

No. 629,551.

Patented July 25, 1899.

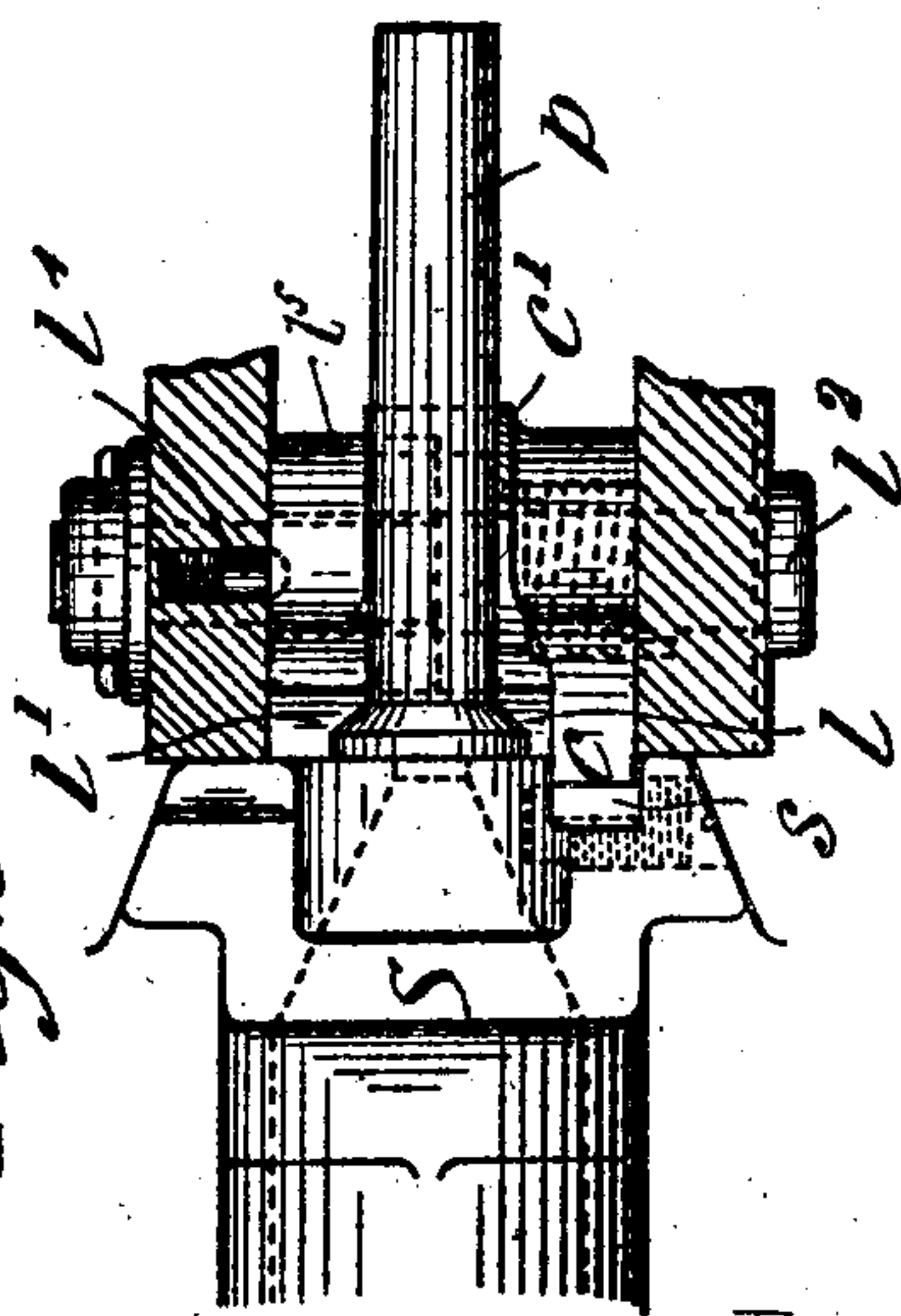
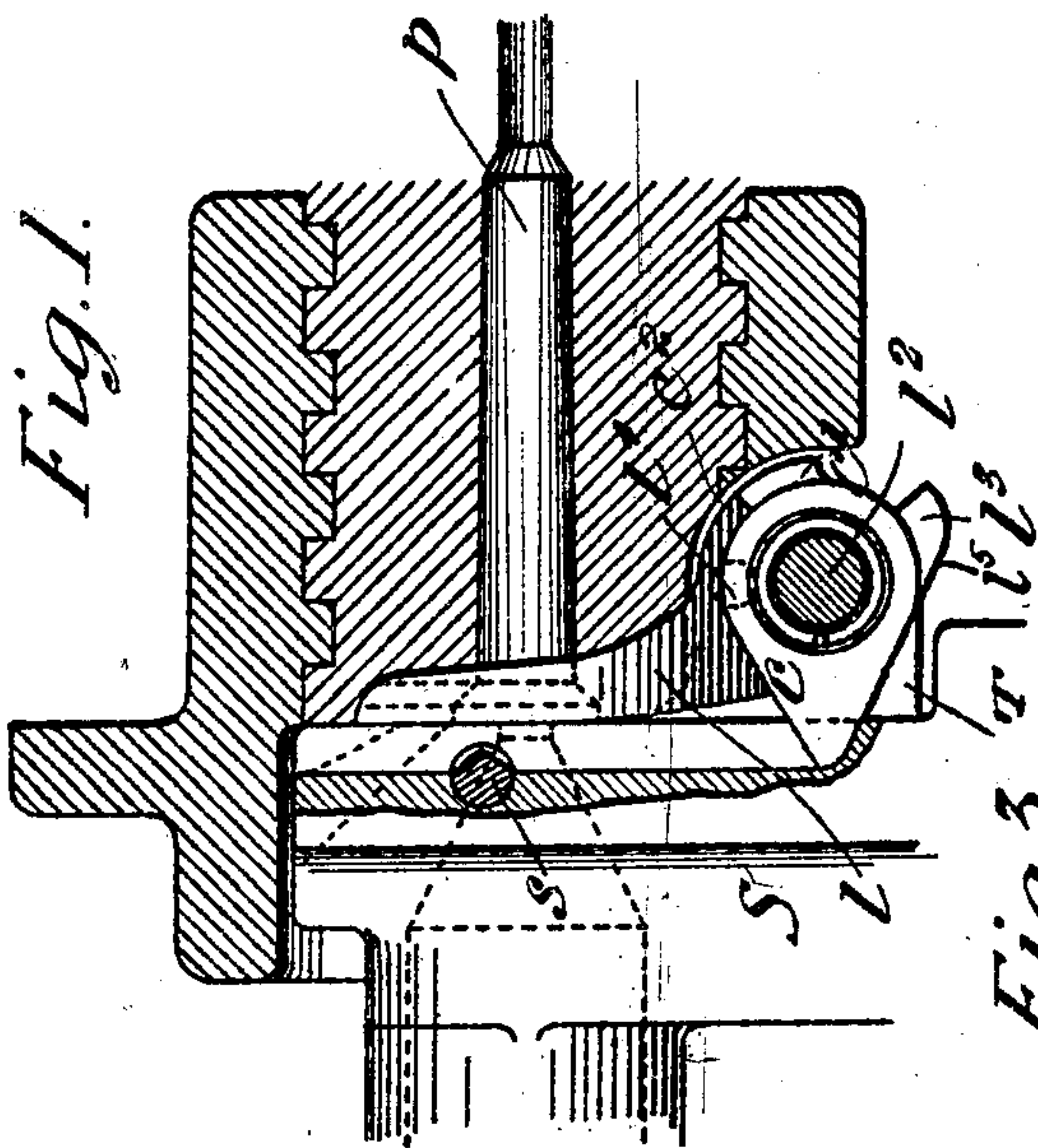
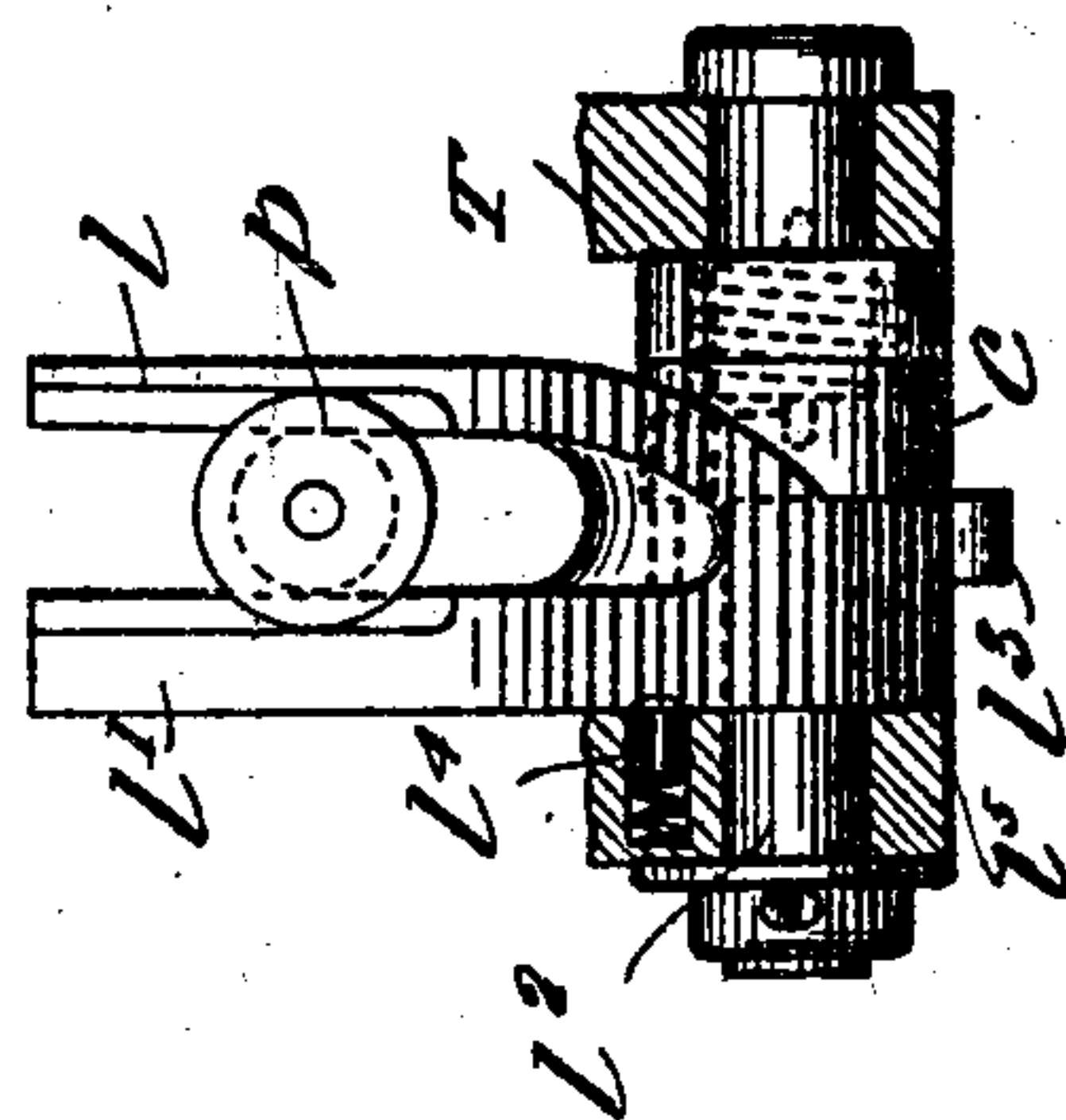
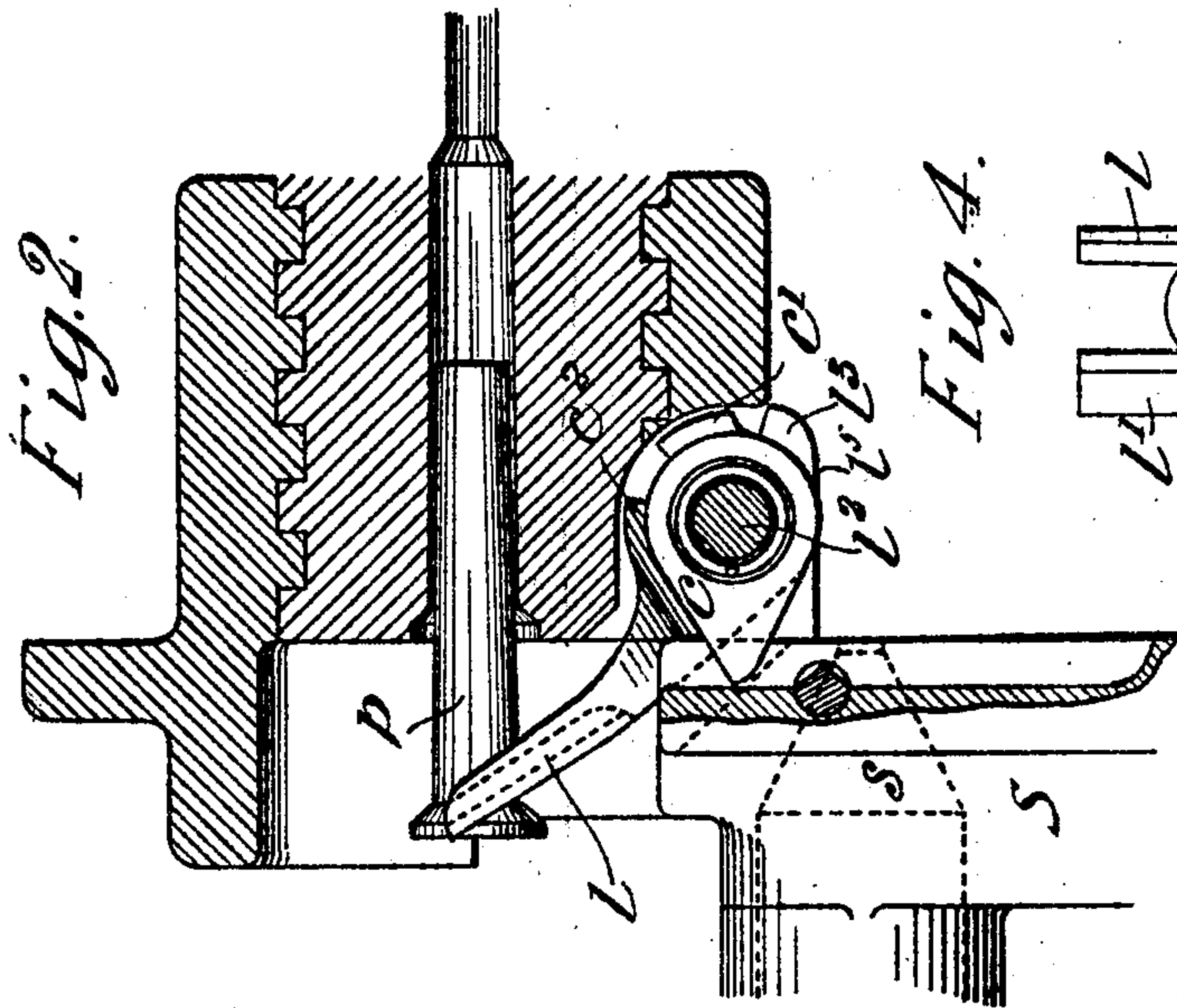
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FIRING AND EXTRACTING MECHANISM FOR BREECH LOADING GUNS.

(Application filed May 16, 1898.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

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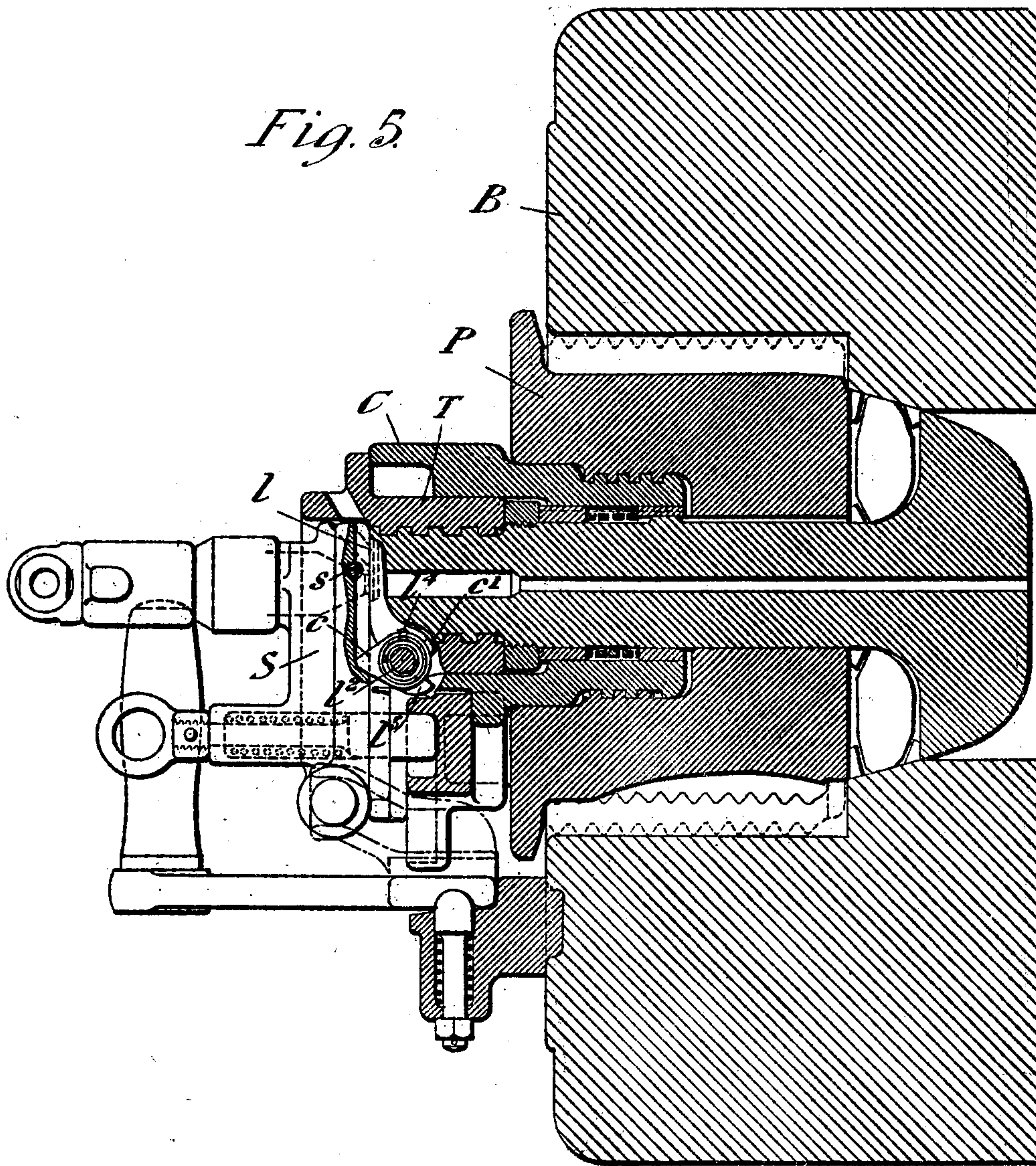
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2 Sheets—Sheet 2.



Witnesses

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UNITED STATES PATENT OFFICE.

ARTHUR TREVOR DAWSON AND GEORGE THOMAS BUCKHAM, OF LONDON, ENGLAND, ASSIGNORS TO THE VICKERS, SONS & MAXIM, LIMITED, OF SHEFFIELD, ENGLAND.

FIRING AND EXTRACTING MECHANISM FOR BREECH-LOADING GUNS.

SPECIFICATION forming part of Letters Patent No. 629,551, dated July 25, 1899.

Application filed May 16, 1898. Serial No. 630,834. (No model.)

To all whom it may concern:

Be it known that we, ARTHUR TREVOR DAWSON and GEORGE THOMAS BUCKHAM, citizens of England, residing at No. 28 Victoria street, Westminster, London, England, have invented certain new and useful Improvements in Firing and Extracting Mechanism for Breech-Loading Guns, (for which we have applied for a patent in Great Britain, dated October 20, 1897, No. 24,264,) of which the following is a specification.

Our invention relates to improvements in firing and extracting mechanism for breech-loading guns, as we shall describe, referring to the accompanying drawings.

Figures 1 and 2 are central sections, with part in elevation, of the mechanism according to our invention for extracting a firing-primer. Fig. 3 is a plan, and Fig. 4 is an elevation, of the extractor and primer; and Fig. 5 is a detail longitudinal sectional view of the breech of the gun, showing the breech-plug and firing mechanism.

B is part of the breech of a gun, and T is part of the breech-plug carrier C, which is provided with mechanism for closing and opening the breech and moving up and down the vertical slide S, which controls the firing-gear. As the said mechanism and its operation are well known, we have omitted them from the drawings, so as to leave more clear the parts comprised in our present invention, some or others of which are combined with the breech mechanism according as the firing of the gun is effected by a primer or by percussion-cap or electric fuse in a cartridge or by a friction-tube pulled by a lanyard.

The parts shown in the drawings are employed when firing is effected by a primer *p*. When such a primer is inserted in the breech-plug while the breech is open, it sometimes happens that in swinging forward the carrier C in order to close the breech the primer *p* hangs back, protruding to the rear, so that when the vertical slide S is raised by the breech-closing mechanism, so as to cover the base of the primer, it cuts or damages the protruding part. In order to provide against this, we pivot on the part T of

the carrier C a lever consisting of two blades *l l'*, one of which is elastic, so that they grip with some firmness the primer *p*, which is introduced between them. On their pivot-pin *l²* is mounted a cam *c*, which has attached to it one end of a helical spring, so that it can be moved partly around in either direction, but is caused by the spring to return to the middle position shown. The cam has its rear formed as a nose with inclined sides, and on its front side is a projection *c'* in the same plane with a shoulder *c²* on the lower part of the blade *l*. The ejector-blades *l l'* form part of the upper side of a boss or hub *l³*, which has a stop-lug *l³* on its lower side to strike a fixed part of the breech of the gun and limit the outward or extracting movement of the blades. A spring-stud *l⁴* has a rounded end entering a recess in the side of the boss of the blades *l l'*, so as to hold the blades with certain firmness in the position shown in Fig. 1, but to allow them to move when certain force is applied. On the vertical slide S is fixed an angular projection *s*, in the path of which is the nose of the cam *c*.

This apparatus operates as follows: When the breech is open, the primer *p* is placed in its recess in the bolt of the breech-plug and when pushed home engages the blades *l l'* in front of its head. In closing the breech the vertical slide S is raised. Its projection *s* in passing the nose of the cam *c* merely pushes it aside, and when it has passed the spring causes the cam to return to the middle position. When the breech is again opened, the slide S descends, and its projection *s* moves the cam *c*, so that its projection *c'*, acting on the shoulder *c²* on the blade *l*, causes the two connected blades to move to the position shown in Fig. 2, extracting and, it may be, ejecting the primer *p*, the stop-lug *l³* on the lower side of the boss or hub *l³* striking a fixed part of the breech of the gun to limit the outward or extracting movement of the blades.

Having thus described the nature of this invention and the best means we know of carrying the same into practical effect, we claim—

1. The combination with the breech-plug, and a vertically-movable slide having an angular projection, of a pivot-pin, a boss or hub mounted on said pin and having on its upper
5 side two blades to engage the primer between them, one blade provided with a shoulder, a spring-actuated cam turning on the pivot and having on its rear a nose and on its front a projection, and a spring-pressed stud engag-
10 ing said boss or hub to hold it and the blades steady, but yielding when the angular projection of the slide engages the nose of the cam, substantially as described.

2. The combination with the breech-plug,
15 of a breech-loading gun, and a vertically-movable slide, of a pivot-pin, a boss or hub mounted on said pin and having on its upper side two primer-ejecting blades to engage the primer between them and on its lower side a
20 stop-lug to strike a fixed part of the gun-

breech and limit the outward or extracting movement of said blades, one blade having a shoulder, and a spring-actuated cam turning on said pin and having at its rear a nose and at its front a projection, substantially as 25 described.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

ARTHUR TREVOR DAWSON.
GEORGE THOMAS BUCKHAM.

Witnesses to the signature of Arthur Trevor Dawson:

GEO. W. REA,
F. B. KEEFER.

Witnesses to the signature of George Thomas Buckham:

FRED. C. HARRIS,
JNO. P. M. MILLARD.