(No Model.)

E. P. EASTWICK, Jr.

CAR COUPLING.

No. 454,721. Patented June 23, 1891.

Fig. 1.

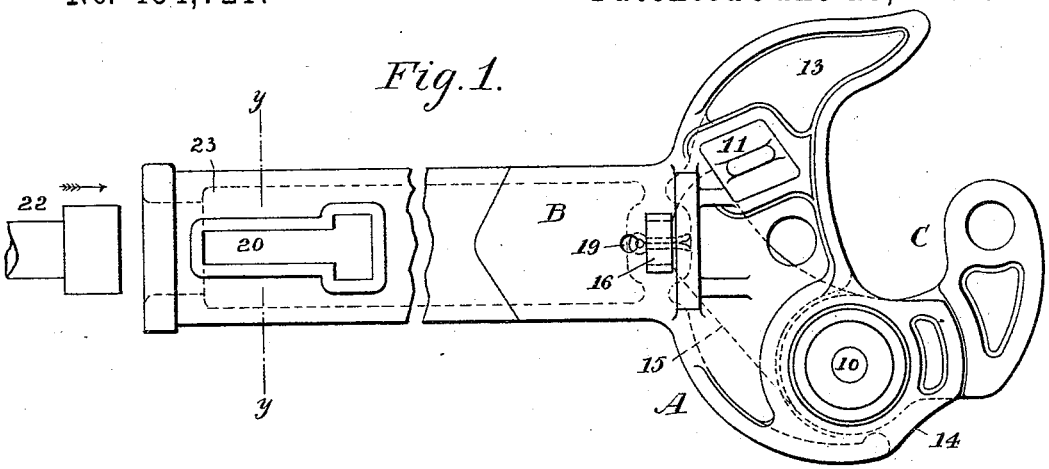


Fig. 2.

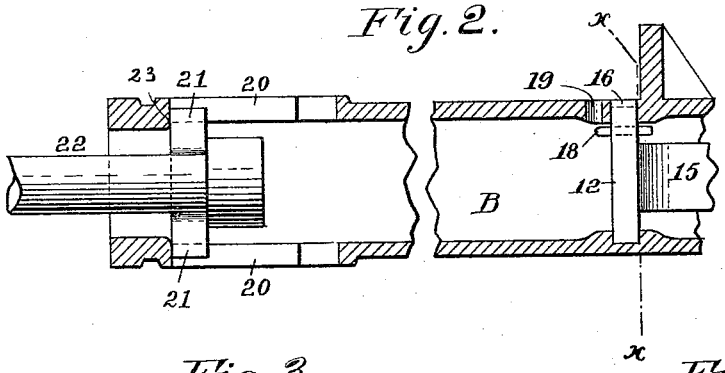


Fig. 3.

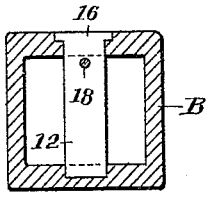


Fig. 5.

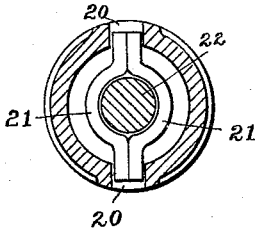
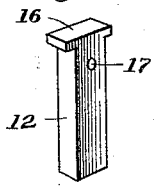


Fig. 4.



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EDWARD P. EASTWICK, JR., OF NEW YORK, N. Y., ASSIGNOR TO GEORGE SPENCER EASTWICK, OF NEW ORLEANS, LOUISIANA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 454,721, dated June 23, 1891.

Application filed January 23, 1891. Serial No. 378,761. (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 especially to an improvement upon the construction shown in the Letters Patent granted to myself December 10, 1889, No. 417,006, and November 11, 1890, No. 440,586.

The object of the invention is to provide a construction by means of which a more substantial and enduring wearing-surface and bearing are obtained for the knuckle than have heretofore existed, and also to provide for the ready removal of worn surfaces and injured bearings and their renewal with perfect parts readily inserted in place.

A further object of the invention is to provide a convenient means for uniting the tail-bolt with and securing the same in the shank of the draw-head.

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 plan view of a draw-head having my improvement applied. Fig. 2 is a central vertical section through the draw-head. Fig. 3 is a transverse section on the line $x\ x$ of Fig. 2. Fig. 4 is a perspective detail view of the buffing pin or plate; and Fig. 5 is a transverse section taken on the line $y\ y$ of Fig. 1.

The coupler consists, principally, of two parts—namely, the draw-head A, with its shank B, and the knuckle C. The minor parts are the pivotal pin 10, the self-acting gravity locking-pin 11, and the independent removable and adjustable buffing plate or pin 12. The pivotal pin and locking-pin are preferably but not necessarily located, respectively, on opposite sides of the central line of draft, and the buffing pin or plate is directly in the line of draft, which is also the line of buffing or compression. The draw-head A, as usual in couplers of this class, is provided with two arms 13 and 14, and is made essentially hollow, whereby an open chamber is obtained to receive the knuckle, having sufficient space for the free movement of the same.

The knuckle is pivoted in the arm 14 of the draw-head by the pin 10, which extends from the top to the bottom of said arm and is properly secured, upon which pin the knuckle rotates, and the arm 13, which is closed, forms a horn and is a guiding-plane for directing the opposed knuckle of an opposite coupler to bring the two knuckles into engagement and effect the self-locking of the same. The knuckle is provided with a wing 15 integral therewith, (shown in dotted lines, Fig. 1,) extending toward the shank of the draw-head, and the wing is of such shape and dimensions that when the couplers are engaged and locked the wing bears at its inner side on the locking-pin 11 and at its outer side on the buffing plate or pin 12, and the pulling strain is received by the locking-pin and the buffing strain by the buffing plate or pin.

The buffing plate or pin 12 may be made of steel or other material of approximately the same hardness as the knuckle, and the said pin is preferably shaped with one end enlarged into a head 16, and near the head a hole 17 is produced for the insertion of a cotter-pin 18, as shown in Figs. 2 and 4. The buffing-plate is adjusted to the coupler by passing it through an opening in the top or side face of the shank, preferably the top, close to the head, into a recess on the interior under side or side of the shank, and the cotter-pin is inserted through the hole in the plate or pin 12, by means of which the latter is held firmly in place, and the head of the said plate is recessed into the shank, as shown in Fig. 3. An opening 19 is provided in the shank over the end of the cotter-pin to admit of appliances for placing and removing the pin, and the opening may be either on top or in any other position, as required by the location of the buffing-plate.

At two opposite sides of the shank there is, respectively, in each an opening 20 near the

end of the shank, which is preferably enlarged at its end nearest the head of the draw-head, making it virtually a T-slot, as shown in Fig. 1. The enlarged portion of the opening is intended to admit a clamp 21, of steel or other material, which is usually made in two sections and is adapted to pass around the tail-bolt 22, under the head thereof, and extend through the openings. In the preferred construction of the clamp the members consist of a semicircular body and lips extended at an angle from the ends of the body. This clamp, when the pulling strain acts on the tail-bolt 22, moves with the bolt and along the narrow portions of the openings to the rear ends thereof, where, by contact with the said ends, the shoulder 23, and the bolt-head it prevents the further movement of the bolt and forms a bearing for the head of the same. The shank-section of the opening or openings 20 may be closed, but in such manner as to retain a groove or grooves for the clamp to move in; or there may be an opening on one side of the shank and a groove opposite, or an opening and groove on one side and a groove opposite.

The prime object of the invention, as heretofore stated, is to provide an independent, detachable, adjustable plate or pin, and thereby secure a bearing for the abutting back of the knuckle, which may be of the same material or of other material of similar hardness as that of the knuckle, and thus obtain an improved wearing-surface and also permit the removal and renewal of a worn or injured buffing-plate.

As ordinarily manufactured, the draw-head is entirely of malleable iron and the knuckle of steel, and when the two materials come in contact the hard metal impinging upon the softer one causes the latter to rapidly wear away. When the place of contact with the knuckle on the draw-head has worn away, the entire draw-head as at present constructed must be discarded. My invention obviates this necessity, and thereby effects a great economy not yet attained by existing devices.

In the arrangement of the openings in opposite sides of the shank in connection with the clamp the object is twofold. In the first place it is to allow the tail-bolt to be entered into the draw-head at the end opening of the shank, and, secondly, to secure the said bolt and give the bolt-head a bearing which is independent and removable, and which may be made of any desired material.

The improved construction, that of substituting a removable buffing-plate for a closed wall, also greatly facilitates the manufacture of the coupling, since it allows of a single continuous core being used for the draw-head throughout its entire length, which cannot be done when a closed buffing-wall integral with the draw-head is employed. The improved construction also obviates the necessity which exists with closed buffing-walls of inserting the tail-bolt through the opening in the face of the shank, since the tail-bolt may now either be entered at the opening in the end of the shank, or by removing the buffing-plate it may be pushed in from the front, as is done in most forms of couplers of this class.

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

1. A draw-head provided with an independent removable buffing plate or pin having its buffing-surface within the draw-head, substantially as described.

2. A draw-head provided with an independent removable buffing plate or pin having its buffing-surface within the draw-head and made of a harder metal than that of which the draw-head is constructed, substantially as described.

3. In a car-coupler of the type described, the combination, with a draw-head and the rotating knuckle thereof, of an independent removable and adjustable buffing plate or pin, the buffing-surface of which is located within the draw-head, substantially as described.

4. In a car-coupler of the type described, the combination, with a draw-head and the rotating knuckle thereof, of an independent removable and adjustable buffing plate or pin having its buffing-surface within the draw-head and made of a metal of substantially the same degree of hardness as the knuckle and of a greater degree of hardness than the draw-head, substantially as described.

5. In a car-coupler of the type described, the combination, with a draw-head and an independent removable and adjustable buffing plate or pin located in the draw-head, of a locking-pin located in the draw-head at one side of a central line, a knuckle pivoted in said draw-head at the opposite side of the central line and provided with an integral wing engaging at one face with the locking-pin and at another face with the independent removable and adjustable buffing plate or pin, substantially as and for the purpose specified.

6. In a car-coupler of the type described, the combination, with the draw-head, of an independent removable and adjustable buffing plate or pin which passes through an opening in the shank of said draw-head and enters a recess on the interior bottom side or side of the shank, and a locking device connected with the pin or plate, substantially as and for the purpose set forth.

7. In a car-coupler of the type described, the combination, with the draw-head, of an independent removable and adjustable buffing plate or pin which passes through an opening in the shank of said draw-head and enters a recess on the interior bottom side or side of the shank, the said pin or plate being provided with a through-opening, and a cotter-pin passed through the opening in the

buffing plate or pin below an opening in the draw-head, as and for the purpose set forth.

8. In a car-coupler of the type described, the combination, with a draw-head having openings in the shank at opposite sides, of a clamp and bearing fitted in the said openings, and a tail-bolt embraced by the said clamp and bearing, as and for the purpose specified.

9. In a car-coupler, the combination, with a draw-head having opposite slideways produced in its shank, of a clamp capable of movement in the slideways and adapted to constitute a bearing for the tail-bolt of the coupler, for the purpose specified.

10. In a car-coupler of the type described, the combination, with a draw-head having two essentially T-shaped slots in the shank located at opposite sides, of a clamp and bearing comprising two members, each consisting of a semicircular body and lips projected at an angle from the ends of the same, the said clamp and bearing being adapted to slide in the openings, and a tail-bolt adapted to be embraced by the clamp, substantially as set forth.

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