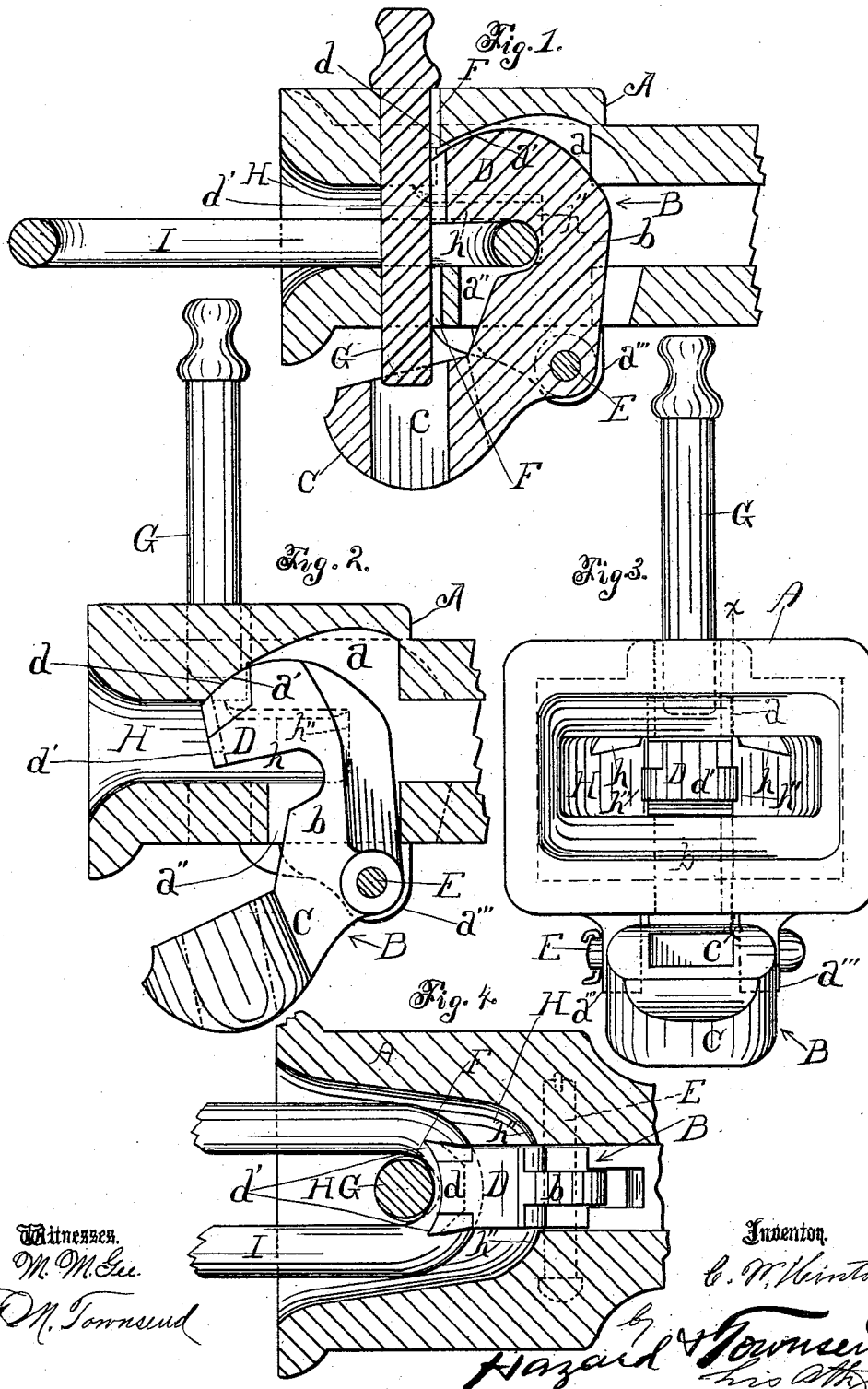


(No Model.)

C. W. HINTON.
CAR COUPLING.

No. 493,402.

Patented Mar. 14, 1893.



UNITED STATES PATENT OFFICE.

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CAR-COUPLING.

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To all whom it may concern:

Be it known that I, CHARLES W. HINTON, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Improvement in Car-Couplings, of which the following is a specification.

My invention relates to that class of car couplings in which the pin is supported in position for coupling by a trigger pivoted to the draw head and arranged to swing back as the link is forced thereagainst and thus allow the pin to drop to couple the cars together.

The object of my invention is to produce a superior device of this class wherein all danger of breaking or injuring the trigger or the link while coupling will be entirely avoided and whereby the trigger is arranged to rest upon the link to hold it in position for coupling at all times without an appreciable amount of wear either upon the link or upon the bearing face of the trigger.

The accompanying drawings illustrate my invention.

Figure 1 is a vertical longitudinal mid-section of the end of a draw head provided with my invention, with link and pin in place ready for automatic coupling to another draw head. Fig. 2 is a vertical longitudinal section taken at line $x-x$ Fig. 3 and showing the end of a draw-head provided with my invention with the pin in adjustment to receive a link for automatic coupling. Fig. 3 is an end view of the draw-head with the pin in position to receive a link for automatic coupling. Fig. 4 is a plan view, a portion of the draw-head being removed to expose the parts.

My invention consists essentially of the combination of a draw-head A and a pivoted-pin-support-and-link-grip B pivoted at its rear portion to the draw-head below the throat of the draw-head and consisting of a main body b , weight arm C projecting forward from the lower end of such body below the pivotal point and a pin-supporting and link-gripping arm D projecting forward from the upper end of such main body and provided at its upper forward extremity with a pin-supporting face d arranged practically in the arc of a circle having the pivotal point E for its center, the whole being arranged with relation to the pin hole F so that when the pin support and

link-grip B is left free to respond to the action of its own gravity, the pin supporting face d will project into the path of the pin G inserted in the pin hole thus to support the pin G in the position shown in Figs. 2 and 3, and the nose or front end d' of the pin supporting and link gripping arm D will project into the throat H of the draw-head in the path of the link I therein so that when a link is pushed into the throat it will engage the nose d' and force it backward, and, (by reason of the position of the pivot E) upward, to allow the full entrance of the link into the position shown in Figs. 1 and 4. Since the top face d of the nose is practically the arc of a circle having the pivot E for its center, the backward and upward movement of the arm D does not affect the pin until such arm is entirely removed from beneath the pin, thus allowing the pin to drop. The space between the front face of the arm D and the body b of the support-and-grip is sufficient to allow ample clearance between the end of the link and the pin so that the pin will have ample time to fall into the position shown in Fig. 1 before the link can rebound or can be withdrawn by the rebound of the car. The front face d' of the arm D is curved to fit the end of the link and projects outward upon each side of the grip arm to rest upon the link as shown in Fig. 4 in order to give greater engagement between it and the link to prevent wear.

The rear link receiving walls h'' of the throat H are rounded and conformed substantially in horizontal section to the end of the link of the coupling as indicated in Fig. 4, and the pin-support-and-link-grip-pivot E is arranged below such throat rearward of a vertical drawn from the rearmost portion of the face of such wall so that the link when fully inserted into the draw head will be in front of a vertical drawn from such pivot and will be held against such lateral movement as might bring the side members of the link across the path of the pin between the upper and lower portion of the pin hole F. The under face of the arm D is flat and plain and is arranged to rest upon the upper face of the link, and the weight arm C is of sufficient gravity to cause the arm D to press upon the link with sufficient force to retain it in horizontal position as shown in Fig. 1.

The draw-head A is provided within its throat with a suitable chamber *a* arranged to receive the upper portion of the pin-support-and-link-grip, and the front portion *a'* of the roof of such chamber is arranged to form a stop to receive the top face *d* of the pin-support and prevent the pin-support from moving too far forward. The draw head is provided in its under side with the passage *a''* through which the upper portion of the pin-support-and-link-grip is inserted into the draw head. The passage *a''* is long enough lengthwise of the draw-head to allow the backward and forward movement of the body *b* necessary for the operation of the device.

The roof of the throat H is provided in front of and at the sides of the chamber *a* with downwardly projecting link guides and stops *h*, *h*, curved, at their front ends, downward and backward to receive the end of the link and guide it downward to prevent the end of the link from running up into the chamber *a* and to prevent it from being forced upward by pressure upon its projecting portion, which might break or injure the pin-support-and-link-grip B. The rear curved walls *h''* of the link recess, being in front of the vertical from the pivotal point, the upward movement of the end of the link simply operates to tilt the arm D and exerts no strain upon the pivot E. The weight arm C has a pin passage *c* there-through so that it does not touch the pin.

In practice the draw head is cast in the same manner as ordinary draw-heads with the chamber *a* and passage *a''* provided therein and with the pivot lugs *a'''* projecting downward from the under side of the draw head, and the pin-support-and-link-grip B is cast in one piece and is then inserted into

place in the draw-head and secured by the pivot E. The draw-head is then secured to the car in the ordinary manner and the coupler is ready for use.

When it is desired to couple cars provided with my invention the link is inserted in the draw-head of one of the cars and is held in position by the link-grip as shown in Fig. 1, the pin being placed in position. The pin of the draw head of the other car is then drawn as indicated in Fig. 2 and is supported by the arm D until the cars are brought together and the link I engages the face *d'* of the arm D. When the arm D has been forced back sufficiently to withdraw it from beneath the pin, the pin drops into its coupling position which is indicated in Fig. 1 and the car is coupled.

Now, having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A car coupling having a pivoted pin support and link grip substantially such as set forth, and having its draw-head provided with the downwardly projecting link guides and stops curved at their front ends downward and backward and arranged in the front of and at the sides of the chamber in the draw-head which is arranged to receive the upper portion of the pin support and link grip.

2. A coupler having a pivoted pin support and link grip having the front face of its grip arms curved to fit the end of the link and enlarged to project outward upon each side of the grip arm to rest upon the link.

CHARLES W. HINTON.

Witnesses:

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