No. 608,708. Patented Aug. 9, 1898.

J. P. PAULISSEN.

CAR COUPLING.

(Application filed Feb. 19, 1897.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

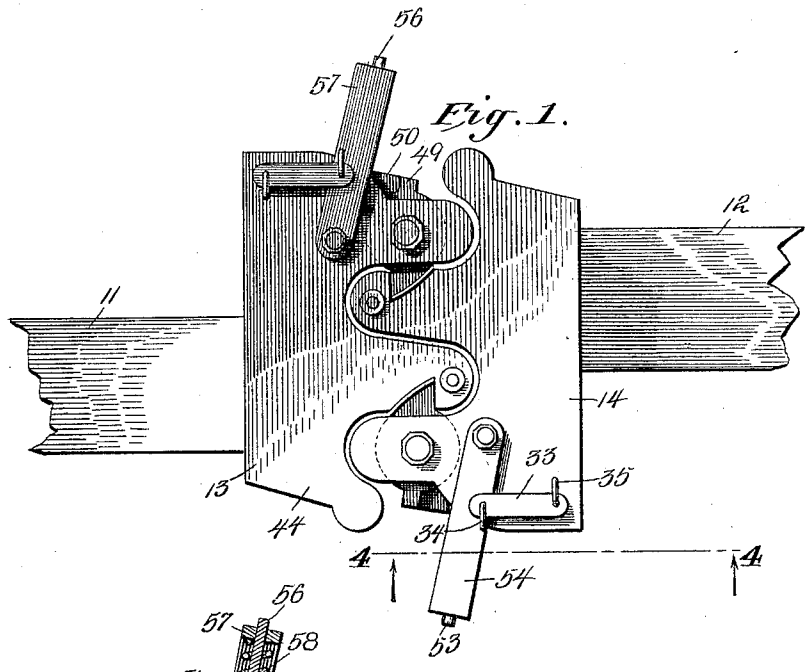


Fig. 2.

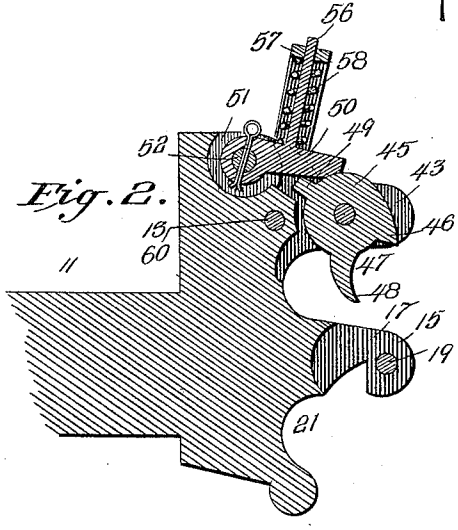


Fig. 3.

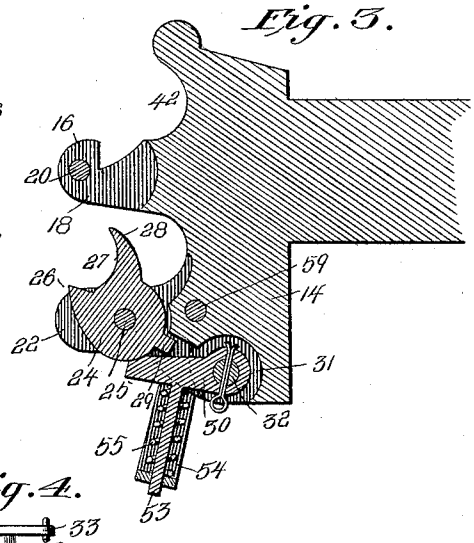
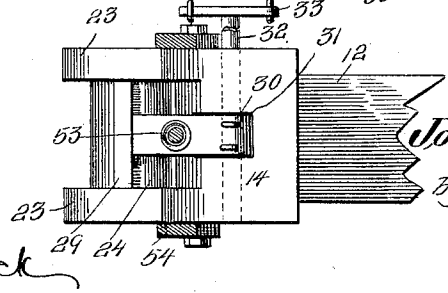


Fig. 4.



Witnesses

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(No Model.)

2 Sheets—Sheet 2.

Fig. 5.

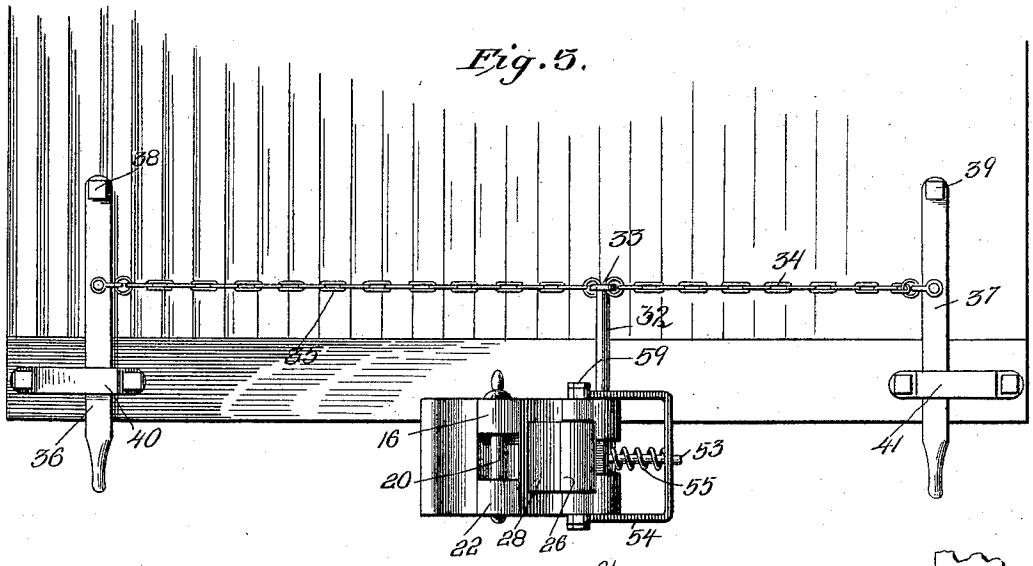


Fig. 6.

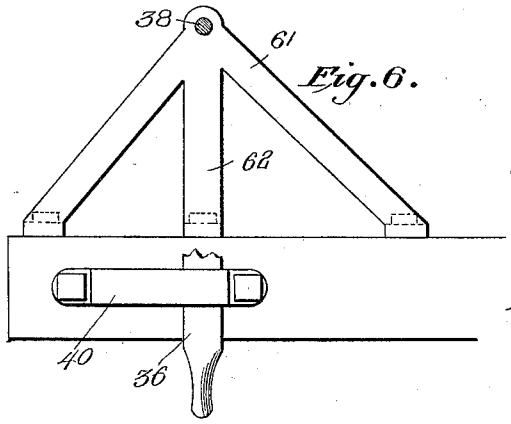


Fig. 7.

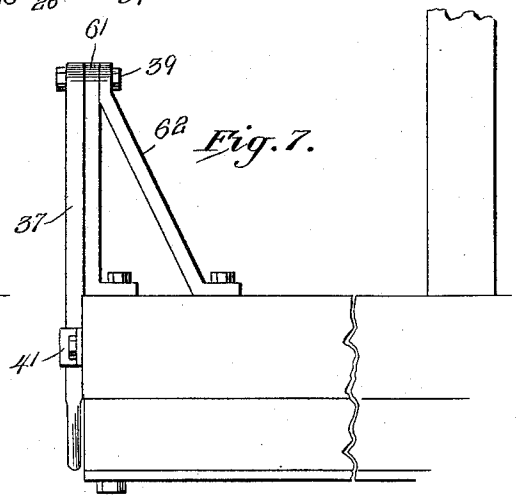


Fig. 10.

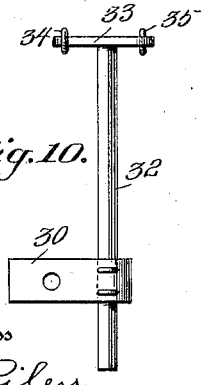


Fig. 8.

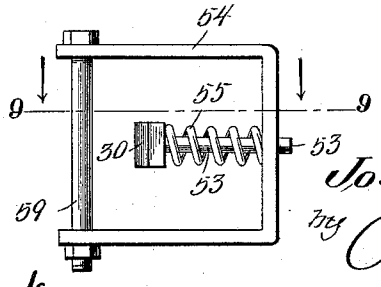
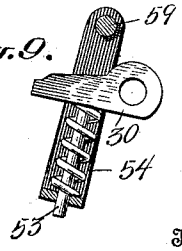


Fig. 9.



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UNITED STATES PATENT OFFICE.

JOSEPH P. PAULISSEN, OF KANKAKEE, ILLINOIS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 608,708, dated August 9, 1898.

Application filed February 19, 1897. Serial No. 624,265. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH P. PAULISSEN, a citizen of the United States, residing at Kankakee, in the county of Kankakee and State of Illinois, have invented a new and useful Car-Coupling, of which the following is a specification.

My invention relates to certain improvements in car-couplings to be used in coupling together all classes of railroad-cars, the object of the invention being to furnish an improved construction of draw-head and coupling devices whereby the necessity of railroad employees stepping between the cars to couple them together is obviated, thereby reducing the danger incident to such work to a minimum and dispensing with the use of links and pins.

A further object of my invention is to provide the draw-heads of cars with oppositely-arranged hooks and pivoted jaws, whereby the hooks will be automatically engaged with the pivoted jaws when the cars are brought together, means being provided for locking the jaws in such engaged position.

A further object of my invention is to provide draw-heads with oppositely-arranged hooks and pivoted jaws, so arranged that the act of bringing the cars together will cause the hooks to be brought into engagement with the jaws, and spring-actuated pawl-blocks, which by the same operation of bringing the cars together will assume positions in which they lock the jaws in such engaged relations with the hooks.

My invention further consists in providing the draw-heads with oppositely-arranged hooks and jaws and with spring-actuated pawls, as aforesaid, and means connected to the car whereby the pawls may be actuated from either side to release the pivoted jaws from engagement with the hooks without requiring the operator to get between the cars.

My invention further consists in the improved construction, arrangement, and combination of parts hereinafter fully described and afterward specifically pointed out in the appended claim.

In order to enable others skilled in the art to which my invention most nearly appertains to make and use the same, I will now proceed to describe its construction and operation, reference being had to the accompanying drawings, in which—

Figure 1 is a top plan view of a coupling constructed in accordance with my invention. Fig. 2 is a horizontal section through the end of the draw-bar and the draw-head of a car provided with my improved coupling mechanism. Fig. 3 is a similar view of the adjacent draw-head and coupling mechanism of another car, the parts being in the same relative positions as shown in Fig. 2. Fig. 4 is a vertical section on the line 4 4 of Fig. 1, looking in the direction of the arrows. Fig. 5 is a partial end view of a box-car equipped with my improved coupling devices. Fig. 6 is a partial end view of a coal-car, showing the manner of mounting one of the operating-levers for my coupling mechanism thereon. Fig. 7 is a partial side elevation of a coal-car, showing the manner of mounting one of the operating-levers for my improved coupling thereon. Fig. 8 is a detail view illustrating in front elevation one of the pawls and its spring-actuated mechanism. Fig. 9 is a sectional view on the line 9 9 of Fig. 8, looking in the direction of the arrows. Fig. 10 is a detail view, in side elevation, of one of the pawls, its extended pivot, and the cross-bar to which the operating-chains are attached.

Like numerals of reference mark the same parts wherever they occur in the various figures of the drawings.

Referring to the drawings by numerals, 11 and 12 are the draw-bars of two cars which are to be coupled together by means of my improved mechanism, 13 and 14 being the corresponding draw-heads. Each draw-head is provided with a hook facing laterally, the hook 15 of the draw-head 13 facing in an opposite direction to the draw-head 14. These hooks extend nearly from the top to the bottom of the draw-head and are provided with horizontal grooves 17 and 18 and vertical pins 19 and 20, crossing said grooves, whereby the ordinary link may be used to couple either two cars provided with my improved coup-

ling or one car provided with my improved coupling mechanism and one with the ordinary link-and-pin mechanism.

In front of the hook 15 is a space 21 to receive the curved front end of a flange 22, projecting from the opposite draw-head 14. This flange 22 is at the bottom of the draw-head and has a counterpart flange 23 at the top thereof. Between these flanges is pivoted a jaw 24 by means of a pin 25, passing through the flanges 22 and 23 and the jaw. This jaw is provided with a projecting edge 26 and has its front face concave or curved out, as at 27, said curve extending to a second and longer projecting edge 28. On the opposite side of its pivotal pin the jaw 24 is provided with a vertical flange 29, projecting radially therefrom, which coöperates in a manner hereinafter described with a pivotal pawl-block 30, mounted in a recess 31, formed in the draw-head, the shaft or pivotal pin 32 of this pawl projecting vertically and being provided with a cross-bar 33 at its upper end, to the opposite ends of which are connected chains 34 and 35, extending laterally along the end of the car and being connected at their opposite ends to hand-levers 36 and 37, pivoted to the end of the car at 38 and 39 and provided with keepers 40 and 41 to retain them in position and limit their lateral movement.

A space 42, similar to the space 21 in the draw-head 13, is provided in the front of the draw-head 14, in front of the hook 16, to receive the bottom and top flanges 43 and 44 of the draw-head 13. Between these flanges is provided a jaw 45, constructed similarly to the jaw 24, being provided with a front projecting edge 46, curved front space 47, projecting edge 48, and rear flange 49, said flange coöperating with a pawl 50, pivoted in a recess 51 in the draw-head 13 upon a pin or shaft 52, which is extended upward to engage with devices on the end of the car equivalent in construction to the chains, hand-levers, and keepers of the other car, as hereinbefore described.

The pawl 30 is provided with a projecting pin 53, which projects through the cross-bar of a bail 54, a spring 55 being coiled around said pin and having its outer bearing against the inner side of the cross-bar of the bail 54 and its inner bearing upon the outside of the pawl 30.

The pawl 50 is provided with a pin 56, which projects through the cross-bar of a bail 57, a spring 58 being coiled around the pin between the inner face of the cross-bar of the bail 57 and the outer face of the pawl. The bail 54 embraces the draw-head and is pivotally secured by a bolt 59, while the bail 57 is similarly secured to the draw-head 13 by a bolt 60.

In Figs. 6 and 7 I have illustrated the manner in which I mount the operating-levers 36 and 37 on coal or other open cars. In this construction the hand-levers are pivoted at the upper ends of brackets 61, properly supported by braces 62, such construction being necessary in order to afford pivotal points 38 and 39 sufficiently high to permit the proper manipulation of the hand-levers.

The operation of my invention may be described as follows: When two cars are approaching each other the opposite draw-heads of which are provided with my coupling mechanism and the parts are in the position shown in Fig. 2, the hooks 15 and 16 will strike the extended edges 28 and 48 of the jaws 24 and 45, which will cause these jaws to rotate upon their pivots and throw the projecting edges 26 and 46 into engagement with the hooks. During the rotation the flanges 29 and 49 on the rear side of the jaws have passed by and beyond the points of the pawls 30 and 50, the springs 55 and 58 having kept the pawls in contact with the jaws and caused the ends of the pawls to drop behind the flanges 29 and 49, securely holding the jaws and hooks in engagement. To uncouple the cars, it will only be necessary to draw either of the hand-levers 36 or 37 outward, which will withdraw the pawl from engagement with the flange on the rear of the jaws, leaving the jaws free, so that there is no obstruction to the parting of the draw-heads, the withdrawal of the hooks from the jaws serving to return the jaws to their open position, as shown in Figs. 2 and 3, ready to be automatically coupled up again, the friction of the pawls upon the outside of the jaws serving to hold them in these positions.

From the foregoing description it will be readily seen that I have provided a reliable coupling which may be operated from the sides of the car to engage or release it without the necessity of the operator getting between the cars at any time. It will also be seen that I have provided means whereby a car equipped with my improved coupling may be coupled with a car provided with an ordinary draw-head by means of the ordinary link. It will be further obvious that two cars provided with my improved draw-head and coupling appliances will be automatically coupled upon approaching each other without any hand manipulation whatever.

The parts composing my improved coupling are all strong and durable, reducing the liability of breakage to a minimum.

While I have illustrated and described what I believe to be the best means for carrying out my invention, I do not wish to be understood as limiting myself to the exact construction and arrangement shown and described, but hold that such slight changes and variations as might suggest themselves to the ordinary mechanic would properly fall within the limit and scope of my invention.

Having thus fully described my invention,

what I claim as new, and desire to secure by Letters Patent of the United States, is—

The combination with the draw-head, of the pivotal jaw having a rear rib or flange, the pawl to engage the jaw, the pin projecting from the rear of the pawl, the bail, pivotally secured to the draw-head and having an opening through which said pin passes, and the spring coiled around the pin and bearing on the outside of the pawl and the inside of the bail, substantially as described.

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