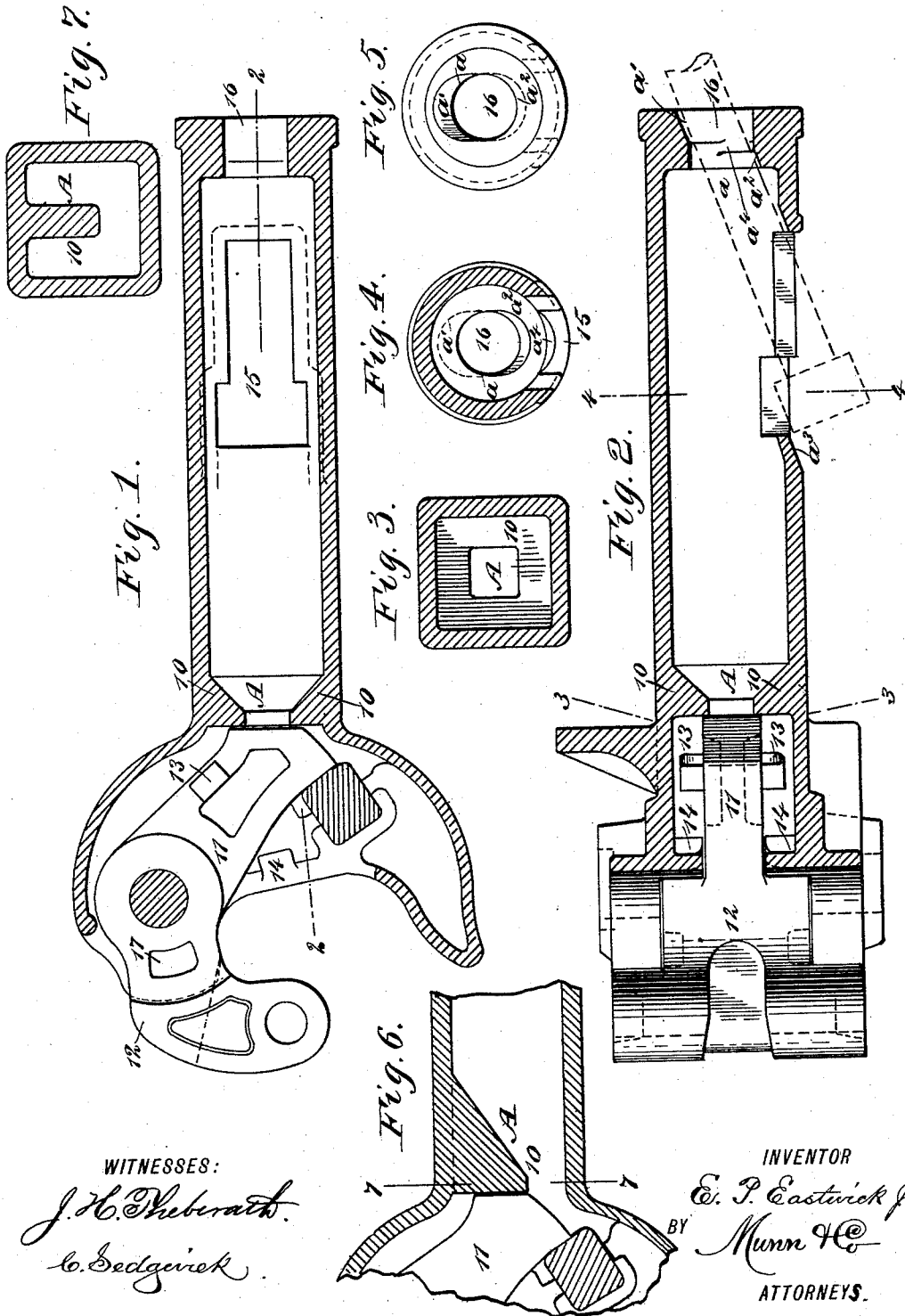


(No Model.)

E. P. EASTWICK, Jr.
CAR COUPLING.

No. 475,683.

Patented May 24, 1892.



WITNESSES:

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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 475,683, dated May 24, 1892.

Application filed July 9, 1891. Serial No. 398,895. (No model.)

To all whom it may concern:

Be it known that I, EDWARD P. EASTWICK, Jr., of New York city, in the county and State of New York, have invented a new and useful Improvement in Car-Couplers, of which the following is a full, clear, and exact description.

My invention relates to car-couplers of the vertical-plane type, and has for its object to provide a means whereby buffing-surfaces may be obtained other than those which have been heretofore used, and also to provide a means of limiting the outward throw of the knuckle.

A further object of the invention is to provide an arrangement of openings in the side and end of the draw-bar shank through which the tail-bolt is passed for the purpose of obtaining proper position and adjustment.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a horizontal section through a draw-bar embodying the improvements. Fig. 2 is a central vertical section taken practically on the line 2 2 of Fig. 1. Fig. 3 is a transverse section taken practically on the line 3 3 of Fig. 2. Fig. 4 is a transverse section taken practically on the line 4 4 of Fig. 2, and Fig. 5 is a view of the inner end of the draw-bar. Fig. 6 is a partial horizontal section through the draw-bar, illustrating a modified form of the buffing-surface; and Fig. 7 is a transverse section on the line 7 7 of Fig. 6.

In a former patent for car-couplings, No. 454,723, dated June 23, 1891, I describe a buffing-surface made up of spaced buffing-lugs cast within the shank at or near its junction with the draw-head and integral therewith; but since in practice it has been found that there is no necessity of having more than one buffing surface or lug, I now construct the buffing-surface A in car-couplers by projecting from the interior side of the draw-bar a single lug 10, which, as shown in Figs. 1, 2, and 3, may be practically ring-shaped, hav-

ing a space in its center; or, as illustrated in Figs. 6 and 7, the lug may partake of the nature of a tongue or simple projection extending from the interior side of the draw-bar part way across the space therein. The buffing-surface is adapted to be engaged by the inner end or wing 11 of the knuckle 12, and as the latter is pivoted in the draw-head the said buffing-surface is preferably located in the shank of the draw-bar adjacent to or at its junction with the head. It can happen that when the knuckle is thrown outward it may receive a blow, the force of which it would transmit to the draw-head at a point not adapted for sufficient resistance, and in order to change and locate the place of resistance where it may be most efficient I attach a lug or lugs 13 upon the wing of the knuckle, which lugs may be integral therewith, and when two lugs are employed they are oppositely located, as shown in Fig. 2. The lugs of the knuckle are adapted, when the latter is opened to its full extent, to engage with an offset or offsets 14 or like surfaces within the draw-head in the outward path of the knuckle-wing. By this means the outward movement of the knuckle is limited and the point of resistance is localized. Ordinarily two lugs are located upon the knuckle, one at the top and the other at the bottom near its inner side edge, and the corresponding receiving-surfaces of the draw-head are located one at the top and the other at the bottom of the front open end of the draw-head.

If in practice it is found desirable, the movement of the knuckle may be limited by lugs or pins located in the draw-head loosely fitted in a groove or grooves of prescribed length in the knuckle. The receiving surface or surfaces within the draw-head may be removable or integral therewith. Hence the wording "surfaces within the draw-head."

In my patent for a car-coupling, No. 417,006, dated December 13, 1889, claim is made for the special manner of inserting the tail-bolt, which consists in providing a properly-shaped opening in the side of the shank, through which the tail-bolt is slantingly passed, and a second oval or elongated hole in the rear end of the shank, also to accommodate the passage of the tail-bolt. This arrangement necessa-

rily makes the bearing-surface for the head of the tail-bolt less than when the rear end opening is round, which is its ordinary construction. My present invention obviates this objection; and it consists in locating an essentially T-shaped opening 15 in the side of the shank some distance from the end, as is illustrated in Figs. 1 and 2, in making the hole 16 in the end of the shank round near the center thereof, as indicated at *a* in Fig. 2, and in beveling or cutting away diagonally-opposite edges of the hole, as indicated at *a'* and *a''*, to accommodate the bolt when entered and placed in position, as shown in dotted lines, Fig. 2.

The front outer edge of the T-opening 15 is beveled, as indicated at *a''*, as is likewise the under surface of the inner end wall, as shown at *a'*. The round portion *a* of the end hole 16 of the shank-section serves to guide the tail-bolt, maintaining it in proper position when entered into the shank, and the head of the tail-bolt rests upon the inner wall of the shank around said hole. I also preferably place a washer, which may be of steel, under the head of the tail-bolt to improve its bearing and to reduce wear on the shank.

In order to economize in metal and to facilitate annealing in the construction of the knuckle, I provide said knuckle with a vertical opening 17, extending partially or completely through from top to bottom and located adjacent to its pivot-point, as shown in Fig. 1, preferably in front of said point.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a car-coupler of the vertical-plane type, the combination, with the draw-head and a single buffing-surface only formed on the interior of the draw-head and at right-angles to the line of buffing force and located at or near the union of the head with the shank, of a knuckle pivoted in the draw-head, the inner end of which is in engagement with the buffing-surface at the point on the line of buffing force when the knuckle is

in its coupled position, as and for the purpose specified.

2. In a car-coupler of the type described, the combination, with a draw-head and a knuckle pivoted therein, of a lug or projecting surface formed upon the knuckle and a surface formed in the draw-head adapted to receive the knuckle, lug, or projecting surface, substantially as described.

3. In a car-coupler of the type described; the combination, with a draw-head and a knuckle provided with an inwardly-extending wing pivoted in said draw-head, of lugs or projecting surfaces formed upon the wing of the knuckle and special surfaces formed within the draw-head and adapted to receive the lugs or projecting surfaces of the knuckle, as and for the purpose set forth.

4. In a car-coupler of the type described, the combination, with a head, of a shank having an elongated opening in its face to receive the tail-bolt of the coupler, and a round opening in the end beveled from its edges inwardly and outwardly in contrary directions on diagonally-opposite sides of said end opening, through which said tail-bolt is adapted to project.

5. In a car-coupling of the character described, a shank having an elongated opening in one side to receive the tail-bolt of the draft-rigging and a round opening in its end beveled from the edges inwardly and outwardly in contrary directions on diagonally-opposite sides, the tail-bolt being adapted to project through this end opening, and a washer adapted to be located at the head of the tail-bolt, as and for the purpose set forth.

6. In a car-coupler of the type described, a knuckle provided with an opening extending through from top to bottom located between its front end and its pivot-point and provided with a wing, which wing has formed thereon lugs, as and for the purpose set forth.

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Witnesses:

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