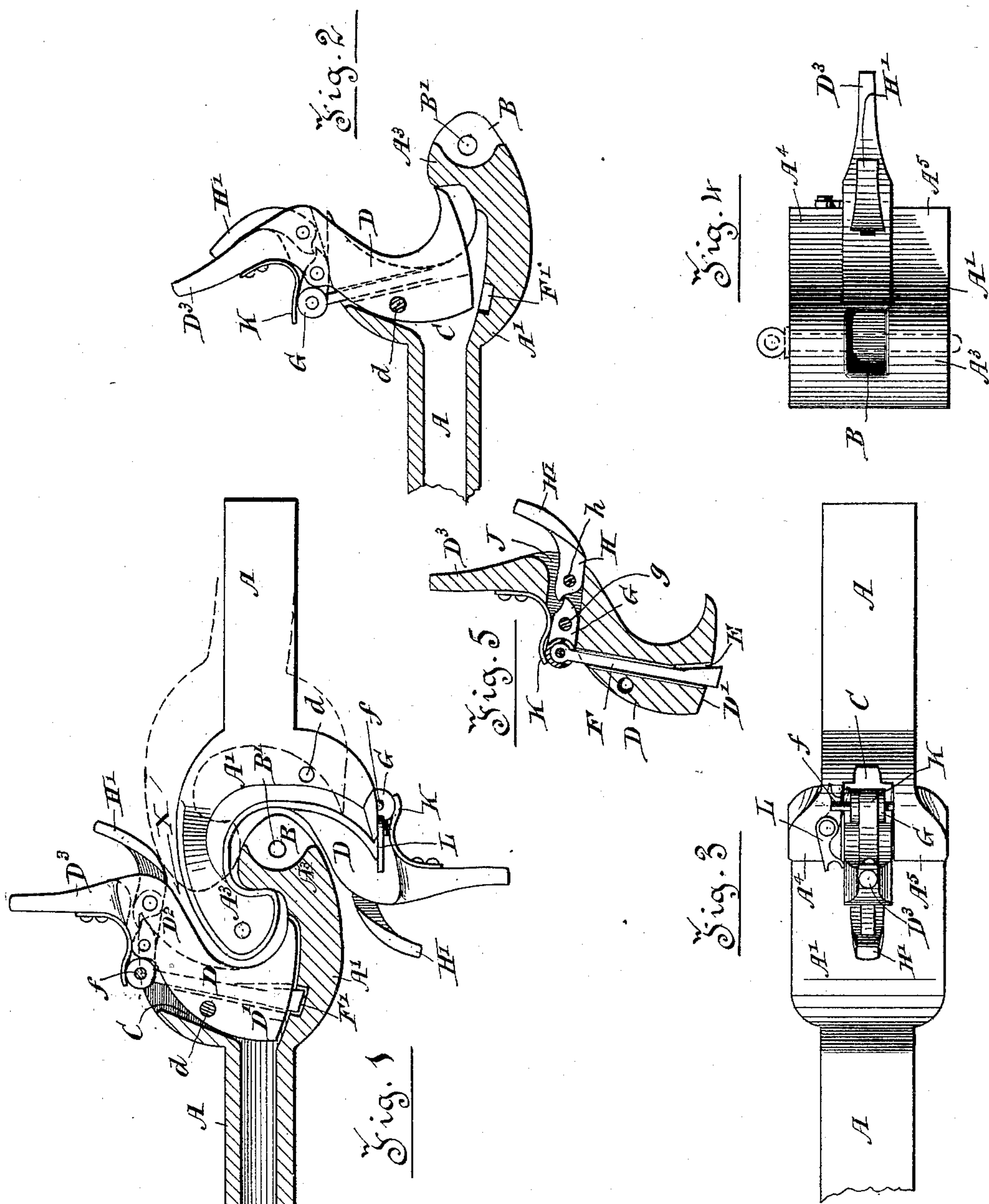


(No Model.)

W. McRAE.
CAR COUPLING.

No. 436,430.

Patented Sept. 16, 1890.



Witnesses

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WILLIAM McRAE, OF MONTREAL, CANADA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 436,430, dated September 16, 1890.

Application filed June 7, 1890. Serial No. 354,656. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM McRAE, of the city of Montreal, in the district of Montreal and Province of Quebec, Canada, have invented certain new and useful Improvements in Car-Couplers; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to car-couplers of the automatic U type; and it consists in an arrangement whereby the coupling of the draw-bars will be effected upon their coming together whether the locking parts are in the position they occupy when the draw-bars are coupled or are free to receive the respective bumper-heads of each, and, furthermore, the arrangement allows of two draw-bars coming together without locking, when desired.

For full comprehension, however, of the invention, reference must be had to the annexed drawings, in which Figure 1 is a top view of two draw-bars coupled together, one being shown in plan and the other in horizontal section, to show locking and uncoupling mechanism; Fig. 2, another horizontal section of a draw-bar head; Fig. 3, a side view of two draw-bar heads coupled; Fig. 4, a face view of a draw-bar head, and Fig. 5 a detail sectional view of the locking and uncoupling mechanism.

Similar letters of reference indicate like parts.

The draw-bar proper A and its head A' are formed in one solid casting, the head being of U form with a hook A³ on one of the ends which is in advance of the other and serves as the bumper and locking head. This hook or bumper-head A³ is solid, with the exception of a recess B in the center of its face and a vertical pin-hole B' to accommodate the ordinary link and pin should occasion require it, while a transverse curved recess C is formed centrally in the face, which is curved to direct the opposite bumper-head of the coupling into place, the main head A' extending on one side from a point a little distance in behind the hook-head A³ (so as not to weaken this part in any way) to the opposite side, which it divides into upper and lower ends A⁴ A⁵.

D is a lever pivoted at d and having one end D' conforming substantially to the in-

terior of the recess C and to the innermost portion of the face of the main head A', and the other half D² curved so as to project forward and inward of the ends A⁴ A⁵ of the main head when the draw-bars are required to be kept coupled, as shown in Fig. 1, the end of this half terminating in a handle D³.

It will be seen by reference to Figs. 1 and 2 that the open ways or mouths X of the U, by which the hook or bumper heads A³ pass to engage each other, are contracted, as compared with Fig. 2, as soon as such heads are in place by bringing the levers D into the position shown in Fig. 1, and thus effectually preventing any disconnection.

To retain the levers in this position locking devices must be used, and, although these can be varied to some extent, I prefer to use the one shown, which I will now describe.

In a channel or hole E in the lever D, reaching from its inner end face D' to a point about midway of its rear side, a bolt F is arranged, the inner end of which is adapted to lock in a notch F' in the main head A' at the back of the recess B. The outer end of this bolt F is pivoted at f to one end of a lever G, the other end of which is cam-shaped and adapted to be acted upon by the like end of another lever H, having handle H'. These levers are respectively pivoted at g and h, and work in a transverse slot J in the lever D, the handle H' of the lever H being thrown outward from contact with the handle D³ when the bolt F is driven forward into locking position, as shown in Figs. 1 and 5, this being done by a spring K, carried on the back of the handle D³ and having its free end bearing on the outer end of lever G, to which the bolt H is attached. To overcome the pressure of this spring K and withdraw the bolt, the handle H' is pressed inward toward handle D³, as shown in Fig. 2, and should it be desired to hold the bolt in this position for some time the latch L, pivoted on the side of the end piece A⁴, can be thrown into the dotted position shown in Fig. 3, and being thus interposed between the projecting end of the pivot-pin f and such end piece prevent the bolt from being pressed forward by the spring K and so locking the lever D. This latch will therefore be used when it is desired to avoid coupling during shunting operations.

To uncouple the draw-bars the handle H' is first pressed against handle D³ to withdraw bolt F, and then the lever D is free to be thrown into the position shown in Fig. 2, which has the effect of disengaging the hook or bumper heads.

In effecting a coupling the levers D are usually thrown by hand into the position shown in Fig. 2, so that the respective bumper-heads A³ will strike the curved face of the main head, with which the front edges of levers D coincide, and be directed sidewise into locking position, although it makes no difference if the levers D are in the locked position shown in Fig. 1, as the bumper-heads, coming into contact with the levers H, as indicated by dotted lines, Fig. 1, and afterward into contact with the main head, would momentarily release the levers D, and moving forward throw them into the position shown by Fig. 2, and finally drive them back again to be locked by the spring pressing the bolts into the notches, the bumper-heads in every case being directed into the locking position by the curved faces of the main heads.

What I claim is as follows:

1. In a car-coupler the combination, with a draw-bar having a head proper substantially of U form and presenting a continuous curved

face, one of the ends of the U being provided with a hook or bumper head, and the other end, together with the central portion of the head proper, recessed, of a lever pivoted in such recess and adapted to narrow the opening or mouth between the two ends of the U after the insertion of the bumper-heads, and a device for locking such lever in place, as set forth.

2. In a car-coupler, the combination, with the head of a draw-bar constructed with a recess, as described, and with a lever pivoted in such recess, of a locking-bolt carried by such lever and adapted to be pressed into a notch in such head within the recess for the purpose described, and a spring, supplementary lever, and connections, all carried by said lever for operating such bolt, as set forth.

3. In a car-coupler, the combination, with the heads of draw-bars constructed with recesses, as described, and with levers pivoted in such recesses, of locking devices carried by such levers and so arranged as to be operated by the bumper-heads when coming together to free said levers, as set forth.

WM. MCRAE.

Witnesses:

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