

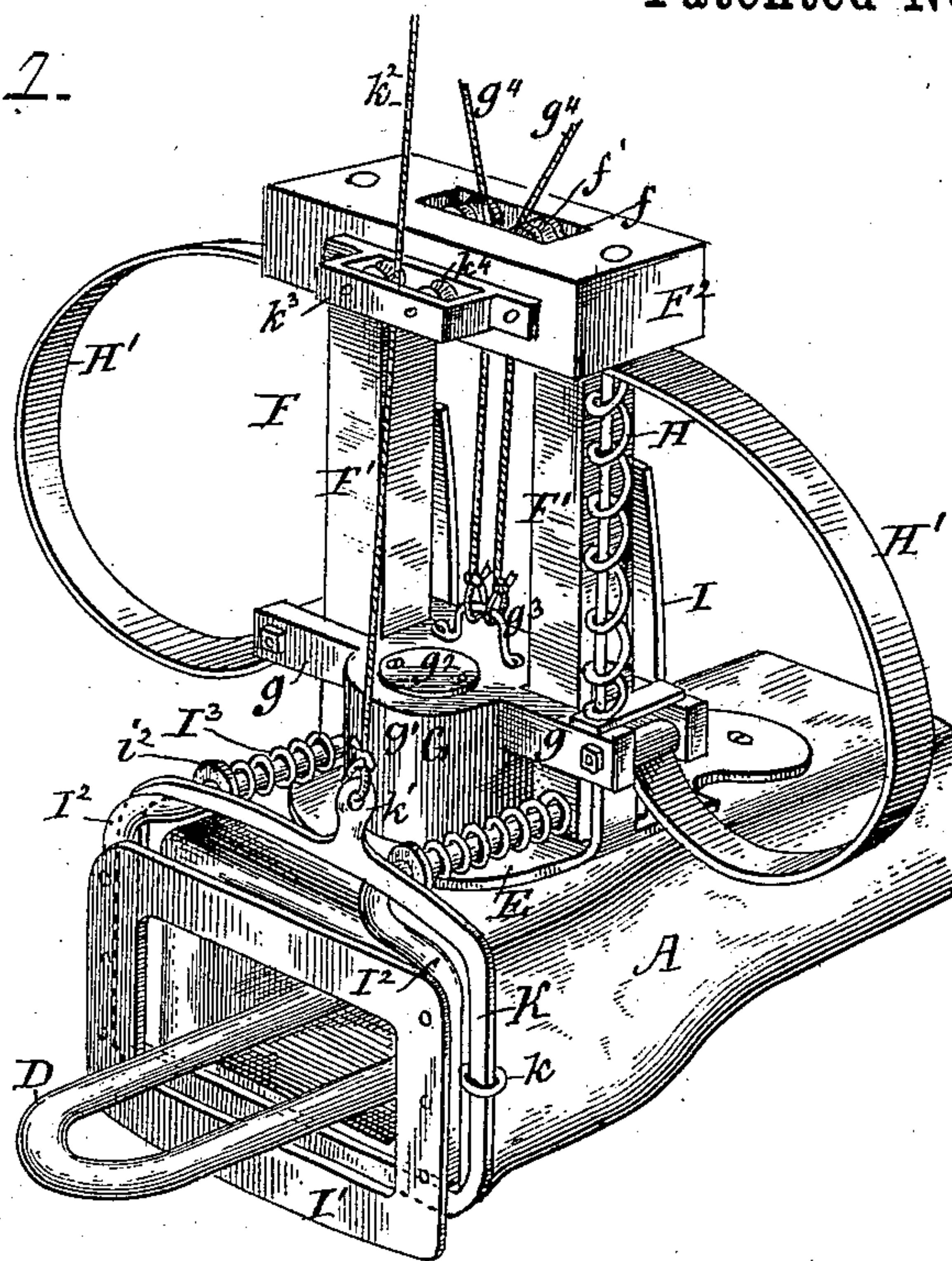
(No Model.)

J. A. REID.  
CAR COUPLING.

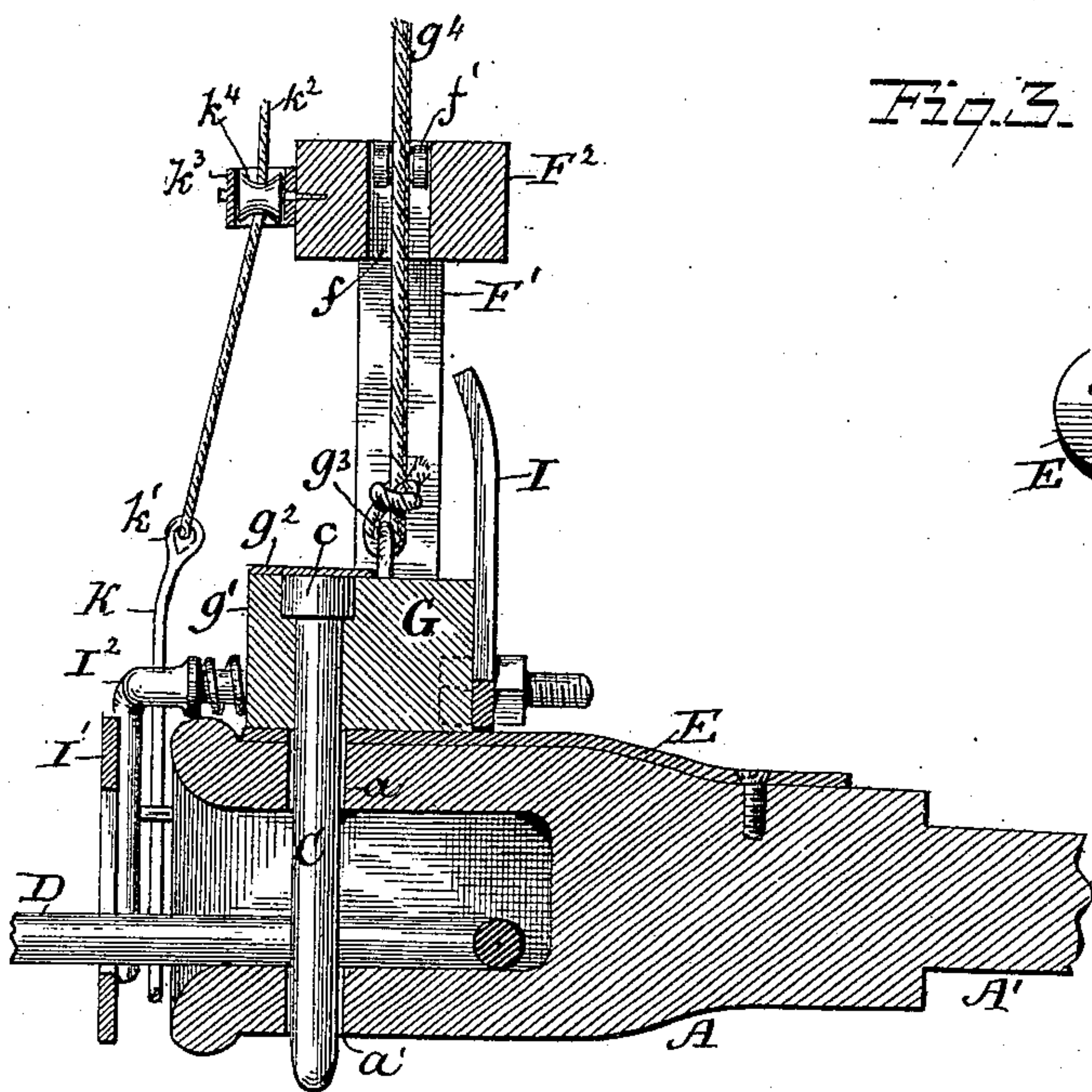
No. 308,380.

Patented Nov. 25, 1884.

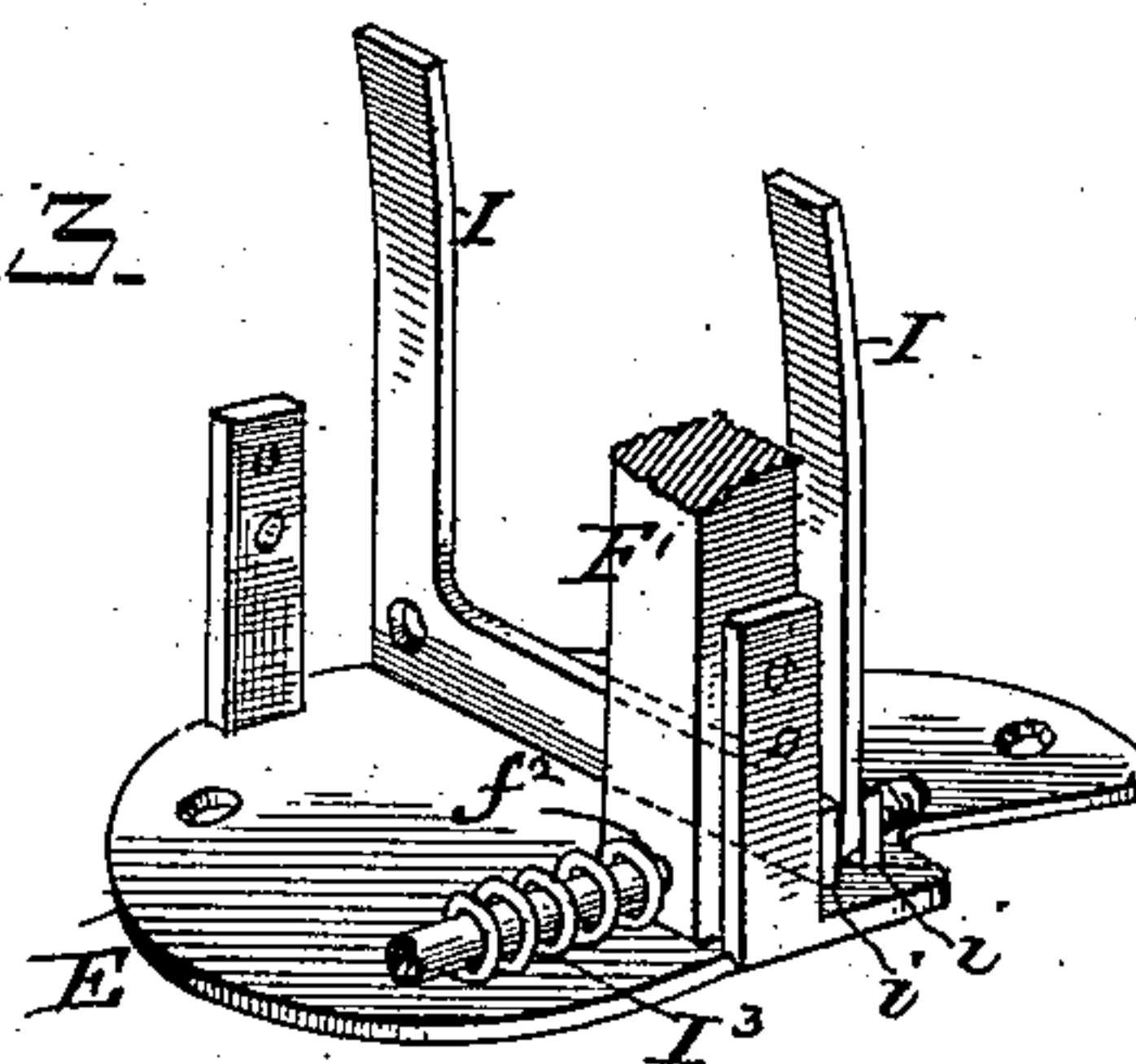
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses:  
L. C. Hills.  
W. B. Masson

Inventor:  
James A. Reid,  
by E. E. Masson  
att'y.



# UNITED STATES PATENT OFFICE.

JAMES A. REID, OF BOLLING, ALABAMA.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 308,380, dated November 25, 1884.

Application filed September 26, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES A. REID, a citizen of the United States, residing at Bolling, in the county of Butler and State of Alabama, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to car-couplings of the class in which a link and pins are employed to connect with draw-heads of the ordinary shape and construction, wherein the pin is held in an elevated position and tripped by the contact of one draw-head with the other, by which means the pin is made to automatically engage with the link and couple the adjacent cars.

My invention consists in novel constructions, combinations, and arrangements of parts, as will be hereinafter more specifically set forth and claimed.

In the accompanying drawings, Figure 1 is a perspective view of my improved coupling; Fig. 2, a vertical longitudinal section, and Fig. 3 a perspective view of the base-plate and of one of the yielding bumper-plate rods and the tripping-fingers.

The draw-head A is of well-known construction, and is secured to the draw-bar A' in any preferred manner. A coupling-pin, C, of the ordinary form, is employed and passes vertically through pin-holes *a a'* in the draw-head, and, together with the link D, which is also of the usual well-known form, serves to connect the draw-head of one car with the draw-head of an adjacent car. The pin-operating mechanism is preferably made separable from the draw-head, and is attached to a base-plate, E, which is secured by screws or clamping-bolts to the draw-head. The guide-frame F for the pin consists of the uprights F' F', connected at their upper ends by a cap-piece, F<sup>2</sup>, or made integral therewith, securely screwed or bolted at their lower ends to the base-plate E. A cross-head, G, is provided with laterally-projecting arms *g g*, which embrace the uprights F' F', and the latter serve to hold the cross-head in true position to move up and down between these uprights. The forward side of the cross-head projects beyond the arms *g g* sufficiently to form a boss, *g'*, through which the coupling-pin C passes, and in which the head *c* of said pin is received. A cap-plate,

*g*<sup>2</sup>, screwed to the upper face of the cross-head, covers the pocket within the boss *g'* and holds the pin securely therein. A loop or staple, *g*<sup>3</sup>, secured to the upper face of the cross-head midway between the guide-frame, provides means for the attachment of chains or cords *g*<sup>4</sup> *g*<sup>4</sup>, which pass up through a rectangular slot, *f*, and over pulleys *f'* *f'* in the cap-piece F<sup>2</sup> of the guide-frame, and may be conducted to either side of the car or to any desired place for conveniently operating them to lift the coupling-pin and cross-head to their raised position. Either springs H H or bowed plate-springs H' H', both of which are shown in Fig. 1 of the drawings, are secured to and arranged between the projecting ends of the cap-plate F<sup>2</sup> of the guide-frame and the arms *g g* of the cross-head.

Any desired or preferred means for connecting the springs to the guide-frame and cross-head may be employed which may not interfere with the prompt and certain movement of the cross-head, whereby the coupling-pin is downwardly projected and firmly seated in a quick and positive manner to pass through and engage with the link. When the cross-head is lifted by the cords *g*<sup>4</sup> *g*<sup>4</sup>, it is supported in its raised position by fingers I I, arranged vertically and immediately in the rear of the uprights F' F' of the guide-frame, and the said fingers are pushed from beneath the said cross-head to release it and allow the coupling-pin to be forced down into the draw-head in the following manner: A yielding bumper-plate, I', of nearly rectangular shape, forms an open frame to inclose the space immediately in front of the draw-head mouth or chamber, through which plate the coupling-link D passes. This plate is secured to and supported in position in front of the draw-head by rods I<sup>2</sup> I<sup>2</sup>, which project rearwardly over the draw-head A and base-plate E, and pass through bearing-holes *f*<sup>2</sup> *f*<sup>2</sup>, formed in the lower end of the guide-frame uprights F' F'. The fingers I I are adjustably secured upon the rear ends of the rods I<sup>2</sup> I<sup>2</sup> by screw-nuts *i i*, by which means the bumper-plate I' may be adjusted to suit draw-heads of varying lengths and to the required distance in advance to the plate of the draw-head to allow the proper movement to the fingers. Spiral springs I<sup>3</sup> are arranged to encircle the rods I<sup>2</sup>



I<sup>2</sup> between the uprights F' F' and shoulders i<sup>2</sup> upon said rods, which serve to force the bumper-plate I' forward, and to hold the fingers I I beneath the cross-head G when it is in its raised position. The upper ends of the fingers I I are bent inwardly toward the guide-frame uprights to pass fairly beneath the cross-head and insure its safe support. A link-lifting frame, K, is supported in guide-loops k k, riveted to the rear face of the yielding bumper-plates I, or of its rods I<sup>2</sup>, to admit of the movement of the said frame in a vertical plane between the draw-head and the yielding bumper-plate. The frame K is provided with a neck, and loops k' projecting from its upper side, to which may be attached a chain cord or cords, k<sup>2</sup>, that pass upwardly through a staple, k<sup>3</sup>, preferably secured to the frame F<sup>2</sup>, and over pulleys k<sup>4</sup> k<sup>4</sup> within said staple to any desired portion of the car, and serve as means to elevate the lifting-frame K to any required height. The link D passes through both the yielding bumper-plate I and frame K, and may be lifted by the latter to insure its entrance into the draw-head chamber of an approaching car, and thus provide means for conveniently adjusting the link to connect cars of different heights with each other. The pulleys k<sup>4</sup> k<sup>4</sup> are arranged upon the front face of the cap-piece F<sup>2</sup> immediately in advance of the pulleys f' f', and, if preferred, the latter may be journaled upon the same pins which pass through the pulleys k<sup>4</sup> k<sup>4</sup>. The rods I<sup>2</sup> I<sup>2</sup>, to which the tripping-fingers are secured, may be riveted to the yielding bumper-plate by the shank of the guide-loops k k, which serve to hold the link-lifting frame in place upon the rear side of the yielding bumper-plate. With a smoothly-working slide G and pin C their weight will be sufficient to insure their descent, and the springs H may be dispensed with; but if coiled springs are used their retractive force may also be employed by securing the lower end thereof to a yoke attached to the under side of the draw-head, and their upper end to the cross-head carrying the coupling-pin. Weights may also be suspended from said cross-head for the same purpose.

As my improved device is readily attachable and detachable from any draw-head, the

car temporarily employed upon a road whose cars are supplied with them may also be temporarily provided with couplings of like construction.

It will be readily seen that a car provided with the above-described coupler may be readily connected with a car provided with the ordinary draw-head.

Having now fully described my invention, I claim—

1. In a link-and-pin car-coupler, a pin holding and operating device consisting of a pin-holding cross-head, guide-rods, and a pin-tripper, all secured to a base-plate and adapted to be separable from and attachable to an ordinary draw-head or bumper, substantially as and for the purpose described.

2. In a car-coupler, the combination, with a pin-operating device attached to the draw-head and automatically operated by means of a yielding bumper-plate, of a link-lifting frame supported in guides upon the yielding bumper-plate and operated independently thereof, substantially as described.

3. The combination, with the bumper or draw-head, of a pin-holding device consisting of the base-plate and guide-frame, the cross-head, the pulleys supported in the cap-piece of the guide-frame, and a cord or cords attached to the cross-head to permit the cross-head and coupling-pin to be lifted, substantially as described.

4. The combination, with a yielding bumper-plate and draw-head, of a link-lifting frame arranged in front of and to encircle the mouth of the draw-head, and actuated independently from the pin-holding cross-head by a cord from any desired position, substantially as and for the purpose described.

5. The combination, with the coupling-head, of the yielding bumper-plate, its rods, springs, and fingers, the guide-frame and cross-head thereon, and springs interposed between the guide-frame and cross-head, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES A. REID.

Witnesses:

JAS. B. STANLEY,  
D. G. DUNKLIN.