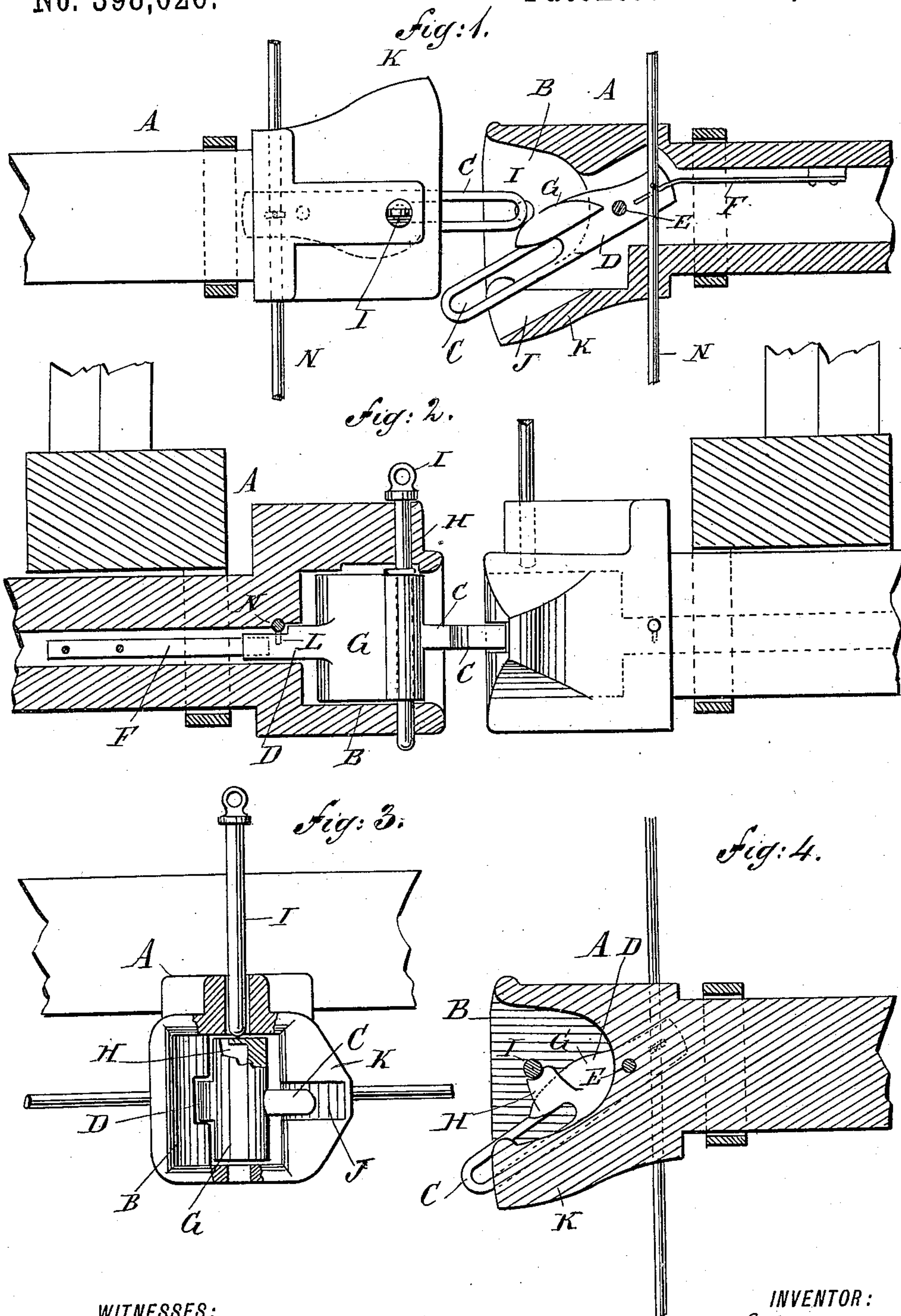


(No Model.)

S. BYRNE.
CAR COUPLING.

No. 398,026.

Patented Feb. 19, 1889.



WITNESSES:

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SAMUEL BYRNE, OF TORONTO, ONTARIO, CANADA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 398,026, dated February 19, 1889.

Application filed October 30, 1888. Serial No. 289,495. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL BYRNE, of Toronto, in the Province of Ontario and Dominion of Canada, have invented a new and Improved Car-Coupling, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved car-coupling which is simple and durable in construction, automatic in operation, and adapted to couple with draw-heads of various heights.

The invention consists of a link pivoted in the draw-head and held in place by a spring or weight, and of a curved plate secured vertically on one side of the link and extending throughout the height of the draw-head opening, said curved plate being adapted to support the coupling-pin before coupling.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view, partly in section, of the improvement, showing two draw-heads in the act of coupling. Fig. 2 is a side elevation of the same with parts in section. Fig. 3 is an end elevation of the improvement with parts in section; and Fig. 4 is a sectional plan view of one draw-head with the link in an inactive position.

The draw-head A is provided in its front with the usual opening, B, in the middle of which is held to swing horizontally the link C, formed with an extension, D, pivoted at E in the back of the draw-head A. The extreme inner end of the extension D is connected with the free end of a spring, F, fastened in the draw-head A and serving to hold the link C in an inclined position in relation to the longitudinal axis of the draw-head. Instead of the spring F a weight may be employed to accomplish the same purpose.

On one side of the link C and extending to the extension D is formed a curved plate, G, extending vertically throughout the length of the opening B in the draw-head A. The curved plate G is in front of the pivot E of

the coupling-link C, and is adapted to be engaged by the link C of the other draw-head or any other link. On the top of the curved plate G is held an outwardly-extending flange, H, on top of which is adapted to rest the lower end of the coupling-pin I, mounted to slide on suitable bearings in the draw-head A and adapted to be raised or lowered by hand or any suitable mechanism. When the coupling-link C is in its natural position by the action of the spring F, then said link C extends into the recess J, formed in a projection, K, secured on one side of the draw-head A.

The rear end of the extension D is engaged by a pin, L, secured on the under side of a rod, N, mounted to slide in horizontal bearings in the draw-head A and extending transversely to within a short distance of the sides of the car carrying the draw-head A. Thus when the operator desires to shift the link C he pushes or draws the rod N, so that the pin L, engaging the extension D, swings the latter and the pin C on its pivot E.

The operation is as follows: When the operator desires to couple two cars, as illustrated in Fig. 1, he places both coupling-pins I of the draw-heads A in their uppermost positions, as shown in Fig. 3, so that both pins are supported on their respective flanges H. The operator then actuates the rod N of one draw-head, so as to swing the extension D and its link C into the position shown at the left of Fig. 1—that is, into line with the longitudinal axis of the draw-head. This movement of the extension D and the link C causes the pin I to drop downward through the inner end of the link C, whereby the link is held in a locked position in line with the longitudinal axis of the draw-head. Now when the two draw-heads come together the locked link C strikes against the curved plate G, either below, on, or above its link C, so that the link of the second draw-head is swung outward into its recess J in the projection K, and the flange H is swung from under the lower end of the said pin I, so that the latter drops downward into the front end of the coupling-link C of the first draw-head. The cars are thus coupled.

It is understood that when the two draw-heads are in a coupled position the link C in

one draw-head extends in line with the horizontal axis of the draw-head, while the link of the other draw-head is moved in its outermost position in the recess J.

5 When the operator desires to uncouple the cars, he withdraws the coupling-pin I of the second draw-head from the coupling-link C, so that the cars can be pulled apart. As soon as the operator moves this coupling-pin I into
10 the position shown in Fig. 3 the link C of this draw-head is swung to its normal position by the action of the spring F, whereby the flange II again passes under the lower end of the coupling-pin I and supports the same, as above
15 described.

The operator can always see from the outside which pin is to be withdrawn, as the inactive coupling-link indicates the respective draw-head.

20 It will be seen that the coupling is adapted for draw-heads of various heights, as the entering link can engage the curved plate G of the opposing draw-head anywhere in the height of the draw-head opening.

25 It will further be seen that the coupling is automatic in every respect, and is very simple and durable in construction. Instead of using one single spring F, as illustrated in Fig. 1, I may employ two springs pressing against the
30 opposite sides of the extension D.

The pin I is preferably raised by a suitable mechanism connected with the sides of the car, so that the operator can raise the pin in position without stepping between two cars.

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

1. A car-coupling comprising a draw-head, a link pivoted in the said draw-head in the
40 middle of the draw-head opening, and a curved plate secured vertically on one side of the said link and extending essentially the height of the draw-head opening, substantially as shown and described.

45 2. A car-coupling comprising a draw-head, a link pivoted in the said draw-head in the middle of the draw-head opening, a curved plate secured vertically on one side of the said link and extending throughout the height
50 of the draw-head opening, a flange formed on the upper end of the said curved plate, and a pin held to slide in the draw-head and adapted to be supported on the said flange, substantially as shown and described.

55 3. A car-coupling comprising a draw-head, a link pivoted in the said draw-head in the middle of the draw-head opening, a curved plate secured vertically on one side of the said link and extending throughout the height

of the draw-head opening, a flange formed on
60 the upper end of the said curved plate, a pin held to slide in the draw-head and adapted to be supported on the said flange, and a spring or weight for holding the coupling-link in a normal position, substantially as shown
65 and described.

4. In a car-coupling, the link pivoted in the draw-head and provided on one side with a curved plate extending vertically essentially
70 the height of the draw-head opening, substantially as shown and described.

5. In a car-coupling, the combination, with a draw-head, of a link pivoted horizontally in the said draw-head, a curved plate secured vertically on one side of the link and extend-
75 ing throughout the height of the draw-head opening, and a spring for holding the said link in a normal position out of line with the axis of the draw-head, substantially as shown and described. 80

6. In a car-coupling, the combination, with a draw-head provided on one side with an offset having an interior recess, of a link pivoted in the said draw-head and mounted to swing horizontally, a curved plate secured vertically
85 on one side of the said link and extending throughout the height of the draw-head opening, a flange formed on the upper end of the said curved plate to support the coupling-pin, and a spring for holding the said link in a
90 normal position, substantially as shown and described.

7. In a car-coupling, the combination, with a draw-head provided on one side with an offset having an interior recess, of a link pivoted
95 in the said draw-head and mounted to swing horizontally, a curved plate secured vertically on one side of the said link and extending throughout the height of the draw-head opening, a flange formed on the upper end of the
100 said curved plate to support the coupling-pin, and a rod connected with the inner end of the said link to swing the same horizontally, said rod extending through the said draw-head to the sides of the car, substantially as shown
105 and described.

8. In a car-coupling, the combination, with a draw-head, of a link pivoted in the said draw-head and mounted to swing horizontally,
110 and a coupling-pin held in the said draw-head and adapted to pass through the said link to hold the same in line with the longitudinal axis of the draw-head, substantially as shown and described.

SAMUEL BYRNE.

Witnesses:

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GEO. P. HAM.