(No Model.) 2 Sheets—Sheet 1.

E. W. WOOLLEY.

CAR COUPLING.

No. 510,949. Patented Dec. 19, 1893.

Fig. 1.

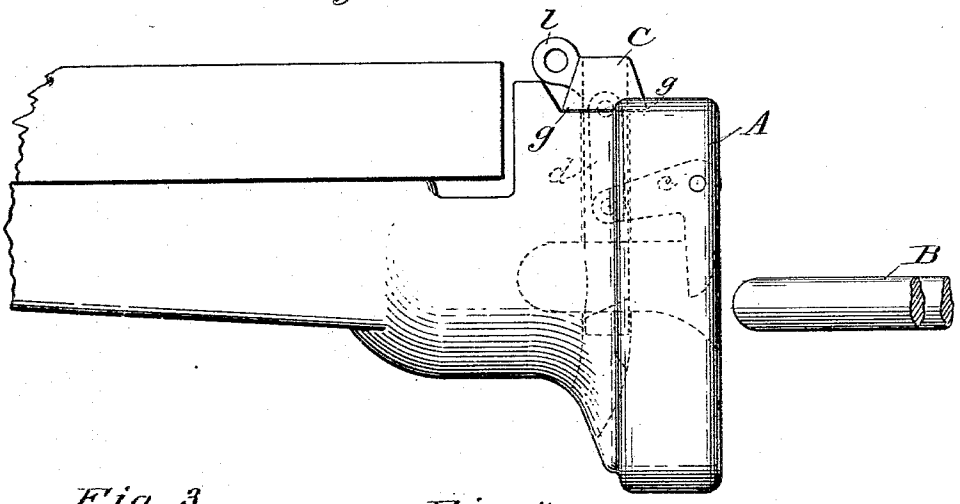


Fig. 3.

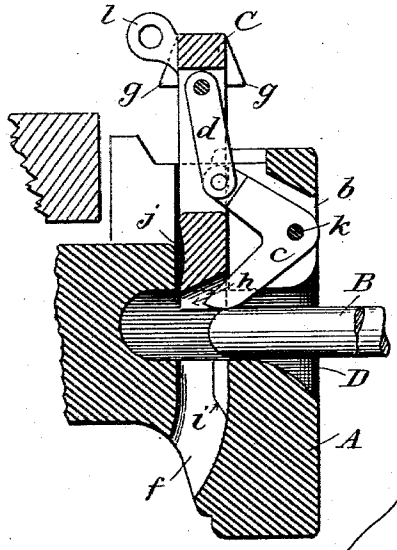


Fig. 5

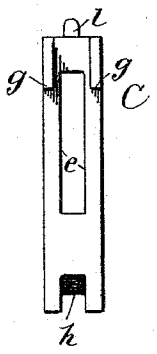


Fig. 2.

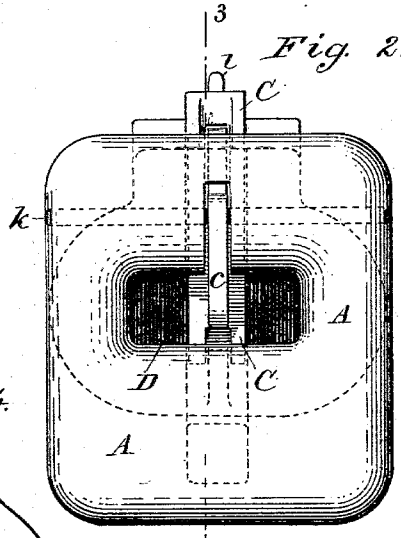
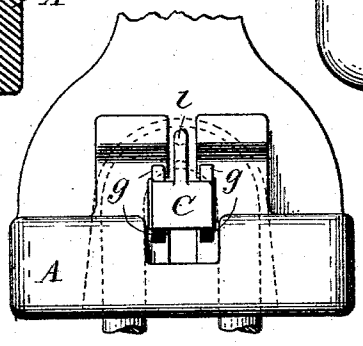


Fig. 4.



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(No Model.)

2 Sheets—Sheet 2.

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CAR COUPLING.

No. 510,949. Patented Dec. 19, 1893.

Fig. 6.

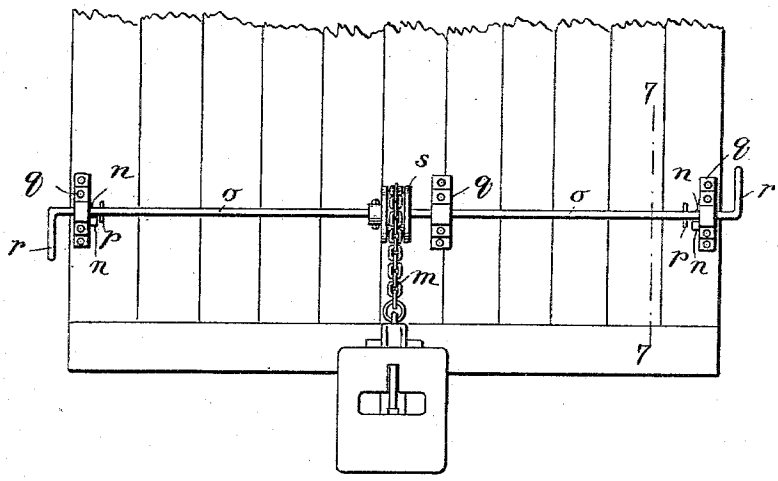
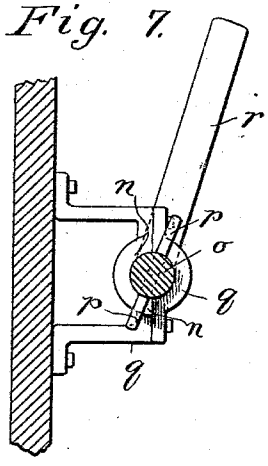


Fig. 7.



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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 510,949, dated December 19, 1893.

Application filed August 5, 1893. Serial No. 482,474. (No model.)

To all whom it may concern:

Be it known that I, EDWARD W. WOOLLEY, a resident of Jersey City, Hudson county, State of New Jersey, have invented an Improved Car-Coupler, of which the following is a specification.

My invention relates to car-couplers and has for its object to produce a simple, cheap and reliable means for automatically coupling the cars of a railway train. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side view of my improvement showing the operated parts in dotted lines. Fig. 2 is an end view thereof. Fig. 3 is a section on line 3—3 of Fig. 2. Fig. 4 is a top view of the coupler showing by dotted lines the position of the coupling link in the drawhead. Fig. 5 is a detail view of the coupling pin. Fig. 6 represents an apparatus for holding the pin in an elevated position when desired. Fig. 7 is a section on line 7—7 of Fig. 6.

A represents an ordinary form of drawhead for railroad cars, and B a standard link adapted to enter and be secured therein.

C represents the pin which enters the link in the usual manner to complete the coupling. Pivoted at *k*, in a recess *b* in the drawhead, is a bell-crank *c*, one arm of which extends into the recess D in the drawhead in the path of the link and is slightly rounded. To the other arm of the bell-crank is pivoted one end of a link *d*, the other end of which is pivoted in a recess *e* in the pin C and co-operates with the bell-crank to lift the pin. The pin C works in a way *f* extending vertically through the drawhead. The pin is provided with shoulders *g*—*g* to act as stops when the pin has been dropped in the way in the drawhead. A recess *h* is provided in the pin C for the reception of the rounded end of the bell-crank lever, and also to fit over and engage the projection *i* in the way *f*, which forms a bearing to prevent lateral play, and to steady the pin. The pin is slightly hollowed or notched transversely on its rear face as at *j*, to form a seat for the link, and to prevent the pin from being lifted by the link in its unavoidable movement due to the jarring and the sudden variation of tension when stopping and starting the train. It will be seen that the pivot *k* extends entirely through the drawhead so as to be readily removable, in order that the working parts may be removed, and the broken or worn out parts replaced. The drawhead may be made in the usual manner, as by casting. The remaining parts I prefer to make by drop forging.

The operation is as follows: The parts are in the dotted line position of Fig. 1, and a link is approached in the manner shown in full lines in said figure. This link in the act of coupling is fast in the coupler of another car. The link is thrust into the recess D and strikes against and rocks the bell-crank lever. This by means of the link *d*, lifts the pin C to clear the link B in its entry. (See Fig. 2.) As the link is pressed home the bell-crank lever falls into the aperture in the link and allows the pin C to also fall into the same aperture, and prevent the link from being withdrawn from the drawhead. The parts are now again in the position shown in dotted lines in Fig. 1. To uncouple, the pin may be lifted in any suitable manner, as by engaging the eye *l* with some such device as is represented in Figs. 6 and 7, and the link withdrawn from the drawhead. When the pin has been lifted high enough to clear the link, the rounded end of the bell-crank will enter the recess *h* in the pin and be thereby protected from injury as the link is withdrawn.

As it is often desired to hold the pin in an elevated position to hold the parts out of operation, I have shown a device for the purpose in Figs. 6 and 7. The rod *o* is mounted in brackets *q* on the end of a car, and has fast thereon a sheave *s* over which passes a chain or cord *m* attached to the eye *l* of the pin. Handles *r* on the rod *o* serve to rotate it to wind the chain and lift the pin. When it is desired to hold the pin in an elevated position after it has been raised, the rod *o* is slid longitudinally in the brackets in either direction and the pin *p* and cam stops *n* on the rod and bracket respectively come in contact and form stops to prevent the further rotation of the rod. When it is desired to lower the pin from this fixed position, the operation is reversed.

Having described my invention, I claim—

1. In a car-coupler, the combination with a

drawhead, of a bell-crank pivoted thereto, having one arm extending into the path of a coupling link and adapted to be struck thereby, a pin for securing the coupling link in the drawhead, and a link pivoted to the pin and to the other arm of the bell-crank, substantially as described.

2. In a car-coupler, the combination with a drawhead, of a bell-crank pivoted thereto, having one arm extending into the path of a coupling link and adapted to be struck thereby, a pin for securing the coupling link in the drawhead, and a link connection between the pin and the other arm of the bell-crank pivoted in a recess in the pin, substantially as described.

3. In a car-coupling, the combination of a bell-crank *c*, pivoted in a recess *b* in the drawhead and having one arm extending into the recess D, the link *d* pivoted to the other arm of the bell-crank, and in the recess *e* in the pin, whereby the pin can be actuated, substantially as described.

4. In a car-coupling, the combination with a pin working in a way in the drawhead, and having a recess *h*, of a projection *i* in the way for entering the recess in the pin, substantially as described.

5. In a car-coupling, the combination of a bell-crank, a coupling pin engaged and actuated by one arm of said bell-crank, and having therein a recess for receiving the end of the other arm of the bell-crank, substantially as described.

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