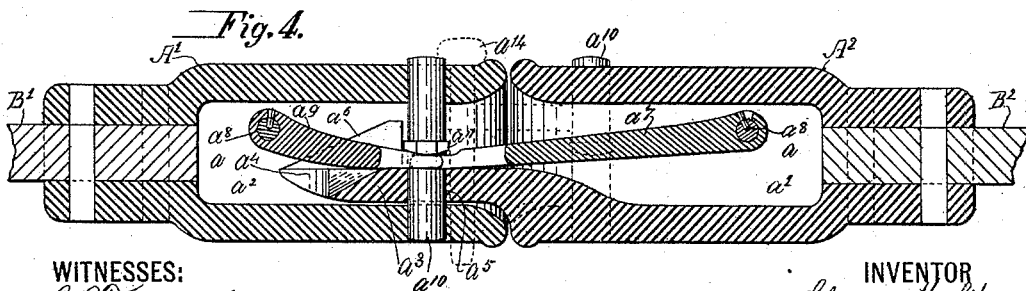
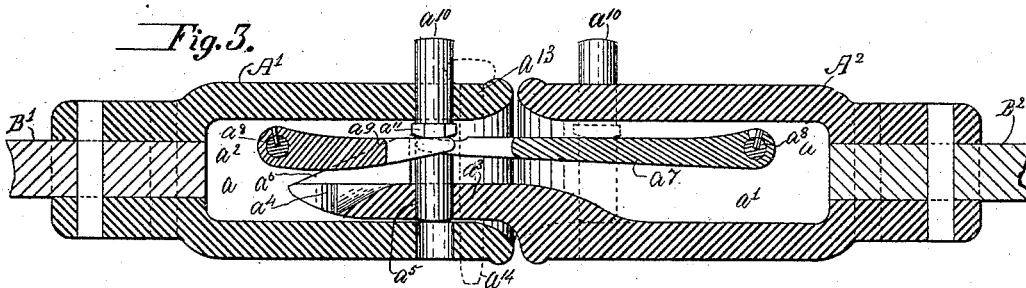
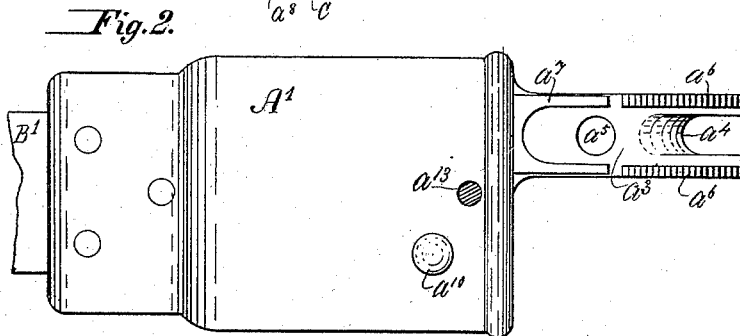
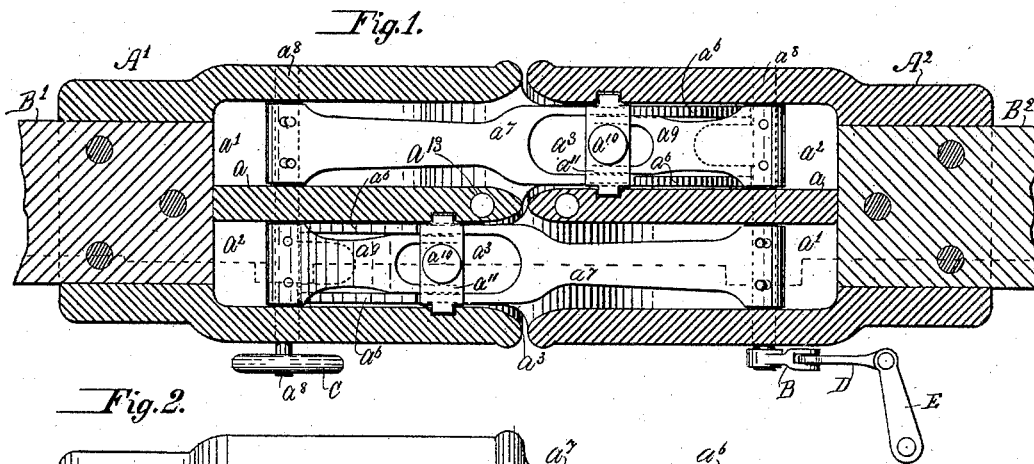


(No Model.)

C. MORFIT.
CAR COUPLING.

No. 493,638.

Patented Mar. 21, 1893.



WITNESSES:

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CLARENCE MORFIT, OF NEW YORK, N. Y.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 493,638, dated March 21, 1893.

Application filed December 28, 1892. Serial No. 456,528. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE MORFIT, of New York, in the county and State of New York, have invented a certain new and useful Improvement in Car-Couplings, of which the following is a specification.

I will describe a car coupling embodying my improvement and then point out the novel features in the claims.

In the accompanying drawings, Figure 1 is a horizontal section of a coupling embodying my improvement, the upper portion of the two draw-heads being entirely removed. Fig. 2 is a plan or top view of one of the draw-heads.

Fig. 3 is a vertical longitudinal section, taken at the plane of the dotted line 3 3 Fig. 1. Fig. 4 is a view like Fig. 3, but showing parts in different positions.

Similar letters of reference designate corresponding parts in all the figures.

I have illustrated my invention in a duplex coupler.

A' A² designate draw-heads which may be made of any suitable material and of any approved form. They are fastened to draw-bars B' B². Each draw-head has two practically distinct portions *a'* *a*² which, in the present example of my improvement are represented as being absolutely distinct by reason of the fact that a partition *a* extends longitudinally throughout the interior of the draw bar. The partition really divides the draw-bar into two compartments. From the forward end of the portion or compartment *a'* of each draw-bar a projection *a*³ extends. This is represented as being made flat on the bottom and flat throughout the greater part of its top surface. At the forward end, it is provided with a notch *a*⁴, and rearward of this notch, it has a hole *a*⁵ extending through it. At the forward extremity and adjacent to the sides of the notch *a*⁴ are two inclined rails or projections *a*⁶. The rear extremities of these rails or projections are shown as quite abrupt. Behind the rails or projections *a*⁶ is a disengaging device, here shown as made in the form of a rocking lifter *a*⁷ having its forward extremity notched or forked. It is provided with journals or mounted upon a rock shaft *a*⁸. In the present instance, it is mounted upon a rock shaft, and this rock shaft extends entirely through the draw-head transversely and is

provided in the portion or compartment *a*² with a rocker *a*⁹ constituting another disengaging device.

In the portion or compartment *a*² is a dog or locking device made in the form of a vertically moving pin *a*¹⁰, which passes through a hole in the top of the draw-head and also through a hole in the bottom. It is shown as provided with transverse projections *a*¹¹. The rocker *a*⁹ is notched or forked at the forward end so as to embrace the pin *a*¹⁰ beneath the projection *a*¹¹. Obviously, by tilting the rocker, the pin *a*¹⁰ may be raised or lowered. The transverse projection *a*¹¹ may be engaged with vertical slots formed in the side walls of the portion or compartment *a*² of the draw-head.

It will be readily understood that when two couplers are moved together, the projection *a*³ of each draw-head will enter the portion or compartment *a*² of the opposite draw-head, and those portions at the side of the notch *a*⁴ will embrace the pin *a*¹⁰ belonging to said portion or compartment. The rails *a*⁶ will work along the transverse projection *a*¹¹ of said pin *a*¹⁰ and raise the pin until said inclines rails or projections *a*⁶ have passed entirely beyond the transverse projections *a*¹¹ of said pin *a*¹⁰, whereupon the pin *a*¹⁰ will drop and its transverse projections will engage with the rear side of the inclines rails or projections *a*⁶. Thus the two draw-heads will be coupled together. In order to uncouple the draw-heads, the rock shaft *a*⁸ will be oscillated so as to raise the rockers *a*⁷ *a*⁹. The tilting of the rocker *a*⁹ will effect the lifting of the pin *a*¹⁰ belonging to the draw-head whose rock shaft *a*⁸ is oscillated. The tilting of the rocker *a*⁷ will cause the outer notched or forked end of such rocker to force upward the transverse projection *a*¹¹ of the pin *a*¹⁰ belonging to the opposite draw-head and thus raise such pin.

The rock shaft *a*⁸, or the journals of the rockers when the rockers are formed with journals, may, outside the draw-heads, be provided with any suitable devices, whereby the tilting of the rockers may be effected, as, for instance, a crank arm B may be fastened to one end of such rock shaft, or a hand wheel, C, may be used in lieu thereof, or a crank B may be used and combined with a link, D,

pivottally connected at one end therewith, and at the other end with a lever E, fulcrumed upon a standard erected upon the draw-head or car platform.

5 It will be seen that by my improvement I provide in a very simple and efficient form a coupler which may be made either single or duplex and whereby cars may be automatically coupled and readily uncoupled.

10 Draw-heads embodying my improvement may be constructed so as to operate with an ordinary link and pins. To this end, a hole a^{13} may be provided directly through the partition a for the reception of a pin a^{14} . The
15 partition may be notched above the plane of the inclined rails or projections so as to permit of the insertion of an ordinary link far enough to intersect the hole a^{13} and engage with the pin a^{14} .

20 Obviously, it is important that a coupling should be so constructed as to operate equally well when a car is reversed end for end. Indeed, it may almost be said that no car coupling would be of any practical value if incapable of operating on a reversal of the car.
25 By my improvement, I afford a double connection, each complete in itself, and capable of operation even if the other should become disabled.

30 A very valuable feature of my improvement is the use of a part which is movable relatively to a draw-head in combination with another part which is immovable with the draw-head. By this combination of parts,
35 great strength and durability are afforded. It is impossible to utilize this combination of parts and to afford provision for reversing a car without adopting a duplex arrangement of coupling devices.

40 A vertically moving part in a car coupler is advantageous. It is impossible to employ such a part and provide for the reversal of a car, excepting a duplex arrangement, of which my improvement affords an example, is
45 adopted.

It will be seen that the means I employ for shifting the movable parts to uncouple a car are combined with the draw-heads, and there-

fore it is obvious that my coupling does not necessitate the use of any special platform or the employment of devices mounted upon a
50 platform for uncoupling one car from another.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination with a draw-head, of a
55 vertically moving pin having transverse projections, a lifter therefor and a handle outside of the draw-head whereby said lifter may be operated, substantially as specified.

2. The combination with a draw-head, of a
60 vertically moving pin having transverse projections, a rocking lifter therefor and a handle combined with the shaft or journal of said lifter, substantially as specified.

3. The combination with a draw-head having two portions or compartments, of a pin in one portion or compartment provided with transverse projections or shoulders, a lifter for said pin arranged in the same portion or
65 compartment, an immovable projection from the other portion or compartment, inclined rails or projections extending beyond the other portion or compartment and a lifter in the latter compartment in rear of the inclined rails or projections, substantially as specified.
75

4. The combination with a draw-head having two portions or compartments, of a pin in one portion or compartment provided with transverse projections or shoulders, a lifter for said pin arranged in the same portion or
80 compartment, an immovable projection from the other portion or compartment, inclined rails or projections extending beyond the other portion or compartment and a lifter in the latter compartment in rear of the inclined
85 rails or projections, both the said lifters being mounted upon a common rock shaft, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two
90 subscribing witnesses.

CLARENCE MORFIT.

Witnesses:

CLARENCE R. FERGUSON,
ANTHONY GREF.