(No Model.)

W. H. CALLAWAY & C. C. WEST.

CAR COUPLING.

No. 477,989. Patented June 28, 1892.

Fig. 1.

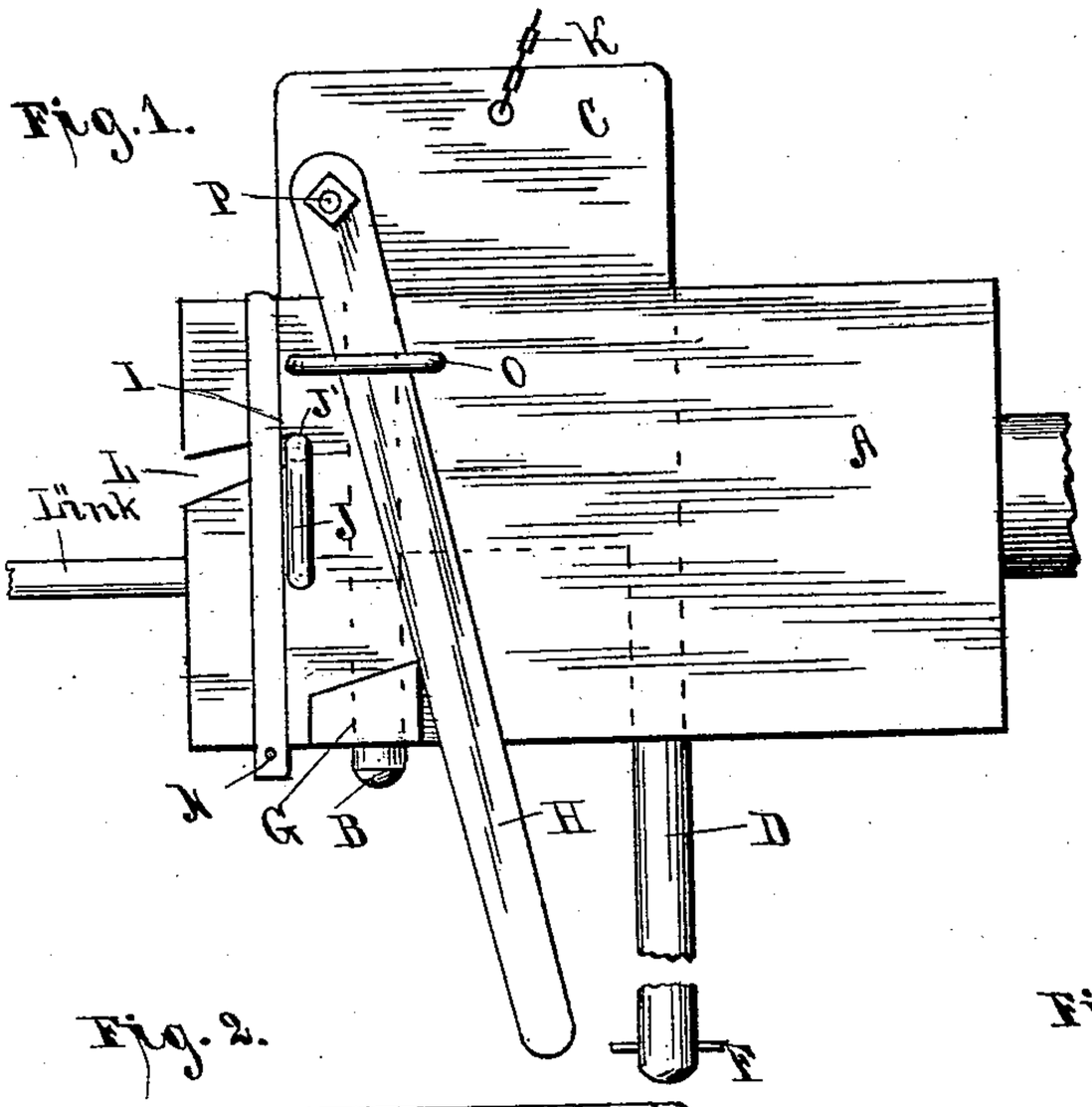


Fig. 2.

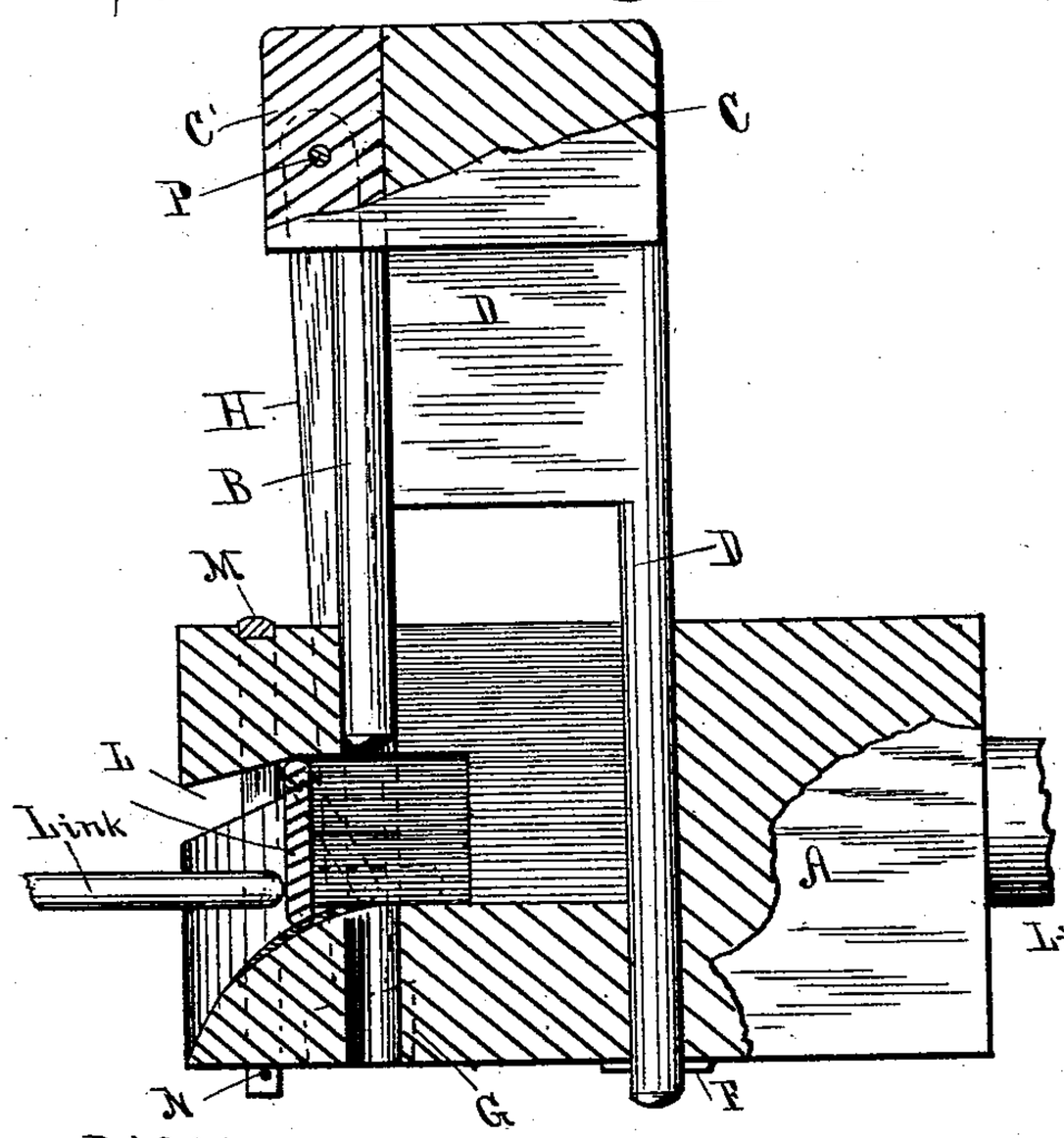
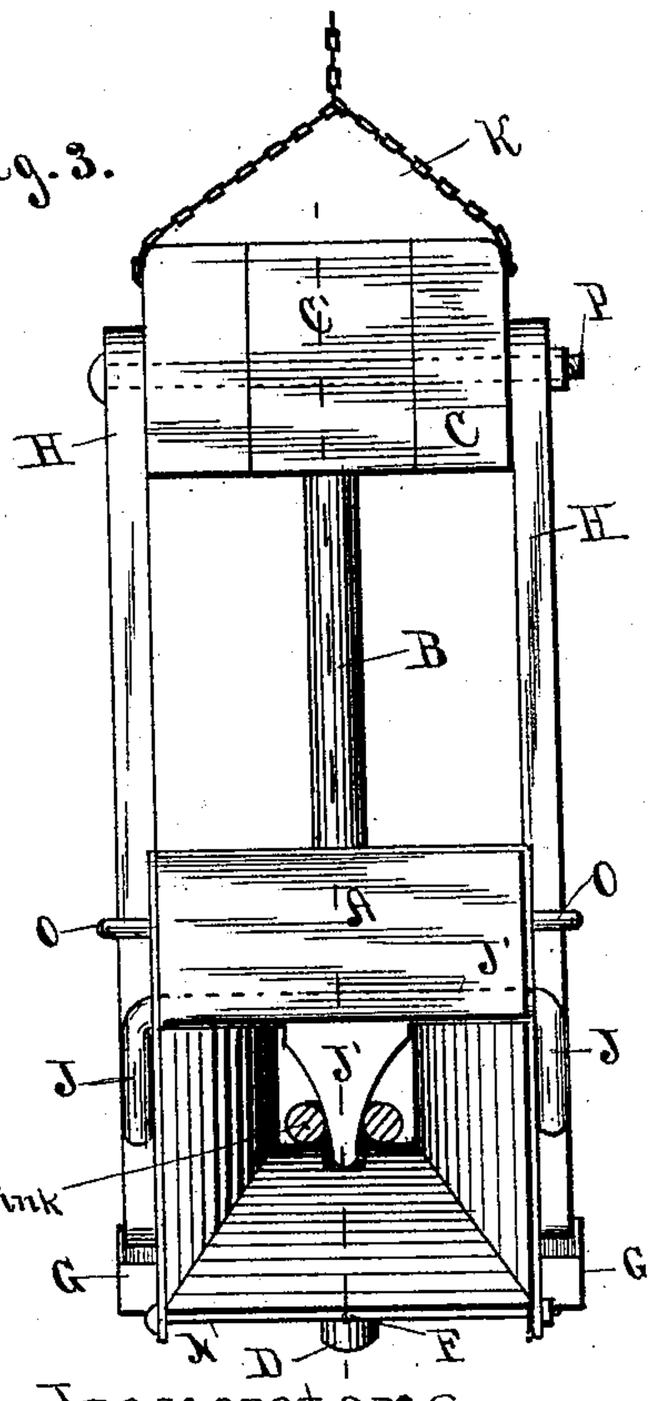


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM H. CALLAWAY AND CHARLES C. WEST, OF SAN ANGELO, TEXAS;
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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 477,989, dated June 28, 1892.

Application filed January 11, 1892. Serial No. 417,718. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM H. CALLAWAY and CHARLES C. WEST, citizens of the United States, residing at San Angelo, in the county of Tom Green and State of Texas, have invented certain new and useful Improvements in Car-Couplers; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention is in couplers adapted to use a link of ordinary form and to be so set that coupling may be automatic or not, as desired.

In the drawings, Figure 1 is a side elevation of the coupler. Fig. 2 is a section on the line 2 2, Fig. 3. Fig. 3 is an end view looking in the direction of the arrow of Fig. 2.

Referring to the drawings, the draw-head A is provided with the usual axial opening having a bell-mouth so formed that an approaching link may be guided by the inclined sides into the middle of the opening. A vertically-sliding coupling-pin B, projecting downward from a head C, resting normally upon the draw-head, moves in an aperture extending entirely through the draw-head and engages the link in the usual manner. A web D, projecting downward also from the same head, rests normally upon the inner end of the link when the latter is in position and prevents the outer end from sagging downward when unsupported by an adjacent head. A bar D, parallel to the coupling-pin, extends downward at the rear edge of the web. It is longer than the pin and at all times projects below the draw-head, where it is provided with a nut or a pin F, that by meeting the draw-head limits the upward movement of the bar, pin, and web. This limit is so fixed that the upward motion is arrested as soon as the lower end of the pin is above the axial or link opening in the draw-head. The upper part of the draw-head is slotted between the bar and pin to receive the web; but below the plane of the link there are but the two disconnected apertures for the pin and bar. Upon each side of the draw-head and a little in front of the plane of the pin is a lug G, whose upper face preferably inclines slightly forward, and upon each side of the head C, at points vertically over the lugs, is pivoted an arm H, whose rounded lower end rests upon the corresponding lug when the pin is near its highest point. The arms, when in this position hold the pin raised above the path of the link. Just in front of these arms a revoluble rod I passes horizontally through the draw-head at the upper side of the link-aperture. At the outer ends of this aperture are downwardly-extending arms J, lying alongside the arms H, and at middle of the rod is a third arm J′ in the same plane as the others, obstructing the link-opening. Now when the coupling-pin is raised above the link-opening in the draw-head and supported by the arms H, resting upon the lugs G, the apparatus is ready for automatic coupling, and if another car with the usual projecting link be brought to position for coupling the link is guided by the sloping walls against the arm J′, which it swings rearward as it passes rearward beneath the end of the raised coupling-pin. The displacement on the arm J′ rotates the rod I and swings the arms J, pushing the arms H from their supporting-lugs and leaving the coupling-pin and connected parts free to fall under the force of gravity, aided, if desired, by a suitable spring. As the link thus descends, it passes through the link, and the coupling is complete.

For uncoupling, the pin is raised, preferably by a chain K or the like secured to the head and connected with well-known devices upon the car, operable from either side or from the top of the car to temporarily raise the chain. When the parts are so raised, the arms H, being pivoted vertically over the lugs, swing forward as soon as they pass the lugs and rest upon the latter as soon as tension upon the chain ceases, again supporting the whole in position for automatic coupling.

As shown, the arm J′ is made V-shaped and its point extends slightly below the plane of the link and swings in a slight groove in the floor of the axial opening. As soon as the end of the entering link passes this point the latter falls between the side bars of the link, which it tends to adjust laterally; but it offers

no obstruction to the withdrawal of the link, since there is nothing to prevent its swinging forward. We prefer to make the rod and its arms readily removable, and with this object the end of the draw-head is slotted inward at L to form the rod-bearing, and the rod is retained in place by a band M, lying in a groove in the sides of the head and having its lower ends connected by a rod N. The swinging arms H are preferably retained in their proper path by loops O upon the sides of the draw-head.

As the coupling-pin receives great strain and wear, it is advisable to provide for its renewal before the other parts are materially worn. To this end it is not made integral with the head C, but has a smaller head C′ of its own, which fits a slot in the larger one and is retained by suitable devices, preferably a bolt P, passing through both heads and forming the pivots for the arms H.

What we claim is—

1. The combination, with the draw-head having lugs upon each side of the same, of the vertical coupling-pin, the pivoted pin-supporting arms arranged to contact with the lugs, and tripping-arms adapted to be operated by the centering-link and throw the arms from the lugs, substantially as shown and described.

2. The combination, with the draw-head having side lugs, of the coupling-pin having a head, supporting-arms pivoted to sides of head and adapted to rest upon the lugs, and a transverse rock-shaft carrying a central operating-arm and the side tripping-arms, all adapted to operate substantially as shown and described.

3. The combination, with the draw-head, of the coupling-pin, the bar, and the web, all secured together and sliding vertically in the draw-head, the pivoted arms arranged to support said sliding parts when resting upon projections upon the draw-head, and the transverse revoluble rod provided with the central arm obstructing the link-opening in the draw-head and with end arms operating to displace said supporting-arms when the central arm is swung inward by the entering link.

4. The combination, with the draw-head slotted at its mouth, of the transverse rock-shaft journaled and carrying the operating and tripping arms on said slot, the retaining-band, the coupling-pin detachably secured in its head, and the supporting arms and lugs, all arranged substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

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