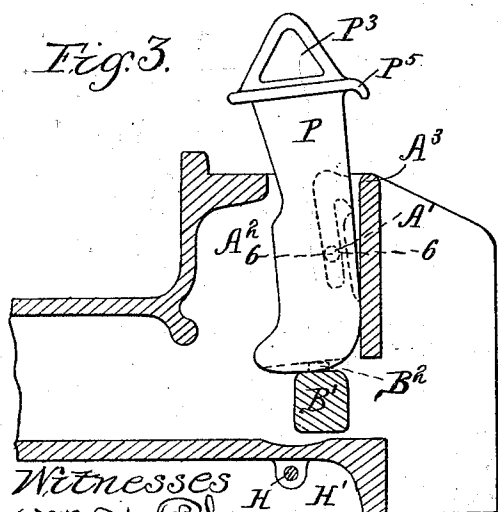
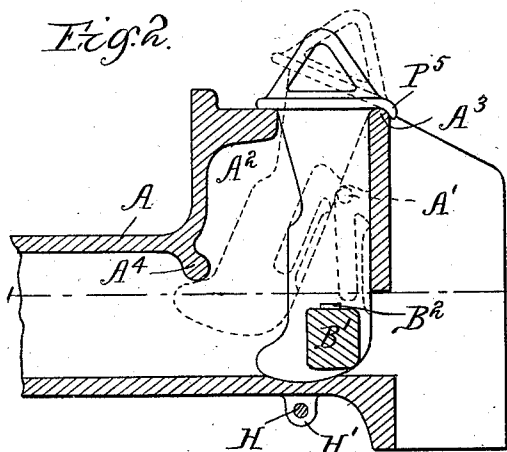
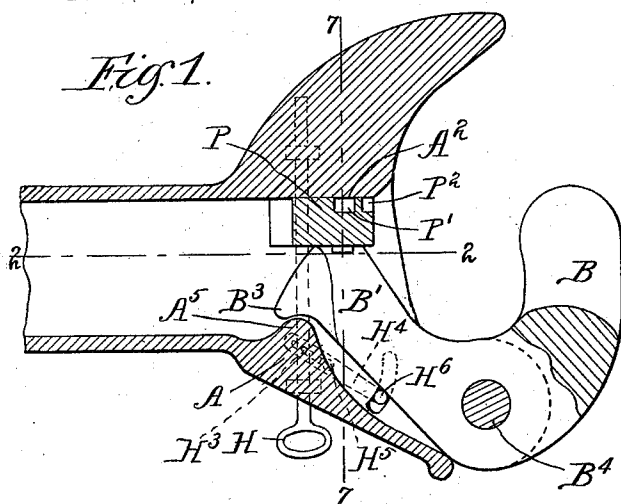


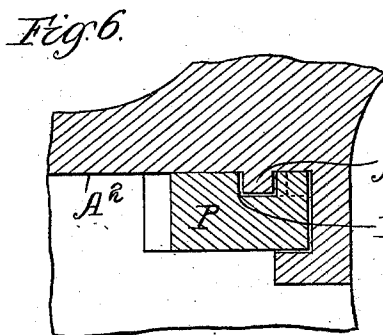
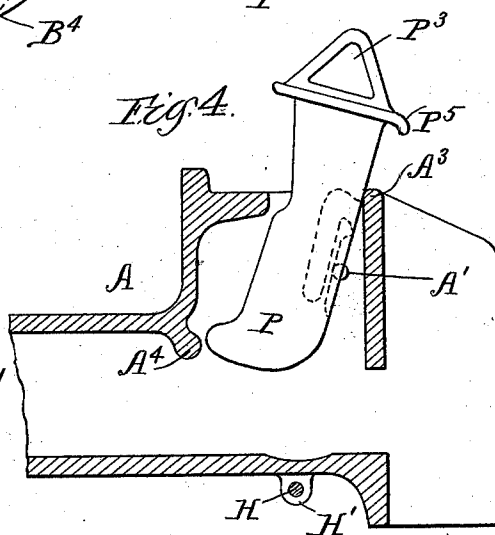
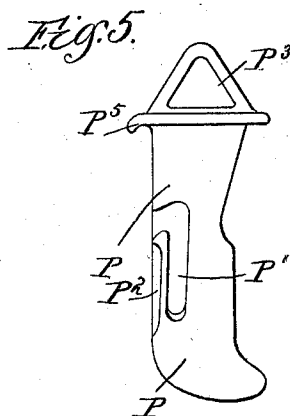
H. DEITZ.
CAR COUPLING.

No. 561,541

Patented June 2, 1896.



Witnesses
Wm. M. Rheum
Wm. F. Hanning



Inventor.
Henry Deitz
by W. E. Williams
Atty.

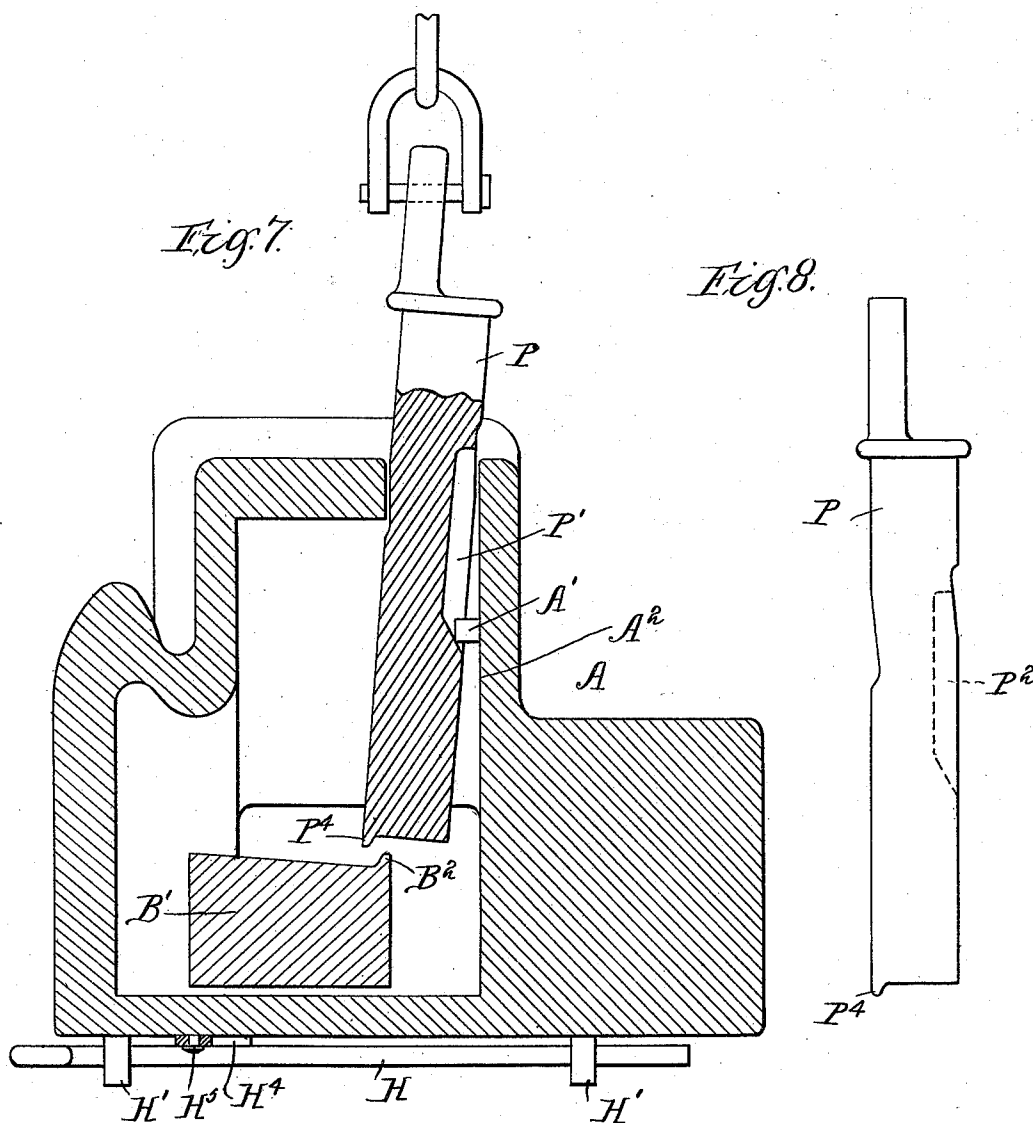
(No Model.)

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UNITED STATES PATENT OFFICE.

HENRY DEITZ, OF CHICAGO, ILLINOIS, ASSIGNOR TO J. ELLSWORTH GROSS, LUELJA ZEARING GROSS, JAMES H. ZEARING, AND LUCINDA HELMER ZEARING, OF COOK COUNTY, ILLINOIS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 561,541, dated June 2, 1896.

Application filed November 2, 1895. Serial No. 567,710. (No model.)

To all whom it may concern:

Be it known that I, HENRY DEITZ, a citizen of the United States, residing at Chicago, county of Cook, State of Illinois, have invented a new and useful Improvement in Car-Couplers, of which the following is a specification.

My invention relates to that class of couplers generally known as the "Master Car-Builders' standard of vertical-hook couplers;" and the objects of my invention are to produce a coupler composed of a minimum number of parts, that are strong, durable, and easily manufactured, and yet having the merits that will be particularly described herein.

Reference will be had to the accompanying drawings, in which—

Figure 1 is a plan sectional view on line 1 1 of Fig. 2. Fig. 2 is a vertical longitudinal sectional view on line 2 2 of Fig. 1. Figs. 3 and 4 are views similar to Fig. 2, showing the locking-pin in a different position. Fig. 5 is a side view of the locking-pin in a reverse position from that shown in the foregoing figures. Fig. 6 is a sectional plan view on line 6 6 of Fig. 3. Fig. 7 is a front vertical sectional view on line 7 7 of Fig. 1. Fig. 8 is a front vertical view of the locking-pin.

In the drawings, A designates the main body - casting of the coupler, and B the knuckle-piece. These two castings are made in the ordinary method to conform to the Master Car-Builders' lines, but being provided with a locking device, as I will now describe.

P designates the locking-pin, which is provided with a slot P' in one side thereof, which slot engages the projection A' on the interior cavity of the casting A, and in the use of the coupler this projection A' and slot P' prevents the removal of the pin; but when it is desired to remove the pin from the coupler the lower end of the pin is swung backward in the position of the dotted lines in Fig. 2 and is then lifted upward a short distance, thereby clearing projection A' from the slot P', whereupon on the further lifting of the pin P from the coupler projection A' passes downward through a recess P² of the pin P, as shown by Fig. 4, and thus the pin P is permitted to be withdrawn from the casting A; but in the use of the coupler accidental

dislodgment of the pin P is prevented by projection A' and slot P', as described.

In coupling, the end B' of the knuckle B rotates against the lower end of the pin P and swings it backward, thereby permitting the knuckle to revolve in place, whereupon the pin P drops back to its normal vertical position between the end B' of the knuckle and the wall A² of the casting A, the pin revolving on the point A³ of the casting A as a center, as shown in Fig. 2, the lip P⁵ engaging said projection A³. The location of this center is such that the center of gravity of the pin at all times is such as to cause the pin to fall in the desired vertical position.

When it is desired to uncouple, the pin P is lifted by means of a chain and lever of the ordinary construction, (not shown in the drawings,) which chain is connected to the pin P in a triangular opening P³, which opening P³ (see Figs. 7 and 8) is located at one side of the pin, producing, as it were, a side draft in lifting the pin, which aids in swinging the lower end outward and slightly over the end B' of the knuckle when the pin is at its highest position. The pin is aided in being lifted in this inclined position by means of the lower end of the slot P' being beveled out, as is shown in Fig. 7, whereby when coming in contact with the projection A' the lower end of the pin is forced outward, causing it to pass over the end B' of the knuckle, and upon the release of the tension of the chain upon the pin P it falls downward and rests upon the end of the knuckle, as is shown in Fig. 3. The small projection P⁴ on the pin P and the projection B² on the knuckle insures a safe lodgment of the pin P upon the knuckle end B', whereby the coupler is held in position to be uncoupled, as desired, by the trainmen, whereupon by the outward movement of the knuckle in uncoupling the pin P rides off from the end of the knuckle and falls into its normal position ready to automatically lock the knuckle on its return home.

In the event that the knuckle should be locked home at the time when a coupling is desired to be made a device is provided on the bottom of casting A to enable the brakeman to throw open the knuckle ready for coupling without placing his hands in a position likely to be injured by the accidental

coming together of the cars. This device is composed of the handle-bar H, carried in the keepers H' of the casting A, connected by pin H³, engaging a slot in a lever H⁴, pivoted at H⁵ to the bottom of casting A and provided with a projection H⁶, which extends upward through a slot in the casting A and engages the back of the knuckle, whereby by pulling on the handle H the projection H⁶ is thrown against the knuckle and forces it outward, the pin P having previously been lifted. A projection A⁴ on the interior of the casting A, Fig. 2, serves as a stop for the pin P in swinging backward.

On the end B' of the knuckle B there is a projection B³, which engages a projection A³ in the casting A, Fig. 1, when the knuckle is locked home, which engagement of said projections prevents the removal of the knuckle in the event of the pivot-pin B⁴ being removed accidentally when the cars are coupled together, the peculiar position of the locking-pin P holding the projections B³ and A³ together even in the absence of the pin B⁴, which may at some time prevent accident to the train.

What I claim is—

1. The combination with a draw-head and a knuckle pivoted thereto to swing horizontally in a recess in the same, of a locking-pin arranged to be lifted vertically above the knuckle and also pivotally supported in front of its own line of gravity to be swung temporarily rearward, in a vertical plane, by the knuckle passing to coupled position, and means whereby such lifting automatically swings the lower end of the pin from said plane, to rest upon a suitable support adapted to prevent its descent.

2. The combination with a recessed draw-head and a knuckle pivoted thereto to swing in the recess, of a locking-pin having in front of its line of gravity a pivotal support allowing the pin to be swung rearward by the

knuckle and also to be lifted above the plane of the latter, a projection extending from the draw-head into the plane or path of the pin, said pin being provided with a channel, to receive the projection, adapted to allow both swinging and raising of the pin while limiting the latter movement.

3. In a coupler of the class described, the combination with a draw-head and a knuckle pivoted therein upon a vertical axis, of a locking-pin pivotally supported upon a horizontal axis, located above the path of the knuckle, and swinging rearward in a plane intersecting said path, and means whereby lifting said pin throws its lower end laterally out of said plane and over the knuckle when the latter is in coupled position, substantially as and for the purpose set forth.

4. In a coupler of the character described the combination of a locking-pin, of means for raising said pin vertically in unlocking, of means for inclining the said pin when raised in a manner that it may engage the end of the knuckle as shown, with projections on the end of said pin and knuckle for insuring the holding of the pin upward by the knuckle.

5. The combination with the recessed and slotted draw-head, of the knuckle pivoted to swing in the recess, the centrally-pivoted lever having upon one arm a projection extending through the slot in the draw-head to force the swinging of the knuckle, and having its other arm slotted, and the bar mounted to slide transversely upon the draw-head and provided with a projection engaging in the slot in the lever to actuate the latter.

In witness whereof I have hereunto subscribed my name, on this 29th day of October, 1895, in the presence of two subscribing witnesses.

HENRY DEITZ.

Witnesses:

E. J. KENT,

WM. T. HENNING.