

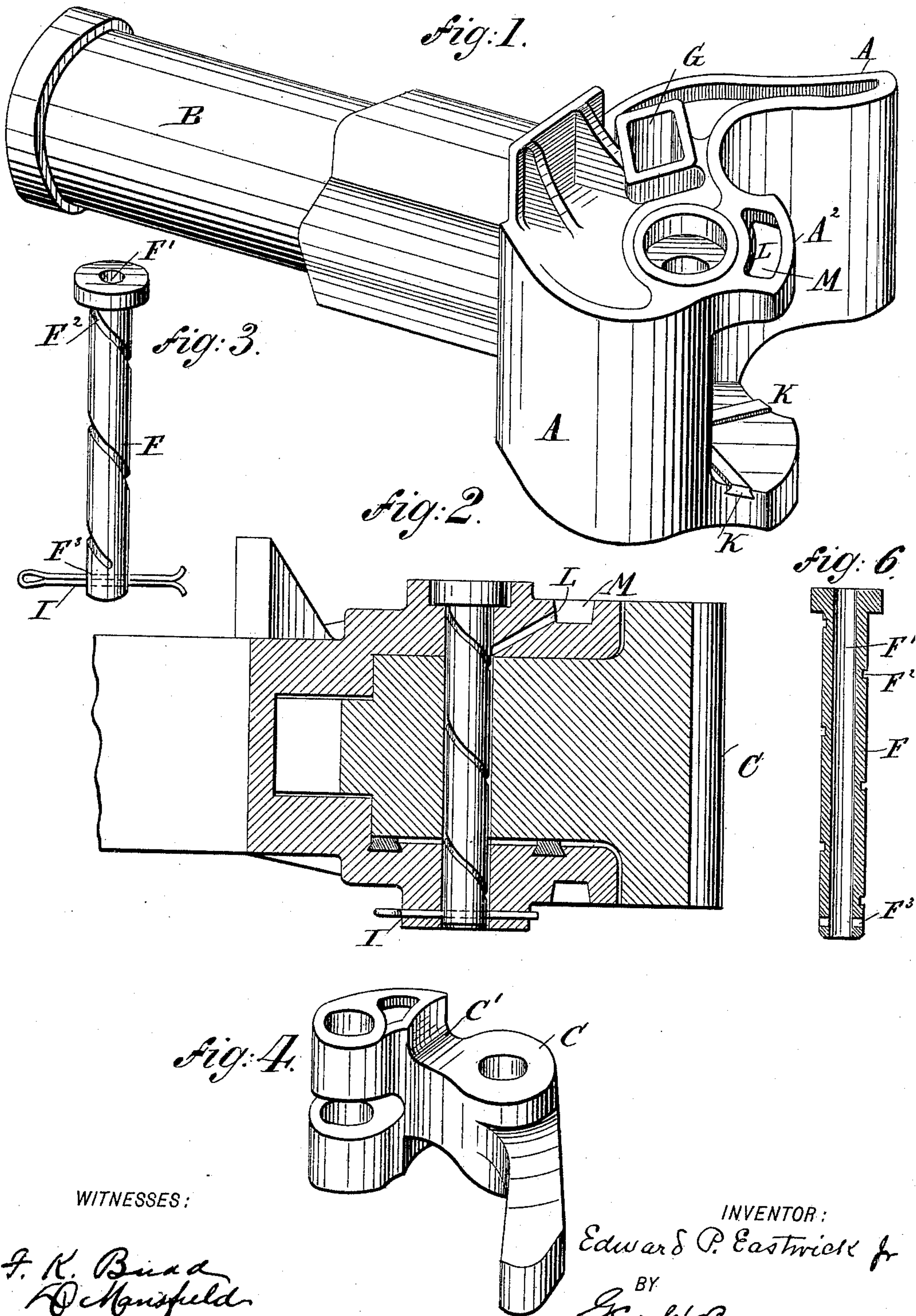
(No Model.)

2 Sheets—Sheet 1.

E. P. EASTWICK, Jr.
CAR COUPLING.

No. 440,586.

Patented Nov. 11, 1890.



WITNESSES:

F. K. Bunn
D. Mansfield

INVENTOR:

Edward P. Eastwick Jr

BY

Geo. H. Ruggan
ATTORNEYS

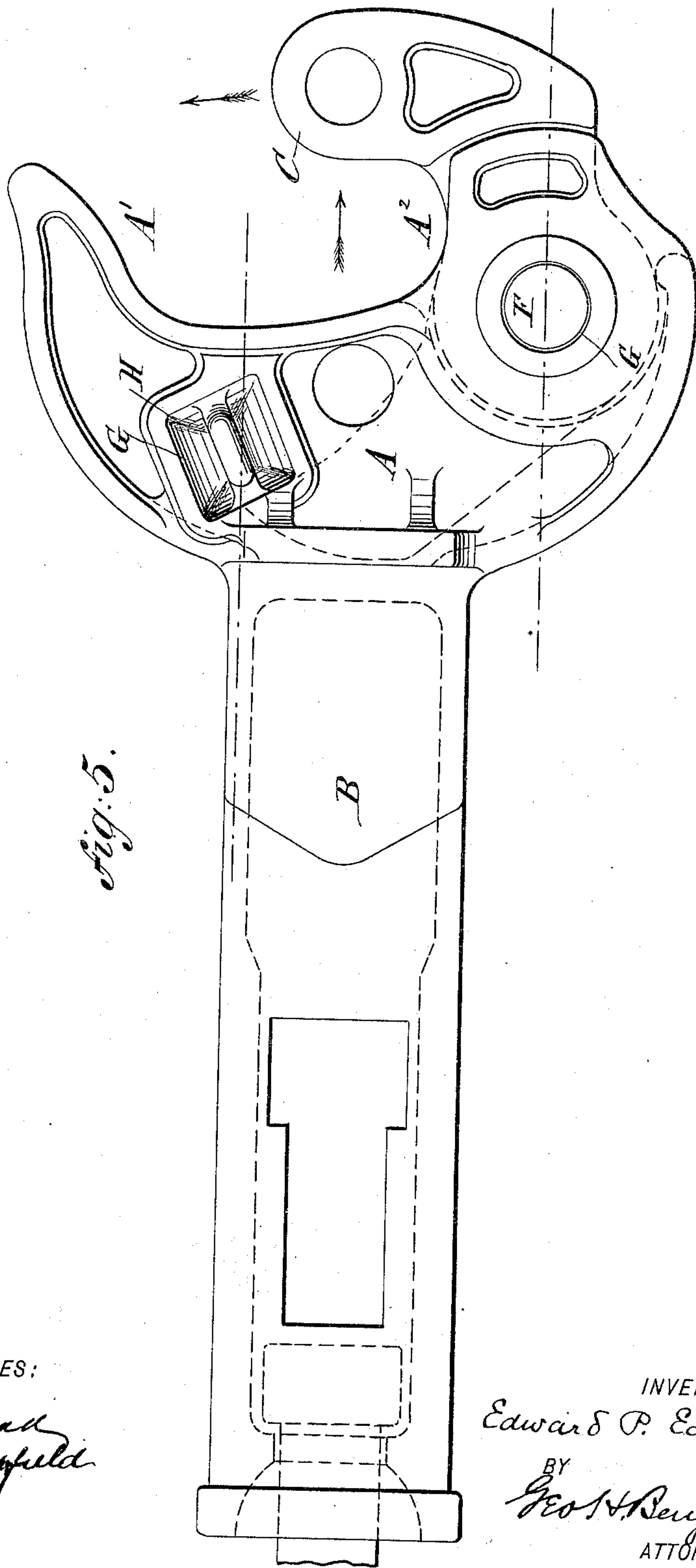
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UNITED STATES PATENT OFFICE.

EDWARD P. EASTWICK, JR., OF NEW YORK, N. Y.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 440,586, dated November 11, 1890.

Application filed May 1, 1890. Serial No. 350,227. (No model.)

To all whom it may concern:

Be it known that I, EDWARD P. EASTWICK, Jr., a citizen of the United States, and a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Car-Couplers, of which the following is a specification.

My invention relates to car-couplers of the type known as "vertical hook" couplers.

My invention consists in certain improvements which tend to make the coupler stronger and better adapted to withstand the wear and tear to which it is subjected when in service.

My improvements consist, first, in the configuration of the coupler. In designing the coupler the center of motion for the movable knuckle is located farther back in the body of the draw-head than has heretofore been the case with couplers of this type, whereby greater strength is attained and provision made to take up any lost motion between the knuckle and the draw-head, which usually occurs from wear in couplers of this type and disturbs the security of the lock between the two couplers.

It consists, second, in the construction of the pin, which serves as the axis of rotation of the movable knuckle in the draw-head. Heretofore the pin employed has been made solid and either of wrought iron or steel. My improved pin is made hollow and usually of cast-steel, and is further provided with a groove on its surface which serves as a receptacle for oil, and therefore tends to lubricate the joint between the knuckle and the pin, thus facilitating the movements of the knuckle around the pin.

It consists, third, in the means provided for decreasing the rotating friction of the knuckle, which means consist of suitably locating a bearing plate or plates of hard metal, whereby the knuckle will rotate upon a surface fully as hard as the material of which it is usually made, (steel,) instead of upon a comparatively soft metal, such as malleable iron.

My invention relates also to certain other minor details of construction, which will hereinafter be more specifically pointed out.

In the accompanying drawings, which illustrate my invention, Figure 1 is a view in perspective of the draw-head with the knuckle removed, and shows the general features of

construction of the draw-head, the position of the socket for the pin which forms the axis of rotation for the knuckle, and also the location of the bearing-plates for decreasing the frictional surface of the knuckle. Fig. 2 is a section taken on the line $x x$ of Fig. 5. Fig. 3 is a view in perspective of the axial pin upon which the knuckle rotates and shows the oil-groove upon its surface. Fig. 4 is a detached view in perspective of the knuckle. Fig. 5 is a top view of the complete coupler. Fig. 6 is a vertical section through the pivotal pin.

In the drawings, A indicates the body of the draw-head, and B its shank. The body of the draw-head, as is usual in couplers of this class, is provided with two arms A' A^2 and a cavity in its body within which the pivotal pin F is located. The upper portion of this cavity is increased in size to receive the head F' of the pin F, and therefore brings the top of the pin flush with the top of the draw-head.

G represents the cavity for the locking-pin, and H the locking-pin.

The pivotal pin F, I preferably make hollow in order to obtain a stronger pin than can be obtained where the same is made solid. On the outside of the pin, commencing at the top and carried to near the bottom, I arrange the spiral groove F^2 , which ends blindly. In the bottom of the pin there is an orifice F^3 to receive the cotter-pin I. The pin F when in position in the draw-head has its top and bottom approximately flush with the top and bottom plates of the draw-head, and in the bottom plate of the draw-head and arranged transversely I provide the opening or orifice J to receive the cotter-pin. When the cotter-pin is in position, it is passed through the orifice F^3 of the pin and orifice J of the draw-head and the ends spread, as shown in Fig. 3, whereby the pin F is prevented from being lifted out of the draw-head except when required to remove the knuckle C.

The knuckle shown in Fig. 5 does not differ substantially from the knuckle described in Letters Patent granted to me December 10, 1889, and numbered 417,006, with the exception that the point of junction between the hook nose of the knuckle and its body is made a curve instead of an angle, as shown

at C', and this is for the purpose of strengthening the knuckle.

On the inner side of the bottom plate of the draw-head and over that portion where the body of the knuckle usually rotates I have shown a pair of bearing-plates K, dovetailed into the surface of the draw-head. These plates are preferably made from a metal harder than the metal of which the draw-head itself is made and as hard as the metal of which the knuckle is made. The object of these plates is to provide a hard frictional surface upon which the knuckle will rotate, thereby avoiding the wear which is common between draw-head and knuckle in couplers of this type, and by avoiding the wear to hold the knuckle in the best position to facilitate its easy rotation.

I do not limit myself to plates arranged as described, or any form, design, or shape for the frictional surface. A single flat plate may be arranged in the bottom of the draw-head and secured in position in any required manner in place of the plates shown in the drawings.

I have described the spiral groove formed in the body of the pin F. In order to carry oil into this groove, I provide an opening L in the top plate of the draw-head. Thus by putting a certain amount of waste saturated with oil into the cavity M on the top of the draw-head I provide a means of lubricating the surface between the knuckle and its pivotal pin.

I do not wish to limit myself to the spiral

groove on the pivotal pin, as grooves may be made in a different manner, which will serve the same purpose.

Having thus described my invention, I claim—

1. In a car-coupler of the type described, in combination with the draw-head and rotating knuckle thereof, a hollow pivotal pin provided with a groove upon its surface, substantially as described.

2. In a car-coupler of the type described, the combination, with a draw-head having a recessed top and a slotted bottom extension, of a pivotal pin provided with a head which fits into the recess on the top of the draw-head and perforated at the bottom to receive a cotter-pin, and a cotter-pin which is located in the perforation in the bottom of the pivotal pin and in the slot in the extension of the bottom plate of the draw-head, substantially as and for the purpose set forth.

3. In a car-coupler of the type described, in combination with the draw-head and rotating knuckle thereof, a frictional bearing plate or plates located on the inner side of the bottom of the cavity of said draw-head, and which forms a rotating surface for said knuckle, substantially as described.

In witness whereof I have hereunto set my hand and affixed my seal this 25th day of March, 1890.

EDW. P. EASTWICK, JR.

Witnesses:

JOHN H. STEAD,
R. GOODCHILD.