

E. N. GIFFORD.
Car-Couplings.

No. 150,563.

Patented May 5, 1874.

Fig. 1.

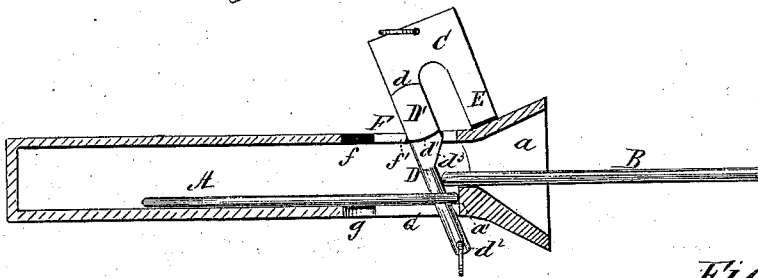


Fig. 4.

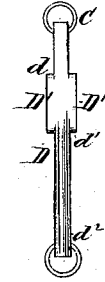


Fig. 2.

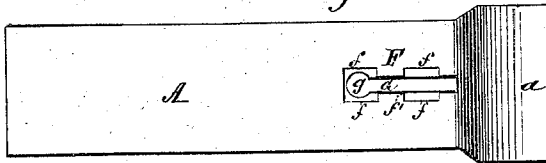


Fig. 5.

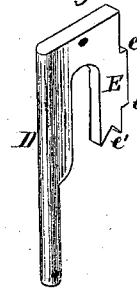


Fig. 3.

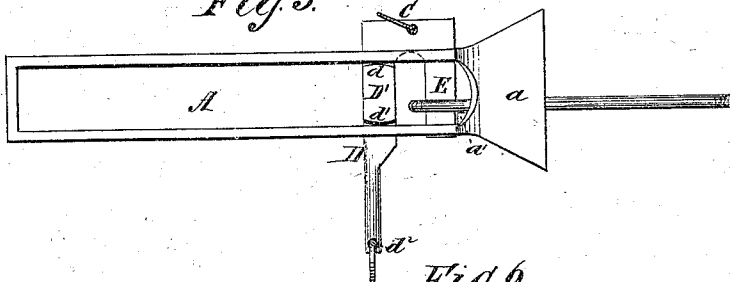
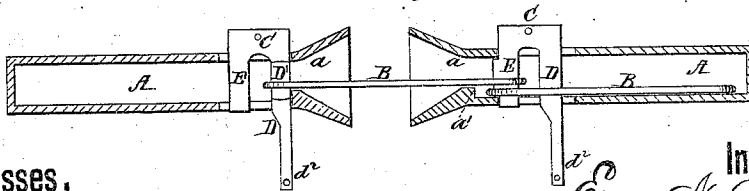


Fig. 6.



Witnesses.

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UNITED STATES PATENT OFFICE.

EZRA N. GIFFORD, OF CLEVELAND, OHIO, ASSIGNOR TO HIMSELF, THEODORE B. STEVENS, FRANCIS A. BRADY, AND HENRY S. STEVENS, OF SAME PLACE.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. 150,563, dated May 5, 1874; application filed February 17, 1874.

To all whom it may concern:

Be it known that I, EZRA N. GIFFORD, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and Improved Automatic Car-Coupling; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a sectional elevation. Fig. 2 is a plan view; Fig. 3, a side elevation; Figs. 4 and 5, detail views of the coupling-pin; and Fig. 6 is a sectional elevation of two draw-bars, having my coupling applied to them.

The invention relates to car-couplings that are bifurcated, and operated by the pressure of the coupling-link; and consists in certain features of improvement, which are hereinafter fully described, and subsequently pointed out in the claims.

A represents an open-sided draw-head, with the usual flare-mouthed buffer-head *a*; B, the ordinary link; and C, a bifurcated coupling-pin. Between the legs D E of this coupling-pin is held the end of link B, and upon the longer leg D are formed enlargements D' D', with shoulders *d d* and *d' d'*, while the upper and lower parts of pin are considerably narrower, so that these shoulders cannot pass up through the draw-head slot F except at the widened apertures *s s*, and not at all downwardly through slot G. The long leg D is also rounded or reduced at the lower end *d*², so that when the pin is raised, and the rounded part *d*² brought within the enlarged end hole *g* of bottom slot, the pin can be reversed.

When the link is in an uncoupled car, and the pin liable to be jostled high enough to allow of the escape of the link, the pin is then reversed, so that, no matter how high it may bounce under jolts, jars, or other accidents, the link cannot possibly escape. When drawn forward with the strain upon either leg, the shoulders of pin will be brought beneath the draw-head slot edges, and the pin prevented from rising or moving up and down.

Below the shoulders *d d'*, and near the middle, is located a short upward incline, *d*³, against which the link strikes when the pin is raised and ready for coupling. At this time the pin rests with the long leg inclined forward, having the rear of its enlargement D' D' against the front edges of projections *f' f'*, while the end of short leg E is supported on the upward incline of buffer-head *a*. It thus remains secure until struck by the advancing link, which forces back the long arm, and causes the pin to fall with its legs astraddle of the end of the link.

a' represents a shoulder on the inside and at the bottom of buffer-head, to afford a larger bearing for the pin while under strain, but more particularly to allow an incoming link to pass over one already lying on the inside of draw-head.

For the mere purpose of preventing a rise or fall in the pin when under strain, I might form shoulders *e e* on the short leg E, and that would be an equivalent for this purpose; but by putting the enlargements on the sides of leg D, I obtain two objects.

I may also form an angular or other cavity, *e'*, in the end of the short leg, E, to catch at the front end of slot upon the draw-head, and thus hold the pin until caused by the link to fall.

I use a ring, cross-staple, or other device at the upper and lower ends of coupling-pin, to avoid the possibility of withdrawal, and thus to save the loss by theft of so many links and coupling-pins.

Having thus described my invention, what I claim is—

1. The combination, with draw-head having narrow slots F G, of a coupling-pin having the enlargements D', with shoulders *d d* and *d' d'*, to hold and prevent the pin from rising or falling, as set forth.

2. The combination, with a draw-head having the narrow slots F G, the latter provided with enlarged apertures *f g*, of a coupling-pin having the lower part *d*² reduced, to allow the pin to be reversed, as set forth.

3. The combination, with a car-coupling draw-head, having the side projections $f' f'$ on the edges of its upper side, and the forward incline on buffer-head, of the bifurcated pin, having side enlargements $D' D'$, to enable the coupler to be held up, as set forth.

4. A coupling-pin, C, having the short upward incline d^3 , to receive the advancing link

and enable the pin to be tripped, at the time and in the manner specified.

The above specification of my invention signed by me this 10th day of February, 1874.

EZRA N. GIFFORD.

Witnesses:

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