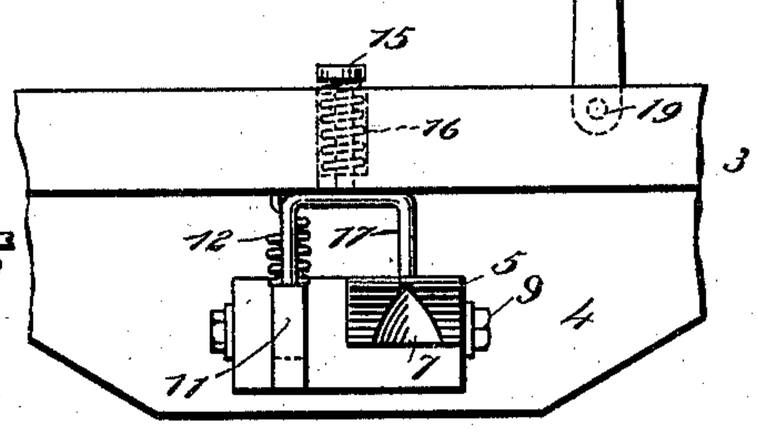
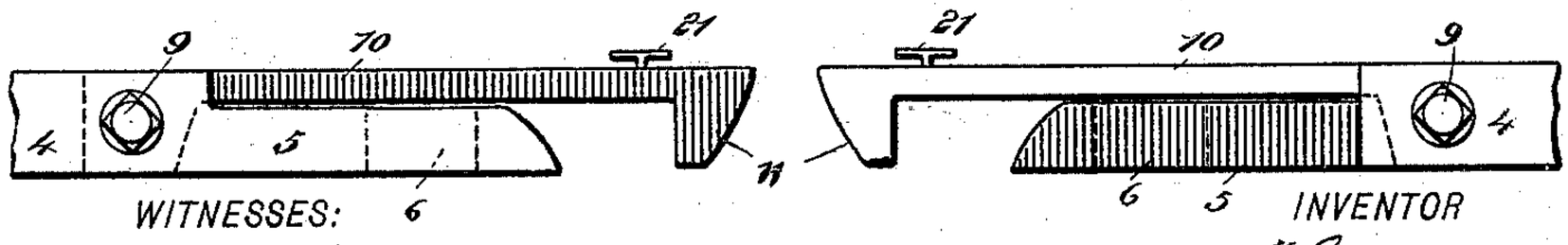


Fig. 4.



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THOMAS GRIFFITH, OF THE UNITED STATES ARMY.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 545,795, dated September 3, 1895.

Application filed April 16, 1895. Serial No. 545,978. (No model.)

To all whom it may concern:

Be it known that I, THOMAS GRIFFITH, of the United States Army, stationed at Columbus Barracks, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Car-Couplers, of which the following is a full, clear, and exact description.

This invention relates to certain improvements in that class of car couplers or coupling devices, wherein the draw-heads at opposite ends of the cars are provided each with a hook and an eye adapted, respectively, to be engaged by similar but oppositely-arranged eyes and hooks on the adjacent end of another car; and the object of the invention is to provide a car coupler or coupling device of this general character which shall present certain features of novelty and advantages for use over other similar devices heretofore employed, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a plan view showing two coupling devices constructed according to my invention adapted to be secured to adjacent ends of two cars to be coupled together. Fig. 2 is a side elevation of the same, showing the position of the parts with relation to the platforms of the cars, the cars appearing partly in section. Fig. 3 is an end view showing the fragment of a car-platform provided with a coupling constructed according to my invention. Fig. 4 is a side view somewhat similar to Fig. 2, but showing a modified arrangement of the coupling devices; and Fig. 5 is a view showing an arrangement of the coupling constructed according to my invention, wherein the draw-head is pivoted on the king-bolt of the truck.

Referring, primarily, to Figs. 1 to 3, 1 1 represent the draw-bars of the cars provided with the usual springs 2 and secured in any preferred manner to the cars 3. Each draw-bar has at its extremity a draw-head 4, provided at one side with a forward extension 5, having an aperture 6, extending vertically through it, said aperture being aligned with an inclined or beveled guide-surface 7, formed on the end of the extension 5, as indicated in dotted lines in Fig. 1 and in full lines in Fig. 3. At the opposite side of the draw-head 4 is formed a journal 8, wherein is pivoted, by means of a bolt 9, a coupling-bar 10, having at its forward end a hook 11, provided with a beveled or inclined front face, as clearly seen, and adapted to round over the inclined face 7 at the forward end of the extension 5 on the opposite draw-head, said bar being connected by means of a spring 12 to the under side of the car-platform in such a manner that when the hook 11 has passed under the forward extension 5 of the opposite draw-head it will be drawn upward and caused to enter the aperture 6 therein, as indicated in Fig. 2.

The draw-heads 4 4 at adjacent ends of the cars to be coupled together are of exactly similar construction, excepting that the forward extension 5 of one draw-head is arranged opposite the coupling-bar 10 of the other draw-head, and in order to disengage the hooks 11 from the apertures 6, I prefer to provide on each car a device whereby the bar 10 of the draw-head of that particular car and the hook 11 of the coupling-bar of the other car may be simultaneously pressed down, so as to disengage the respective hooks from the apertures 6, and this device I will now describe.

The disengaging device comprises a shaft 14, arranged vertically in a recess 13, formed in the platform of the car and provided at its upper end with a head or enlargement 15 and below said head with a spring 16 coiled on said shaft, the lower end of said spring engaging the bottom of said recess 13 of the platform of the car and below said platform said shaft 14 is bifurcated, as indicated in Figs. 1 and 3, and its bifurcations or forks 17 extend in opposite directions, as clearly seen.

The shafts 14 are arranged in the platforms opposite the apertures 6 of the respective draw-heads, and the bifurcations 17 extend laterally on opposite sides of the shaft and are bent down, as clearly seen in Fig. 3, one of said bifurcations being adapted to pass through the aperture 6 into engagement with the hook 11, engaging therewith, and the opposite bifurcation is carried down and connected with the coupling-bar 10. In this man-

ner it will be seen that when the head 15 of the shaft 14 is depressed the bifurcations 17 of said shaft will force down the respective hooks 11, so that said hooks no longer engage the apertures 6 in the draw-head extensions, whereby the cars are uncoupled.

In order to conveniently press down the head 15 of shaft 14, I prefer to employ the construction seen in Fig. 3, which comprises a lever 18, pivoted at 19 on the car-platform and provided with a projection or arm 20 at one side, so arranged that when said lever is swung on its pivot said arm 20 will engage the head 15 and depress the shaft 14 in such a manner as to uncouple the cars.

The construction seen in Fig. 4 is very similar to that above described, excepting that the draw-heads 4 are inverted and the coupling-hooks 10 are adapted to be raised by engagement with the beveled ends of the extensions 5 and to drop from above into the apertures 6, as will be readily seen. In this form of the coupling the bars 10 are provided at their upper sides with hooks 21, adapted for connection with chains or levers mounted on the car-platform, whereby the bars may be conveniently manipulated.

The car-coupling constructed as above described is of an exceedingly simple and inexpensive construction, and its working parts are of such form as to be adapted for usage without liability of breakage. Moreover, the parts are, as will be readily seen, interchangeable, and in case either of them should become broken or damaged it may be readily removed and replaced with little loss of time and labor.

In Fig. 5 I have shown a coupling constructed according to my invention pivoted at its rear end to the king-bolt 22 of the car-truck 23, so as to be capable of a certain degree of lateral or swinging movement. In this arrangement of the device the draw-head 1 is constructed with a chamber 24 at its rear end to receive the headed end 25 of the draw-bar, which is provided with a stout spring 26. To hold the draw-head in its proper position the same is provided with curved guide-rods 27, projecting from its opposite sides, whereon are coiled springs 28, the ends of which abut against the truck-frame 23, which is provided with bearings $23^{\times}$, through which said guide-rods 27 play. In this way it will be seen that when the draw-head is moved laterally in either direction, one of the springs 28 is compressed and acts by its tension to return the draw-head to its normal central position.

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

1. In a car coupling, a drawhead having at one side a perforation and at the other side a pivoted coupling bar provided with an upturned hook, said hook and perforation being adapted to be engaged by a correspondingly located perforation and hook on an opposing drawhead, and a spring connected to said hook and adapted to hold the same normally in operative position substantially as set forth.

2. In a car coupling, the combination of a drawhead having an aperture at one side, a coupling bar pivoted to the opposite side of the drawhead and having an upwardly projecting hook in advance of the aperture in the drawhead, said hook and aperture being adapted for engagement, respectively, with a correspondingly located aperture and hook on an opposing drawhead, and a spring connected to said coupling bar and adapted to hold the same normally in a raised position, substantially as set forth.

3. In a car coupling, the combination of a drawhead having an aperture extending through it at one side, a coupling bar pivoted at the opposite side of the drawhead and provided with an upwardly projecting hook, said hook and aperture being adapted for engagement with a correspondingly located aperture and hook on an opposing drawhead, a spring connected to the coupling bar and adapted to hold the same normally raised in its operative position, a vertically movable shaft mounted on the car platform and provided with forks at its lower end one of which is adapted when depressed to extend through the aperture in the drawhead in position to engage and depress the hook in engagement therewith, the other fork being adapted when depressed to engage the coupling bar and move the same down out of its operative position, and a spring connected to said shaft and adapted to hold it in an elevated position, substantially as set forth.

4. In a car coupling, the combination of a drawhead having at one side an aperture and at the other side a hook, said hook and aperture being adapted, respectively, for engagement with a correspondingly located aperture and hook on an opposing drawhead, a shaft mounted on the car platform and provided with forks, one of which is adapted to play through the aperture in the drawhead and the other of which is adapted to engage the said hook, a lever pivoted on the car platform and an arm on said lever adapted to engage and actuate said shaft, substantially as set forth.

5. In a car coupling, the combination of a truck frame, having a king bolt, a drawhead pivoted at its rear end on said king bolt and adapted for lateral movement, guide rods connected to said drawhead at opposite sides of its forward part and adapted to guide the same, and springs on said guide rods adapted to hold said drawhead normally in a central position, substantially as set forth.

6. In a car coupling, the combination of a drawhead having at one side an aperture and at the other side a hook, said hook and aperture being adapted respectively for engagement with a correspondingly located aperture

and hook on an opposing drawhead, a shaft vertically movable in the car platform and provided with forks, one of which is adapted to play through the aperture in the drawhead and the other of which engages the hook, a spring mounted on said shaft and adapted to hold the same in an elevated position, and a lever pivoted on the car platform and provided with an arm adapted to engage and depress said shaft, substantially as described.

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