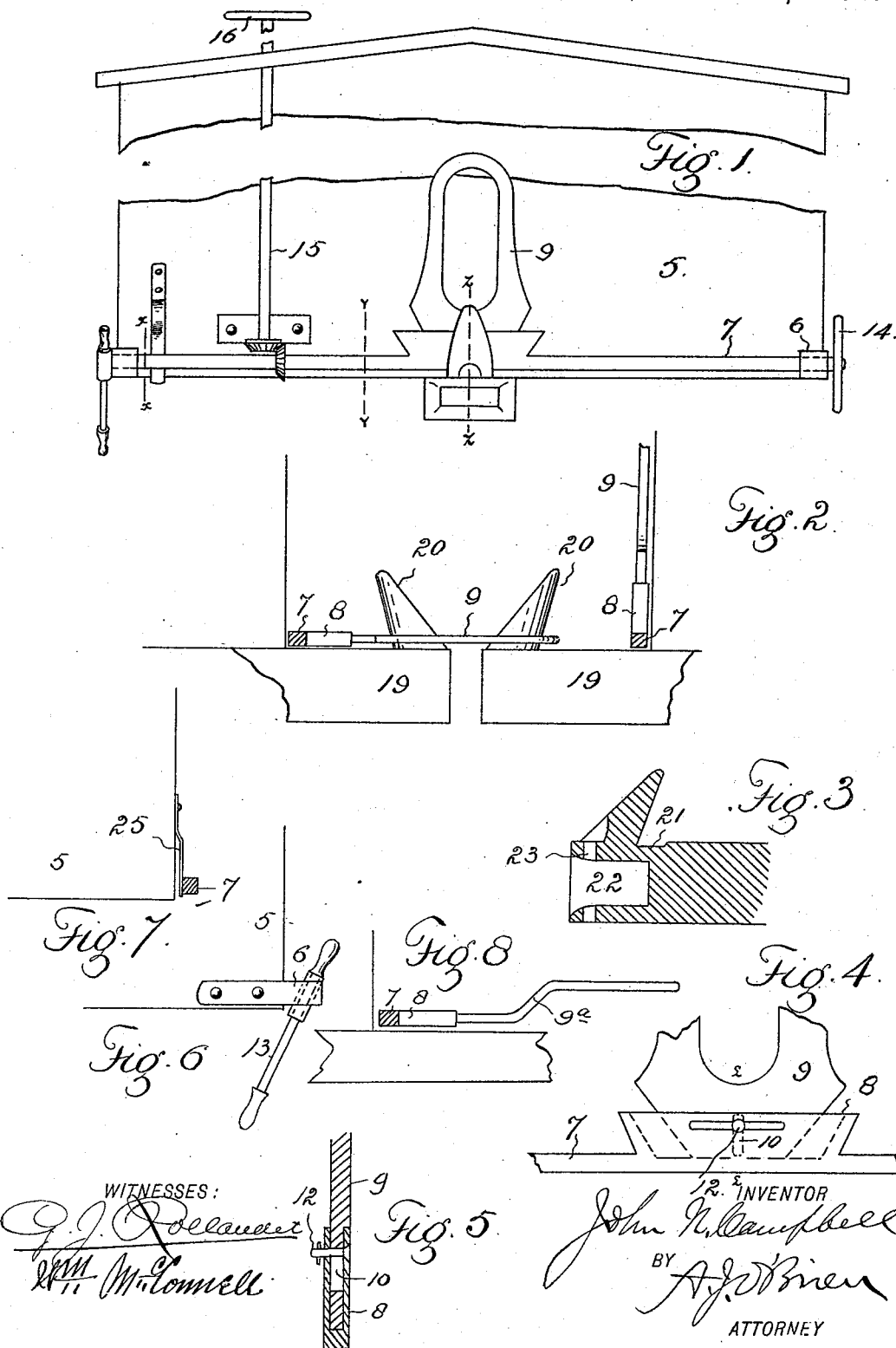


(No Model.)

J. N. CAMPBELL.
CAR COUPLING.

No. 490,634.

Patented Jan. 24, 1893.



UNITED STATES PATENT OFFICE.

JOHN N. CAMPBELL, OF DENVER, COLORADO, ASSIGNOR OF ONE-HALF TO
MICHAEL H. MCKENNA, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 490,634, dated January 24, 1893.

Application filed April 11, 1892. Serial No. 428,593. (No model.)

To all whom it may concern:

Be it known that I, JOHN N. CAMPBELL, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in car couplers and the object of the invention is to provide a coupler which can be quickly and easily manipulated from either side or from the top of the car.

A further object of the invention is to provide a device of simple and economical construction, reliable, durable and practicable in use.

To these ends the invention consists of the features, arrangements and combinations hereinafter described and claimed.

The invention will be fully understood by reference to the accompanying drawings in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a fragmentary end view of a car provided with my improved mechanism. Fig. 2 is a side view of two drawheads in the coupled position, one link being shown down and the other upraised, and the link actuating bars being shown in section taken on the line $y-y$, Fig. 1. Fig. 3 is a vertical longitudinal section of the draw-head taken on the line $z-z$, Fig. 1. Fig. 4 is a fragmentary front view in detail and on an enlarged scale of the coupling link and actuating bar. Fig. 5 is a vertical section taken on line $L-L$, Fig. 4. Fig. 6 is a side view showing the lever connected with the link actuating bar. Fig. 7 is a section taken on line $x-x$, Fig. 1. Fig. 8 shows a modified form of link in connection with a fragment of the drawhead, the actuating bar being shown in cross section.

Similar reference characters indicating corresponding parts or elements in the several views let the numeral 5 designate a car, to

the end of which is journaled in suitable boxes 6 a bar 7 provided with a central lug or projection 8, recessed to receive the link 9 and provided with an elongated aperture 10 through which passes the key 12 which retains the link in place. The slot 10 permits the drawing of the link away from the bottom of its socket so that it may be moved laterally to occupy any desired angle with a straight line, the socket being made sufficiently large as indicated by dotted lines in Fig. 4. The bar 7 extends across the end of the car and is provided at its extremities with suitable attachments for easily manipulating the same, such as a lever 13 or a hand wheel 14, both of which are illustrated in Fig. 1. This lever has a sliding movement within its socket so that whichever way it is turned its lower portion is the heavier and forms a weight normally retaining the bar in the adjusted position. Bar 7 is actuated from the top of the car by means of a vertical bar 15 journaled to the end of the car and provided with a suitable hand wheel 16 projecting above the top of the same. The lower extremity of this bar is provided with a small bevel gear wheel 17 made fast thereon and meshing with another similar wheel 18 rigidly secured to bar 7. It will thus be seen that by turning bar 15, bar 7 is rotated in either direction as may be required, and the link 9 thrown up or down according as it is necessary to couple or uncouple the cars.

Each drawhead is provided with a rigid hook or stationary dog 20, preferably inclined slightly backward from its base to make the coupling more secure when the link is thrown over the same, which is done in coupling the cars as illustrated in Fig. 2. It will be observed that when the link is in the coupled position it is thrown over the dogs of both drawheads. One of these dogs engages the link at each extremity of its opening, the dog of its own car engaging the inner extremity, and the dog of the opposite car its outer extremity when the cars are coupled and the train moves forward. The length of slot 10 of the link is so regulated that the key 12 never engages its rear extremity when the cars are coupled, hence the key is subjected to no strain, its only function being to retain

the link in place and prevent its jumping from its socket as the drawheads come together and before it is thrown over the dogs.

Each drawhead is preferably provided with
5 a recess 21 located just in the rear of the dog and of a depth equal to the thickness of the link, so that when one link is thrown to the coupled position it will be flat with the top of the drawhead and form a smooth base
10 for the other link which may be thrown to position on top thereof, making the coupling doubly secure.

Each drawhead is provided with a link recess 22 and a vertical pin hole 23 in its forward extremity whereby the ordinary link and pin may be employed for coupling purposes if it be found necessary or desirable at any time to resort to this means. The link
15 may be provided with a bend 9^a at its center as shown in Fig. 8, whereby the coupling may be formed between cars of different heights. Bar 7 may be engaged by one or more springs
20 25 secured to the end of the car and having a tendency to retain the bar in the adjusted position.

Having thus described my invention what I claim is:—

1. The combination with the drawhead pro-

vided with the upwardly projecting dog, the transverse movable bar secured to the end of
30 the car, a link located in a socket formed in said bar and having both a longitudinal and lateral movement therein, and means for rotating the movable bar whereby the link is thrown over the dogs of both the drawheads,
35 substantially as described.

2. In a car coupler the combination with the hooked or dogged drawhead of the rotating bar supported upon the car and carrying the link, means for actuating the bar, a spring
40 attached to the car and engaging the rotating bar, substantially as described.

3. In a car coupler the combination with the rotating transverse bar supported upon the car and carrying the link, and a rotating
45 vertical bar connected with the transverse bar by suitable gear wheels, the last named bar being actuated from the top of the car, substantially as described.

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

JOHN N. CAMPBELL.

Witnesses:

WM. MCCONNELL,
M. H. MCKENNA.