

No. 668,201.

Patented Feb. 19, 1901.

B. F. NEEL.
CAR COUPLING.

(Application filed Apr. 23, 1900.)

(No Model.)

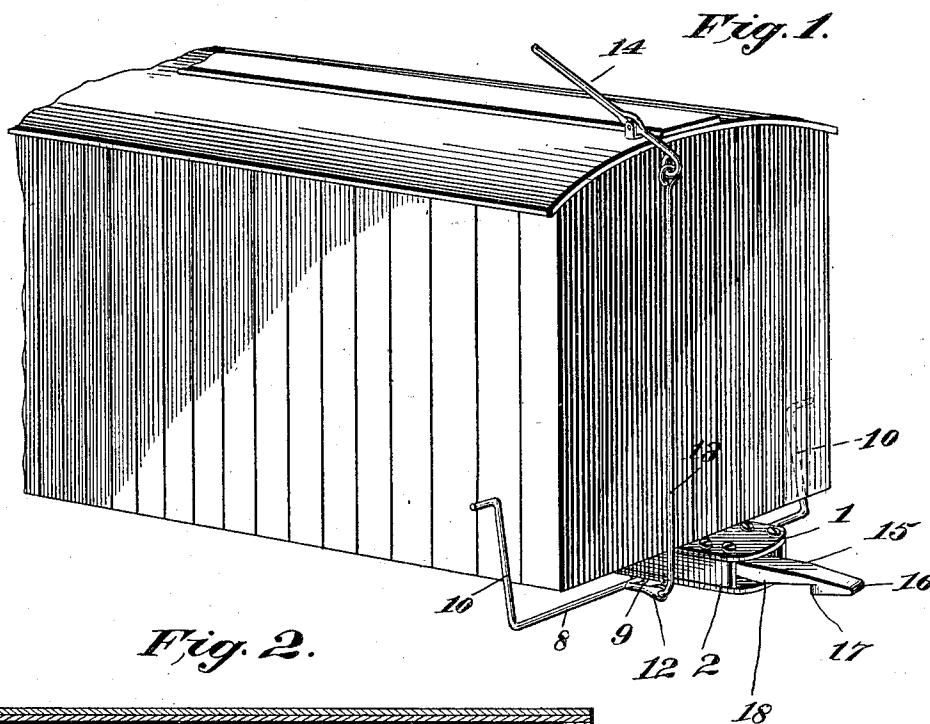


Fig. 2.

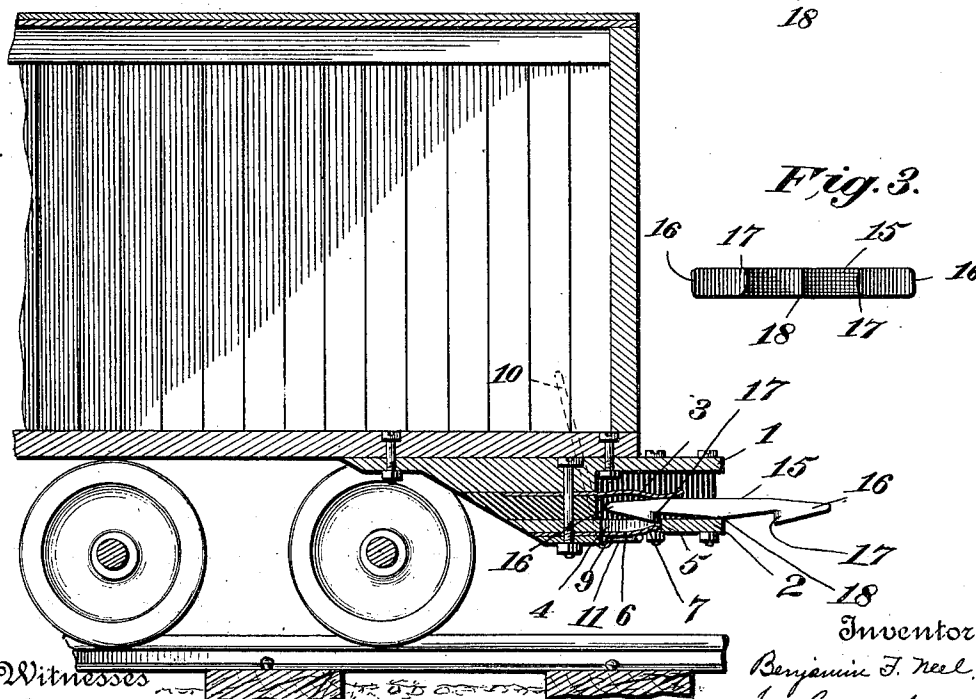
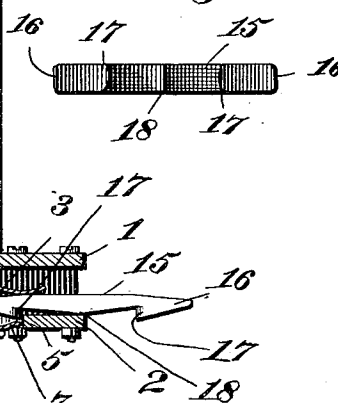


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

BENJAMIN FRANKLIN NEEL, OF TRIMBLE, ALABAMA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 668,201, dated February 19, 1901.

Application filed April 23, 1900. Serial No. 14,028. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN FRANKLIN NEEL, a citizen of the United States, residing at Trimble, Cullman county, Alabama, have invented certain new and useful Improvements in Car-Couplers, of which the following is a specification.

My invention relates to automatic car-couplers of the type embodying leaf-springs on the draw-head adapted to coöperate with a headed link and cause the engagement of the link with the draw-head.

The object of my invention is the provision of a car-coupler of this type, which will be of simple, strong, and durable construction and adapted to automatically couple and uncouple in an improved manner, and one which will remain coupled securely, but which can be rapidly and easily uncoupled with safety from either the top or the sides of the car.

The invention comprehends the provision of upper and lower leaf-springs on the draw-head for use in connection with a headed link adapted to be entered in the draw-head between the springs and held by the upper spring in engagement with a shoulder on the draw-head, and an unlocking or uncoupling lever having a crank which is adapted to wipe against the lower spring and cause it to release the link from engagement with the draw-head, the action of this lower spring being such that it will maintain the uncoupling lever or shaft in proper position for manipulation and also act in a similar manner on the uncoupling lever on the top of the car.

The following description sets forth the invention in its details and the appended claims recite the novel features thereof.

In the accompanying drawings, Figure 1 is a perspective view of the end of a car equipped with the invention; Fig. 2, a longitudinal section, and Fig. 3 a detail view of the link.

The draw-head is made in two parts—viz., a plate 1, suitably secured to the bottom of the car, and a hollow box 2, bolted to the said plate. A leaf-spring 3, having its forward end free for vertical movement in the front part of the draw-head, has its rear end held rigid by being clamped between plate 1 and box 2. The lower part 2 of the draw-head has an open space 4 therein, which is oppo-

site the free portion of the spring 3, thereby providing a shoulder 5 for the head of the link to engage with.

The numeral 6 designates a leaf-spring which has its rear end removably clamped to the box 2 of the draw-head and its forward end 7 free and projecting across the opening therein, and adapted to be pushed in said opening to release the head of the link from engagement with the shoulder.

There is an uncoupling-shaft 8, which is journaled in bearings 9 on the draw-head and bottom of the car, and said shaft extends laterally of the car and is equipped with upwardly-extending arms or levers 10. The shaft is provided with a crank-loop 11, which is arranged to wipe against the free end of the lower spring 6, so that when the levers are thrown down backwardly the end of the spring is forced upwardly through the opening in the part 2, thereby disengaging the head of the link from the shoulder on the draw-head. Said shaft also has an arm 12, which extends forwardly at the side of the draw-head, and a rod 13, fastened to this arm, which extends up in front of the end of the car and is connected to an uncoupling-lever 14, which is pivoted on the car.

I employ a double-ended coupling-link 15, having the heads 16, provided with rounded shoulders 17 and with a shank, which slopes from a central point 18 to the point where it joins the shoulders. The object of rounded shoulders is to allow the link to swing as the cars are going around a curve, while the manner of beveling the shank renders the uncoupling easier, because the link will rock as on a pivot when its end is thrown upwardly.

The tendency of the upper spring is downward—that is, it always tends to hold the head in engagement with the shoulder on the draw-head—while the tendency of the lower spring is always downward also, so that it does not oppose the action of the upper spring, and its pressure against the crank-loop of the shaft holds the levers or arms on the end of said shaft always in upright position, as also the lever on the top of the car, so that said levers are always in position to be depressed without difficulty. When they are depressed, the crank-loop forces the free end of the spring 6 up into the opening in the draw-head and

lifts the head of the link out of engagement with the shoulder on the draw-head, thereby uncoupling the car. Whenever the link is pressed into the draw-head by the cars coming together it enters between the springs, and as soon as it passes the shoulder it is snapped into engagement therewith by the upper spring.

By the provision of a lower spring cooperating with the crank-shaft having a crank-loop operated by the spring the desirable result is obtained of levers which are always in position for manipulation, while the provision of levers on both sides of the car and on the top thereof makes it possible to uncouple the cars with the greatest ease at all times.

An advantage is gained by forming the draw-head in separable parts and removably clamping the springs in position, because they can be easily taken out if broken or injured.

I am aware that I am not the first to employ a spring for holding the link in engagement with the draw-head and mechanism for disengaging the link, and such a construction I do not therefore claim, broadly; but

What I do claim as new, and desire to secure by Letters Patent, is—

1. In a car-coupler, the combination with a draw-head formed in two parts one of which is connected to the car and the other part being connected to the part first named and having an opening through its bottom, thereby providing a shoulder for engagement by the head of the link, a leaf-spring secured in an upper part of the draw-head with its forward end free and adapted to press the head of the coupling-link into engagement with the shoulder and its rear end removably clamped between the two parts of the draw-head, a lower leaf-spring removably secured to the draw-head and having its forward end free for movement within the opening, to detach the head

of the link from the shoulder, and a shaft, suitably journaled, having a crank adapted to wipe against the bottom face of the free end of the lower spring and provided with an operating arm or lever, said lower spring normally holding, by its pressure on the crank, the lever in an upright position.

2. The herein-described car-coupler, comprising the following instrumentalities, to wit: a draw-head composed of two parts which are secured together and connected to the car, the lower part being provided with an opening extending through its bottom having a shoulder for engagement by the head of the coupling-link, an upper leaf-spring having its rear end removably secured to the draw-head by clamping between the parts thereof, and its forward end free and disposed opposite the opening and thereabove and adapted to hold the head of the link in engagement with the shoulder, a lower leaf-spring removably secured to the draw-head, and having its forward end free and adapted to be moved into the opening to disengage the head of the link from the shoulder, a shaft, suitably journaled, which is provided with levers on its opposite ends and with a crank-loop which bears against the bottom face of the free end of the lower spring, said shaft also having an arm or extension, a lever on the top of the car, and a rod connecting the latter lever to the said extension, said levers being adapted for turning the shaft to cause the crank-loop to operate the spring, and the spring, of its tendency, holding all of said levers in raised position.

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

BENJAMIN FRANKLIN NEEL.

Witnesses:

B. M. TRAIN,

J. L. BRIDGES.