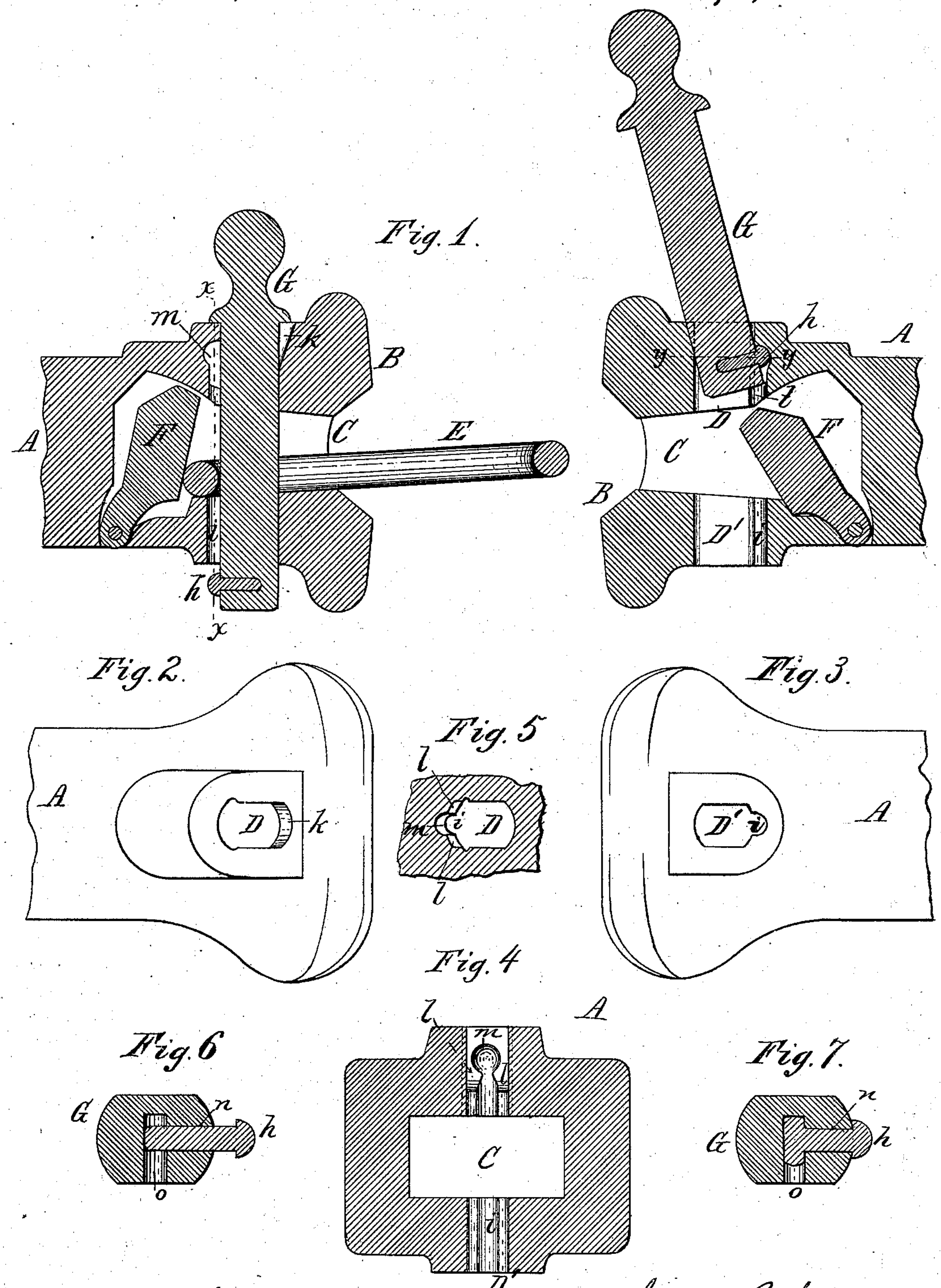
J. B. SAFFORD.
Car-Coupling.

No. 217,158. Patented July 1, 1879.



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UNITED STATES PATENT OFFICE.

JAMES B. SAFFORD, OF BUFFALO, NEW YORK.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **217,158**, dated July 1, 1879; application filed February 15, 1879.

To all whom it may concern:

Be it known that I, JAMES B. SAFFORD, of the city of Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Car-Couplings, of which the following is a specification, reference being had to the accompanying drawings.

My invention consists in forming the draw-head with pin-seats having a vertical groove on the rear side, and in forming the coupling-pin with two intersecting horizontal bores or cavities, in which is secured a rivet, the draw-head and coupling-pin being adapted to co-operate in the manner hereinafter more fully set forth.

In the accompanying drawings, Figure 1 is a sectional elevation of two draw-heads provided with my improvements. Fig. 2 is a top-plan view of one of the draw-heads. Fig. 3 is a bottom-plan view thereof. Fig. 4 is a cross-section in line *x x*, Fig. 1. Fig. 5 is a horizontal section in line *y y*, Fig. 1. Fig. 6 is a horizontal section, on an enlarged scale, through the lower end of the coupling-pin preparatory to securing the stop thereto. Fig. 7 is a similar view, with the stop secured to the pin.

Like letters of reference designate like parts in the several figures.

A represents the body of the draw-bar, and B the head thereof. C is the mouth or cavity of the draw-bar, and D D′ the pin holes or seats, arranged in the upper and lower parts of the draw-head. E is the coupling-link, of ordinary construction; and F, a pallet, arranged in the rear portion of the mouth of the draw-bar, for pressing the inner end of the coupling-link against the coupling-pin, thereby enabling the link to be held in any desired position for coupling to high or low cars.

G represents the coupling-pin, made oblong in cross-section or flattened at its sides, as clearly shown.

h represents a stop or projection arranged near the lower end of the coupling-pin, on its rear side; and *i*, a vertical groove arranged in the rear sides of the pin holes or seats D D′, and extending from the bottom of the draw-head to within a short distance from its top.

The groove or channel *i* is made of such size as to permit the stop *h* of the coupling-pin to freely slide therein.

The top portion of the upper pin-seat, D, is beveled or inclined forwardly, as shown at *k*, so that the coupling-pin can be tipped forward when raised to its highest position, as shown to the right in Fig. 1. In this position of the coupling-pin its heel or rear bottom portion is supported upon offsets or shoulders *l l* formed on both sides of the groove *i* in the upper pin-seat, D.

The top portion of the groove *i* is enlarged, as shown at *m*, to accommodate the stop *h* when the coupling-pin is inclined forward, as above described.

The stop *h* is composed of a rivet inserted in a horizontal bore or cavity, *n*, entering the lower end of the coupling-pin from the rear, and intersected by a similar horizontal cavity, *o*, arranged at right angles to the cavity *n*, as clearly shown in Figs. 6 and 7. The rivet *h* is made somewhat longer than the cavity *n*.

After the coupling-pin is inserted in the draw-head the rivet *h* is properly heated and driven into the cavity *n*, whereby the inner end of the rivet is upset laterally in the transverse cavity *o*, and the rivet firmly secured in place.

The front sides of the coupling-pin and of its seats D D′, which serve as bearing-surfaces and receive all the wear, are in my improved device left intact, and the width of the coupling-pin is increased to the full width of the openings in the draw-bars and links in general use, thus producing a stronger pin and with a greater wearing-face than any ordinary coupling-pin. The stop *h* on the rear side lies in the longitudinal direction of the openings of the common coupling-links and draw-bars, and a coupling-pin having a stop arranged in this manner will easily pass through any ordinary coupling-link or draw-bar over the pilot of locomotives. Upon raising the coupling-pin and supporting it in a forwardly-inclined position upon the shoulders *l* it is securely held in this position, and the draw-heads can be brought in contact without causing the pin to descend, and couple the parts together, while by resting the pin upon the upper end of the pallet F the cars will be

automatically coupled together as soon as the link enters the draw-head.

It is obvious that my improved coupling-pin cannot be entirely withdrawn from the draw-head, thereby preventing the loss of the pins.

I claim as my invention—

The combination, with a draw-head having its pin-seats D D′ provided with a vertical groove, *i*, arranged on the rear side of the seats, of a coupling-pin provided with two intersecting horizontal bores or cavities, *n o*, and a rivet, *h*, secured therein on the rear side of the pin, substantially as set forth.

JAMES B. SAFFORD.

Witnesses:

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