

(No Model.)

W. D. WILLIAMS.
CAR COUPLING.

No. 472,840.

Patented Apr. 12, 1892.

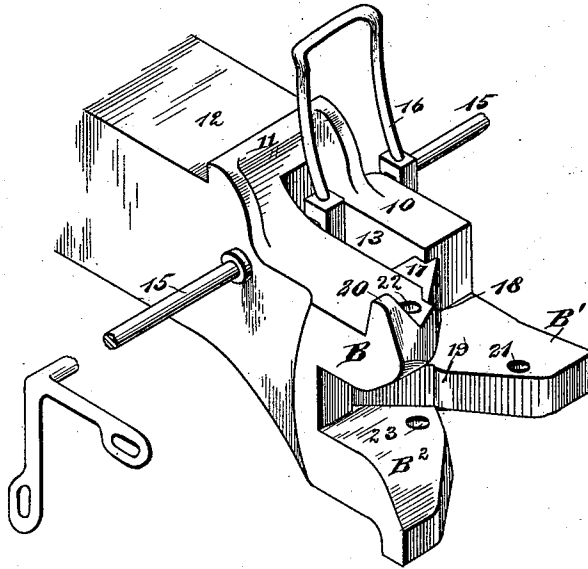


Fig 1

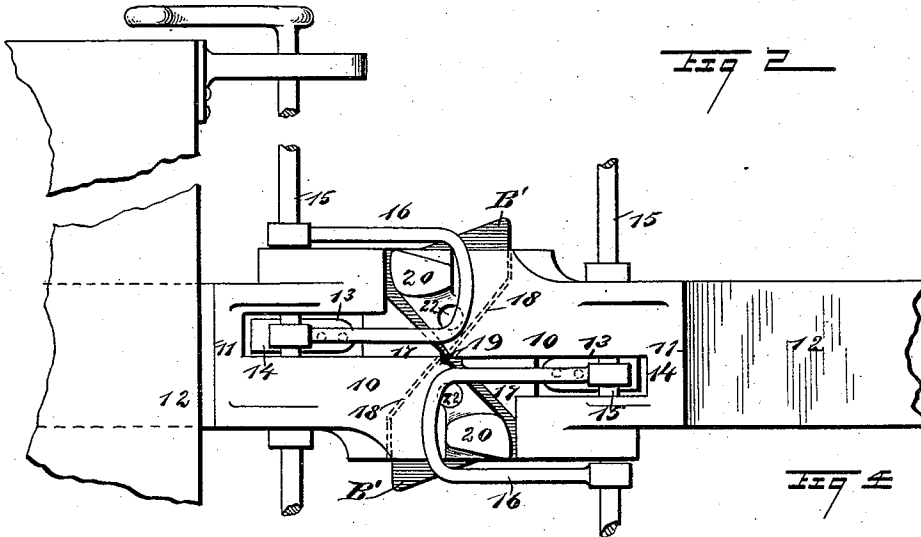


Fig 2

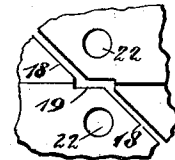
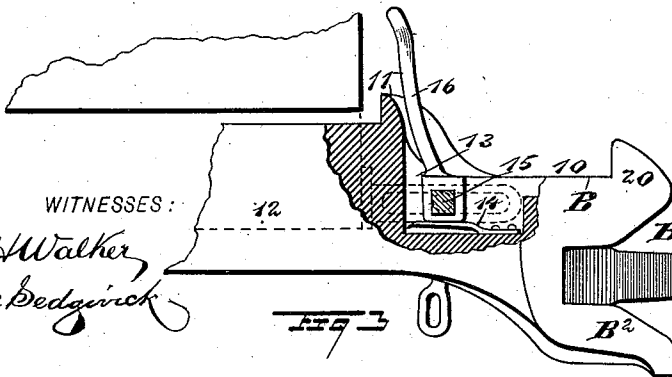


Fig 4

WITNESSES:

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Fig 3

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WILLIAM D. WILLIAMS, OF OGDEN, UTAH TERRITORY.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 472,840, dated April 12, 1892.

Application filed November 3, 1891. Serial No. 410,748. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM D. WILLIAMS, of Ogden, in the county of Weber and Territory of Utah, have invented a new and useful Improvement in Car-Couplers, of which the following is a full, clear, and exact description.

My invention relates to an improvement in car-couplers, and has for its object to provide a car-coupler capable of automatically coupling and of a simple and durable construction.

Another object of the invention is to so construct the draw-head that when coupled with another of its kind the two heads will ride together in a proper manner and wherein they will not separate even under exceedingly heavy lateral strain, and wherein, also, the draw-head may be employed to couple with a link-and-pin coupling when necessary.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

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

Figure 1 is a perspective view of a draw-head constructed in accordance with my invention. Fig. 2 is a plan view of two draw-heads, illustrating them in their coupled position. Fig. 3 is a partial vertical section taken through one of the heads and a partial side elevation; and Fig. 4 is a plan view of a portion of two opposed couplers about to be united, illustrating the construction which prevents them from swaying laterally.

The draw-head is of peculiar shape, the upper surface 10 being flat and the rear wall 11 of said surface somewhat perpendicular, the said wall extending, preferably upward, beyond the draw-bar 12. In the flat upper surface 10 a vertical chamber 13 is formed, extending some distance downward, but not through the head, as illustrated in Fig. 3. In the bottom of this chamber a spring 14 is located, and above the spring a shaft 15 is journaled in the draw-head, passing through the chamber 13, as is shown in Figs. 1, 2, and 3.

The shaft 15 carries a link 16, one member

of the link being secured to the shaft within the chamber 13 and the other end outside of the draw-head, the attachment between the link and the shaft being a rigid one. The member of the link which is secured to the shaft within the draw-head has a bearing upon the spring 14, and the lower end of this member, engaging with the spring, is preferably rectangular, as is shown in Fig. 3. The link in general contour is slightly curved, the upper surface being somewhat convexed.

In order that the link may drop downward, so that its outer end will be essentially flush with the upper surface 10, the forward wall of the chamber 13 is cut away, forming a step 17, upon which the link rests when in position for engagement with an opposed coupler. The link is elevated by turning the shaft 15, which shaft may be manipulated from the sides of the car through the medium of crank-arms or from the top by means of any approved mechanism.

The upper portion of the front end of the draw-head is inclined intermediate of its sides, as illustrated at 18 in the drawings, and the central part of the inclined surface is laterally stepped, as is best shown at 19 in Fig. 4. Thus one side of the draw-head at the top is shorter than the other and the end of the shorter side is essentially straight, while the end of the longer side is somewhat tapering. Upon the upper surface of the longer side of the draw-head a spur 20 is produced, the outer face of which spur is tapered. Thus, owing to the above-described formation of the upper portion of the draw-head, what may be termed an "upper prong" B is formed and a second prong B' projects from the opposite side of the front end of the draw-head at or about the center thereof, which prong at its outer end is somewhat outwardly curved at its outer side and beveled upon its inner side, and a third prong B² is formed at the bottom surface of the draw-head at its front, the prong B² being immediately beneath the prong B. The opposed surfaces of these two prongs B and B² are curved in opposite directions, as the space between these two prongs is adapted to receive the intermediate prong B' of an opposed draw-head.

The link 16, when in its horizontal or coupling position, extends beyond the upper re-

duced surface of the draw-head over the intermediate prong B', and the intermediate prong B' is provided with a pin-aperture 21, and similar apertures 22 and 23 are produced 5 in the upper and lower prongs B and B², the apertures in these two latter prongs being in vertical alignment. Thus if the coupler is to be used to couple with an opposed draw-head of the link-and-pin type the pin may be made 10 to enter any of the apertures, and thus effect a coupling.

In the operation of coupling the link is drawn down to the horizontal position, extending over the intermediate prong B'. As 15 the two draw-heads approach, the intermediate prongs will enter the space between the upper and lower prongs B and B² and the link of each coupler will ride up over the spur 20 of the opposed coupler and fall down rearward of said spurs upon the surfaces 10 of the draw-heads, as shown in Fig. 2, thus effecting a firm and secure lock. To uncouple, the shafts 15 are manipulated in such a manner 25 as to throw the links 16 upward, and thereby release them from the opposed draw-heads. The stepped surfaces 19, as illustrated in Figs. 2 and 4, effectually prevent the draw-heads when coupled from having too free lateral movement.

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

1. In a car-coupler, a draw-head having formed at its outer end three prongs—an upper, a lower, and an intermediate prong—the 35 intermediate prong extending in an opposite direction from the upper and lower prongs, a shaft journaled in the draw-head, a link attached to the shaft, and a locking device having a bearing against the link, as and for the 40 purpose specified.

2. In a car-coupler, the combination, with a draw-head having three prongs formed at its

outer end—an upper, a lower, and an intermediate prong—the intermediate prong extending in an opposite direction from the 45 upper and lower prongs, of a shaft journaled in the draw-head, a link secured to the shaft at one end and extending at the other over one of the prongs, and a spring locking device 50 located in the draw-head and bearing against the link, as and for the purposes specified.

3. In a car-coupler, the combination, with a draw-head having three prongs formed upon 55 its outer end—an upper, a lower, and an intermediate one—the intermediate prong extending in a direction opposite to the others and the upper prong having a beveled spur formed upon its end surface, of a shaft journaled in the draw-head, a spring located beneath the shaft, and a link secured to the 60 shaft, one end of which link has a bearing against the spring, as and for the purpose specified.

4. In a car-coupler, the combination, with a draw-head having formed upon its outer end 65 three prongs—an upper, a lower, and an intermediate one—the intermediate prong extending in a direction opposite to the others, all the prongs being provided with pin-apertures and the upper prong with a beveled spur, the upper end surface of the draw-head 70 near the upper prong being laterally stepped, of a shaft journaled in the draw-head and passing through a chamber formed therein, a spring located within the chamber of the draw-head, a link secured to the shaft and capable 75 of extending outward over the intermediate prong, an inner end of which link has a bearing against the said spring, substantially as and for the purpose set forth. 80

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Witnesses:

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