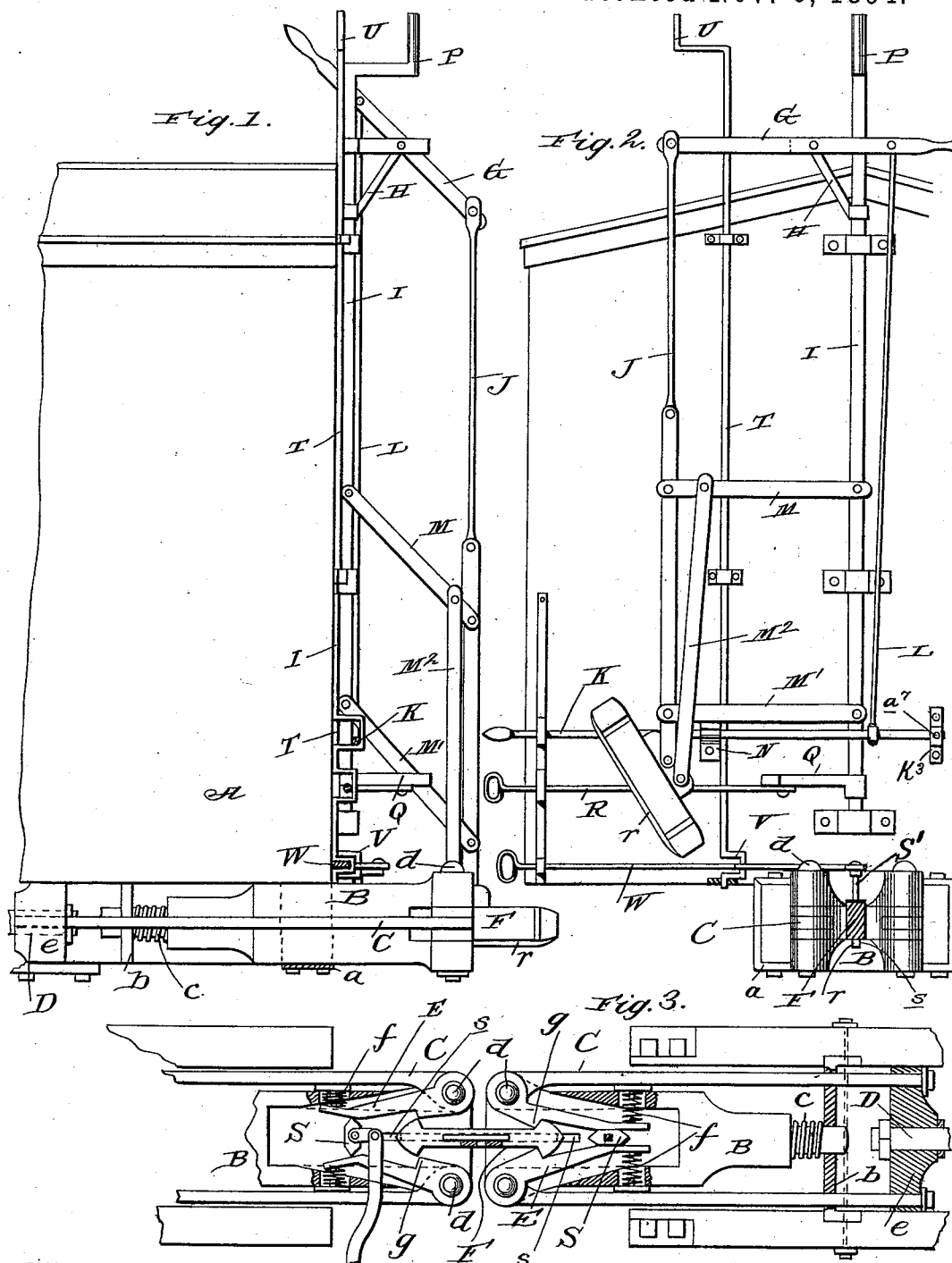


(No Model.)

J. D. TUNNELL.
CAR COUPLING.

No. 528,623.

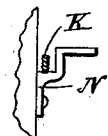
Patented Nov. 6, 1894.



Witnesses

Chas. A. Haeder
W. F. Matthews

Fig. 4.



Inventor

J. D. Tunnell.
By Attorney *James J. Shuby*

UNITED STATES PATENT OFFICE.

JOHN D. TUNNELL, OF AMARILLO, TEXAS, ASSIGNOR OF ONE-HALF TO JOHN R. WHEATLEY, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 528,623, dated November 6, 1894.

Application filed May 14, 1894. Serial No. 511,122. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. TUNNELL, a citizen of the United States, residing at Amarillo, in the county of Potter and State of Texas, have invented certain new and useful Improvements in Car-Couplers; and I do 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.

My invention relates to improvements in car couplings and it has for its general object to provide a coupling embodying such a construction that two cars may be connected together or disconnected without the objectionable necessity of a trainman going between them.

Other objects and advantages will be fully understood from the following description and claims when taken in connection with the annexed drawings, in which—

Figure 1, is a detail side elevation of a car equipped with my improved coupling; the parts being shown in their operative position or in a position to engage the draw head of another car to effect a connection. Fig. 2, is a detail front elevation of the car with the parts of the coupling at rest or out of their operative positions. Fig. 3, is a plan view of two draw heads embodying my invention; the same being illustrated as connected together, and Fig. 4, is a detail section illustrating the position which the lever K, occupies with respect to the shelf N, when said lever is in its lowermost position.

Referring by letter to said drawings, A, indicates a car which may be of the ordinary or any approved construction, and B, indicates the draw-bar of my improved coupling. This draw bar B, is preferably mounted upon a hanger as *a*, depending from the bottom of the car, and it has its rear end reduced and arranged to slide in an apertured plate *b*, and also has a spring *c*, surrounding its reduced portion, as shown, which spring is designed to normally hold the draw bar in the position illustrated and is also adapted to cushion the same when it abuts against the draw bar of another car, so as to reduce the shock. The said draw bar B, is held against displacement by the tension bars C, and the said bars which are connected with the forward end of the

draw bar by bolts as *d*, have their rear ends connected to a slidable block *e*, which may, if desired, be connected with the draw head at the opposite end of the car by a bar D, better illustrated in Fig. 3.

E, indicates the jaws of the draw head. These jaws E, are pivotally connected at their forward ends to the bolts *d*, and they have their rear ends backed by springs as *f*, whereby it will be seen that they will be normally held in a position to receive and engage one of the heads of the link F, when two cars come together. The said jaws E, have shoulders *g*, at intermediate points in their length to engage the head of the link and it will therefore be seen that the greater the strain or draft on the link, the more securely will the jaws hold the same, which is an important advantage as is obvious.

As better shown in Fig. 3, of the drawings, the upper side of the draw bar B, is open. This permits of the link F, being moved in a vertical direction into or out of engagement with the jaws; and in order to enable a trainman to effect such movements of the link without going between the cars, I provide the lever G, better illustrated in Figs. 1 and 2. This lever G, is fulcrumed upon a bracket H, loosely mounted on the rock shaft I, (presently described) and it has its weight end connected by a link as J, with the coupling link F, whereby it will be seen that when it is rocked by a trainman on top of the car, the said link F, will be raised or lowered for the purposes stated.

In order that a trainman standing upon the ground at the side of the car may adjust the link F, as readily as when upon the top of the car, I provide the lever K, better illustrated in Fig. 2. This lever K, extends transversely across the front of the car and is loosely fulcrumed at one end as shown at *a'*, in a bracket K⁸, on the car and it is connected by a link as L, with the power end of the lever G, in order to transmit motion to said lever and consequently to the link F.

In the practice of the invention, the link F, is lowered into engagement with the jaws E, when it is desired to effect a coupling, and is raised out of engagement with said jaws when it is desired to permit two cars to come together without being coupled; and in order to swing

the link F, the link J, and the lever G, around against the side of the car so as to prevent breakage of the same when the cars bump together without being coupled, I provide the
 5 rock shaft I, before mentioned. This rock shaft I, is journaled in suitable bearings upon the front of the car and it is connected with the link J, by the links M, M', and is also connected with the coupling link F, through the
 10 medium of the links M, M', so that when the link F, has been raised as before described, said link together with the parts connected thereto may be swung back against the front of the car as shown in Fig. 2, when the link
 15 M', will engage the shelf N, projecting from the car and all of the parts will be held in their elevated position, and out of the way.

P, indicates a crank which is connected to or formed integral with the upper end of the
 20 shaft I, so as to enable a trainman on top of the car to conveniently rotate said shaft, and Q, indicates a crank which is fixedly connected to the shaft adjacent to the lower end thereof. This crank Q, has connected to it a
 25 rod R, and this rod extends to the side of the car as shown, so as to enable a trainman upon the ground at the side of the car to rock the shaft I, as conveniently as when upon the top of the car.

It is necessary in order to disengage the coupling link from the jaws E, to spread said jaws apart, and to this end, I provide the elongated block S, better illustrated in Fig. 3. The block S, is arranged between the rear
 35 ends of the jaws as shown, and is fixed on the vertical rock shaft S', which has a crank at its upper end as better illustrated in Fig. 1. To this crank of the rock shaft S', is connected a rod W, and this rod W, which extends to the side of the car is connected at
 40 an intermediate point of its length to a crank V, on the rock shaft T, which has a crank U, at its upper end as shown. By reason of this construction, it will be seen that the block S,
 45 may be conveniently turned by a trainman standing upon the top of the car or by one standing at the side of the car.

The coupling link F, is provided upon its under side with a projection as r, and the
 50 draw bar B, is provided in its bottom wall with a groove as s, designed to receive the projection r, so as to prevent lateral movement of the link and enable it to move forwardly in a straight line from between the
 55 jaws when the same are spread apart.

In the practical operation of my improved coupling, when it is desired to effect a coupling between two cars, the jaws E, are first spread apart through the medium of the
 60 elongated block S, in the manner described. The link F, is then swung forwardly to a position above the drawhead and is lowered until it rests between the jaws E, when the block S, is turned so as to allow the jaws to
 65 press against and hold the link. The link is now in a position to effect a coupling and when

the two cars come together it will enter between the jaws of the opposite draw head and will be firmly held thereby.

When it is desired to permit two cars to
 70 come together without coupling the same or when the coupling is to be effected, through the medium of the link of the other car, the jaws E, should be spread apart and the link F, raised and together with the other parts
 75 swung back against the front of the car in the manner described, and when the cars are to be uncoupled the jaws E, should be spread apart so as to permit the link of the other car to draw from between them when the cars are
 80 separated.

It will be seen from the foregoing that I have provided a safe and reliable coupling, and one which while it enables a trainman to couple and uncouple cars without going be-
 85 tween them, does not embody any parts which are likely to get out of order.

I have in some respects specifically described the construction and relative arrangement of the several parts of my improved
 90 coupling so as to impart a clear and exact understanding of the same, but I do not desire to be understood as confining myself to such construction and arrangement as such changes or modifications may be made in
 95 practice as fairly fall within the scope of the invention.

Having described my invention, what I claim is—

1. In a car coupler, the combination with a
 100 car and the hanger a, guide b, and block e, connected with the car; of a draw bar arranged upon the hanger a, and having a reduced portion extending through the guide
 105 b, a spring surrounding the reduced portion of the draw bar and interposed between the draw bar and the guide b, and tension rods C connecting the draw bar and the block e, substantially as specified.

2. In a car coupler, the combination with a
 110 car, the draw bar or head, the jaws pivotally connected at their forward ends to the draw bar or head, and having shoulders g, at an intermediate point of their length, and springs backing the rear or inner portions of the jaws,
 115 of the rock shaft S', having a crank at its upper end, a rock shaft T, having a crank at its upper end and a crank adjacent to its lower end, and a link connecting the lower crank of the shaft T, and the upper crank of
 120 the shaft S', all substantially as specified.

3. In a car coupler, the combination of a car having a forwardly extending shelf N, a draw bar or head having its upper side open and provided with pivoted jaws adapted to
 125 move in a horizontal plane, a coupling link adapted to be engaged by the pivoted jaws, a lever G, fulcrumed at an intermediate point of its length, a link J, connecting one end of said lever and the coupling link, a rock shaft
 130 journaled upon the front of the car, and links connecting said rock shaft and the link J,

one of said links being adapted to rest on the shelf N, of the car when they are swung against the end of the same, substantially as and for the purpose set forth.

- 5 4. In a car coupler, the combination of a car having a shelf N, a draw bar or head having its upper side open, and provided with pivoted jaws adapted to move in a horizontal plane, a coupling link adapted to be engaged
10 by the pivoted jaws, a lever G, fulcrumed at an intermediate point of its length and arranged at or adjacent to the top of the car, a link J, connecting one end of said lever and the coupling link, a rock shaft journaled
15 upon the front of the car and having a crank at its upper end and a crank Q, at an intermediate point of its length, links connecting

said rock shaft and the link J, one of said links being adapted to rest on the shelf N, when they are swung against the end of the 25 car, a rod connected to the crank Q, of the rock shaft and extending to the side of the car, a lever K fulcrumed at one end in a bracket K³ upon the front of the car and a link connecting said lever and the power end 25 of the lever G, substantially as and for the purpose set forth.

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

JOHN D. TUNNELL.

Witnesses:

N. C. MARTIN,
J. M. RUSSELL.