(No Model.)

W. W. TOWNSEND, Sr.

CAR COUPLING.

No. 420,923. Patented Feb. 4, 1890.

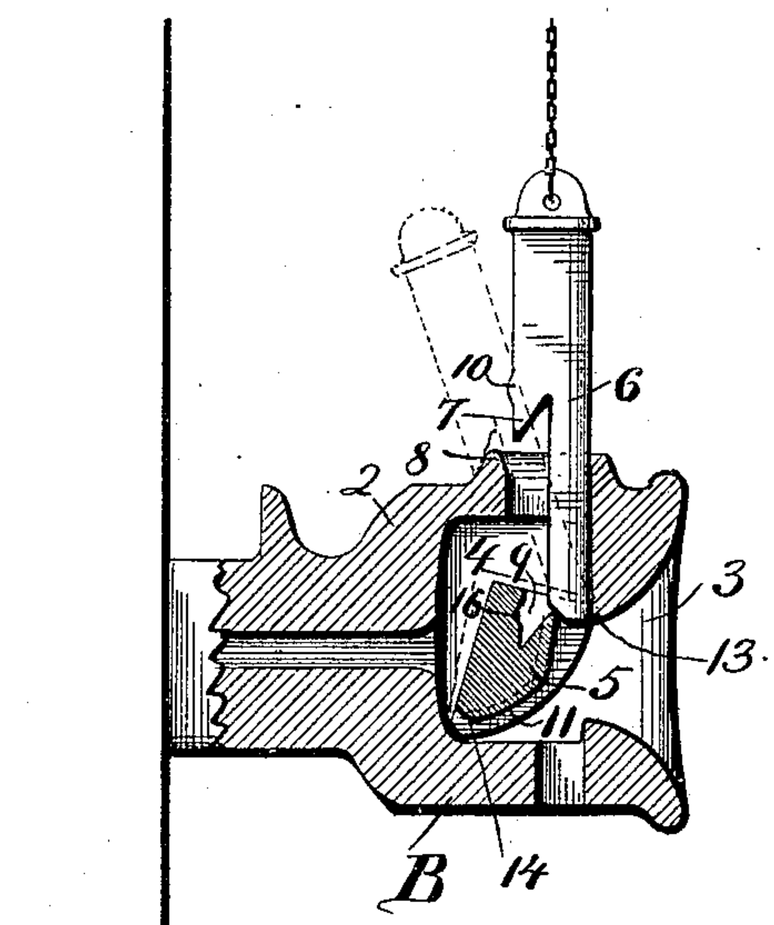


Fig. 1.

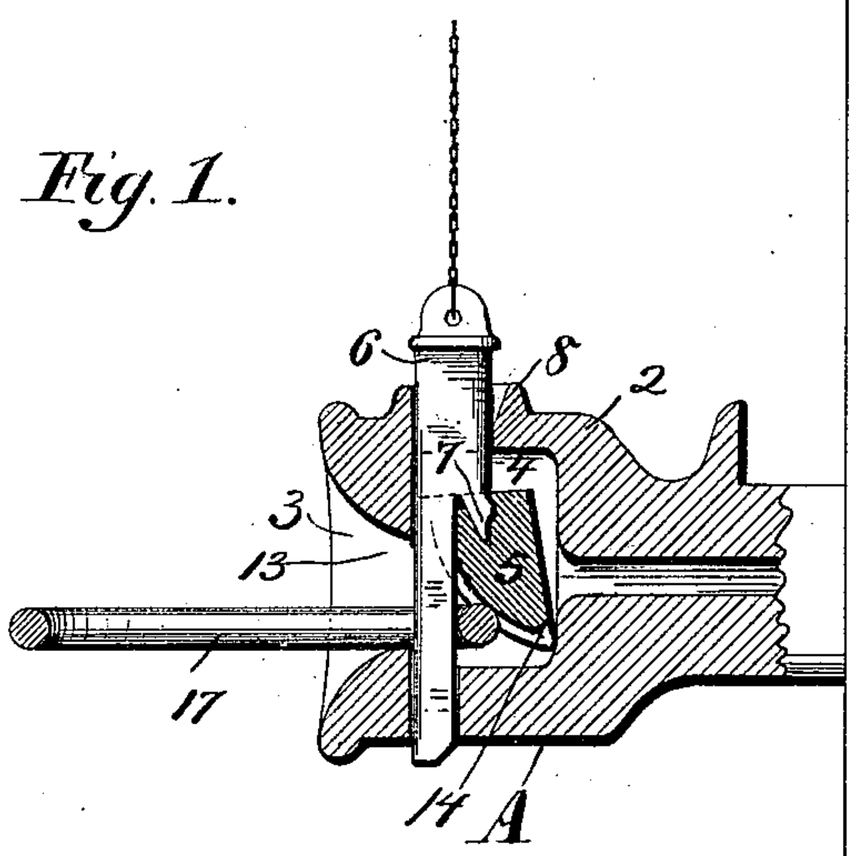


Fig. 2

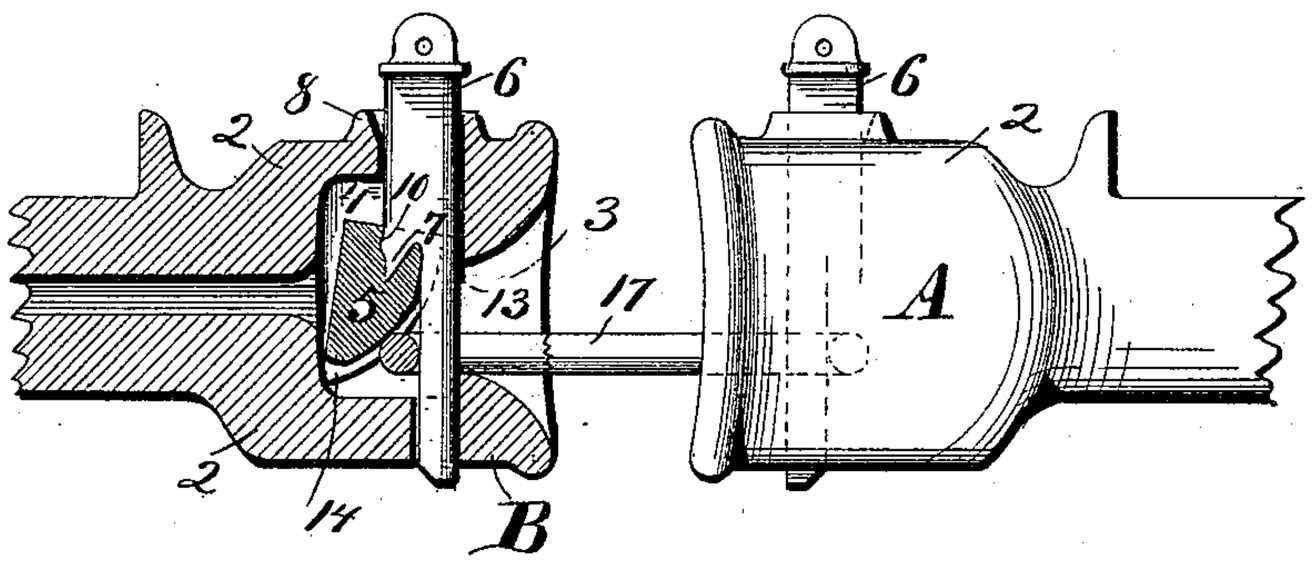


Fig. 3.

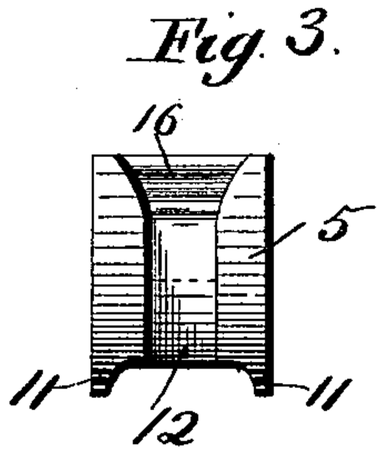
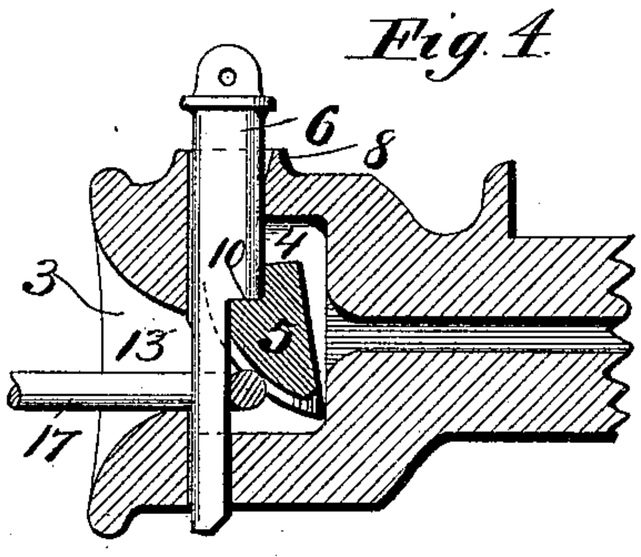


Fig. 4.



Witnesses.

J. Jessen.

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UNITED STATES PATENT OFFICE.

WILLIAM W. TOWNSEND, SR., OF MINNEAPOLIS, MINNESOTA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 420,923, dated February 4, 1890.

Application filed June 5, 1889. Serial No. 313,157. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. TOWNSEND, Sr., of Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Car-Couplers, of which the following is a specification.

My invention relates to the coupling attachments of ordinary freight-cars; and it consists, generally, in the construction and combination hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, forming a part of this specification, Figure 1 is a vertical longitudinal section of a pair of coupler-heads A and B slightly separated in position for coupling, A carrying a link, and B with pin raised in position to receive the link, the dotted lines showing the position of the pin hooked upon the head. Fig. 2 is a similar view of the heads coupled together. Fig. 3 is a detail of the link-weight, and Fig. 4 is a modified construction of link-weight and pin.

In the drawings, 2 represents the coupler-head, having a throat 3 of usual form and dimensions, and an interior recess 4, in which is loosely held the link-weight 5.

17 is the coupling-link of ordinary form and dimensions.

6 is the pin, preferably of rectangular form slightly flattened, its width when in the head being longitudinal of the head. The back part of the lower portion of the pin is cut away, leaving the lower portion of the pin approximately square and a downwardly-projecting spur or hook 7 on the upper portion. A slight ridge or projection 10 is preferably formed on the rear surface of the pin a little above the point of the hook 7, for the purpose hereinafter specified. A lip 8 around the pin-hole on top of the head forms a convenient support for the pin when raised, it being engaged by the hook 7, as shown by the dotted lines in Fig. 1. The link-weight 5 is preferably a solid iron block, in width and height a little less than that of the recess, so as to play freely therein, and with top substantially at right angles with its back. In the top, near the front, is fitted a socket 9, of such size and form as to receive the hook 7 of the pin when the pin is dropped into engagement with a link, as shown, in head A, Fig. 1. A shallow recess is formed in the link-weight to receive the projection 10, and serves to hold the pin firmly in engagement with the link-weight. The face of the link-weight is curved downward and backward, making an acute angle with the back, the front edges of the weight projecting slightly, so as to form flanges 11, and the central portion being channeled out vertically to form a groove 12, in which the lower part of the pin fits when engaging the link.

The described form of link-weight is such that when the pin is withdrawn from the head it tilts forward until it strikes and rests against the inner shoulder 13 in the upper part of the throat. While in this position if the pin is dropped into the pin-hole its point will rest on the lip of the link-weight, and is supported as shown in B of Fig. 1. The parts being in the above-described position, if a link is thrust into the head it will strike the curved face of the block, tilting it back, and also raising it sufficiently for the link to pass underneath. The pin, being tripped, drops through the link and locks with the link-weight, and the weight of the link-weight, with that of the pin, counterbalances the weight of the projecting end of the link and supports it in a horizontal position, and thus adapts it to enter an opposite coupler-head, as shown in A of Fig. 1. The link-weight cannot be displaced so as to drop out of the head, but can be removed by means of a hook introduced underneath and engaging its edge 14, when the bottom can be pulled forward, allowing the weight to be removed through the throat of the coupler.

Any suitable mechanism may be attached to the pin, by means of which it may be raised or tripped from the top or side of the car. When it is desired to place the pin so that it will not drop into the hole and couple, it is raised and the hook 7 caught over the lip 8.

The operation is as follows: A link is secured in one head, as shown in coupler A of Fig. 1, and the pin in the opposite coupler is raised and supported upon the link-weight, as shown in coupler B, Fig. 1. On bringing the coupler-heads together the link supported in the head A enters the head B, strikes the

link-weight, throwing it backward and upward and releasing the pin, which drops through the link, the hook 7 fitting into the socket 9 and the projection 10 into its recess 16, the pin being thus firmly held by the link-weight. To uncouple, the pin is simply withdrawn in the ordinary manner, or by means of the attachments connected thereto.

The superiority of my improved coupler over other forms consists in the strength and simplicity of construction, the only part in addition to the link and pin being the link-weight, which, while readily removable, cannot be displaced while in use, perfect automatic action of the link-weight in engaging and supporting the link and tripping the pin, and ease of operation.

A car fitted with my improved coupler can be coupled to a car fitted with the ordinary form of coupler or any form carrying the ordinary link and pin.

A modified form of link-weight and pin (shown in Fig. 4) may be used, if desired. In this construction a square shoulder is made on the link-weight in place of a socket and a corresponding shoulder on the pin 10 to rest upon it when in engagement with the link.

If the recess of the draw-head is sufficiently large to receive it, the link-weight may be made of sufficient weight to alone counterbalance a projecting link, in which case a pin of ordinary form may be used and the link-weight constructed without even a shoulder to receive a shoulder on the pin. In this construction the body of the link-weight when tilted or rocked forward is interposed beneath the pin which rests upon it, and when the weight is tipped back by the entering of the link the pin is released and drops in front of the weight and into engagement with the link.

I claim as my invention—

1. In a car-coupler, the combination, with the head having a suitable interior recess, of a link-weight having its face curved downward and backward to an acute angle with its back and having a suitable pin-socket, and a pin having a downwardly-projecting spur or hook on its rear surface adapted to fit into said socket, substantially as and for the purposes set forth.

2. The combination, with a coupler-head having the recess 4 and the shoulder 13, of a link-weight arranged loosely in said recess and adapted to tilt forward by its own gravity against said shoulder, and to thus interpose itself beneath and support the coupling-pin, and to be tilted backward and lifted by an entering link, so as to release said pin and to bear upon and counterbalance said link, substantially as described.

In testimony whereof I have hereunto set my hand this 1st day of June, 1889.

WILLIAM W. TOWNSEND, SR.

In presence of—

T. D. MERWIN,

A. M. GASKILL.