

(No Model.)

R. F. LUDLOW,
CAR COUPLING.

No. 500,338.

Patented June 27, 1893.

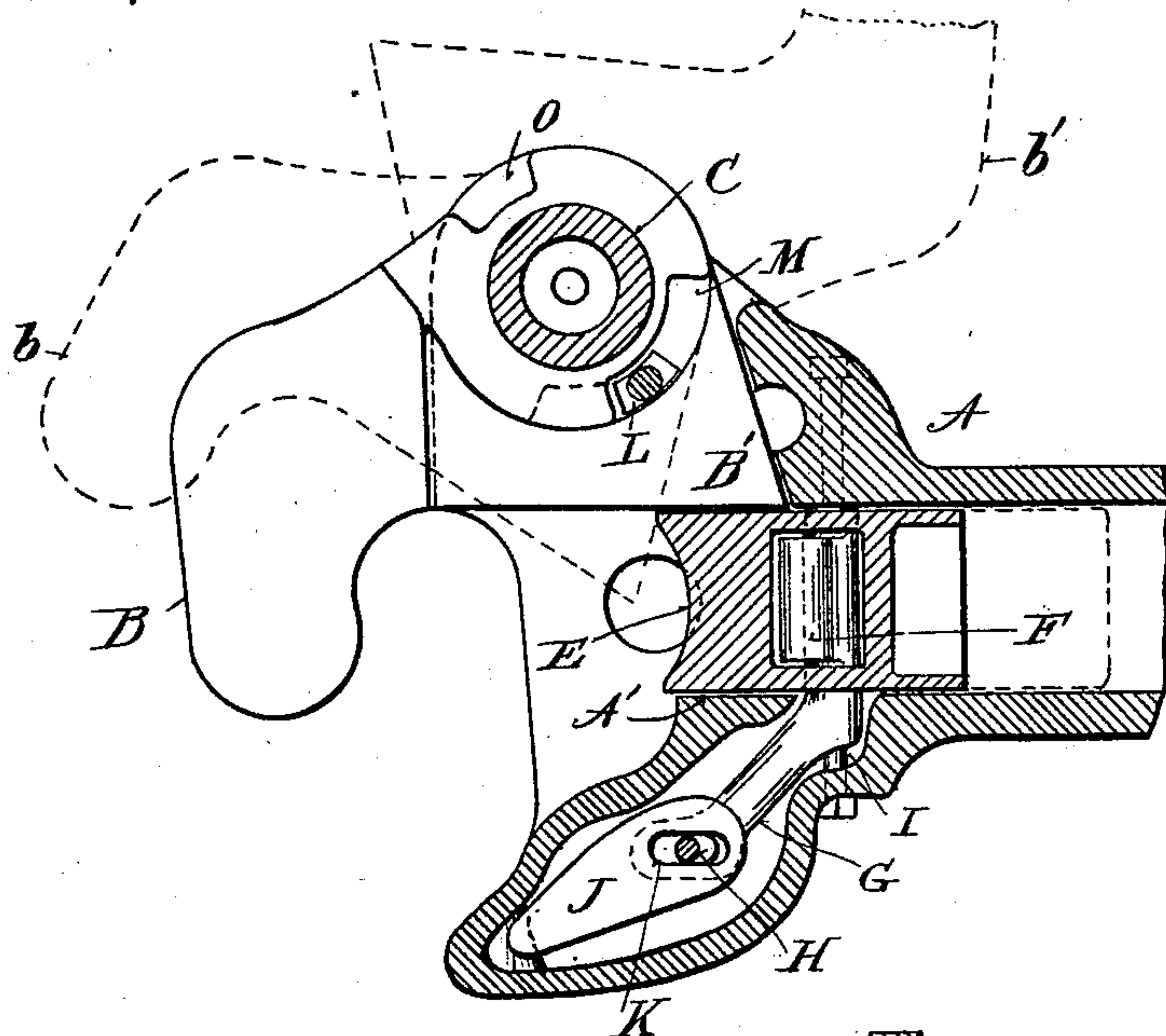


Fig. 1.

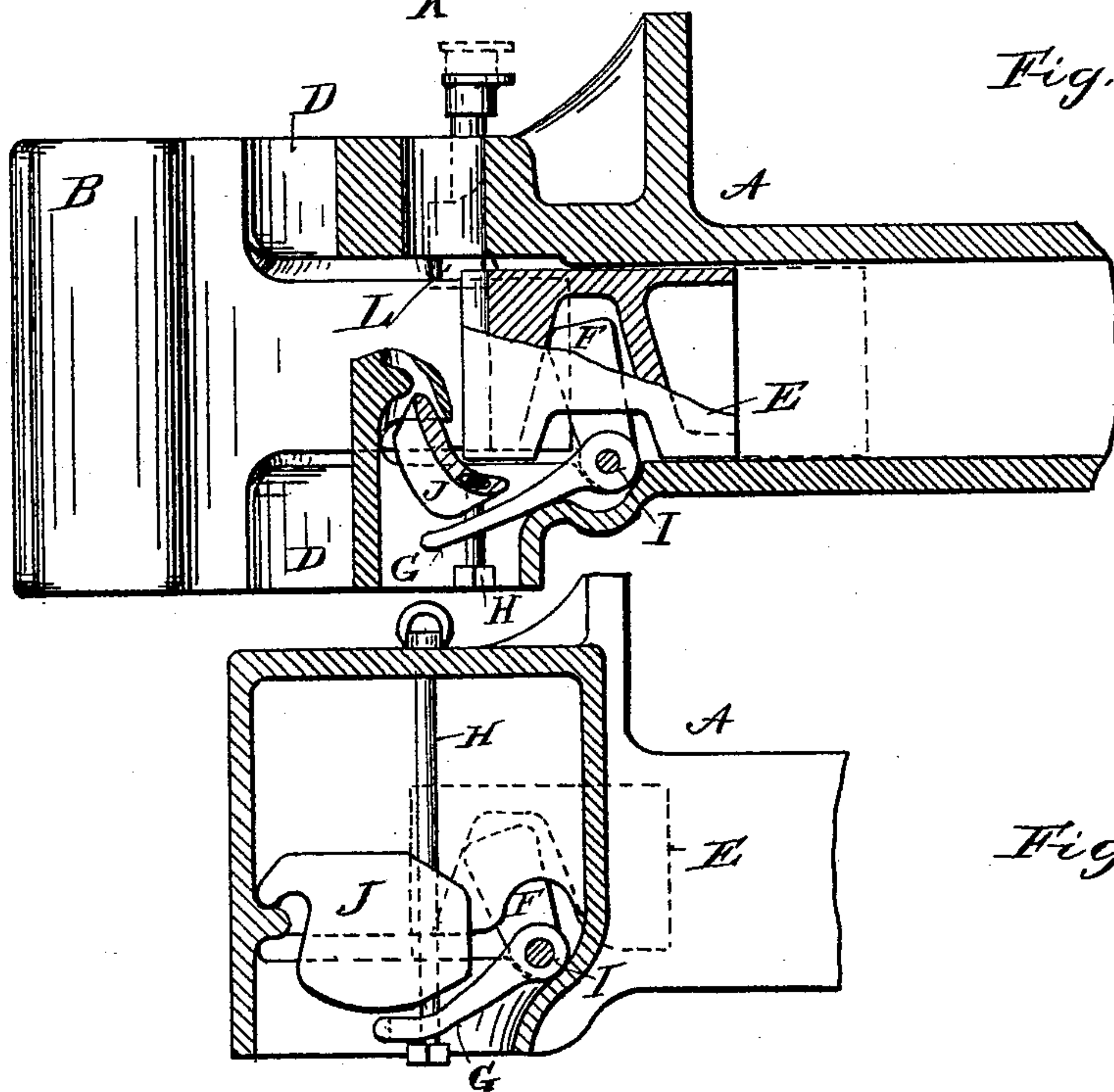


Fig. 2.

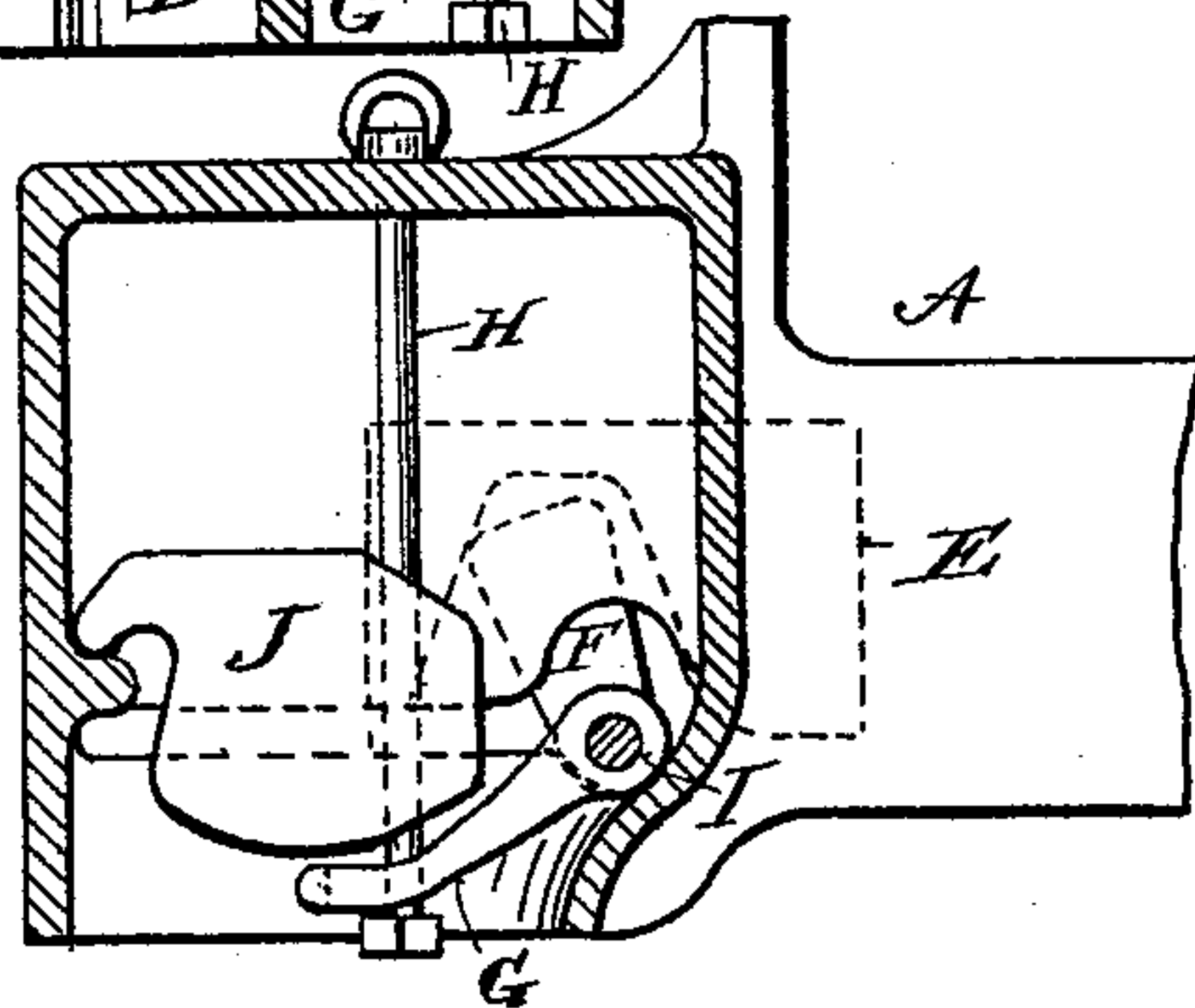


Fig. 3.

WITNESSES

Wm. Plaisted
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INVENTOR

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UNITED STATES PATENT OFFICE.

RODNEY F. LUDLOW, OF SPRINGFIELD, OHIO.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 500,338, dated June 27, 1893.

Application filed August 13, 1891. Serial No. 402,536. (No model.)

To all whom it may concern:

Be it known that I, RODNEY F. LUDLOW, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Car-Couplers, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to certain new and useful improvements in car-couplers.

My improvements have reference to a stop to limit the outward swing of the knuckle, and to maintain the latter in an inoperative position; have reference to a sliding block and gravity-actuated means for returning the block automatically to its locking position; have reference to a bell-crank lever, and a weight actuating one arm of said lever, to effect the said automatic return of the said sliding block through the gravitating influence of said weight, and have reference to special forms of the above members, and a combination thereof.

In the accompanying drawings on which like reference letters indicate corresponding parts: Figure 1, represents a plan view of a draw-head, the upper shell being removed and portions in section; Fig. 2, a vertical sectional view of the drawhead, with portions of the interior mechanism broken away to show their relation to each other and their construction; and Fig. 3, a vertical section through the outer portion of the drawhead opposite the knuckle, showing the weighted arm of the operating lever and its actuating rod.

The letter A designates a draw-head of any suitable construction, in which is pivoted the knuckle B, on a pivot pin C, passing through lugs or ears D, on said head. The inner end B' of said knuckle, is locked in its inner position by means of a sliding block E, operating between said inner end and an opposing wall A' of the draw-head. This block is operated backward past the inner end of the knuckle, to allow the said end to swing outward in the act of uncoupling. This backward movement is preferably effected by means of a bell-crank lever, consisting of an arm F, fitting in a recess in said sliding block, and of an arm G, having a slot, or otherwise adapted to engage with an actuating rod H, slidingly mounted in said draw-head, where-

by, on raising said rod, the said lever will be rotated on its fulcrum rod or pivot I, and throw the sliding block backward to its unlocking position. Other means, in place of said bell-crank form of lever, may be employed.

The return of the block is effected automatically by the gravitating influence of a weight J, having a slot K, whereby it is mounted on the actuating rod H, above the arm G of the bell-crank lever, or otherwise adapted to exert its influence thereon. This weight is raised by the action of the rod H in throwing the sliding block backward to allow the opening of the knuckle, and then effects the return of the block to its outer position by its overbalancing power acting on the arm G. The forward end of the sliding block is preferably curved as shown in Fig. 1, to facilitate the engagement of the inner end of the knuckle therewith when the latter is operated from its open position, shown by dotted lines at b, Fig. 1, to its closed position. The sliding block is pushed backward by the return of the knuckle, thereby lifting the weight J, which effects the return of the block and locks the knuckle, as soon as the latter reaches its inner locking position. Thus it will be seen that the block E, may be thrown backward to its unlocking position, either by hand through the actuating rod H, or by the return of the knuckle in the act of coupling, while the outward movement of the block will be effected automatically in both cases, by the gravitating influence of the weight J thereon. There is no spring action necessary to effect said automatic return, but the said movement is effected entirely by the action of gravity. Referring to Fig. 2, it will be seen that the block E, is chambered to give it sufficient size without undue weight. The lower portion of the sides are cut away as shown at E', to allow of the boss or hub of the bell-crank lever, fitting within said cut-away portions, and serving as a stop to limit the movement of the block back and forth.

In order to prevent the outward swing of the knuckle proceeding too far, I have provided a stop piece consisting of a vertically movable member or pin L, slidingly mounted in said head, and adapted to engage with recesses M and O in said knuckle. The recess M is large enough to allow the opening of the

knuckle to the dotted position *b*, as shown in Fig. 1, when the pin will limit its outward movement by bringing up against the wall of the recess. The stop piece may be lifted, as indicated in Fig. 2, so as to raise the same above the knuckle and allow of rotating the latter to the dotted position *b'* Fig. 1, where it may be locked by dropping the stop within the recess *O*, thus brought under the stop. This position of the knuckle allows of coupling the draw-bar with the ordinary link and pin coupler. The knuckle is maintained in its inoperative position by the engagement of the stop piece with the recess *O* therein.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a car coupler, the combination with a draw head and a knuckle pivoted therein, of a sliding block mounted in said head and adapted to lock said knuckle, a weighted lever fulcrumed in said head, and having a normal tendency to throw said block to its lock-

ing position, and an actuating rod for said lever, slidably mounted in the draw-head, and acting to overcome said normal tendency and thereby unlock said knuckle.

2. In a car coupler, the combination with a draw head and a knuckle pivoted therein, of a block mounted in said head to reciprocate back and forth past the inner end of said knuckle, a bell-crank lever pivoted in said head one end of the lever fitting a recess in said block and an actuating rod engaged with the other end, and a weight mounted on said rod and bearing on lever to effect its return by the gravitating action of said weight, after the raising of the weight by the action of the rod in throwing the said block to its backward position to unlock said knuckle.

In testimony whereof I affix my signature in presence of two witnesses.

RODNEY F. LUDLOW.

Witnesses:

OLIVER H. MILLER,
JAMES C. DAWLEY.