(No Model.)

W. T. ELLIS.

CAR COUPLING.

No. 550,606. Patented Dec. 3, 1895.

FIG. 1.

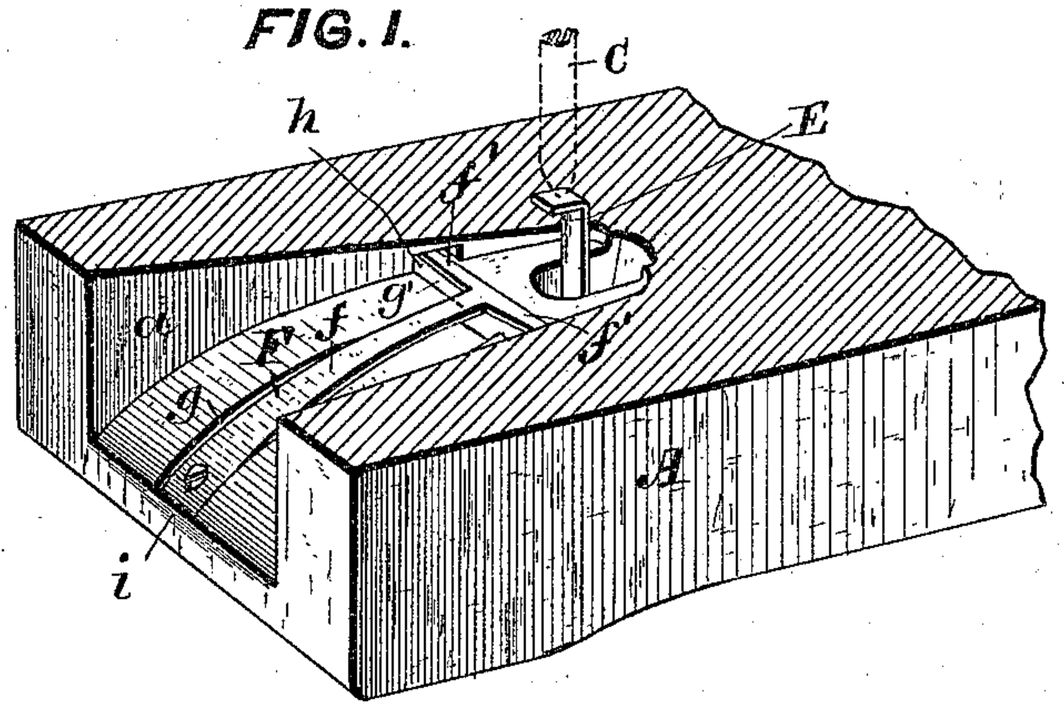


FIG. 2.

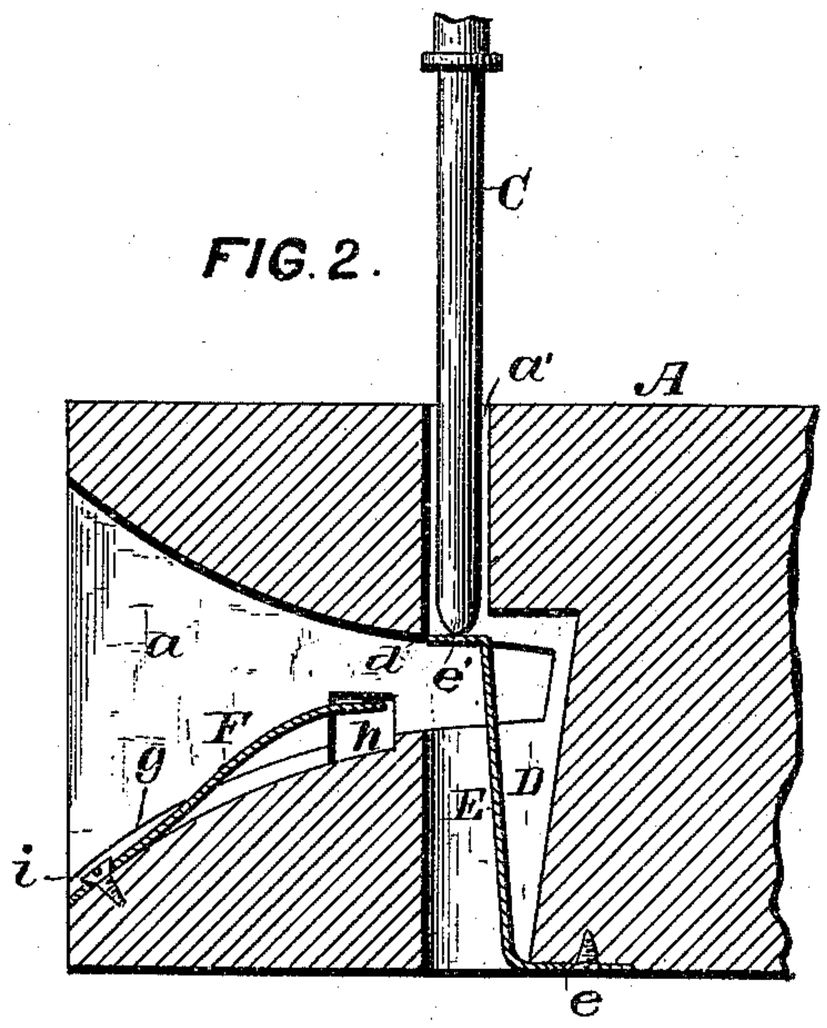
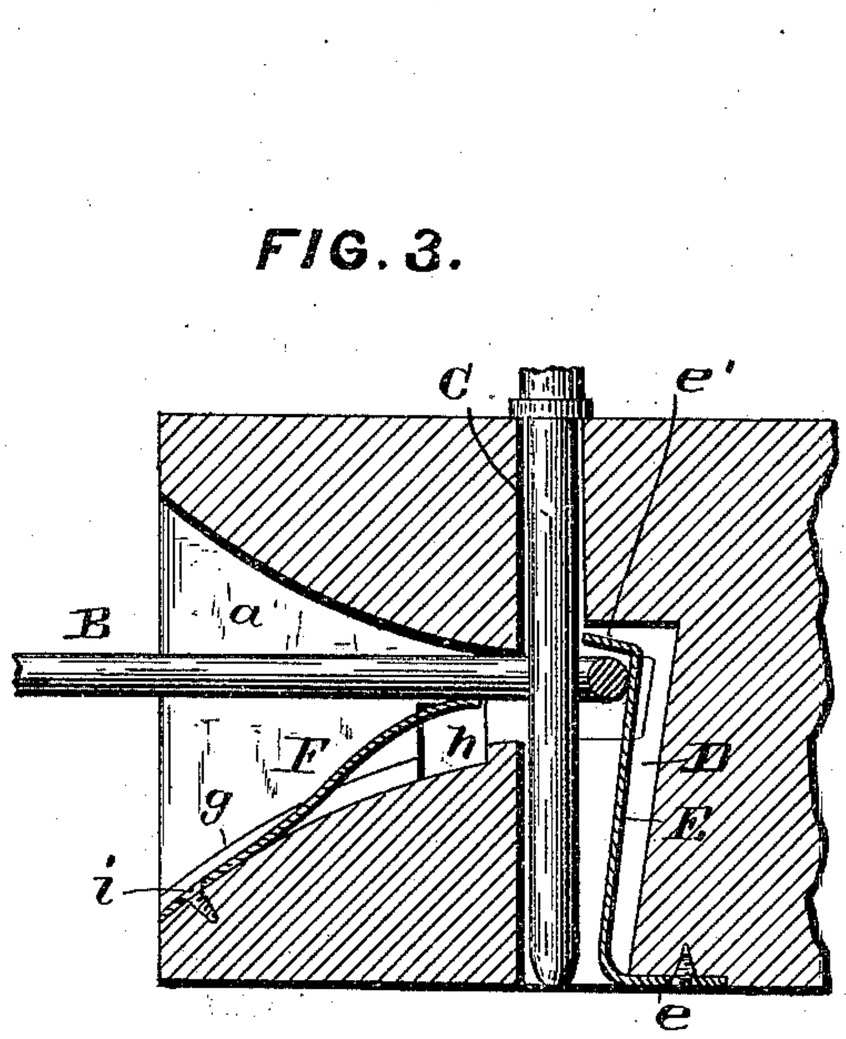


FIG. 3.



ATTEST.

J. Henry Kaiser.

Wm. J. Gelston.

INVENTOR.

William T. Ellis.

By. E. N. Gelston

Attorney.

UNITED STATES PATENT OFFICE.

WILLIAM T. ELLIS, OF FORREST CITY, ARKANSAS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 550,606, dated December 3, 1895.

Application filed March 20, 1895. Serial No. 542,486. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM T. ELLIS, a citizen of the United States, residing at Forrest City, in the county of St. Francis and State of Arkansas, have invented certain new and useful Improvements in Car-Couplings; 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 of reference marked thereon, which form a part of this specification.

My invention relates to that class of automatic car-couplings wherein a coupling-pin is supported in an elevated position to permit the entrance of the link within the draw-head by means of a spring-detent, said detent being arranged in the path of the entering link in such manner that the impact of the link serves to retract the detent from under the pin and permits the latter to drop by gravity within the link and couple the latter draw-head; and it has for its object to provide an improved detent operating in the manner above described and to provide improved means for holding the link in proper position to enter the draw-head.

To these ends my invention consists in the novel features and in the construction and arrangement of parts hereinafter fully described and afterward definitely pointed out in the claims following the description, due reference being had to the accompanying drawings, forming a part of this specification, wherein—

Figure 1 is a sectional perspective view of a draw-head equipped with my improvements. Fig. 2 is a longitudinal central section illustrating the parts in position for coupling, and Fig. 3 is a similar view illustrating the parts coupled.

Referring to the drawings, the letter A indicates a draw-head having a flaring aperture *a* for the reception of a coupling-link B.

C indicates a coupling-pin of ordinary or usual construction and seated in the usual pin-hole *a'*, formed in the draw-head for its reception. Formed in the draw-head immediately in the rear of the pin-hole *a'* and communicating therewith is a recess D, extending from the bottom of the draw-head to a point slightly above the upper rear wall of the link-opening of the draw-head, the rear face or wall of said recess being slightly inclined rearwardly, as shown.

E indicates the spring-detent, consisting of a flat stiff spring arranged within the recess D and at its lower end bent rearwardly at a right angle to fit the under side of the draw-head, to which it is secured by a machine-screw *e*. The upper end of the spring-detent E is bent forwardly at a right angle to form a pin-support *e'*, which by the resiliency of the spring E normally projects across the pin-hole *a'* and abuts against the rear face of the shoulder *d*, formed by the recess D, which shoulder serves both as a stop to limit the forward movement of the pin-support *e'* and as a shield to preserve it from impact with the link.

The letter F indicates the link-support, and it consists of a shank *f*, having at its inner end two oppositely and laterally projecting arms *f' f'*. The shank *f* is seated in a longitudinal groove *g*, formed in the lower interior face of the draw-head, and the arms *f'* project across the rear of the mouth of the draw-head, as shown, and for the purpose hereinafter made apparent.

A transverse groove *g'* is formed in the rear lower face of the interior of the draw-bar, in which the arms *f'* may seat when depressed, and the ends of said arms are disposed and have a vertical play in recesses *h h*, formed in the opposite rear sides of the interior of the draw-head.

The forward end of the shank *f* is secured in place in the draw-head by means of a machine-screw *i*, the rear end of the support F being free to permit of vertical play.

The operation of my improved automatic coupling will be readily understood.

To couple two cars together, a link is inserted in one of the draw-heads, as shown in Fig. 3, the end of the link resting under the forwardly-projecting pin-support *e'* and the arms *f'* of the link-support F engaging the under side of both side members of the link and exerting an upward or lifting force thereupon of a sufficient power to hold the link in the proper horizontal position to enter the draw-head of the car to which it is to be cou-

pled. The arms f' rest under each side arm of the link, and thus hold the latter in a true horizontal position, while the resiliency of the spring f permits the pin-support to yield to the motions of the link when the latter strikes the adjacent draw-head in coupling. The recesses h protect the ends of the arms f' from injury, and at the same time serve as stops to limit the upward play of said arms, while the transverse groove g' provides a seat in which said arms are adapted to lie and prevent the link from engaging the under side of said pin-support when the link is withdrawn. With the link-support held in the manner described it is only necessary to bring the two draw-heads in proximity to couple them together. The free end of the link, entering the mouth of the adjacent draw-head, and striking the detent E, forces the latter rearwardly and retracts the pin-support e' from beneath the pin and permits the latter to drop by gravity and thus couple the two draw-heads together. The shoulder d not only serves as a stop to limit the forward movement of the pin-support, but also prevents the link from abutting against the end of the latter or riding above the same.

Having described my invention, what I claim is—

1. In a car coupling, the combination with the draw-head, of a spring link support consisting of a shank f secured to the lower forward face of the mouth of the draw-head and provided at its rear end with oppositely and laterally projecting arms f' projecting across the mouth of the draw-head in front of the coupling pin, and means for holding the rear end of the link, substantially as described.

2. In a car coupling, the combination with the draw-head provided upon the rear lower face of its mouth with a transverse groove g', and in its opposite sides with recesses h, of a link support consisting of a spring shank f secured at its forward end to the lower face of the mouth of the draw-head and provided at its rear end with laterally and oppositely extending arms f' projecting across the rear of the mouth of the draw-head and having its ends disposed in the recesses h, and a spring detent E having a horizontally and forwardly extending end e' adapted to support the rear end of the link, substantially as described.

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

WILLIAM T. ELLIS.

Witnesses:
R. L. PETTUS,
W. H. BUFORD.