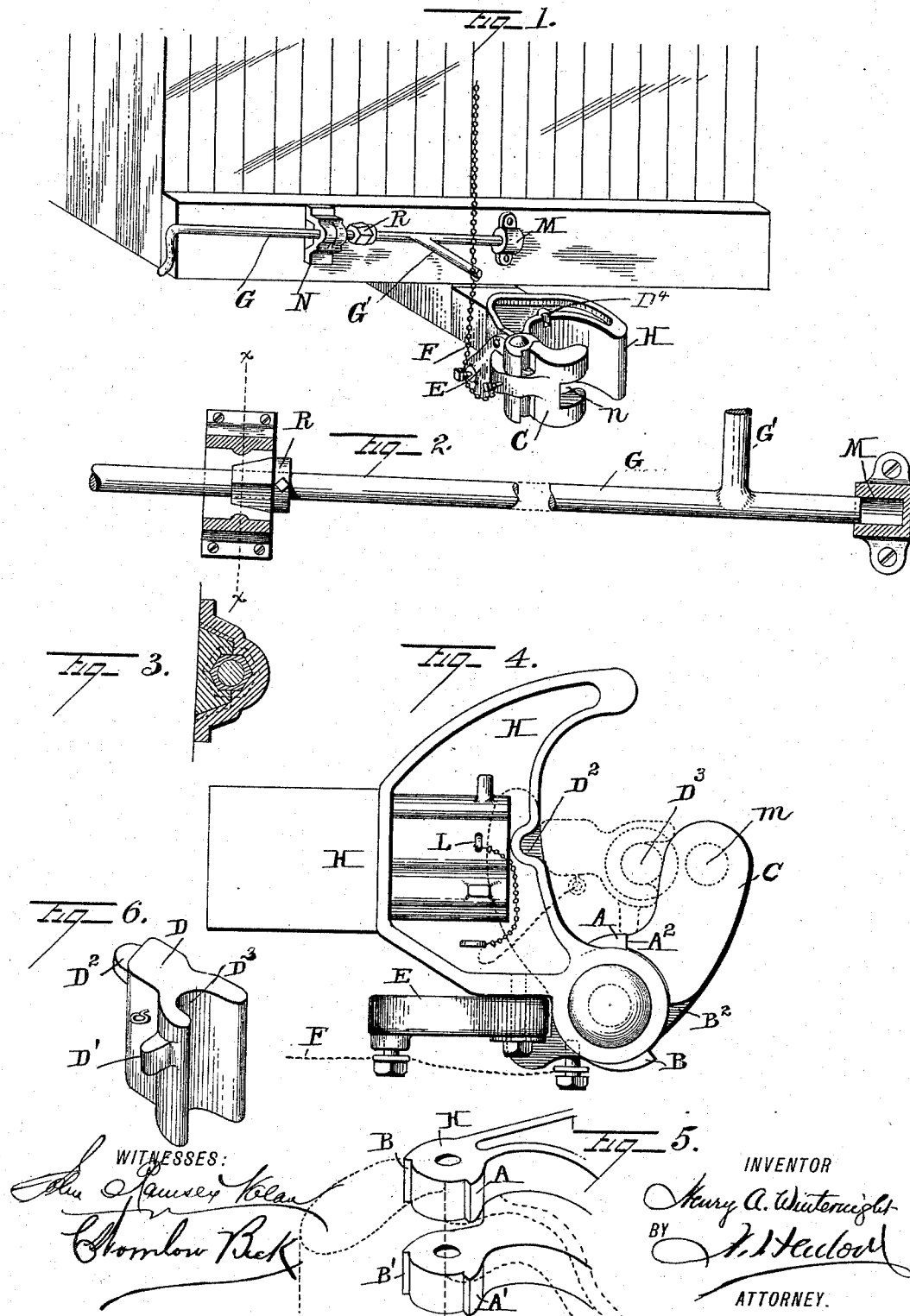


(No Model.)

H. A. WINTERNIGHT.  
CAR COUPLING.

No. 526,550.

Patented Sept. 25, 1894.



# UNITED STATES PATENT OFFICE.

HENRY A. WINTERNIGHT, OF PHILADELPHIA, PENNSYLVANIA.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 526,550, dated September 25, 1894.

Application filed July 31, 1890. Serial No. 360,471. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY A. WINTERNIGHT, a citizen of the United States, residing in the city of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Car-Couplings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to car coupling devices, being an improvement upon the invention for which I have received Letters Patent dated November 25, 1890, No. 441,624; and consists of the several mechanisms and combinations thereof hereinafter set forth.

In the accompanying drawings illustrating my invention, Figure 1 is an elevation of the rear end of the car showing the coupling device in position thereon and lever mechanism secured to the back frame-work of the car to control the locking and unlocking by the coupling key. Fig. 2 is a sectional view of said lever mechanism controlling the locking key of the coupler. Fig. 3 is a sectional view on the line  $x, x$ , of Fig. 2. Fig. 4 is a top view of my coupling device showing the form of the knuckle and the head block, and of the stopping device thereon; and showing also a top view of the removable link pin arm between the head block and the knuckle. Fig. 5 is a side view of the head-block bearings for the knuckle, designed to show the stopping device thereon; and Fig. 6 is a perspective view of the removable link pin arm.

Reference may be made to my said patent for a detailed description of the general construction of the head-block H, pivoted knuckle joint C and latch E.

My present coupling device shown in Fig. 4 remains as described in the said application with the exceptions constituting my present improvements therein, which are as follows, viz: The head-block H is provided with two upper projections A and B, and preferably with two lower ones A' and B' in addition thereto, against which the knuckle C abuts at the terminus of its partial reciprocation, the outer projection B when it is open and the inner A, when the coupler is closed and the knuckle in its normal position; these projections being located and operating as stated in

order to help sustain the shock due to a constant opening and closing respectively of the coupling device, the inner stops A, A' operating to keep the shock and strain from the pivotal bolt of the knuckle, and from the inner face of the head-block. The knuckle C is shaped to correspond with these projections by providing upper and lower inner offsets A<sup>2</sup> and upper and lower outer offsets B<sup>2</sup> as shown in Fig. 4.

The tendency of the pivoted knuckle in couplers of this general character is to sag downward owing to its great weight, in consequence of which, when two couplers of similar character come together in the action of coupling, the full shock of the blow is received upon the top portion of the head-block or draw-bar, owing to which action experience has shown that breakage of the draw-bar has invariably occurred at the upper half of the jaw through which the pivot pin passes. I have found that casting upper and lower offsets A, A', on the inner face of the upper and lower arms of the divided jaw of the head-block with corresponding projections A<sup>2</sup> upon the inner side of the face of the pivoted knuckle C outwardly beyond its pivotal center, so adapted with relation to each other that said offsets will abut at the terminus of the inward pivotal reciprocation of the knuckle, will be effectual to transmit the shock and divide the force of the blow equally to and between the upper and lower sections of the jaw of the head-block or draw-bar and remove entirely the shock from the pivot pin upon which the knuckle revolves.

It is usual in coupling devices to drill a hole  $m$ , shown by dotted lines in Fig. 4, through the end of the knuckle C in order to insert a pin therein which shall pass through a lateral recess  $n$ , (see Fig. 1) in said knuckle C and through a link to be inserted in said lateral recess, when it is desired to couple a car having this sort of device, to the end of a car which is provided merely with an ordinary link coupler. The weakening of the knuckle C due to this vertical recess  $m$  is overcome by my improvement in which no such vertical recess is used, but in lieu thereof a removable link pin arm, of the shape shown in Fig. 6, is used. This piece of metal is provided with a projection D' and a projection

D<sup>2</sup>, the first simply bearing against the side of the knuckle C and the second resting in a recess D<sup>4</sup> in the base of the head-block. This arm D is of a depth from the upper face of the knuckle C to the top of the usual lateral recess *n* in the knuckle C and has its face rounded out at D<sup>3</sup> to receive the link pin. The link, therefore, instead of being secured by a pin dropped through the usual vertical recess *m* shown by dotted lines in the end of the knuckle C, is passed through the lateral recess *n* therein and under the arm D so that the link pin dropped through the rounded out portion D<sup>3</sup> will enter the link. The said arm D may be loosely annexed to the coupling device by means of a chain such as shown at L, Fig. 4, and of course is removed from its position shown by dotted lines in the drawings when not in use, in order that the coupling device may be employed for its proper purpose, and may then rest on the top surface of the head-block H, as shown.

As described in my said patent, the locking key E of the coupling device is raised or lowered by means of a chain F moved by a lever G on the back of the car. It is desirable that the lever should itself have a locking device, and it is to this that the second part of my invention is directed. The normal position of the lever G is shown in Fig. 1 and when moved around so as to elevate the arm carrying the chain, its operation is to lift the key E and unlock the coupling.

My improved lever shown in Figs. 1, 2 and 3, consists of a bar G having the usual arm or projection G' carrying the chain F, said bar having a bearing at one end in a blind bracket M and passing through a recessed bracket N, the inner face of which is polygonal in cross section (see Fig. 3) with slanting sides, the said recess corresponding in shape to a nut R upon the bearing, so that when the lever is turned to raise the arm carrying the chain, it can be locked in that position by drawing the bar toward the side of the car, thus carrying the nut within the polygonal bearing. In setting this lever upon the car, the end bearing M is placed in a slightly lower plane than the polygonal bearing in order that the bar G shall be on an incline and have a tendency to drop out of the central bearing

N, so that instead of a person being required to move the lever after the cars come together and are coupled, the shock of the junction will be generally sufficient to release the nut R of the lever from the polygonal recess in the central bearing.

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

1. In a car coupling device, in which a knuckle is pivoted to reciprocate laterally in a head-block, the combination therewith of a removable piece of metal with a recessed face D<sup>3</sup> adapted to be supported between the inner faces of the head-block and of the knuckle, to hold the usual link pin in suspension in said recessed face D<sup>3</sup>; substantially as described.

2. In an automatic and self adjusting car coupler the combination with a head block having a recess D<sup>4</sup> on its inner face, and a pivoted knuckle C recessed laterally at *n*, of a removable link pin arm D provided with projection D<sup>2</sup>, and an inner recessed face adapted to receive the link pin; substantially as described.

3. In an automatic and self adjusting car coupler, in which the locking device is operated by a chain, the combination therewith of a lever to operate said chain consisting of the bar G provided with nut R constructed as described and adapted to fit in the bearing N of corresponding shape to said nut; substantially as described.

4. In an automatic and self adjusting car coupler, in which the locking device is operated by a chain, the combination therewith of a lever to operate said chain consisting of the bar G provided with nut R constructed as described and adapted to fit in the bearing N of corresponding shape to said nut, said bearing being so placed with relation to the rear of the car that the lever bar shall have a lateral inclination; substantially as described.

In testimony whereof I have hereunto affixed my signature this 3d day of July, A. D. 1890.

HENRY A. WINTERNIGHT.

Witnesses:

ANDREW ZANE,  
H. T. FENTON.