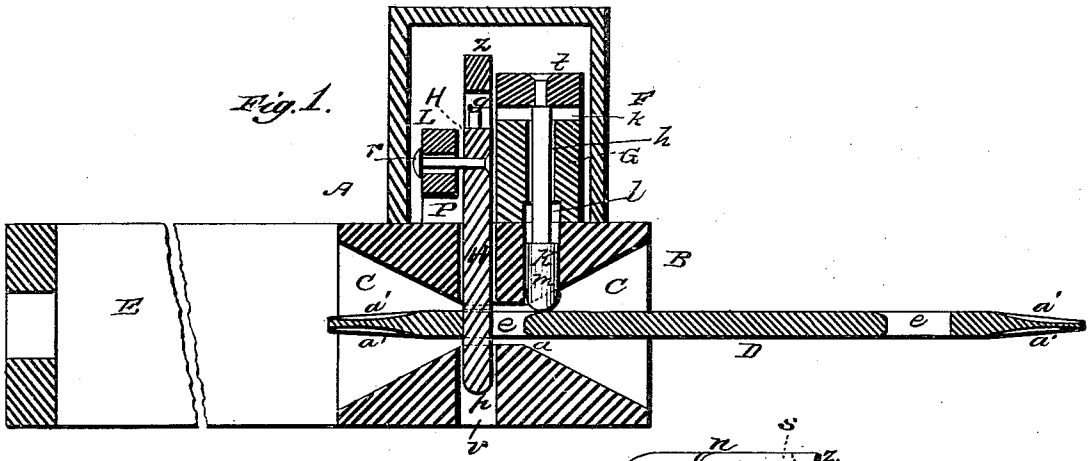
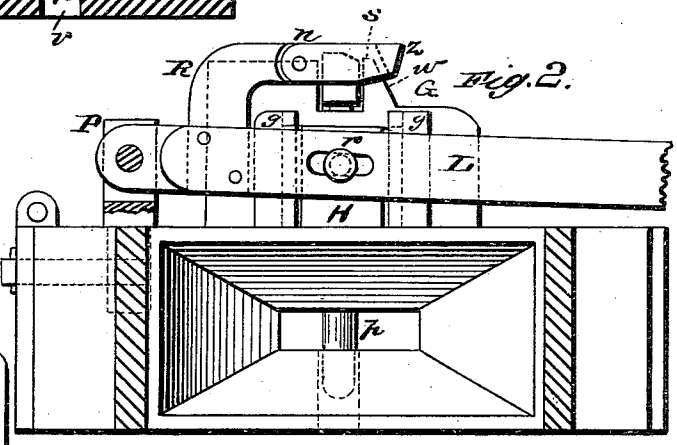
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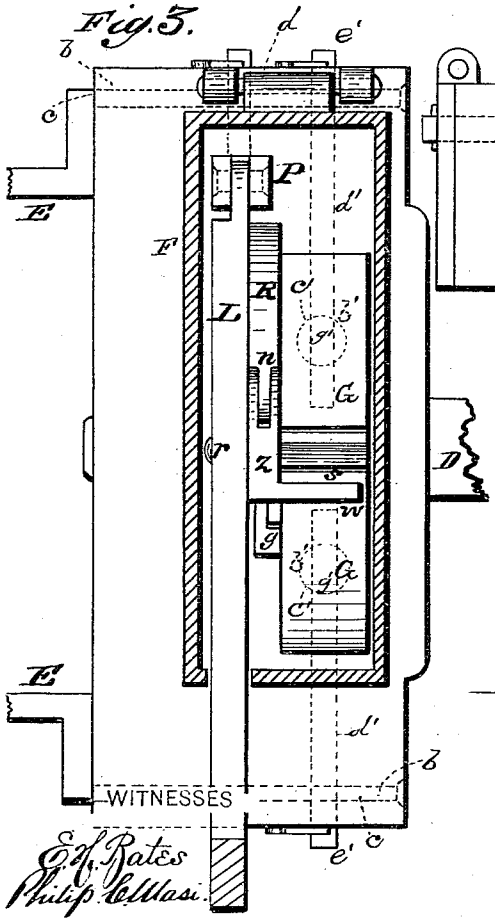
G. M. HARBAUGH.

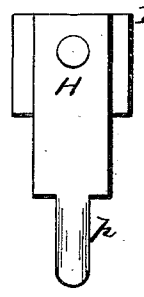
CAR COUPLING.

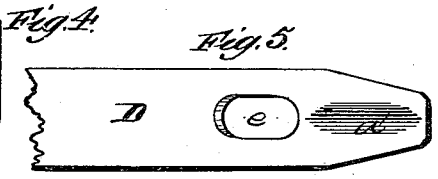
No. 259,534. Patented June 13, 1882.

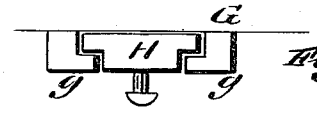












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(No Model.) 2 Sheets—Sheet 2.

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CAR COUPLING.

No. 259,534. Patented June 13, 1882

Fig. 7.

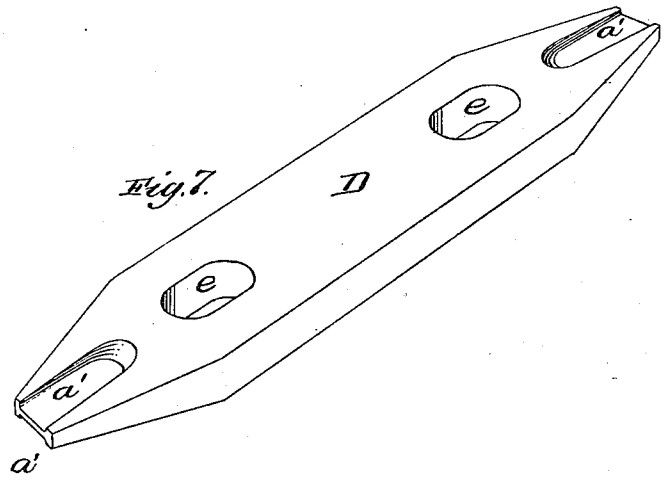
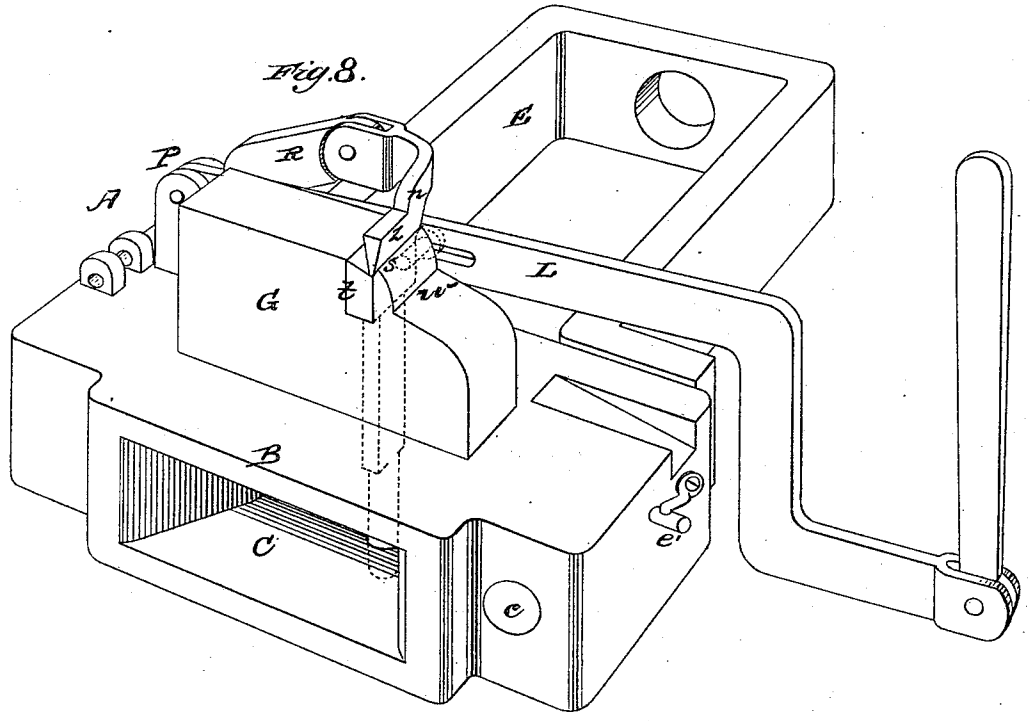


Fig. 8.



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UNITED STATES PATENT OFFICE.

GEORGE M. HARBAUGH, OF SABILLASVILLE, MARYLAND.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 259,534, dated June 13, 1882.

Application filed May 3, 1882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE M. HARBAUGH, a citizen of the United States, resident at Sabillasville, in the county of Frederick and State of Maryland, have invented a new and valuable Improvement in Car-Couplings; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a vertical sectional view of my car-coupling. Fig. 2 is a cross-sectional view of the same. Fig. 3 is a horizontal section through the cover, showing a top view of the coupling. Figs. 4, 5, 6, and 7 are detail views, and Fig. 8 is a perspective view of the coupler.

This invention has relation to devices for coupling cars; and it consists in the construction and novel arrangement of the abutment-guide projecting above the top of the draw-head and the reciprocating trip, the pin-jack and its jointed arm or prop-catch, and the solid flat link-bar having end slots.

The invention also consists in the removable abutment having arms extending downward into recesses in the head and the horizontal locking-pins engaging said arms, all as hereinafter set forth.

In the accompanying drawings, the letter A designates the front portion or body of the draw-head, having the link-opening B made centrally through it. This link opening or passage B is formed with flaring mouths C in front and rear, which are connected by a comparatively short neck portion or throat, *a*, whereof the sectional opening is only sufficient to allow the flat link-bar D to work therein with ease. Through the sides of the head A are made horizontal passages or holes *b*, to receive the arms or bolts *c*, by means of which the open rear bar, E, of the draw-head is secured to the head A.

F represents the cap, which is attached to the head usually by a hinge-joint at *d*, and serves to protect the working devices above the head from the weather and from unwarranted interference.

The link-bar D is made flat and solid from end to end, except the short slots or pin-openings *e* near each end. The link-bar is somewhat tapering or pointed at each end, as indicated in the drawings, in order to facilitate its entry into the flaring mouth of the draw-head, whether presented true or somewhat indirectly.

G indicates the abutment, which projects upward from the top of the draw-head, and is provided on its rear transverse face with guides *g*, in which the sides of the pin-slide H play. A passage, *h*, is made vertically through the abutment and head to the throat *a*, said passage being enlarged at its upper end, *k*, and at its lower end, *l*. In this passage is seated the vertical reciprocating trip K, the lower end, *m*, of which is somewhat larger in diameter than its neck portion to correspond with the enlarged lower end, *l*, of the passage *h*, in which it plays. This end *m* of the trip is rounded underneath, and when in its lowest position projects into the neck *a* from above. In the upper enlargement, *k*, of this passage is seated the head *t* of the trip, which is laterally beveled on top, so that when the trip is in its lowest position the lower edge of the top will be below the stop-wall *s* of the passage.

L indicates the lever or pin-jack, one end of which is pivoted to a post, P, projecting from the top of the head. This lever extends laterally toward the side of the car, and is designed to enable the pin to be easily raised without going between the cars. The lever is provided with an arm, R, which is jointed at *n*, and the pivoted end or prop-catch *z* is angular in form and projects forward over the abutment. To the lever is pivoted, at *r*, the pin-slide H, which is of flat form, having a rounded pin portion, *p*, projecting downward and designed to engage the pin-hole *v* of the head when in its lowest position. When the lever L is down, the link being in position and engaged by the pin, the jointed arm R is level, or nearly so, and its upper surface is about even with that of the highest portion of the abutment. Its catch end is then seated on a lower bearing portion, *w*, of the top of the abutment, as indicated in the drawings. When the lever is raised the arm R rises, as the pin is drawn upward, to free the link, and the pivoted prop-catch *z* falls into engagement with the stop-wall *s* of the abutment as the link is withdrawn from the draw-head. At the same time the trip K falls into its lowest position.

The lever and its pin are now set or held up by the prop-catch, and the draw-head is therefore ready to receive the link. As the link enters it raises the trip K, and thereby disengages the prop-catch from the stop *s*, allowing the lever to fall, and the pin, which is pivoted thereto, descends, engaging the aperture in the link. The coupling operation is therefore automatic. In order to prevent premature action on the part of the trip, the faces of the link-bar at each end are centrally grooved or recessed at *a'*, so that the end of the bar can pass well into the link-passage and under the pin before the trip is raised.

The abutment G is usually made separate from the body of the head, and is formed with arms *b'*, which extend downward into seats or apertures *c'*, made in the head on each side of the central opening. In the head are also formed smaller passages or perforations *d'*, extending transversely and horizontally from each side wall of the head, so as to intersect the seats or apertures *c'*, and in these perforations are inserted pins *e'*, which pass through openings *g'* in the arms of the abutment. The outer ends of the pins are designed to be secured by hooks, slide-pins, or other common fastenings.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. In a car-coupling, a link-operated vertically-reciprocating trip, K, in combination with a pin-raising lever having a jointed arm, R, terminating in a prop catch, *z*, substantially as specified.

2. In an automatic car-coupling, the abutment G, above the draw-head, having the guides *g*, passage *h*, and stop *s* at the upper end of said passage, the bevel-headed vertically-reciprocating trip K, the pin-slide H, the pin-lever L, having a raised arm, R, and the pivoted prop-catch *z*, substantially as specified.

3. In an automatic car-coupling, the combination, with a flat solid link-bar, D, having pin-slots near each end, and a draw-head having a narrow throat, *a*, of a pin-lever, L, a prop-catch, *z*, jointed thereto, a pin pivoted thereto, a vertically-reciprocating trip, K, and a stop, *s*, substantially as specified.

4. In a car-coupling, the removable abutment-guide G, having the arms *b'*, seated in apertures *c'*, extending downward into the draw-head, and in connection therewith the transverse horizontal passages *d'*, intersecting the apertures *c'*, the transverse horizontal pins *e'*, seated therein and passing through perforations in the arms of the abutment, and the end fastenings, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

GEORGE M. HARBAUGH.

Witnesses:

THEO. MUNGEN,

PHILIP C. MASI.