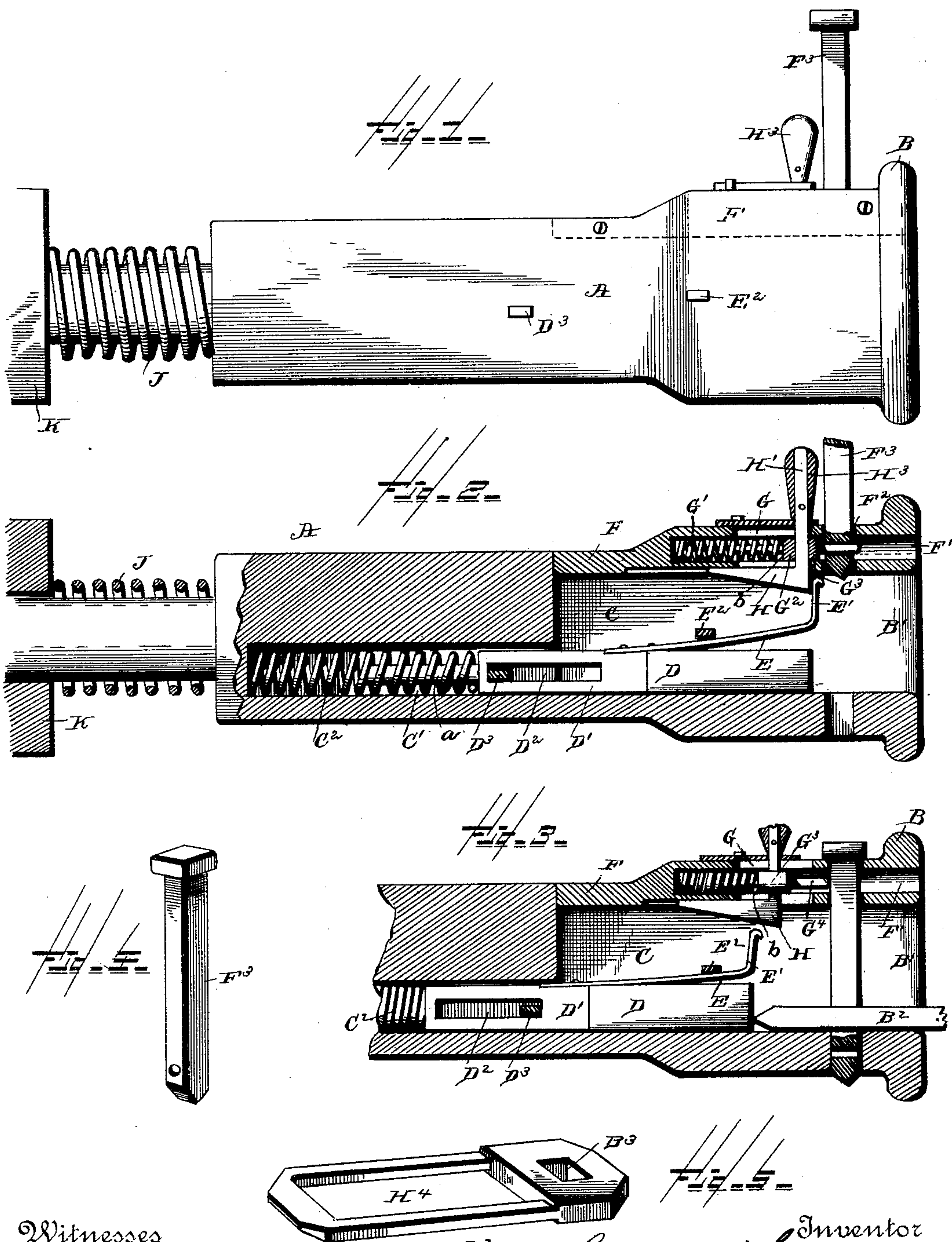


(No Model.)

C. W. COURTNEY.  
CAR COUPLING.

No. 406,884.

Patented July 16, 1889.



Witnesses

*Albert Speiden*  
*W. L. Lucks*

Inventor

*Cyrus W. Courtney*

By *His* Attorney

*Franklin H. Hough*



# UNITED STATES PATENT OFFICE.

CYRUS WILLIAM COURTNEY, OF BLISS, IDAHO TERRITORY.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 406,884, dated July 16, 1889.

Application filed May 15, 1889. Serial No. 310,904. (No model.)

*To all whom it may concern:*

Be it known that I, CYRUS WILLIAM COURTNEY, a citizen of the United States, residing at Bliss, in the county of Alturas and Territory of Idaho, have invented certain new and useful Improvements in Car-Couplers; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in car-couplers; and it has for its objects, generally, to improve upon the construction and render more efficient in operation that class of couplers in which it is designed that the cars shall be automatically coupled.

To these ends and to such others as the invention may pertain the same consists in the peculiar combinations and in the novel construction, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the accompanying drawings, and then specifically defined in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, like letters of reference indicating like parts throughout the several views, and in which drawings—

Figure 1 is a side elevation of a car-coupler constructed in accordance with my invention, in which figure the coupling-pin is shown as held in readiness for coupling. Fig. 2 is a central vertical section through the same. Fig. 3 is a similar view showing the coupling-link as held in place by the coupling-pin. Fig. 4 is a perspective view of the coupling-pin detached. Fig. 5 is a similar view of the coupling-link.

Reference now being had to the details of the drawings by letter, A designates the draw-head, carrying at its outer end the bumper B, provided with the usual opening B' for the reception of the coupling-link B<sup>2</sup>. The draw-head is provided with a longitudinal chamber C, open at its upper side, as shown, and provided

in the lower portion of its rear end with the rectangular longitudinal extension or chamber C', which chamber extends a considerable distance toward the rear end of the draw-head and is designed to receive the coiled spring C<sup>2</sup>.

D is a block or slide, one end of which is rounded, as shown at *a*, and is adapted to be fitted within the said spring. The central portion D' is square in cross-section and is of less diameter than the enlarged free end of the slide.

D<sup>2</sup> is a transverse slot or opening extending through the portion D' from side to side, the length of this slot being preferably about two-thirds the entire length of the portion D', as shown. This slot D<sup>2</sup> is designed to receive a transverse pin D<sup>3</sup>, passed through the draw-head, which pin serves to limit the movement of the slide, as will be readily understood.

E is a flat spring, the rear end of which is secured to the upper face of the slide D, and the spring is extended toward the front end of the slide, and is bent upward at right angles to the body of the spring at a point adjacent to its free end, thus forming the vertical portion E'. When in its normal position the spring E has its free end raised at a slight angle to the direction of the body of the slide to which it is attached.

E<sup>2</sup> is a cross bar or pin, which extends horizontally through the chamber C within the draw-head directly above and with its lower face bearing upon the upper face of the spring E. The front end of the slide is enlarged and is square in cross-section, being of a width sufficient to permit it to be moved freely within the chamber without permitting lateral movement.

Within the upper portion of the chamber C is secured the block F, the upper face of which block is, when in position, flush with the upper face of the draw-head. This block is provided with a central longitudinal opening or chamber F', opening at the end of the block, as shown, and a vertical opening F<sup>2</sup> is provided adjacent to the free end of the said block for the passage of the coupling-pin F<sup>3</sup>.

G is a vertical slot a short distance to the rear of the opening F<sup>2</sup>, for a purpose which will presently appear.

Within the central chamber F' is placed



the spiral spring  $G'$ , within which spring is placed the rear portion of the slide  $G^2$ , the front end of which spring is adapted to bear against the shoulder  $b$  at the rear end of the enlarged portion  $G^3$  of the slide.

$H$  is a narrow triangular casting, which is provided at its forward end with a vertical arm or extension  $H'$ . This vertical extension is adapted to be passed through the enlarged portion  $G^2$ , while the triangular portion of the casting is adapted to be moved longitudinally within a slot in the lower face of the block. It will be seen that by this construction the movement of the spring-actuated slide  $G^2$  will be regulated by reason of the engagement or contact of the arm  $H'$  with the ends of the slot  $G$ . The free end of the slide  $G^2$  is provided with a rounded portion or pin  $G^4$ , adapted to enter a hole in the coupling-pin near its lower end, and thus retain the same in position for coupling.

The upper portion of the arm  $H'$  may be provided with a suitable handle  $H^3$ , which is secured thereto in any suitable manner—as, for instance, by a pin passed therethrough, as shown.

The coupling-link  $B^2$  is provided at one of its ends with a square opening  $B^3$ , for the passage of one of the coupling-pins, and with an elongated slot or opening  $H^4$ , for the reception of the link upon the adjacent car.

The operation of the device is simple and will be readily understood. It being desired to couple two adjacent cars, the coupling-pin is inserted in the hole  $F^2$ , the slide  $G''$  having been moved backward by means of its connecting-handle, and by releasing this slide the pin  $G^4$  enters the hole in the coupling-pin, and thus prevents the pin from falling until released by the withdrawal of the pin. The coupling-link upon the car to be coupled enters the opening  $B'$  in the bumper and contacts with the end of the slide  $D$ , forcing the same backward against the tension of the spring  $C^2$ . In said backward movement of the slide the spring  $E$  is depressed in passing

beneath the bar  $E^2$ , and releasing the vertical portion  $E'$  from its engagement with the triangular casting  $H$ , after having moved said casting and its connecting-slide  $G^2$  back a sufficient distance to release the coupling-pin, and the pin is thus permitted to drop into place, securing the link within the draw-head.

In order to provide against injury to the parts by the sudden contact of the cars in coupling, I have made the rear end of the draw-head round, as shown, and have provided a heavy spiral spring  $J$ , surrounding the same, the rear end of which spring bears against the beam  $K$ , and this spring will sustain the shock imparted in coupling the cars, as will be understood.

It is evident that any of the various devices used in coupling from the roof or sides of the car may be employed in connection with this coupling device.

What I claim to be new is—

1. In an automatic car-coupler, the combination, with the draw-head and coupling-pin having an opening near its lower end, of a spring-actuated slide adapted to enter the hole in the coupling-pin and prevent the same from falling within the opening in the draw-head, substantially as shown and described.

2. The combination, with the draw-head, the coupling-pin having an opening there-through near its lower end, the spring-actuated slide engaging said opening, and the casting  $H$ , connected with said slide, of a spring-actuated slide within the draw-head adapted to engage the casting  $H$  and move the same backward to release the slide connected with said casting from its engagement with the coupling-pin, substantially as shown and described, and for the purpose specified.

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

CYRUS WILLIAM COURTNEY.

Witnesses:

AUG. M. SINNOTT,  
THOMAS PLUNKETT.