(No Model.) 3 Sheets—Sheet 1.

M. WALICKI.

CAR COUPLING.

No. 545,925. Patented Sept. 10, 1895.

Fig. 1.

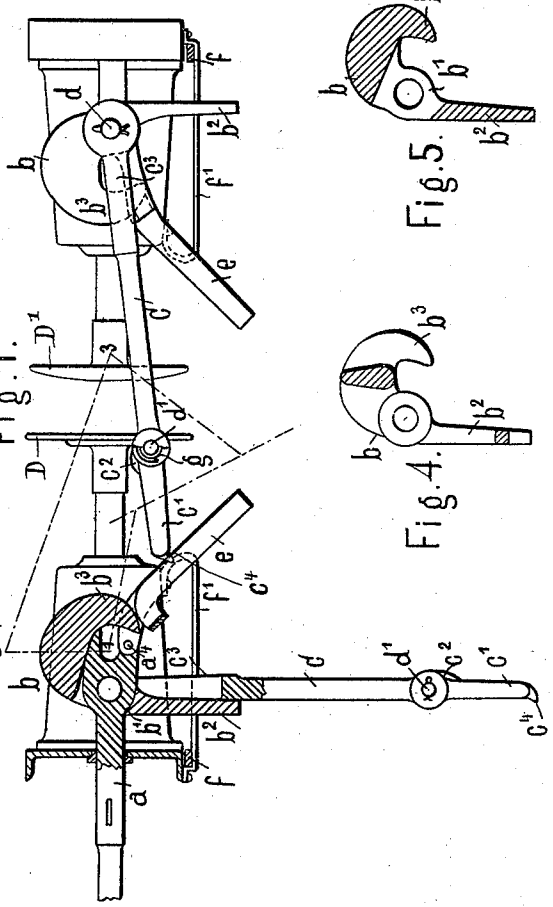


Fig. 5.

Fig. 4.

Fig. 2.

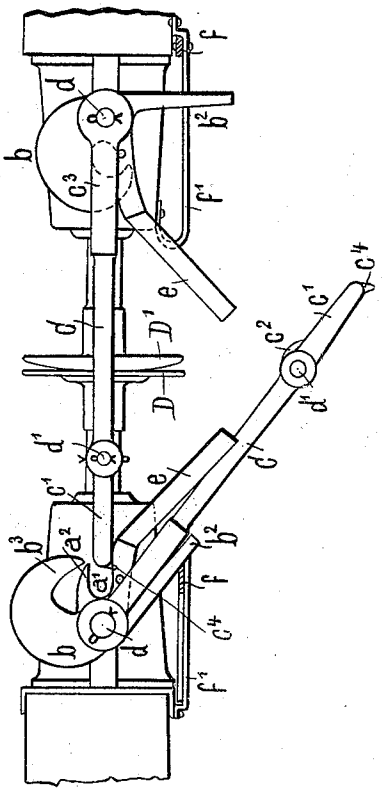


Fig. 3.

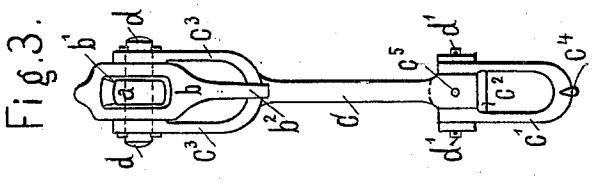
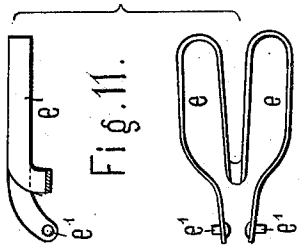


Fig. 11.



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Attorneys.

(No Model.)

3 Sheets—Sheet 2.

M. WALICKI.

CAR COUPLING.

No. 545,925. Patented Sept. 10, 1895.

Fig. 6.

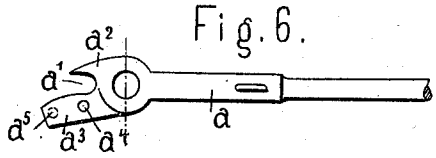


Fig. 7.

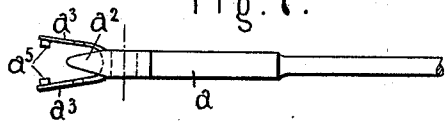


Fig. 10.

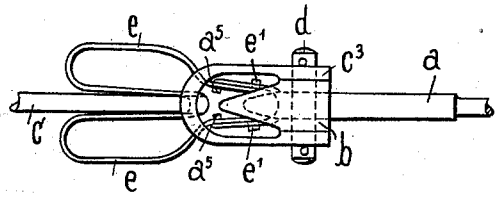


Fig. 8.

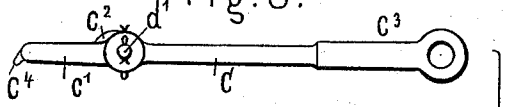
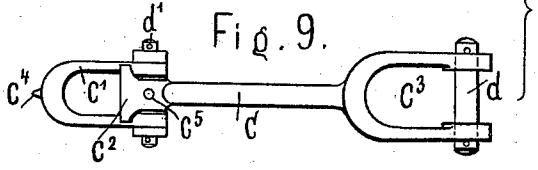


Fig. 9.



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(No Model.) 3 Sheets—Sheet 3.

M. WALICKI.

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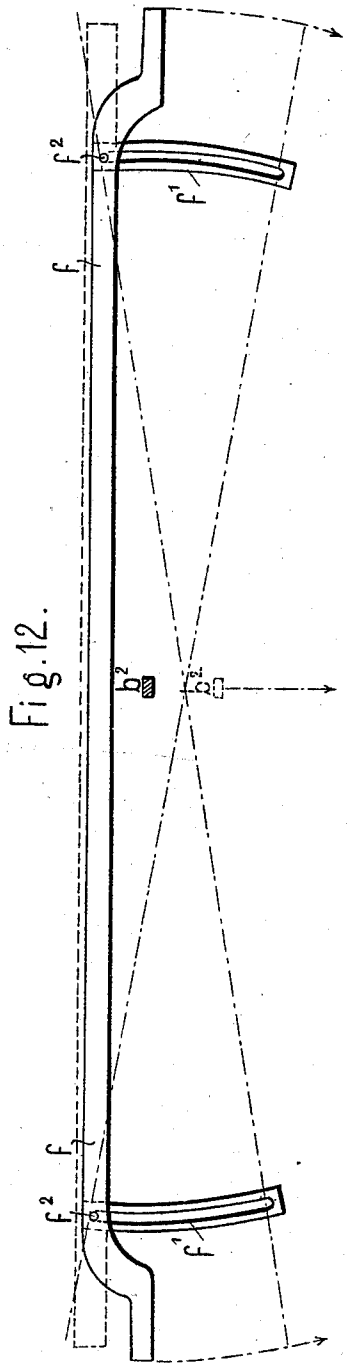

Fig. 12.

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UNITED STATES PATENT OFFICE.

MAXYMILJAN WALICKI, OF KOLUSZKI, RUSSIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 545,925, dated September 10, 1895.

Application filed January 14, 1895. Serial No. 534,833. (No model.)

To all whom it may concern:

Be it known that I, MAXYMILJAN WALICKI, a subject of the Czar of Russia, residing at Koluszki, Poland, Russia, have invented certain new and useful Improvements in Car-Couplers, of which the following is a specification.

My present invention has relation to a car-coupler of the type or class known as automatic couplers, and in such connection it relates more particularly to the construction and arrangement of the parts thereof for coupling together railway or other cars.

The principal objects of my invention are to provide a coupler for railway cars in which, by the shifting of the cars together, they will be automatically coupled one with the other, as well as uncoupled, without requiring a person to occupy a position between the cars in either operation of the same; and second, to provide a car-coupler of comparatively simple construction and in which uncoupling is effected from the side of the coupled cars and without requiring a person to step between the same.

My invention consists of a car-coupler constructed and arranged substantially as hereinafter described and claimed.

The nature and objects of my invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, showing the invention in a practical working device, and in which—

Figure 1 is a view, partly in side elevation and partly in section, of a car-coupler embodying features of my invention, showing the members thereof in an inoperative position. Fig. 2 is a side elevational view of a coupler of my invention, showing the mode of sliding the connecting-link in a vertical direction on a slanting surface to raise a hook, so that it may enter a bifurcated member of the draw-bar. Fig. 3 is a top or plan view of the connecting link or bar, illustrated to the left in Fig. 1. Figs. 4 and 5 are views, partly in section and partly in side elevation, of the coupling-hooks. Figs. 6 and 7 are views, in side elevation and plan, of the draw-bar of the coupler. Fig. 8 is an elevational view of the connecting link or bar of the coupler. Figs. 9 and 10 are plan views of the connecting-link and draw-bar, showing the inclined-plane engaging and locking member of the coupler for the connecting-link. Fig. 11 is a view illustrating, in side elevation and in plan, the said inclined-plane member of the draw-bar or head for engaging and holding the connecting-link; and Fig. 12 is a diagrammatic view illustrating, by line indications, the manner of uncoupling two cars having my invention connected with the same and the uncoupling effected without a person having to go between the cars.

Referring to the drawings, a is the draw-bar, which, by means of a bolt or stud-pin d, is pivotally connected with the crooked hook b and the connecting link or bar C, as clearly illustrated in Fig. 3. The head of the draw-bar is recessed at a', so as to receive a link c' of the link-bar C, the movement of which, in the coupled position of the appliance, is prevented from being transferred to the crooked hook b by means of the projecting nose a^3 of the draw-bar a, as clearly illustrated in Figs. 6 and 7 of the drawings.

a^3 are arms formed with the draw-bar a and serving to support the front portion of the link c' of the link-bar C, and to which is secured an inclined guideway support e, of iron or steel, bent into the shape or form illustrated in Figs. 10 and 11. At the end of this channeled guideway e are provided pins e', engaging complemental openings a^4 in the arms a^3 of the draw-bar a. These arms are provided with inner lugs a^5, as illustrated in Figs. 6 and 7, forming rests or supporting means for the inclined guideway or device e, as clearly and fully illustrated in Fig. 10.

The crooked hook b is provided with an opening b', in which is inserted the end of the draw-bar a, and, by means of a bolt or pin d, is connected with the crooked hook b and the link-bar C, as has been hereinbefore fully explained. The downwardly-projecting end b^3 of the hook b occupies the position illustrated in Fig. 1, to close the opening a' in the head of the draw-bar a. The extension b^2 of the hook b serves to raise the the link-bar C when the hook is operated, and is adapted to be employed for uncoupling cars in the manner to be presently more fully explained.

The connecting link-bar C comprises two members, an inverted U-shaped link c',

adapted to be engaged by the hook b and provided with a broad nose, lug, or projection c^2, and a forked extremity c^3. Both extremital portions of the connecting-bar C are pivotally connected with the bar C by means of bolts or pins d and d', and the nose, lug, or projection c^2 is adapted to permit of a downward movement only of the link c'. A pin or screw c^5 is inserted through the bolt d', so as to prevent a turning of the same, while a spring g holds the link c' in a horizontal position, as is illustrated in Fig. 1 of the drawings.

On the inclined channeled guideway or support e, connected with the arms a^3 of the draw-bar a by means of the lugs e', slides the link c' of the link-bar C. This link c' is prevented from sidewise movement by means of a nose c^4, provided at the front end of the link c' of the bar and pivotally connected therewith. The fork c^3, of the link-bar C, to the right of Fig. 1, is supported by means of an inclined guideway or support e and is held thereby at a certain angle with respect to the grade of the track or roadway. The link-bar C, to the left in Fig. 1, and the crooked hook b and the inclined guideway or support e, at the right in Fig. 1, are reserve members of the appliance of my invention—that is, they are not brought into play while the other similar parts are employed for coupling two cars together in the manner illustrated in Fig. 2, but are only used when from any cause one of the coupling members of the appliance has been broken.

The mode of operation of the car-coupler of my invention is as follows: The two railway cars to be coupled together are shifted so as to be brought against each other, whereby the link-bar C, as illustrated to the right in Fig. 1, with its link c', will slide upwardly on the inclined and channeled guideway or support e of the car, at the left-hand side, as illustrated in Fig. 1. The nose c^4 of the link c' will prevent any sidewise movement of the same, and when this link by its upward movement has nearly assumed a horizontal plane, it will engage with the downward-projecting end b^3 of the crooked hook b and will, by its further movement, raise the end b^3, in the manner illustrated in Fig. 2. The opening a' of the draw-bar a will be freed thereby from the end b^3 of the hook b, and by a further slight movement of the cars the buffers D and D' will be slightly compressed, the link c' will enter the opening or recessed hooked head a' of the draw-bar a, and the end b^3 of the hook b, by its own weight and the weight of the reserve link-bar C, resting on the extension b^2 of the same, will engage the link c', whereby the two cars will be automatically coupled together, and without the presence of a person entering between them. At the moment of maximum pressure exerted on the buffers D and D', the link-bar C will assume a position such as indicated by the dotted lines numbered 1, 2, and 3 of Fig. 1, and the link c', in pivotal connection with the link-bar C by means of the bolt d', will be permitted thereby to turn. The uncoupling of the appliance of my invention is insured by means of a lever f, located on each end or side of the car and to be connected with the extension b^2 of the crooked hook b of Figs. 1 and 2. This lever f, as illustrated in Fig. 12, is located beneath the buffers D and D' of the cars and is connected with slotted guides f' by means of pins f^2. When the end of the lever f is shifted toward a buffer, the same will be brought into engagement with the entension b^2 of the crooked hook b of the coupler, when by a further movement of the lever f it will be raised, as well as the reserve link-bar C resting thereon, whereby the end b^3 of the hook b will be brought out of engagement with the link c' of the link-bar C, as will be readily understood from Fig. 2 of the drawings. The hook b is held in an operative position by means of the lever f until the cars have been slightly shifted in a backward direction to each other. The lever f is then released and returned to normal position beneath the carrier of the buffers D and D' by the weight of the reserve link-bar C. After uncoupling the two cars, the link-bar C and the link c' thereof will move downward on the inclined and channeled guideway or support e, until the fork b^3 of the link-bar C engages the guide e of the opposite car—that is, at the right in Fig. 1—and thus will be supported to required position.

The hereinbefore described arrangement of the coupler can be easily attached to any of the known types of coupling devices. Moreover, uncoupling of the appliance can be instantly and easily insured by means of the lever f.

It will be manifestly obvious that as to minor details modifications may be made without departing from the spirit of my invention, and hence I do not wish to be understood as limiting myself to the precise construction and arrangement of all the parts of the same as hereinbefore explained; but,

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

1. A car coupler, comprising a draw-bar having a recessed crooked-head and projecting arms supporting an inclined guideway, a crooked-hook with an extension and a connecting bar provided with a link with an engaging nose, substantially as and for the purposes described.

2. A car coupler, comprising a draw-bar having a crooked head and supporting therefrom an inclined guide-way, a crooked hook pivotally connected with said bar, a connecting bar provided with an arched link having an end projecting nose, substantially as and for the purposes described.

3. A car coupler, comprising a draw-bar having a recessed head and arms, an inclined divided spring guide way, a pivotal hook with a depending arm, a spring controlled con-

necting bar and an inverted U-shaped link connected therewith, substantially as and for the purposes described.

4. A car coupler provided with a draw-bar, a pivotal crooked hook connected with said draw-bar and provided with an arm, a connecting bar provided with a link, an inclined guide-way and means for uncoupling one car from another from either side thereof, substantially as and for the purposes described.

5. A car coupler provided with a draw-bar supporting thereto a crooked hook having a depending arm, a guide-way connected with the head of the draw-bar, a connecting bar provided with a pivotal link, a lever located beneath each of the buffers of the car and movable in slotted guides and adapted to actuate the arm of said hook, substantially as and for the purposes described.

6. A car coupler provided with a draw-bar having a head provided with a nose and with forked ends supporting an inclined guide-way, a connecting rod provided with a link and with a nose, lug or projection, substantially as and for the purposes described.

7. A car coupler provided with a draw-bar having a recessed head and inclined projecting arms, a guideway, a hook with a projecting arm, a connecting bar having a link adapted to engage said hook and with a nose, lug or projection and a forked extremity in pivotal connection with said hook and the latter with said draw-bar, substantially as and for the purposes described.

8. A car coupler provided with a draw-bar having a hooked-head and arms supporting a guide-way adapted to assume an inclined position, a crooked-hook in pivotal connection with said draw-bar and with the U-shaped link of a connecting-rod, the latter having at its opposite extremity a similar pivoted link with a nose, lug or projection adapted to engage said guideway, a pin or screw extending through the pivot of said last mentioned link and a spring engaging therewith for permitting said link to be held in a certain position, substantially as and for the purposes described.

9. A car coupler, comprising a draw-bar provided with a recessed head and supporting an inclined yielding or spring guideway, a crooked-hook pivotally connected with said bar, a connecting-rod provided with end links, whereof one is pivotally attached to said draw-bar and whereof the other is provided with a nose, lug or projection, substantially as and for the purposes described.

10. A car coupler, comprising a draw-bar provided with a divided head and with a projection supporting to position an inclined guideway, a crooked-hook, a connecting rod with links, a lever movable in guides or ways for permitting of the uncoupling of the cars, substantially as and for the purposes described.

11. A car coupler provided with a crooked-hook in pivotal connection with a draw-bar provided with an inclined guide-way, a connecting-rod with links and whereof one is provided with a lug, nose or projection, a lever located on the side of each car and movable in slotted ways to control the release of said hook, substantially as and for the purposes described.

In testimony whereof I have hereunto set my signature in the presence of two subscribing witnesses.

MAXYMILJAN WALICKI.

Witnesses:
WAETAEU PODVINITZ,
KYRTAN ALTODORVITCZ.