(No Model.)

P. B. HAND.

CAR COUPLING.

No. 449,253. Patented Mar. 31, 1891.

Fig. 1.

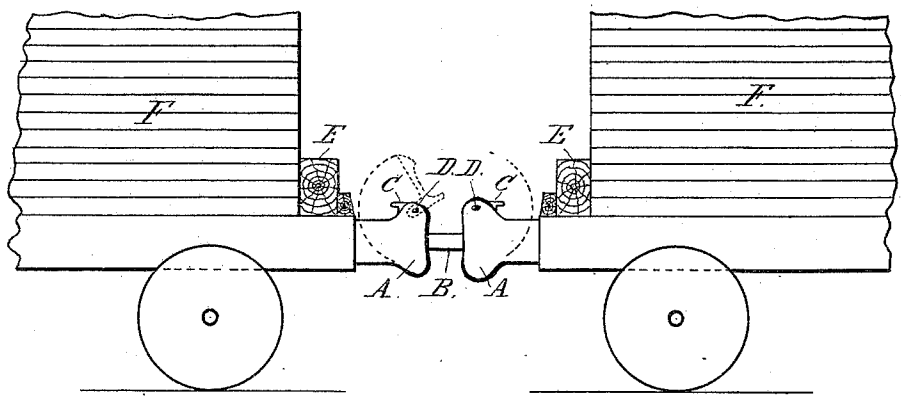


Fig. 2.

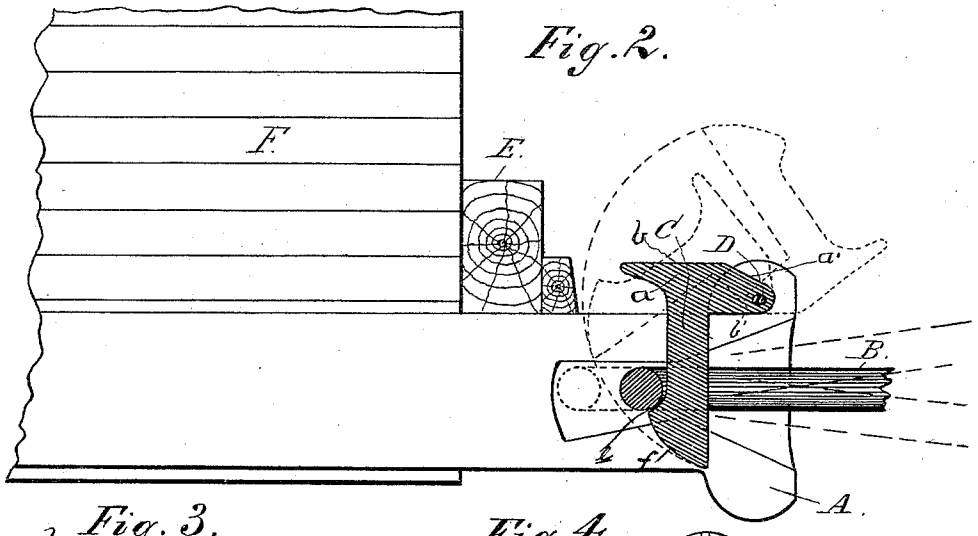


Fig. 3.

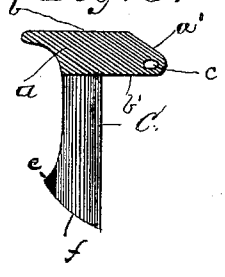
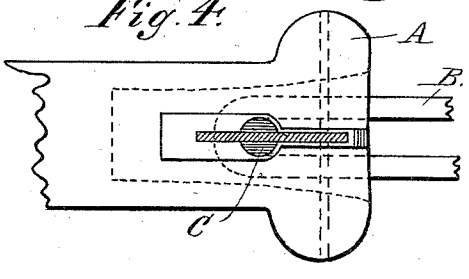


Fig. 4.



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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 449,253, dated March 31, 1891.

Application filed March 22, 1890. Serial No. 344,925. (No model.)

To all whom it may concern:

Be it known that I, PORTER BRISTOL HAND, a citizen of the United States, residing at Handsborough, in the county of Harrison and State of Mississippi, have invented certain new and useful Improvements in an Automatic Car-Coupler; 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 make and use the same.

My invention relates to improvements in car-couplers in which a bolt placed within the end of a draw-bar is made to operate automatically in conjunction with a link; and the objects of my invention are to enable cars to be coupled automatically, and thus avoid danger to brakemen. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side view. Fig. 2 is a longitudinal sectional side view. Fig. 3 is a side view of bolt. Fig. 4 is a top view of draw-bar.

Similar letters refer to similar parts throughout the several views.

In constructing my invention the ordinary draw-bar can be used with slight modifications.

In the drawings, A refers to draw-bars with ends of same constructed in the manner shown in Fig. 2.

B is a link which is held in position by means of bolt C, said bolt being held in position and swung loosely upon pivot D and occupies the position, when cars are coupled, as shown in Fig. 2, the lower end of the bolt resting against the draw-bar.

E are pieces of timber placed at the end of freight-cars, and are known as "dead-wood" or "buffer-blocks."

F represents the side of a car.

The bolt C has a head *a*, constructed with an angle-top formed by the straight portion *b* and the slanting portion *a'*, which allows the bolt to rest on the draw-head, as shown in dotted lines, Fig. 2. The bottom of the head *a* has straight bearing-surface *b'* formed at right angles to the said bolt, and between the two bearing-surfaces *a'* and *b'* is formed the pivot-hole *c*.

The mode of operation is as follows: By simply pressing the bolt C down upon the link the latter is placed at any desired angle, as shown by dotted lines, in front of draw-bar, as shown in Fig. 2, and in this manner, as the draw-bar from a car which is set at a higher or lower position comes in contact with the link, the bolt in the draw-bar is forced by the pressure of the link in the position as shown by the dotted lines in Fig. 2, and while bolt is forced upward at an angle, as shown, the link enters the draw-bar and goes to the point indicated by circular dotted lines in Fig. 2, and bolt having pressure released descends within the opening in link and a fastening or coupling is made in an automatic manner. The bolt C is so constructed that it cannot be thrown to a greater angle than shown by dotted lines in Fig. 2, forming the arc of a circle, and where desired the bolt may be placed in this position and a coupling effected. To uncouple the cars the bolt is simply removed from the link and placed on an incline and the link is released.

A striking advantage of my device is its simplicity and economical construction, enabling the railway companies to utilize the couplers now in use upon freight-cars.

From the construction illustrated it will be seen that by having the forward branch of the bolt or coupling-pin beveled, as shown at *a*, said bolt or pin may be set in the position shown in dotted lines, so that when the cars are brought together the jar of the same will throw the bolt into the slot of the draw-head and cause the same to effect an automatic coupling.

I am aware of the Patent No. 263,800, in which a latch is provided with two branches approximately at right angles to each other and pivoted in a draw-head. I am also aware of Patent No. 291,149, in which a link is pivoted in the draw-head, and a pin having a shoulder or offset is pivoted in a slot in the head, so that it may turn into the pivoted link, the offset of the pin being designed to be attached to a chain; and I am also aware of the patent granted to one Keithley, No. 247,198, in which a pin is pivoted to the upper side of the draw-head and provided with a shoulder, whereby it may rest upon the head when drawn out of the slot in the position ready for

use, and I therefore do not claim such devices broadly.

The rear face of the vertical portion of the bolt is formed near its lower end with a rounded ledge *e*, which is designed to receive the link and prevent it from falling down, so as to wedge the vertical portion and prevent the bolt from turning on its pivot. The lower end of the vertical portion of the bolt is rounded from the said ledge to the front face, as seen at *f*, to provide for easy movement and little friction. The opening *c*, in which the pivot D works, is elongated horizontally, as seen in Fig. 3, to allow of slight play to prevent binding of the parts.

I am aware that it has been proposed to pivot the bolt on a pivot working in an elongated slot, and I am also aware that it is not new to form a curve on the rear face of the bolt to receive the link, and therefore do not seek to cover such constructions, but attach importance to the peculiar construction of my bolt C, which embodies, in addition to the above features, others which taken as a whole render it a superior bolt and one producing better results, the several features of construction co-operating to the unitary result. The rear face being curved from the bottom of the ledge *e* to the front face on the arc of a circle enables the bolt to swing readily to its vertical position and allows of movement in the other direction also without friction or danger of binding.

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

As an improved article of manufacture, the coupling-bolt C, formed with vertical shank with straight front face, a head having angular rounded front end with elongated slot near its lower forward end, a square shoulder *b'* at the junction of the head and shank at the front, and at the rear face a curve from the top rear end of the head to near its lower end, forming a curved ledge *e*, which forms a continuation of said curve, and from the said ledge curved to the lower end of the front face on the arc of a circle, substantially as shown and described.

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

PORTER B. HAND.

Witnesses:
PERCY D. PARKS,
J. B. ROSSER, Jr.