

CHARLES F. KUHULE & AUGUSTUS ROW.

Improvement in Car-Coupling.

No. 124,750.

Patented March 19, 1872.

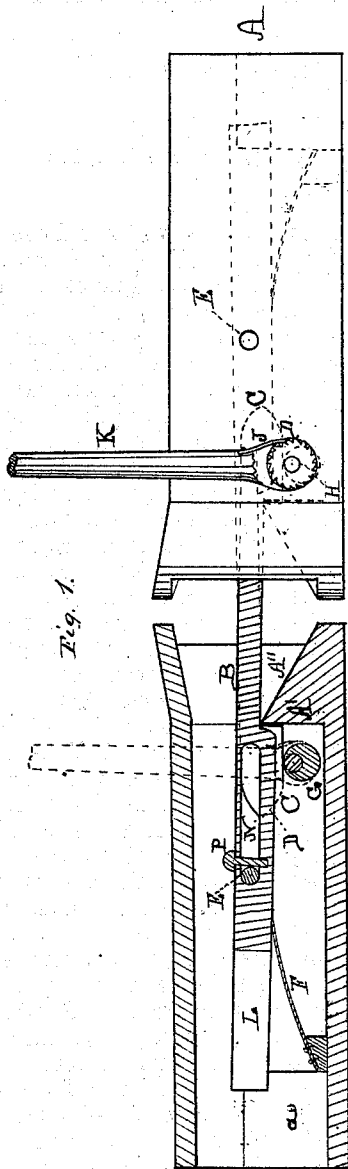


Fig. 1.

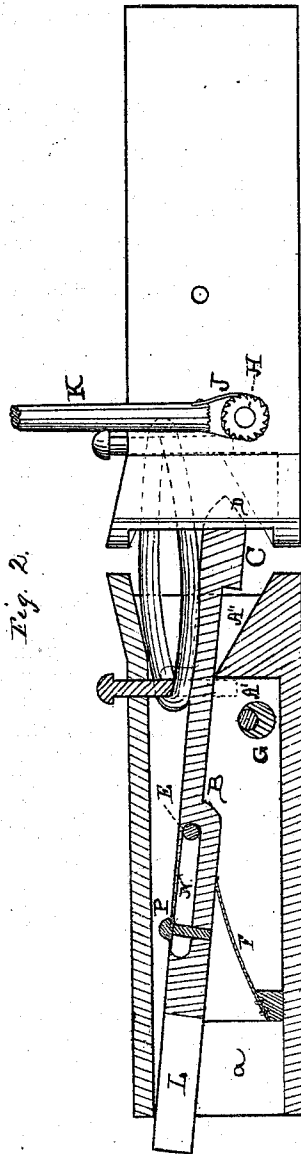


Fig. 2.

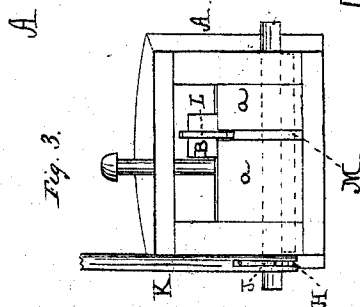


Fig. 3.

Witnesses:
Jacob E. Schiedt
B. H. Hunk

Inventors:
Charles F. Kuhule,
Augustus Row.
By John A. Niederkorn

UNITED STATES PATENT OFFICE.

CHARLES F. KUHNLE AND AUGUSTUS ROW, OF PHILADELPHIA, PA., ASSIGN-
ORS TO THEMSELVES AND JOHN STEWART, OF SAME PLACE.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. 124,750, dated March 19, 1872.

To all whom it may concern:

Be it known that we, CHARLES F. KUHNLE and AUGUSTUS ROW, of the city and county of Philadelphia and State of Pennsylvania, have invented new and useful Improvements in Car-Couplings; and we do hereby declare the following to be a clear and exact description of the nature thereof, sufficient to enable others skilled in the art to which our invention appertains to fully understand and use the same, reference being had to the accompanying drawing making part of this specification, in which—

Figures 1 and 2 are side views of the coupling, partly in section, as illustrative of our invention. Fig. 3 is an end view thereof.

Similar letters of reference indicate corresponding parts in the three figures.

Our invention relates to a car-coupling in which hooked bars may engage with abutments in the draw-heads, or the ordinary link and pin may be employed; and consists in coupling-bars having hooked ends and secured in the draw-heads by means of the axes of the bars, which axes pass through slots in the bars, in connection with pins which are removable, and may be inserted in the bars before or behind the axes. It also consists in operating the cam which raises and lowers the coupling-bars, for coupling and uncoupling the latter, by means of a pawl-lever, which is fitted loosely on the axis of the cam and engages with a ratchet fixed to said axis, whereby the cam is raised and lowered by operating the lever in the same direction, or, as it were, by continuous operation. It finally consists in the combination of the coupling-bars, abutments, cams, pawl-levers, and ratchets, which will be more fully described.

Referring to the drawing, A represents a draw-head, the frame-work or body of which may be of usual construction, but is provided at its mouth with an abutment, A', which extends transversely, and has its outer face sloping, as at A". B represents the coupling-bar, which has a hooked end, C, and is beveled or sloping at D. This coupling-bar is mounted on an axis, E, which is secured to the sides of the draw-head, and permits the rising and falling of the hooked end. In order to depress the hooked or front end or force it down in

case its own weight will not do so, there is arranged a spring, F, which is attached to the draw-head, and bears against the inner end of the coupling-bar.

It will be seen that if two cars have their adjacent ends provided with the parts heretofore described and approach each other the hooked ends of the coupling-bars strike the slopes A" and are elevated until they clear the abutments A', when they drop, owing to the action of the springs F or their own weight, and the shoulders of the hooks and abutments thus interlock. The cars are now securely coupled. Should one bar break or disengage, reliance is had on the other bar.

The old-style pin-and-link draw-head can be readily adapted for use with a single draw-bar, according to our invention, by providing said draw-head with the abutment A'.

We are aware that it is not new to use hooked coupling-bars which interlock with each other, and spear-heads or thrusts, which require hinged jaws in the draw-head; but neither of them possesses the strength and simplicity of the abutments in the draw-heads, which features are requisite in car-couplings.

In order to release simultaneously the two coupling-bars (for unless both are thus released the cars cannot be uncoupled) there is located beneath the bars, and behind the abutment, an eccentric or cam, G, which may be operated by a lever, crank-handle, key, or otherwise. When the largest portion of this eccentric is above, both couplings are raised clear of the abutments A'—that is to say, the hooked end of one coupling that projects into the adjacent draw-head is raised by the eccentric that is located in said adjacent head; but the hooked end of that coupling which is hinged to the self-same adjacent head projects into the other draw-head. The body of the latter coupling is raised by the cam so as to disengage its hook in said other draw-head, and thus both couplings are simultaneously released and the cars are uncoupled. The axis of the eccentric G is formed with a ratchet, H, with which is engaged the pawl J of a lever, K, which is hinged to the axis, and extends preferably vertically, so as to be within convenient reach of the brakeman on the bumpers, platform, steps, or elsewhere.

It will be seen that a few reciprocating movements of the lever K will raise the eccentric or cam so as to uncouple the cars, or lower it in order to be entirely free or inoperative of the coupling-bar or bars. Thus the cam is both raised and lowered by operating the pawl-lever in the same direction. We thereby render unnecessary the raising and holding of the pawl from the ratchet for lowering the coupling, or the holding of the lever to keep the couplings elevated when uncoupled.

To the inner end of the coupling-bar we attach a spring-tail, L, which projects into a groove or channel, M, in a cross-block or pieces, *a a*, at the rear of the draw-head, and its action is such that the coupling-bar will always stand in proper line or place for coupling. It is evident that if the bar is forced to the side of the draw-head, owing to the jarring or shaking of the cars or from other causes, the tension of the spring-tail will cause the bar to assume its normal position. N represents a longitudinal slot formed in the coupling-bar, and through this slot the axis E of the bar is passed. A pin, P, extends through the bar, and may be inserted before or behind the axis E. This object of the slot N is as follows: If one car is provided with our coupling and the adjacent car with the usual link-and-pin coupling, the two cars can be easily coupled by withdrawing the pin P and forcing the bar B into the draw-head, as seen in Fig. 2, thus rendering the coupling-hook inoperative. The draw-heads can then approach each other sufficiently close to permit the usage of the well-known link and pin, as seen in the same figure. The coupling pin or pins will pass through a suitable opening in the upper side of the draw-

head, while the lower end or ends thereof will come to a bearing against the abutment A', or as in ordinary couplings.

When the coupling-bar is forced into the draw-head the tail L passes through the groove or channel M, and remains there until again required for use on the withdrawal of the bar. In the latter case the pin P must be removed and placed in the bar in front of the axis E, as seen in Fig. 1.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The coupling-bar B, having a hooked end, and secured in the draw-head by means of the axis E passing through slot N in said bar, in connection with a removable pin, P, operating substantially as described, for the purpose set forth.

2. The combination, with the coupling-bars, of the cam G, having firmly secured to its axis the ratchet H, and provided with the pawl-lever K loosely fitted on said axis, but engaging with the ratchet, whereby the cam is both raised and lowered by operating the lever in the same direction, as set forth.

3. The bar B, hooked at one end and slotted at N, axis E, abutment A', cam G, pawl-lever J K, and ratchet H, combined to form an improvement in car-couplings, substantially as set forth.

The above signed by us this 18th day of October, 1871.

CHAS. F. KUHNLE.
AUG. ROW.

Witnesses:

JOHN A. WIEDERSHEIM,
J. STEWART.