# G. R. OWEN.

## Car-Coupling.

No. 166,717. Patented Aug. 17, 1875.

Fig 1

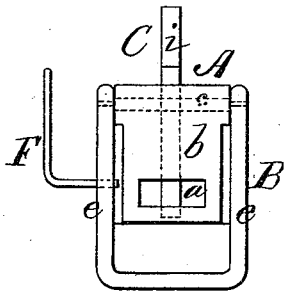



Fig 5

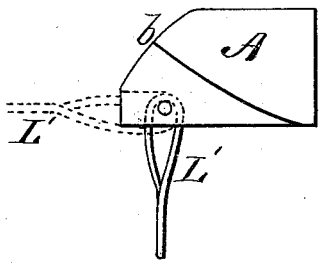



Fig 2

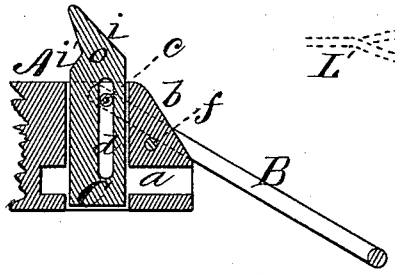



Fig 3

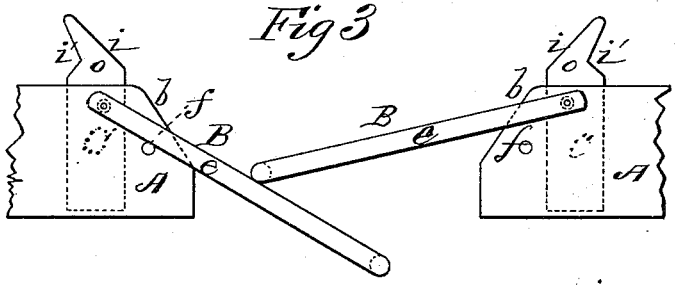
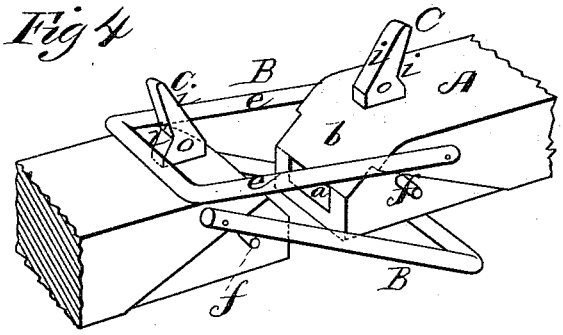



Fig 4




WITNESSES

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# UNITED STATES PATENT OFFICE.

GEORGE R. OWEN, OF CORTLAND, NEW YORK.

## IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **166,717**, dated August 17, 1875; application filed May 1, 1875.

*To all whom it may concern:*

Be it known that I, GEORGE R. OWEN, of Cortland, in the county of Cortland and State of New York, have invented a new and valuable Improvement in Car-Couplings; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of an end view of my car-coupling, and Fig. 2 is a sectional view of the same. Fig. 3 is a side elevation, and Fig. 4 a perspective view.

This invention has relation to improvements in automatic car-couplers; and the nature of the invention consists in combining, with a draw-bar having an inclined front edge, a vertically-vibrating coupling-bail pivoted to the same near its front end, and held in a downwardly-inclined position by a suitable stop, whereby, when two cars thus provided are brought together, the bail of the one will serve as a guide for directing that of the other up to the inclined front of the draw-bar to an engagement with a notched projection on the upper horizontal surface of the said draw-bar, thereby effecting a coupling. It furthermore consists in a chamber formed in the draw-bar below its inclined front edge, in combination with an endwise-movable coupling-pin, the upper end of which projects above the draw-bar when it is inserted in registering slots in the wall and floor thereof, the front edge of the said projection being backwardly inclined, and its rear edge notched, whereby the said draw-bar and pin are adapted for use in connection with the bail of an automatic coupler, or with the common link in the event of the disarrangement of the former, all as will be hereinafter more fully explained and claimed.

In the annexed drawings, A designates my improved draw-bars, having a chamber, *a*, formed therein below an inclined front edge or surface, *b;* and B represent bails or loops of suitable solidity, which vibrate vertically on a strong bolt, *c*, passing transversely through the said draw-bars, and through a slot, *a*, in an endwise-movable bolt, C, applied in registering slots cut in the upper and lower wall of the draw-bar, as shown in Fig. 2. Bails or loops B are of such width that the draw-head will fit snugly between their arms *e*, and in consequence they would gravitate downward under the latter but for a stop, *f*, upon which they will be received and held in an inclined position, as shown in Fig. 2, with their lower ends extending below the draw-bar. The upper end of bolt C projects considerably above the draw-bar, and this projecting end is provided with a rearwardly-inclined front edge, *i*, and a notched rear edge, *i'*; and the said bolt is held against downward displacement by pin *c*, upon which bail B plays.

When the cars are brought together to be coupled one of the bails will strike against the upper inclined surface of the other bail, and will be directed upward to the inclined front edge *b* of the draw-bar, ascending which it will be received on the inclined front edge of notched projection *o* of pin C, falling over which it will become engaged in the notch in the rear edge of the said projection, thereby effecting a reliable and effective coupling. Bails B will be held to their engagement with projections *o* by their own weight; but in the event of a car leaving the track or upsetting it will automatically uncouple itself, if it be in the middle of a train, from those in front and rear, thus preventing them from being dragged off the track.

An uncoupling is effected by raising bail B through the medium of a rigid rod, F, rigidly secured thereto, and extending to the side of a car, or it may be raised from the platform or roof of a car by means of suitable attachments extending from the said rod thereto.

In the event of a breaking of a coupling-bail, B, while on the road, thus breaking the train apart, an ordinary coupler may be used by inserting it in the chambers *a* of one draw-bar, pins C having been previously raised, then guiding it into the chamber of the other draw-bar, and then forcing the said pins home through the slot of the link.

By this construction, also, a means is provided for coupling a car in which the old pin-and-link coupler is used with one supplied

with my improved automatically-operating coupler.

Instead of having the ends of the bail, as shown in Fig. 1, at right angles to the sides, they may be made rounding, in which event the bottom of the draw-bar will also be rounding to accommodate itself to the changed form of the bail. I may also provide a supplemental link, L′, depending from the draw-head, and adapted to be thrown up into a horizontal position for the purpose of causing it to enter the chamber of a draw-head on a car approaching to be coupled, when from any cause my automatic coupler has become inoperative, or when the approaching car is provided with the old pin-and-link draw-bar. In this event the detached link will be dispensed with.

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

1. The combination of a vertically-vibrating coupling-bail, B, adapted to be held in an inclined position by means of stop *f*, the draw-bar A having beveled front edge *b* and coupling-pin C, having inclined front edge *i*, for forming a continuous backward inclination or ascent, whereby bail B of the other draw-bar is directed upward to an engagement with pin C, substantially as specified.

2. The coupling-pin C, having slot *d* and projecting head *o*, with inclined edge *i* and notched edge *i′*, adapted for use substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

GEO. R. OWEN.

Witnesses:

GEO. B. JONES,

J. D. BELDEN.