

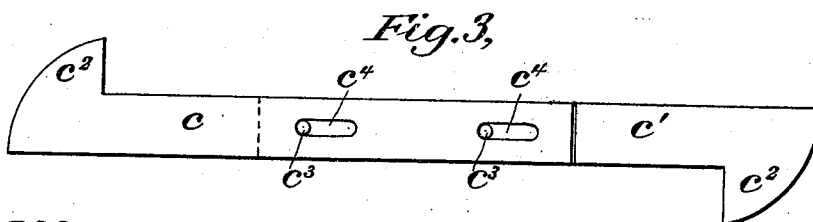
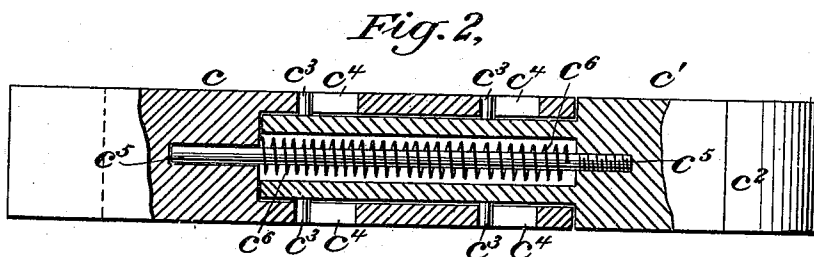
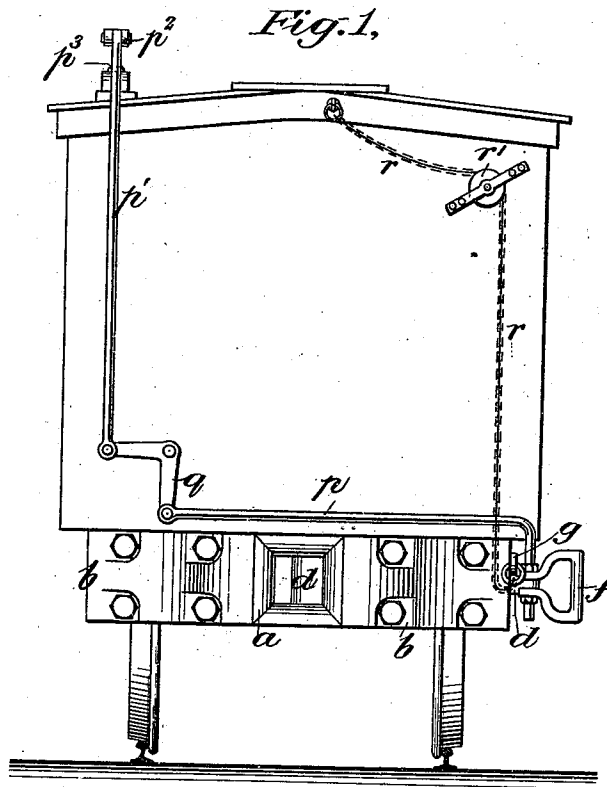
(No Model.)

2 Sheets—Sheet 1.

E. RICHTER.
CAR COUPLING.

No. 510,190.

Patented Dec. 5, 1893.



Witnesses:-

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E. M. Taylor.

Inventor:-

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by Henry D. Williams
Attorney

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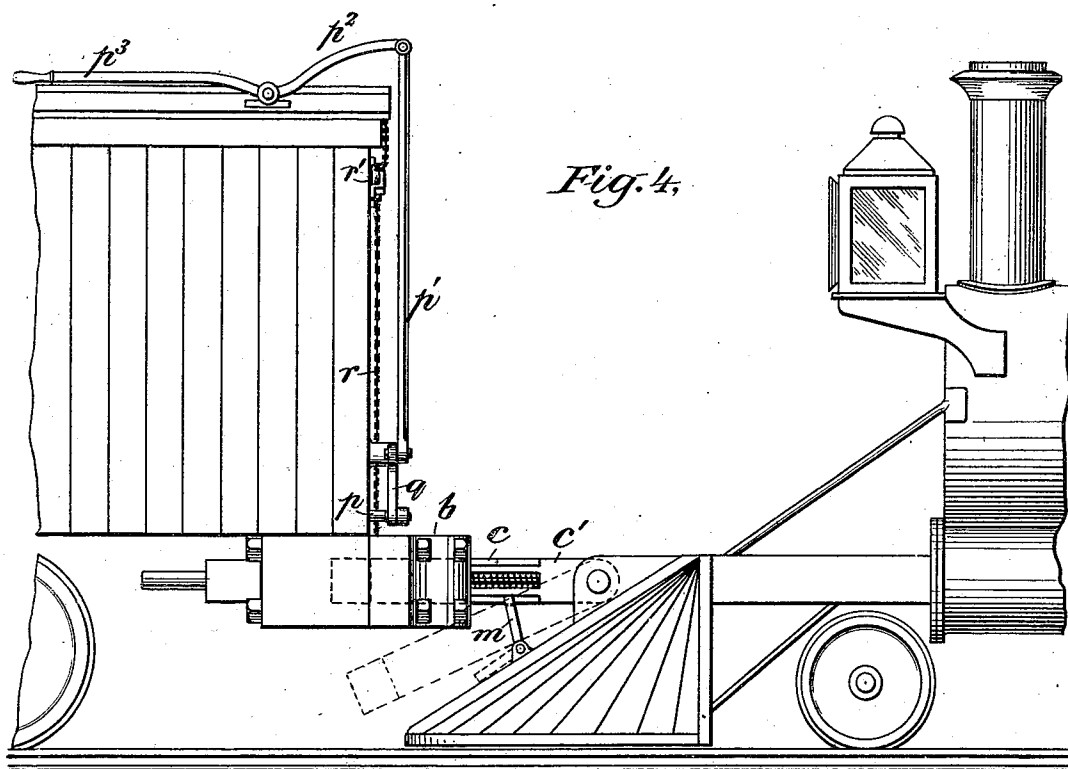
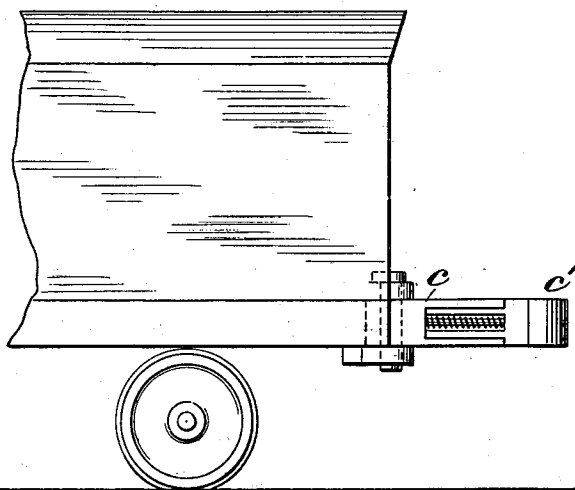


Fig. 5.



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UNITED STATES PATENT OFFICE.

EDWARD RICHTER, OF HACKETTSTOWN, NEW JERSEY.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 510,190, dated December 5, 1893.

Application filed October 4, 1893. Serial No. 487,144. (No model.)

To all whom it may concern:

Be it known that I, EDWARD RICHTER, a citizen of the United States, and a resident of Hackettstown, Warren county, New Jersey, have invented certain new and useful Improvements in Automatic Car-Couplers, of which the following is a specification, reference being had to the accompanying drawings, forming part hereof.

My invention relates to devices for coupling together the cars of railway trains, and consists of certain improvements upon the construction of coupler of my Letters Patent numbered 495,230, said improvements relating to the means for operating said couplers from the car platform or roof of the car, and to the coupling links and means for controlling the same.

In the drawings Figure 1 is an end elevation of a car showing my improved means for operating the coupler. Fig. 2 is a side elevation, partly in section, of one of my improved coupling links. Fig. 3 is a plan view of said link. Fig. 4 is a side elevation showing the ends of a car and locomotive with my improvements applied thereto. Fig. 5 is an end elevation showing the rear of a locomotive tender with my improved link applied thereto.

The coupling socket *a*, its folding frame *b*, and the sliding spring bolt *d*, are of the same construction as in my former patent above referred to and are not therefore herein particularly described. So also of the handle *f*, on the end of the sliding bolt *d*, the latch *g*, arranged to drop into a notch in the sliding bolt *d* to hold it in outer position, the chain *r*, running over guide wheel *r'*, and arranged so that the latch *g* may be lifted by the chain to allow the spring bolt *d* to return to its inner and engaging position.

The coupling link of the present improvement is formed of two parts, *c* and *c'*, fitted together so as to slide longitudinally in relation to each other. This is accomplished by means of the overlapping tongues, the tongues of part *c'* being provided with pins *c³*, *c³*, working in slots *c⁴* *c⁴*, in the tongues of the part *c*. A central opening is arranged between the overlapping tongues in which is fitted a guide rod *c⁵*, attached at one end to the part *c'* and sliding at the other end in the part *c*, and over this guide rod is a coiled spring *c⁶*, at-

tached at one end to the part *c* and at the other end to the guide rod *c⁵* or otherwise conveniently joined to the part *c'*. The extent of the longitudinal sliding movement of the parts *c c'* in relation to each other is governed by the pins *c³* working in and limited in movement by the slots *c⁴*, while this movement is resisted by the spring *c⁶*. Thus a spring coupling link is provided of simple construction, and the shocks due to uneven motion of the train, &c., are cushioned in the coupling link. One part of the coupling link may be pivoted to a car, as shown in Fig. 4, where the part *c* is pivotally connected to the locomotive frame, and as shown in Fig. 5, where the part *c'* is pivoted at the end of the tender. In such case the other part is provided with the engaging hook *c²*. In other cases, both parts have engaging hooks, as shown in Figs. 2 and 3.

Where the coupling link is pivoted to the front of the locomotive or motor car, as shown in Fig. 4, I pivot it so as to swing vertically, and provide a supporting rod *m*, also pivoted to swing vertically, which may be moved upward so as to hold the coupling link up in position to enter the coupling socket of a car, and may be folded down out of the way so as to allow the coupling link to be lowered when not in use, as indicated by the dotted lines. In the construction shown in Fig. 5 the coupling link, when not in use, may be swung around horizontally so as to rest against the end of the car, and may be held there, if desired, by suitable means.

I will now describe my improved means for operating the coupler from the car platform or roof of the car. I employ a connecting rod *p*, arranged horizontally and secured at one end to the sliding spring bolt *d* and pivoted at the other end to one arm of the bell crank lever *q*. The bell crank lever *q* is pivotally secured on the car. A connecting rod *p'*, arranged vertically, is pivoted at its lower end to the other arm of the bell crank *q*, and at its upper end to the arm *p³* of the operating lever. The operating lever has another arm *p³*, and is pivoted to the roof or platform of the car. It will be evident that the simple raising of the arm *p³* of the operating lever will through the connecting rods and bell crank cause the spring bolt *d* to be moved outward, thus disengaging the hook *c²* of the

coupling link and uncoupling the cars. This operation can be readily and rapidly performed by the brakeman as he runs along the roof of the car. Thus the time and labor of uncoupling the cars are reduced to a minimum. It will also be evident that the thrust of the connecting rod p is substantially parallel to the movement of the sliding bolt d , and that the friction of this connecting mechanism is reduced to a minimum.

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

1. An automatic car coupler consisting of a coupling link, means for connecting it to one car, a socket for the same formed in the adjacent end of the adjoining car, a sliding spring bolt in such socket adapted to engage with the coupling link to hold the link in such socket, a substantially vertical connecting rod on the end of the car, a substantially horizontal connecting rod joined at one end to the sliding spring bolt, and a bell crank lever joining the said connecting rods, substantially as set forth.

2. An automatic car coupler consisting of a coupling link, means for connecting it to one car, and a device for holding it in the adjacent end of the adjoining car, and means for operating said device from the car roof or platform consisting of a connecting rod on the end of the car, a pivoted operating lever connected to one end thereof, a bell crank pivoted to the other end thereof, and a connecting rod joined at one end to the bell crank and at the other end to the device for holding the coupling link, substantially as set forth.

3. The means for operating the engaging bolt of a car coupler, consisting of the connecting rod p , secured at one end to said bolt and at the other end to the bell crank q , the bell crank q , the connecting rod p' secured at one end to the bell crank q and at the other end to the arm p^2 of the operating lever, and the operating lever pivoted to the car, substantially as set forth.

4. The automatic car coupler consisting of a hooked coupling link, means for connecting it to one car, a socket for the same, formed in the adjacent end of the adjoining car, the sliding spring bolt d , adapted to engage with said coupling link, the connecting rod p , se-

cured at one end to said bolt d and at the other end to the bell crank q , the bell crank q , the connecting rod p' secured at one end to the bell crank q and at the other end to the arm p^2 of the operating lever, and the operating lever pivoted to the car, substantially as set forth.

5. An automatic car coupler consisting of a hooked coupling link comprising two parts fitted together so as to have a longitudinal sliding movement in relation to each other and a spring joining said parts so as to resist said sliding movement, means for connecting one of said parts to a car, a socket for the other part rigidly secured to the adjacent car, and a sliding spring bolt in such socket adapted to engage with the hook of the coupling link, substantially as set forth.

6. A coupling link consisting of two parts fitted together so as to have a longitudinal sliding movement in relation to each other, and having overlapping tongues, with pins in one part engaging in slots in the other part to limit their relative movement, and a spring joining said parts so as to resist said sliding movement, substantially as set forth.

7. The coupling link consisting of the two parts c and c' having overlapping tongues, pins c^3 in the tongues of one part engaging with slots c^4 in the tongues of the other part, the guide rod c^5 secured at one end in one part and sliding at the other end in the other part, and the spring c^6 secured at one end to one part and at the other end to the other part, substantially as set forth.

8. An automatic car coupler consisting of a coupling link at one end pivotally connected to a car, so as to swing vertically, a pivoted rod also swinging vertically and arranged so that in upper position it supports and guides the link and also arranged to fold down and permit the link to be lowered, a tooth or hook at the other end of the coupling link, a socket for said end of the link arranged in the adjacent end of an adjoining car and a sliding spring bolt to engage with said hook in said socket and hold the link in the socket, substantially as set forth.

EDWARD RICHTER.

Witnesses:

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