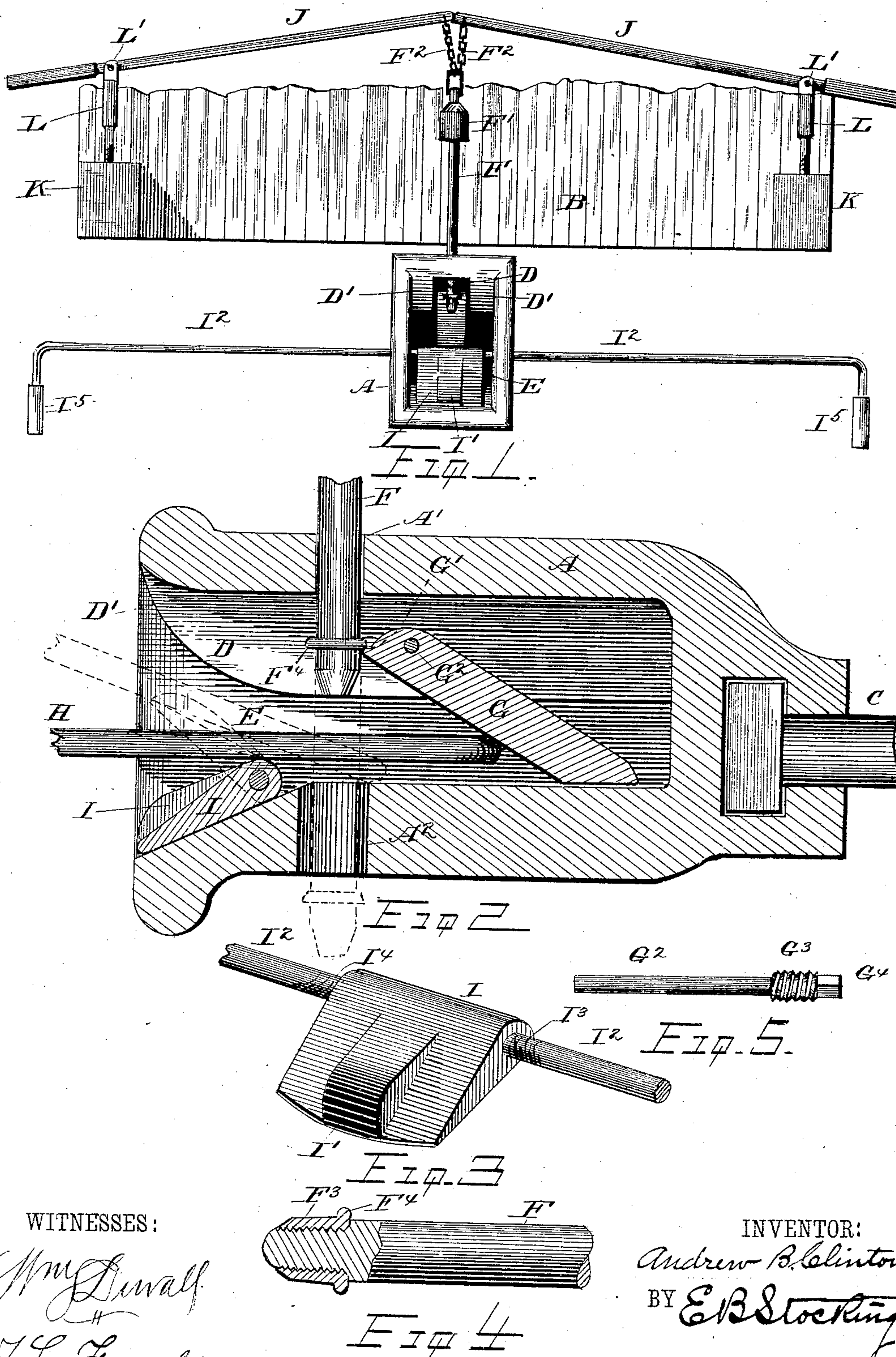


(No Model)

A. B. CLINTON.  
CAR COUPLING.

No. 315,004.

Patented Apr. 7, 1885.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

ANDREW B. CLINTON, OF MILFORD, NEW YORK.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 315,004, dated April 7, 1885.

Application filed December 4, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, ANDREW B. CLINTON, a citizen of the United States, residing at Milford, in the county of Otsego and State of New York, have invented certain new and useful Improvements in Car-Couplers, of which the following is a specification, reference being had to the accompanying drawings.

This invention has relation to that class of car-couplers in which a link and pin are employed and the latter is automatically held in an elevated position, while the entrance of the former into the draw-head automatically releases the pin that it may fall by gravity through the link and thus secure the same within the draw-head.

The objects of my invention are to simplify the construction, reduce the number of parts, and locate the same within the draw-head so that none shall be exposed to breakage by ordinary use, and to so connect the several devices employed with the draw-head and with each other that they can be easily and quickly replaced in case of breakage.

The invention consists in certain features of construction, combination, and arrangement hereinafter described, and specifically set forth in the claims.

Referring to the drawings, Figure 1 is an end elevation of a portion of a car provided with my improved coupler. Fig. 2 is a central vertical section of the draw-head with a portion of the link and pin. Fig. 3 is a perspective of the link-guide and a portion of its operating-levers. Fig. 4 is an enlarged detail, partly in section, showing the lower end of the coupling-pin; and Fig. 5 is a side elevation of the gravity-pawl pivot.

Like letters indicate like parts in all the figures.

A represents the draw-head, which is connected with the car B or its frame-work in any of the well-known usual manners. The draw-head in this instance comprises a single casting having an upper chamber, D, of less width than its lower chamber, E, these chambers communicating directly one with the other, the former providing a protection for the pin F and gravity-pawl G, for holding the pin in an elevated position, as hereinafter de-

scribed, while the lower chamber, E, is provided for the reception of the link H, and (at its mouth or entrance) for the guiding-plate I. The pin F is enlarged at its upper end to form a weight, F', and is connected by chain or chains F<sup>2</sup> with pin-elevating levers J, which are pivotally mounted on the bumpers K, or it may be at other convenient points on the car or its frame-work. The means for mounting the levers are in this instance screw-threaded standard L, slotted, as at L', for the reception of the levers and their pivots. The lower end of the pin (see Fig. 3) is provided with a thimble, F<sup>3</sup>, having an annular flange, F<sup>4</sup>, the thimble being secured to the pin by means of a screw-thread. The flange F<sup>4</sup> is of such a diameter as to prevent the entire withdrawal of the pin through the pin-hole A' at the top of the draw-head, while the pin-hole A<sup>2</sup> at its bottom is sufficiently large to permit the pin and the thimble to pass freely therethrough. The flange also serves another purpose—namely, as a projection on the pin, under which the point G' of the gravity-pawl G may take in the act of maintaining the pin in an elevating position. The gravity-pawl pivot (see Fig. 5) comprises a body portion, G<sup>2</sup>, of a size adapted to the pivot-hole of the pawl, and the head G<sup>3</sup>, which is exteriorly screw-threaded and provided with a projecting square head, G<sup>4</sup>, whereby the pivot may be turned into and out of position by means of a wrench. The bearings for the pivot in the draw-head are respectively adapted to receive the extreme end of the body portion and the screw-threaded head, the latter bearing being screw-threaded for the reception of the same in one side of the head, while the bearing for the body portion is in line therewith at the opposite side of the head. The upper portion of the draw-head being provided with a narrower chamber, D, is necessarily, therefore, provided with solid portions or ways D', which serve to guide the link into the lower chamber, E.

The operation of the devices thus far described is as follows: By depressing the outer ends of the levers J the pin is raised to the position shown in Figs. 1 and 2, and retained in that position by the point G' of the pawl



resting against the pin and beneath the flange  $F^4$  of the thimble. With the parts in this position, the entrance of the link H within the chamber E is insured by the guides  $D'$ . The lower end of the pin being in the upper chamber between these guides is prevented from disturbance by the entering link. As the link advances into the draw-head, it comes in contact with the gravity-pawl G back of its pivot, and raises the same, thus withdrawing the point  $G'$  from beneath the flange  $F^4$ , and the pin falls by gravity through the link and the pin-hole  $A^2$ . This completes the operation of coupling the car, which is to receive a link from a companion car.

When it is desired to couple a car to another of different height, then we bring into use the guiding-plate I. The guiding-plate I is provided with a finger,  $I'$ , which, when the plate is oscillated upon its pivots, enters within the link, when (the plate being narrower than the chamber E) it and its finger may be reciprocated laterally within said chamber.

The guiding-plate pivots  $I^2$  are screw-threaded into the plate, one being, if desired, a right-hand screw, as at  $I^3$ , and the other a left-hand screw, as at  $I^4$ . These pivots pass through bearings in the sides of the draw-heads, and are extended and provided with handles  $I^5$ , whereby the guiding-plate may be operated at the side of the car without the necessity of standing between two cars to be coupled, an advantage also existing in the use of and operation of the levers J heretofore described, so that the entire operation of coupling and uncoupling may be performed without danger to the operator.

The operation of the guiding-plate is as follows: By means of the handles  $I^5$  its free end is elevated (see dotted lines, Fig. 2,) so as to direct the free end of the link into the draw-head of a companion car, whether it be higher or lower, or on the same plane with that of the car being coupled. So, also, by means of the lateral movement of the plate and its finger said link may be directed sidewise, a slight motion of the plate and the link near the end of the link held by the pin producing a sufficiently great motion at its free end to accomplish its ready insertion into draw-heads which are more or less out of line with that which is to be coupled therewith. This being the construction and operation I deem it proper to particularly mention certain points of construction which I deem of essential advantage in use—namely, all of the operative devices which are subjected to hard usage are simple in construction and arranged wholly within the draw-head, which is substantially of the standard shape and like those most

commonly in use. Each of the parts is connected to each other by screw-threads, so that in case of breakage its removal and the replacement of another is but the work of a moment—for example, in case of the breakage of the standards L, or the connection of the lever J therewith, it can be easily removed and another instantly inserted in its place. If the operating levers or pivots  $I^2$  are broken, they may be unscrewed from the guide-plate and others inserted in their stead. If the point of the pin or the pin itself becomes worn or damaged, the thimble may be removed and a new thimble or a new pin substituted, while the pivot of the gravity-pawl being inserted in the same manner it or the pawl itself may be replaced when necessary.

The entire coupler is compact in structure and strong in its make up and practical in all its details.

Having described my invention and its operation, what I claim is—

1. The combination, with the draw-head A, having the chamber D, of the gravity-pawl G, pivoted within said chamber, and the pin F, having the weight  $F'$  and thimble  $F^3$ , the chain or chains  $F^2$ , the levers J, and the standards L, substantially as shown and described.

2. The combination of the draw-head A, having the chambers D E, the gravity-pawl G, pivoted within the chamber D and extending into the chamber E, the pin F, having a flange,  $F^4$ , and the plate I, having the finger  $I'$ , and means for the lateral movement of the plate, substantially as shown and described.

3. The combination of the car B, the levers J, the standards L, chains  $F^2$ , pin F, having the weight  $F'$ , and the thimble  $F^3$ , provided with the flange  $F^4$ , with the draw-head A, having the chambers D E, gravity-pawl G, and guiding-plate I, having the finger  $I'$ , and the operating levers or rods  $I^2$ , substantially as shown and described.

4. The combination, with the draw-head A, of the gravity-pawl G and the pivot for the same, comprising the body portion  $G^2$  and the screw-threaded head  $G^3$ , substantially as shown and described.

5. The guiding-plate I, provided with the finger  $I'$  and with operating rods  $I^2$ , in combination with and mounted in a draw-head, A, for lateral movement therein, substantially as specified.

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

ANDREW B. CLINTON.

Witnesses:

E. B. STOCKING,  
E. L. WHITE.