(No Model.)

# A. S. WAY & J. W. LUTZ.

## CAR COUPLING.

No. 270,865. Patented Jan. 16, 1883.

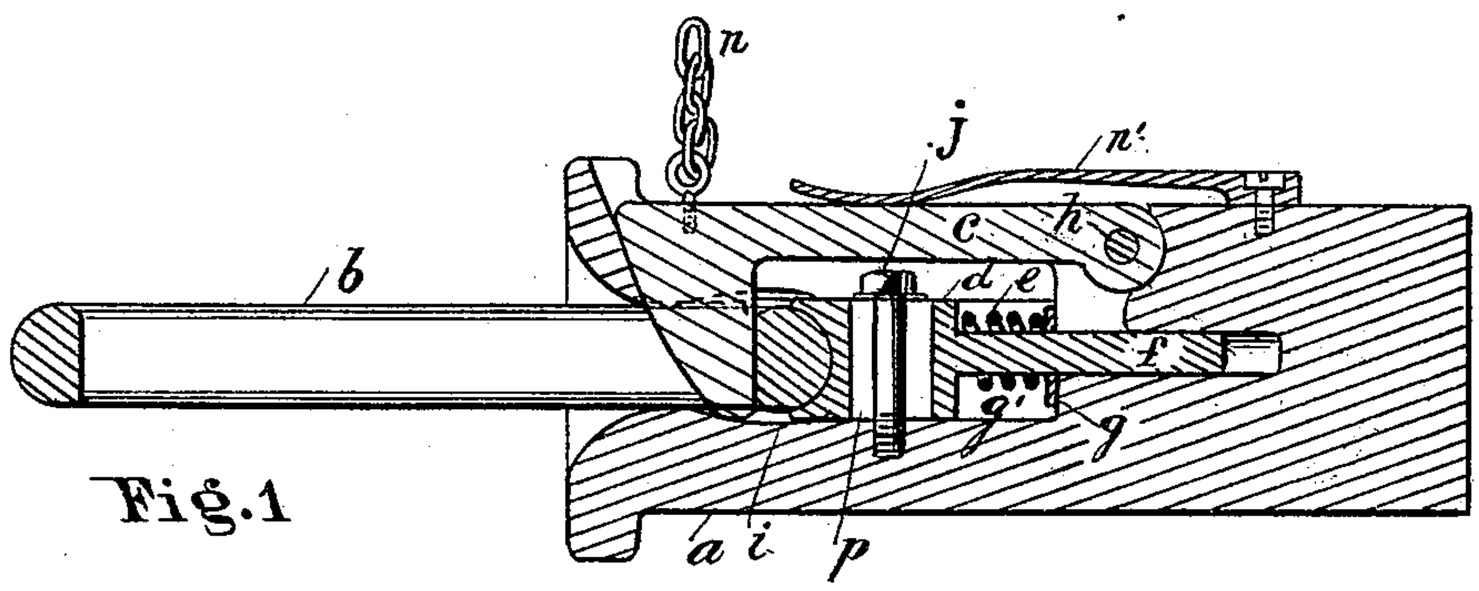


Fig. 1

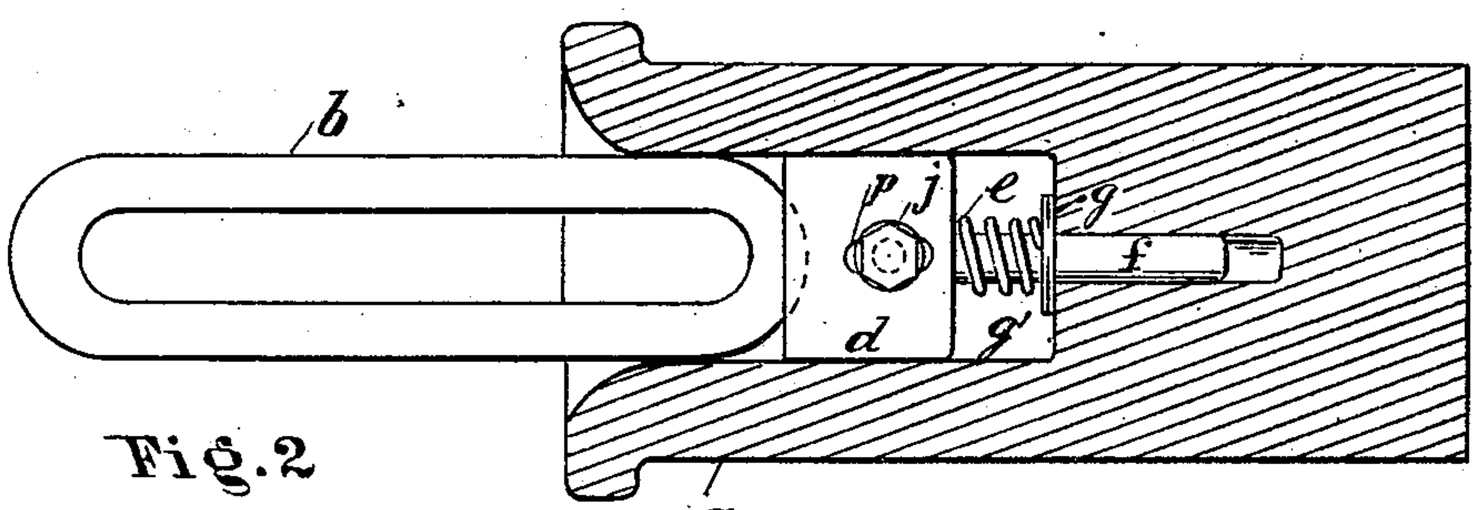


Fig. 2

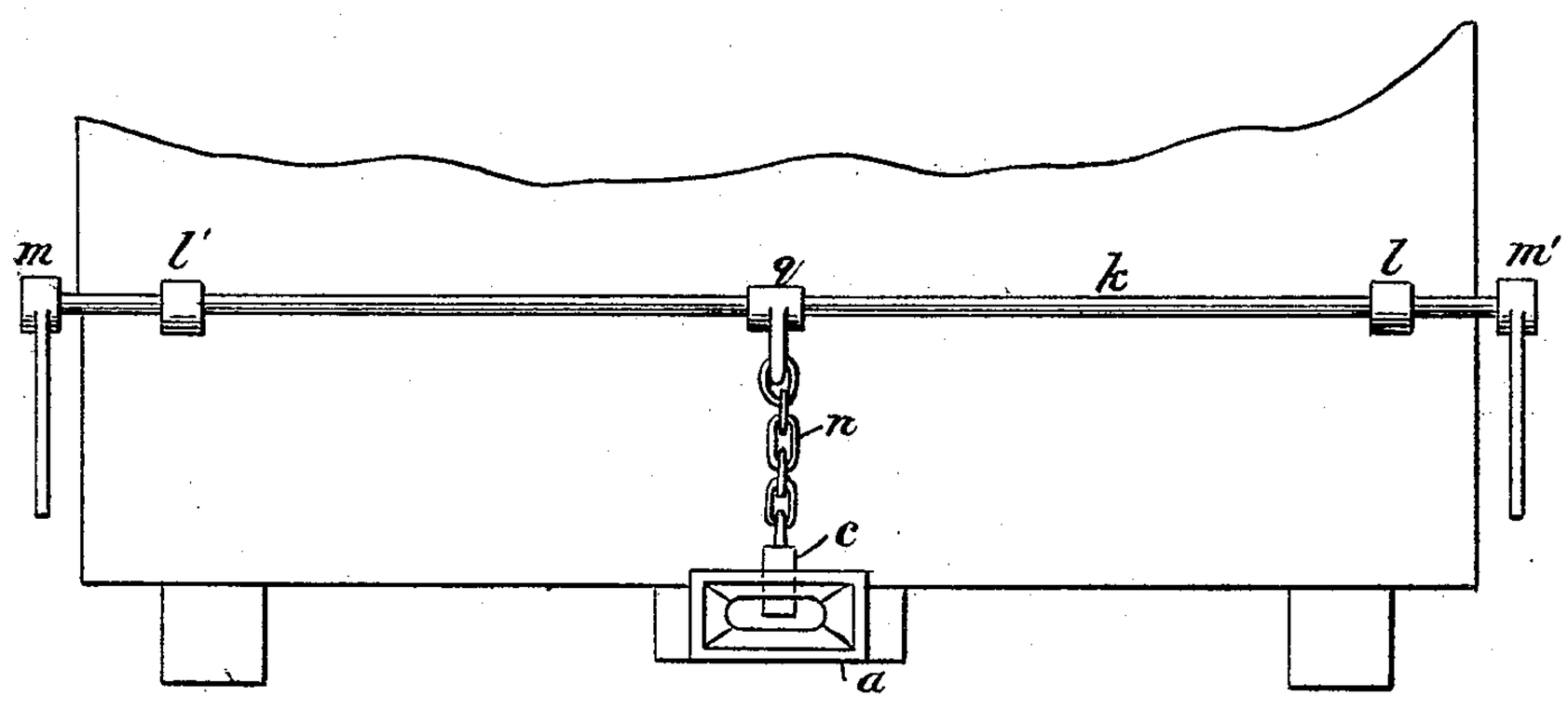


Fig. 3

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# UNITED STATES PATENT OFFICE.

ALBERT S. WAY AND JOHN W. LUTZ, OF SPRINGFIELD, OHIO.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 270,865, dated January 16, 1883.

Application filed November 22, 1882. (No model.)

*To all whom it may concern:*

Be it known that we, ALBERT S. WAY and JOHN W. LUTZ, citizens of the United States, residing at Springfield, in the county of Clarke and State of Ohio, have invented a new and useful Car-Coupling, of which the following is a specification.

Our invention relates to improvements in automatic car-couplings, in which the oval coupling link and pin operate in conjunction; and the objects of our improvements are, first, to provide an automatic car-coupling; second, to afford facilities for properly performing the operation of uncoupling without standing between the cars; and, third, to provide means by which the breakage of coupling-links is avoided when coupling cars. We attain these objects by the mechanism illustrated in the accompanying drawings.

Figure 1 is a longitudinal sectional elevation view; Fig. 2, a longitudinal sectional plan view; and Fig. 3, an end view of part of a car, showing lifting device.

Similar letters refer to similar parts throughout the several views.

The draw-head *a* (shown in Fig. 1) constitutes the frame-work of the coupling, said coupling *a* having a flaring mouth or receptacle, into which the coupling-link *b* is forced, raising the adjustable draw-bar *c*, which draw-bar *c* is pivoted on a hinge and pin in the vertical plane or side of the draw-head *a*, Fig. 1, the said draw-bar *c* having a jaw with front retreating nose and back perpendicular convex lip perfectly adapted to the concave interior projection of the coupling-link *b*. The aforesaid jaw of the draw-bar *c*, after receiving the coupling-link *b*, is again forced back (and secures said coupling-link *b*) by the pressure of the bowed leaf-spring *h*, attached to the draw-head *a*, the said draw-bar *c* being lifted in uncoupling by the chain *n*, communicating with the lever device, Fig. 3, by the weight-arm *q*, attached to the shaft *k*, attached to a car by the hangers *l l'*, (forming the fulcrum of the lever,) the whole being operated by the power-arms *m m'*.

The coupling-link *b* is held securely in a horizontal position by the combined pressure of the draw-bar *c* and the oscillating buffing-block or spring-block *d*, said buffing-block *d* having a concave mouth, being perfectly adapted to receive the convex projection of the coupling-link *b*, rendering said coupling-link *b* self-adjustable in coupling with cars of higher or lower grade.

The interior of the draw-head *a* is also provided with a concave aperture, *i*, forming a recess for the reception of the coupling-link *b*.

The buffing-block *d*, previously referred to, is adjusted by the coil-spring *e*, Figs. 1 and 2, communicating with the slide-bar *f*, oscillating in the groove *g'*, the buffing-block *d*, Fig. 1, being also provided with a mortise, *p*, through which mortise *p* passes the check-pin *j*, said check-pin *j* being permanently affixed in the draw-head *a*, as shown in Fig. 1, thereby keeping the buffing-block *d* within reasonable bounds.

The coil-spring *e*, Figs. 1 and 2, is also provided with a stop-block, $g^2$, or washer, to render firm and uniform pressure of the spring *e*, said spring *e* being of sufficient strength to hold the coupling-link *b* firmly in a horizontal position when coupling, but of sufficient elasticity to permit the projection of the coupling-link *b* to retreat within the draw-head *a* when it is desired to push the car, thereby relieving the coupling-link *b* of the pressure, which pressure is sustained by the draw-head *a*, all as shown in Figs. 1, 2, and 3.

Our invention is operated as follows: When coupling, the link *b* is placed in the flaring mouth of the draw-head *a*, Fig. 1, said coupling-link *b* being at all times kept in a perfectly longitudinal position, in the center of said mouth of said draw-head, as by the action of the buffing-block *d* and the pressure of the draw-bar *c*, the opposite projection of the coupling-link *b*, (being oval,) coming in contact with the flaring mouth of the draw-head *a*, is forced under the jaw of the draw-bar *c*, said draw-bar *c* having a flaring nose retreating inwardly from the mouth of the draw-head *a*, the jaw of the draw-bar *c* having a back perpendicular convex drop-lip, which drops through the aperture of the coupling-link *b* and secures said coupling-link *b*, the buffing-block *d* closing up and holding the coupling-link *b* when coupling, but allowing the draw-heads to meet when pushing the cars. In uncoupling, the jaw of the draw-bar *c* is lifted by raising the power-arms *m m'*, Fig. 3, the power-arms *m m'* operating the shaft *k*,

(attached to the car by the hangers *l l'*,) the shaft *k* having attached to it a weight-arm, *q*, which draws the chain *n*, lifting the draw-bar *c*, said draw-bar *c* again forced back and set ready for coupling by the spring *h*, as described, and shown in Fig. 1.

We are aware that prior to our invention automatic car-couplings have been made. We therefore do not claim such various devices, broadly; but

What we do claim, and desire to secure by Letters Patent, is—

In an automatic car-coupling, the combination of an oscillating buffing-block, *d*, with concave mouth and mortise *p*, with check-pin *j*, communicating with slide-bar *f* and coil-spring *e*, with stop-block *g'*, all substantially as described.

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Witnesses:
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