(No Model.)

A. FONTAYNE, Sr.

CAR COUPLING.

No. 456,987. Patented Aug. 4, 1891.

FIG. 1.

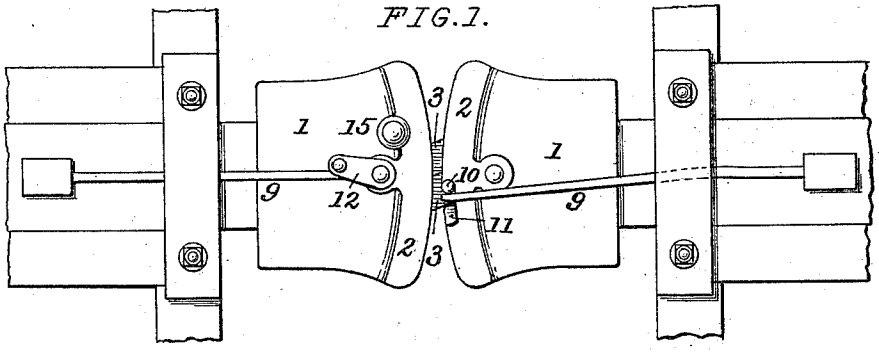


FIG. 2.

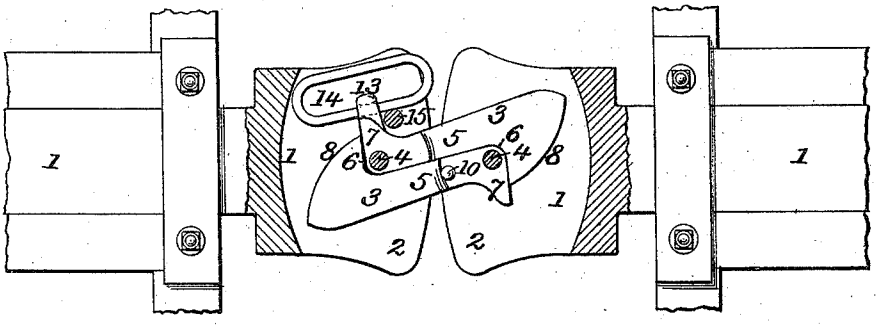


FIG. 3.

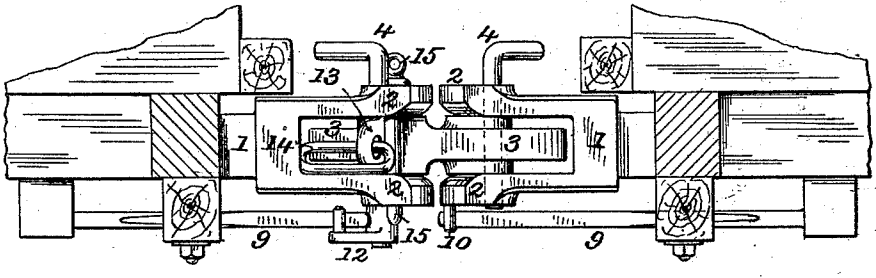
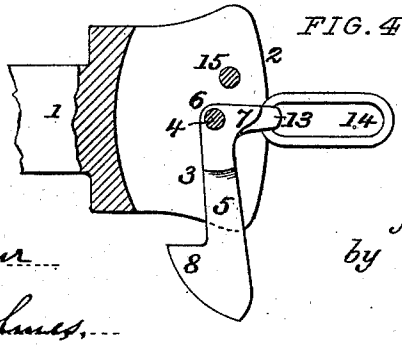


FIG. 4.



ATTEST:

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ALBERT FONTAYNE, SR., OF CHICAGO, ILLINOIS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 456,987, dated August 4, 1891.

Application filed November 14, 1890. Serial No. 371,483. (No model.)

To all whom it may concern:

Be it known that I, ALBERT FONTAYNE, Sr., a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, 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, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates more especially to that class of vertical-axis automatic couplers in which a pair of counterpart hook-shaped bars or links are interlocked to effect a coupling.

The object of the present improvement is in the main to provide a simple, durable, and effective coupler embodying the following features: first, a perfect and automatic coupling on any line and under any and all ordinary conditions; second, a tendency of the twin coupling-bars to adhere together with increased rigidity with an increase of the strain, so as to virtually constitute a single link between the pivot-pins and so permit of great freedom of movement of the draw-heads in a similar manner to the well-known pin-and-link coupler in general use; third, the avoidance of any setting of parts by hand, and a coupling under all circumstances without any supervision whatever; fourth, an improved link attachment affording means for a coupling with any vertical-pin draw-head coupler—a feature common to all approved types of car-couplings. I attain such object by the construction and arrangement of parts illustrated in the accompanying drawings, in which—

Figure 1 is an inverted plan view of a pair of draw-heads in coupled condition with my invention applied thereto; Fig. 2, a horizontal section; Fig. 3, a side elevation of the same, and Fig. 4 a horizontal section showing the arrangement of my improved coupling parts when employed in making a connection with any other type of vertical-pin couplers met with in use.

Similar numerals of reference indicate like parts in the several views.

Referring to the drawings, 1 1 represent a pair of draw-heads and their attached draw-bars, of any usual or approved construction, the front or head portion proper being of a forked construction to form jaws or buffer-heads 2 2, between which the counterpart hook-shaped coupling bars or links 3 3 of the present invention are pivoted by vertically-arranged pivot-pins 4 4, the upper ends of which are of a cranked formation, so as to furnish means for operating the hooks in the uncoupling operation, and such uncoupling may be effected from either side of the car or from the top by a suitable rod or lever attached to the crank-arms of the pivot-pins, or by a chain and pulley, as is usual to many forms of car-couplings heretofore proposed.

The hook-shaped coupling-bars 3 3 are of a twin or counterpart construction and are pivoted in longitudinal line in their respective heads 1 1, each consisting of a straight shank or body portion 5, having at one end a pivot-eye 6 and an outwardly or laterally projecting heel 7 and at the other end a hook-shaped laterally-arranged projection 8, the forwardly-projecting point of which has its inner vertical face beveled or rounded, as shown, so that in the act of coupling such counterpart faces will ride one against the other.

In the present invention the hook-shaped coupling-bars 3 3 project out past their respective draw-heads in proper position for coupling, and in the act of coupling they will ride against each other until their respective hook ends move past the pivot ends of the bars to overlap and engage back of said ends and the laterally-arranged heels 7 on the same to perfect the coupling. In such coupled condition the greater the amount of strain upon the coupling parts the greater will be the tendency of the counterpart-bars 3 3 to adhere together with increased rigidity along their whole contiguous surfaces, so as to constitute to all intents and purposes a single coupling-bar between the pivot-pins. In consequence the tendency in active use will be to impose both the strain and pivotal movement wholly upon or around the pivot-pins of the coupling-bars and in so doing admit of the great freedom of the draw-heads to movement in all directions inherent to the ordinary pin-and-link coupler now in general use, such

movement of the draw-head being rendered necessary by the ordinary oscillation of the cars in their travel.

The bevel or inclination of the contact-faces of the laterally-projecting hooks 8 and heels 7 of the respective coupling-bars is of such a forward pitch or rake as to necessitate a slight drawing together of the draw-heads in the uncoupling operation. The laterally-projecting heel 7 of the coupling-bar that is being manipulated in the act of uncoupling acts as a lever against the contact-face of the hook 8 of the other coupling-bar to pull the draw-heads together until the heel 7 assumes such angle by which the said hook can slip away with freedom to complete the act of separation. This feature of construction affords ample and efficient means to prevent accidental uncoupling of the parts in use, and in practice the aforesaid bevel, rake, or inclination of the contact-faces may be varied, as the judgment of the constructor or the requirements of the particular use may suggest.

The hook-shaped coupling-bars 3 3 are held in a yielding manner in proper coupling position, as well as in their subsequent coupled condition, by means of springs 9 9, which in the present invention are of a straight bar or rod formation attached to downwardly-projecting lugs on the draw-bars, as shown, with their free ends engaging the hook-shaped coupling-bars 3 3 in either of the following ways: first, by engaging a downwardly-projecting stud 10 on the coupling-bar that has limited movement in a recess 11 in the edges of the draw-head, as illustrated to the right in Fig. 1; second, by engaging against a crank-arm 12 on the lower end of the pivot-pin 4 of the hook-shaped coupling-bar, as illustrated to the left in Fig. 1. The latter construction is preferred when the feature of a link attachment is used in connection with my aforesaid coupling construction in the following manner: 13 is an eye formed at the outer end of the laterally-projecting heel 7 of the coupling-bar 3, and 14 is an ordinary coupling-link arranged in said eye, the purpose of this provision being to enable a car having my improved coupler applied to couple with a car having any approved form of couplers provided with the ordinary vertical coupling-pin. For such use the hook-shaped coupling-bar 3 will be swung around, as indicated in Fig. 4, to bring the ordinary link 14 into active coupling position. 15 is a vertical stop-pin passing through the draw-head and acting as a stop for the coupling-bar 3 in either of its above-described positions.

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

1. In an automatic car-coupling, the combination, with suitable draw-heads or bases, of a pair of pivoted twin coupling-bars having pivot-eyes, laterally-extending heels, and hook-shaped free ends that are adapted to overlap and engage back of the respective pivot ends and lateral heels of the coupling-bars, substantially as set forth.

2. In an automatic car-coupling, the combination, with suitable draw-heads or bases, of a pair of pivoted twin coupling-bars having pivot-eyes, laterally-extending heels, and hook-shaped free ends that are adapted to overlap and engage back of the respective pivot ends and lateral heels of the coupling-bars, the contact-faces of the hooks and heels being pitched or raked forward, substantially as set forth.

3. In a vertical-axis car-coupling essentially as herein described, the combination of the coupling-bar 3, having a laterally-projecting heel 7, provided with an eye 13, with the coupling-link 14 arranged therein, substantially as set forth.

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

ALBERT FONTAYNE, SR.

Witnesses:
ROBERT BURNS,
GEO. H. ARTHUR.