

No. 654,938.

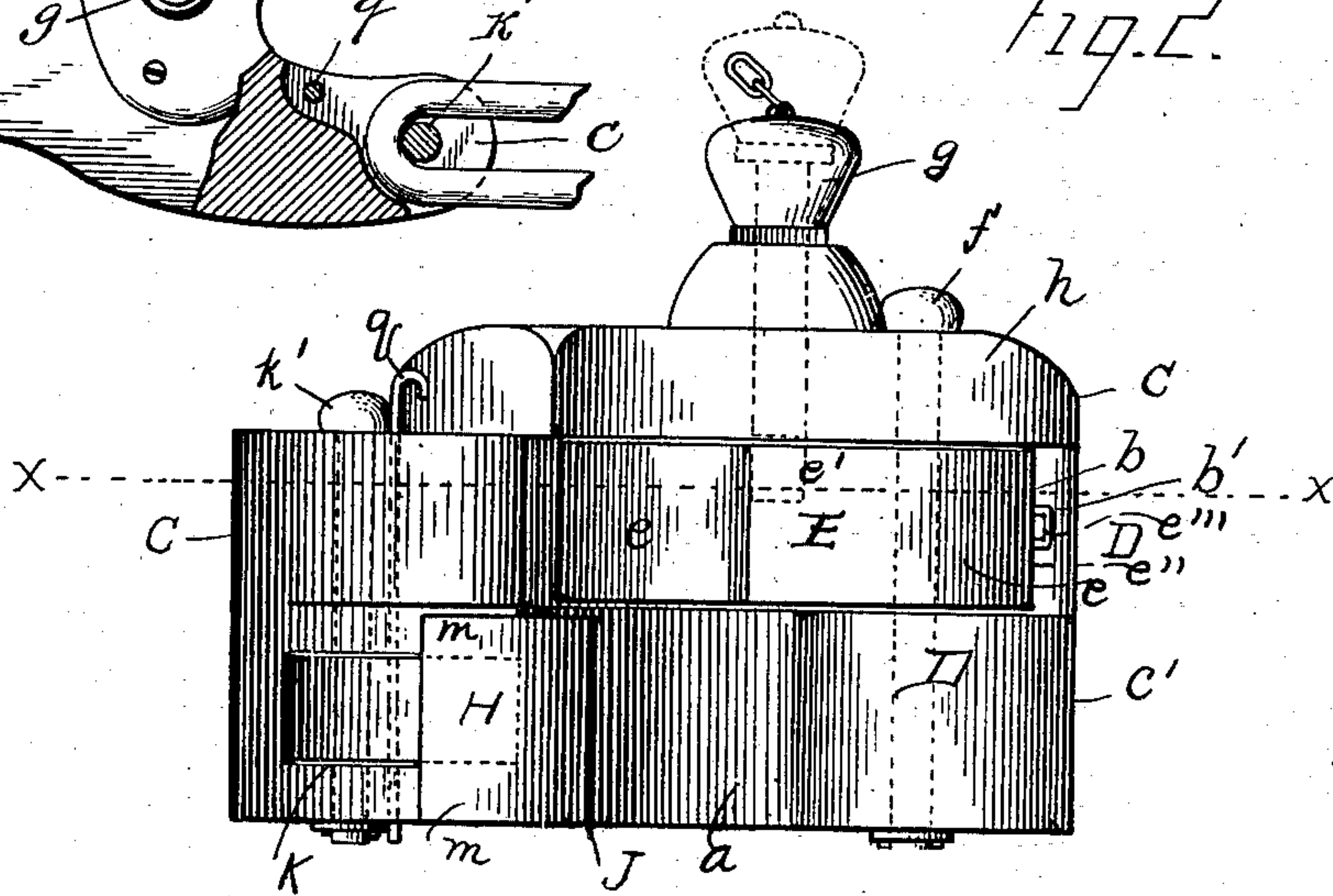
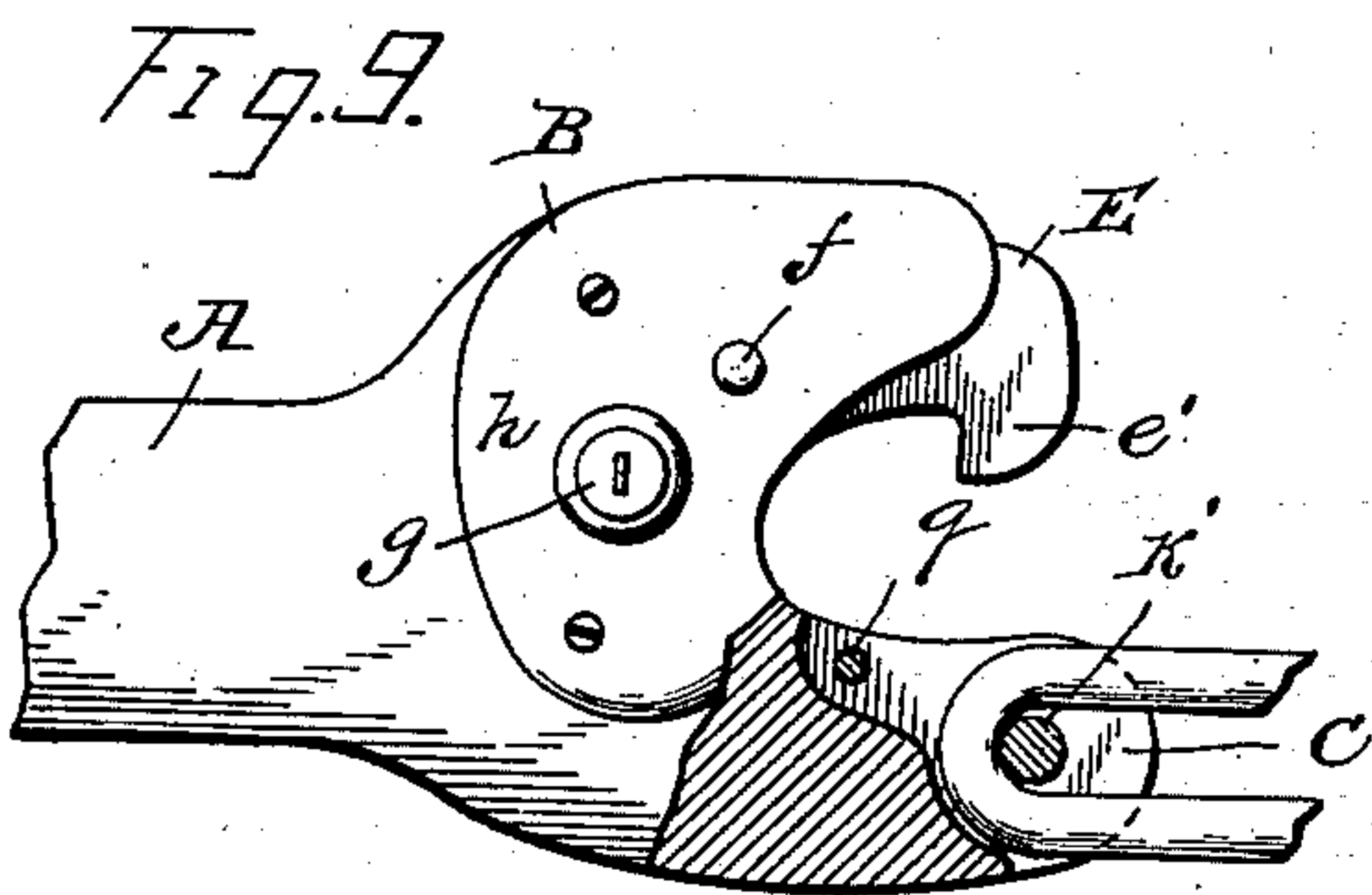
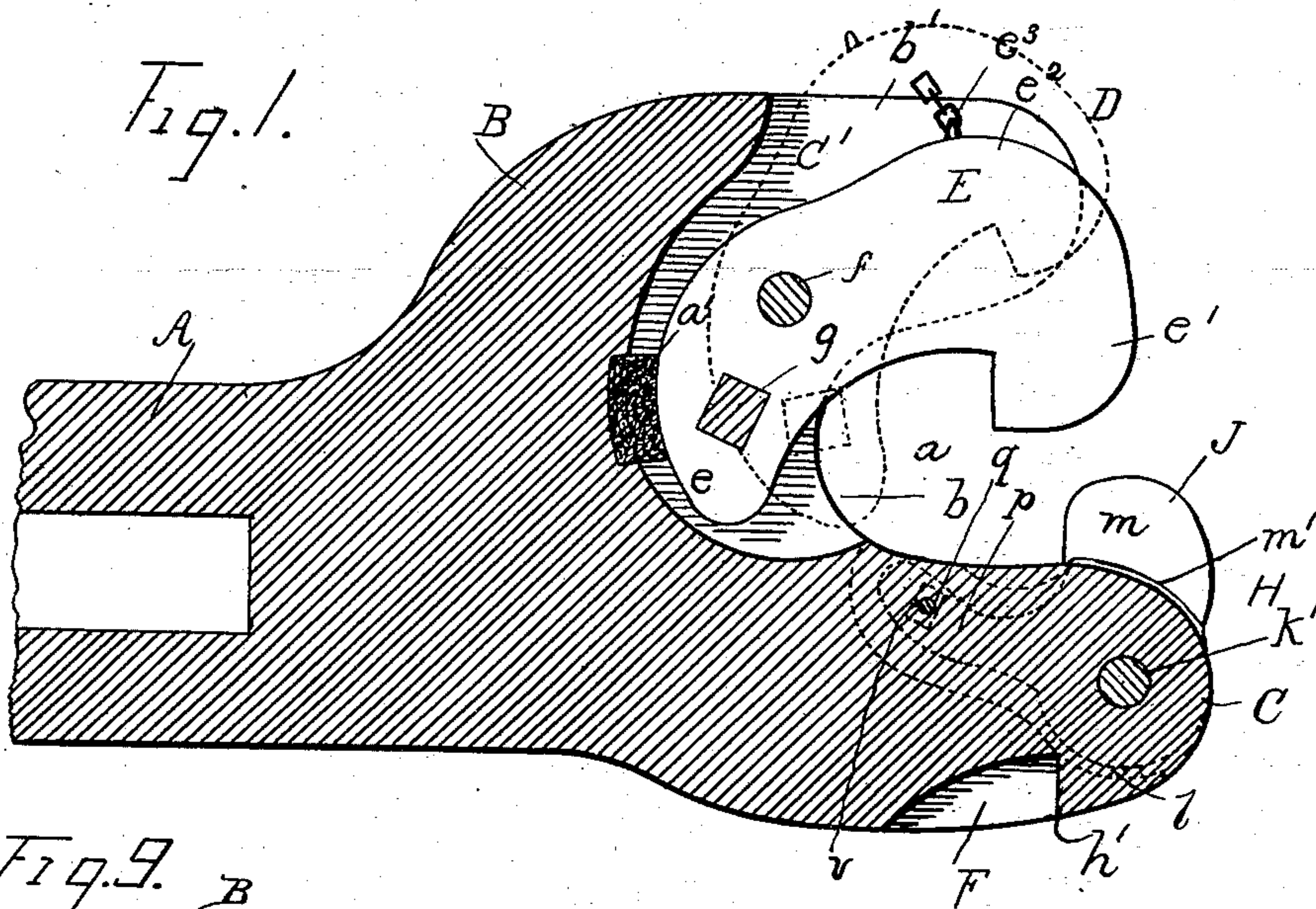
Patented July 31, 1900.

D. BOWERS.
CAR COUPLING.

(Application filed Nov. 23, 1899.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

E. A. Ryan,
G. M. Anderson

INVENTOR

David Bowers

BY

E. W. Anderson
his
ATTORNEY.

No. 654,938.

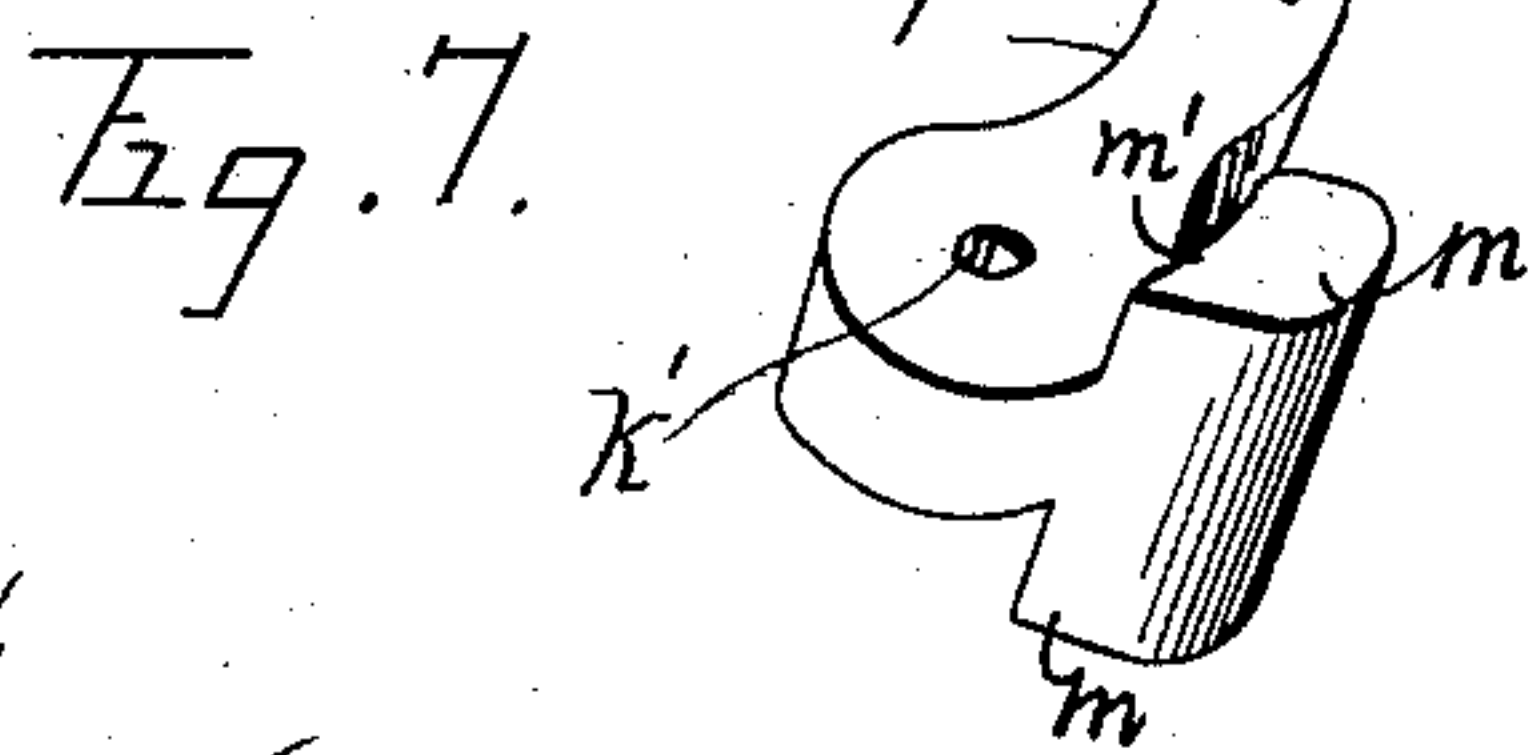
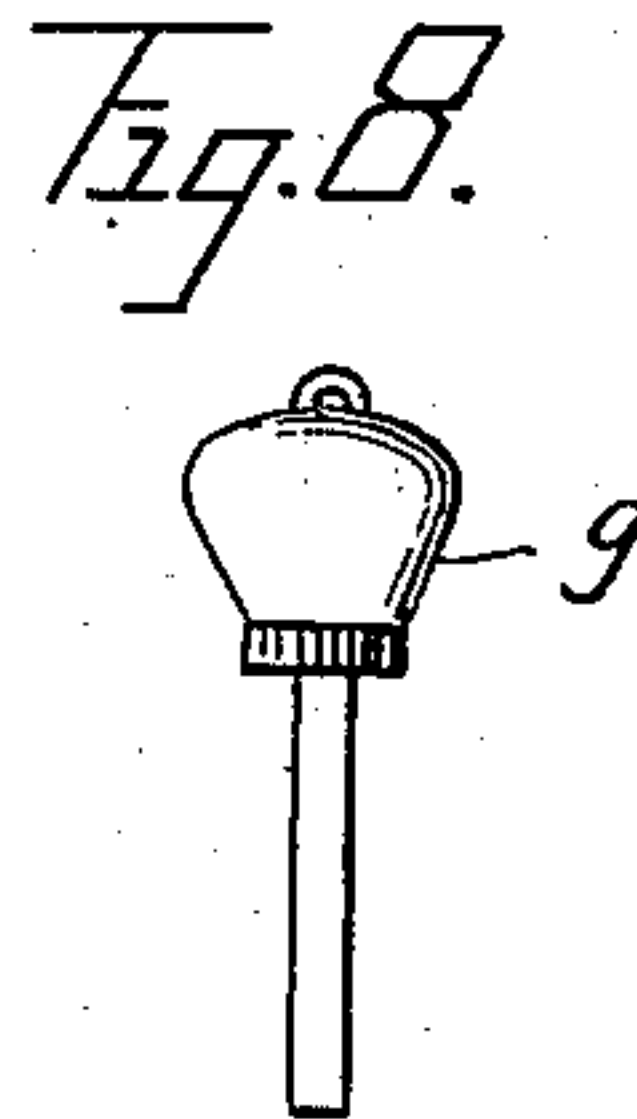
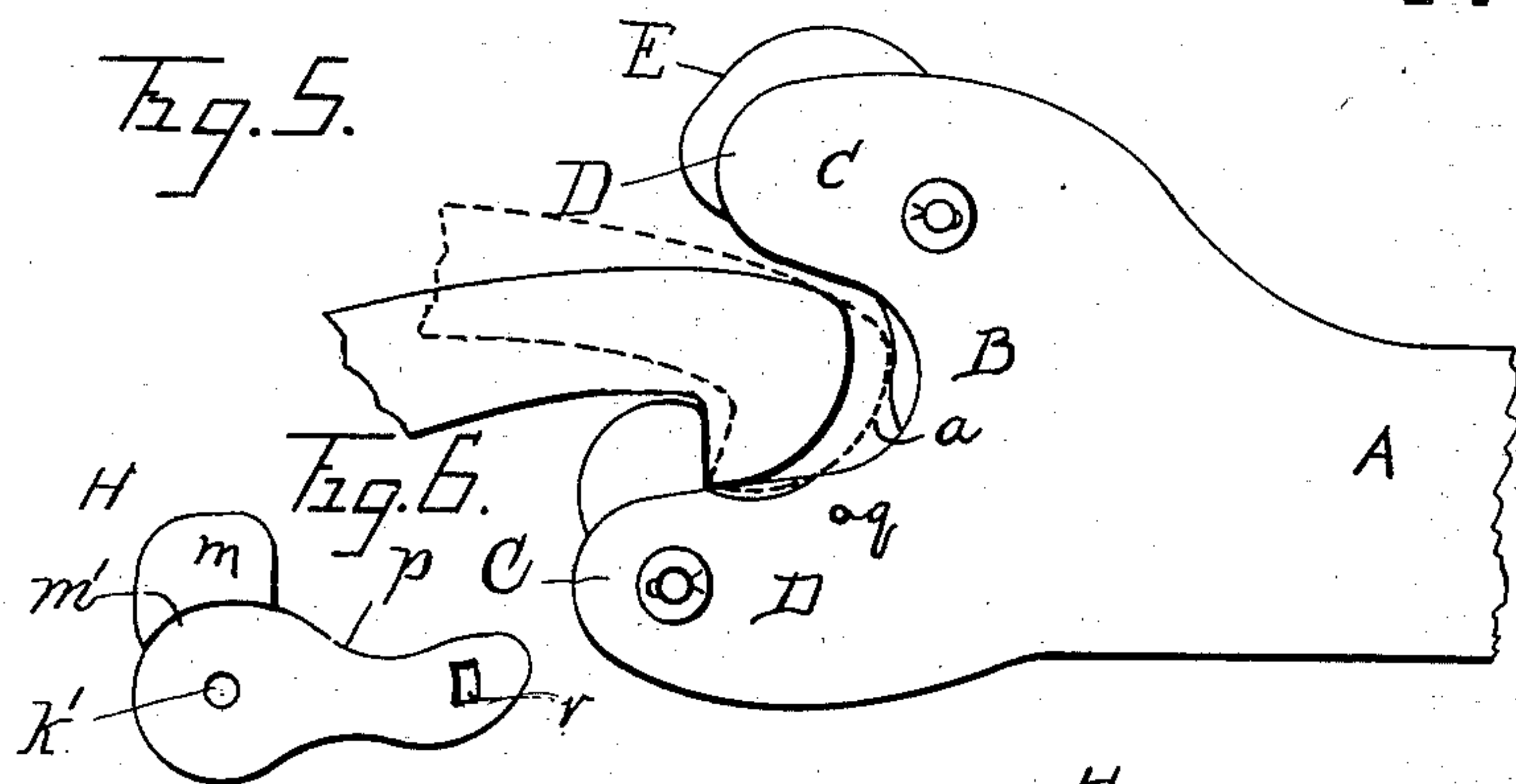
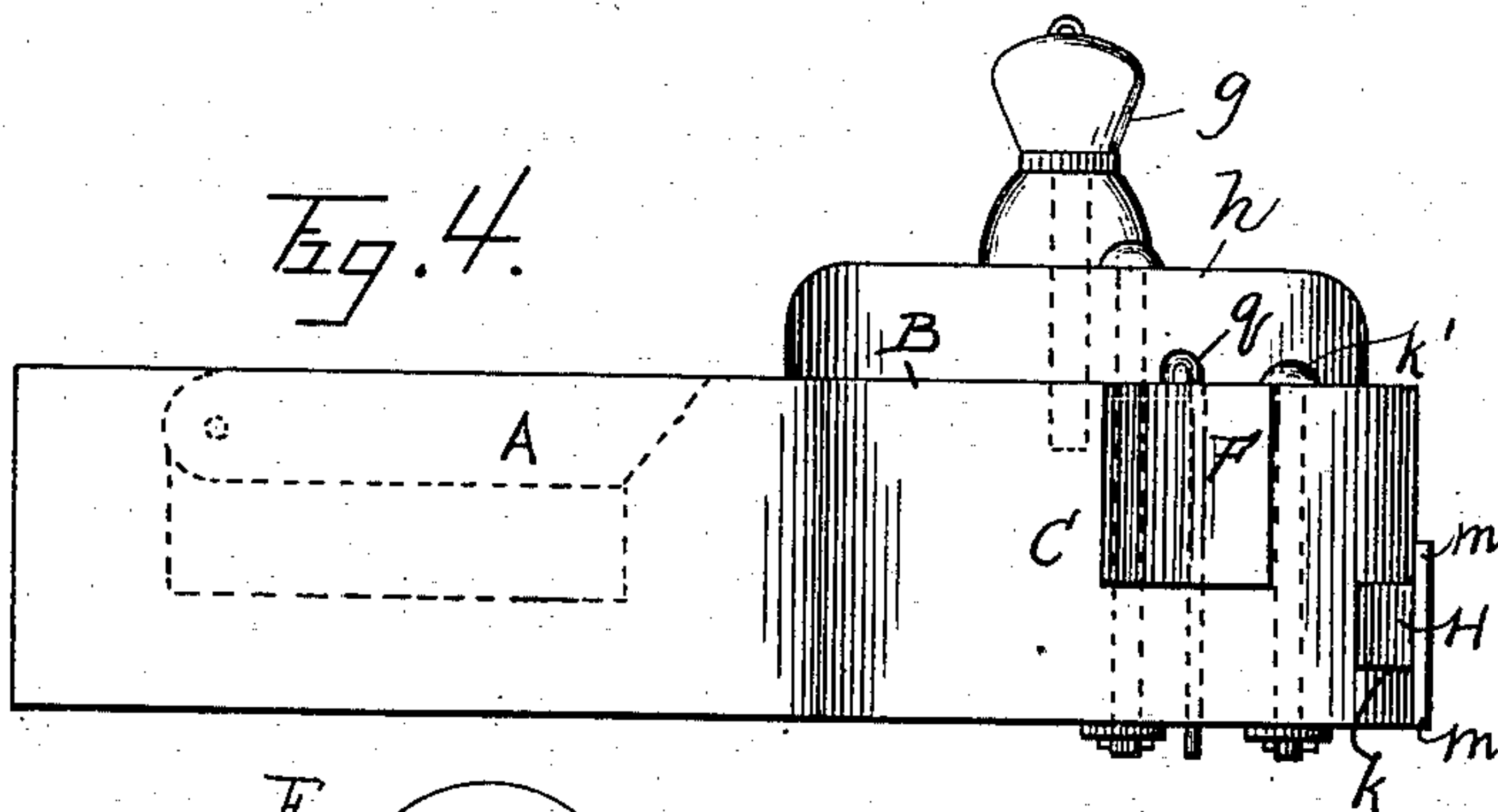
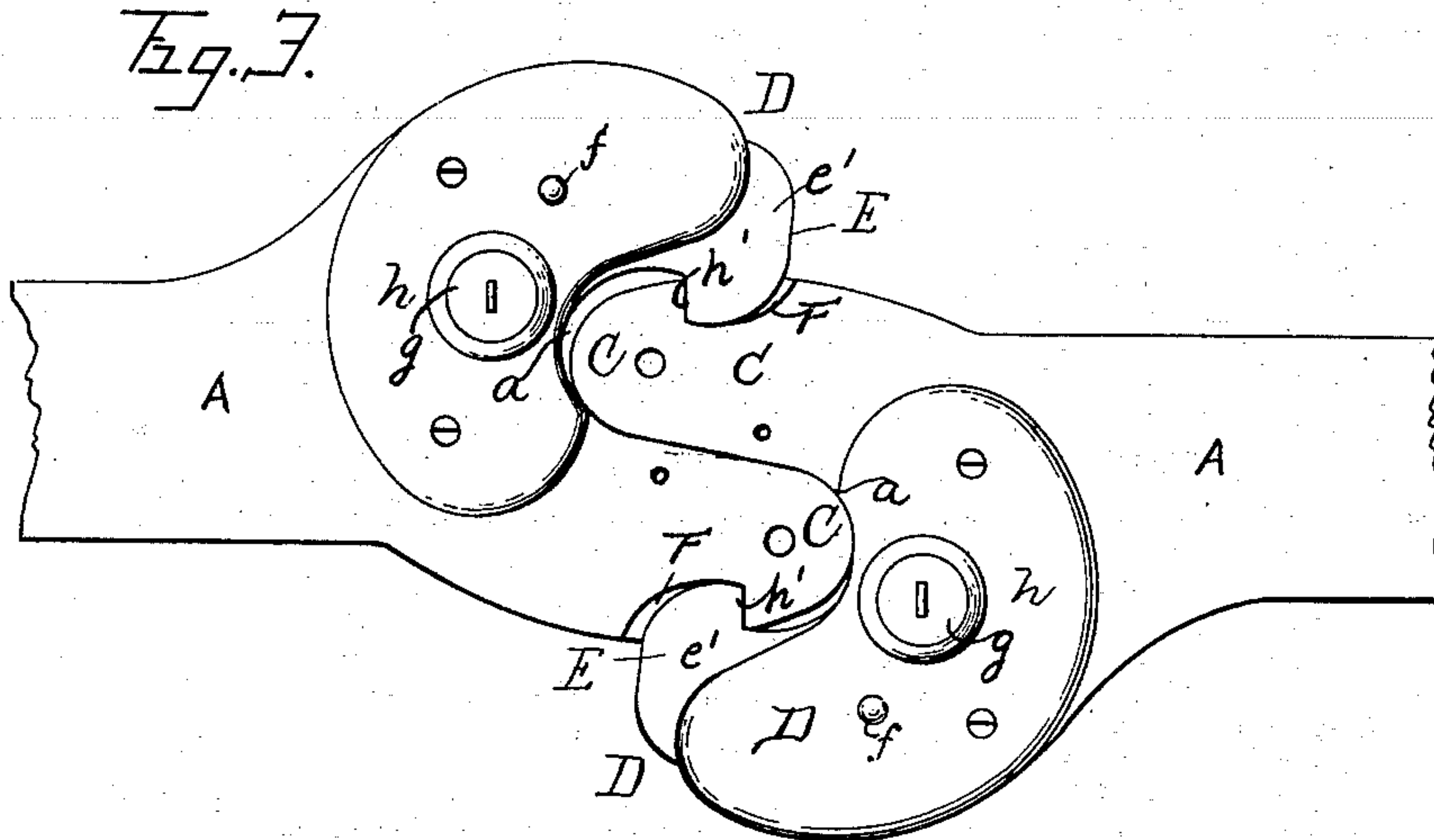
Patented July 31, 1900.

D. BOWERS.
CAR COUPLING.

(Application filed Nov. 23, 1899.)

(No Model.)

2 Sheets—Sheet 2.



WITNESSES:
E. A. Ryan.
G. M. Anderson

INVENTOR
David Bowers
BY E. W. Anderson
his ATTORNEY.

UNITED STATES PATENT OFFICE.

DAVID BOWERS, OF EMAUS, PENNSYLVANIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 654,938, dated July 31, 1900.

Application filed November 23, 1899. Serial No. 738,084. (No model.)

To all whom it may concern:

Be it known that I, DAVID BOWERS, a citizen of the United States, and a resident of Emaus, in the county of Lehigh and State of Pennsylvania, have invented certain new and useful Improvements in Car-Couplings; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a section on the line $x x$, Fig. 2. Fig. 2 is a front elevation of one of the draw-heads of my car-coupling. Fig. 3 is a plan view of the draw-heads coupled and hooks H removed. Fig. 4 is a side elevation of one of the draw-heads. Fig. 5 is a bottom plan view illustrating the coupling of one of my draw-heads with a different form of head. Figs. 6 and 7 are detail views of one of the hooks H. Fig. 8 is a detail view of one of the drop-bolts. Fig. 9 is a plan view illustrating the connection of a common link-coupling with my coupler.

This invention has relation to means for coupling cars; and it consists in the novel construction and combinations of devices, as hereinafter set forth.

In the accompanying drawings the letter A designates the draw-head having the enlarged portion B, which presents a bifurcation, one of the branches C of which is longer or more extended forward than the other branch D. The interval a between these branches is recessed at b in its back portion, and this recess is extended through the short branch D throughout its entire length and breadth, dividing the same into upper and lower projections c and c' . In this recess is seated the knuckle or hook E, said hook being pivoted eccentrically by the long bolt f , which passes through the draw-head at the base of the branch D. The back of the recess b is provided with a buffer projection a' to receive the impact of the tail e of the hook E when the cars come together in coupling. In this tail e is made a squared aperture for the reception of the end of the squared and weighted drop-bolt g , which passes through an aperture in the top h of the recess in the draw-

head. The hook E is curved in horizontal figure, its upper and lower surfaces being plane and parallel. The knuckle E has a curved rear wall which in closed position of the knuckle abuts against the rear wall of the recess in the draw-head proper. The outer forward portion of the knuckle E abuts in open position of said knuckle against the rear wall of the recess in the draw-head proper. The hook end e' is directed inward, and that portion e'' of the body of the hook which is presented laterally at the lateral opening b' is provided with a loop or catch e''' to engage the end of an instrument for uncoupling, or a small chain may be attached thereto to serve as a means for pulling the hook outward after the short or locking bolt g is raised in order to effect the uncoupling.

In the lateral outside face of the long branch C of the head is formed a catch-recess F, having a shoulder h , which presents to the rear and serves to engage the hook end e' of the hook E of the opposite coupler at the same time that the catch-recess of the opposite coupler is engaged by the hook E in such a manner that a double engagement is effected between the draw-heads. When the coupling is to be effected, the drop-bolts are raised and the hooks turned outward a little, so that said drop-bolts rest on their upper surfaces. As the cars come together the hooks are moved to engaged position and are locked in such position by the falling of the drop-bolts. The top h of the recess in the draw-head is usually made removable and is secured to the body portion by means of strong screws. In the end of long branch C is formed a horizontal recess k , adapted to receive the end of a common link and having apertures for the passage of a coupling-bolt k' . In order to provide means for coupling with hooks of different pattern found on cars, this recess k is formed with an interior enlargement having curved shoulder-bearings l for the reception of the pivotal portion of a removable auxiliary knuckle-hook H, having a hook end J, which is extended upward and downward or vertically by means of upper and lower lapping portions $m m$, which have concave rear shoulders m' , which conform to the convexity of the end of the branch C, so as to move thereon and in contact therewith when the

knuckle is turned on its pivot-bolt. This knuckle is provided with a short tail projection *p*, which when engaged by the locking-pin *q*, passing through its slot *v*, serves to
 5 hold the hook securely to position. The slot *v* is formed transversely of the tail projection in order that the knuckle-hook may have a certain amount of play or automatic adjustability to enable it to couple readily with
 10 ordinary hook-couplers of various patterns. It is also provided that the interior curvature of the interval *a*, between the branches C and D, shall have relation to the distance between the end of the long branch C and
 15 the shoulder *h* of the lateral exterior catch-recess F, so that when the catch-recess is engaged by the hook of the opposite coupler it will be held thereby between said hook and the concave-curved interior wall of the long
 20 branch C, although the coupling may be at quite an angle, and as the catch-recess F is open above and has quite a vertical extent the couplers will take effect at different heights without reasonable limits.
 25 It will be noted that the knuckle E is guarded by the bifurcation in which it works and that the strain upon the draw-head in coupling, caused by the impingement of the knuckle thereagainst, is lengthwise of the
 30 draw-head.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. In a car-coupling, the bifurcated draw-head, one bifurcation thereof having through-
 35 out its entire length and breadth a horizontal slot or recess extended into the draw-head proper, the knuckle pivoted in said recess at the base of said bifurcation, said knuckle
 40 having a hook at its inner forward portion and abutting in open position thereof at its outer forward portion against the rear wall of said recess extension into the draw-head proper, and abutting in closed position thereof at its
 45 rear wall also against the rear wall of said recess extension into the draw-head proper, and a chain or the like attached to the outer forward portion of said knuckle for opening the same, together with means for locking said
 50 knuckle in closed position, the other bifurcation of said draw-head having a catch-recess in its outer wall, substantially as specified.

2. In a car-coupling, the bifurcated draw-head, one bifurcation thereof having through-
 55 out its entire length and breadth a horizontal slot or recess extended into the draw-head proper, the knuckle pivoted in said recess at the base of said bifurcation, said knuckle being provided with a hook at its inner forward

portion, and with a curved rear wall, and
 60 abutting in closed position thereof at its outer forward portion against the rear wall of said recess extension into the draw-head proper and in open position thereof at its rear wall also against the rear wall of said recess ex-
 65 tension into the draw-head proper, and a chain or the like attached to the outer forward portion of said knuckle for opening the same, together with a drop-bolt for locking said knuckle in closed position, the other of said
 70 bifurcations having a catch-recess in its outer wall, substantially as specified.

3. In a car-coupling, the bifurcated draw-head, one bifurcation thereof having a horizontal recess extended into the draw-head
 75 proper, the knuckle pivoted and working in said recess, said knuckle having a hook at its inner forward portion, and adapted to abut in open position thereof against the rear wall of said draw-head recess, the tail of said
 80 knuckle also abutting in closed position thereof against the rear wall of said draw-head recess, a locking drop-bolt for engagement with a vertical opening or recess in the tail of said knuckle, a catch-recess in the
 85 other of said bifurcations, together with an auxiliary knuckle-hook pivoted and working in a horizontal recess of said last-named bifurcation, and means for locking said auxiliary hook in closed position, substantially as
 90 specified.

4. In a car-coupling, the bifurcated draw-head, one bifurcation thereof having a horizontal recess extended into the draw-head
 95 proper, the knuckle pivoted and working in said recess, said knuckle having a hook at its inner forward portion, and adapted to abut in open position thereof against the draw-head, the tail of said knuckle abutting in closed position thereof against the rear wall
 100 of said draw-head recess, a lock for said knuckle in the closed position thereof, a catch-recess in the outer wall of the other of said bifurcations, a vertical perforation in the outer end of said last-named bifurcation, and
 105 an auxiliary knuckle-hook pivoted upon a pin engaging said perforation, and working in a horizontal recess in the outer end of said last-named bifurcation, adapted for the reception of a common coupling-link, which is secured
 110 by a pin in said perforation, substantially as specified.

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

DAVID BOWERS.

Witnesses:

ROBERT N. BOROZMON,
 ROBT. S. STONEBACK.