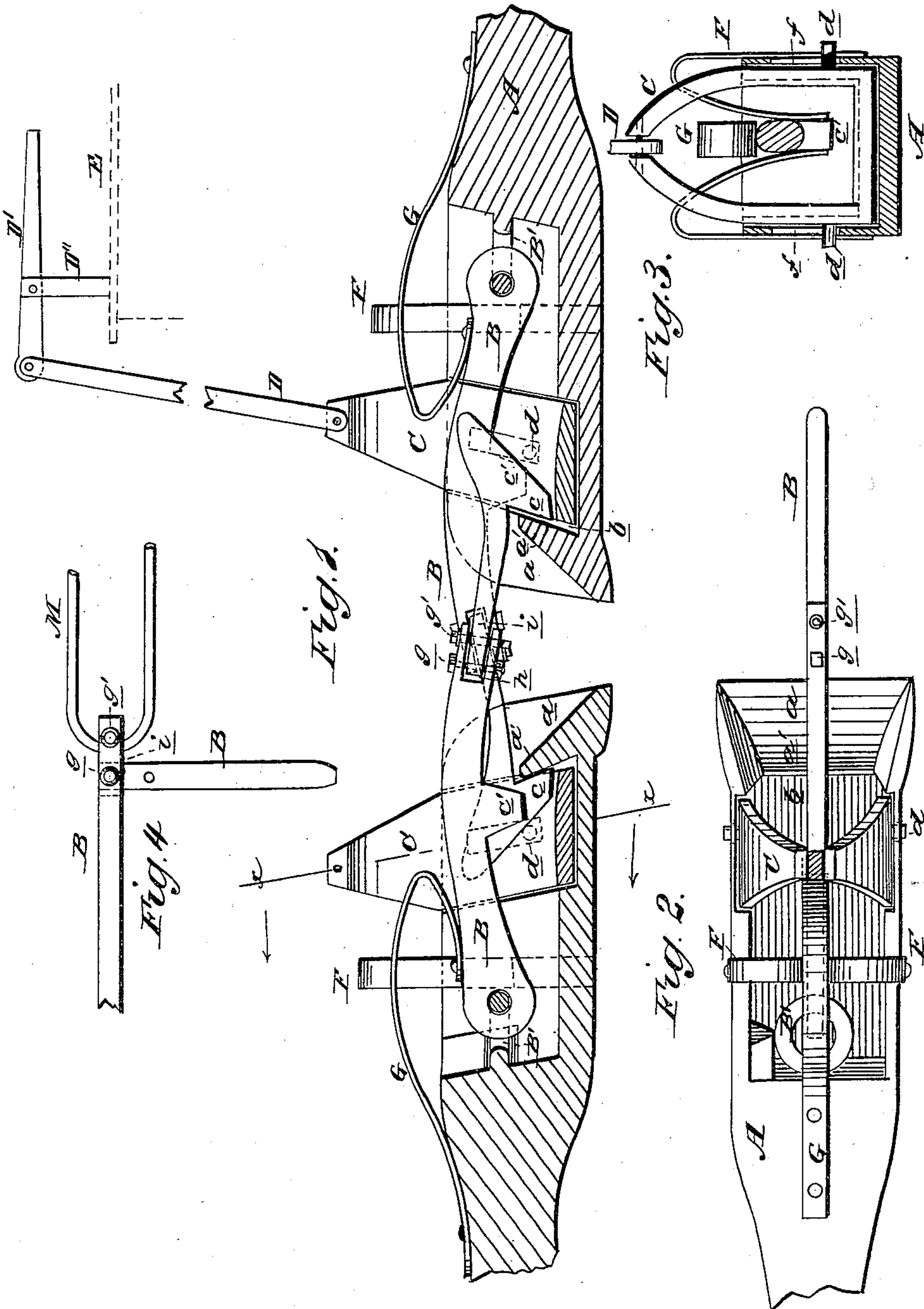


(No Model.)

W. I. ELY.
Car Coupling.

No. 234,550.

Patented Nov. 16, 1880.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM I. ELY, OF FREEHOLD, NEW JERSEY.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 234,550, dated November 16, 1880.

Application filed September 3, 1880. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM I. ELY, of Freehold, in the county of Monmouth and State of New Jersey, have invented a new and Improved Car-Coupler, of which the following is a specification.

This invention relates to that class of couplers that are self-couplers.

The invention consists of an open-mouthed and open-top draw-bar having pivoted within it a spring-actuated hook-headed jointed coupling-bar, and of the combination therewith of a stirrup fitted within said draw-bar, embracing or set about said coupling-bar, by means of which stirrup said coupling-bar is uncoupled from an opposite car, and at the same time the opposite coupling-bar is uncoupled.

Figure 1 is a sectional side elevation of the draw-bars coupled with the improved coupler. Fig. 2 is a plan view of draw-bar and coupling device. Fig. 3 is a vertical sectional elevation on line *x x*, Fig. 1. Fig. 4 is a plan view, showing the jointed end of the coupling-bar turned aside and coupling with an ordinary link.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents a draw-bar open at the top, having a flaring mouth, *a*, for the guidance and easy entrance of the coupling-bar B. Just within the lower lip, *a'*, a socket, *b*, is formed in the bottom of said draw-bar A, within which socket *b* the stirrup C is fitted, and at the same time the socket *b* forms the inner slope of the lower lip, *a'*, for the engagement of the hook end *c* of the coupling-bar B. From each side of the stirrup C a stud, *d*, extends into a corresponding vertical slot, *f*, in the side of the draw-bar A, thereby holding said stirrup C in place and limiting its upward movement.

In the upper end of the stirrup C is pivoted a rod, D, which reaches upward above the top of a car, (indicated at E,) and in the forked upper end of said rod D a lever, D', is pivoted, whose fulcrum D'' is fixed on the top of said car E, so that by moving the lever D' the stirrup C can be elevated or depressed, thereby raising the coupling-bars B B for uncoupling or lowering them for coupling.

The coupling-bars B B have their rear ends

hinged, so that said bars B B may move in a vertical plane in screw-eyes B' B', that are inserted in the rear of the opening in the draw-bars A, and each coupling-bar B is provided on its under side, at about midway of its length, with a downward-projecting lug, *c'*, which engages against the inner edge of the lower lip, *a'*, of the draw-bar A when the cars are coupled, and thereby prevents said coupling-bar B from being pulled out of place. Each coupling-bar B is made in two sections, jointed together a little in front of the mouth of the draw-bar A, and secured by vertical pins *g g'*, the rear or fixed section of said bar B having its outer end forked, as shown at *h*, the corresponding inner end of the hooked section of said bar B being tenoned, as shown at *i*, to fit into said fork or mortise *h* and swing laterally.

When two cars with like coupling-bars B are to be coupled together, the said bars B B are rigidly held straight, as shown in Figs. 1 and 2, by the pins *g g'*; but when one car provided with a coupling-bar, B, and another car provided with an ordinary coupling-link, M, are to be coupled together, the pin *g'* is withdrawn, and the hooked section of the bar B is swung sidewise on the pin *g*, and the link M is entered into the fork *h* and therein secured by restoring the pin *g'* to its primary position, as shown in Fig. 4.

Bent springs F F, attached to the sides of the draw-bar A and pressing against each side of the coupling-bar B, serve to hold the latter centrally in the draw-bar A and to guide it into the draw-bar of an opposite car, and a spring, G, fixed on the upper face of the draw-bar A and extending forward and pressing down upon the coupling-bar B, serves to lock and hold said coupling-bar B over and upon the lip *a'* of an opposite car, and thereby hold the cars coupled, and said spring G also serves to prevent the coupling-bar B from jumping or jarring from the opposite draw-head when the cars are in motion.

By application of simple and well-known mechanical devices the coupling-bars B B can be operated from the side as well as from the top of the car, and thereby the danger to life and limb consequent upon going between cars for coupling be avoided.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A car-coupler constructed substantially
5 as herein shown and described, consisting of open draw-bar A, provided with inclined lower lip, *a'*, and slots *f*, jointed coupling-bar B, provided with hook *c*, lug *c'*, and pins *g g'*, stirrup C, rod and lever D D', and springs F
10 G, as set forth.

2. The combination, with the draw-bar A, of the jointed forked coupling-bar B, provided with mortise and tenon *h i* and vertical pins

g g', substantially as herein shown, and for the purpose described.

3. In a car-coupling, the combination of a
draw-bar open at the top, a jointed spring-
pressed hook-bar pivoted within it, and a stir-
rup embracing said hook-bar, all constructed
and arranged to operate as and for the pur- 20
pose specified.

WILLIAM I. ELY. [L. S.] 15

Witnesses:

T. H. WARD,
CHAS. H. ELY.