

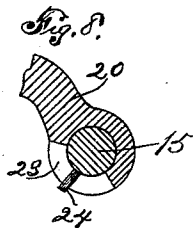
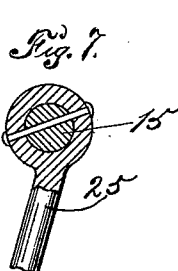
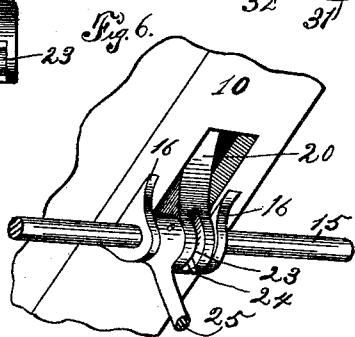
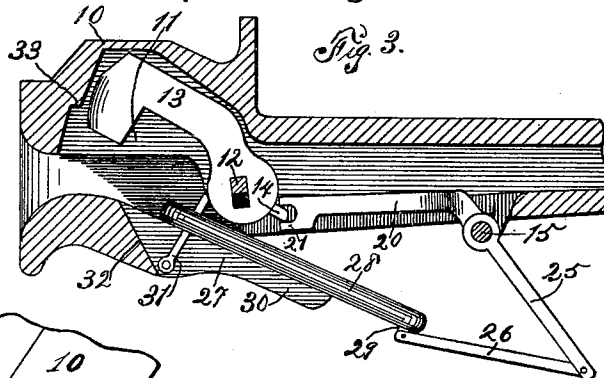
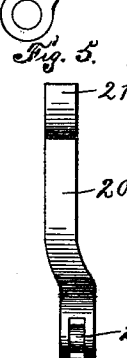
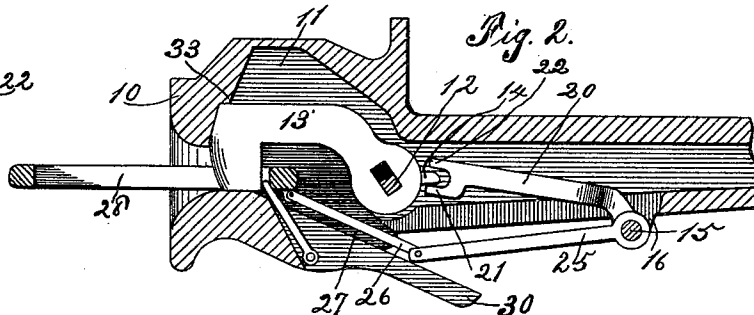
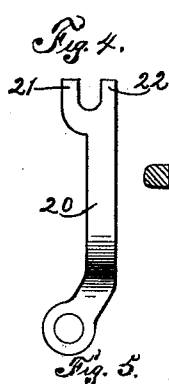
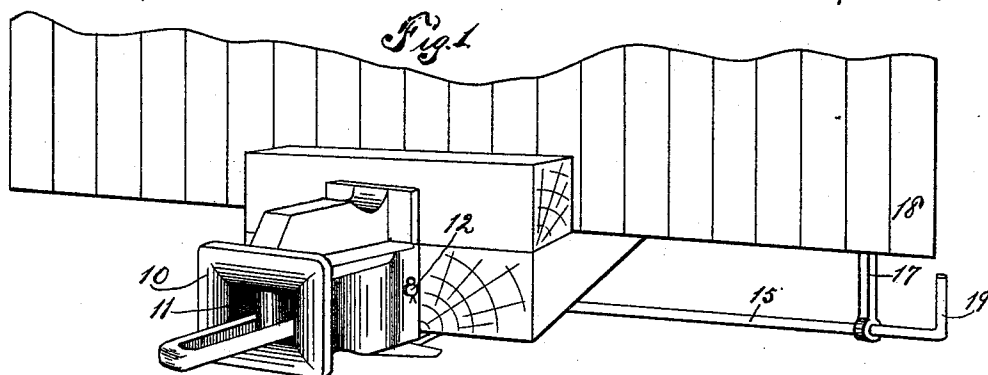
(No Model.)

2 Sheets—Sheet 1.

W. S. JENNINGS.
CAR COUPLING.

No. 500,501.

Patented June 27, 1893.



Witnesses:
F. C. Tate.
G. R. Green.

Inventor:
William S. Jennings,
by J. A. Sweet,
his Atty.

(No Model.)

2 Sheets—Sheet 2.

W. S. JENNINGS.
CAR COUPLING.

No. 500,501.

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Fig. 9.

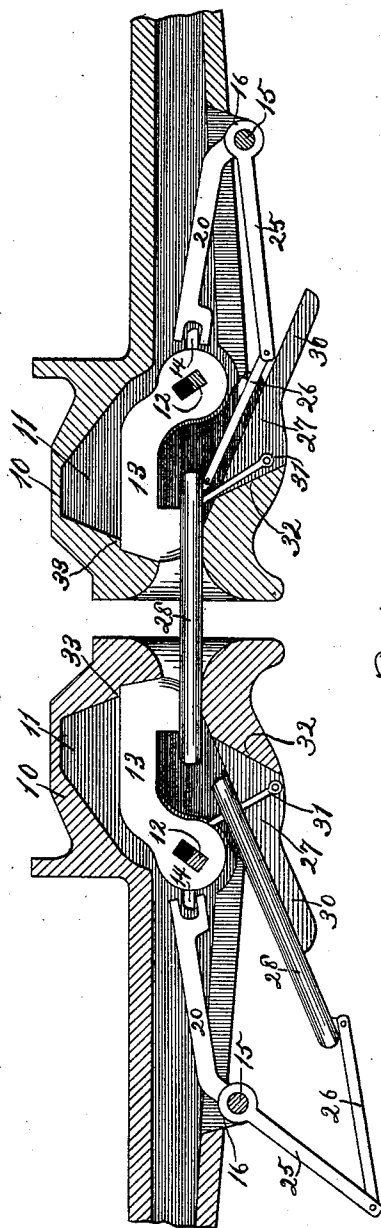
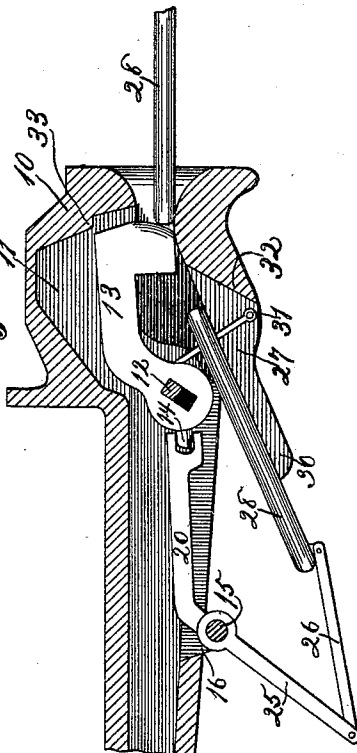


Fig. 10.



Witnesses:
F. C. Tate.
G. R. Green.

Inventor
William S. Jennings.
By J. Sweet
his Atty.

UNITED STATES PATENT OFFICE.

WILLIAM S. JENNINGS, OF DES MOINES, IOWA, ASSIGNOR TO THE B. & J. CAR COUPLER COMPANY, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 500,501, dated June 27, 1893.

Application filed July 5, 1892. Serial No. 438,933. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. JENNINGS, a citizen of the United States, residing at Des Moines, in the county of Polk, State of Iowa, have invented a certain new and Improved Car-Coupling, of which the following is a specification.

The object of my invention is to provide a car coupler in which the coupling link is carried upon the drawbar and incapable of ready removal therefrom, and which is also provided with locking devices capable of operation independently of or in conjunction with the adjacent coupling link, which coupling link is movable relative to the drawbar by means of manually actuated devices.

My invention consists in the combination with a drawbar, of a coupling link mounted within said drawbar, and a slot in the lower portion of said drawbar through which the coupling link is withdrawn into an inoperative position.

My invention consists further, in the combination with a drawbar slotted in its lower portion and provided with locking devices on its interior, of a coupling link mounted within said drawbar and adapted to be partially withdrawn through said slot to render said link inoperative, and lever mechanism manually operated to conjunctively control the movements of said link and locking devices.

My invention consists further in the construction, combination and arrangement of parts hereinafter set forth, pointed out in my claims and illustrated by the accompanying drawings, in which—

Figure 1 is a perspective view showing my device as applied for practical use. Fig. 2 is a vertical longitudinal sectional view showing a single coupler in a locked position. Fig. 3 is a like view showing the device in an unlocked position, and the coupling link inoperatively positioned. Figs. 4, 5, 6, 7 and 8 are enlarged detail views. Fig. 9 is a vertical longitudinal sectional view, showing two drawbars locked together. Fig. 10 is a vertical longitudinal sectional view of one drawbar carrying an inoperative link and about to effect a coupling with an operative link carried by the opposite drawbar.

In the construction of the device as shown,

the numeral 10 designates the drawbar, provided with the ordinary internal aperture 11, opening to the face thereof.

Mounted transversely in the drawbar 10 and rotatable therein is a rock shaft 12, angular in its central portion, and mounted upon said angular portion of said rock shaft is a coupling hook 13, transversely apertured at its rear end portion, said aperture being angular and greater in one of its dimensions than the rock shaft upon which it is mounted, thus providing a pivotal point for said coupling hook below the center draft thereof. A lug 14 is integrally formed upon the rear end of the coupling hook 13, and is acted upon by lever mechanism to operate the said coupling hook.

Extending transversely below the drawbar 10 at the rear of the coupling devices is a rock shaft 15, mounted in ears 16, the outer ends of which rock shaft are supported in brackets 17 fixed to the car 18, and are provided with handles 19, adapted for manual actuation to operate said rock shaft. Loosely mounted upon the central portion of said rock shaft is a lever 20, horizontally bifurcated at its forward end, the arms 21, 22 of said bifurcation overlapping the lug 14 below and above the same respectively. A slot 23 is formed in the rear end of the lever 20, and passing through said slot is a pin 24, fixed on the rock shaft 15. Mounted on the shaft 15 is an arm 25, and fixed to the forward end of said arm 25 is a connecting rod 26, which connecting rod is adapted to extend obliquely upward through an inclined slot 27 in the lower portion of the drawbar 10, and into the aperture 11.

Mounted within the aperture 11 of the drawbar is a coupling link 28, having formed on the lower portion of its rear end an ear 29, which ear is transversely apertured and pivotally connected with the forward and upper end of the connecting rod 26 by means of a pin.

Extending obliquely downward and rearward on either side of the slot 27 are guideways 30, which guideways are formed integrally with the drawbar and serve as a support for the coupling link 28 in its movements through the slot.

Pivoted within the slot 27 is a finger 31,

which finger when the coupling link 28 is in a locked operative position, rests against the portion 32 of the drawbar at the forward extremity of said slot and projects above the guideways 30 into the aperture 11. When the coupling link 28 is in an inoperative position, as shown in Fig. 3, the pivoted finger 31 rests at its upper end against the lower rear portion of the coupling hook 13 and supports the said link.

A shoulder 33 is formed on the interior of the drawbar 10, and when the coupling hook 13 is in a locked position the forward end of said hook is beneath and in engagement with said shoulder.

In the practical operation of my invention, when it is desired to effect a coupling, (no links projecting from either drawbar,) one of the handles 19 is manipulated to rotate the rock shaft 15, thus elevating the arm 25 and causing said arm to move the coupling link upward along the inclined guideways 30 and into the position shown in Fig. 2. The coupling link 28 in its traverse forces the coupling hook adjacent thereto and the pivoted finger 31 forward, the said coupling hook falling after the passage of the forward closed end of the link. The one drawbar now being in position to effect a coupling the cars are approximated the coupling in the opposite drawbar being in a receded position and the coupling link 28, just mentioned, impacts with the coupling hook 13 of the opposite drawbar and forces the same upward in a rotary direction relative to its pivot and passes beneath the hook thereof. It is obvious that in order that the rear end of the hook 13 may yield, the lever mechanism connected therewith must also yield to the forcible impact of the approaching link, which it will freely do, as is obvious, since said lever mechanism is at all times free to move under pressure or manual force. When it is desired to effect an uncoupling the handle 19 on the rock shaft connecting with the drawbar carrying the idle link is manually operated to impart a movement of rotation to said rock shaft, and in the further rotation of said rock shaft the pin 24 contacts with the upper extremity of the slot in which it travels and locks together the rock shaft and lever 20, moving said lever in a rotary direction synchronously with the rock shaft, and causing the forward end thereof to engage the lug 14 on the coupling hook adjacent thereto and depress the rear end of said coupling hook, thus turning the coupling hook upon its pivot 12, and so elevating the forward end thereof as to permit of the withdrawal of the coupling link.

It is necessary at all times when effecting an uncoupling to operate the rock shaft and coupling hook connecting with the drawbar carrying the idle link, since were it attempted to operate the rock shaft connecting with the drawbar carrying the employed link the first effect would be a tendency to withdraw the employed link before the adjacent hook

could be raised, and said employed link being secured by the opposite coupling hook the mechanism could not be operated. It is to be understood also that but one coupling link is employed at a time, the remaining link being held in reserve mounted upon the drawbar, to be used only in case of injury to the other link, or as a matter of greater convenience to the train or yard man, while it is necessary at all times to employ both of the coupling hooks, since the mechanism to which the coupling links are secured is not otherwise sufficiently strong to withstand the strain of the draft.

It will be observed that when the draft is released there will be a downward movement of the rear end of the hook 13 relative to its pivot 12, thus changing the axis of rotation of said hook relative to the outer end thereof, and permitting the said hook to swing clear of the shoulder 33 on the drawbar.

Owing to the pivoting of the coupling hook 13 below the draft center thereof, when a pulling strain is brought to bear on said hook the tendency thereof will be to move downward, thus obviating any possibility of the coupling link becoming disengaged from the said hook.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent of the United States therefor, is—

1. In a car coupling the combination with a drawbar and a cavity therein, of an inclined slot in the lower portion of said drawbar, and guideways formed on said drawbar on either side of said slot, which guideways form oblique angles with the longitudinal plane of said drawbar.

2. In a car coupling the combination with a drawbar and a cavity therein, of an inclined slot in the lower portion of said drawbar, oblique guideways fixed to said drawbar on each side of said slot and projecting beyond the plane of said drawbar.

3. In a car coupling the combination with a drawbar and a cavity therein, of a slot in the lower portion of said drawbar, guideways on either side of said slot, a rock shaft mounted in contiguity to said drawbar, a link mounted within said drawbar and pivotal connections between said rock shaft and said link, whereby a longitudinal movement is imparted to said link conjunctively with the operation of said rock shaft.

4. In a car coupling the combination with a drawbar, of a coupling hook pivotally mounted therein, a lug formed on the rear end of said coupling hook, a lever having a bifurcated forward end engaging said lug, and a rock shaft journaled on said drawbar and supporting said lever.

5. In a car coupling the combination with a drawbar and a rock shaft journaled thereon, of a coupling hook pivotally mounted within said drawbar, a lever mounted upon said rock shaft and acting upon said coup-

ling hook, an arm mounted upon said rock shaft, a pin fixed to said rock shaft and acting upon said lever, a link mounted within said drawbar, a slot in the lower portion of
5 said drawbar, guideways on either side of said slot, a connecting rod forming a connection between said link and said arm, and means for preventing the entire withdrawal of said link.

10 6. In a car coupling the combination with a drawbar and a cavity therein, of a coupling

hook pivoted within said cavity at a point below the draft center of said drawbar, and lever mechanism connected with said coupling hook and adapted for manual actuation 15 to elevate said hook.

In testimony whereof I have hereunto set my hand this 30th day of June, 1892.

WILLIAM S. JENNINGS.

In presence of—

S. C. SWEET,
F. C. TATE.