

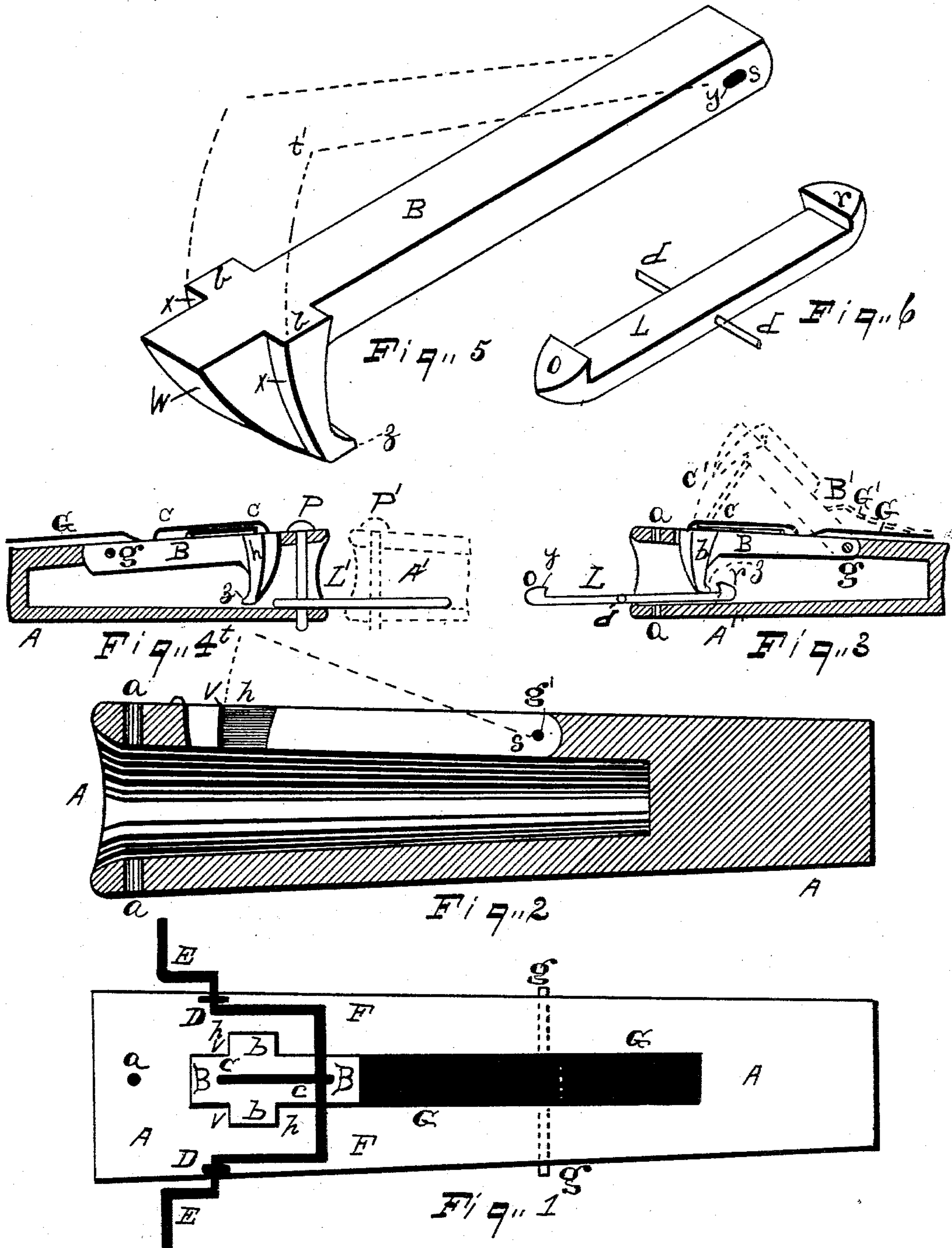
(No Model.)

J. N. LEROUX.

CAR COUPLING.

No. 321,372.

Patented June 30, 1885.



WITNESSES
John Jones Jr.
Charles Burr

INVENTOR
Joseph N. Leroux
by *Wm. H. New* his attorney

UNITED STATES PATENT OFFICE.

JOSEPH N. LEROUX, OF TOLEDO, OHIO, ASSIGNOR OF ONE-HALF TO FRANCIS
A. VAN AARLE, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 321,372, dated June 30, 1885.

Application filed April 30, 1885. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH N. LEROUX, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have
5 invented certain new and useful Improvements in Car-Couplings; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to
10 make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to automatic car-couplings in which a hooked link is engaged by
15 hooks in the draw-head.

The objects of my improvements are, first, to so arrange the hook with reference to the draw-head that the stress exerted on the hook
20 shall be sustained by shoulders in the frame of the draw-head over a broad surface in any position the hook may be forced by the pull or jarring of the cars short of its uncoupling position, and at the same time to allow for
25 easily coupling automatically without danger of jamming; second, to provide a means for uncoupling by hand; third, to provide a means for automatically holding the link in a horizontal position for entering the cavity of the
30 opposite draw-head; fourth, in my automatic car-coupling to provide for coupling with a pin and elliptical link, in the usual manner. I attain these objects by the means illustrated in the accompanying drawings, in which—

35 Figure 1 is a top view of the entire draw-head. Fig. 2 is a section through the draw-head, with the movable parts removed. Fig. 3 is a vertical projection of the coupling, with the side of the draw-head frame removed,
40 showing the hooked link held in position for entering the cavity of the opposite draw-head. Fig. 4 is a vertical projection of the coupling, with the side of the draw-head removed, showing the manner of coupling it with the ordinary pin and elliptical link. Fig. 5 is an isometric view of the coupling-hook removed from
45 the draw-head. Fig. 6 is an isometric view of the link used in coupling automatically.

Similar letters refer to similar parts throughout the several views.

The hook B is made in the form of a cross in its horizontal projection by the shoulders *b b*, which slide in the slots *h h*, formed in the frame of the draw-head for that purpose, and is provided with the slot *y*, for receiving the
55 pin *g*, upon which the hook turns, and to prevent the stress being communicated from the hook to the pin. The faces *x x* of the shoulders *b b* are formed in the arc of a circle in their section parallel to the side of the hook,
60 whose center is *g*. The slots *h h* in the frame of the draw-head A are formed to receive the shoulders *b b*, their forward part forming an arc of a circle whose center is *g'*, Fig. 2, having the faces of the shoulders *V V* in the frame
65 A A concave to correspond to the contour of the faces *x x* of the shoulders *b b*.

By thus forming the hooks and corresponding slots in the frame of the draw-head A A, the stress upon the hook is transferred by the
70 shoulders *b b* to the frame of the draw-head at *v v* in any position of the hook until it is drawn clear of the frame of the draw-head, and the face *W* of the hook B, against which the head of the link strikes for raising the
75 hook in entering the draw-head, can be made rapidly retreating or inclined to the perpendicular, so that the hook can be easily raised by the entering head *o* of the link L, and thus
80 danger of jamming is avoided.

The hook is raised for uncoupling by the series of connected cranks E D F F D E, forming one bar of iron or other suitable material, as shown in Fig. 1, turning on the journals D
85 D. The portion F F is hollowed in the middle and slides forward and back in the slot C C on the hook B. By turning the crank E, the hook B is raised, as shown at B' in Fig. 3, allowing the link to be withdrawn from the draw-head. The portion D F should be long
90 enough to raise the hook clear of the draw-head without turning it into a position that would prevent the link from returning into the draw-head.

The hook B is preferably held down by a
95 spring, G, but may be forced down by gravity alone.

The hook B is set back in the frame of the draw-head a sufficient distance to allow space
100 ahead of it for coupling in the ordinary way

by the pin P passing through the holes *a a*, provided for that purpose, and through the elliptical link L', as shown in Fig. 4, thus admitting of coupling with the ordinary draw-head.

5 The hook B, passing down upon the link L, holds it in a horizontal position, ready to enter the cavity of the opposite draw-head. The link L is prevented from entering too far into
10 the draw-head by the cross-piece *d d*, Fig. 6, the ends of which may also be used as handles.

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

15 1. The hook B, having the shoulders *b b*, with faces *x x*, curved in the arc of a circle, whose center is the point about which the hook turns, and having the surface W, against which the link strikes in entering the draw-
20 head, rapidly retreating or very much inclined to the perpendicular, substantially as shown and described.

2. The hook B, in combination with the frame A A of the draw-head, having the slots

h h and shoulders V V, substantially as shown 25 and described.

3. The hook B, having the shoulders *b b*, inclined face W, and slots *y*, in combination with the frame of the draw-head A A, having the slots *h h* and shoulders V V, substantially as 30 and for the purpose described.

4. The hook B, having the shoulders *b b*, inclined face W, and slot *y*, substantially as shown and described.

5. The series of connected cranks consisting 35 of the handles E E, journals D D, working in suitable bearings, and the portion F F, bent as shown in the drawings, working in the slot C C on the hook B, in combination with the hook B, substantially as and for the purpose speci- 40 fied.

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

JOSEPH N. LEROUX.

Witnesses:

FRANK A. VAN AARLE,
C. F. FRANCE.