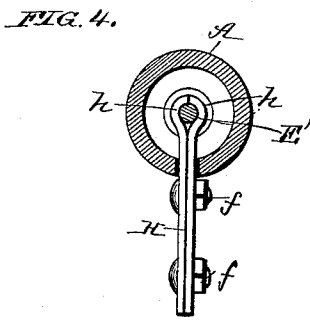
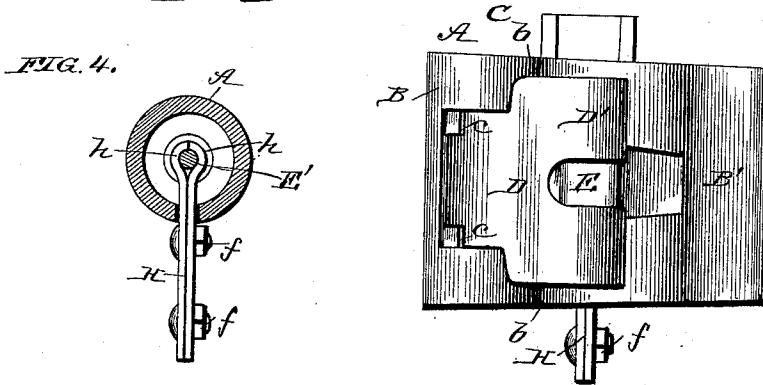
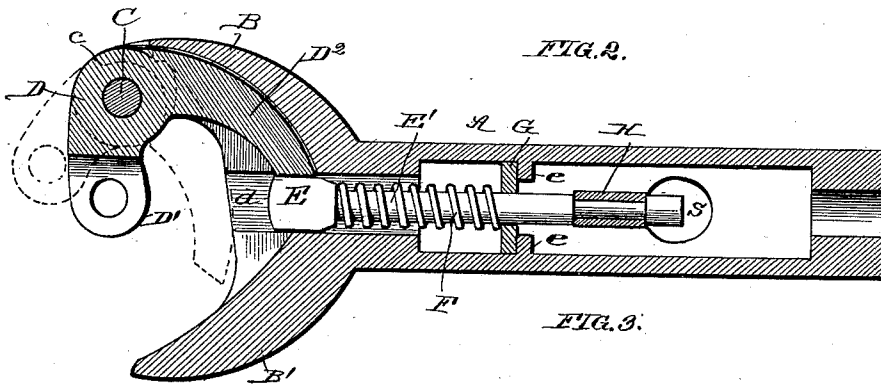
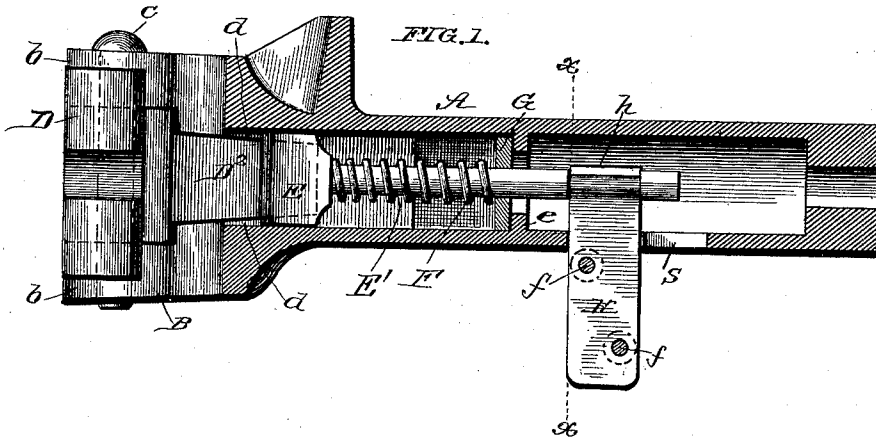


(No Model.)

J. H. DAVIS.  
CAR COUPLING.

No. 392,787.

Patented Nov. 13, 1888.



WITNESSES:  
*Fred G. Dieterich,*  
*Edw. W. Ryan,*

INVENTOR.  
*J. H. Davis*  
BY *Munn & Co.*

ATTORNEYS.

# UNITED STATES PATENT OFFICE.

JOHN HENRY DAVIS, OF WILMINGTON, NORTH CAROLINA.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 392,787, dated November 13, 1888.

Application filed July 26, 1888. Serial No. 281,147. (No model.)

### *To all whom it may concern:*

Be it known that I, JOHN HENRY DAVIS, of Wilmington, in the county of New Hanover and State of North Carolina, have invented a new and useful Improvement in Car-Couplings, of which the following is a specification.

My invention relates to that class of car-couplers in which the draw-bar is made with two jaws having a vertical opening between them, and one of which jaws is provided with a vertically-pivoted and horizontally-swinging knuckle, one side of which forms a hook to couple with a corresponding hook on the opposite car, and the other side of which forms a locking-arm that drops behind a spring-seated tongue to lock the hook in rigid coupled position.

My improvements consist in the peculiar construction and arrangement of the spring-tongue in the draw-bar, which I will now proceed to describe.

Figure 1 is a vertical longitudinal section of the draw-bar. Fig. 2 is a horizontal longitudinal section. Fig. 3 is a front view, and Fig. 4 is a cross-section through line *x x*.

A represents the draw-bar having a head formed with two jaws, B B', with a vertical opening between them. One of the jaws, B, is formed with perforated ears *b b*, between which is pivoted by a bolt, C, the knuckle D, arranged to freely swing about said bolt as a center. This knuckle is formed at its hinge-point on the outside with stop-abutments *c c* that limit the outward movement of the knuckle by striking against the outer surface of the draw-head. The knuckle is also formed with a hook, D', on one side, which is adapted to grapple with a corresponding hook on the draw-bar of the other car, and has apertures for an ordinary link-and-pin connection. On the other side of its axis said knuckle is formed with a curved locking-arm, D'', extending nearly at right angles to the hook and playing in a recess in the jaw B of the draw-bar.

E E' is the spring-seated locking-tongue. This locking-tongue has an enlarged end, E, which slides in channel-ways *d d* in the top and bottom of the draw-bar, to which enlarged end is attached a stem, E', that extends longitudinally back through the center of the draw-bar. Around this stem, in rear of the enlarged

end, is wound a spiral spring, F, which bears against said enlarged end in front to press the tongue forward, and at its rear end bears against a collar or washer, G, which is seated in an enlarged bore of the draw-bar and bears against flanges *e*.

When the coupling-hook D' of the draw-bar stands across the mouth of the opening, as in Fig. 2, the locking-arm D'' is caught behind the enlarged end E of the spring-tongue, which spring-tongue locks the knuckle and coupling-hook into a rigid position, which connects it to a corresponding hook of the opposite draw-bar. When the cars are uncoupled, the knuckle turns on its center and its hook D' moves outwardly, and the locking-arm has its convex side facing the end of the spring-tongue, as shown by dotted lines, so that when the cars come together the hook is forced inwardly and the locking-arm in this movement bears against and slides over the end of the spring-tongue, causing the latter to yield to the rear until the end of the arm passes the tongue, at which time the spring-tongue shoots forward and locks the arm and the coupling-hook into rigid position for draft.

By making the guide-channels *d* to extend to the front opening of the draw-bar the tongue is forced to the rear by arm D'' without gripping, and the tongue may be inserted into the draw-bar from the front.

In inserting the spring-tongue into the draw-bar it is put in from the front and the enlarged end E slides in the channels *d d*, while the stem is guided through the hole in the collar G. To operate this spring-tongue for uncoupling the cars, said tongue is pulled to the rear, and for this purpose the stem of the tongue has swiveled to it an arm, H, which extends at right angles to the draw-bar and protrudes through a slot, *s*, in the bottom of the draw-bar and is designed to be connected to a lever or pull-rod for working the same. This arm is composed of two similar halves having each a half-round box, *h*, at its upper end, which embrace a reduced portion of the stem. These halves are inserted through the slot *s* in the bottom of the draw-bar, and after being fitted to the reduced end of the spring-tongue they are fastened together by clamp-bolts *f*. To permit of the insertion of these arm-sections

through the slot *s*, the rear end of the latter is made enlarged to permit the insertion of the curved end of the arm-section, after which the arm-sections move up into the narrow portion of the slot, where they slide, as in guides.

Having thus described my invention, what I claim as new is—

1. The combination, with the horizontally-swiveling knuckle with hook and locking-arm, of a spring-seated sliding tongue arranged in guides in the draw-bar and having a reduced rear end, the hollow draw-bar having slot *s*, with a wide end, and the operating-arm *H*, swiveled upon the reduced end of the sliding tongue and adapted to be inserted through the wide end of the slot and be guided in the same, substantially as shown and described.

2. The combination of draw-bar *A*, having channel-ways *d d*, flanges *e e*, and slot *s*, with enlarged end, the knuckle *D*, with hook *D'* and locking-arm *D''*, the sliding tongue with head *E*, and stem *E'* with reduced end, the washer *G*, spiral spring *F*, arranged between the washer and the head of the tongue, and the arm *H*, swiveled upon the end of the sliding tongue and protruding through the draw-bar, substantially as described.

JOHN HENRY DAVIS.

Witnesses:

JOHN R. LATTA,  
W. A. RIACH.