(No Model.)

2 Sheets—Sheet 1.

J. SHOWALTER.

CAR COUPLING.

No. 273,903.

Patented Mar. 13, 1883.

Fig. 1.

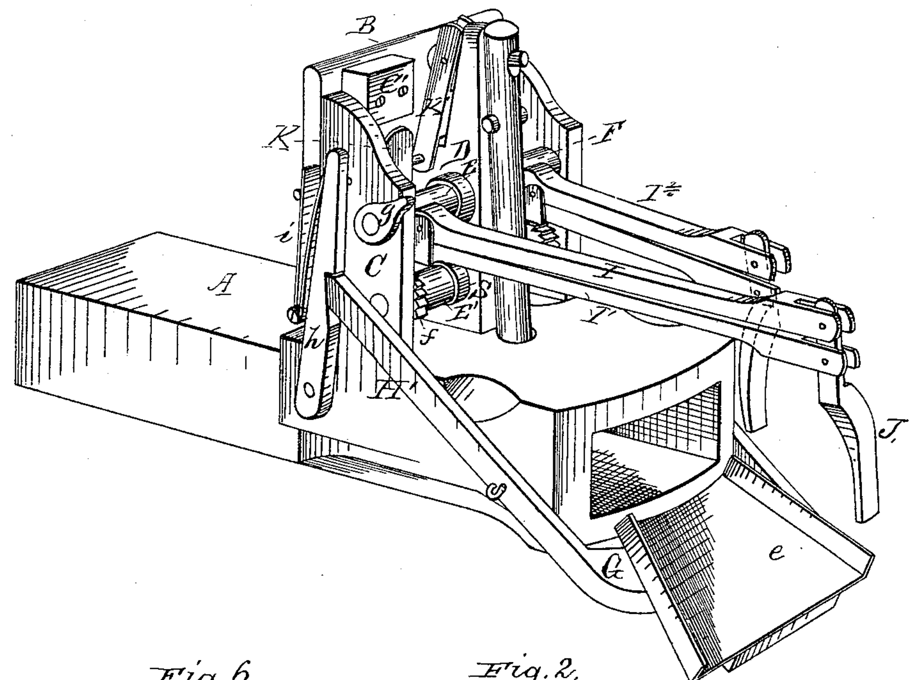


Fig. 6.

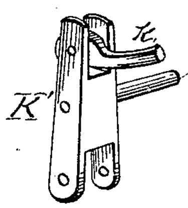


Fig. 2.

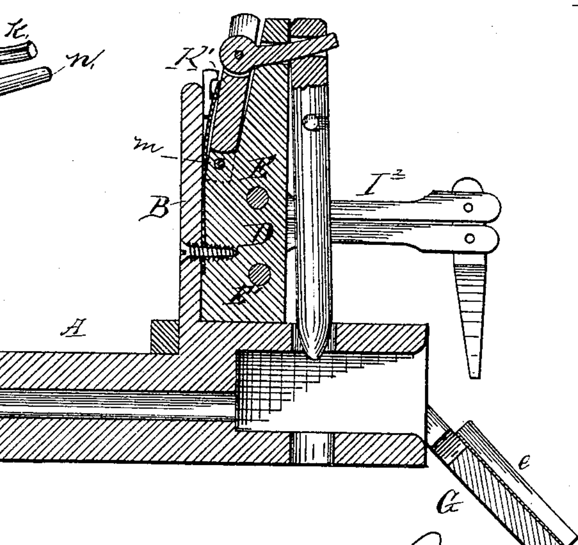
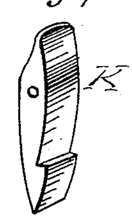


Fig. 7.



Witnesses:

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N. PETERS. Photo-Lithographer, Washington, D. C.

(No Model.)

2 Sheets—Sheet 2.

J. SHOWALTER.

CAR COUPLING.

No. 273,903.

Patented Mar. 13, 1883.

Fig. 3.

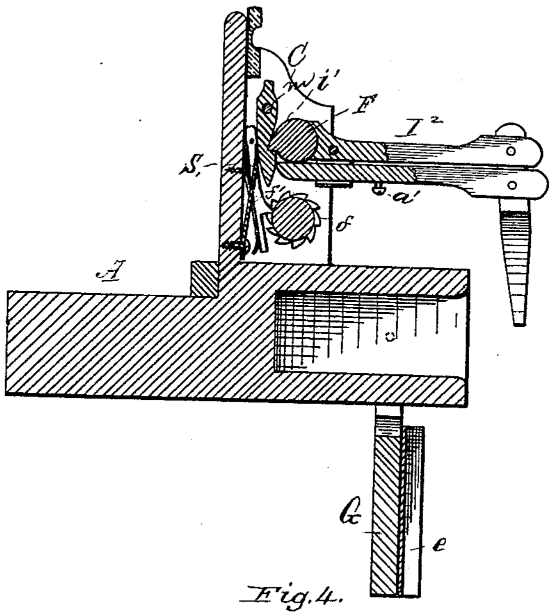


Fig. 4.

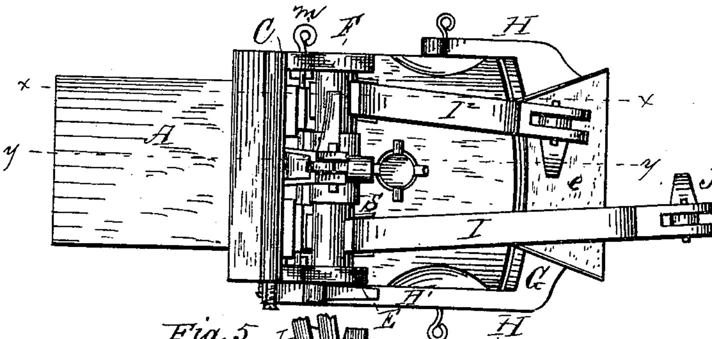
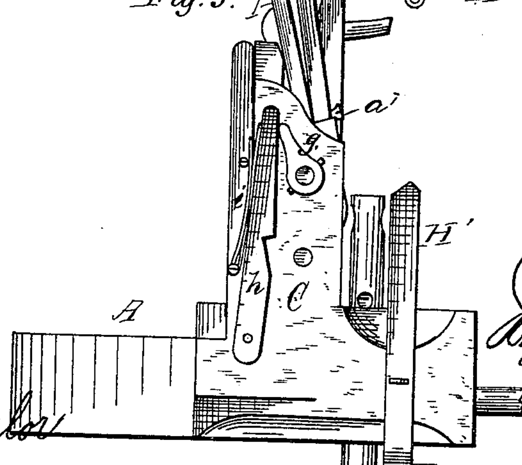


Fig. 5.



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UNITED STATES PATENT OFFICE.

JEREMIAH SHOWALTER, OF OKONOKO, WEST VIRGINIA, ASSIGNOR OF ONE-HALF TO ADAM BARTH AND DENTON BARTH, OF OLDTOWN, MD.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 273,903, dated March 13, 1883.

Application filed January 25, 1883. (No model.)

To all whom it may concern:

Be it known that I, JEREMIAH SHOWALTER, a citizen of the United States of America, residing at Okonoko, in the county of Hampshire and State of West Virginia, have invented certain new and useful Improvements in Car-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in a device for automatically coupling cars; and its object is to provide a means whereby the coupling-link will be guided into place automatically and the link will fall below the plane of the draw-bars, so that it will not be injured.

It has also for its object to provide a means whereby the coupling-pin will be dropped automatically; and to this end my invention consists in providing the bumper or draw-head with a spring rock-shaft having an arm and sliding bolt, which rock-shaft is provided with a cam, whereby the link-guide support may be dropped so as to allow the link-guide to fall under the bumper before the cars come together.

My invention also consists in supporting the coupling-pin upon a trip-lever having a forwardly-projecting pin which is operated by an arm attached to a spring rock-shaft, which arm is provided with a sliding bolt which releases the rock-shaft and allows the same to turn so as to raise the arm and release the coupling-pin.

My invention also consists in providing a car-coupling with a link-guide which is held in position by a spring-catch which is released by a spring-actuated rock-shaft provided with a cam and an arm carrying a sliding bolt and a trip-lever.

My invention also consists in providing the draw-head or bumper with a central upright having an opening in its upper end, through which passes a pin for the support of the coupling-pin, said supporting-pin being actuated by a trip-lever which is released when the cars come together.

My invention also consists in providing the coupling-pin support with a pivoted standard having a side-projecting arm and a spring which presses said arm forwardly, in combination with a spring rock-shaft and tripping-lever.

My invention also consists in the combination and organization of the parts, as will be hereinafter set forth, and pointed out in the claims.

In the annexed drawings, which illustrate my invention, Figure 1 is a perspective view, in which the parts are shown attached to a draw-head in position prior to coupling. Figs. 2 and 3 are longitudinal sections taken through the line $x\ x$ and $y\ y$ of Fig. 4. Fig. 4 is a plan view. Fig. 5 is a side view. Fig. 6 is a detailed perspective view of the standard, having attached thereto a side arm and the coupling-pin supporting-pin. Fig. 7 is a detailed perspective view of the spring-catch for holding the rock-shaft in position.

In the accompanying drawings, which illustrate my invention, A represents the bumper or draw-head, which is provided with a raised wall or portion, B, having side walls or brackets, C. This draw-head is also provided with a vertical standard, D, which, with the side brackets, C, forms bearings for the spring rock-bars E and F, to which parts, hereinbefore mentioned, the rock-bars are journaled. To the forward part of this draw-head A is pivoted a suitable link-guide, G, which consists of a forwardly-projecting plate, e, with raised and tapering sides, as shown. This link-guide is pivoted by the side arms, H, so as to embrace the sides of the draw-head, one of said arms being longer than the other and beveled at its end, so as to engage in a notch provided on the latch h, which latch has on its rear side a suitable spring, i. By means of this arm and spring-latch the link-guide is held in proper position to guide the link into the opening in the coupling-head, and the raised guide of the guide-plate e prevents the link from being displaced laterally.

Attached to the outer end of the rock-shaft E, which is actuated by a spring attached to the lowest shaft, E′, as will be hereinafter described, is a cam, g, which, when the rock-shaft is turned, will trip the spring-arm h and release the arm H′ of the link-guide and allow the same to fall beneath the draw-head, so as to be out of the way when the cars come together.

Attached to the side brackets, C, of the central standard, D, is a rock-shaft, E, to which is rigidly attached an arm, I, which is bifurcated at its outer end for the reception of the upper end of the trip-lever J. This arm I projects through the rock-shaft so that its rear end will form a catch; or said catch may be formed on the rock-shaft, as shown at I′ in Fig. 3. The arm I is provided on its under side, near the point of attachment to the rock-shaft E, with a bail in which slides a latch-bar, I′, which is of about the same length as the arm I, and is similarly bifurcated at its outer end. Within the bifurcated end of this arm I and latch-bar I′ is pivoted, as shown, the trip-lever J, which is curved so that its lower end will be on a line with the central portion of the draw-bar. If desirable, this latch-bar may be provided with a suitable stop, a', which will limit its rearward play; and it is evident that the outer end of the arm I and latch-bar I′ will be united to each other by the upper end of the trip-lever J and the pivots which unite the parts. In the rear of this rock-shaft, and between the side brackets and central standard, is pivoted a latch, K, as shown in Fig. 7, which has on its front surface a catch. This latch is pressed downwardly by a spring attached to the vertical wall B. The free end of this latch extends below the rock-shaft, as shown, and engages with the catch formed thereon.

Under the rock-shaft E is a drum, E′, which is provided at its end with a ratchet-wheel, f, and a pawl, f'. To this drum E′ is attached a suitable spring, S, the opposite end of this spring being attached to the rock-shaft E after being coiled several times around the same. By means of this spring the rock-shaft E is turned and the arm I thrown upward. Said spring may be tightened by adjusting or turning the drum E′.

On the upper end of the vertical wall B is secured a suitable cushion, C′, against which the arm I strikes when thrown upward.

The operation of this portion of my invention, which relates more especially to operating the link-guides, is as follows: When the cars approach each other the link is guided by the plate e into the opening in the draw-head, and the face of the adjacent bumper strikes against the trip-lever J, which forces the sliding bolt I′ backward and releases the rock-bar E from the spring-catch. Said rock-bar, being turned by the spring, carries with it the arm I and the cam g, which is firmly secured to the rock-shaft, which cam strikes against the upper end of the catch h and releases the arm H′, which allows the guide to fall under the draw-head.

Attached to the opposite side of the central standard, D, are two similarly-arranged shafts or rock-bars, with similar appendages to those hereinbefore described, for operating the link-guide, though the arms and sliding bar which project forwardly are of less length than those for operating the link-guides, and they operate in a similar manner when tripped. The central standard, D, is cut away at its rear for the reception of the link K′, as shown in Fig. 6, which link is pivoted at its lower part to the aforesaid standard, and is provided at its upper part with a pivoted forwardly-projecting pin, k, which extends through the perforation in upper part of the standard D. This link K′ is provided at its rear with a spring, which keeps the same constantly thrown forward, and it is provided on its side with a projecting arm, n, against which the arm I^2 strikes when the same is released.

The coupling-pin is provided at its upper portion with an eye, as shown in Figs. 1 and 2, which is placed over the pin prior to coupling the cars.

It will be noticed in this invention that the pivoted parts—that is, the catches K, as shown in Fig. 7, and the link K′—are secured to the side and central standards by a central pivot, m, also that the levers I and I^2 converge toward each other at their ends, and the trip-levers, being bent as shown, bring the same forward of the coupling-pin and about on a line with the center of the draw-head.

The drum E′, to which one end of the springs are attached, is provided with means whereby the same may be tightened as necessary.

The general arrangement and construction of this invention being fully shown in the accompanying drawings, a further description of the parts which are simply duplications of those hereinbefore described it is believed is unnecessary, and I will only describe the operation of the pin-releasing devices, the operation of the link-operating devices having been heretofore described.

After the link-guide is released and the arm thrown backward, the link being guided in its receptacle in the draw-head, the arm being thrown upward, the bumper strikes against the trip-lever adjacent to the end of the draw-head, which causes the arm I^2 to be thrown upward, which strikes against the arm n on the link K, which withdraws the pin k from the eye in the coupling-pin and allows the same to fall, thus coupling the cars together.

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

1. In a car coupling device, the draw-head provided with a raised rear wall, B, and side walls, C, supporting rock-shafts E F, and spring-drum E′, in combination with a spring, F, and trip-lever J, spring-catches K, and means for re-

leasing the link-guide, substantially as shown.

2. The draw-head provided with spring rock-shaft, arm I, sliding bolt I′, and cam *g*, arranged and organized to operate and release the spring-latch *h*, so as to release the link-guide, substantially as shown.

3. In a car-coupling device provided with a coupling-pin, the standard D, spring-link K′, having a side arm, *n*, and pin *k*, in combination with the arm I^2, having a sliding bolt and trip-lever, substantially as described, and for the purpose set forth.

4. In a car-coupling device, the draw-head provided with a raised wall, B, having cushions C′ and trip-lever, substantially as described.

5. In a car-coupling device provided with means for releasing the link-guide, and the coupling-pin, with spring rock-shaft E, having convergent arms I and I^2 of different lengths, sliding bolt, and trip-lever J, substantially as shown.

6. In a car-coupling device, the drum E′, provided with ratchet and pawl and springs S, having attached thereto projecting arm, substantially as described.

7. The link K′, having side-projecting arm *n* and forwardly-projecting pin *k*, for the purpose set forth.

8. In a car-coupling device, the rock-shaft E, having attached rigidly thereto the arm I, said arm carrying a spring latch-bar, in combination with the spring-latch K, having a portion extending below the plane of the latch-bar, substantially as shown.

9. In combination with the spring rock-bars E F, the forwardly-projecting arms I I^2, converging toward each other and provided with trip-levers having curved ends, substantially as shown.

10. In a car-coupling device, the means, substantially as shown, whereby the link is first guided into place and trip-lever actuated by the approaching draw-head, so as to release the link-guide and allow the same to fall under the draw-head and elevate the trip-lever, and the second trip-lever for actuating the latch which supports the coupling-pin, substantially as shown.

11. In a car-coupling device, the combination of the shaft E, provided with catch *i*, forwardly-projecting arm I, latch-bar I′, secured at one end of the same by a bail and pivoted at the other end and united to the arm I by lever J, and spring-latch K, substantially as shown, and for the purpose set forth.

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

JEREMIAH SHOWALTER.

Witnesses:

ABRAM THOMAS,

JOHN R. BURNSIDES.