

934,948.

Patented Sept. 21, 1909.
4 SHEETS—SHEET 1.

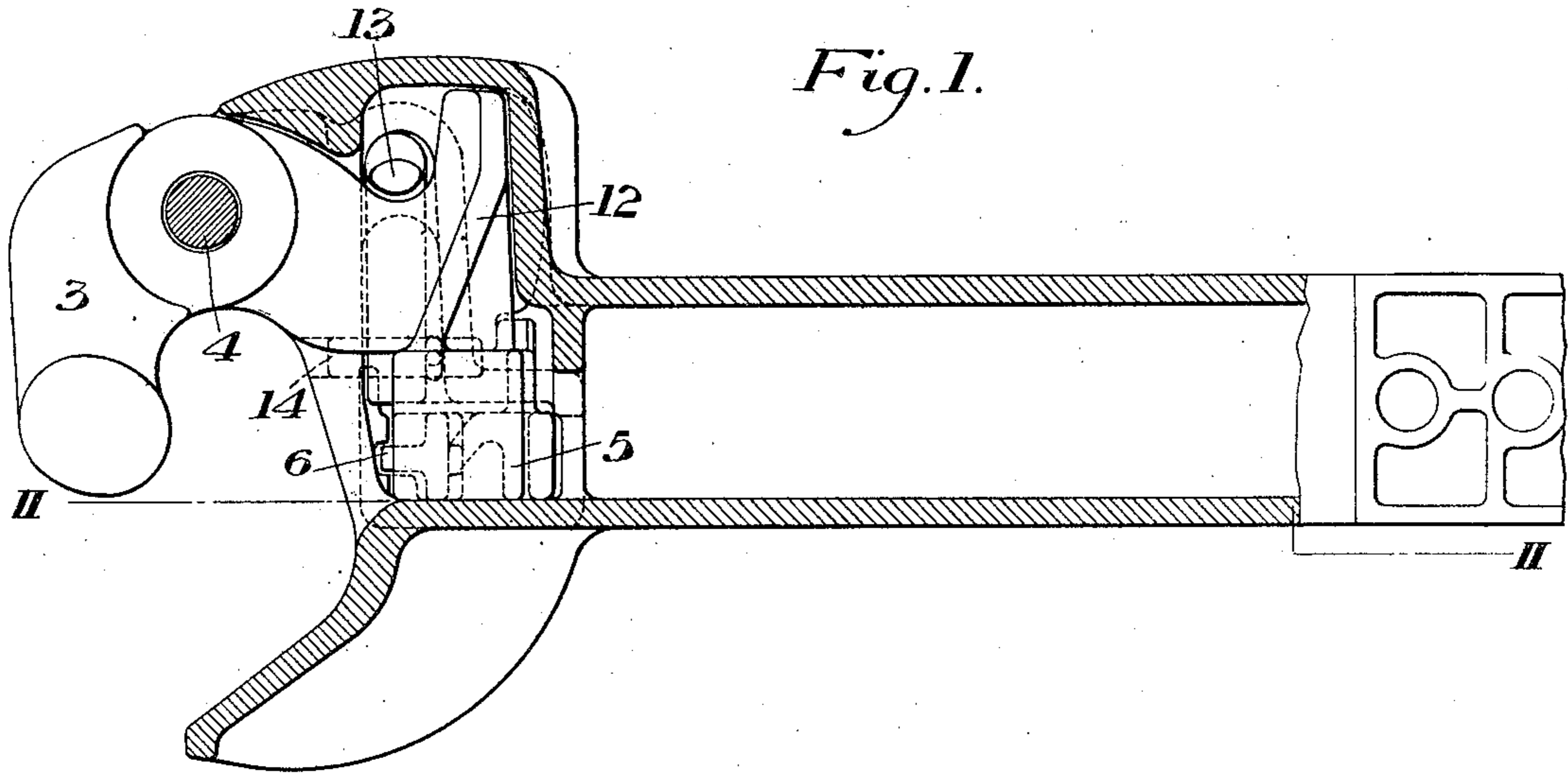


Fig. 1.

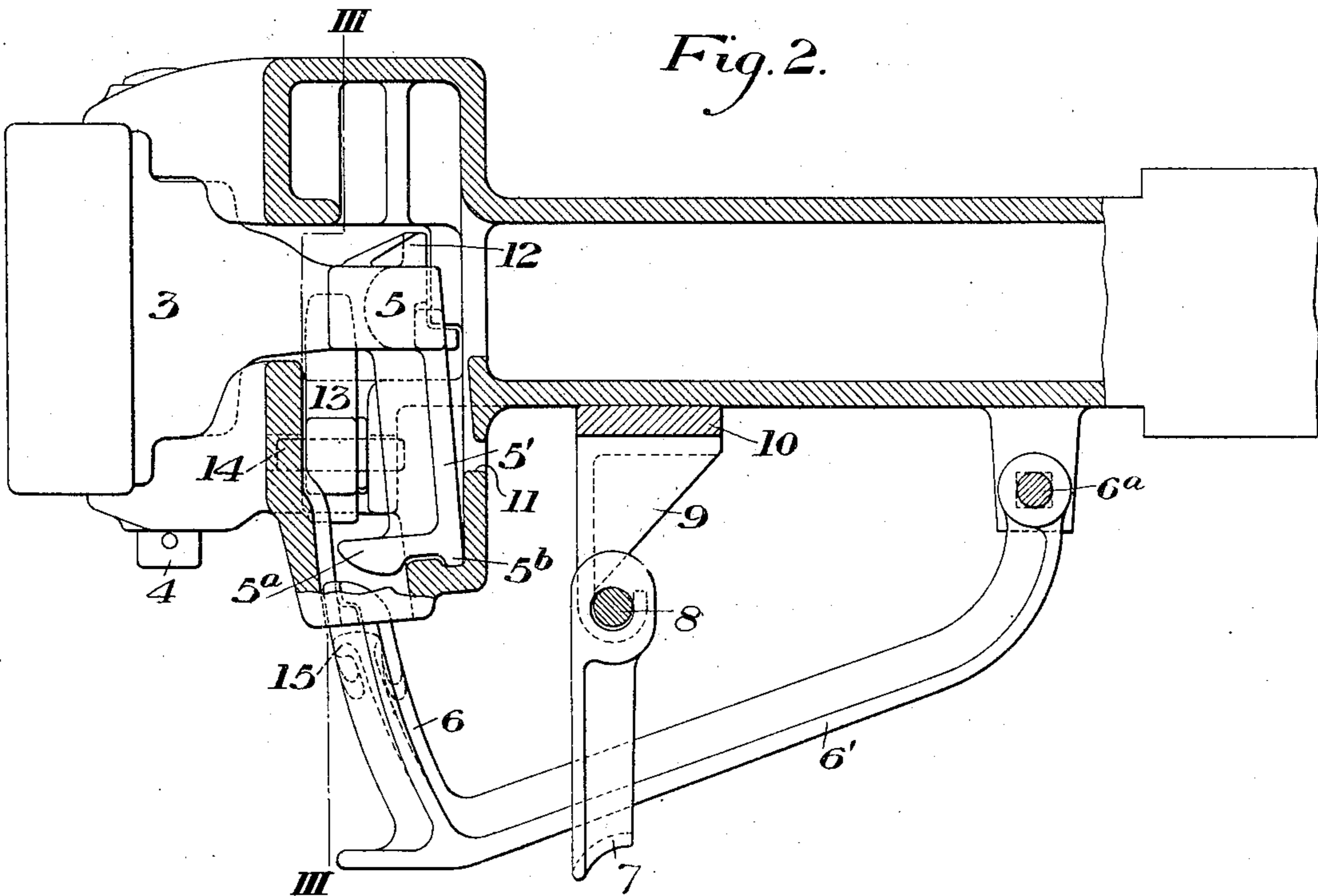


Fig. 2.

WITNESSES

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INVENTOR

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C. A. TOWER.

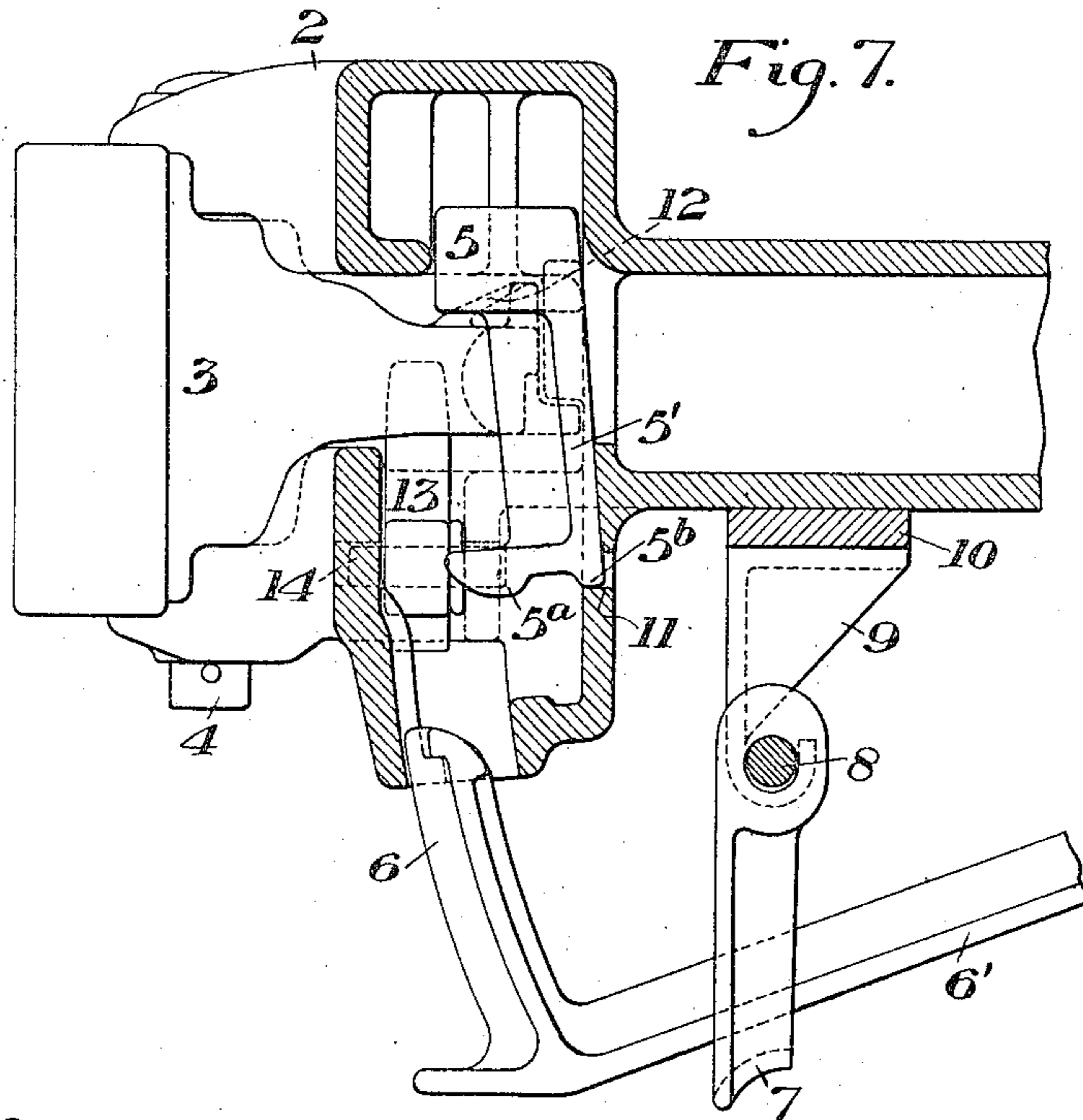
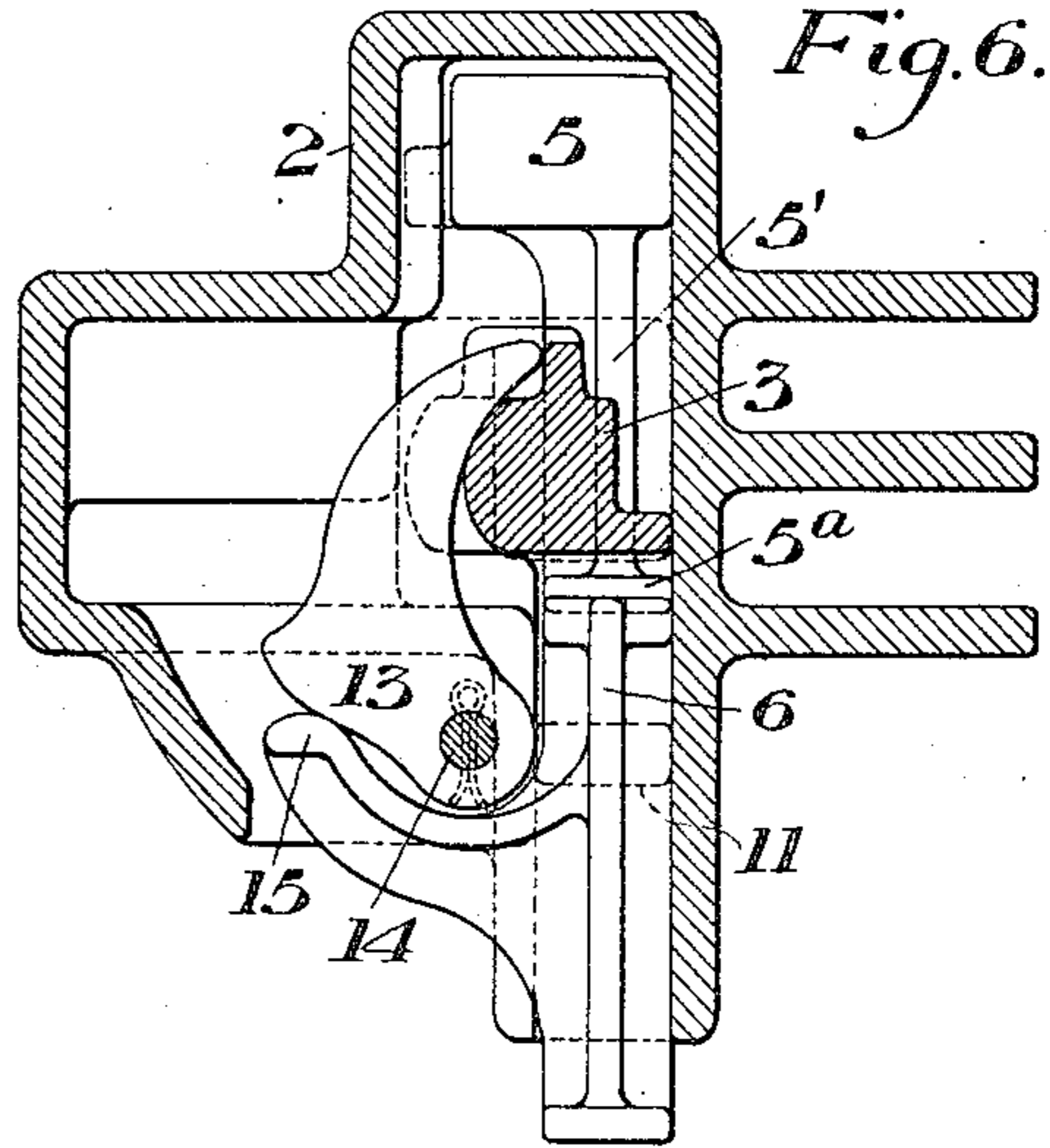
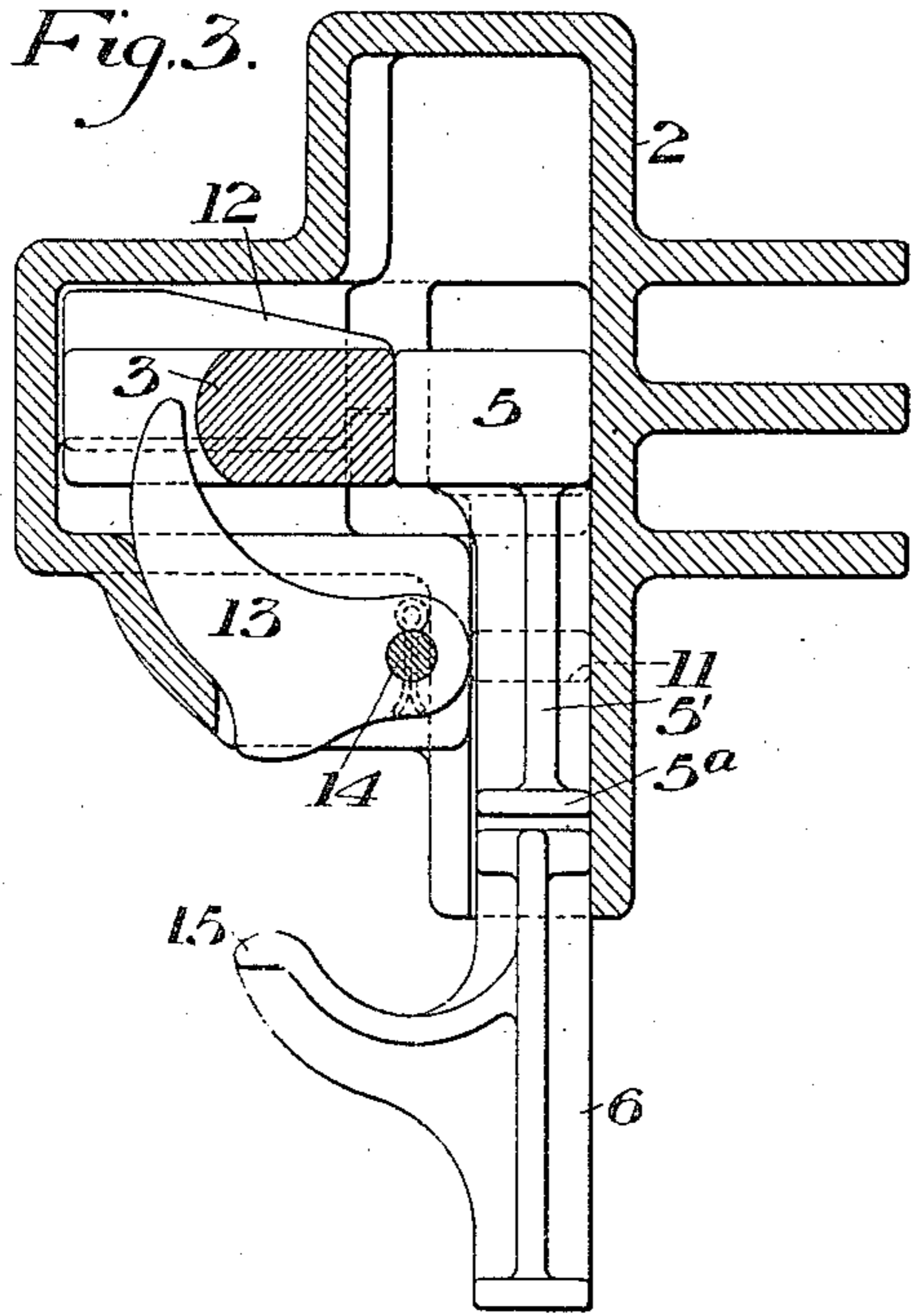
CAR COUPLING.

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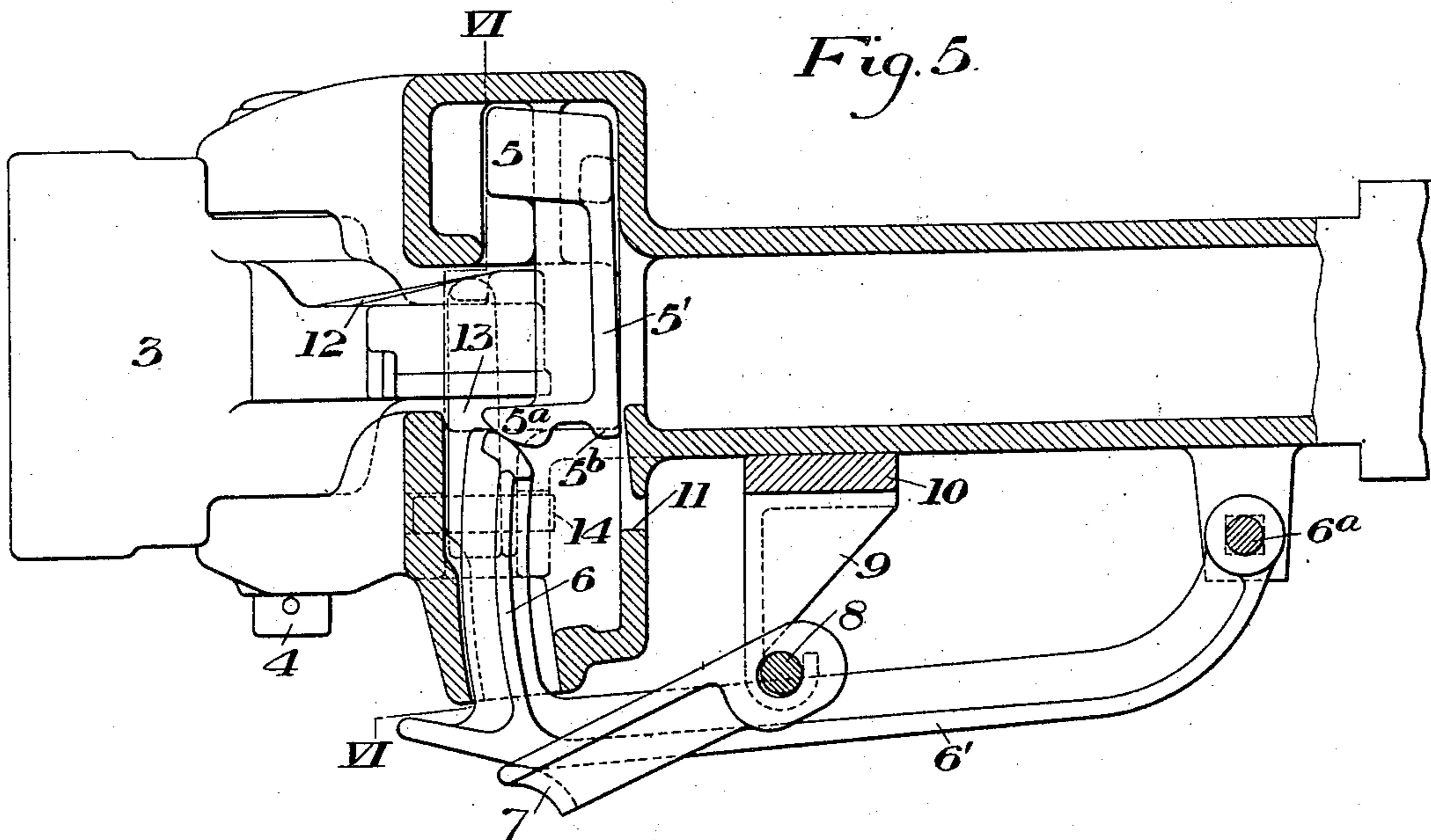
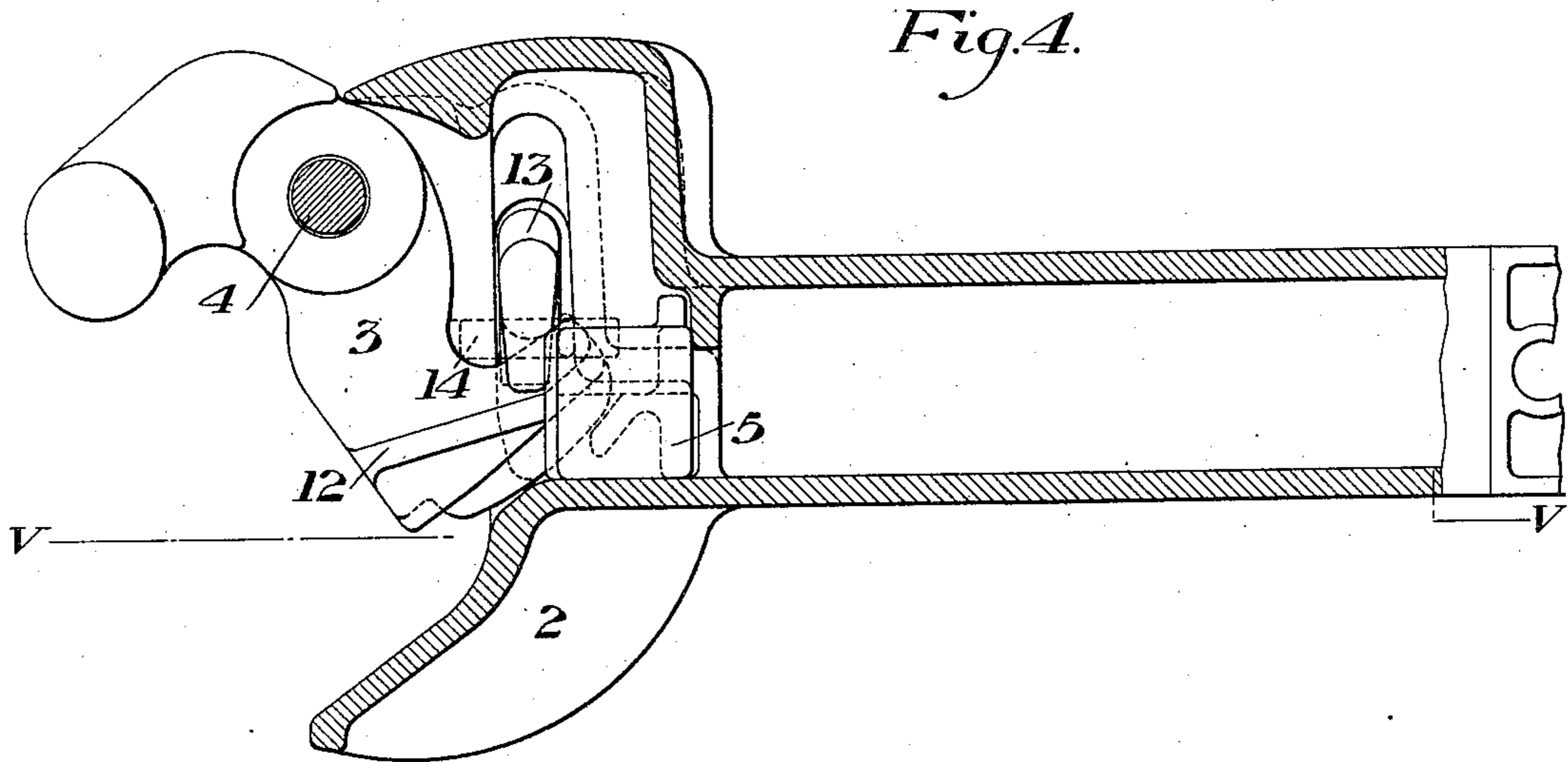
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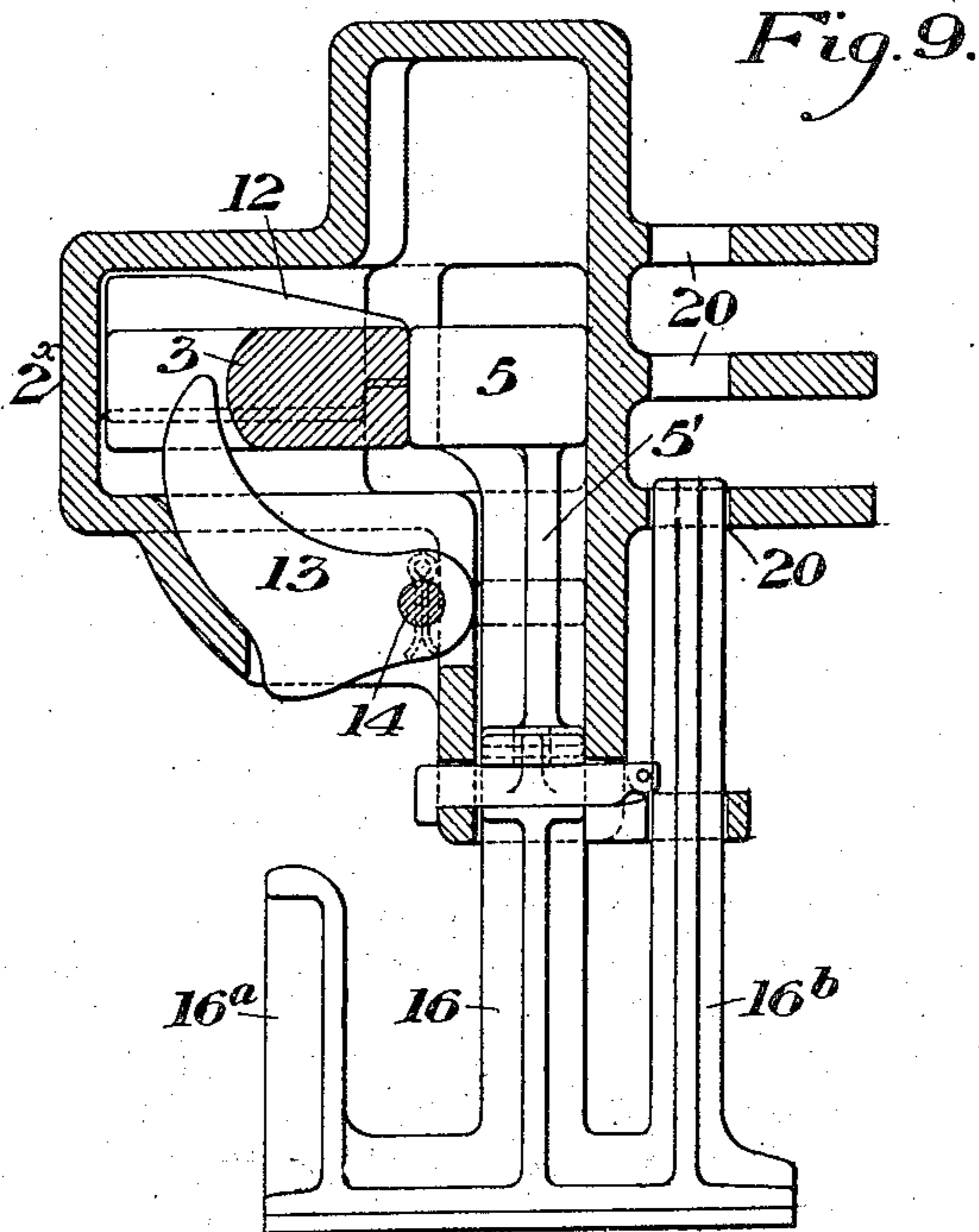
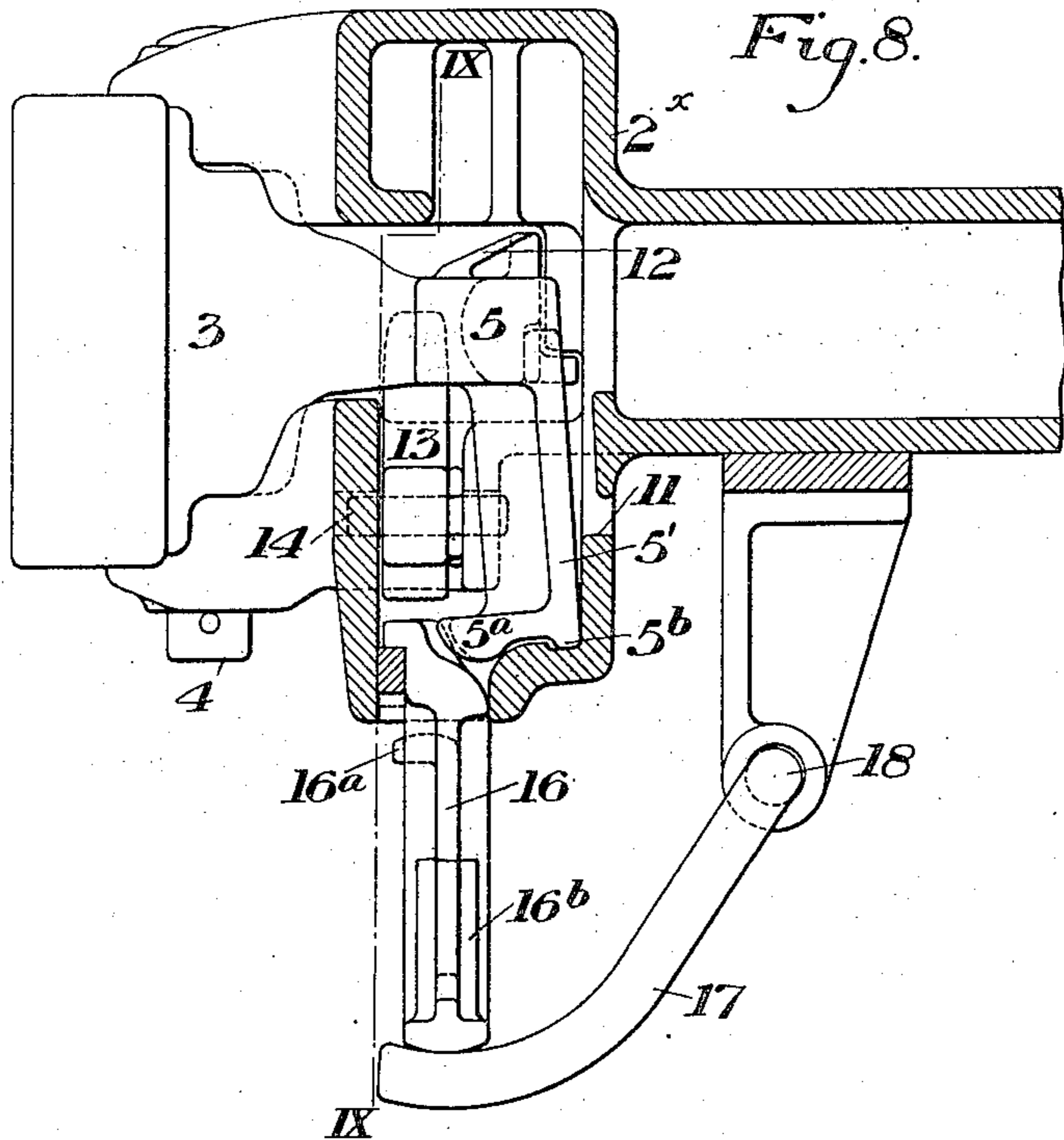
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4 SHEETS—SHEET 4.

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UNITED STATES PATENT OFFICE.

CLINTON A. TOWER, OF CLEVELAND, OHIO, ASSIGNOR TO THE NATIONAL MALLEABLE CASTINGS COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

CAR-COUPLING.

934,948.

Specification of Letters Patent. Patented Sept. 21, 1909.

Application filed February 8, 1908. Serial No. 414,904.

To all whom it may concern:

Be it known that I, CLINTON A. TOWER, of Cleveland, Cuyahoga county, Ohio, have invented a new and useful Improvement in Car-Couplers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a horizontal section of my improved coupler; Fig. 2 is a vertical section on the line II—II of Fig. 1; Fig. 3 is a vertical cross-section on the line III—III of Fig. 2; Fig. 4 is a view similar to Fig. 1, but showing the coupler open; Fig. 5 is a vertical longitudinal section on the line V—V of Fig. 4; Fig. 6 is a vertical cross-section on the line VI—VI of Fig. 5; Fig. 7 is a vertical longitudinal section showing the parts in lock-set position; Fig. 8 is a view similar to Fig. 7 showing a modification, the parts being locked; and Fig. 9 is a vertical cross section on the line IX—IX of Fig. 8.

In the drawings, 2 represents a coupler-head, and 3 the swinging knuckle pivoted on a vertical axis 4.

5 is an upwardly and downwardly movable lock which is mounted for movement within a vertical recess within the coupler-head and has a downward projection 5' adapted, when in locked position, to rest on the floor of the coupler and to support the lock. The lower end of the portion 5' extends forwardly, as at 5^a, and is adapted to be engaged by an upwardly moving lifting arm 6 which is preferably made integral with a lever 6' pivoted at 6^a to the shank of the draw-bar and preferably actuated by a lifting yoke 7 fixed to a rock shaft 8 which may be pivoted to a bracket 9 depending from the carry iron 10. The shaft 8 extends to the side of the car where it can be readily operated by the trainman, and when it is rocked the yoke 7 is lifted, raising the arm 6 and causing the upper end of the latter to engage the locking member, raising it and lifting the locking head 5 above the level of the knuckle so as to leave the latter free to be moved open. When the lock reaches unlocking position, the heel 5^b thereof is brought into engagement with a shoulder

11 on the coupler-head, on which it is supported in lock-set position, as shown in Fig. 7, where it will remain until dislodged by opening of the knuckle, at which time a cam surface 12 on the knuckle engaging the lock will trip it from said shoulder; and when the knuckle is again swung back into closed position the lock will move into the locked position shown in Figs. 1, 2 and 3.

For the purpose of opening the knuckle, I employ a lever 13 which is pivoted at 14 at the base of the coupler-head and extends upwardly back of the position of the tail of the knuckle. The lower end of the lever 13 is exposed at an opening in the floor of the coupler-head and, as shown in Fig. 3, the lifting arm 6 has a lateral projection 15 which, when the lifting arm is raised to unlock the coupler, engages the exposed lower end of the lever 13 and rocks said lever on its axis 14, throwing the knuckle open, as shown in Figs. 4, 5 and 6.

In the modification shown in Figs. 8 and 9, instead of forming the lifting arm integral with the lever 6', I use a detached lifting arm or rod 16 which extends downwardly from the interior of the coupler-head and has integral with it a foot portion adapted to be engaged by a lifting lever 17, which may form part of the ordinary uncoupling rod or shaft 18, and an upward projection 16^a which is adapted to engage and operate the lever 13. For the purpose of guiding this member 16, I prefer to provide it with a guiding arm 16^b which moves within a vertical hole or vertical registering holes 20 at the side of the coupler. In this modified form, the coupler head is marked 2^x.

Other modifications of my device may be made by those skilled in the art without departure from my invention as stated in the claims, since

What I claim is:—

1. A coupler having an upwardly and downwardly movable lock, a knuckle, a lever mounted on the coupler and adapted to turn on a horizontal axis, and a vertically moving lifting member operated from below and adapted to engage the lock directly to unlock the coupler and to engage the lever directly to throw the knuckle open.

2. A coupler having an upwardly and downwardly movable lock, a knuckle, a lever mounted on the coupler and adapted to turn on a horizontal axis, and a vertically moving lifting member operated from below and adapted to engage the lock directly to unlock the coupler and to engage the lever directly to throw the knuckle open, said lever

being exposed at the lower portion of the coupler head to engage the lifting member. 10
In testimony whereof, I have hereunto set my hand.

CLINTON A. TOWER.

Witnesses:

HARRY E. ORR,
CHAS. E. POPE.