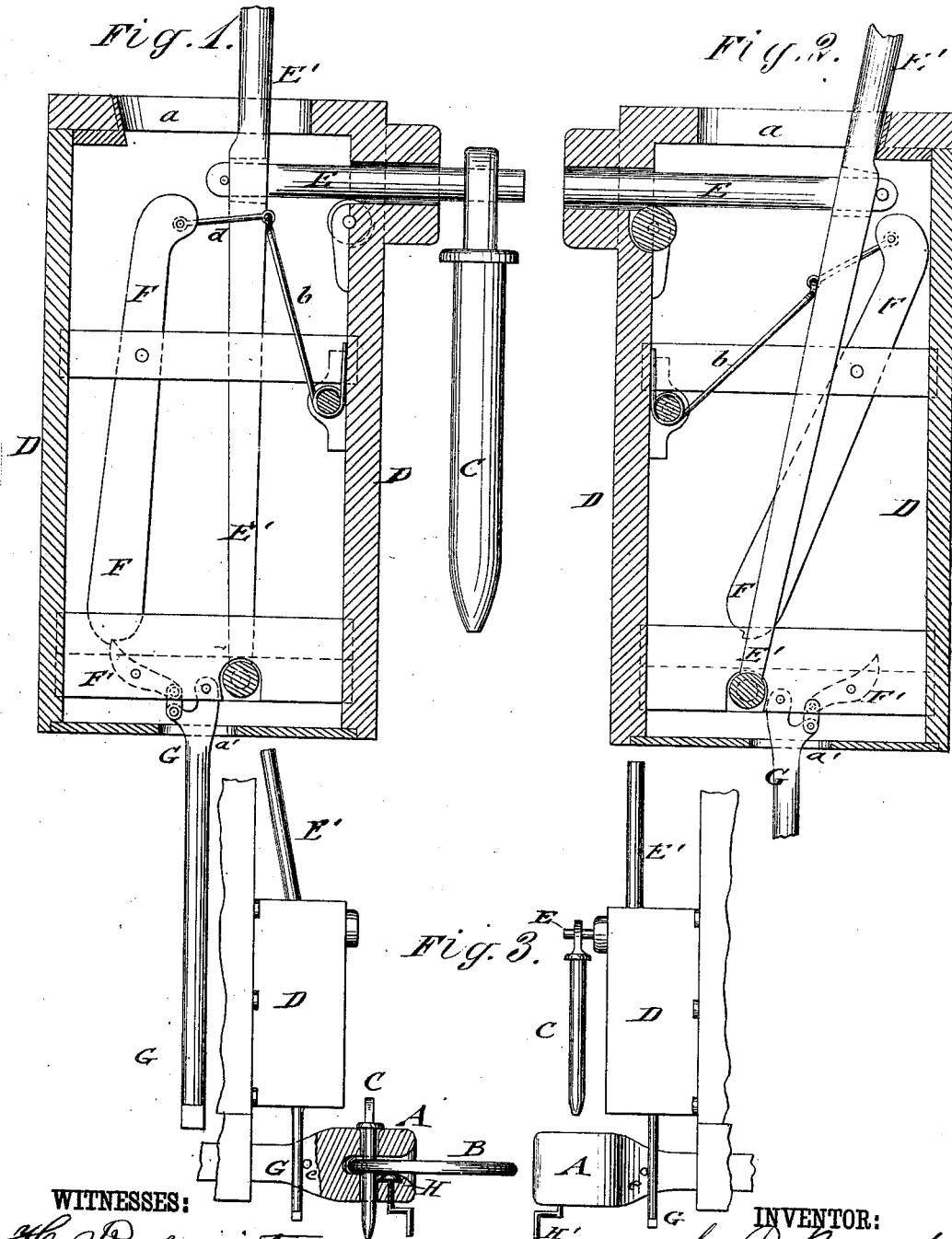


C. P. BYRD.
Car-Coupling.

No. 196,560

Patented Oct. 30, 1877.



WITNESSES:
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UNITED STATES PATENT OFFICE.

CHRISTMAS P. BYRD, OF NORTH CAMBRIDGE, MASSACHUSETTS.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **196,560**, dated October 30, 1877; application filed September 14, 1877.

To all whom it may concern:

Be it known that I, CHRISTMAS PAUL BYRD, of North Cambridge, county of Middlesex, and State of Massachusetts, have invented a new and Improved Car-Coupling, of which the following is a specification:

In the accompanying drawing, Figures 1 and 2 are vertical longitudinal sections of my link-dropping attachment to cars for automatic coupling, shown on enlarged scale, one being shown in the act of holding the coupling-pin, the other after the same has been dropped; and Fig. 3 is a side view of the coupling and pin-dropping devices, shown in the act of coupling the cars.

Similar letters of reference indicate corresponding parts.

The invention relates to an improved attachment to the common car-couplings, by which, when the same is set by the brakeman, the coupling is accomplished in perfectly automatic manner, and without the least danger to life or limb; and the invention consists of a horizontally-sliding pin, on which the coupling-pin is supported, the sliding pin being guided in a suitable casing, and set by a suitable trigger and spring mechanism, so as to project beyond the casing and support the coupling-pin.

A releasing-lever extends down to the draw-head and throws, by the concussion of the draw-head, the trigger mechanism back, so as to release the sliding pin and drop the coupling-pin into the draw-head and link for coupling. The coupling-link is held in the required position for entering the opposite draw-head by a crank-screw and head adjusted from below the draw-head.

In the drawing, A represents the draw-head, B the coupling-link, and C the coupling-pin, which are all of the common style and shape.

Above the draw-head is attached, to the car or car-platform, a casing, D, in which a pin supporting and dropping mechanism is arranged for the automatic dropping and coupling of the pin. This mechanism consists of a horizontally sliding and guided pin, E, that projects through a guide-opening near the upper end of the casing, and serves for suspending the pin C thereon.

The sliding pin E is attached to a lever, E',

that is pivoted to the lower inside part of casing D, and extended through a top slot, *a*, the upper part being made in the shape of a handle. The lever E' is forced, by a strong spring, *b*, back against the cushioned end of slot *a*, throwing thereby, also, fulcrumed lever F back, that is connected with the spring or lever at the upper end by a wire link, *d*. The lower notched end of lever F is set up by a trigger, F', that is fulcrumed to the casing D, and pivoted by a link-connection to a pivoted lever, G, that extends through a bottom slot, *a'*, of the casing down to a pin, *e*, on the side of the draw-head.

By carrying the hand-lever E' forward, the sliding pin E is moved to the outside of casing D, and, by the fulcrumed lever F and trigger F', retained in this position, so that the coupling-pin C may be hung up on the sliding pin, being in this position vertically above the pin-holes of the draw-head. The concussion of the draw-head throws each draw-head back, engaging thereby the trigger-actuating lever, and throwing the trigger out of contact with the fulcrumed lever, which is then, together with the hand-lever and slide-pin, thrown back by the spring, so that the coupling-pin is dropped into the pin-holes and link, coupling thereby the draw-heads. The coupling-pin is readily suspended again on the sliding pin by resetting the dropping mechanism with the hand-lever, the releasing being entirely automatic and without danger to the brakeman.

The coupling-link B is supported in horizontal or other position for coupling by a vertically-adjustable cross-bar or tread, H, at the end of a screw crank-rod, H', which is raised or lowered from below the draw-head. Any desired position of the link is thereby obtained, and the coupling operation performed in connection with the pin-dropping mechanism in perfectly reliable and dangerless manner, the dropping mechanism of the pin and the raising device of the link being readily applicable to any one of the common draw-heads in use.

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

1. The pin C of a car-coupling suspended by means of an eye at the top to a slide, E,

whose withdrawal drops it into the link, as described.

2. The combination, with a draw-head having pin *e* arranged as specified, of the swinging rod G, having an arm connected by a link with the trigger of the pin-dropping mechanism, as and for the purpose set forth.

3. The combination of the draw-head, having a projecting pin, with a releasing-lever, a

pin suspending and dropping mechanism arranged above the draw-head, and with the coupling-pin, to drop the coupling-pin on the concussion of the draw-head, substantially as specified.

CHRISTMAS PAUL BYRD.

Witnesses:

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