

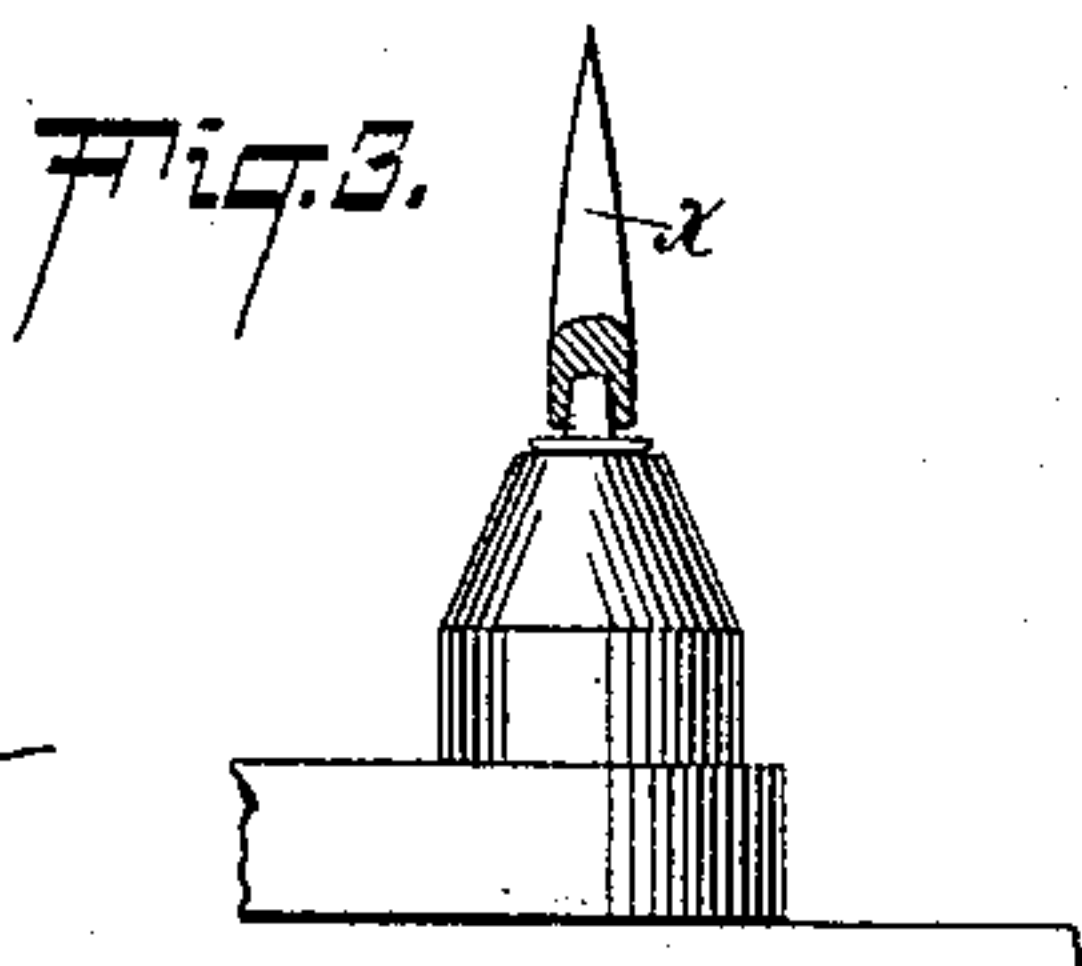
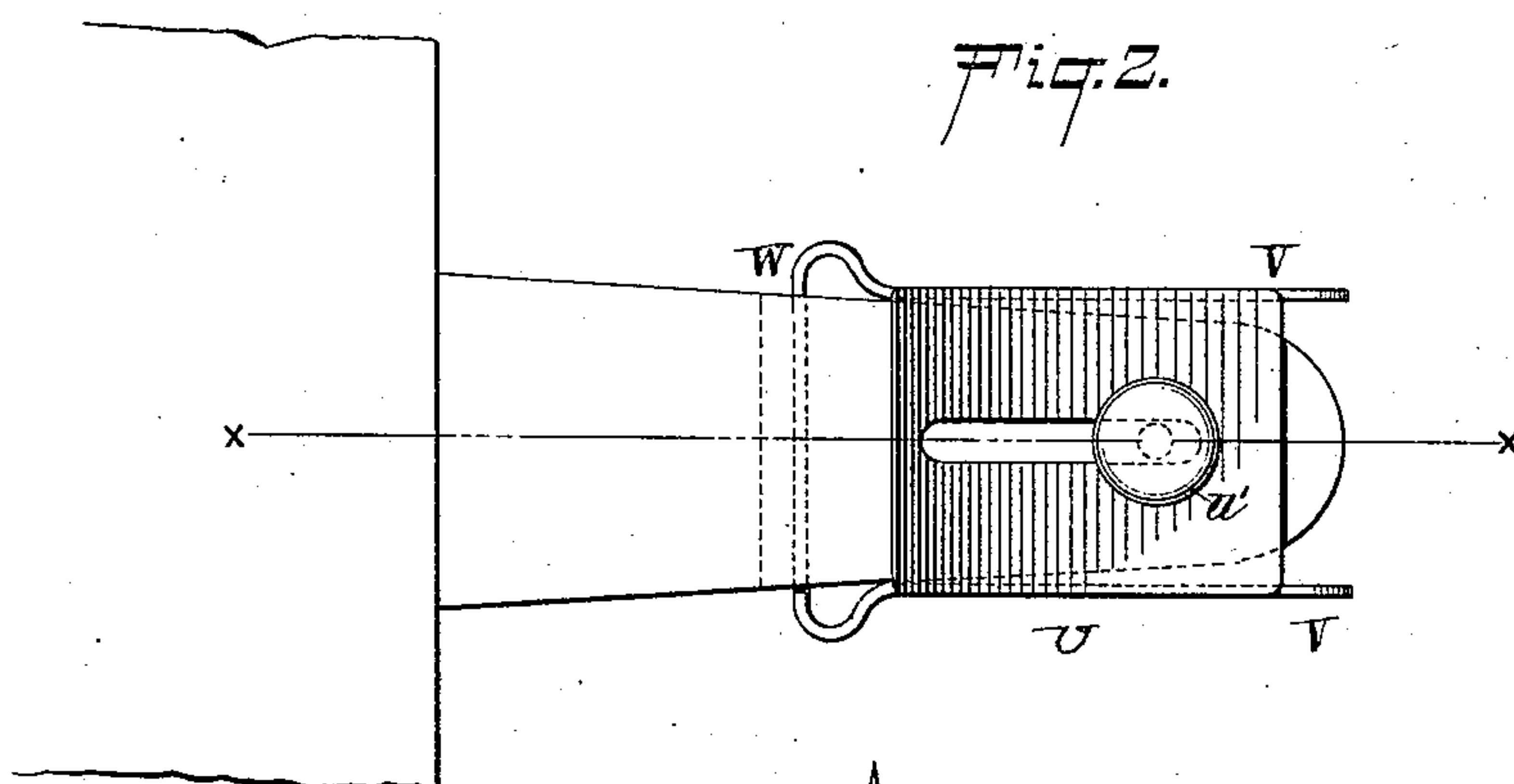
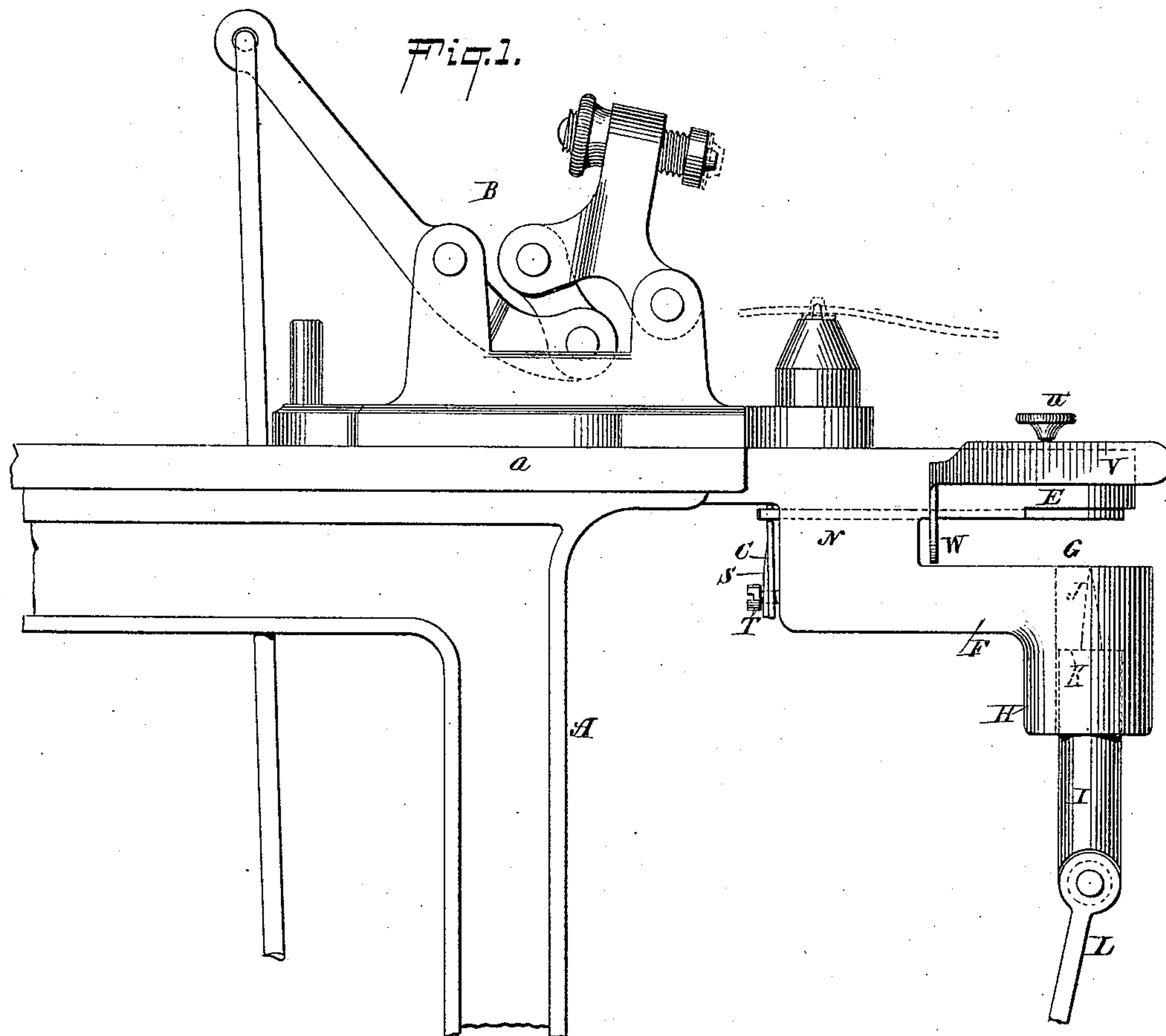
(No Model.)

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T. W. PORTER & J. B. GLOVER.
BUTTON SETTING MACHINE.

No. 464,143.

Patented Dec. 1, 1891.



WITNESSES:

William Goebel

Irving G. Platt

INVENTORS.

Thomas W. Porter & John B. Glover

BY

George Cook

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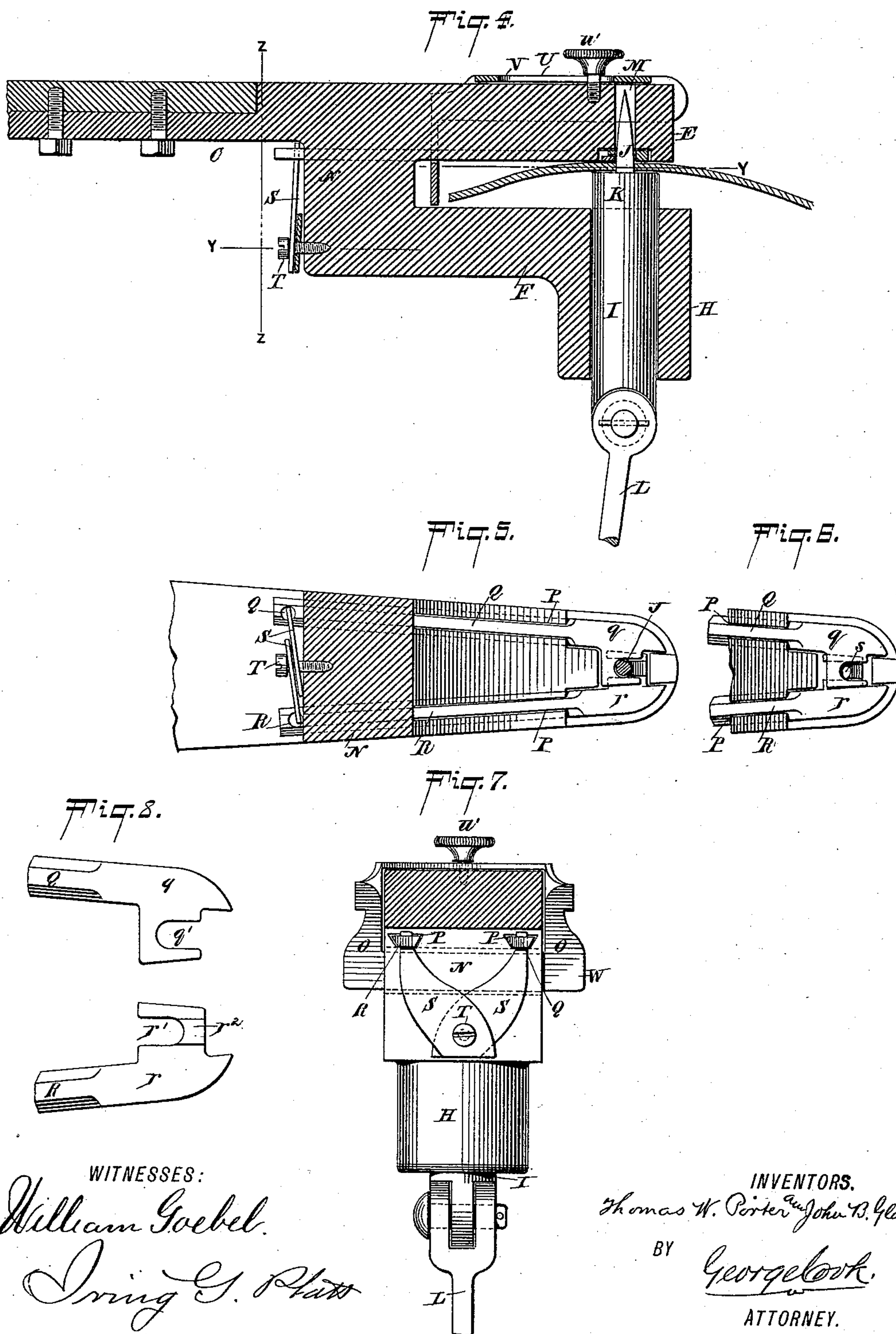
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UNITED STATES PATENT OFFICE.

THOMAS W. PORTER, OF MONTCLAIR, NEW JERSEY, AND JOHN B. GLOVER,
OF DUBUQUE, IOWA, ASSIGNORS TO THE PATENT BUTTON COMPANY, OF
WATERBURY, CONNECTICUT.

BUTTON-SETTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 464,143, dated December 1, 1891.

Application filed May 14, 1891. Serial No. 392,656. (No model.)

To all whom it may concern:

Be it known that we, THOMAS W. PORTER, of Montclair, in the county of Essex and State of New Jersey, and JOHN B. GLOVER, of Dubuque, in the county of Dubuque and State of Iowa, citizens of the United States, have invented certain new and useful Improvements in Attachments for Button-Fastening Machines, of which the following is a specification.

Our invention relates to an improvement in attachments for button-machines, and more particularly to devices for puncturing the holes or openings in cloth or fabric for the reception of the rivets or button-fasteners utilized in connection with machines similar to that shown and described in Letters Patent No. 118,743, granted to W. S. Platt and G. J. Capewell, September 5, 1871.

In that class of machines as shown in the Letters Patent above referred to it has been customary to insert the base of the needle into the eyelet or rivet or over the same, to then place the latter on the anvil, and after forcing the cloth down over the needle to withdraw the latter, leaving the eyelet or rivet protruding through the cloth. To so place the needle, however, and subsequently remove it has been somewhat of an annoyance and involves a considerable loss of time in the rapid manipulation of the machine. Again, the employment of this machine requires at each operation the use of both hands of the operator, thereby necessitating the laying of the cloth in the lap while the needle is adjusted and removed.

The object of our invention is to provide an attachment for the machine which shall operate to puncture the cloth and at the same time hold it while the button and fastener are being placed in their respective positions in the machine and thus do away with the said needle and at the same time free both hands of the operator for the time being without the necessity of laying the cloth in the operator's lap.

A further object of our invention is to provide a device whereby the danger of sticking or injuring the hands with the needle will be

overcome and also the danger of loss and breakage incident to the uses of the old form of needle.

With these ends in view our invention consists in certain novel features of construction and combination of parts, as will be hereinafter fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view of a button-attaching machine having our improved device secured thereto. Fig. 2 is a top plan view of our improved attachment. Fig. 3 is a detached view of the anvil having the old form of needle and fastener placed thereon. Fig. 4 is a sectional view on the line *xx* of Fig. 2. Fig. 5 is an inverted section taken on the line *yy* of Fig. 4, showing the lower sliding plates open. Fig. 6 is a detail view of the same, showing the needle withdrawn and the sliding plates closed. Fig. 7 is a sectional view taken on the line *zz* of Fig. 4. Fig. 8 is an enlarged view of the sliding plates detached.

A represents a part of the frame-work or stand adapted to support the button-fastening machine B, a description of the construction and operation of which is contained in the aforesaid patent and which need not be repeated here.

To the table *a* is securely fastened the rearwardly-extending arm C of the clamping-frame D, the latter being preferably cast in one piece and consisting of the upper jaw E and the lower jaw F, an opening G being left between them. The forward end of the lower jaw is bent or shaped downwardly, as at H, and is provided with a vertical opening for the reception of the needle-bar I, which latter has formed on the extreme upper end thereof the needle J. It will be noticed that in reducing the size of the bar I to form the needle J a shoulder K is produced, the purpose and effect of which is, as will be hereinafter described, to clamp and hold the cloth or fabric against the upper jaw E after the needle has been forced through the same and while the operator is engaged in adjusting the eyelet and button in the machine, prior to securing them to said fabric. The further object and

effect of this shoulder are to so compress the fabric and the fibers thereof that all danger of the fibers again closing such hole or opening after the withdrawal of the needle will be overcome.

To the lower end of the bar I is secured the lever L, connected to a treadle, (not shown,) and by means of which a vertical motion is imparted to said bar and needle.

In the upper jaw is formed an opening M, into which passes the needle when the bar I is raised, the said opening being of sufficient thickness to receive the entire length of the needle without the latter protruding.

In the solid part N of the device is provided two dovetail grooves O, being continued in the form of recesses P along the under surface of the jaw E to the outer or forward extremity thereof. Into these two grooves and recesses are fitted the two sliding bars Q and R, the rear ends thereof projecting out beyond the rear side of the jaw E and provided with openings into which fit the ends of the springs S, the latter being secured to the rear side of the solid piece N by means of a screw T, or in any other suitable way. The forward ends of these two bars or rods Q and R are formed into flat plates *q* and *r*, respectively, and extend laterally toward each other, the plate *q* fitting over and sliding upon the plate *r*. In the forward edge of the plate *q* is formed the recess *q'*, and in the rear edge of the plate *r* is formed the recess *r'*, the part *r''* of said plate *r* being raised and fitting in the groove or recess *q'* when the parts are in their normal position, as shown in Fig. 6, and presenting a flush surface with the plate *q*. When the parts are in their normal position, as shown in Figs. 1 and 6, a small opening *s* will be left between the plates *q* and *r*, formed by the recesses *q'* *r'*, and registering with the hole or opening M formed through the upper jaw E.

To the upper jaw E is secured a gage consisting of the upper plate U, bearing or resting on the upper side of the jaw E, and provided with an elongated slot *u*, into which fits the set-screw *u'*, the latter being threaded into an opening in said jaw E, and bearing on the plate U, to hold the gage in its different adjustments. The plate U has its sides V turned downwardly, as shown in Fig. 1, and also its rear end W, which fits in the opening G, between the jaws. This construction allows the gage to be moved backward or forward, and thus limit the extent to which the cloth is to be inserted in said opening G.

Having described the construction and arrangement of the different parts, we will now proceed to describe its *modus operandi*. The gage having been properly set, the cloth is inserted in the opening G, and the bar I and needle J raised by any suitable treadle arrangement (not shown) connected to the lever or pitman L, the effect of which is to carry the cloth up against the plates *q* *r*. The pressure being continued, the needle forces its way

through the fabric, and enters the opening M, as shown in Fig. 4, the shoulder K, formed on the bar or plunger I, clamping and holding it against said plates *q* and *r*. Prior to raising the needle J, the said plates *q* and *r* will occupy the positions shown in Fig. 6, but as the needle rises the latter passes through the opening *s* and gradually forces them apart, the plate *q* backwardly and the plate *r* forwardly, the springs S operating to keep them against the needle, and thus preventing the cloth from being carried up into the hole M and being puckered. When the parts are in the position as shown in Fig. 4, the operator, by keeping his foot upon the treadle, holds the cloth in the clamp, and, his hands being free, is enabled to adjust the fastener and button on the machine B, as shown in dotted lines in Fig. 1, after which he relieves the pressure, and removing the fabric from the clamp places it in position over the button-fastener, the eyelet or fastener being allowed to protrude through the opening in the cloth formed by the needle J. The machine B is then manipulated and the button secured to the cloth, after which it is again placed in the opening G, the needle raised and the cloth punctured and clamped while another button and fastener are placed in position, and so on. It will be understood that as soon as the pressure on the treadle is relieved and the needle lowered the springs S immediately return the plates *q* and *r* to their closed adjustment, and protect the lower end of the opening M.

Our invention is exceedingly simple, can be attached to any machine of the kind above referred to, and effectually overcomes the necessity of using the detachable needle X shown in Fig. 3, and also provides a clamp or rest for the cloth while the fastener and button are being placed in their respective positions.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In an attachment for button-fastening machines, the combination, with two stationary or rigid jaws, of a needle vertically reciprocating therein, and spring-actuated plates sliding on the under side of said upper jaw, and fitting or closing around said needle when raised, substantially as and for the purpose set forth.

2. In an attachment for button-attaching machines, the combination, with two rigid jaws, of a vertically-reciprocating needle working in said jaws and constructed with a shoulder for clamping and holding the fabric between said shoulder and said upper rigid jaw, and plates sliding on the under side of said upper jaw for closing the needle-opening therein and preventing the entrance of said fabric, substantially as described.

3. In a button-fastening machine, the combination, with two stationary or rigid jaws having a space between them, of a needle ver-

5 tically reciprocating therein, and a gage constructed with a slotted plate U, movably secured to the upper of said jaws and having its sides V and rear end W bent or turned downwardly and encircling said jaw, said end W fitting into said opening between said jaws, substantially as and for the purpose set forth.

10 4. In an attachment for button-attaching machines, the combination, with the jaws E F, of the bar I, having a needle formed on its upper end, a lever or pitman L, bars Q R, formed into plates at their forward ends, as described, and springs S for operating said bars, substantially as described.

Signed at New York, in the county of New York and State of New York, this 30th day of April, A. D. 1891.

THOMAS W. PORTER.

Witnesses:

B. P. STRATTON,

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WILLIAM GOEBEL.

Signed at Dubuque, in the county of Dubuque and State of Iowa, this 4th day of May, A. D. 1891.

JOHN B. GLOVER.

Witnesses:

B. W. LACY,

A. C. BUETTEL.