J. B. SAFFORD.

Car-Coupling.

No. 211,428. Patented Jan. 14, 1879.

Fig. 1.

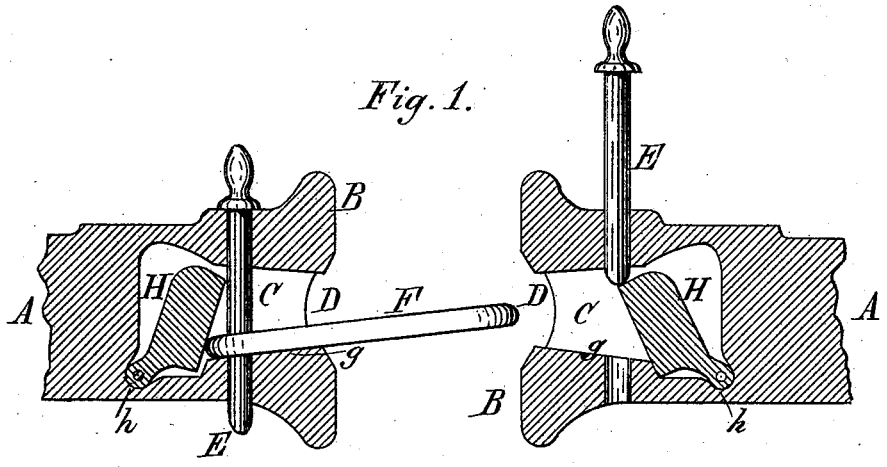
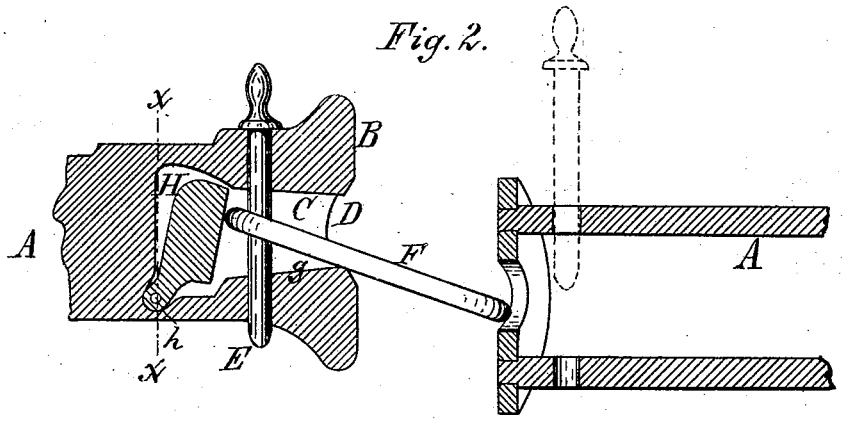


Fig. 2.



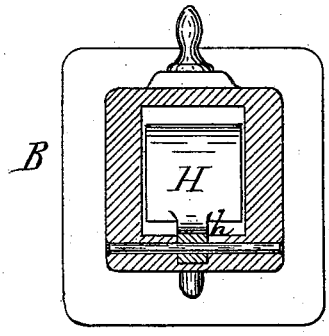


Fig. 3.

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UNITED STATES PATENT OFFICE.

JAMES B. SAFFORD, OF BUFFALO, NEW YORK.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **211,428**, dated January 14, 1879; application filed December 10, 1877.

To all whom it may concern:

Be it known that I, JAMES B. SAFFORD, of the city of Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Car-Couplings, of which the following is a specification, reference being had to the accompanying drawing.

My invention relates to a car-coupling in which a weighted pallet is arranged in the draw-bar in such manner that the link, on entering the mouth of the draw-bar, pushes the pallet back, so as to allow the coupling-pin to descend, when the pallet bears against the link.

My invention consists of the peculiar construction of the device whereby the link is securely held in any desired position for coupling with equal facility to high or low cars having draw-bars with narrow or wide mouths, as will be hereinafter fully set forth.

In the accompanying drawing, Figure 1 is a sectional elevation of my improved car-coupling. Fig. 2 is a similar view, showing a draw-bar provided with my improvements in position for coupling with a low draw-bar having a narrow mouth. Fig. 3 is a cross-section in line *x x*, Fig. 1.

Like letters of reference refer to like parts in each of the figures.

Previous to my invention the most approved draw-bars have been provided with toggles or pallets to hold the coupling-pin elevated, so that the entrance of the link will automatically cause the pin to fall by reason of the displacement of the pallet upon which it rests. These pallets have, in some instances, been designed to serve, also, the additional function of sustaining the link (after the pin has fallen) in a horizontal line to guide it into the bell-mouth of the adjacent draw-bar. The pallets have been made of various designs and pivoted in various ways having this end in view; but all with which I am familiar become inoperative even in this particular after they have been for a short time subjected to the ordinary frictional wear and tear induced by the oscillation of the cars.

My invention overcomes all the objections and disadvantages experienced in this class of draw-bars, and completely and practically performs the additional functions aimed at.

In order that those skilled may fully understand my invention, I will distinctly point out, by reference to the drawing, the peculiarities of construction and operation.

A represents the body of the draw-bar, and B the head. C is the cavity, the upper and lower sides of which, instead of being beveled, in the usual manner, from the coupling-pin orifice outwardly to form the flare or bell-mouth, is continued in about a straight line beyond the orifice and for a distance of about three inches, in a full-sized draw-bar, to form a support for the rear portion or end of the link. In the drawing I have shown these lines as diverging toward the back end of the cavity, and prefer such arrangement, though I do not confine myself to the exact angle so long as a partially-closed mouth, D, is produced, in contradistinction to the ordinary bell-mouth or projecting lips.

E is an ordinary coupling-pin, and F the link. H is the pallet, which is formed with a straight, or approximately straight, bearing-face, and in width about equal to the cavity C. In order to get the proper weight it is extended rearward at its lower end to receive the pivot *h*, which is so located that it will always be in rear of the center of gravity of the pallet; or, in other words, if the pallet were raised to a perfectly vertical line the pivot *h* would be in rear of said line, and the gravity of the pallet would cause it to fall forward, so that the weight would be employed to the best advantage in holding the link, &c.

The lower end of the face of the pallet H is recessed or cut away to form a "chin," as shown; and the bottom *g* of the cavity C is correspondingly cut away, so that the pallet (when the link is out and the pin E elevated) will be sustained in position to hold the pin ready for use.

It will be observed that by making the bearing-face of the pallet H perfectly plain and straight, I obtain a continuous bearing and wearing surface from the chin to the crown of the same, and consequently the ordinary wear produced by the frictional contact of the link when the cars are in motion will not impair its efficiency.

By reference to Figs. 1 and 2 it will be observed that the link F is shown as held in two different positions by the pressure of the pal-

let H, and it is obvious that the link can likewise be held at any position intermediate of those shown. By continuing the face *g* of the cavity C beyond the orifice for the pin, it will be observed that the fulcrum or point on which the link vibrates more nearly approaches the center of the link, requiring less binding-force at the rear to maintain it in any given position, and hence the pallet H may be much lighter than would be necessary if the mouth flared directly from the pin-orifice.

The most important feature of my invention, however, consists in the straight face of the pallet, and in extending its lower pivotal end rearward, and I do not, therefore, wish to confine myself to this feature in combination with the peculiar mouth D described; but

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

In a draw-bar, the pallet H, having a practically straight bearing-face, and having its pivotal end projecting rearward, substantially as and for the purposes hereinbefore set forth.

J. B. SAFFORD.

Witnesses:
EDWARD WILHELM,
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