(No Model.)

J. DIXON.

CAR COUPLING.

No. 471,843. Patented Mar. 29, 1892.

Fig. I.

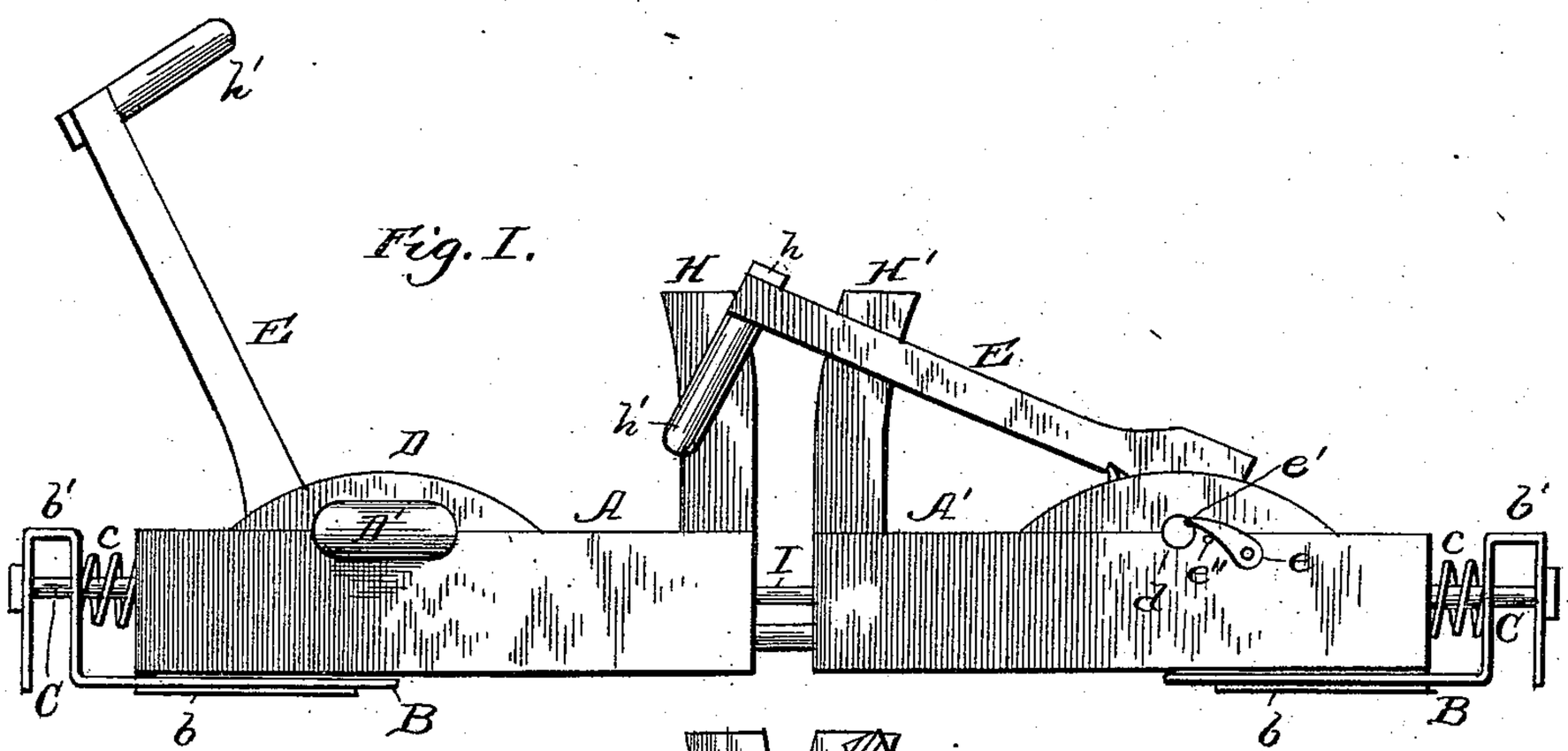


Fig. II.

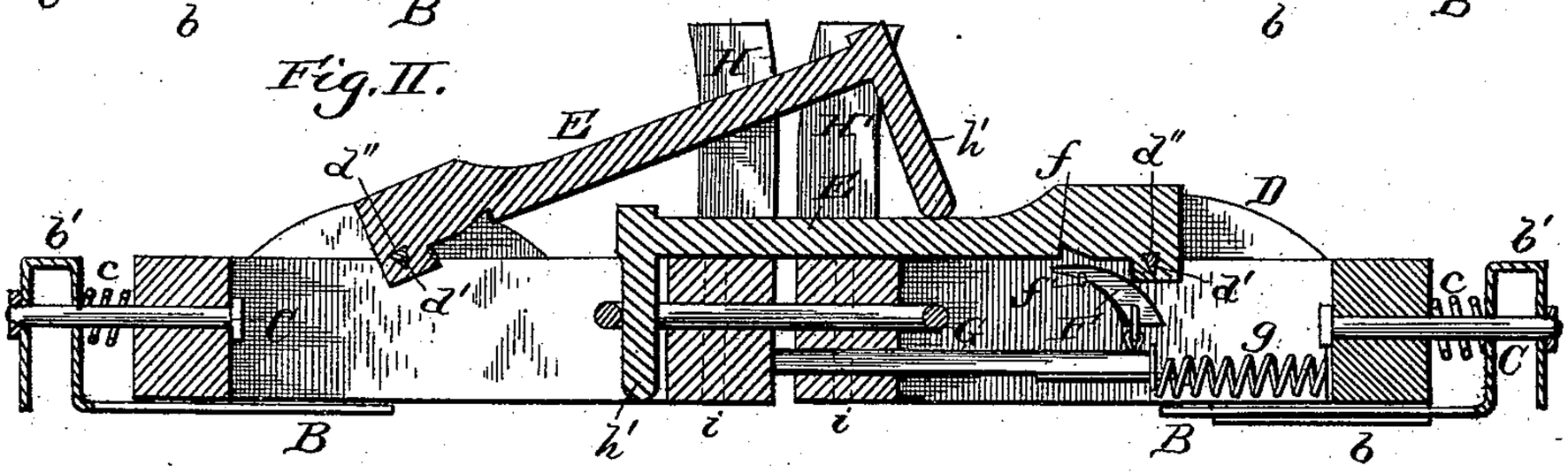


Fig. III.

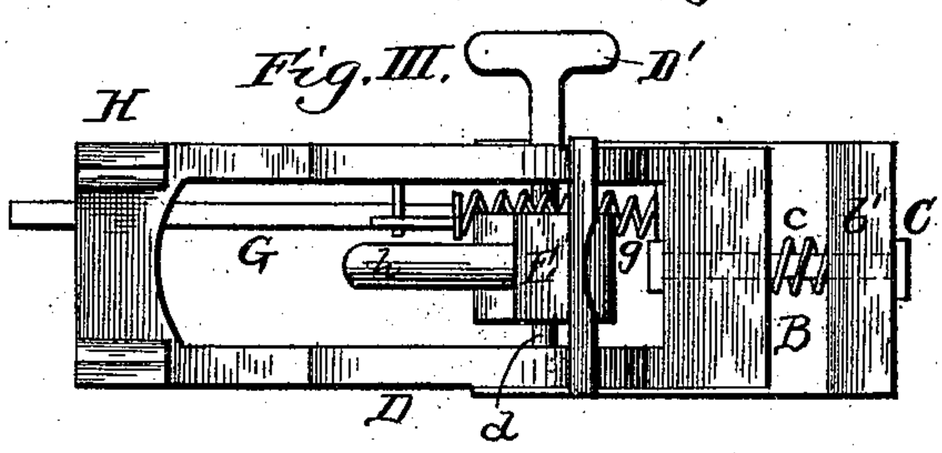


Fig. IV.

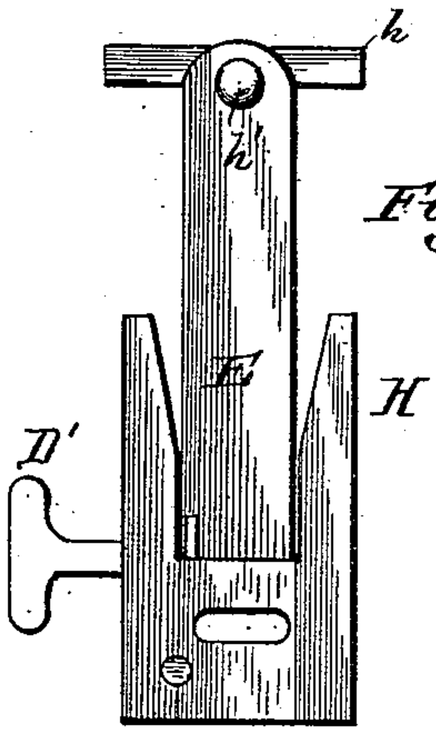
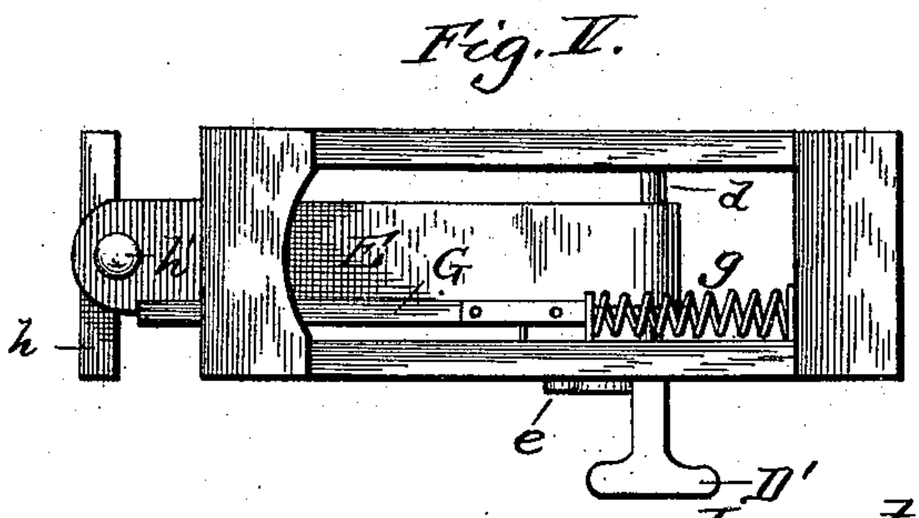


Fig. V.



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UNITED STATES PATENT OFFICE.

JAMES DIXON, OF CINCINNATI, OHIO.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 471,843, dated March 29, 1892.

Application filed November 11, 1891. Serial No. 411,595. (No model.)

To all whom it may concern:

Be it known that I, JAMES DIXON, a citizen of the United States, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Car-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in automatic car-couplers; and the object is to provide a simple and effective coupler which can be easily and quickly adjusted in position for use, each draw-head having all the parts necessary to form a complete coupling.

With these ends in view my invention consists of the draw-heads arranged to move a limited distance longitudinally on spring-slides fixed on the rear end thereof. Each of the draw-heads is provided with a pivoted gravity coupling-pin, which can be held in an elevated position by a support or trigger carried by a spring-actuated pusher-bar extending through the draw-head and adapted to be operated by the approaching draw-head of the other car. A socket is provided on each draw-head, into which the coupling-pin drops when the approaching draw-head strikes the pusher-rod and draws the support or trigger from beneath the coupling-pin, and this pin is held in place by a pivoted detent adapted to engage with the pivot-pin of the coupling-pin.

My invention further consists of certain details of construction and arrangement of parts, which will more fully appear hereinafter.

To enable others to more readily understand my invention, I have illustrated the same in the accompanying drawings, in which—

Figure I is a side elevation of my improved car-coupler with the coupling-pin elevated on one draw-head. Fig. II is a sectional view taken longitudinally through the draw-heads, showing them coupled together. Fig. III is a top plan view of one draw-head. Fig. IV is a front view, and Fig. V is a bottom view broken away.

As both draw-heads are constructed in the same manner, it will only be necessary to particularly describe one of them.

Referring to the drawings, in which like letters of reference denote corresponding parts in all the figures, A A′ designate the draw-heads, which may be of cast metal and are preferably of the form and shape shown in the drawings. Each draw-head is arranged to slide on a plate B, which is slotted to receive the depending guide *b* on the under side of the draw-head. This slotted plate is bent at the rear of the draw-head into an inverted-U-shaped spring or cushion *b′*, against which the draw-head can press or bear when in the act of coupling two cars together. The draw-heads are fastened in their proper places on the cars by bolts C, which pass through the rear ends of the draw-heads and through the U-shaped spring cushion or buffer *b′*, and a coiled spring *c* is fitted on the bolt between the draw-head and the spring-buffer to assist the latter in easing the jar of coupling the cars.

At or near the middle of each draw-head A are cast the aligned bearings D, and the coupling-pin E is fitted between these bearings and supported by a pivot-pin *d*, which passes through the pin and is journaled or supported in the bearings. This pivot-pin *d* is provided with an integral key *d′* at or about its center between the bearings D, and said key fits in a keyway *d″*, formed in the coupling-pin to rigidly secure the pin on its pivot. When the pin is inserted in its proper place, the key *d′* fits snugly in the keyway *d″* and the pivot-pin turns with the coupling-pin when the latter is elevated or lowered. This pivot-pin *d* is provided at one end outside of the bearings with a handle D′, and a detent *e* is pivoted on the side of the draw-head and is adapted to be thrown into engagement with a recess or shoulder *e′* on the pivot-pin between the handle and adjacent bearing to hold the coupling-pin in its adjusted position and prevent it from becoming disengaged with the socket on the draw-head A by any unusual jar. A stop *e″* is arranged beside the pivot-pin to limit the downward movement of the detent and insure its proper engagement with the shouldered head on the pivot-pin. The draw-heads are each provided with a longitudinal slot or opening.

The coupling-pin E is held in an elevated

position by an arm or trigger F, which is loosely fastened to a pusher-bar G, arranged to operate through the draw-head and project beyond the front thereof before the coupling is made. Fitted on the rear end of this pusher-rod is a coiled spring *g*, which is arranged to normally force the said bar beyond the front of the draw-head. The arm or trigger F is loosely secured to said bar, and its upper end is pointed or sharpened to fit into a slot or opening *f* in the under side of the coupling-pin. As the opposite draw-head approaches it strikes the projecting pusher rod or bar and forces it backward, compressing the spring *g*, which movement withdraws the arm or trigger from beneath the coupling-pin and permits the latter to fall into the socket on the opposite draw-head and complete the coupling. This arm or trigger has a curved lower edge, which permits the upper edge of the trigger to be flush with the top of the draw-head when the pusher-bar is pushed backward, and said trigger is arranged to rest on a support *f'*.

When the coupling-pin falls in the manner described, it enters the socket on the draw-head of the other car formed by the outwardly-flared upright pieces H H', and the head or cross-piece *h* of the coupling-pin takes in rear of said upright pieces, and the downwardly-extending piece *h'* passes into the slot in the draw-head and impinges against the front portion of the same. These pieces *h h'*, in connection with the detent operating on the pivot-pin in the manner described, form a substantial coupling for the car.

The operation of the invention is simple, and may be readily understood from the foregoing description, taken in connection with the drawings.

I also provide a link I and pins *i* of the ordinary construction, which may be used instead of the coupling herein described or in connection therewith, as desired.

I am aware that changes in the form and proportion of parts and details of construction may be made without departing from the spirit of my invention, and I therefore reserve the right to make such changes as fairly fall within the scope of my invention.

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

1. In a car-coupling, the combination, with a draw-head, of the coupling-pin pivoted in said draw-head, the pivot-pin keyed to said coupling-pin, and a detent for locking the pivot of the coupling-pin, substantially as described.

2. In a car-coupling, the combination, with a draw-head, of the coupling-pin pivoted in said draw-head, the pivot-pin having a key fitted in a keyway in the coupling-pin, and the detent pivoted on the side of said draw-head and adapted to engage with the pivot-pin to lock the same, substantially as described.

3. In a car-coupling, the spring-slide arranged on the rear end of the draw-head and having the inverted-U-shaped rear part forming a cushion, substantially as described.

4. In a car-coupling, the combination, with a draw-head, of the slotted plate on the rear end of the draw-head, the guide on said draw-head arranged to operate in the slot in said plate, the inverted-U-shaped cushion in rear of the draw-head, forming a part of the plate, and the bolt passing through the cushion and the draw-head, substantially as described.

5. In a car-coupling, the combination of a draw-head having the coupling-pin and socket, the pusher-bar arranged to operate in the draw-head, the spring on the rear end thereof, and the trigger loosely secured to the pusher-bar and adapted to support the coupling-pin, substantially as described.

6. In a car-coupling, the draw-heads having the coupling-pins and sockets, combined with the spring-controlled pusher-bars arranged to operate through the draw-heads, the coupling-pins having slots in their lower sides, the triggers loosely secured to the pusher-bars and adapted to fit in said slots to support the coupling-pins, and the detent operating on the pivot-pins of said coupling-pins to lock the same, substantially as described.

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

JAMES DIXON.

Witnesses:
W. F. ANDERSON,
EDWARD JONES.