

(No Model.)

W. H. WALLACE.
CAR COUPLING.

No. 509,588.

Patented Nov. 28, 1893.

FIG. 1.

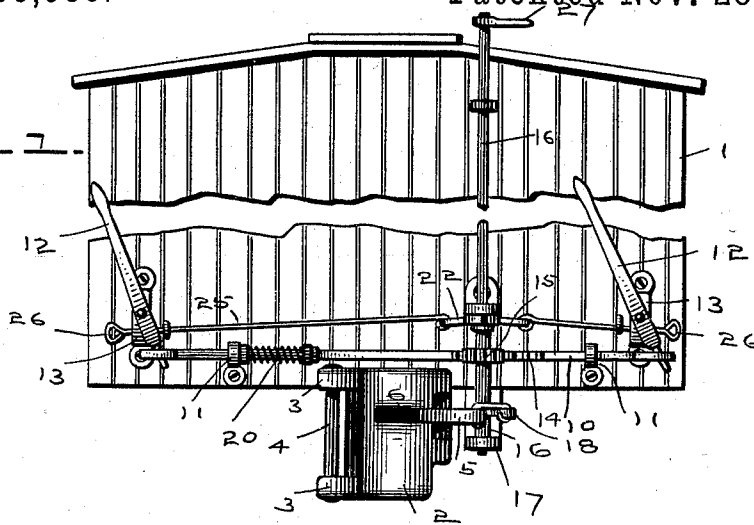
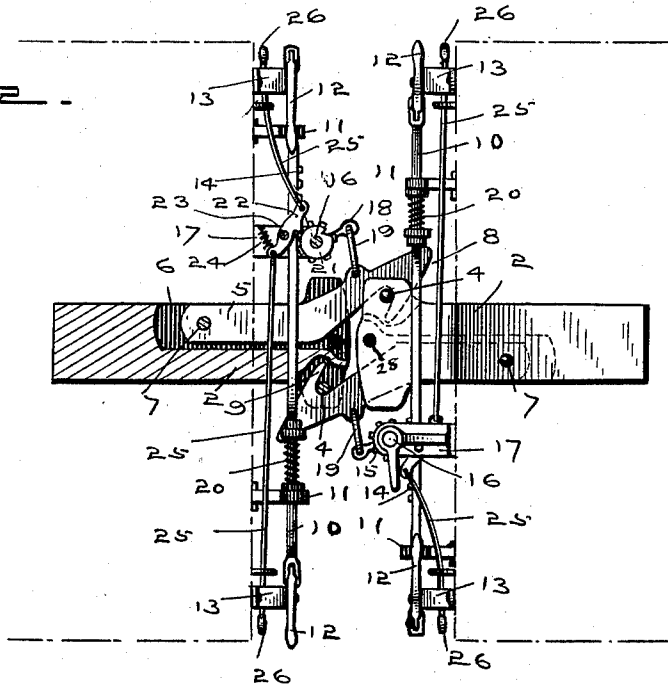


FIG. 2.



Witnesses

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WILLIAM H. WALLACE, OF HENRY, ILLINOIS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 509,588, dated November 28, 1893.

Application filed August 2, 1893. Serial No. 482,218. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. WALLACE, of Henry, county of Marshall, and State of Illinois, have invented certain new and useful
5 Improvements in Car-Couplings; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like figures refer to like parts.

10 My invention relates to a car-coupling device, and especially to one which will couple automatically and may be uncoupled by a brakeman without entering between the cars.

An important feature of my invention consists in the use of a coupling hook adapted to engage with a vertical pin of such length as to effect a coupling between cars of different heights. This is due to the length of the pin being many times greater than the thickness of the coupling hook, whereby the coupling hook may engage the pin high or low.

Another feature of my invention consists in the use of two coupling hooks and pins, whereby much greater strength is acquired.
25 Each coupling hook and pin is constructed of such strength as alone to draw the entire load, so that if one coupling hook or pin breaks the other coupling hook and pin will draw the load.

30 Another feature of my invention consists in providing means of enabling the brakeman, while on the car or at the side thereof, to uncouple the cars without entering between them to endanger his life.

35 Another feature of my invention is the provision of means for holding the coupling hooks out of engagement with the coupling pins, when no coupling is desired, as in case of bumping cars.

40 The features of my invention will appear fully from the following description, reference being made to the accompanying drawings.

45 Figure 1 is an end elevation of a box-car, a central section being cut away and the wheels omitted. Fig. 2 is a plan view of the coupling attached to the end of two box-cars, showing the draw-head in horizontal section.

1 is a box car with a central section cut
50 away for convenience in making the drawings.

2 is my drawhead secured to the under part

of the box-car in the usual manner, the head being provided with an opening much like the ordinary drawhead in which a link may enter and may be held by a pin in the pin holes at 28. This is for use when one of the cars to be coupled has the old fashioned link and pin coupling. On one side of the drawhead are two horizontal arms 3, in which is mounted a pin 4, which may be loosely but preferably rigidly mounted.

5 is a coupling hook operating in a horizontal slot at 6 in the drawhead and pivoted therein at 7. The outer end 8 of the hook 5 is bevel faced and provided with a sharp hook 9 to engage the coupling pin 4. By means of the bevel faced end, the coupling hook 5 is enabled to effect a coupling automatically as it first contacts with the pin 4 and is pushed laterally by virtue of the bevel faced end, until the sharp hook 9 passes the pin 4, whereupon it is sprung into engagement by any kind of spring, that shown in the drawings being located on the operating mechanism.

75 The operating mechanism herein shown consists of a bar 10 extending across the end of the car and mounted in brackets 11. Handles 12 are pivoted to brackets 13 and loosely connected at one end to the outer end of the bar 10. A short rack 14 is provided on the horizontal bar and adapted to engage a whole or segmental pinion 15, rigidly mounted on a vertical rod 16, which is loosely mounted in brackets 17 that are suitably connected with the car. This vertical rod 16 is rotated by the horizontal movement of the horizontal bar 10. There is a connection between the rotating rod 16 and the coupling hooks 5, that shown herein, consisting of an arm rigidly secured to the rod 16 and connected to the coupling hook 5 by means of the hook or link 19, in such manner that when the horizontal bar 10 is operated the coupling hook 5 is drawn laterally to one side out of engagement with the pin 4, or on the other hand is pushed inward into engagement with the pin 4. The last part of this process is effected by means of the coil spring 20 mounted on the horizontal bar 10, in such manner that its tension will tend to keep the coupling hook 5 into engagement with the pin 4. The effect of this spring 20 is checked and the coupler thrown out of gear by means of a locking de-
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vice, consisting of a rigid ratchet 21 mounted on the vertical bar 16 and engaged by a pawl 22 pivoted centrally at 23 to one of the brackets 17, and actuated by a coil spring 24. The pawl 22 is operated by links 25 extending from each end of the pawl to the sides of the car where they are provided with handles 26. Of course any ordinary means of locking the operating mechanism might be used to effect this object. A handle 27 is mounted on the top of the vertical bar 16 which extends to the top of the car. The cars are uncoupled by the brakeman operating the handles 12 or 27 on the ends of the abutting cars.

The advantages of my coupling device are apparent upon inspection. The brakeman does not have to effect the coupling as it is automatic and he can uncouple the cars without entering between them. The coupling can be locked out of gear for bumping. The cars have a double coupling either one being sufficient to draw the load and there being ample play between the cars in order that the locomotive can readily start a long train of cars, by starting one car at a time. If the coupling hook or pin should break it can be readily and easily replaced.

My coupling is stronger than the ordinary coupling because it is double. It might be well to protect the parts of my operating mechanism from the weather by a shelter or cover of some kind.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A car coupler consisting of two draw heads, each provided on one side with a vertical pin, a coupling hook pivoted on the other

side, a vertical operating bar mounted on the end of the car and suitably connected with the coupling hook, a spring controlled horizontal bar mounted on the end of the car, means of rotating such vertical bar by the operation of such horizontal bar, and handles at the sides of the car for operating such horizontal bar, substantially as shown and described.

2. In a car coupling, a coupling hook operating mechanism, consisting of a vertical bar mounted on the end of the car, means of connecting such bar with the coupling hook, a spring controlled horizontal bar mounted on the end of the car, means of rotating such vertical bar by the operation of such horizontal bar, and handles at the sides of the car for operating such horizontal bar, substantially as shown and described.

3. In a car coupling, a coupling hook operating mechanism, consisting of a vertical bar mounted on the end of the car, means of connecting such bar with the coupling hook, a spring controlled horizontal bar mounted on the end of the car, means of rotating such vertical bar, a ratchet rigidly mounted on such vertical bar, a spring controlled pawl adapted to engage such ratchet, and links extending from such pawl to the sides of the car and provided with suitable handles, substantially as shown and described.

In witness whereof I have hereunto set my hand this 20th day of May, 1893.

WILLIAM H. WALLACE.

Witnesses:

L. V. SMITH,
J. F. LEAVITT.