

T. H. ARNOLD.

Car Coupling.

No. 38,801.

Patented June 9, 1863.

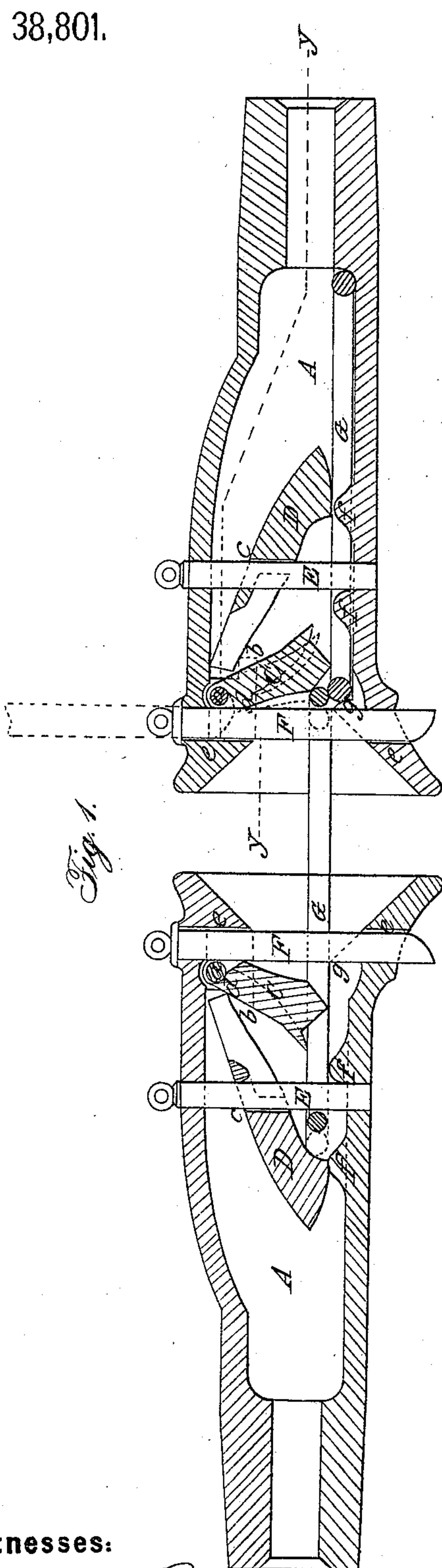
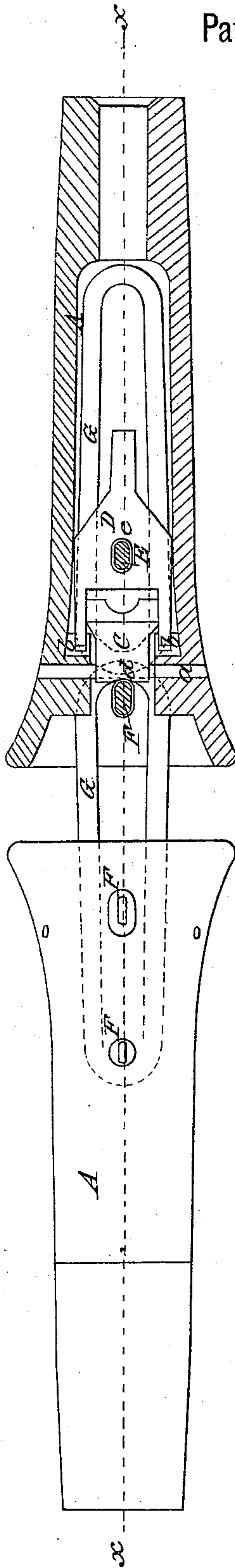


Fig. 2.



Witnesses:

Peter Cooke  
Geo. Reed

Inventor:

T. H. Arnold



# UNITED STATES PATENT OFFICE.

T. H. ARNOLD, OF ARLINGTON, ILLINOIS.

## IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. 38,801, dated June 9, 1863.

*To all whom it may concern:*

Be it known that I, T. H. ARNOLD, of Arlington, in the county of Bureau and State of Illinois, have invented a new and Improved Car-Coupling; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a longitudinal vertical section of my invention, taken in the line *x x*, Fig. 2; Fig. 2, a horizontal section of the same, taken in the line *y y*, Fig. 1.

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

This invention relates to an improved car coupling of that class which are commonly termed "self-coupling;" and it consists in the employment or use, in each draw-head, of a link or shackle and two pendent swinging plates and two bolts, arranged in such a manner that the link of one draw-head will, as it enters the draw-head of an ordinary car, couple with it, and due provision made to protect the links of the draw-heads against bending in case of the parts not being in proper position to admit of the links coupling when entering the draw-heads.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A A represent the draw-heads of two adjoining cars. These draw-heads may be of the usual or any other proper form and attached to the cars in the ordinary way. In each draw-head there are placed two pendent swinging plates, C D, the former being directly in front of the latter, as shown clearly in Fig. 1. The front plates, C, are secured in the draw-heads by shafts or pins *a*, passing transversely through the upper parts of the latter, the plates C being allowed to swing freely on the shafts, and having, when fully down, an inclined position, as shown in Fig. 1, the lower ends of the plates being farther back than their upper ends. The plates D have their upper ends resting on lips *b* at the under sides of the upper parts of the draw-heads, and said plates have each a hole, *c*, made in them, through which vertical bolts E pass, the holes *c* being rather oblong to admit of the plates D freely rising and falling. In the front side of each plate C, at its upper part,

there is a recess, *d*, to catch and hold or sustain a vertical pin or bolt, F. These pins or bolts are allowed to work freely in holes *e e* in the upper and lower parts of the draw-heads. When said pins or bolts are drawn upward so that their lower ends will pass above the recesses *d* in the plates C, the latter will, by their own gravity, drop so that the recesses *d* will catch and retain or hold up the pins or bolts F, as shown in red in Fig. 1.

On the inner or upper surface of the bottom part of each draw-head A there are two projections, *f f*, rounded at each end, as shown clearly in Fig. 1, and in each draw-head there is placed a link or shackle, G, which, when not in use, rests entirely within the draw-heads on their bottoms, as shown in one of the draw-heads in both figures, and the links or shackles are prevented from being drawn entirely out from the draw-heads by means of the bolts E.

The operation is as follows: The link or shackle G of one of the draw-heads is drawn forward and partially out until its back end strikes the bolt E, and when thus drawn out is retained in a horizontal position slightly above the bottom of the draw-head, in consequence of resting upon a ledge, *g*, at the front part of the bottom of the draw-head. The pin or bolt F of the draw-head of the adjoining car is then raised so as to be retained or held up by the plate C below it. When the parts of the two draw-heads are in this position, it will be seen that when the projecting link G strikes the plate C in the draw-head which has its bolt F elevated said link G will throw back said plate C, and the bolt F will fall through the link and the two draw-heads be connected, as shown clearly in Fig. 1. The plates C, therefore, it will be seen, perform the office of holding up the pins. The plates D perform an important function—to wit, they serve as a bearing for the links or shackles when drawn out from the draw-heads, for the projecting link, if not provided with a bearing at its back end, would, instead of forcing back the plate C which holds up the bolt F in the opposite draw-head, be itself forced back and fail to engage itself. The plate D, however, at the rear of the link, will only serve as a bearing to a certain extent, due to its gravity, just sufficient to admit of the plate C being forced back, and this is necessary, for in case the bolt F in the opposite draw-head should



be down—a contingency quite likely to occur—it is necessary that the link be allowed to slide back under a moderate blow or concussion, in order to prevent the link being bent and injured. The plates D effect this result, and will rise under a certain pressure from the link, so that the latter will be forced back and admit of the two draw-heads coming in contact with the latter, in that event yielding or giving, as usual, as they are arranged in the ordinary way, as previously stated. The projections *f* serve as guides for the links in drawing them in and out, and causing them to act properly against the plates D.

By this invention it is believed that several important advantages are obtained: First, each draw-head is provided with a link or shackle of its own, which cannot become casually detached and lost, and which, when not in use, is entirely out of the way; second, the links are prevented from being bent or

injured by casual concussions, which might occur by the non-adjustment of the bolts F; third, the draw-heads are all alike, and consequently the cars will couple at either end without respect to any particular end of an adjoining car.

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

1. The pendent swinging plates C D, in connection with the bolts E F and links or shackles G, all arranged in connection with the draw-heads A A, to operate as and for the purpose set forth.

2. The projections *f f* in the draw-heads A A, in combination with the plates C D, bolts E F, and links or shackles G, for the purpose set forth.

T. H. ARNOLD.

Witnesses:

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GEO. W. REED.