

No. 641,310.

Patented Jan. 16, 1900.

A. A. LOW.
TYPE SETTING APPARATUS.

(Application filed Feb. 27, 1899.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 3.

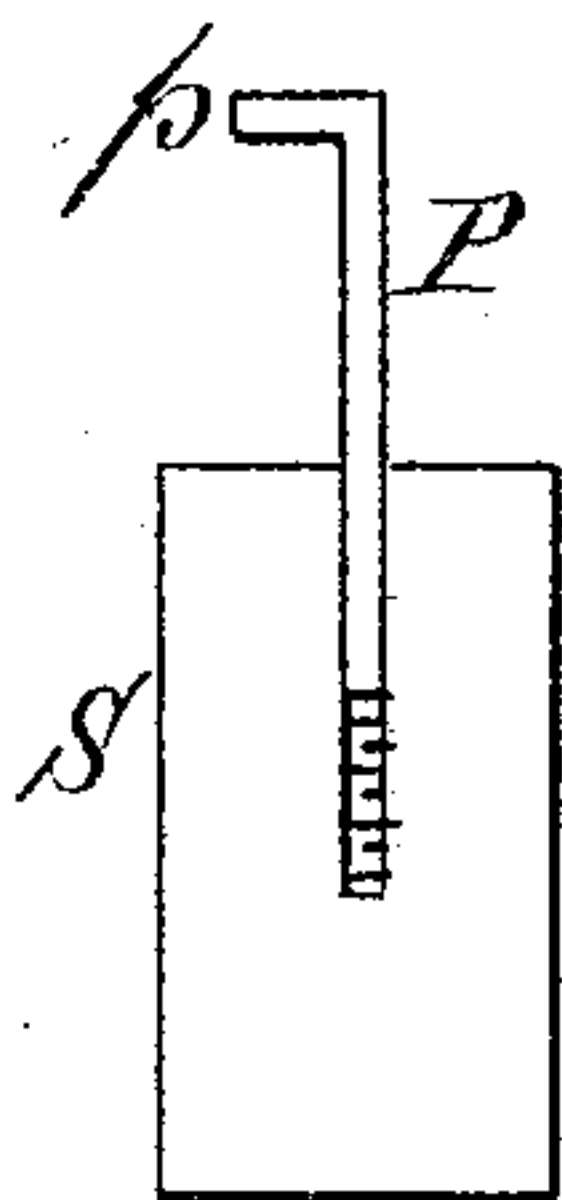


Fig. 4.

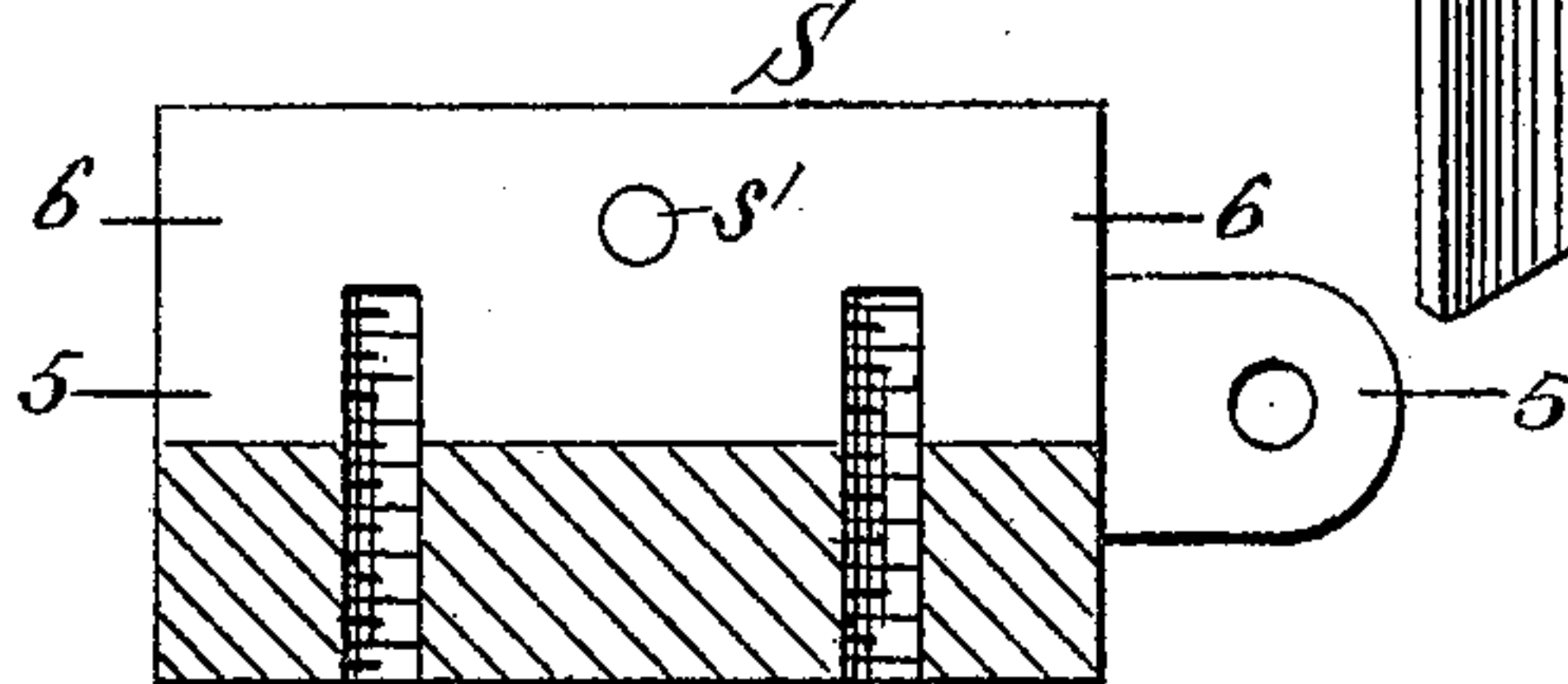


Fig. 2.

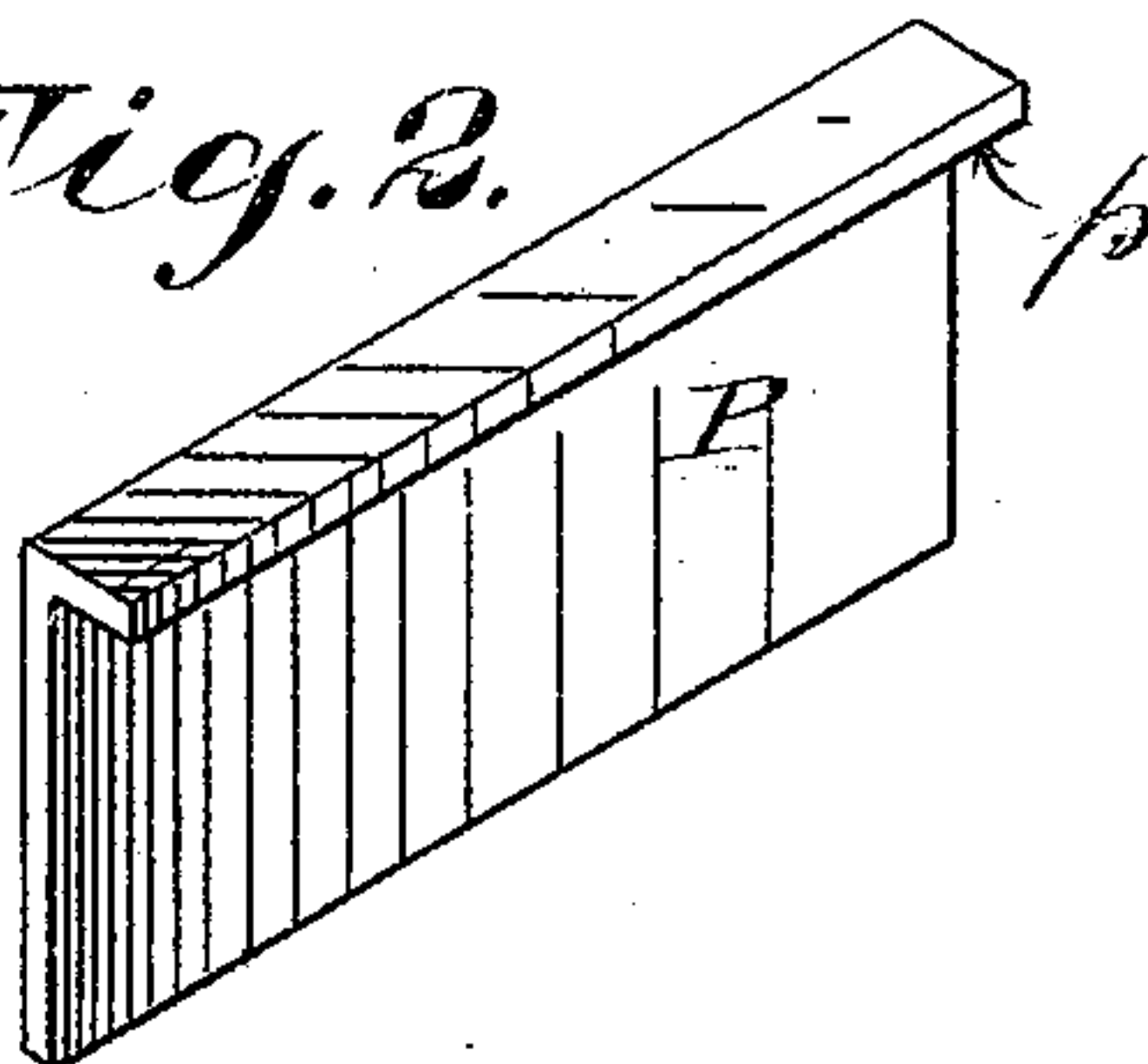


Fig. 8.

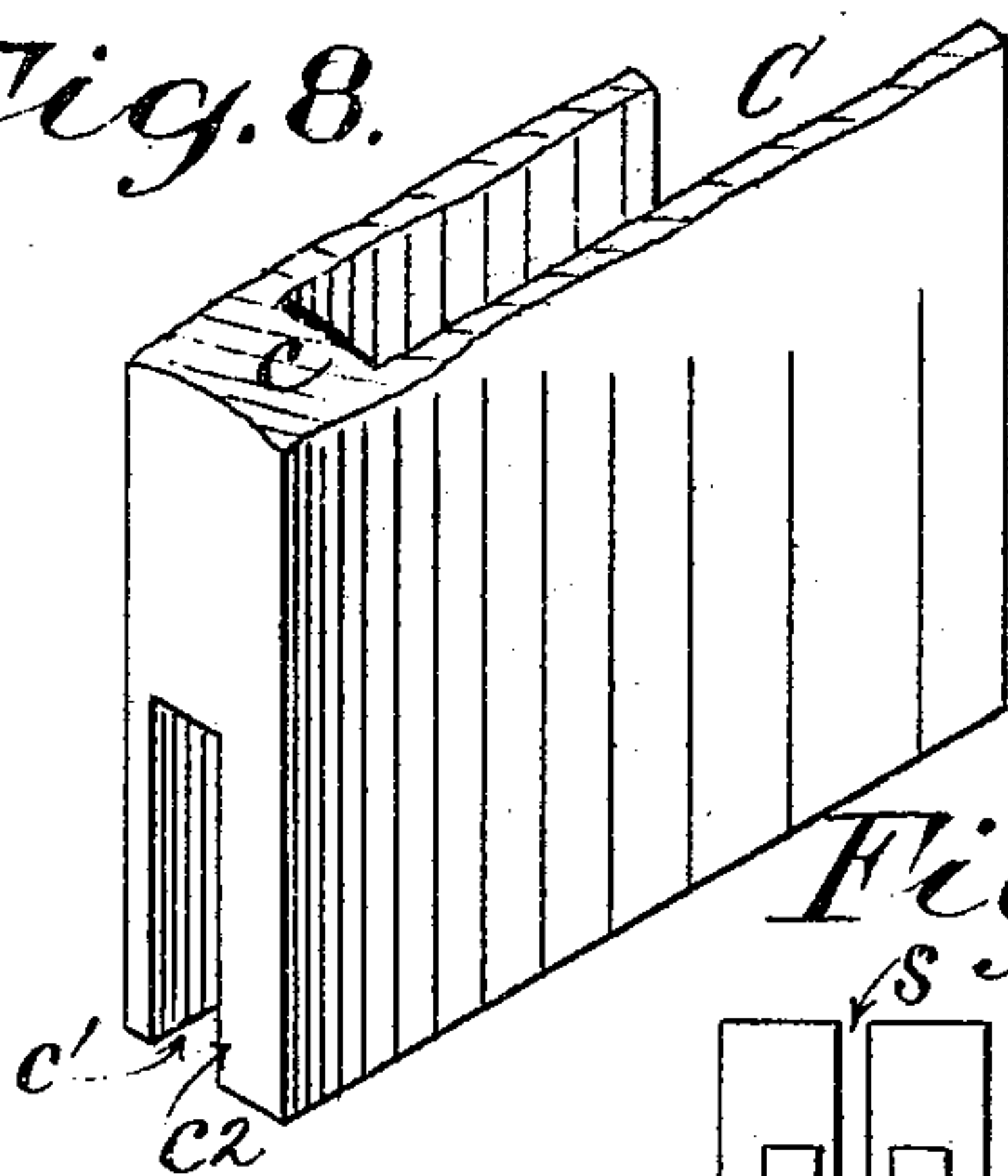


Fig. 5.

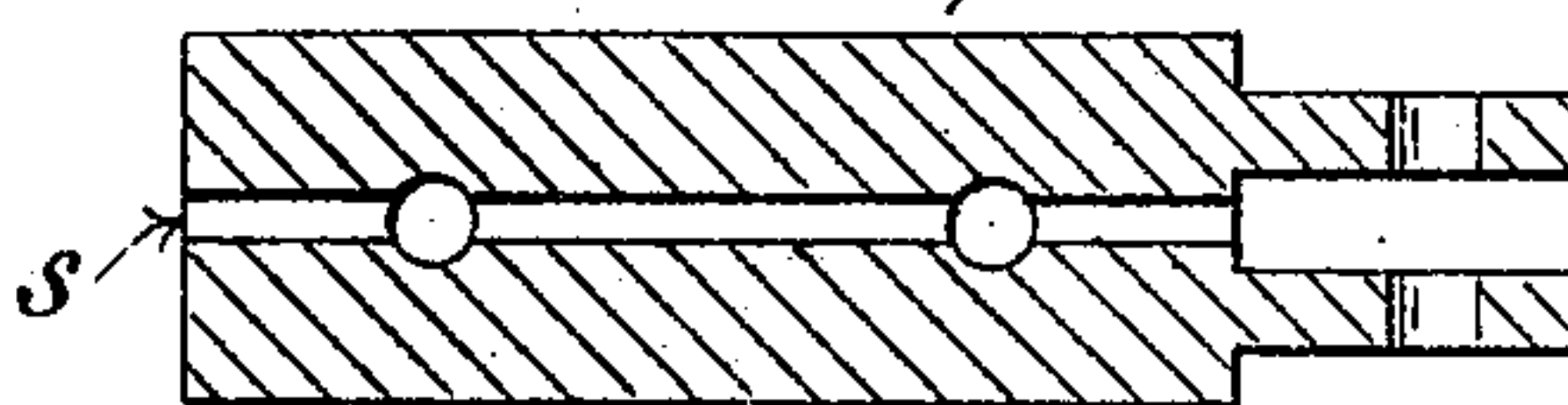


Fig. 6.

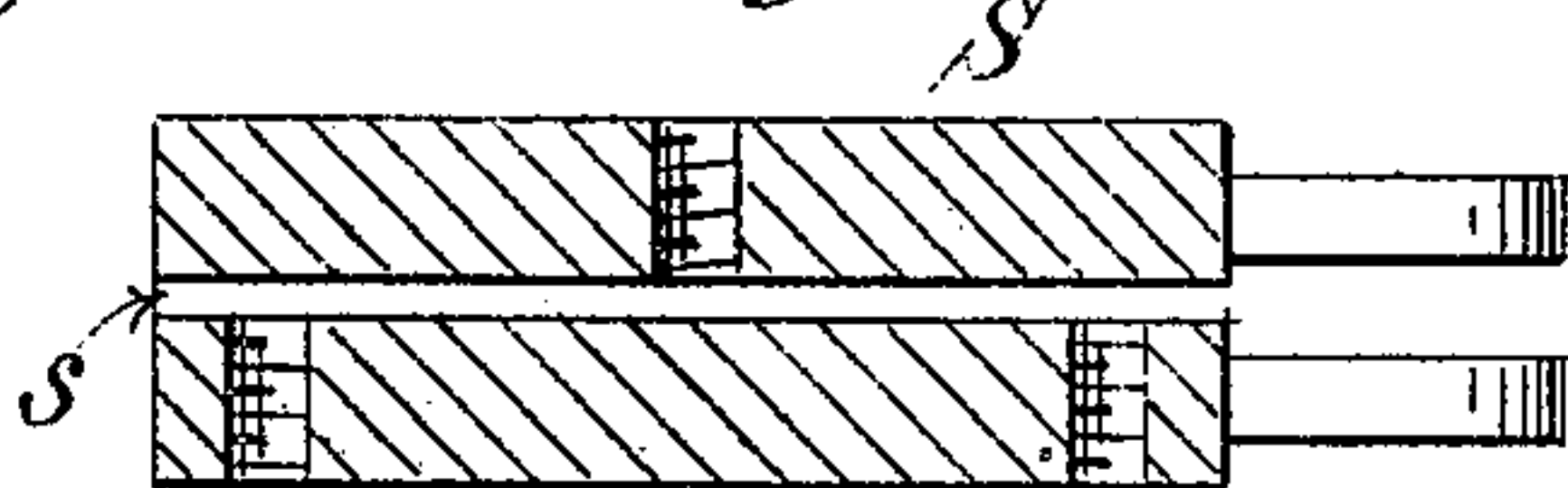
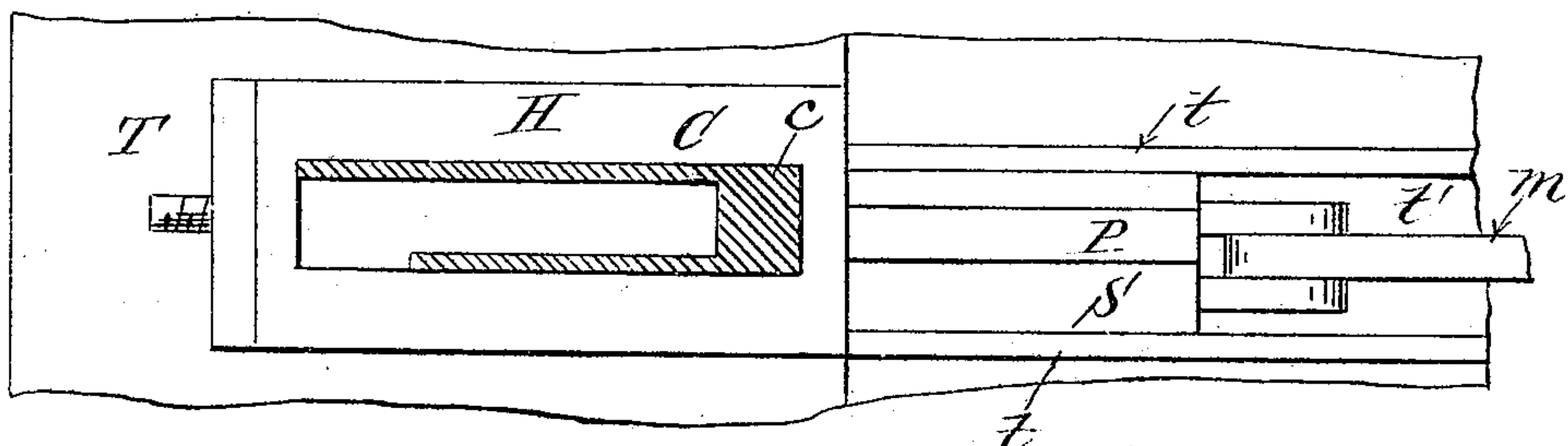


Fig. 7.



Fig. 1.



Witnesses:

D. W. Gardner
Louis H. Rowley

Inventor:

Abbot Augustus Low
By his Attorney
George William White

No. 641,310.

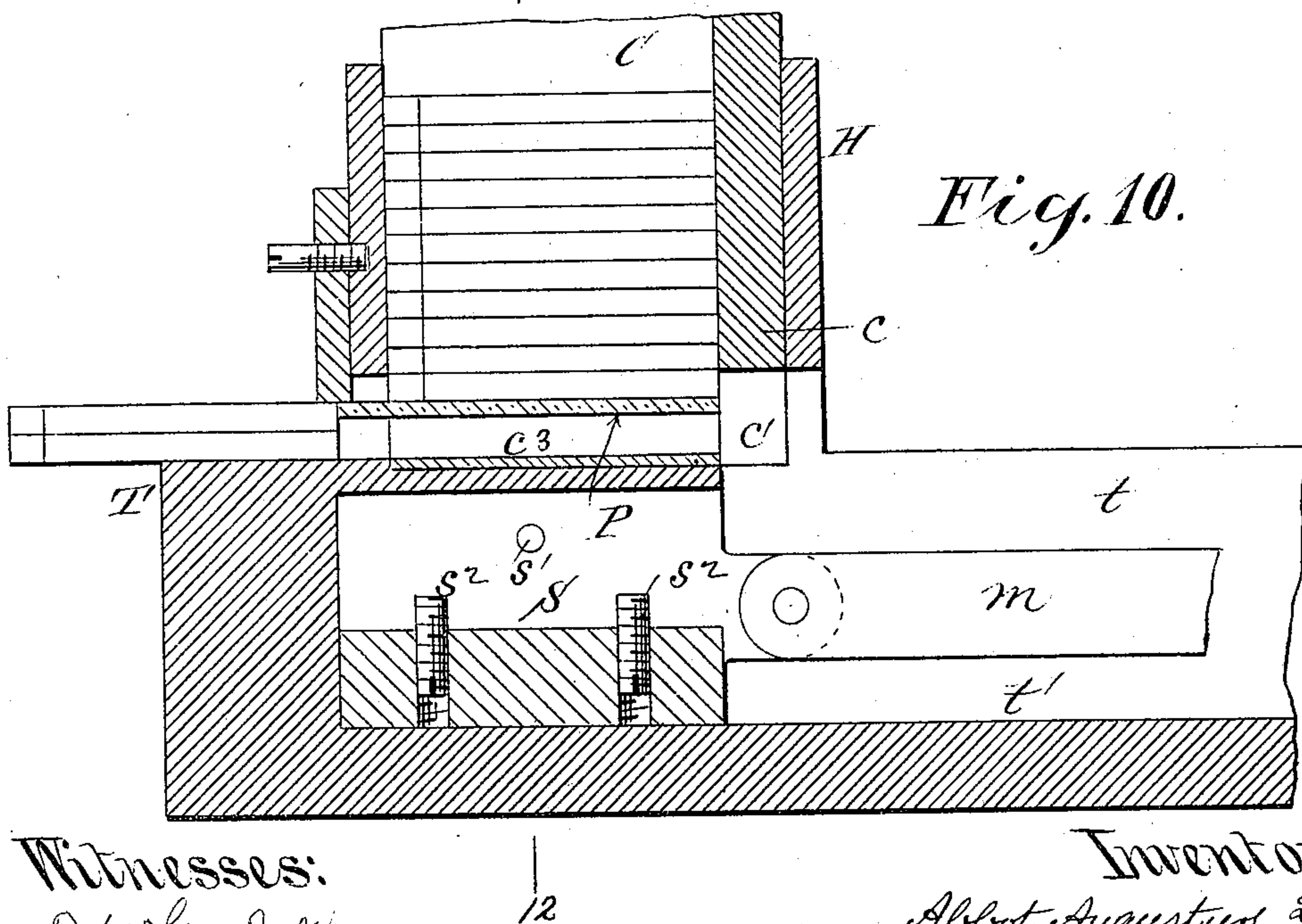
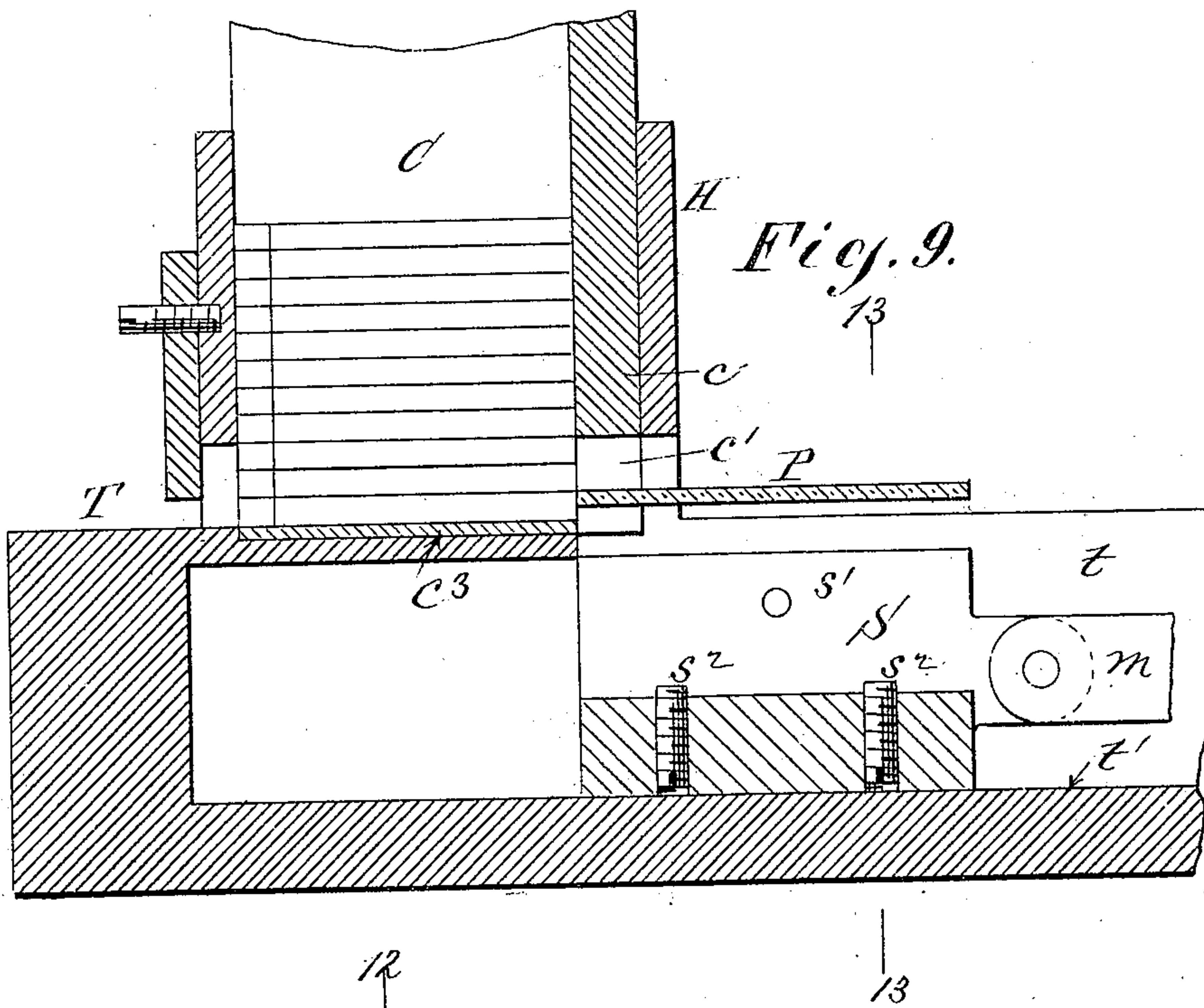
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Witnesses:
D. W. Gardner.
Louis H. Rowley

Inventor:
Abbot Augustus Low
By his Attorney
George William Mott

No. 641,310.

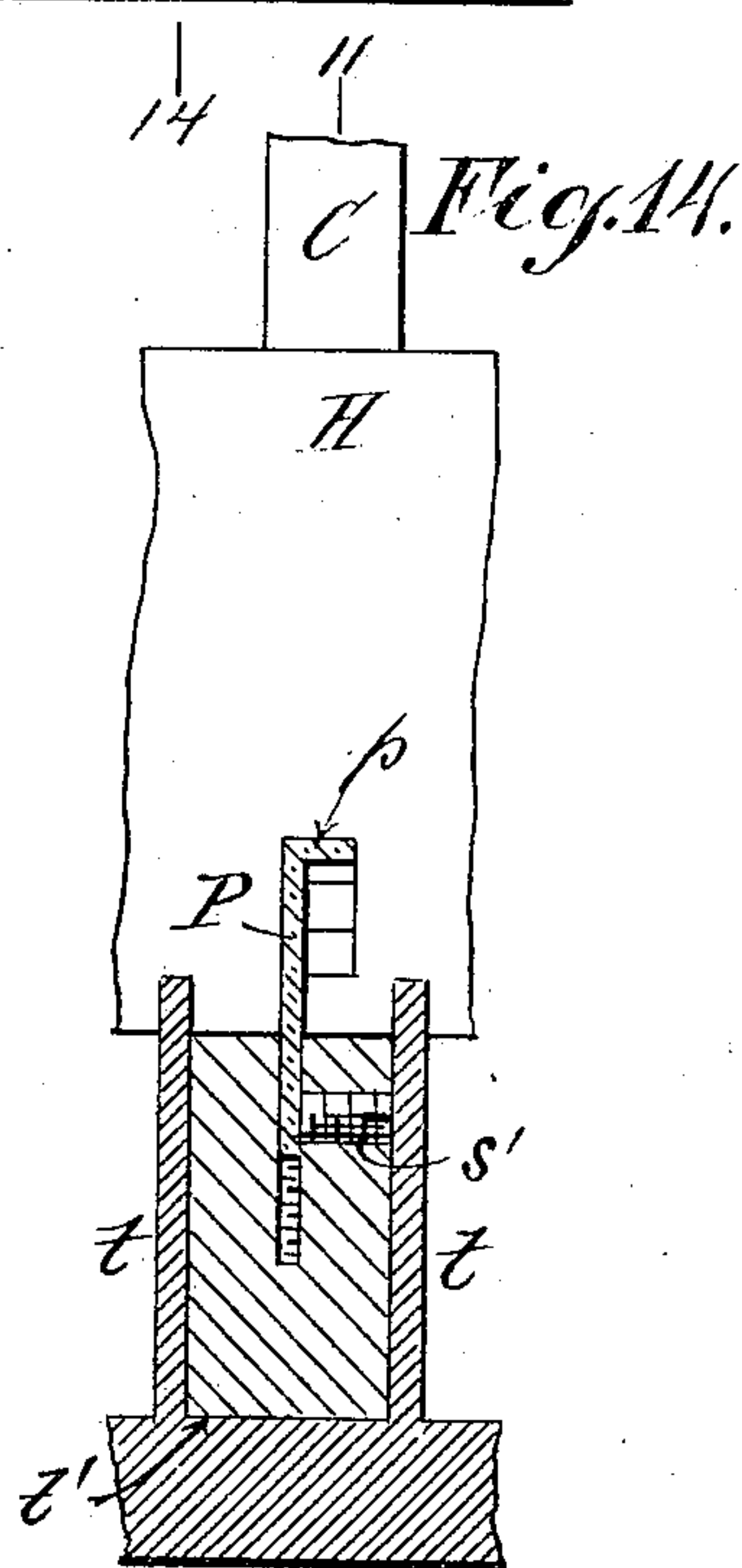
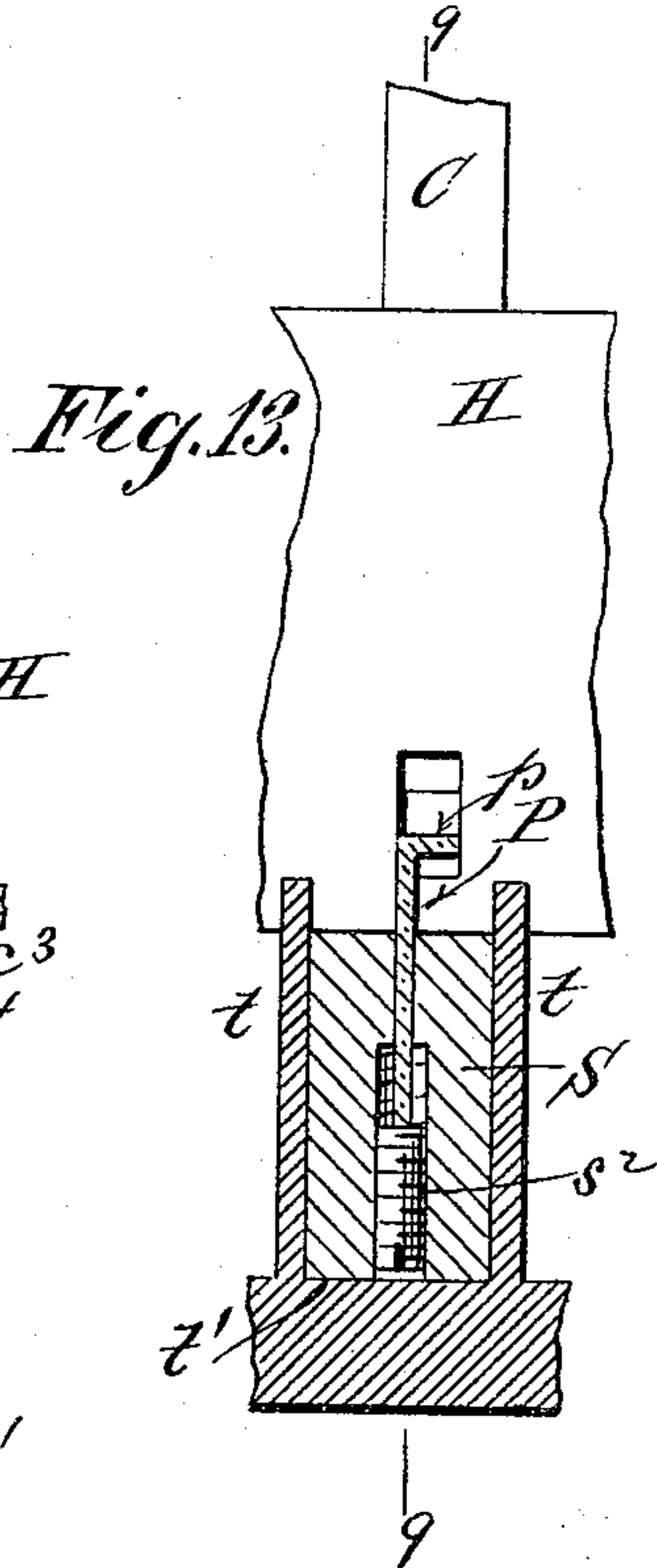
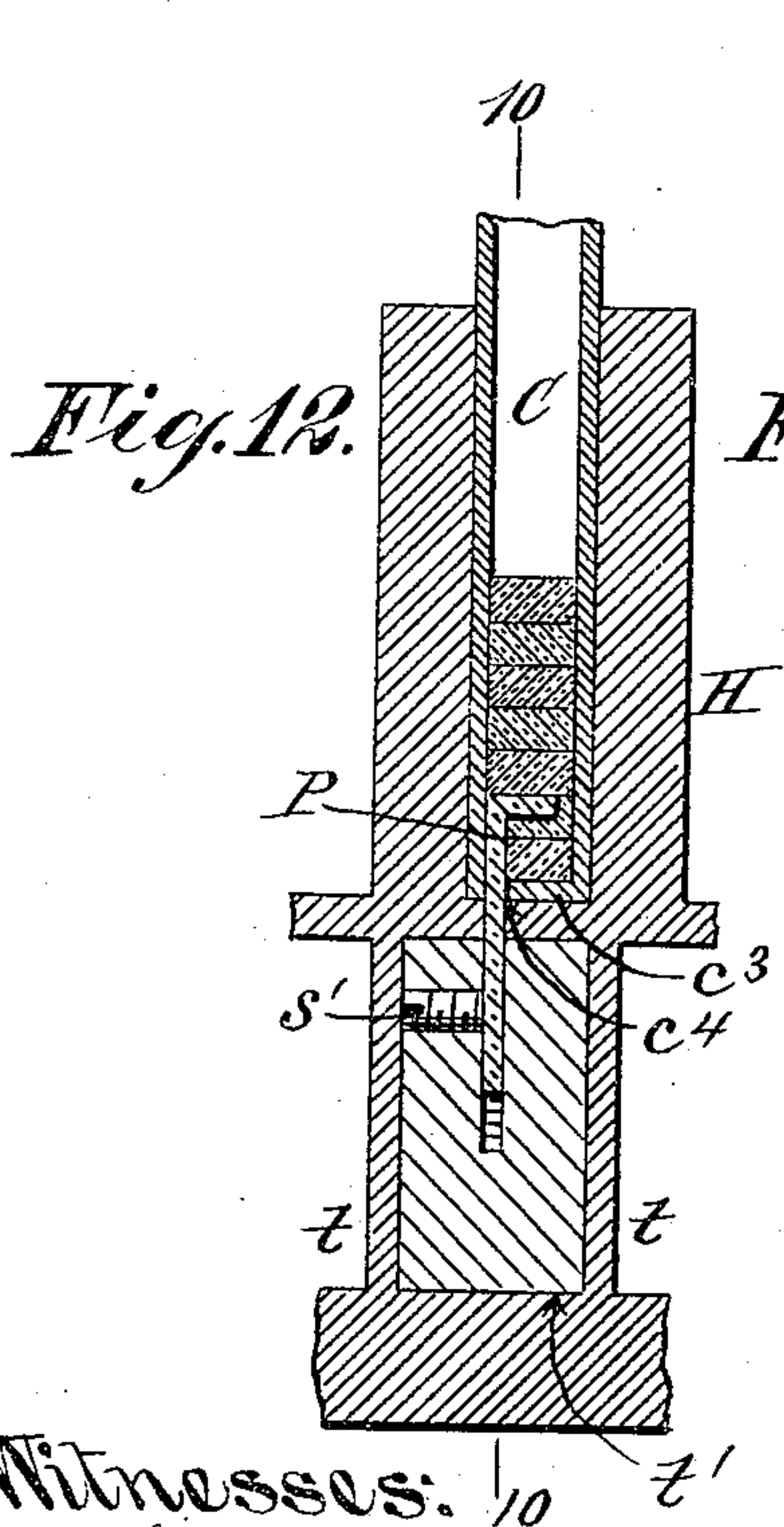
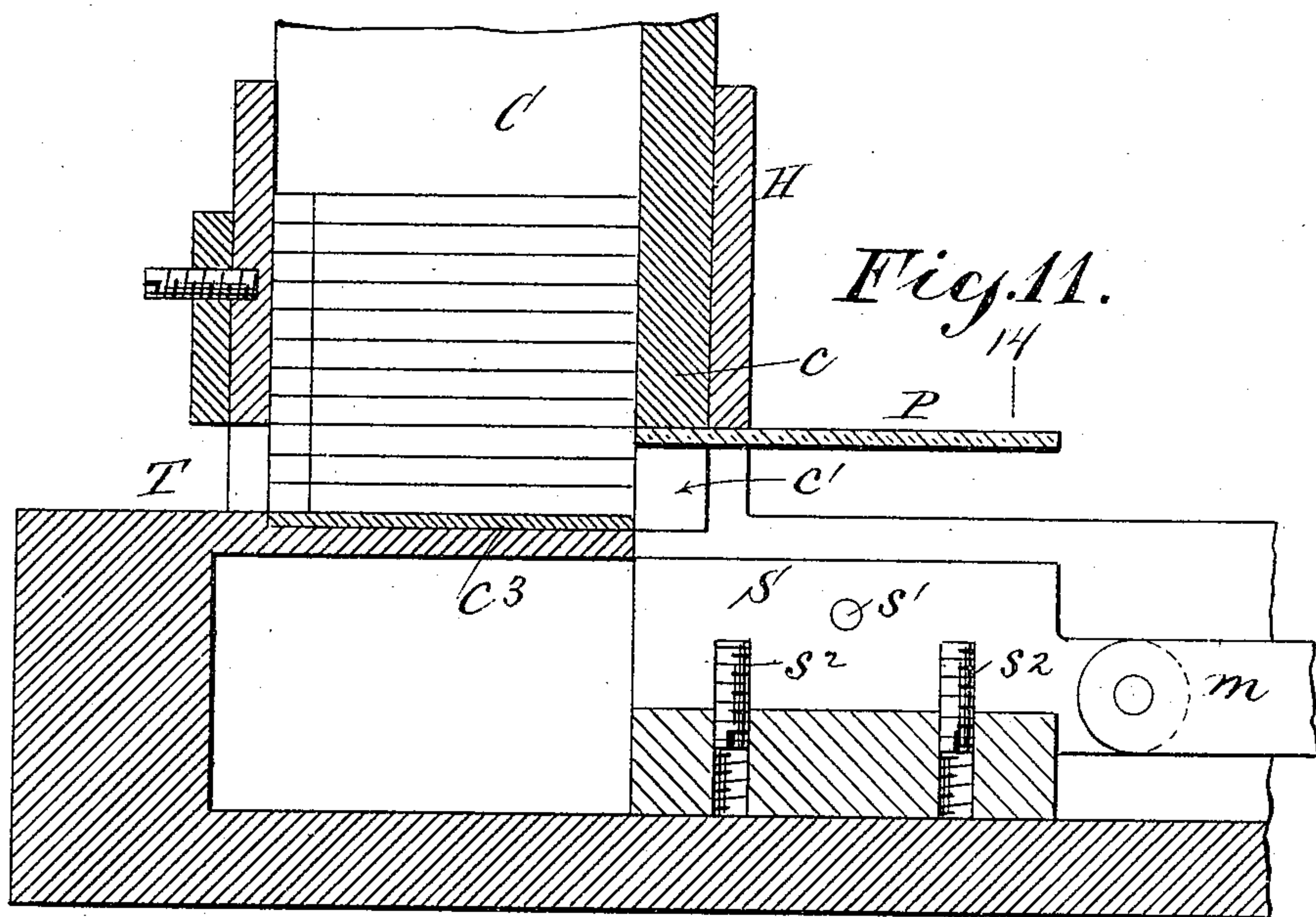
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3 Sheets—Sheet 3.



Witnesses:
D. W. Gardner.
Louis H. Rowley

Inventor:
Abbot Augustus Low
By his Attorney
George William Mott

UNITED STATES PATENT OFFICE.

ABBOT AUGUSTUS LOW, OF NEW YORK, N. Y., ASSIGNOR TO THE ALDEN
TYPE MACHINE COMPANY, OF SAME PLACE.

TYPE-SETTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 641,310, dated January 16, 1900.

Application filed February 27, 1899. Serial No. 706,908. (No model.)

To all whom it may concern:

Be it known that I, ABBOT AUGUSTUS LOW, a citizen of the United States, residing in the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Type-Setting Apparatus, of which the following is a specification, sufficient to enable others skilled in the art to which the invention appertains to make and use the same.

My improvements relate to type-setting apparatus in which a plurality of types are forwarded successively into position for removal by hand by means of a reciprocating pusher. Especially does my present invention relate to the form of automatic setter-case in which a comparatively thin vertical blade is used for the purpose of detaching and advancing the lowest types in a column. The comparatively thin vertical pusher is especially adapted to type-cases in which a plurality of types are forwarded simultaneously from the containing-channel, the pusher-blade projecting more or less through the bottom of the channel, according to the number of types to be forwarded at each reciprocation of the pusher. By the use of the thin-blade pusher of less thickness than the width of the type the bottom of the channel may be formed on one side with a type-floor or supporting-shoulder, which affords a practical advantage in handling the channels with the types therein. Furthermore, by the use of a narrow pusher-blade bearing upon one side only of the heels of the types to be forwarded the types are thrust toward the opposite side wall of the channel, thereby effecting and maintaining a perfect alinement.

An objection to the use of the thin-blade pusher which I seek to overcome by my invention is the fact that as heretofore constructed it does not afford adequate support to the column of types above it during its presence in the channel, since the lowest type in the remainder of the column from which those required types are being or have been forwarded is sustained only on one side, thereby endangering the alinement and integrity of the column above.

The leading feature of my present inven-

tion consists in forming the upper edge of the thin-blade pusher with a lateral flange or extension of sufficient width to afford a type-floor or support for the types above, when the pusher is in the channel, in excess of one-half the width of a type used in the channel. By this means I retain the advantages inherent in the blade-pusher, as hereinbefore set forth, and at the same time prevent any disturbance or derangement in the column of types in the channel above. The increased bearing of the flanged edge of the pusher-blade on the heel of the uppermost type to be detached and forwarded from the column above is also advantageous in overcoming frictional resistance, stickiness, &c., between said type and that next above.

My invention also includes certain other features of special construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a plan of the channel, holder, and adjoining parts of a type-case embodying my improvements. Fig. 2 is an isometrical view of my improved form of pusher-blade. Fig. 3 is a front view of my improved form of pusher-blade and its reciprocating slide. Fig. 4 is a longitudinal section of the reciprocating slide; Fig. 5, a horizontal section thereof upon plane of line 5 5, Fig. 4; Fig. 6, a horizontal section upon plane of line 6 6, Fig. 4; Fig. 7, a rear elevation of the reciprocating slide. Fig. 8 is an isometrical view of the rear lower portion of a type-containing channel. Fig. 9 is a sectional elevation upon plane of line 9 9, Fig. 13, showing the pusher retracted and adjusted to forward a single type. Fig. 10 is a similar view upon plane of line 10 10, Fig. 12, showing the pusher in the forward position and arranged to forward two types. Fig. 11 is a similar view upon plane of line 11 11, Fig. 14, with the pusher in its retracted position and adjusted to forward three types; Fig. 12, a vertical section on plane of line 12 12, Fig. 10; Fig. 13, a sectional elevation on plane of line 13 13, Fig. 9; Fig. 14, a similar view upon plane of line 14 14, Fig. 11.

I have herein shown and described parts of an automatic type-case which are essential to an understanding of my invention, certain parts being broken away or omitted.

C is a type-containing channel supported in a holder H on the table T. The lower end of the spine *c* of the channel C is slotted for the admission of the pusher-blade P, the slot *c'* extending from the side wall upon one side a suitable distance, but leaving a portion *c''* of the spine intact. The rear of the holder H is also formed to give the blade P access to the channel.

The channel C is formed at its lower extremity with a type-shoulder *c''*, extending from one side wall, but leaving a slot *c'* between its edge and the opposed wall for the passage of the pusher-blade, the parts being preferably arranged so that the pusher reciprocates against or adjoining to the left side wall of the channel.

S is a reciprocating slide, actuated through the medium of the pitman *m* by automatic clutch mechanism similar to that heretofore employed for advancing and retracting the pusher or by equivalent mechanism. This slide is confined and kept in alinement by the parallel walls *t t* and by the supporting-floor *t'*. It is formed with a longitudinal vertical groove *s* for the reception of the lower portion of the pusher-blade P.

The pusher-blade P, as hereinbefore indicated, enters the channel on one side adjoining one side wall of the channel. It is formed at its upper edge with a lateral flange or extension *p*, projecting toward the opposite side wall of the channel. This flange or type-shoulder *p* is designed to afford a support for the type above the pusher, exceeding one-half the width of a type at least, so as to prevent the turning of the types upon their longitudinal axes, and it bears upon the heel of the highest type of the plurality to be forwarded.

Set-screws *s' s'*, countersunk in the side walls of the slide S, bind the pusher-blade in any prescribed vertical position. The vertical adjustment of the blade is effected by means of vertical screws *s'' s''*, also countersunk in the slide S, as will be understood by reference to Fig. 13. It will thus be seen that the pusher-blade P may be set for one, two, three, or more types, as illustrated in

Figs. 9, 10, 11, and 13, without any change in the relative arrangement of any of the other parts of the apparatus, excepting the front guard F, which may be of any well-known construction, the slot *c* in the spine of the channel extending upward the required distance to admit of the required scope of adjustment. I thus not only adapt the device to the requirements of different sizes and fonts of types, but also provide for its use as a word-case, in which a plurality of types are forwarded simultaneously into position for removal to the compositor's stick.

The advantage of supporting the column of type upon the comparatively broad lateral flange of the pusher is obvious, while the increased bearing against the heel of the type which is being severed from the column prevents lateral binding and strain during the operation.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a compositor's type-case substantially such as designated, the combination of a type-containing channel formed with a type-floor at its lower extremity of less width than the width of a type to be used, a vertical pusher-blade of less thickness than the width of said type, said pusher-blade being formed with a lateral flange at its upper edge projecting over the said type-floor of the channel when the pusher is in the latter, and means for reciprocating said pusher-blade, substantially in the manner and for the purpose described.

2. In a compositor's type-case substantially such as designated, the combination of the type-containing channel C, formed with a slotted type-floor *c''*, at its lower extremity, the vertical pusher-blade P, formed with the lateral extension *p*, on its upper edge, the slide S, formed with the vertical slot *s*, and provided with the adjusting and set screws *s'' s'' s'*, and means for reciprocating said slide S, for the purpose and substantially in the manner set forth.

ABBOT AUGUSTUS LOW.

Witnesses:

GEO. WM. MIATT,
D. W. GARDNER.