(No Model.)

B. B. MORGAN.

CAR COUPLING.

No. 342,705. Patented May 25, 1886.

Fig. 1.

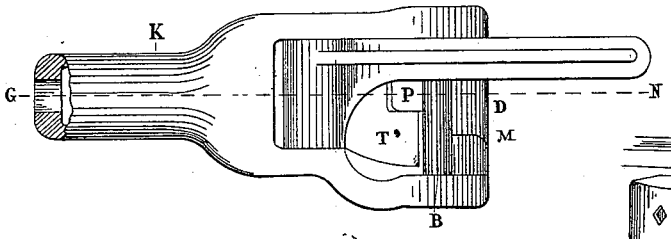


Fig. 4.

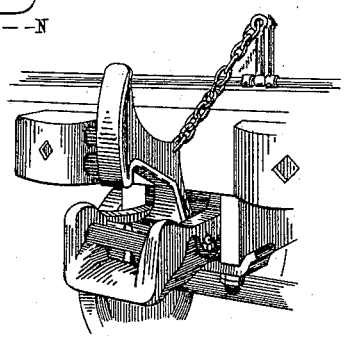


Fig. 2.

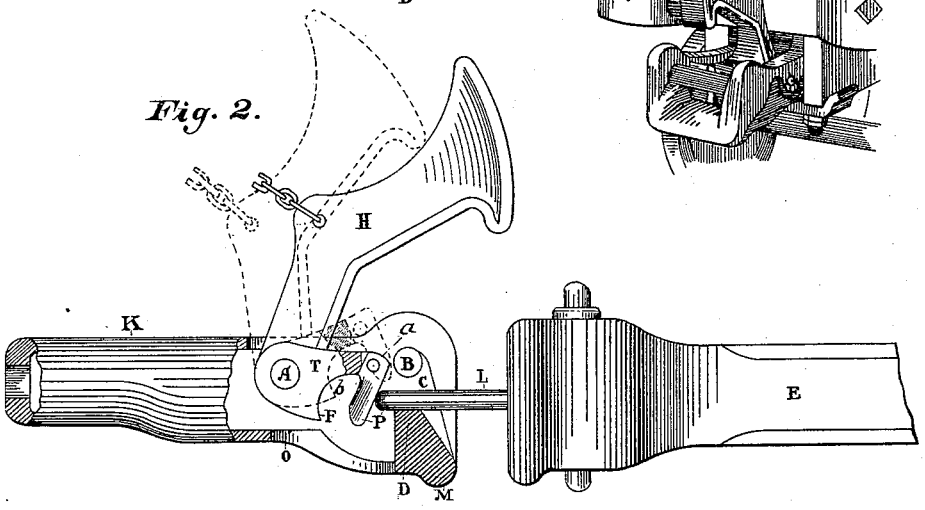
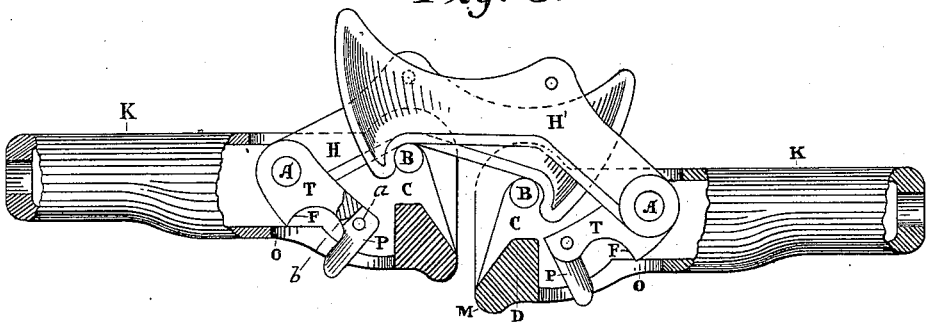


Fig. 3.



Witnesses
John Robison
Geo. C. Maulsby

Inventor
Benjamin B. Morgan
per J. B. Davis,
Attorney.

UNITED STATES PATENT OFFICE.

BENJAMIN B. MORGAN, OF ANN ARBOR, MICHIGAN.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 342,705, dated May 25, 1886.

Application filed October 24, 1885. Serial No. 180,783. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN B. MORGAN, a citizen of the United States, residing at Ann Arbor, in the county of Washtenaw and State of Michigan, have invented a new and useful Car-Coupling, of which the following is a specification.

My invention consists in an improved car-coupler, hereinafter fully described.

Figure 1 is a plan or top view; Fig. 2, a part sectional side view showing the manner of coupling with a link automatically; Fig. 3, a part sectional side view with the draw-bars at different elevations, and Fig. 4 is a perspective view of my invention as tested on cars.

Similar letters refer to similar parts throughout the several views.

First. The journals A are set low enough in the draw-bars so that the hook H, which is connected with the higher of two draw-bars, will be slightly released from its hold on the lower and the hook H', attached to the lower draw-bar, will be the one to draw the load. The object of this arrangement is that in case of extreme differences of elevation of the draw-heads they cannot become disengaged or the hooks broken, as might be the case if these journals A were set so high that H' was released while H held. These journals A are so set that for any deviations in elevation that ordinarily occur both hooks hold. Further, the hooks H and H' are crooked, to prevent them from being unhooked by ordinary differences in the elevation of the draw-heads. This construction also enables me to lower the point of attachment of the hook to the draw-bar, and thus prevent the tendency of the end of the hook to rise under strain.

Second. The bottom of the draw-head is made open to allow all snow and water to pass through the parts to the ground. This is the opening at O through which the pin P hangs in Fig. 3.

Third. The lug D is formed, as shown, with a drooping lip, M, for readily receiving an approaching link. Besides, the lug D is also formed so as to give support to the bar B and to guide a link sidewise into the throat C. A strong bar, B, extends across the draw-head at such a distance from the lug D as to provide a suitable opening, C, between the bar B and lug D for receiving a link. Into the lateral toe T, which forms a part of the hook H or H', is pivoted a pin, P, as shown. I prefer to make the pivot of pin P removable, so that an ordinary pin may be at will used instead of pin P. The slot that receives this pin P has its back face so formed that the pin P cannot swing backward only in the manner represented in Fig. 2, the range of this swing to be regulated by the duty required. This same face of this same slot is also formed so that the pin P cannot swing forward beyond the position indicated by the dotted lines in Fig. 2, and project upon or over the bar B. The manner of the automatic link-coupling is represented by Fig. 2. Here the link L, entering the throat C between the bar B and lug D, encounters and forces backward to its limit the pin P, after which the onward movement of the link L, pushing its end against the inclined face of the pin P, raises the entire hook H until the end of the link L passes beneath and beyond the end of the pin P, when the weight of the hook H will aid in carrying the pin P through the link L to form the coupling. Besides the weight of the hook H, the blow of the draw-bar E against the draw-bar K will drive it back into the car-frame and bring down the hook H with additional speed. To make this automatic link-coupling, the hook H is set not to couple. To uncouple the link L, raise the hook H, as indicated by the dotted lines in Fig. 2. To not couple with a link, set the hook H to couple, or fasten it where shown by the dotted lines in Fig. 2. The pin P carries its load against the bar B and the lug D by being loosely connected to the toe T or hook H, so as to throw the whole pull on the link L directly upon the draw-head K without straining the connections of the pin P with the toe T or hook H.

Fourth. The lateral toe T has its lower part formed in any suitable manner, as at F, for forming a backing to a link used in the ordinary way, and fastened in this coupler ready to unite with its like or another.

Fifth. The link L being fastened into this coupler, as above indicated, its free end may be held to a proper level to enter any available draw-head by allowing the proper part of the weight of the hook H to rest on its inner

end by means of the connections of the hook H by which it is operated at the side of the car.

Sixth. The pin P or its broken end may be readily removed from the lateral toe T, when the slot in which this pin is fastened becomes a hole for the insertion of a common pin, as shown in Fig. 1, if P were removed, when the new pin will stand, as the automatic one does, on the draft-line G N of the draw-bar.

I am aware that prior to this invention a coupler has been invented with the hooks H and H′ and lateral toe T, with suitable devices for operating the same. I therefore do not claim these devices here; but

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

1. In combination with the draw-bar K, the pivoted hook H, and toe T, connected therewith, and the pin P, pivoted to the end of the toe T, substantially as described.

2. In combination with the draw-bar K, having the beveled throat-piece M, the pin B, extending across the front of said draw-bar above the throat-piece, whereby a throat, C, is left between said throat-piece and pin, substantially as described.

3. In combination with the pivoted toe T, the pin P, removably pivoted thereto, substantially as described.

4. In combination with the draw-head K, the pivoted toe T, having its lower face curved to form a backing for a link, substantially as described.

BENJAMIN B. MORGAN.

Witnesses:
JOHN J. ROBISON,
GEO. S. WHEELER.