

(No Model.)

J. J. CROWLEY.
CAR COUPLING.

No. 505,287.

Patented Sept. 19, 1893.

Fig. 1.

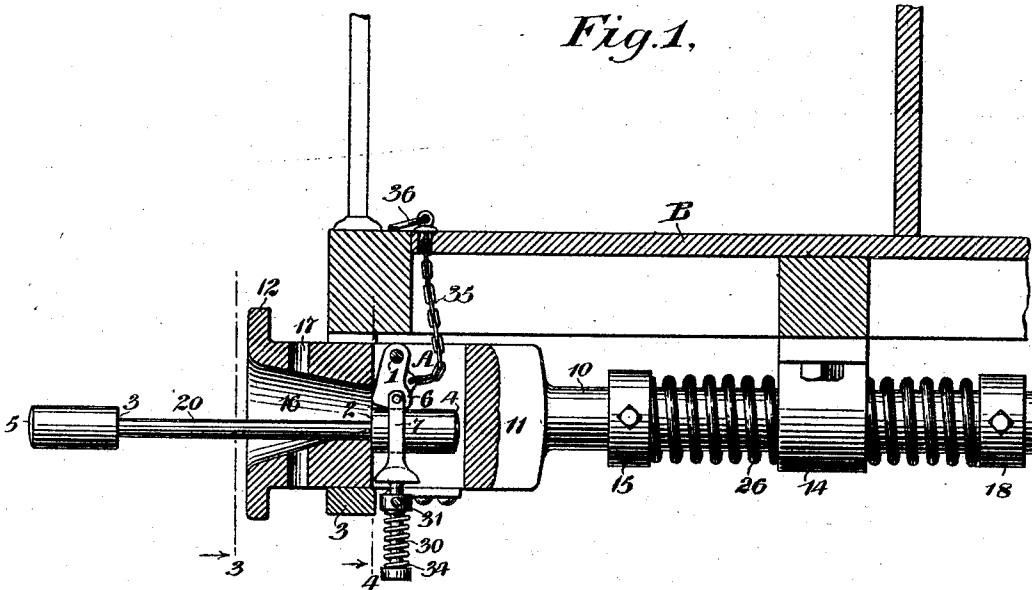


Fig. 2.

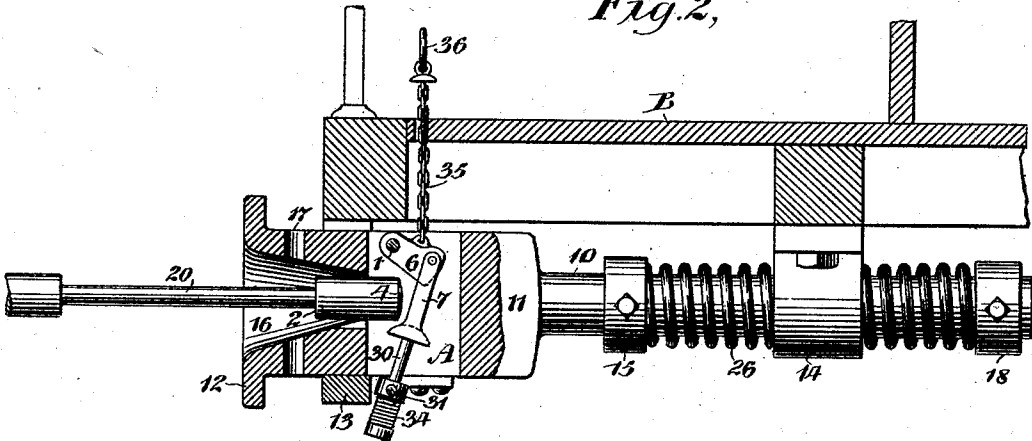


Fig. 3.

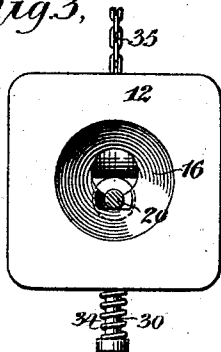


Fig. 4.

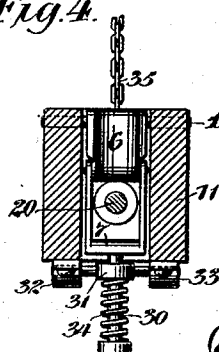


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 505,287, dated September 19, 1893.

Application filed March 30, 1893. Serial No. 468,265. (No model.)

To all whom it may concern:

Be it known that I, JOHN JOSEPH CROWLEY, a citizen of the United States, residing at New York, county of New York, and State of New York, have invented certain new and useful Improvements in Car-Couplings, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

The object of these improvements is the production of a simple and effective car coupling having automatic means for securing the coupling bar that may be readily operated for releasing the same, and, the invention consists in an improved construction of the devices whereby these operations are readily effected as is fully hereinafter explained and claimed.

In the accompanying drawings illustrating a practical embodiment of this invention:— Figure 1 is a longitudinal section through a car platform showing the coupling devices partly in section and partly in elevation. Fig. 2 is a similar view with the coupling bar released. Fig. 3 is a sectional elevation of the draw head, taken on the line 3 of Fig. 1. Fig. 4 is a similar view taken on the line 4 of Fig. 1, both of these sections being seen in the direction indicated by the arrows in Fig. 1, and Fig. 5, is a perspective view of the holding saddle.

In this improvement the draw bar has a shank 10 at one end, and at the other a draw head 11 terminating in a buffer 12, as is usual. This draw bar is supported so as to slide therein by suspending straps 13, 14 depending from the car platform in a common manner, the strap 13 sustaining the head 11 and the shank 10 sliding in the circular socket provided by the strap 14, and having its forward movement limited by a stop collar 18 which abuts against the outer face of the strap 14. The draw bar is normally pressed into and held in its forward position by means of a spring 26 coiled about its shank 10 and bearing between the inner face of the strap 14 and a collar 15 secured to the shank 10, as is usual. The draw head 11 is provided with a central opening 16 for the reception of the coupling link and with an intersecting slot 17 to adapt it for the reception and retention of the ordinary coupling when it is

desired to use this car coupling in the common way. These general characteristics being understood, I will now proceed to more particularly set forth the features of construction which constitute an embodiment of the present invention.

The coupling instrumentality instead of being a link, as is common, consists of coupling bar 20 having at each end an enlarged head as 4, 5 each of which is provided with an outer or abutting end that is slightly curved to aid its ready entrance and passage into the drawhead, and at its inner end each head is provided with a shoulder as 2, 3. The opening 16 for the reception of the head of this coupling bar is contracted rearwardly or given a conical form so as to adapt it to readily receive and guide the enlarged head of the bar through its contracted rear end, and cause it to enter into a recess A that is cut vertically through the draw head 11. This recess A is somewhat deeper than the head of the bar is long so that when the head of this coupling bar is fully entered within this recess the bar may descend in said recess and thus cause its shoulder, as 2, to rest behind the forward wall of said recess A and have a bearing thereon which is sufficient to serve the purpose. In order to provide an extended bearing sufficient for the draft of heavy loads it is preferable to increase this bearing by cutting away a channel at the rearward or inner end of the opening 16, so that when the coupling bar descends in the recess A its shank will enter this channel and thus cause the inner end of the head or shoulder 2 to have a very considerable bearing upon the wall of the recess A, as is well shown in Fig. 3. In order to maintain the coupling bar in this position and prevent its accidental displacement, which would cause an uncoupling of the cars and thus defeat its purpose, there is provided within the recess A a swinging saddle 6 that is hung at its upper end upon a pivot 1 which extends through the sides of the draw-head 11, as shown in Fig. 4. This swinging saddle 6 primarily acts as a gravitating lock holding the coupling bar in engagement with the draw head. For this purpose it bears vertically upon the upper side of the coupling bar and prevents the bar from leaving its seat and

hence maintains its head in contact with the wall of the recess A. The saddle is furthermore held in place by the pressure of a spring which may be applied in many ways. The saddle also forms a part of the instrumentalities for performing the uncoupling operation, and for this purpose it has pivoted to its inner end a depending stirrup 7 through which the head of the coupling bar enters, and this stirrup has a depending guide rod 30 that plays in a swinging eye 31 which is pivoted in journals 32, 33, that are secured to the under side of the draw head. This guide rod 30 has a head at its lower extremity and between this head and the eye 31 it carries a coiled spring which tends to constantly draw downward the stirrup 7 and swing the saddle 6 into its vertical position, as is shown in Figs. 1 and 4, thus adding to this otherwise gravitating saddle, the more positive movement imparted by a spring. When the coupling bar 20 is entered through the opening 16 in the draw head and its head, as 4, is forced into the recess A the leading end of its head, as 4, will, as is indicated in Fig. 2, abut against the face of the saddle 6 and by pressure thereon cause the same to swing upon its pivot and move upward, carrying with it the stirrup 7 to such an extent that the head of the bar may, passing through said stirrup 7, enter wholly into the recess A and descend therein with its shoulder as 2 resting against the inner face of said recess A, as in Figs. 1 and 3. When the head of the coupling bar is so entered into the recess A that it may have this descending movement, the saddle 6 will descend into its normal or lowest position as in said figures, which movement aided by gravity will be compelled by the action of the spring 34. While the stirrup might by some uses of this device be made heavy enough to wholly operate by gravity, it is, of course, preferable that the spring 34 should be used; in either case the said stirrup will act as a stop and hold the saddle 6 in place bearing upon the top of the head of the coupling bar and thus maintain it in its coupling position with its shoulder 2 snugly abutting against the face of the recess A, in which adjustment of the parts the coupling bar may be drawn upon to move the car to which this device is attached, the opposite end or head of the coupling bar being similarly connected with an adjacent car. In order to release this coupling device, the saddle 6 is provided with a raising device shown to be a chain 35 linked to the saddle, extending through the platform B of the car, and terminating in a ring as 36. By lifting upon this ring 36 the chain or its equivalent rod, will raise the saddle 6, draw the stirrup 7 upward and the lower part or foot bar of this stirrup 7 will then lift the head of the coupling bar until it is in alignment with the rearward part of the opening 16 through which it may be drawn by a slight

forward movement to break its connection with the car. In thus raising the saddle 6, it will swing as shown in Fig. 2 and draw the stirrup 7 with it, thus causing the latter as it rises to attain a somewhat angular position which is provided for by the swinging eye 31.

In order to facilitate the ready action of the saddle 6, its face is preferably curved as is shown in Fig. 5, so as to enable the head of the coupling bar to readily operate it. Of course, the chain 35 with its eye 31 or bar substitute for it may be extended so that the ring 36 or a similar handle may be positioned at or near the top of the platform rail or project through the roof of the car, and in either position the operating means may be a lever, if desired.

What I claim is—

1. In a car coupling, the combination with a draw head having an opening communicating at its rear with a vertical recess, of a coupling bar consisting of a shank and an enlarged end whereby the said bar may gravitate in the recess to engage the draw head, and a spring controlled swinging saddle pivoted in said recess, and operating to hold the coupling bar from moving upwardly, substantially as described.

2. In a car coupling, the combination with a draw head having an opening communicating at its rear with a vertical recess, of a coupling bar consisting of a shank and an enlarged end whereby the said bar may gravitate in the recess to engage the draw head, a spring controlled swinging saddle pivoted in said recess, operating to hold the coupling bar from moving upwardly, and a chain or rod for lifting said saddle, substantially as described.

3. In a car coupling, the combination with a draw head having an opening communicating at its rear with a vertical recess, of a coupling bar consisting of a shank and an enlarged end whereby the said bar may gravitate in the recess to engage the draw head, a swinging saddle pivoted in said recess, and a stirrup pivoted thereto with means for raising the same whereby the said coupling bar may be raised and released, substantially as described.

4. In a car coupling, the combination with a draw head having an opening communicating at its rear with a vertical recess, of a coupling bar consisting of a shank and an enlarged end whereby the said bar may gravitate in the recess to engage the draw head, a spring seated swinging saddle pivoted in said recess, a pivoted stirrup, and means for raising the same whereby the said coupling bar may be raised and released, substantially as described.

5. In a car coupling, the combination with a draw head having an opening communicating at its rear with a vertical recess, of a coupling bar consisting of a shank and an enlarged end whereby the said bar may gravi-

5 tate in the recess to engage the draw head, a
spring seated swinging saddle pivoted in said
recess, a pivoted stirrup, and means for rais-
ing the same whereby the said coupling bar
may be raised and released, and a lifting de-
vice whereby the coupling bar may be raised
and released, substantially as described.

In testimony whereof I have hereunto set
my hand in the presence of two subscribing
witnesses.

JOHN JOSEPH CROWLEY.

Witnesses:

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EDWARD R. CROWLEY.