(No Model.) 2 Sheets—Sheet 1.

J. E. FORSYTH.

CAR COUPLING.

No. 539,988. Patented May 28, 1895.

Fig. 1.

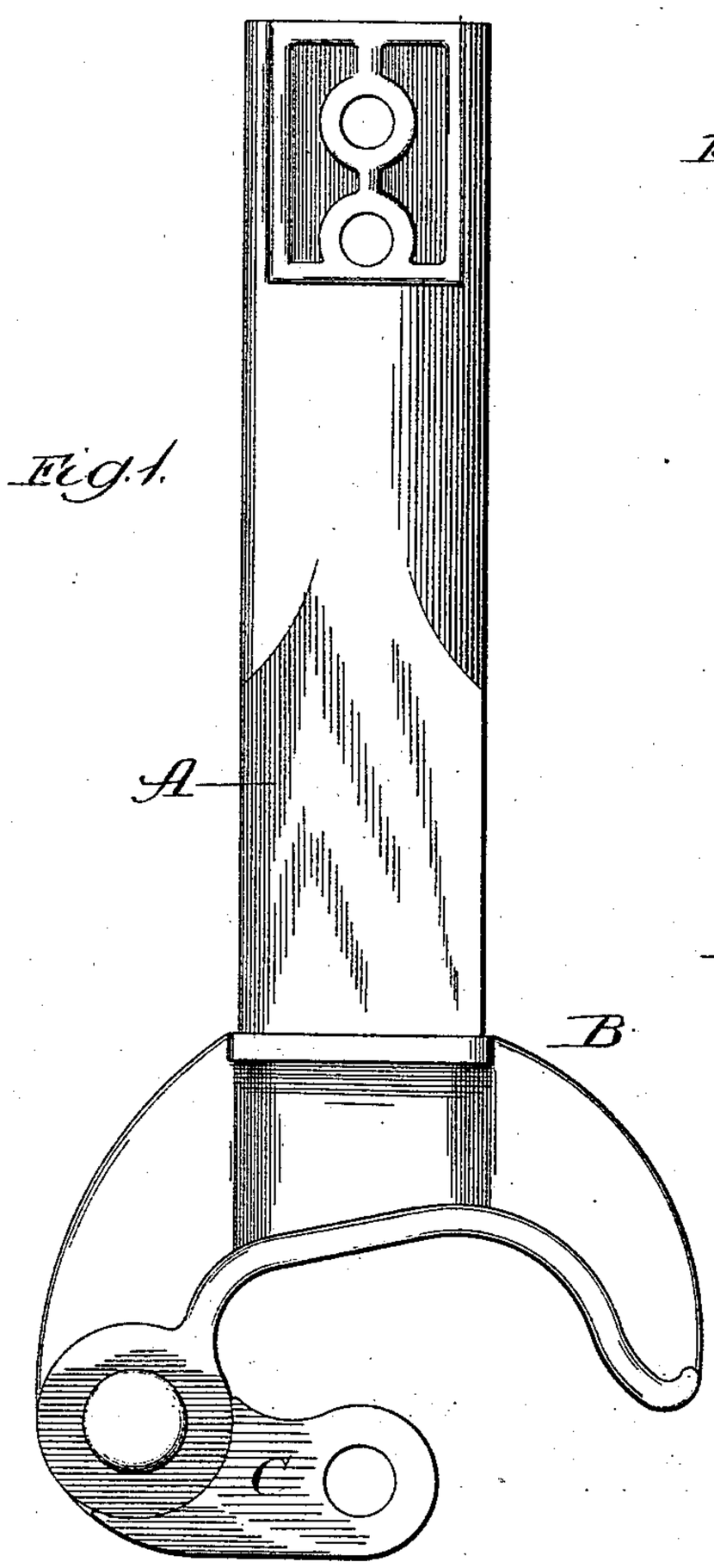


Fig. 2.

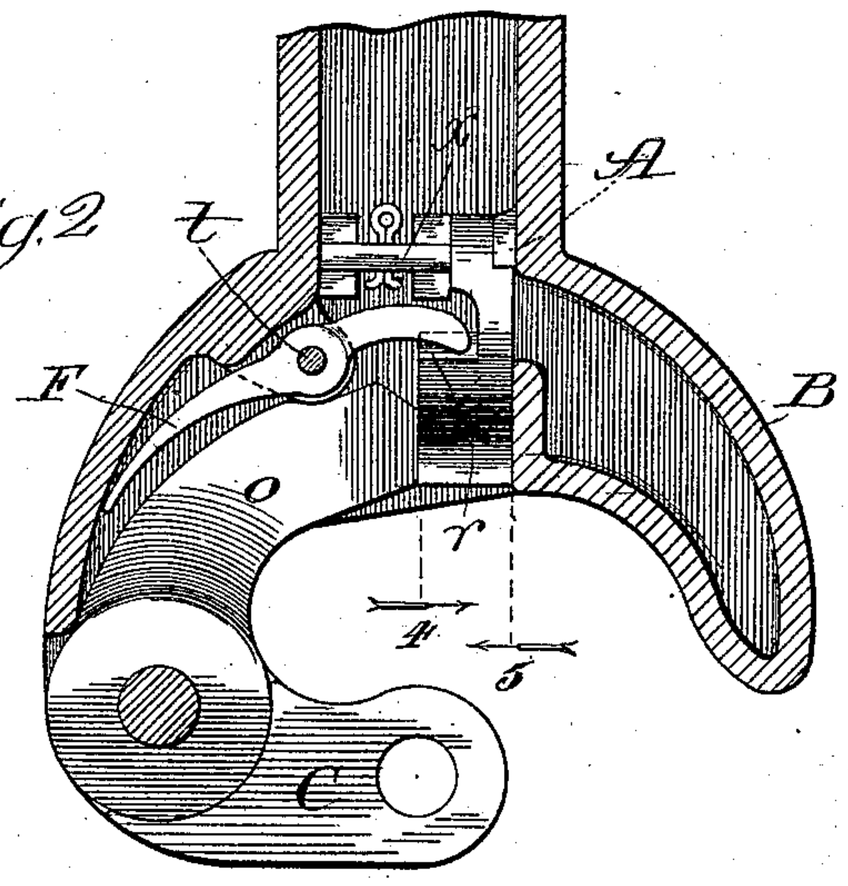
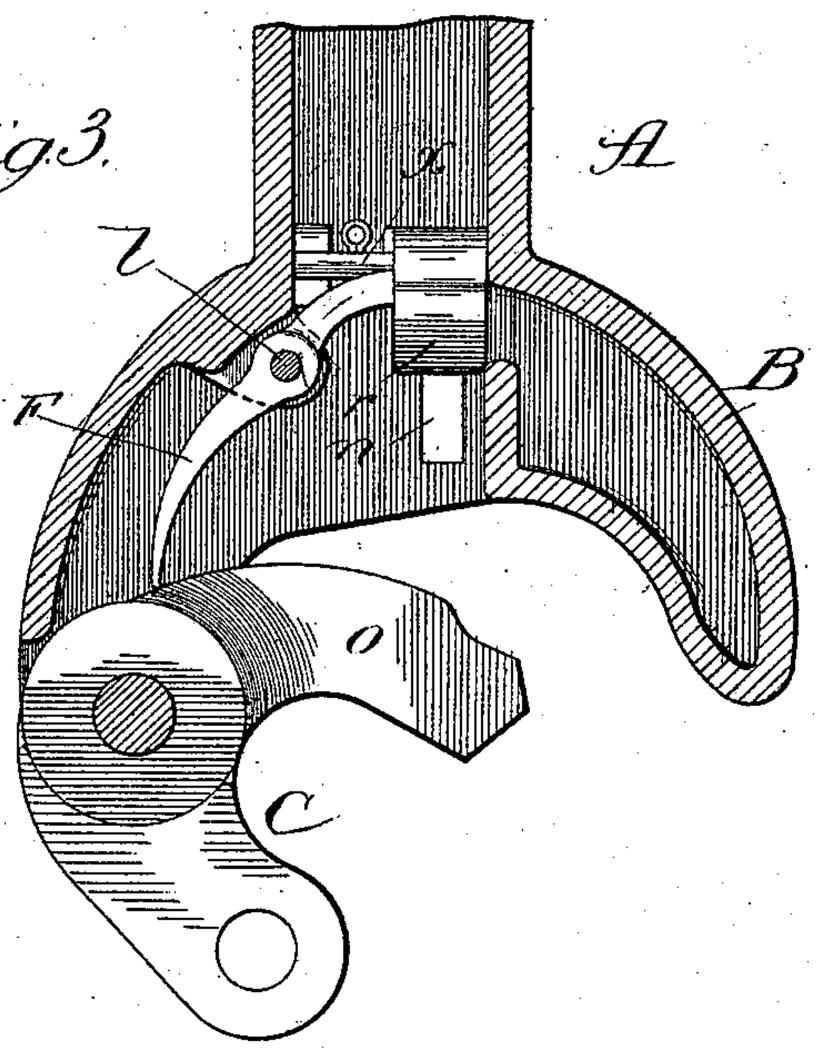


Fig. 3.



Witnesses:
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Inventor:
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By Dyrenforth & Dyrenforth,
Attys.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 1.

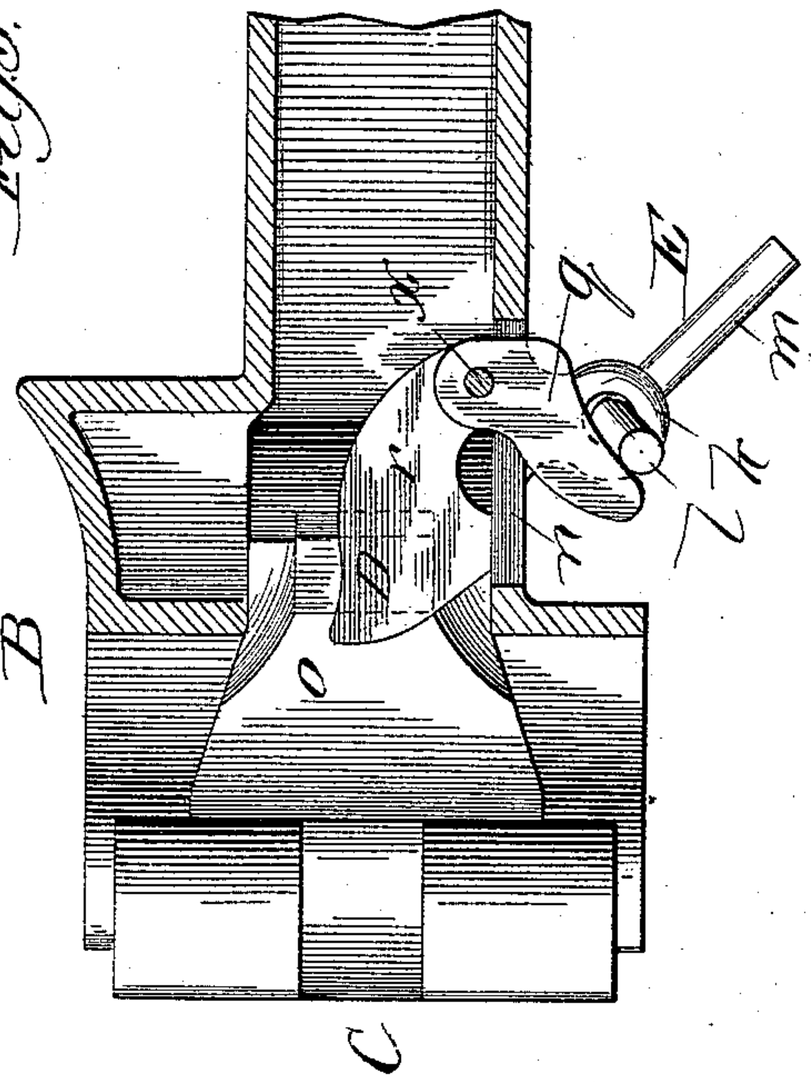


Fig. 2.

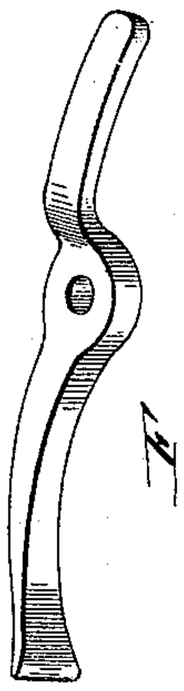


Fig. 4.

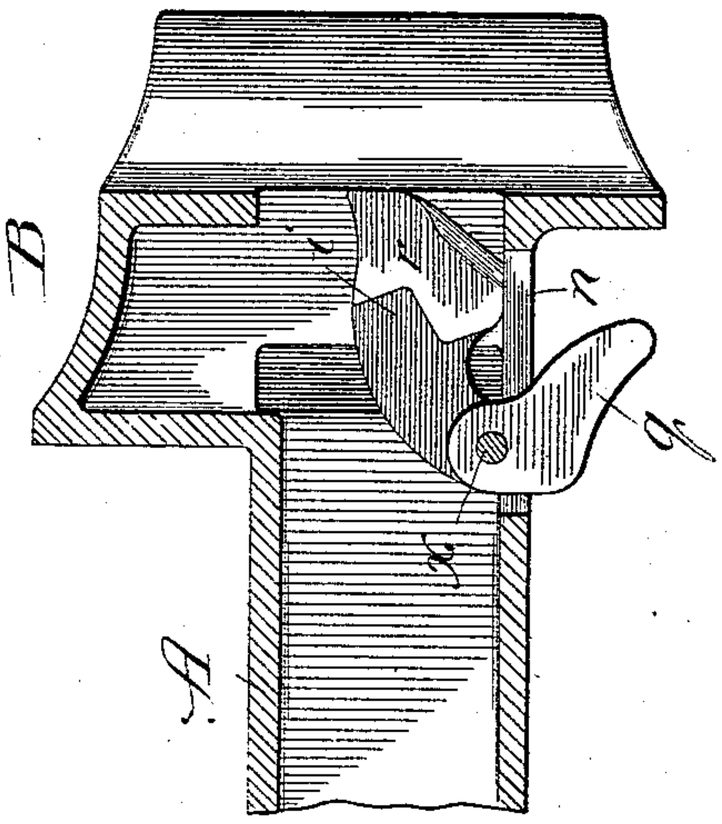
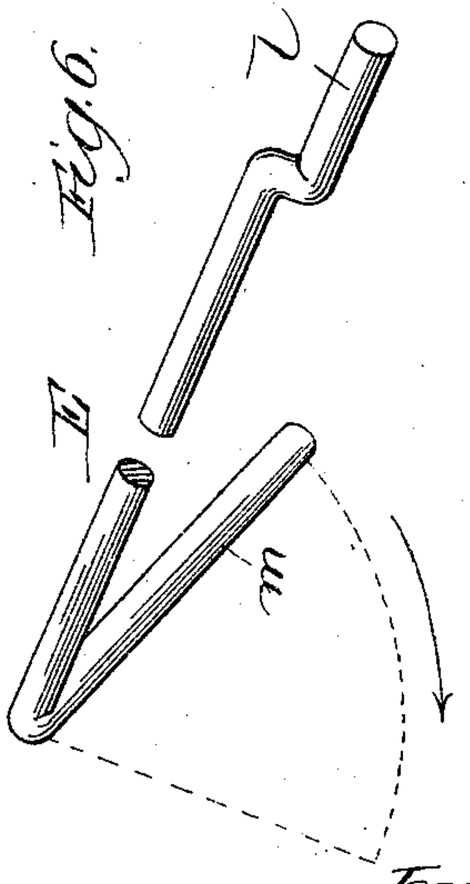


Fig. 6.



Witnesses:
Chas. E. Gaylord.
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Inventor:
Joseph E. Forsyth,
By Dyrenforth & Dyrenforth,
Attys.

UNITED STATES PATENT OFFICE.

JOSEPH E. FORSYTH, OF CHICAGO, ILLINOIS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 539,988, dated May 28, 1895.

Application filed June 6, 1894. Serial No. 513,678. (No model.)

To all whom it may concern:

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

My invention relates to an improvement in the class of car-couplers, known as the Master Car-Builders', of the Janney type, in which the hollow draw-head carries at one side a pivotal jaw or knuckle and contains a locking medium normally obstructing the tail-piece of the knuckle to prevent the latter from uncoupling. It is quite common to provide, in a car-coupler of the class referred to, the pivotal knuckle or jaw with a spring for automatically throwing it out, or in position for the abutting coupling-operation of the jaws of companion-couplers, when the knuckle is released by the lock for uncoupling, thus to avoid any necessity for setting, by hand, the knuckle into the position for automatic coupling and of requiring an attendant to get between cars for the purpose. The spring-medium for this purpose is objectionable because of its liability to get out of order, or fracture, and consequent unreliability, and besides because of its lack of positive action. My object is to provide a positively operating automatic medium for throwing out the knuckle by the act of unlocking it; and it is more particularly my object, to provide such an automatic knuckle-turning medium adapted for co-operation with the locking-device shown and described in my improved car-coupler forming the subject of my pending application for Letters Patent of the United States, Serial No. 498,205, filed January 27, 1894.

Referring to the accompanying drawings, Figure 1 is a plan view of a car-coupler provided with my improvement. Fig. 2 is a broken horizontal section of the same, showing the parts in their relative positions when the knuckle is locked. Fig. 3 is a similar view of the same, showing said parts in the relative positions they assume when the knuckle has been unlocked. Figs. 4 and 5 are sections taken, respectively, at the lines 4 and 5 on Fig. 2 and viewed as indicated by arrows. Fig. 6 is a broken perspective view of the crank cam-rod for operating the knuckle-locking medium, and Fig. 7 is a perspective view of the lock-controlled pivotal finger for throwing out the swinging knuckle when unlocked.

A is the draw-bar terminating in the draw-head B carrying, at one side, the pivotal knuckle C, all of usual or any suitable construction.

D is the lock, shown, like that set forth in my aforesaid application, as a generally bell-crank shaped body having a top-heavy or overbalanced head *r* and a tail-piece *q*, between which it is pivotally supported at *x* near the forward end of the draw-bar to cause the head to extend in the draw-head obstructingly into the outward path of the tail-piece *o* of the knuckle, which, however, is adapted, in its inward movement, to raise the head *r* to pass it in the coupling operation; and the tail-piece *q* of the lock protrudes through a longitudinal slot *n* in the base of the draw-bar. Thus, to actuate the device D to unlock the knuckle C, its tail-piece is moved forward to turn the head *r* backward on its pivot *x* out of the path of the knuckle tail-piece *o*, the gravity of the lock-head returning it to its obstructing position when the lock is released. For operating the lock I provide the crank-rod E formed with its handle *m* at one end bent to a suitable angle, and with a cam-extension *l* at its opposite end; and support the crank-rod to extend transversely across the draw-bar below the latter, causing it to pass through and bear in an eye *k* depending therefrom in proper relation to the tail-piece *q* of the lock D to bring it into rearward bearing contact with the cam-extension *l* of the crank-handle. The weight of the lock-head *r* is sufficient to force it to assume its knuckle-tail-piece locking position against the resistance of the crank-rod bearing against it, which is thereby turned normally to the position of extending and maintaining its handle *m* to an angle, say of about forty-five degrees, at which it is most convenient for the operator to swing it and thereby unlock the knuckle by causing the cam to bear against the tail-piece *q* of the lock and thus raise the head *r* from obstructing the outward swing of the knuckle; the head, on releasing the crank-rod, returning by gravity to its normal position and turning the rod to its position for operation.

In the draw-head is pivoted, at *t*, between its ends, a bent finger F, extending at one end into engagement with the adjacent side of the head *r* of the lock D, at a recess *i* therein, and bearing at its opposite end against the rear side of the tail-piece *o* of the knuckle C. Thus when the head of the lock is raised for removing it out of the path of the knuckle, its engagement with the adjacent end of the finger F turns it backward, thereby throwing the opposite end forward with a positive force and pressing it against the tail-piece of the knuckle with sufficient power to swing it outward into position for the automatic coupling operation performed in the usual manner.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a car-coupler of the character described, a lock for the tail-piece of the knuckle, comprising a pivotal body D having a head *r* in the draw-head and provided with a recess *i* and a tail-piece *q* protruding through the base of the coupler, and a pivotal finger F in the draw-head engaging at one end the lock-head in said recess and bearing at its opposite end against the knuckle tail-piece, substantially as and for the purpose set forth.

2. In a car-coupler of the character described, a lock for the tail-piece of the knuckle, comprising a pivotal body D having a head *r* in the draw-head and a tail-piece *q* protruding through the base of the coupler, and a crank-bar E journaled to extend below the draw-bar transversely thereof and having a cam-extension *l* bearing against the protruding tail-piece of the lock, substantially as and for the purpose set forth.

JOSEPH E. FORSYTH.

In presence of—
M. J. FROST,
W. U. WILLIAMS.