

(No Model.)

2 Sheets—Sheet 1.

M. J. GRADY & R. McMILLAN.
CAR COUPLING.

No. 549,566.

Patented Nov. 12, 1895.

Fig. 1.

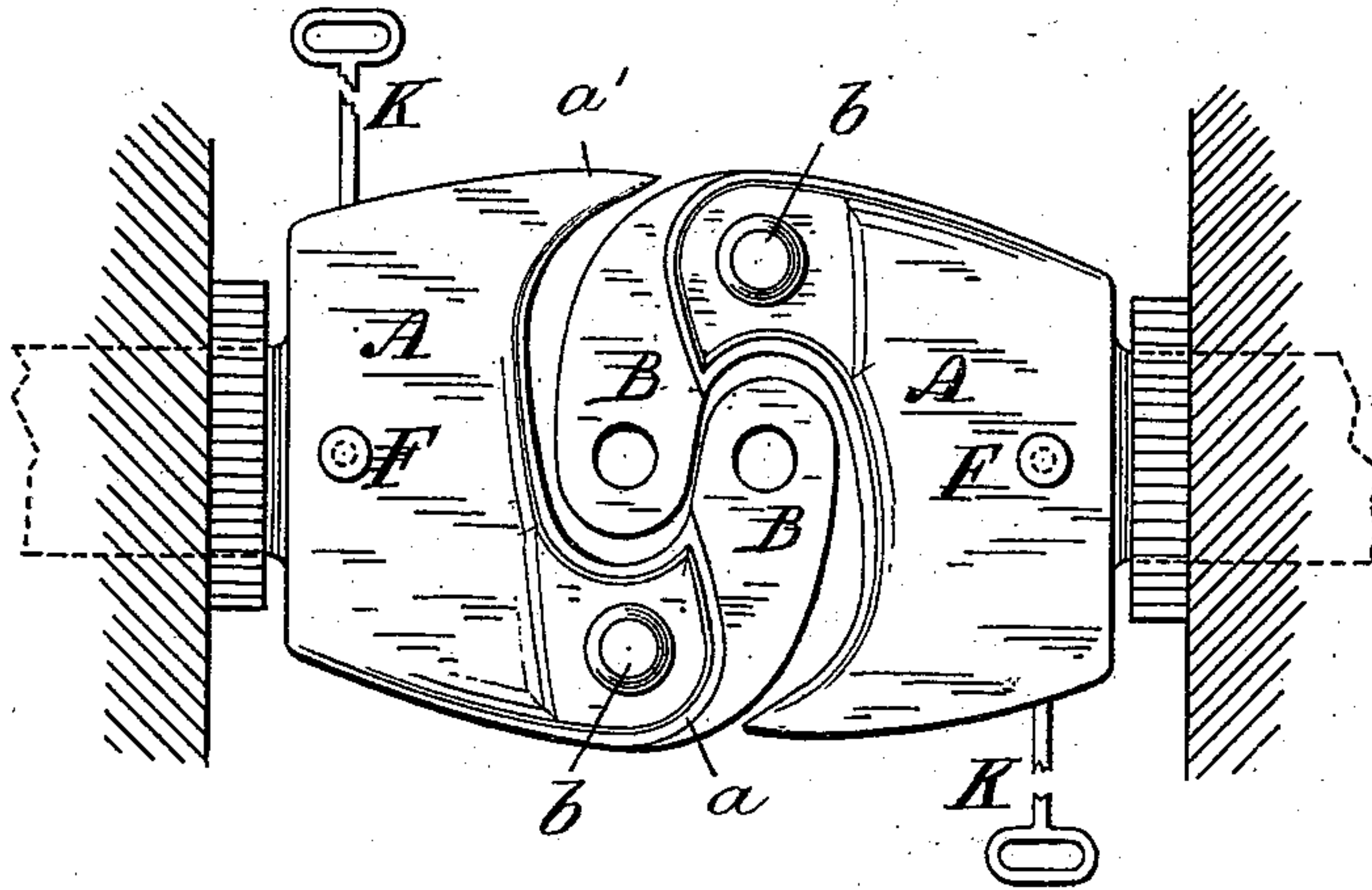
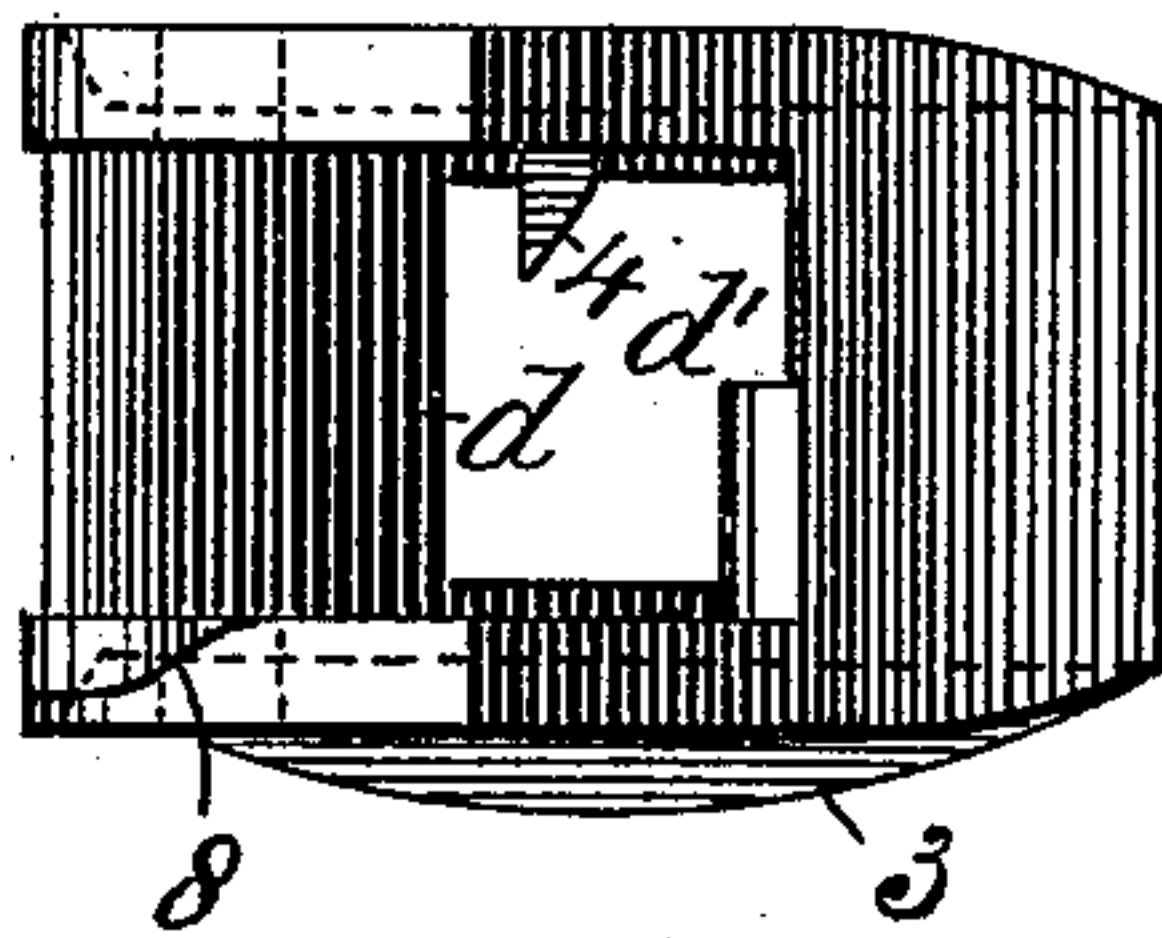


Fig. 2.



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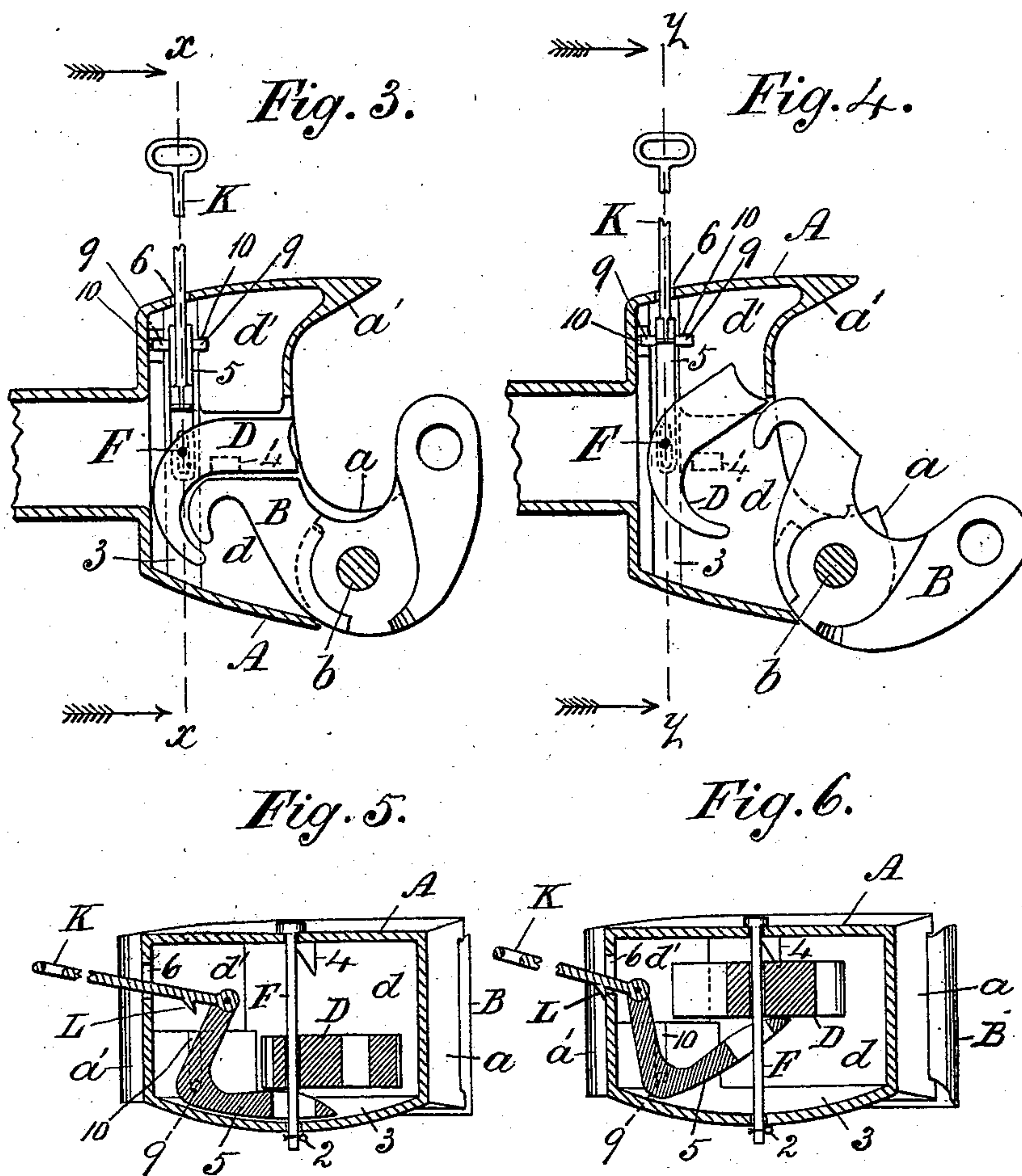
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2 Sheets—Sheet 2.

M. J. GRADY & R. McMILLAN.
CAR COUPLING.

No. 549,566.

Patented Nov. 12, 1895.



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UNITED STATES PATENT OFFICE.

MICHAEL JOHN GRADY AND RICHARD McMILLAN, OF KINGSTON, CANADA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 549,566, dated November 12, 1895.

Application filed September 5, 1895. Serial No. 561,551. (No model.)

To all whom it may concern:

Be it known that we, MICHAEL JOHN GRADY and RICHARD McMILLAN, of the city of Kingston, in the Province of Ontario, in the Dominion of Canada, have invented certain new and useful Improvements in Car-Couplings; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a top view or plan of a pair of interlocked couplings embodying our improvements. Fig. 2 is an elevation of the front of the draw-head divested of the interior movable parts to clearly show an inclined-plane lug by which the knuckle is thrown outward ready for coupling. Fig. 3 is a horizontal section of our improved coupling, the knuckle shown as in coupling position. Fig. 4 is a like section showing the knuckle in position ready for coupling. Fig. 5 is a section of our improved coupling on line X X, Fig. 3; and Fig. 6 is a like section on line Y Y, Fig. 4.

Our invention relates to improvements in a car-coupling for which we obtained United States Patent No. 537,527, dated April 16, 1895; and the object of our present invention is to simplify the means for operating the keeper or locking-block, whereby the lever lifting said block is located within the draw-head instead of outside or below the same, as in aforesaid patent, and also to dispense with the spring throwing the hinged knuckle outward to couple, that motion being now imparted by the said block or keeper striking against a lug having an inclined-plane surface.

Our invention consists in the construction, arrangement, and combination of parts of the draw-head and operating parts of the coupling, as hereinafter described and claimed.

A is the body of the draw-head, having arms *a a* at the front, which receive intermediately the opposite coupling. The draw-head has an internal cavity *d* in front, and the top of one side is extended horizontally to make a shelf or recess *d'* to lodge the locking-block or keeper D.

B is a V-shaped knuckle hinged to arm *a* by a pintle *b*, passing through the elbow and through jaws on the arm.

D is a V-shaped keeper or locking-block in

the cavity *d* and in thickness less than half the height of the cavity.

F is a guide-pin passing through the top and bottom of the draw-head and loosely through the elbow of the keeper D, all as heretofore described in our said prior patent.

Our improvements are as follows:

The pin F is foreshortened and extends below the bottom of the draw-head to a sufficient distance only to apply a cotter-key 2 to prevent it rising, and the bottom of the draw-head internally is provided with a transverse depression 3 and at top internally with a fixed striking-lug 4, having an inclined-plane surface forwardly of pin F.

5 is an elbow-lever within the cavity of the draw-head and is fulcrumed at the elbow by trunnions 9, bearing in vertical grooves 10 in the walls of the draw-head. One arm of said lever rests in the depression 3 and under the keeper or locking-block D, so that said block will be flat against the bottom of the draw-head to engage the knuckle B in coupling, as described in our prior patent. The lever is connected to a pull-rod K, which extends through a slot 6 in the side of the draw-head, and said lever is provided with a notch or lug L to stop against the bottom of said slot 6 to keep the lever at the pulled position when coupling is not desired.

When rod K is pulled, lever 5 lifts the keeper or locking-block D against the inclined face of the striking-lug 4, and said block then moves pivotally on pin F and throws out the knuckle B by engagement with the inner end to the position shown in Fig. 4 to admit the incoming knuckle to couple with knuckle B.

The heel of knuckle B bears on an inclined surface 8 at the pintle-hole to assist the knuckle to swing outwardly to its full limit by the knuckle gravitating down the inclined plane. After the knuckle has disengaged from the locking-block one end of said block swings into the recess *d'* by contact with the inclined face of lug 4 to prevent coupling.

When knuckle B is struck by the incoming knuckle of the opposite draw-head, said knuckle B strikes the end of the keeper or locking-block D, which projects from the recess *d'*, and moves said block pivotally on pin F to dislodge it from said recess, and after dis-

lodgment the block falls to the bottom of the draw-head and locks said knuckle B after it has interlocked with the incoming knuckle of the opposite draw-head, as described in our
5 prior patent, to effect coupling, the lever 5 having previously fallen by gravitation into the depression 3, clear of said block.

We claim as our invention—

10 1. The combination with the drawhead A, having a striking lug 4, provided with an inclined plane face, of the locking block or keeper D, sliding pivotally on a guide pin F, passing vertically through the drawhead; the
15 elbow lever 5, within the drawhead and fulcrumed at the elbow to engage the under side of said block, and the pull rod K, passing through a slot in the side of the drawhead and connected to said lever, whereby the lever
20 is located within the drawhead, and lifts the locking block, and the striking lug by its inclined face moves said keeper or locking block pivotally, and the locking block throws out the knuckle and lodges one end of said block
25 in said recess, as and for the purpose set forth.

2. The combination with the drawhead A, having a hinged knuckle B, and provided with

an internal recess d' , at the side and a gravitating locking block D, sliding on a vertical guide pin F, passing through the drawhead, of an
30 elbow lever 5, fulcrumed within the cavity of the drawhead and lifting said block, and a striking lug 4, having an inclined face struck by the block when raised to move one end pivotally into said recess, as and for the purpose
35 set forth.

3. The combination of the drawhead A, having at top internally a drop lug 4, provided with an inclined face, a transverse depression
3, in the floor and internally a side recess d' ,
40 a knuckle B, hinged to the front of the drawhead, a gravitating locking block or keeper D, sliding pivotally on a vertical guide pin F, passing through the drawhead, an elbow lever
5, fulcrumed within the drawhead, and a pull
45 rod K, passing through the side of the drawhead and connected to said lever, substantially as and for the purpose set forth.

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