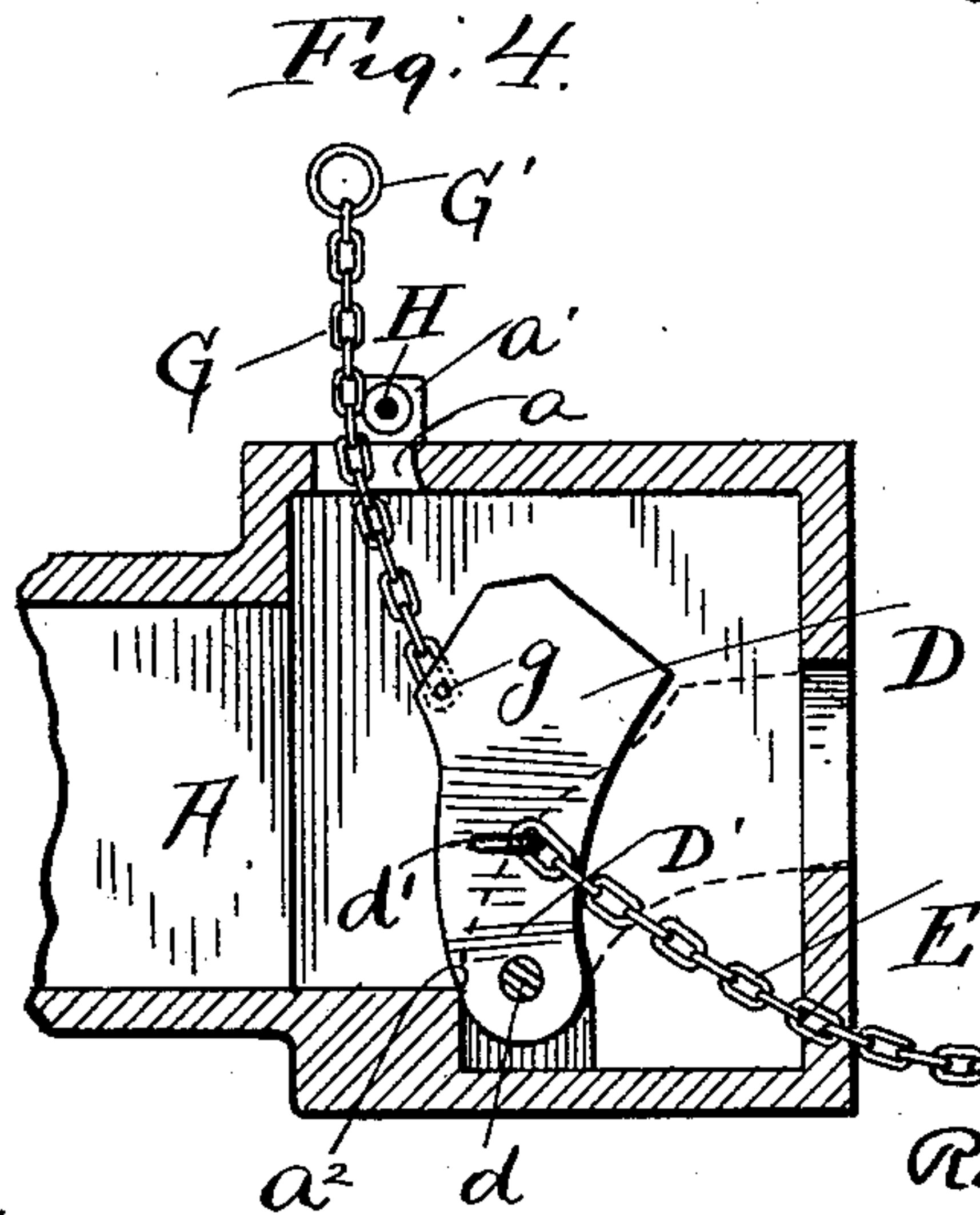
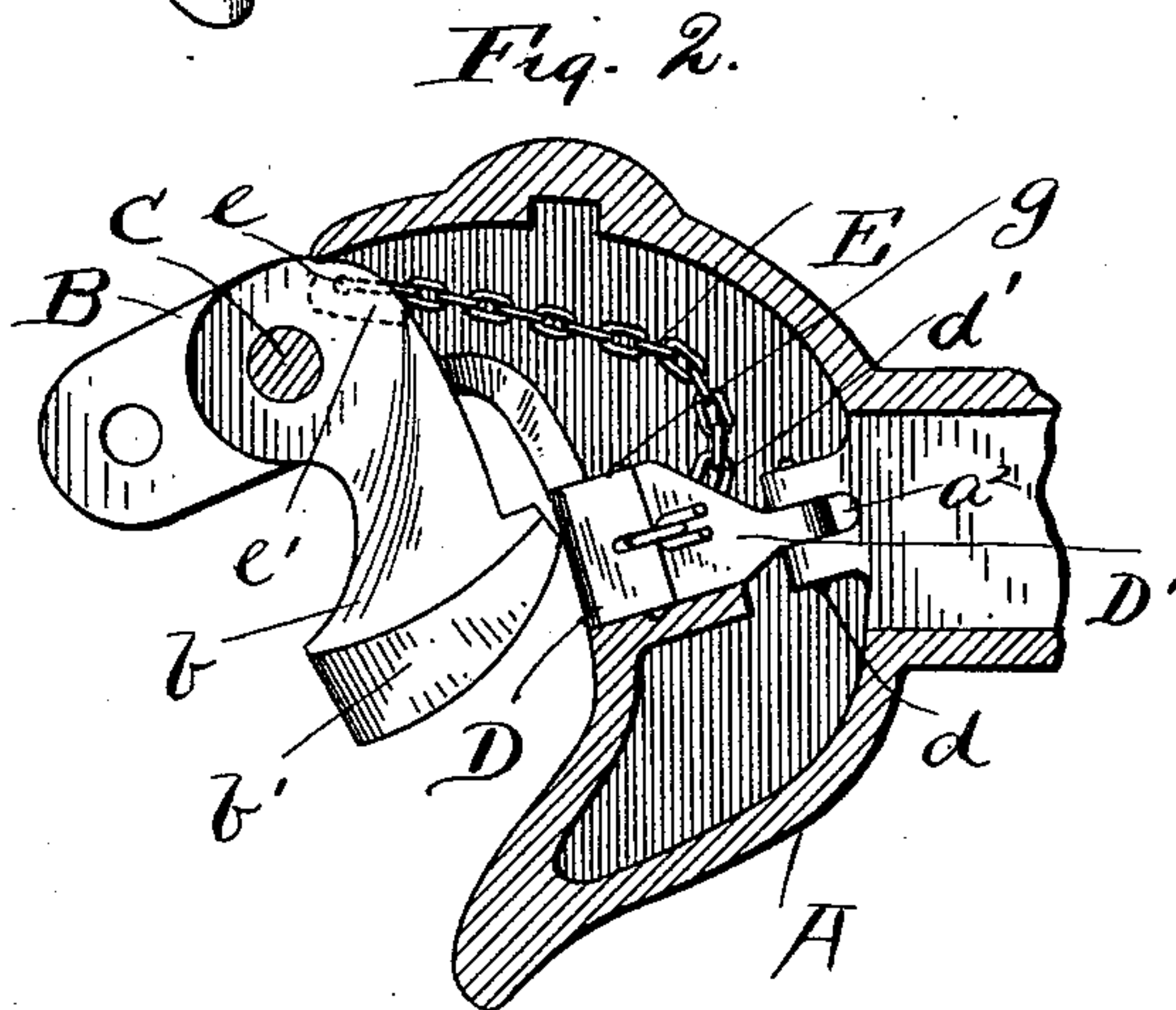
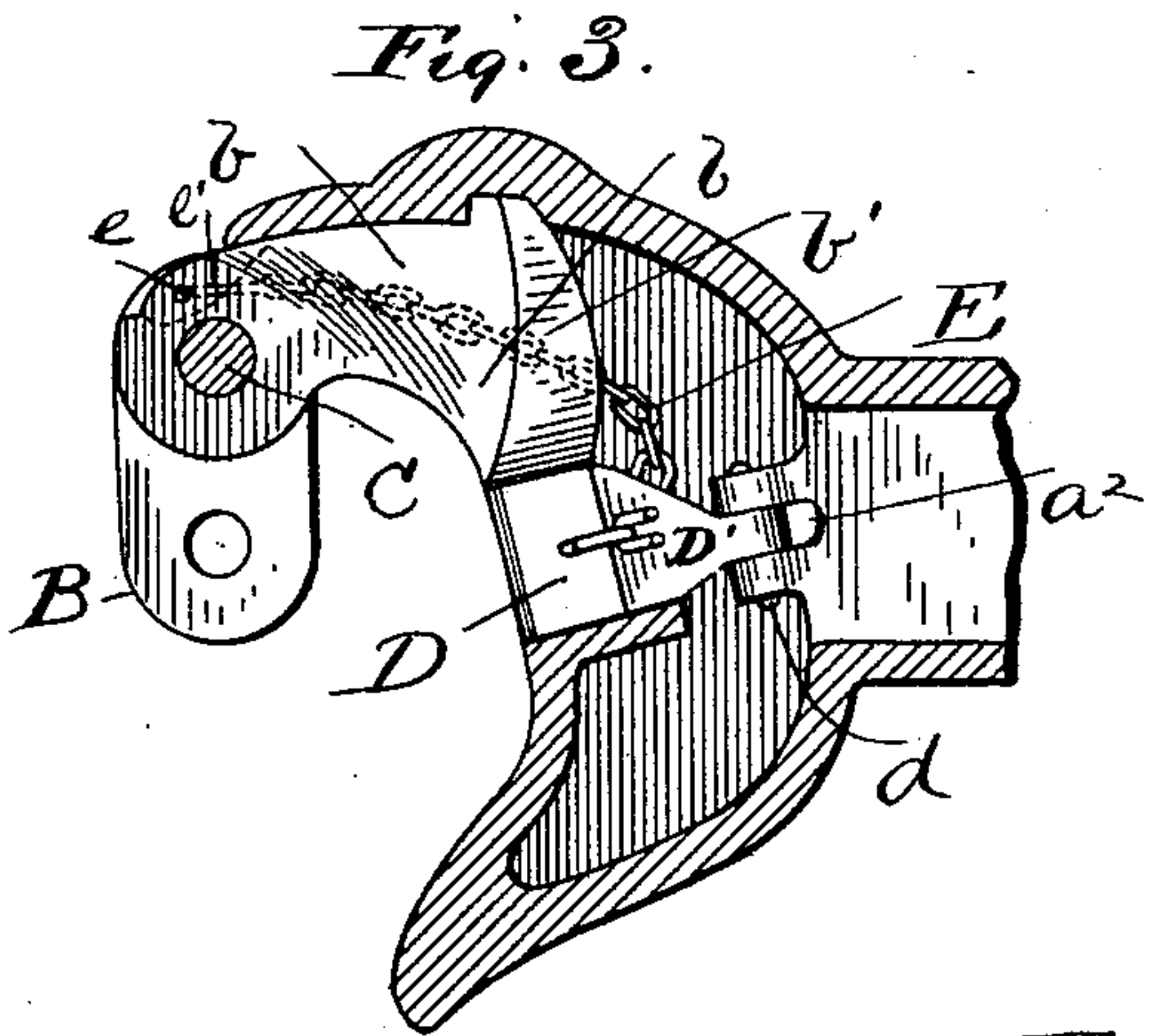
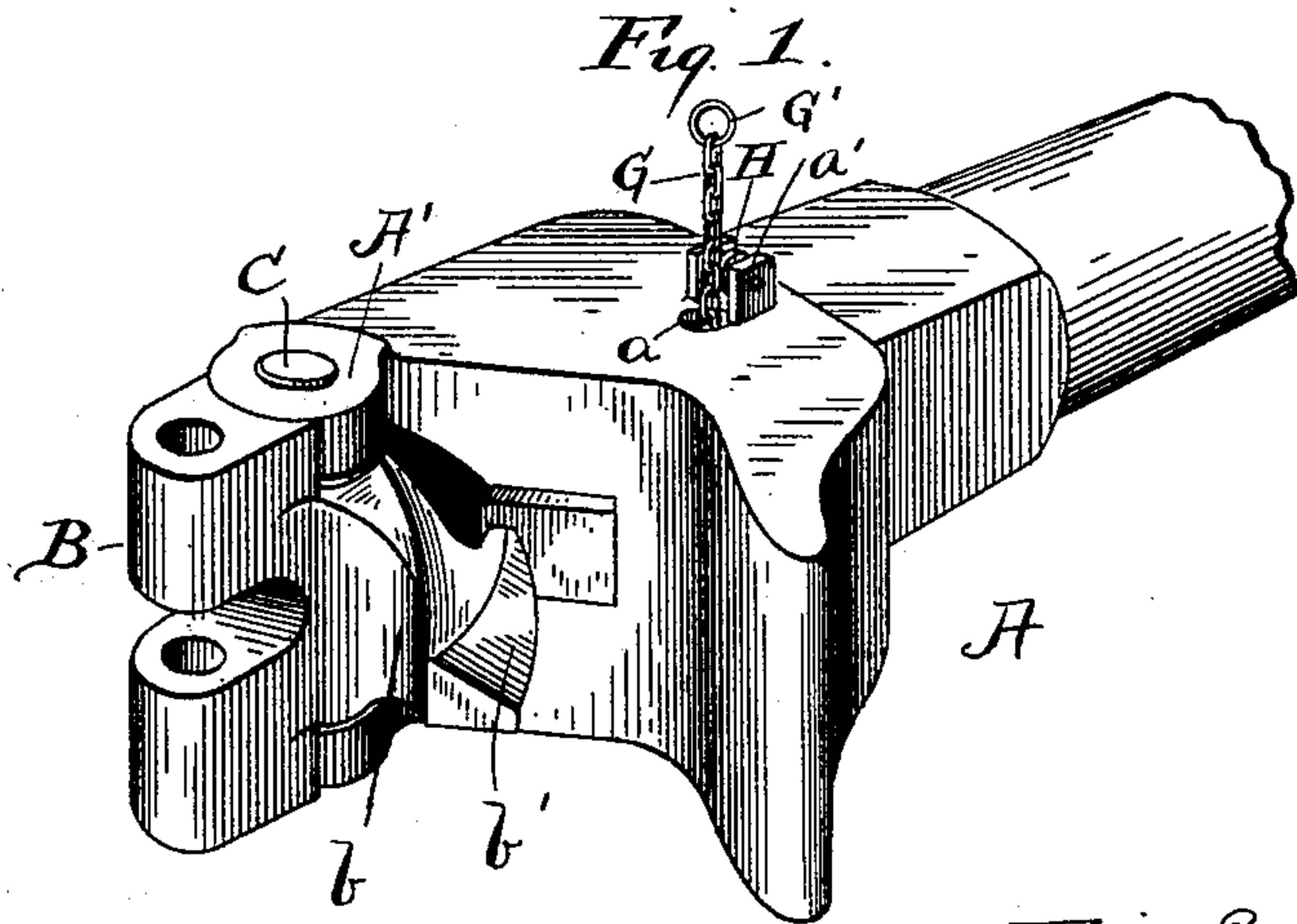


(No Model.)

R. A. COWELL.
CAR COUPLING.

No. 480,807.

Patented Aug. 16, 1892.



Witnesses.
E. Byron Gilchrist.
[Signature]

Inventor.
Rensselaer A. Cowell
[Signature]
By Leggett & Leggett.
his Attorneys.

UNITED STATES PATENT OFFICE.

RENSSELAER A. COWELL, OF CLEVELAND, OHIO.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 480,807, dated August 16, 1892.

Application filed April 21, 1892. Serial No. 430,022. (No model.)

To all whom it may concern:

Be it known that I, RENSSELAER A. COWELL, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Car-Couplers; and I do hereby 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 pertains to make and use the same.

My invention relates to improvements in automatic hook car-couplers; and it consists in certain features of construction and in combination of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective of a hook car-coupler embodying my invention, showing the knuckle of the coupler in its open position. Figs. 2 and 3 are top plans in horizontal section, showing the knuckle of the coupler in its open and closed position, respectively. Fig. 4 is a left-hand side elevation of the tilting lock, showing the same in solid lines in position tilted upward in opening the knuckle of the coupler and showing the same in dotted lines in its position of rest, the draw-head being shown in section.

A represents the draw-head of the coupler, the same being chambered to receive knuckle B, that is pivotally connected with the draw-head, as heretofore, by means of a vertical pin or bolt C, the draw-head having forwardly-projecting ears A', top and bottom, through which pivotal pin or bolt C passes. Knuckle B has a lateral inwardly-projecting arm b, and the draw-head is chambered to receive said arm of the knuckle in the closed position of the latter.

At the floor just forward of the rear wall of the chamber of the draw-head, as at d, is pivoted the reduced portion D' of a tilting block D, that is adapted to retain the knuckle in its open position preparatory to coupling and in its closed position after coupling, the arrangement of block D relative to the opening in the forward wall of the draw-head being preferably such that the face of block D when the latter is in its position of rest will come approximately flush with the outer side of the front of the draw-head, and that the free end of said block will be located in a plane

above the pivoted end of said block, as shown in dotted lines, Fig. 4.

E represents a chain that is connected with the lower end of knuckle B at the left of the pivotal bearing of the knuckle, as at e, the knuckle being recessed on its under surface, as shown at e' in dotted lines, Figs. 2 and 3, to accommodate the attachment of said chain, and at its other extremity the chain is connected with a laterally-projecting lug d' of tilting block D.

G represents a chain that is connected with the top of the tilting block, as at g, and leads upwardly through a perforation a in the top wall of the draw-head and over a roller H, supported by a pair of upwardly-projecting lugs or ears a' of the draw-head, chain G at its outer end terminating in a loop or handle, as at G'.

In Figs. 1 and 2 the coupler is shown with the knuckle thereof in position for coupling, whereas in Fig. 3 the knuckle is shown locked in its closed or coupled position.

In coupling, the free end of arm b of knuckle B merely engages the face of block D and tilts the same upward to the position shown in Fig. 4 and passes into the chamber of the draw-head at the left of said tilting block, whereupon the latter returns or drops to its normal position by gravity and locks the knuckle in its closed or coupled position, the rear wall of the chamber of the draw-head at a² serving as a stop to the upward or rearward tilting of block D.

In uncoupling, chain G by means of handle G' is pulled upward or outward, tilting or raising block D to the position shown in Fig. 4. This movement of block D causes a draft or pull to be given to chain E, as indicated in said figure, resulting in the opening of knuckle B, whereupon by leaving go of handle G' block D will drop or return to its normal position by gravity, and should the free end of arm b of knuckle B not have been entirely thrown outside of the chamber of the draw-head by the draft on chain E the gravity of tilting block D will effect the same; but experience has demonstrated that the pull or draft on chain E will alone effect the complete opening of the knuckle.

The free end of arm b of knuckle B is pref-

rably beveled, as at *b'*, to facilitate the opening and closing of the knuckle.

The advantages of my improved coupler are quite apparent, comprising simplicity and consequent cheapness in construction, durability, and safety.

What I claim is—

1. In a hook car-coupler, a draw-head, a knuckle pivotally connected with said draw-head, and a tilting block located within the draw-head, said tilting block being adapted to retain the knuckle in its open position preparatory to coupling and being operatively connected with the knuckle in such a manner that the elevation of the free end of said tilting block will unlock or open the knuckle, substantially as set forth.

2. In a hook car-coupler, a draw-head, a knuckle pivotally connected with said draw-head, the draw-head being chambered to receive said knuckle, a tilting block located within the chamber of the draw-head, a chain operatively connecting the knuckle with said

tilting block, and suitable means connected with said tilting block and extending outside the draw-head, whereby the elevation of the free end of said block will unlock or open the knuckle, substantially as and for the purpose set forth.

3. In a hook car-coupler, a draw-head, a knuckle pivotally connected with said draw-head, the draw-head being chambered to receive said knuckle, a tilting gravity-block located within the chamber of the draw-head, a chain operatively connecting the knuckle with said tilting gravity-block, and a chain connected with said tilting block and leading outward through the top of the draw-head, substantially as and for the purpose set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 23d day of March, 1892.

RENSSELAER A. COWELL.

Witnesses:

C. H. DORER,
WARD HOOVER.