

CAR-COUPLING.

No. 179,564.

Patented July 4, 1876.

Fig: 1.

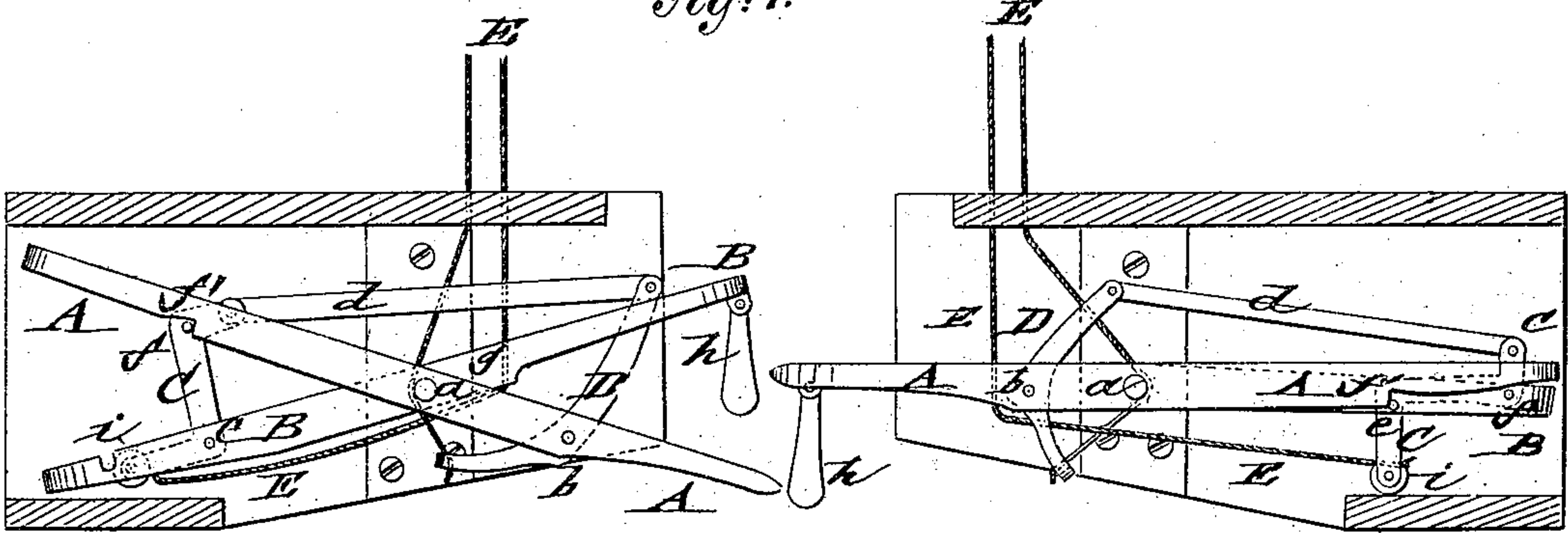


Fig: 2.

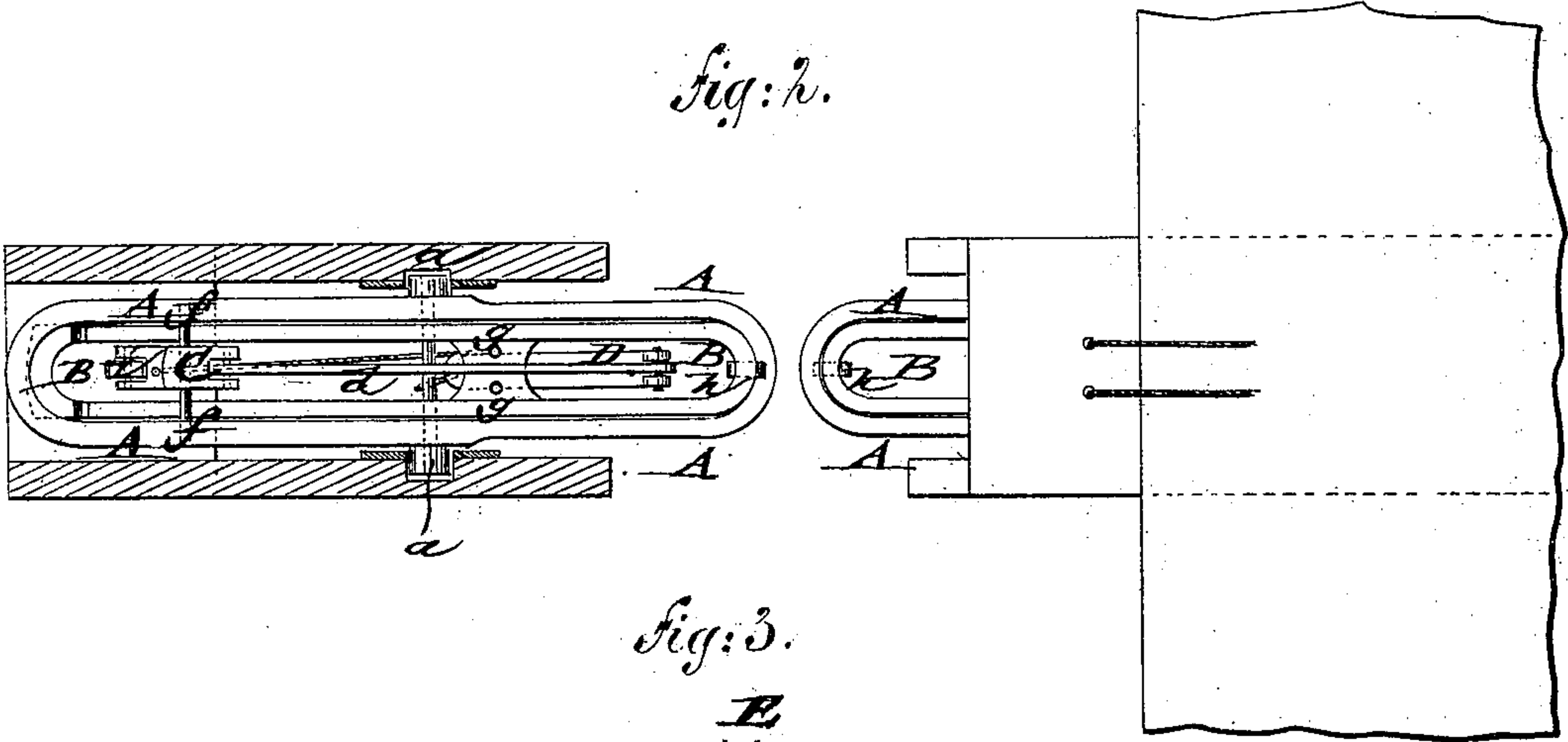
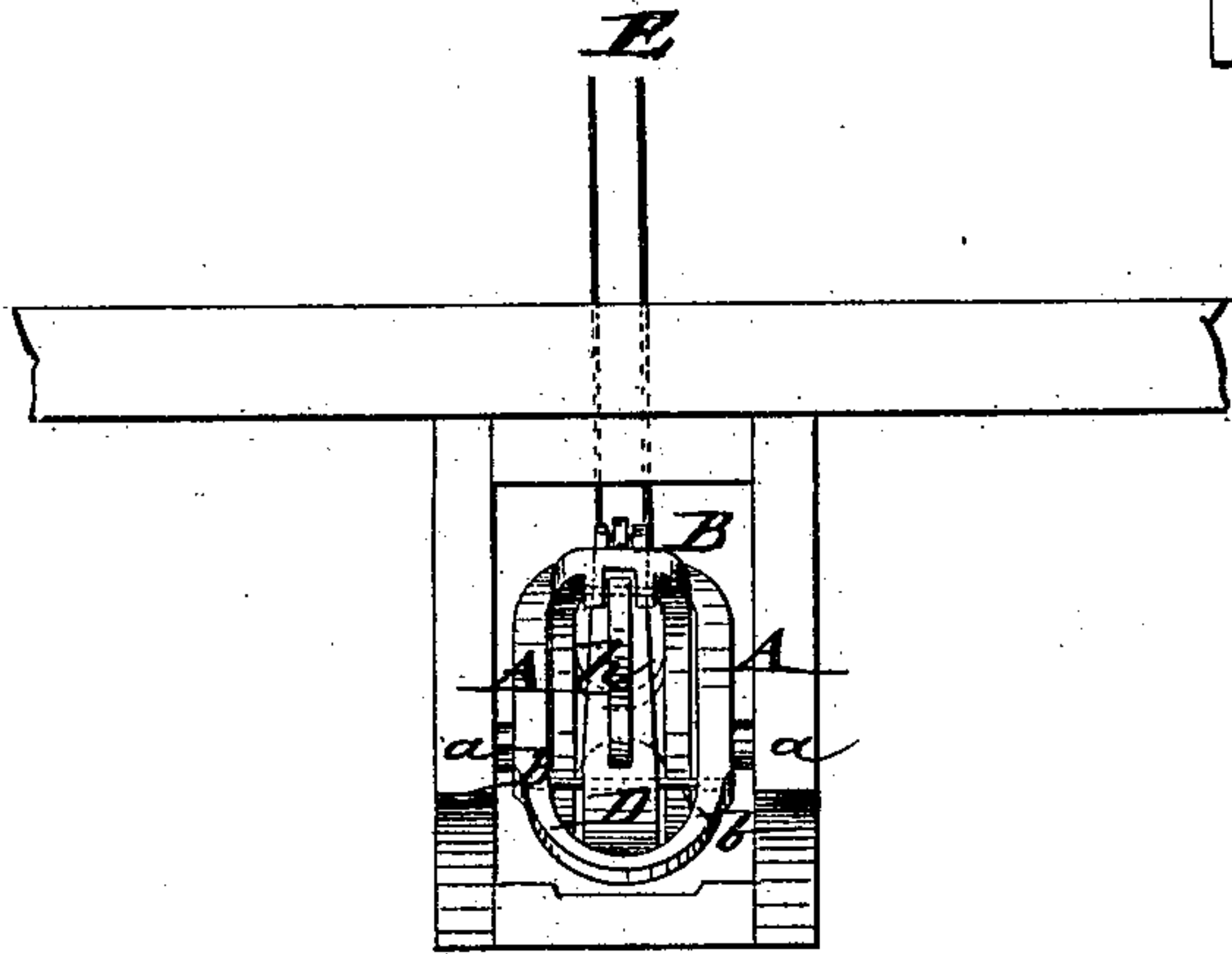


Fig: 3.



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JOHN Q. JOHNSTON, OF YANKTON, DAKOTA TERRITORY.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. 179,564, dated July 4, 1876; application filed June 6, 1876.

To all whom it may concern:

Be it known that I, JOHN Q. JOHNSTON, of Yankton, in the county of Yankton, and in the Territory of Dakota, have invented a new and Improved Car-Coupling, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a side elevation of my improved car-coupling, showing the draw-bars in the act of coupling. Fig. 2 is a top view, and Fig. 3 an end view, of the same.

Similar letters of reference indicate corresponding parts.

The invention relates to an improved automatic car-coupling that couples in reliable manner without regard to the height of the cars, and uncouples from any part of the car, being also available to couple with the common pin-and-link coupling.

The invention consists of two link-shaped draw-bars, folding one within the other, that are fulcrumed to a lateral cross-pin, and operated by a fulcrumed front lever, that is carried back by the entering of the coupling link-bars, so as to close the spread link-bars by a longitudinal rod, operating a double-elbow lever, fulcrumed to the rear part of the interior link. The inner link-bar has a pendent locking-pin at the front end, that couples the entering link of the opposite draw-bar. The uncoupling is obtained by a cord attached to the lower end of the swinging front lever, while a second cord attached to the lower end of the double-elbow lever closes the link-bars for coupling.

In the drawing, A and B are draw-bars of link shape, which are both fulcrumed somewhat in front of the center to a lateral cross-pin, *a*, of the inclosing casing. The link-bar B is fitted inside of the outer and larger link-bar A, forming when closed one coupling-link therewith, as shown in Figs. 1 and 2. A curved lever, D, is fulcrumed to a cross-pin, *b*, of the link-bar A at a point about midway between the cross-pin *a* and the front end of link-bar A. Its upper end is connected by a longitudinal backward-extending pivot-rod, *d*, with the upper end of double-elbow lever C, that is fulcrumed to a cross-pin, *e*, at the rear part of the inner link-bar B. The double-elbow lever bears, by projecting pins *f* at its

upper angle, against the outer link-bar until stopped by notches or projections *f'* of the same. The lower rear ends of the front lever D and of the rear elbow-lever C are attached to cords E, that run through suitable guide-holes *g* of the inner link, and through holes of the platform or guide-staples of the car to the top, side, or other point from which the coupling is to be operated. By pulling the front lever-cord the rear elbow-lever is thrown in an upward direction, so as to raise the rear end of the outer link-bar A until the pins *f* engage the notch *f'* of the same. The front ends or jaws of the link-bars are spread open, thereby being ready to receive the coupling link-bars of the adjoining car, or allowing the uncoupling of the same. The front ends of the inner link-bar B are provided with a pivoted and weighted pin, *h*, that is carried back by the entering link until the same strikes the front lever D, swinging the same back, and producing the simultaneous dropping of the pin and closing of the jaws of the link-bar by the release of the rear elbow-lever in consequence of the backward motion of the front lever. The cars are then reliably coupled until the jaws are opened again by pulling the front cord E. The link-bars of one car only require to be spread or opened for coupling, the other link-bars being retained in closed position to act in the nature of a common link. The link-bars and pin may also readily couple with the common pin-and-link coupling, as the entering link produces the closing of the pins in the same manner as the link-bars. For closing the link-bars, and retaining them one within the other, the rear cord E is pulled, which carries the lower end of the double-elbow lever forward, and supports the link-bars in closed and horizontal position. A friction-roller, *i*, of the elbow-lever C serves to facilitate the motion of the lever on the inclosing casing, as shown in Fig. 1.

The arrangement and construction of the link-bars admits the coupling of cars with platforms of different heights, and produces the automatic and dangerless connection and uncoupling of the cars.

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

1. A car-coupling consisting of fulcrumed outer and inner link-bars A and B, in connection with a swinging front lever fulcrumed to the front part of the outer link-bar, and a double elbow lever fulcrumed to the rear part of the inner link-bar, and connected by a longitudinal operating-rod, substantially in the manner described.

2. The combination of outer link-bar A, inner link-bar B, front lever D, connecting-rod *d*, rear elbow-lever C, with cords and other operating mechanism applied to lower ends of front and rear levers, to open or close link-bars for coupling or uncoupling, substantially as specified.

3. The combination of the rear elbow-lever, having projecting side pins, with notches or shoulders of the outer link-bar, to support the same in open position, substantially as described.

4. The combination of the outer link-bar, swinging front lever, and inner link-bar, having pendent pin at front end, with the entering link, to couple the same by carrying back pin and front lever, and closing jaws, substantially as specified.

JOHN Q. JOHNSTON.

Witnesses:

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