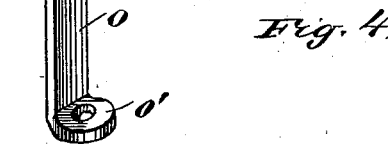
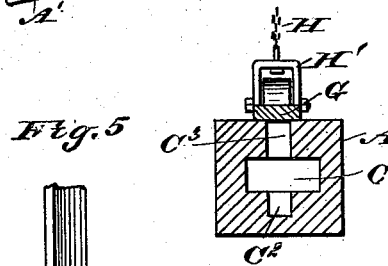
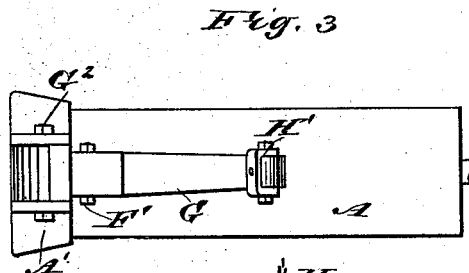
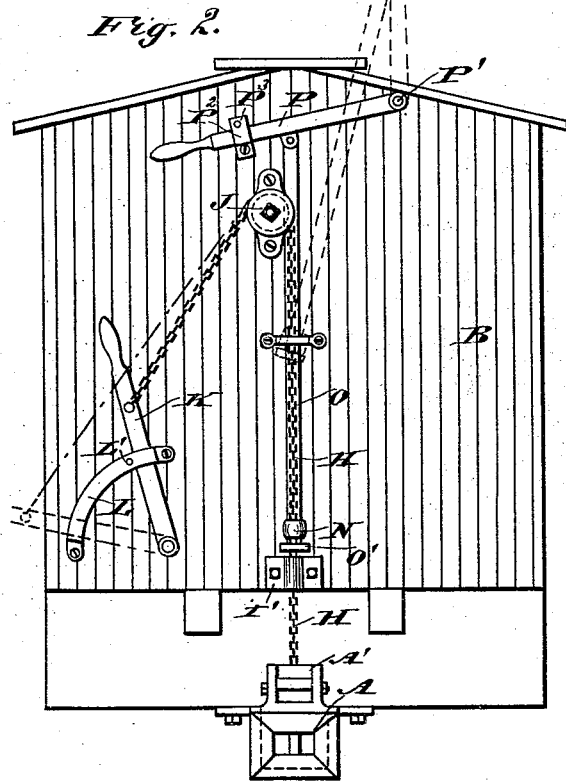
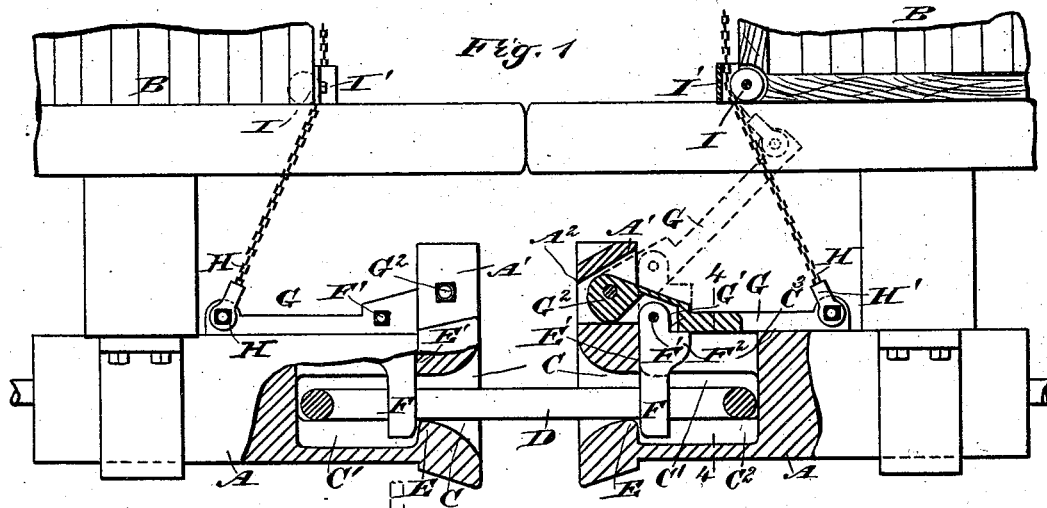


(No Model.)

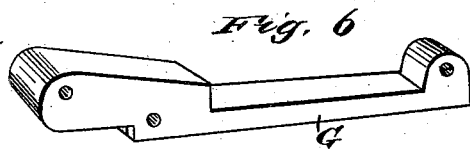
A. F. NESBIT.  
CAR COUPLING.

No. 490,978.

Patented Jan. 31, 1893.



WITNESSES:  
J. A. Bergstrom  
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# UNITED STATES PATENT OFFICE.

ARTHUR F. NESBIT, OF MILTON, PENNSYLVANIA.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 490,978, dated January 31, 1893.

Application filed April 16, 1892. Serial No. 429,410. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR F. NESBIT, of Milton, in the county of Northumberland and State of Pennsylvania, have invented a new and Improved Car-Coupling, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved car coupling, which is simple and durable in construction, very effective in operation, arranged for self coupling, and adapted to be uncoupled from either the side or top of the car.

The invention consists of certain parts and details and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the improvement as applied on two cars, parts being in section, and the device in a coupled position; Fig. 2 is a reduced front view of the improvement as applied on the end of the car; Fig. 3 is a plan view of the drawhead and lever; Fig. 4 is a transverse section of the same on the line 4—4 in Fig. 1; Fig. 5 is a perspective view of the lower end of the bar for raising the lever from the top of the car; and Fig. 6 is a perspective view of the lever.

The drawhead A is secured in the usual manner to the under side of the car B, and is provided at its front end with the usual entrance opening C through which passes the coupling link D. The rear end of the opening C leads to a recess C' formed in the back part of the drawhead A and connected at its bottom with a downwardly extending recess C<sup>2</sup> and in its top with a slot C<sup>3</sup> reaching to the top of the drawhead. The front end of the recess C' forms in the drawhead A a shoulder E, and a like shoulder E' is formed at the front end of the slot C<sup>3</sup>. The shoulders E and E' have their faces in alignment with each other, vertically, as will be readily understood by reference to Fig. 1. On the shoulders E and E' is adapted to rest an arm F, hung at its upper end on a pivot F' held in a lever G, the under side of which is formed with a recess G' into which extends the upper end of the said arm F, see Fig. 1. The lever G has

its fulcrum end extending to the front of the drawhead A, the fulcrum being formed by a pin G<sup>2</sup> held transversely in an extension A' formed on the front end and on top of the drawhead A. On the rear side of the arm F is formed an extension or lug F<sup>2</sup>, adapted to engage the under side of the said lever G when the latter rests with its bottom flat on the top of the drawhead A. The upward swinging motion of the lever G is limited by an incline A<sup>2</sup> formed in the lug or extension A', the said incline engaging part of the top surface of the said lever, as will be readily understood by reference to the dotted lines in Fig. 1 at the right-hand side thereof.

The rear or free end of the lever G is pivotally connected by a link H' with a chain H extending upward and passing over a pulley I journaled in a keeper I' attached to the front end of the car B. The chain H extends up the front end of the car B and finally passes over a pulley J and then downward, to connect with a lever K fulcrumed on the end of the car near one side thereof, see Fig. 2. The lever K is guided in a segment L attached to the car and adapted to receive a pin L' for locking the said lever K in an uppermost position during the time the cars are coupled. This lever K serves to raise the lever G so as to move the arm F upward out of engagement with the coupling link D in order to uncouple the cars.

To uncouple from the top of the car, the following device is provided. On the chain H near the keeper I', is secured a block or ball N adapted to be seated on a projection O' formed on a bar O, mounted to slide vertically on the front end of the car B. The upper end of this bar O is pivotally connected with a lever P fulcrumed under the roof of the car at P', and adapted to rest in a keeper P<sup>2</sup> also attached to the end of the car, as will be readily understood by reference to Fig. 2. The handle end of the lever P is within convenient reach of the operator standing on the running board on the roof of the car, so as to throw the said lever P upward to uncouple by raising the lever G and the arm F. When the cars are coupled, the lever P is adapted to be locked in place by a pin P<sup>3</sup> engaging the said keeper P<sup>2</sup> above the top edge of the said lever.

The operation is as follows:—When the lever G is in a lowermost position, as shown in Fig. 1, then the arm F extends vertically into the drawhead at the end of the opening C, the said arm F resting with its front edge against the shoulders E and E', while the lug F<sup>2</sup> rests on the under side of the lever G which now rests with its bottom flat on the top of the drawhead A. Now, when the end of the link D passes through the opening C it strikes against the arm F, so that the latter swings rearward, the fulcrum being the pivot G<sup>2</sup>, as the lever G is raised by the said arm F engaging with its lug F<sup>2</sup> the said lever. As soon as the end of the link has passed the lower end of the arm F, then the latter swings back into a vertical position and at the same time the lever G swings downward, thus moving the arm F downward, vertically, into engagement with the link D, thus coupling the car. It will be seen that when the link D enters and strikes the arm F, the lever G is raised, and when the said link has passed the arm, the latter readily passes back into its normal position, being aided by the weight of the lever G and its own weight.

When it is desired to uncouple the car, the operator either manipulates the lever K from the side of the car or the lever P from the top of the car, as before described, so that a pull is exerted in an upward direction on the chain H which, by its connection with the lever G, causes an upward swinging of the latter whereby the arm F is lifted upward almost vertically out of contact with the end of the link D. By moving the two cars apart, the link D will leave the drawhead. Now, it will be seen that by this construction the arm F rests against the shoulders E and E' of the drawhead A, so that all the strain on the said arm caused by pulling the cars along on the track, is taken off the pivot F'.

It will further be seen that by the especial construction of the arm and lever G, the said arm moves almost vertically out of position in uncoupling the cars, so that it requires but little power to raise the said arm out of engagement with the link D.

It will further be seen that the recess C' and the slot C<sup>3</sup> form guideways for the arm

F so as to prevent sidewise motion of the same, and at the same time the slot C<sup>3</sup> is closed when the cars are coupled by the lever G resting on top of the drawhead A over the said slot C<sup>3</sup>.

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

1. A car coupling, comprising a drawhead formed with an entrance opening and a recess for the link, an arm extending vertically into the said recess and adapted to rest against shoulders formed in the drawhead, a lug projecting from the said arm, and a lever fulcrumed on the top of the drawhead and carrying the pivot for the upper end of the said arm, the lug of the latter being adapted to engage the under side of the said lever, substantially as shown and described.

2. A car coupling, comprising a drawhead formed with an entrance opening and a recess for the link, an arm extending vertically into the said recess and adapted to rest against shoulders formed in the drawhead, a lug projecting from the said arm, a lever fulcrumed on the top of the drawhead and carrying the pivot for the upper end of the said arm, the lug of the latter being adapted to engage the under side of the said lever, and means, substantially as described, for imparting an upward swinging motion to the said lever to lift the said arm in an upward direction, as set forth.

3. A car coupling, comprising a drawhead formed with an entrance opening and a recess for the link, an arm extending vertically into the said recess and adapted to rest against shoulders formed in the drawhead, a lug projecting from the said arm, a lever fulcrumed on the top of the drawhead and carrying the pivot for the upper end of the said arm, the lug of the latter being adapted to engage the under side of the said lever, and means, substantially as described, for limiting the upward swinging motion of the said lever, as set forth.

ARTHUR F. NESBIT.

Witnesses:

JOHN B. LAIRD,  
STERLING D. SHIMER.