R. BUTT.

Car-Couplings.

No. 144,439. Patented Nov. 11, 1873.

Fig. 1.

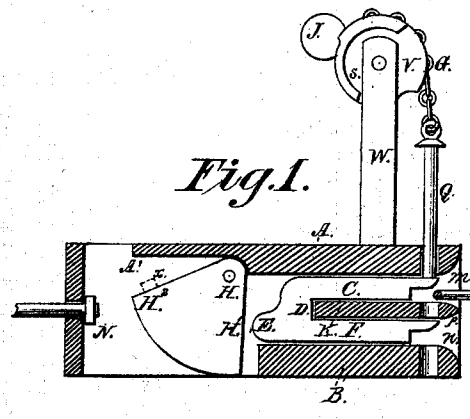


Fig. 2.

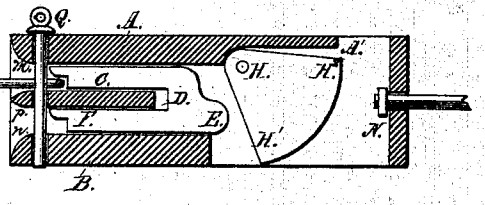


Fig. 3.

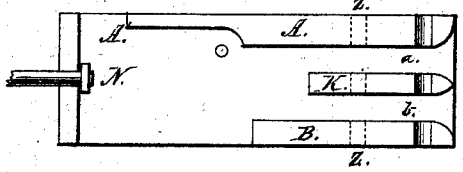


Fig. 4.

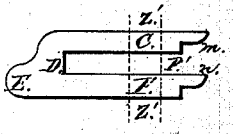
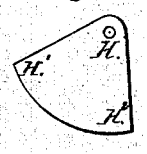


Fig. 5.



Attest

Theophilus Weaver.

Peter Stucker,

Inventor

Revere Butt.

AM. PHOTO-LITHOGRAPHIC CO. N.Y. (OSBORNE'S PROCESS)

UNITED STATES PATENT OFFICE.

REVERE BUTT, OF HARRISBURG, PENNSYLVANIA.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **144,439**, dated November 11, 1873; application filed August 16, 1873.

To all whom it may concern:

Be it known that I, REVERE BUTT, of the city of Harrisburg, county of Dauphin and State of Pennsylvania, have invented an Improved Car-Coupling, of which the following is a specification:

My invention is automatic or self-acting, its parts being so constructed and arranged that when one end of the common link is coupled and poised in one draw-head the other end of the link will be inserted and coupled in the other draw-head by simply running the cars together. It consists, first, in a horizontally-chambered draw-head, one chamber above the other, the division-plate extending nearly midway into the draw-head, and a bifurcated sliding block or follower, which is inserted from the rear end into the draw-head chambers, double-plunger form, the front ends of the plungers being peculiarly formed and of proper length to act as detents for the coupling-pin before the act of coupling, and as link-poisers after the act of coupling one end of the link prior to coupling the other end of the link, a pivoted sector or gravitating weight being suspended in the surplus space in the rear end of the draw-head, which tends to hold the bifurcated sliding block pushed forward for the performance of its several purposes, as stated; second, in a gravitating, overbalanced wheel mounted in a post on the fore part of the draw-head connected, by a chain, with the coupling-pin, the weight of the latter being sufficient, when liberated by the retreat of the plungers in the draw-head, as stated, to cause the wheel to rotate, a ledge on the wheel being employed to limit its rotation both ways against the post sides in which it is mounted.

In the accompanying drawings, Figure 1 represents a vertical section of one draw-head with the sliding frame pushed forward, with the coupling held suspended by the nosing of the sliding frame, and with the coupling-pin directing device attached. Fig. 2 represents a vertical section of the other draw-head with the sliding frame pushed back, with the link coupled by the pin, and without the pin-directing mechanism. Figs. 3, 4, and 5 are plans of the draw-head, the sliding frame, and the gravitating sector, respectively.

The side walls of the similar draw-heads are joined by a top plate, A, by a bottom plate, B, and by a horizontal middle plate, K, the front ends of which are flared, as usual, to form the draw-head mouths to facilitate the insertion of the link into the chambers thereof. The top plate A is extended to form a fender, A′, at its rear end, which serves as a stop to limit the vibration of the sector-wing H^2. The sector or pendulous block is pivoted, at H, through the vertical walls of the draw-head, in position and form as shown in Figs. 1, 2, and 5. The bottom plate B extends rearward about one-half the length of the draw-head, and leaves a surplus space in the rear end of the draw-head, to insert the sliding frame and the sector H H^1 H^2 in their proper places. A bolt, N, by which the draw-head is hitched to the truck, is also made accessible in said surplus space; and the said sector is, moreover, made to swing inside the draw-head frame, so as to facilitate the insertion of the draw-head frame through the carrier or keeper beneath the platform of the car. The wing H^1 of the sector rides against the heel E of the sliding frame C F D, which it actuates in a forward direction by simple contact. The body of the sector being suspended rearward from the vertical line of its pivot H, it tends, by the action of gravity as well as by the concussion incident to coupling cars, to right itself about said line, and to push the sliding frame forward to perform its offices. The sliding frame C D F, made in bifurcated plunger form, as shown in Fig. 4, is inserted into the draw-head from the rear end, and its plungers or links C F bestride the middle plate K and loosely fill the cross-sections of the draw-head chambers, and extend forward to fully shut off the coupling-pin holes when fully shifted, so that the coupling-pin is loosely detained in the hole made for it in the top plate of the draw-head, perched ready to be instantly dropped when the sliding-frame is pushed back by the ordinary link. The front ends of the plungers are rabbetted in form, as shown, so that when the link has entered its place in coupled position, as shown in Fig. 2, it will be poised or presented properly to enter the desired chamber of the opposite draw-head. The sector H H^1 H^2 automatically pushes the sliding frame C F D from the position shown in Fig. 2 to the

position shown in Fig. 1 the instant the coupling-pin Q is withdrawn, and the rear end of the middle plate K acts as a stop to limit the forward throw of the sliding frame, as shown at D, Fig. 1. The rearward thrust of the sliding frame is limited by its heel, E, against wing H^1 of the sector, which is limited, as stated, by its opposite wing, H^2, against the fender A^2.

The division of the draw-head into chambers vertically superimposed is to facilitate the application of my improved coupling on the various styles of trucks already in common use. It is designed to replace the old couplings gradually, as they break, by my improvement, without necessitating a removal of the rolling stock from the railroad, and without putting additional appliances for attachment on the cars.

The pin-suspending and directing device, shown in Fig. 1, consists of the wheel V journaled in the top of the post W, overbalanced by a protuding weight, J, connected by a chain, G, wound part-way on the wheel to the coupling-pin Q, and provided with a segmental ledge, S S, on its side, whose ends serve as stops to limit the rotation of the wheel against the post sides.

The purposes of the pin-operating device are, first, to steady the pin in an upright position, to insure its fall in the act of coupling; second, to provide a means to disengage the pin when caught in the coupled position; third, to provide a means to operate the pin without necessitating the operator to go between the bumpers, as the journals of the wheel may be laterally extended and provided with handles. The post on which the wheel is mounted may be attached either mortise and tenon style, through the draw-head plates, and freely through the vertically-perforated plungers C F, as indicated at Z and Z′, Figs. 3 and 4, respectively, or it may be made to set astride the draw-head by providing the base of the post with legs. In either form it is to be made detachable, as it is not an essential part to the coupling proper, and may be dispensed with for the sake of simplicity.

It will also be observed that a rubber-cushion or block, X, may be inserted in wing H^2 of the sector-block to relieve the concussion against the fender A^2. This is also dispensable for simplicity's sake.

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

1. In a car-coupling, the combination of the gravitating sector H H^1 H^2, pivoted through the draw-head side plates, and the bifurcated sliding frame C D E F to traverse the longitudinal chambers, arranged one above the other in front part of the draw-head A K B, to detain and drop the ordinary coupling-pin Q, and to poise and couple the ordinary coupling-link L, substantially in the manner as and for the purpose set forth.

2. The coupling-pin operating device, composed of the wheel V, overbalanced by projection J, connected by chain G to the coupling-pin Q, and mounted detachably on the forepart of the draw-head by the post W, all combined as and for the purpose herein set forth.

In testimony that I claim the foregoing as my invention I have hereunto set my hand this 12th day of August, 1873.

REVERE BUTT.

Witnesses:
THEOPHILUS WEAVER,
PETER STUCKER.