

JOHN C. RUPP & STEPHEN OTT.

Improvement in Car-Couplings.

Patented June 6, 1871.

No. 115,643.

Fig. 1.

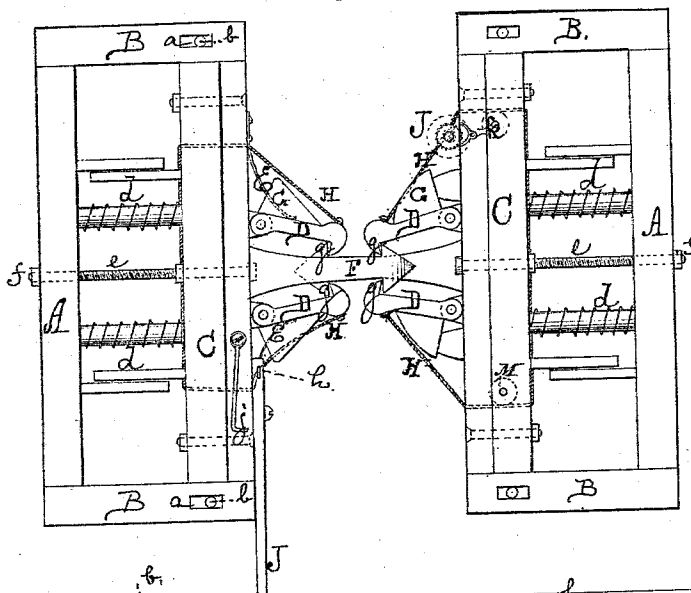


Fig. 2.

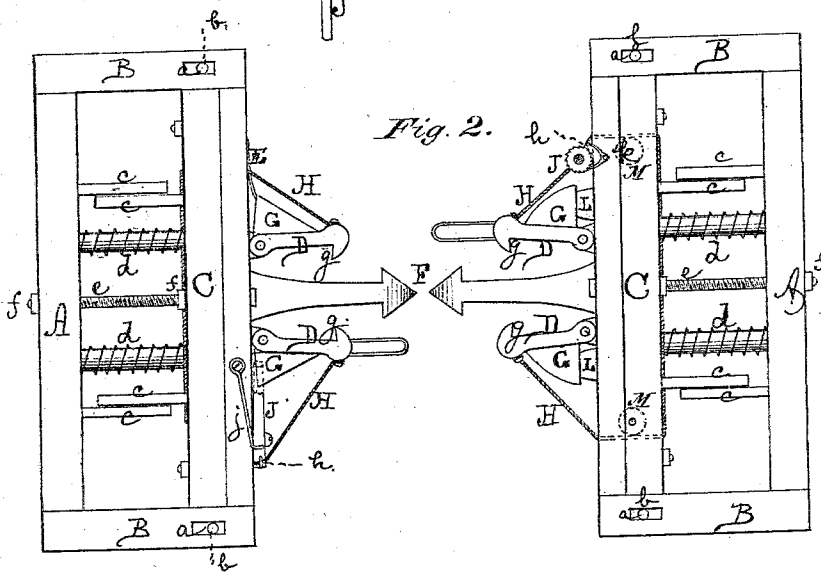


Fig. 3.

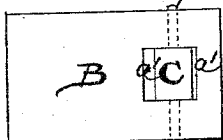
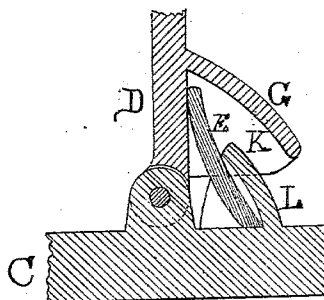


Fig. 4.



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# UNITED STATES PATENT OFFICE.

JOHN C. RUPP AND STEPHEN OTT, OF NEWARK, DELAWARE.

## IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. 115,643, dated June 6, 1871.

*To all whom it may concern:*

Be it known that we, JOHN C. RUPP and STEPHEN OTT, of Newark, in the county of New Castle and State of Delaware, have made new and useful Improvement in Car-Coupling; and we do hereby declare the following to be a clear and exact description of the nature thereof sufficient to enable others skilled in the art to which our invention appertains to fully understand and use the same, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a top view of the device illustrating our invention, the parts being coupled. Fig. 2 is a similar view, showing the parts uncoupled. Figs. 3 and 4 are views of detached parts.

Similar letters of reference indicate corresponding parts in the several figures.

Our invention relates to self-couplings for cars; and consists in the combination and construction of parts, as will be hereinafter more fully described.

In the drawing, A represents the back-stay, which is to be secured beneath the platform of the car, or to the bolster, as most suitable for the purpose intended. Side pieces B are connected to the stay, and are formed with slots *a*, which receive the tenoned ends of a sliding piece, C, which extends transversely and slides longitudinally, the slots and tenons acting as guides therefor, and allow it to play freely. Vertical slots *a'* *a'* are also formed in the side pieces, and receive pins *b*, which pass through the tenons and form additional guides for the sliding piece, and likewise prevent lateral displacement or bulging of said piece. If desired, pieces *c c* may be secured to the stay A and piece C, and assist in the operation of guiding the sliding piece and keeping the parts in proper position. The sliding piece is pressed outwardly by means of springs *d d*, properly arranged, and which in the present case bear against the stays and sliding piece and serve to receive the shocks in coupling. Bolts *e* are fixed to the slide and pass through the stay, and assist in guiding the slide, and, by means of nuts or collars *f*, limit the forward movement of the slide. The coupling device, hereinafter described, is to be connected directly to the slide C, and, owing to the great shocks to which cars are subjected during the coupling operation and the sub-

sequent strain on the parts when the cars are in motion, it is desirable that the parts should be strongly made and operate uniformly. The construction of the slide and the various connected parts previously described are such that those results are accomplished. To the slide there are pivoted two jaws, D D, which project forwardly, and, by means of springs E, are pressed toward each other. The outer ends or heads of the jaws are beveled, and also provided with shoulders *g*, which form catches for the spear-heads F, which are firmly secured to the slides C, and arranged between the pairs of jaws, so that the spear-head of one car will engage with the jaws of the next. The backs of the jaws are extended beyond their axes, in order to form shoulders G, which do not interfere with the closing movement of the jaws; but when the latter are opened said shoulders come in contact with the slide and limit the play of the jaws. The pairs of jaws are opened by a chain or cord, H, which is connected to one jaw, passes through the slide C, extends along the back thereof, thence again through the slide, and finally is connected to the other jaw. At an intermediate point of the chain or cord, say at *h*, the chain is connected to a lever or windlass-rod, J, which is pivoted or attached to the slide and moves with it, and is so arranged that one movement of the lever or rotation of the rod will draw both ends of the chain or cord, and it will be seen that a single chain or cord and a single lever or rod will open both jaws simultaneously. The special construction of the springs E E, which close the jaws, is shown in Fig. 4. The backs of the jaws are formed with chambers K to receive the springs, which may be constructed of rubber or other suitable material. The springs bear against the jaws and the slide C, and serve to keep the jaws in their closed position. They are retained in place by the chambers K, and further held by pieces L, which project from the slide. When the jaws are opened the springs are compressed, and when they are released the expansion of the springs will at once close the jaws. The springs, being confined, are protected from rain, ice, dirt, atmosphere, &c. The side pieces of the chambers K may consist of the extension pieces G on the back of the jaws, whereby the chambers also constitute the stops to limit the play of the jaws.

When the cars come together the spear-heads strike the beveled heads of the jaws and force them apart until the backs of the spear-heads clear the shoulders *g*, when the jaws again fly shut and hold the cars firmly coupled. The shocks incident to coupling are received by the springs *d*, as has been heretofore described. In uncoupling the cars the brakeman first releases the jaws on one car by operating the windlass-rod or lever *J*, which may then be held stationary by means of a hook, *j*, pawl *k*, or other fastening. He then passes to the opposite platform and releases the jaws thereof, whereby the cars are immediately uncoupled. Should one slide carry only a spear-head and the opposite slide the pair of jaws, instead of each slide having a spear-head and the jaws, the cars will be readily uncoupled from one platform; but, for safety's sake, we prefer the construction and operation first stated.

In order to overcome friction between the cord or chain *H* and the slide *C*, we locate at the sides of the slide, in recesses between the face-plate and the main block constituting the head of the slide, one or more rollers, *M*, over which the cord or chain passes, whereby we

prevent chafing or wearing out of said cord or chain, as well as overcome friction which would naturally otherwise occur.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The extensions *G*, pieces *L*, and springs *E*, in combination with the pivoted jaws *D* and the slide *C*, substantially as described, for the purpose specified.

2. The slide *C*, carrying the coupling-jaws *D*, separately pivoted, or the head *F*, when connected to the slotted side piece *B* by means of the double slots *a a'* and rods *b*.

3. The combination, with the adjustable tenoned slide *C*, of the separately-pivoted hooks *D*, head *F*, springs and guides *d c e*, and operating-cord or chain *H*, substantially as described, for the purpose specified.

The above signed by us this 5th day of January, 1871.

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Witnesses:

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T. B. STANTON.