W. PALMER.

CAR-COUPLING.

No. 187,554 Patented Feb. 20, 1877.

Fig. 2.

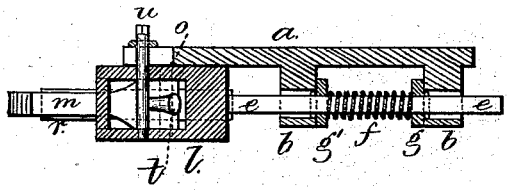
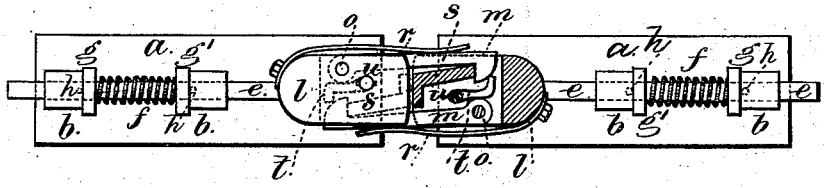


Fig. 1.



Witnesses.

Chas. A. Smith

Harold Serrell.

Inventor.

William Palmer.

per Samuel W. Serrell.

Atty

UNITED STATES PATENT OFFICE.

WILLIAM PALMER, OF NEW YORK, N. Y.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **187,554**, dated February 20, 1877; application filed October 23, 1876.

To all whom it may concern:

Be it known that I, WILLIAM PALMER, of the city and State of New York, have invented an Improvement in Railway-Car Couplings, of which the following is a specification:

Car-couplings have been made of hooks, standing in reverse, and either catching into each other, or into fixed or movable edges upon the draft-head, and in some cases such hooks have been placed horizontally, and in other instances they have moved vertically.

My invention, as distinguished from the aforesaid devices, relates to a draft-bar, having upon it a head, and a double-acting spring that acts as either a buffer-spring, or a draft-spring, and upon this draft-bar the draft-head is placed, and contains the vertical joint-pin for the hook that projects beyond the head, and also a beveled catch-plate for the end of the opposite hook, and a discharging-toe upon a vertical shaft by means of which the hook is disengaged from the catch-plate.

By this construction, the coupling is rendered very strong, and at the same time the cars have a reasonable latitude of movement without the risk of the hooks becoming bent or unhooked.

In the drawing, Figure 1 is a plan of the couplings connected together, with the coupling at one side in section. Fig. 2 is a vertical longitudinal section of one of the couplings.

The plate or bar *a* is attached to the under side of the car or platform, and upon it are the lugs *b b* through which the buffer and draft-bar *e* slide freely. There is a spring, *f*, around this bar *e*, and also washers *g g'* at the ends of the spring, and a cross-key or shoulder, *h*, outside each of the washers, so that when the draft-bar is pulled upon the washer *g'* rests against the lug *b*, and the spring *f* is compressed between it and the washer *g*, and when the bar *e* is pressed upon and acts as a buffer, the washer *g* is stationary against its lug *b*, and the spring is compressed by the washer *g'*.

The draft-head *l* is made as a jaw at the end of the draft-bar *e*, and receives between it the coupling-hook *m* that is attached by the joint-pin *o*, and pressed inwardly by the spring *r*, so that when the couplings are pressed together the hooks *m* will run over the inclined surfaces of the catch-plates *s*, and the hook ends will hold against the edges of these catch-plates *s*. These catch-plates *s* are between the jaws of the draft-head, and made with or permanently attached to the same.

Within each draft-head there is a disengaging-toe, *t*, upon a vertical shaft, *u*, having a head or crank-lever, by means of which the toe can be moved, and said toe is so placed in position that it swings across the vertical edge of the catch-plate *s*, the object of this being to uncouple the cars by forcing the hook end back from the catch-plate, and against the action of the spring *r*, and thereby liberate the hook of one coupling from the catch-plate of the next coupling.

It will be evident that the toes of the adjacent draw-heads have to be operated simultaneously to uncouple the cars.

The vertical edge of the catch-plate is much longer than the width of the coupling-hook. This allows for the differences in the height of the draw-heads, and it will be seen that while the respective coupling-hooks are pressed firmly to the catch-plates by their springs, there is sufficient freedom of the hooks in the draft-heads to allow for inequalities in size or position of the parts, and thereby prevent the coupling-hooks binding when in use.

I claim as my invention—

The draft-head *l*, at the end of the sliding bar *e*, having the catch-plate *s*, within the draft-head, in combination with the coupling-hook *m*, pivoted at *o*, and pressed inwardly by the spring *r*, disengaging-toe *t*, and shaft *u*, the parts being constructed and arranged substantially as set forth.

Signed by me this 18th day of October, A. D. 1876.

WM. PALMER.

Witnesses:
GEO. T. PINCKNEY,
CHAS. H. SMITH.