E. M. PARROTT.

CAR-COUPLING.

No. 185,126. Patented Dec. 5, 1876.

Fig. 1.

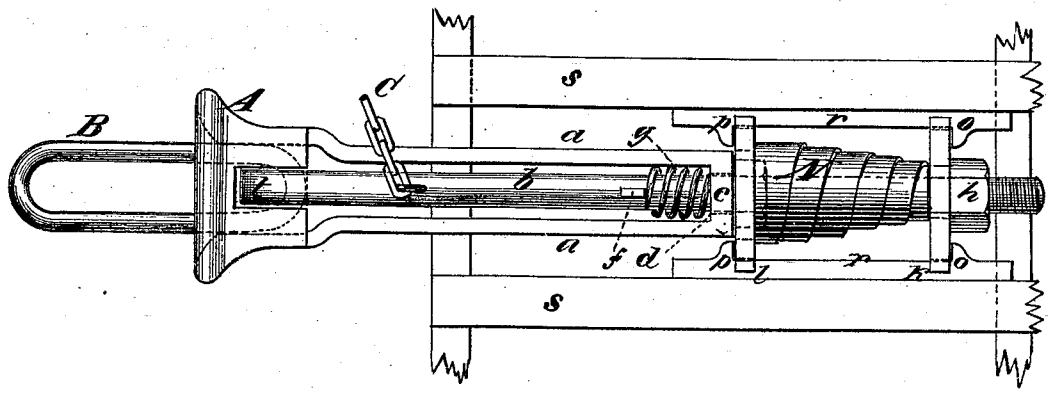
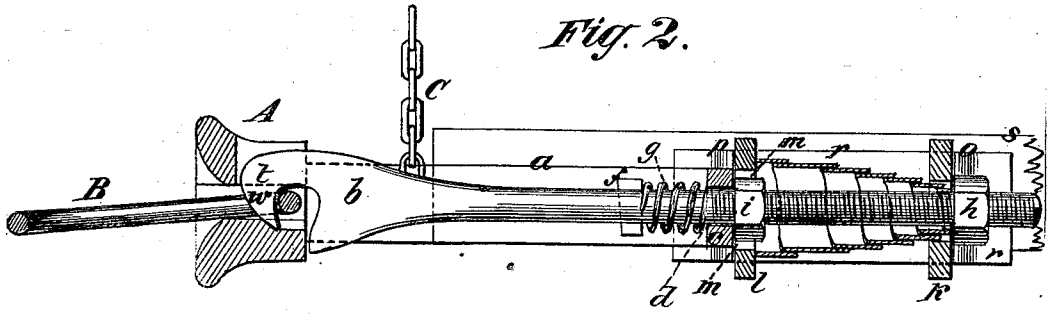


Fig. 2.



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IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **185,126**, dated December 5, 1876; application filed October 11, 1876.

To all whom it may concern:

Be it known that I, EDWARD M. PARROTT, of Greenwood Iron-Works, in the county of Orange and State of New York, have invented an Improvement in Car-Couplings; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, which forms a part of this specification.

My invention relates to that class of car-couplings which automatically couple and connect railway-cars when the bumper-heads of such cars are brought together with a coupling-link in one of the bumper-heads, and which may be uncoupled without compelling the operator to pass in between the cars.

The invention consists in a novel construction of the draw-bar and its attachments, and in a novel arrangement of the same in relation to the bumper-head of a railway-car to which it is attached, whereby the coupling is automatically and certainly performed without distorting or buckling either the draw-bar or the coupling-link, or subjecting either said draw-bar or link to undue strain, and in such manner as to apply the draft wholly to the draw-bar to avoid the use of a coupling-pin, and permit the uncoupling to be performed from the top of a freight-car, or from the side of a car when the operator stands upon the ground, thus avoiding the dangers and accidents attending the old method of coupling cars, and facilitating the making up and breaking up of trains.

Figure 1 is a top view, and Fig. 2 a vertical, central, and longitudinal section, of a bumper-head having my improved car-coupling attached thereto, and a portion of the floor-beams of a car to which the bumper-head and draw-bar are attached.

A is the bumper-head, between the two parallel bars *a* of which is placed the draw-bar *b*. The parallel bars *a* of the bumper-head extend for a considerable distance on each side of the draw-bar *b*, and are joined at their ends farthest from the link B by a cross-plate, *c*, through a central hole, *d*, Fig. 2, in which the draw-bar *b* passes. Between the said cross-plate *c* and a key, *f*, inserted through, or a shoulder formed on, the said draw-bar *b* is placed a spring, *g*, (preferably a coiled spring,) surrounding said draw-bar. On the inner end of the draw-bar *b* is cut a thread, upon which are fitted the nuts *h* and *i*; and upon the said draw-bar are further arranged, as shown, the sliding plate *k* and the draft-plate *l*, the draft-plate *l* having a central opening, *m*, Fig. 2, large enough to permit the free passage of the nut *i*. The sliding plate *k* has a hole in the center, through which the draw-bar *b* passes, but which does not permit the passage of the nut *h*. Between the draft-plate *l* and the sliding plate *k* is placed a strong spring, N, which normally presses the plates *k* and *l* asunder, and causes them to abut, respectively, against shoulders formed on the plates *r*, attached to the floor-beams *s* of the car. The plates *r* form guideways for the sliding plate *k* and a support for the draft-plate, *l*, said sliding plate and draft-plate being wider than the said plates *r*, and the said sliding plate and draft-plate having recesses in their opposite ends, loosely fitting said plates *r*. The draw-bar *b* has a hook, *t*, formed upon its outer end, and near the said hook is attached to said draw-bar a chain, C, which, in use, is extended from said draw-bar to the top of car, or attached to a lever extending to the side of the car.

The coupling and uncoupling are accomplished as follows: The weight of the draw-bar is assisted by the action of the spring *g*, to depress the hooked end of the draw-bar, and to engage the hook *t* with the link B, when said link enters into the bumper-head in the usual manner, and the weight of the draw-bar, resting upon the inner part of said link, counterbalances and keeps the outer end of said link raised into the proper position to enter the bumper-head of the car to be coupled thereto, thus obviating the necessity of any special device for causing the link to keep the proper position for coupling. The outer end of the draw-bar *b* has an incline, *w*, formed on its under side, which, through the pressure of the entering link, acts to raise the said outer or hooked end of said draw-bar, and permit the passage of the link under it, and when the link has entered by the point of the hook *t* the draw-bar drops by its own gravity and the action of the spring *g*, and engages the said hook with the said link. Moreover,

the said spring *g*, which is much weaker than the spring N, takes up the force of the impact of the link B, and prevents any injury to either the said link or draw-bar, and, furthermore, gives the requisite slack for starting long freight-trains. When the draft is applied to the draw-bar *b* the strain is first transferred to the nut *h*, and thence, through the sliding plate *k*, to the spring N; thence to the draft-plate *l*, and thence, through the plates *r*, to the floor-beams *s*, rigidly attached to the car. The nut *i*, then abutting against the cross-plate *c* of the bumper-head, causes said bumper-head to advance as much as the draw-bar advances through the compression of the spring N, keeping the relation between said draw-bar and bumper-head constantly the same during the interval between the coupling and uncoupling, whether the cars are in motion or otherwise. This arrangement prevents the hooked end of the draw-bar from ever coming in contact with the bumper-head, and removes all strain or draft from said bumper-head when the cars are in motion. The strain on the draw-bar is, moreover, always a pulling strain, tending to keep said draw-bar straight, and relieving it of any tendency to bend or buckle.

By means of the nuts *h* and *i*, adjustment of the draw-bar in relation to the draw-head may be made to adapt the coupling to coupling-links of different lengths, and to give more or less slack for freight or passenger trains. In uncoupling, the cars are run together in the usual manner, and the hooked end of the draw-bar is lifted enough to disengage it from the link B, when the cars may be separated.

For lifting the hooked end of the draw-bar I directly employ the chain C, which extends from said draw-bar to the top of the car; or, when standing on the ground, the operator may lift the draw-bar through a lever connected with said chain, for which chain a cord or rod may be substituted, if desired. For passenger-cars an elbowed lever may be applied, the longer arm standing vertically and adjusted to the hand-rail of the platform, the shorter arm being attached to the draw-bar by a few links of a chain.

I claim—

In combination with the bumper-head, a hooked draw-bar, extending through the rear of the draw-head, the sliding plates *k*, guide-plates *r*, and draft-plate *l*, nuts *h i*, and springs *g* N, the spring *g* acting on the draw-bar within the bumper-head, and the spring N acting upon the sliding and draft plates, substantially as and for the purpose specified.

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Witnesses:

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