

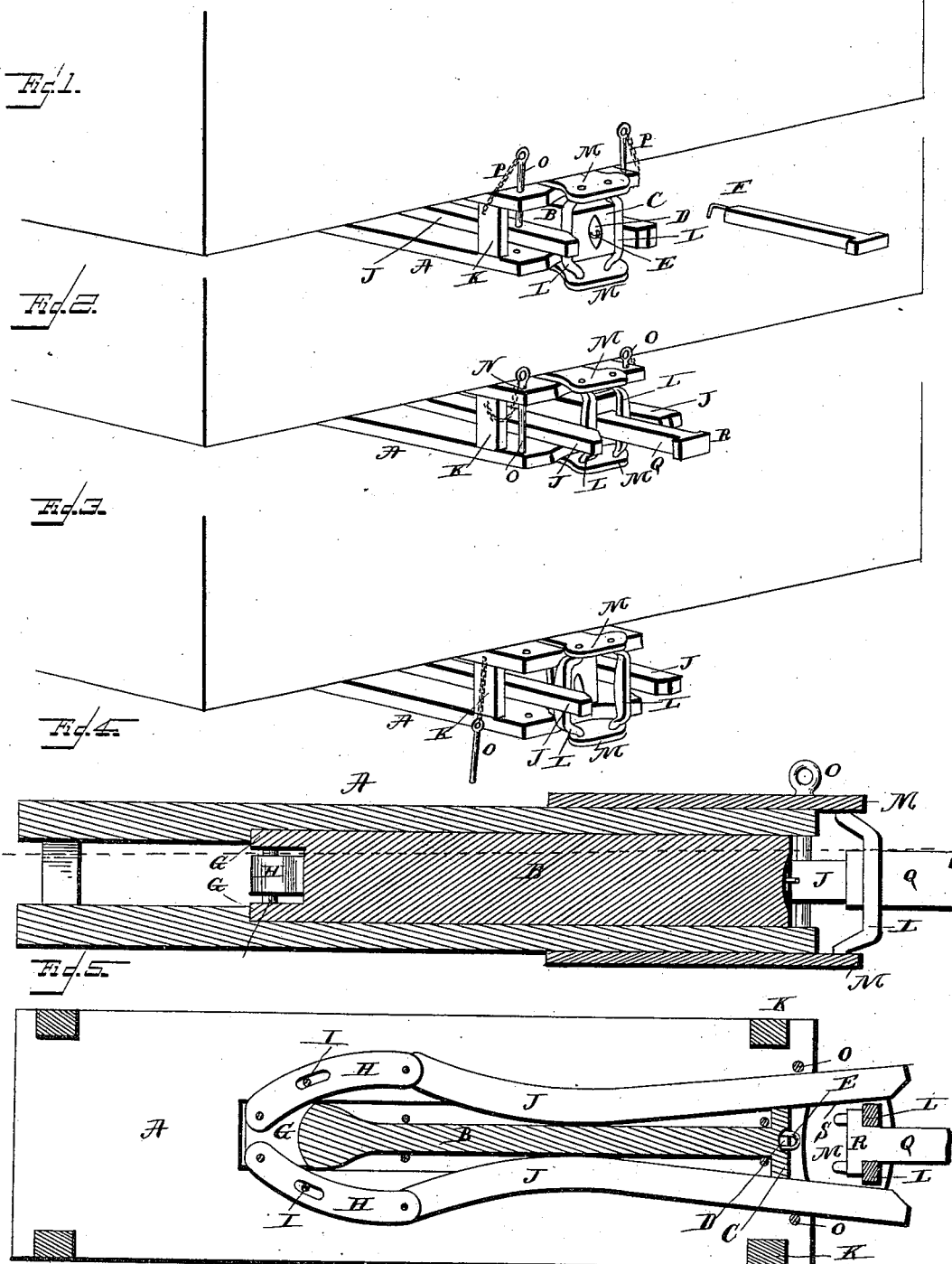
(No Model.)

J. L. SAFFORD.

CAR COUPLING.

No. 342,639.

Patented May 25, 1886.



WITNESSES

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# UNITED STATES PATENT OFFICE.

JOHN LANGDON SAFFORD, OF MARS HILL, MAINE.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 342,639, dated May 25, 1886.

Application filed March 27, 1886. Serial No. 196,855. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN LANGDON SAFFORD, a citizen of the United States, and a resident of Mars Hill, in the county of Aroostook and State of Maine, have invented certain new and useful Improvements in Car-Couplings; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of as much of a railway-car as is necessary to show my improved coupling, the coupling being shown set ready to couple. Fig. 2 is a similar view showing the coupling engaging the end of a coupling bar or link. Fig. 3 is a similar view showing the coupling after the coupling-bar has been removed, and Figs. 4 and 5 are respectively a longitudinal vertical and horizontal sectional view of the coupling.

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

My invention has relation to automatic car-couplings, in which a link having cross-heads at its ends may be engaged by jaws closing upon the ends of the link from both sides; and it consists in the improved construction and combination of parts of the same, as herein-after more fully described and claimed.

In the accompanying drawings, the letter A indicates a casing which takes the place of the usual draw-head in couplings, and which is suitably attached to the bottom of the car. A bar, B, slides longitudinally in this casing, and is formed with an enlarged head, C, at its forward end, which head is formed with a recess, D, in its face, formed with a ring or staple, E, within it, by means of which ring or staple the bar may be drawn forward, a hook, F (shown in Fig. 1 of the drawings) serving to engage the said ring or staple and to draw the bar out. The inner or rear end of this bar is formed with two lips, G G, projecting from its upper and lower side, and the inner ends of two arms, H H, are pivoted between these lips, the arms having their fulcra upon two bolts, I I, in the casing. The outer ends of these arms have the rear ends of two bars, J

J, pivoted to them, and these bars slide in the casing, being confined within the casing at their forward ends by the corner-pieces K of the same.

Two double-crank-shaped jaws, L L, are pivoted vertically in perforated projecting lips, M M, upon the upper and lower sides of the casing in front of the central sliding bar and between the forward ends of the two sliding bars, and the forward ends of the upper and lower side pieces of the casing are formed with vertical registering perforations N, one pair at each side of the sliding bars, into which perforations pins or bolts O O fit removably, having preferably chains P attached to their upper ends and to the coupling, for the purpose of retaining them to the coupling when they are removed from their perforations. The coupling-bar Q is provided at its ends with cross-heads R R projecting to the sides.

When the coupling is to be set ready for coupling, the central bar is drawn forward, causing the outer bars to be drawn back, the pins are inserted into their perforations, and the jaws are swung to the sides. When now the coupling-link is forced toward the head of the central bar by the motion of the opposite car, the said central bar will be forced back and the side bars will be forced forward, closing with their beveled ends S against the swinging jaws, which will thus engage the ends of the cross-head of the link and retain it between them until the pins are withdrawn, when the jaws may be swung aside and the link withdrawn.

It will be seen that the side bars will limit the movements of the jaws, preventing them from swinging too far to the side, so as to release the link, and that the strain of the cars will come upon the swinging jaws and from them upon the casing.

The entire coupling is simple and not liable to get out of order, and there are no springs to set, which may break, or catches to engage shoulders or lips with shoulders or lips, as in some couplings, which shoulders and lips are liable to either break or wear out, all the component parts of the coupling being simple and strong, not easily worn or broken, and easily replaced if broken or worn.

The coupling may be used in connection

with couplings having arrow-headed coupling-bars, and by constructing coupling bars or links in which one end is formed with a cross-head and the other end is formed with a link  
5 the coupling may be used in connection with the common pin and-link couplings.

The double-crank-shaped jaws of the coupling will allow considerable vertical play for the coupling-bar, so that high and low cars  
10 may be coupled together without difficulty and without employing peculiarly-shaped coupling-bars for that purpose, the coupling-bar of the higher coupling sliding down at the lower ends of the jaws and the bar in the  
15 lower coupling sliding up to the upper ends of the jaws, placing the bar level, or nearly so.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

20 In a car-coupling, the combination of a casing having a pair of registering perforations in the forward ends of the upper and lower side, and having forwardly-projecting lips up-  
on the forward edges of the said sides, formed

each with a pair of registering perforations, 25  
a central bar sliding in the casing and having a head at its forward end provided with a recess in its face and with a staple in the recess, a pair of arms pivoted at their inner ends to  
the rear end of the central bar and fulcrumed 30  
at the sides of the bar, a pair of outer bars having their rear ends pivoted to the outer ends of the arms and having the inner corners of their forward ends beveled, a pair of  
double-crank-shaped jaws pivoted with their 35  
ends in the perforated lips of the casing, a pair of pins fitting in the perforations of the casing confining the outer bars, and a coupling-bar having a cross-head at its end, as and  
for the purpose shown and set forth. 40

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

JOHN LANGDON SAFFORD.

Witnesses:

EMELINE PERKINS,  
ELLA MARY SAFFORD.