(No Model.)

J. ELLICK.

CAR COUPLING.

No. 457,986. Patented Aug. 18, 1891

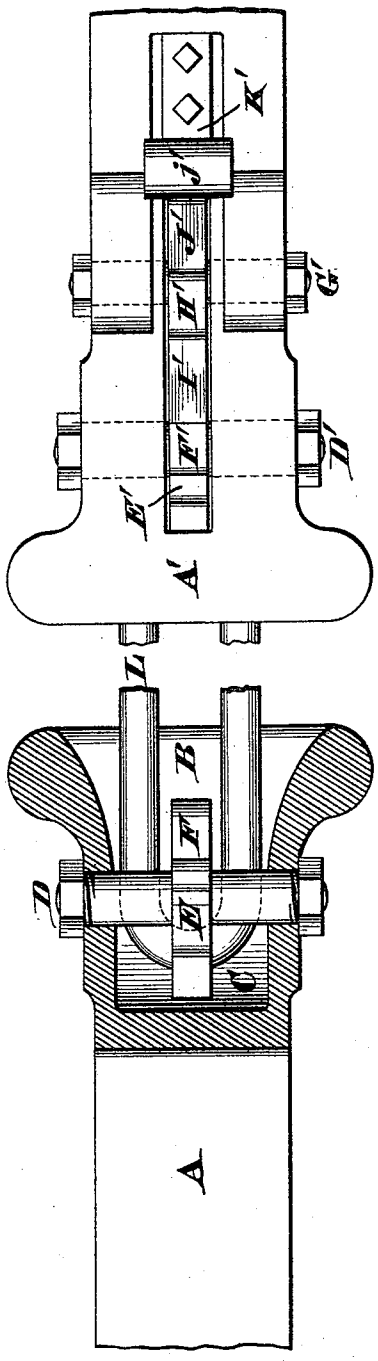


FIG. 1.

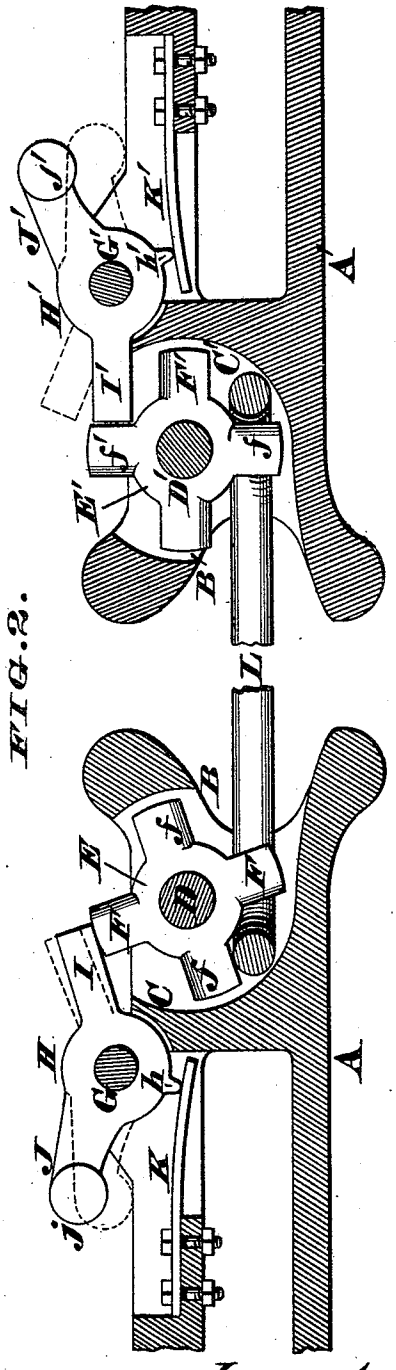


FIG. 2.

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UNITED STATES PATENT OFFICE.

JOSEPH ELLICK, OF CINCINNATI, OHIO.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 457,986, dated August 18, 1891.

Application filed May 15, 1891. Serial No. 392,862. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH ELLICK, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Car-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the annexed drawings, which form part of this specification.

My invention comprises a novel car-coupling that permits the use of an ordinary link, which latter engages with one of a number of spurs or teeth projecting from a wheel or pinion journaled in the draw-head, retrograde turning of said pinion being prevented by a spring-actuated pawl, as hereinafter more fully described.

In the annexed drawings, Figure 1 is a sectionized plan of a pair of draw-heads provided with my improved coupling devices. Fig. 2 is a vertical section of the same.

Referring more particularly to Fig. 2, A represents any approved form of draw-head, and B is the mouth of the same, the rear C of said opening being concentric with a shaft D, arranged transversely of said mouth and having a wheel or pinion E journaled thereon, which pinion is armed with a series of teeth or spurs F, the effective sides of the latter being rounded off at *f*. G is another shaft carrying a hub H, armed with a pawl I, a lever J, terminating with a cross-bar *j*, and having also a short lug *h* constantly in contact with the free end of a plate-spring K, the fixed end thereof being attached to the draw-head, as shown. All these devices are duplicated at B′, C′, D′, E′, F′, *f*′, G′, H′, *h*′, I′, J′, *j*′, and K′ in the other draw-head A′.

L is an ordinary coupling-link having rounded ends. When this link enters the mouth B of draw-head A, the advancing end of said link comes in contact with one of the spurs or teeth F of pinion E and causes the latter to revolve on shaft D until the succeeding tooth is fairly within the bend of said link, the curved portion C of the mouth serving to guide the link both rearwardly and upwardly. Therefore when the link reaches a proper position, as seen in the draw-head A′, two spurs of the pinion E′ are vertical, while the other pair of spurs is horizontal, and said link is engaged with the lower vertical spur, the pawl I′ being now in contact with the rear edge of the upper vertical spur. Furthermore, it will be noticed that this pawl is held in contact with the spur by the pressure of spring K′ against the lug *h*′, and on this account the link cannot be disengaged from the pinion E′ until the pawl I′ is brought to the position indicated by dotted lines. This act can be accomplished only by exerting considerable force against the cross-bar *j*′ of lever J′, and usually by a suitable implement in the hands of a brakeman or car-coupler. It will thus be seen that an accidental uncoupling of the link is impossible.

The dotted lines in the draw-head A indicate the position the pawl I assumes when resting upon the end of a spur of pinion E, and shows how readily said pawl will drop down behind said spur when said pinion has been sufficiently turned by the entering link. When the cars are coupled together, the opposite bends of the link pull against the rounded edges *f f*′ of the spurs and thus prevent the link being cut. It will also be noticed that the turning of the pinion affords different spur-bearings for the link to act against, and therefore the coupling will last much longer than any device that has but one bearing, and in addition to this advantage a broken or injured part can be replaced in a very few minutes by any ordinary mechanic.

I claim as my invention—

1. The draw-head A, having a mouth B, the spurred wheel or pinion E F, journaled in said mouth, and the pawl I, pivoted in the rear of said pinion and having a lug *h* in contact with the free end of a spring K, secured to said draw-head, as herein described.

2. The combination, in a car-coupling, of draw-head A B, shaft D, pinion E F, shaft G, hub H, journaled on this latter shaft and having a pawl I, lever J, and lug *h*, and the spring K, secured at one end to said draw-head and having its free end in contact with said lug *h*, all as herein described, and for the purpose stated.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH ELLICK.

Witnesses:
JAMES H. LAYMAN,
SAMUEL M. QUINN.