

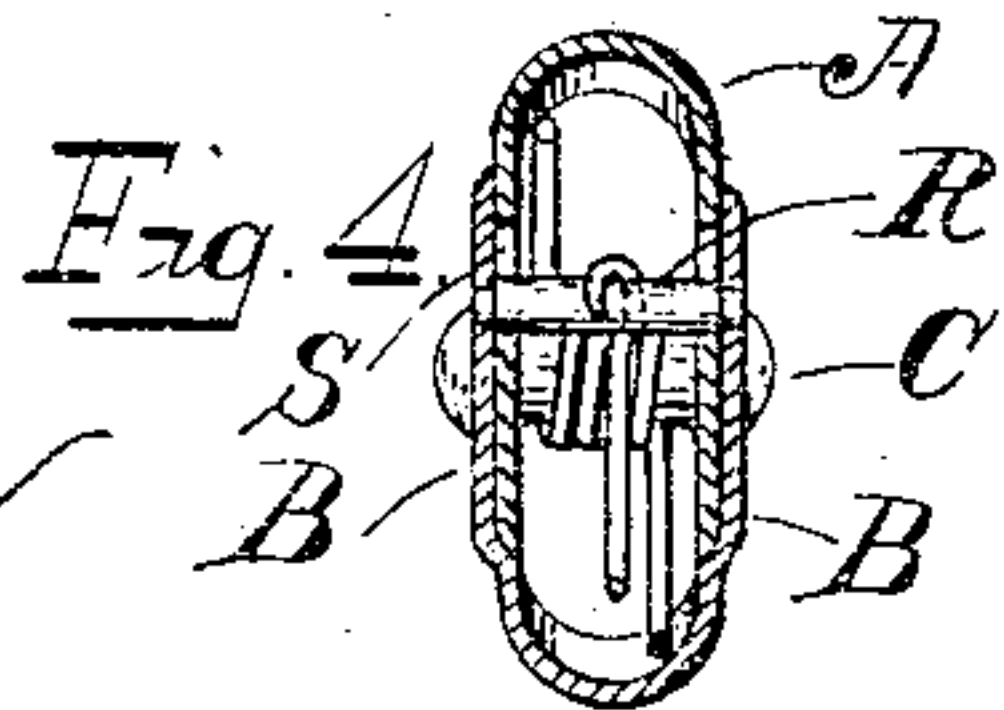
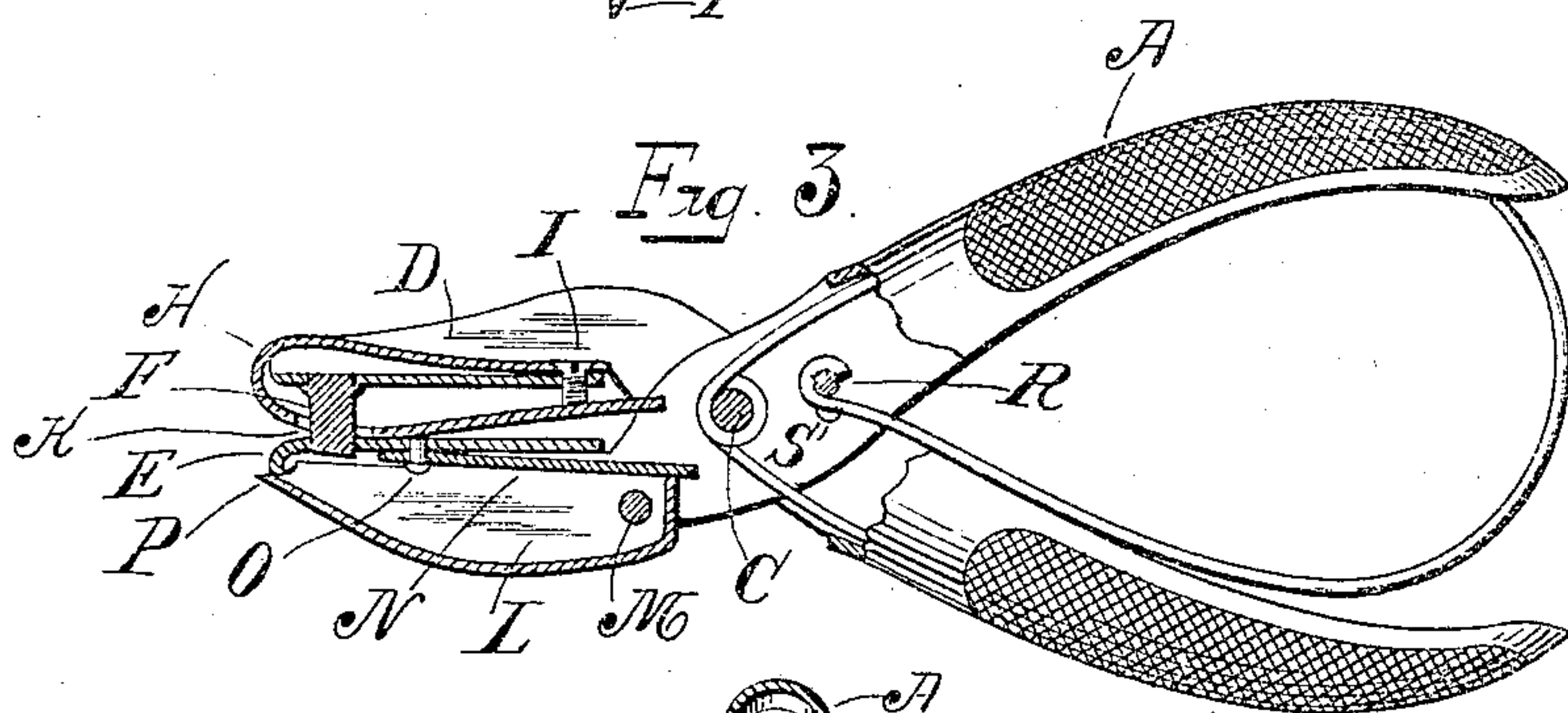
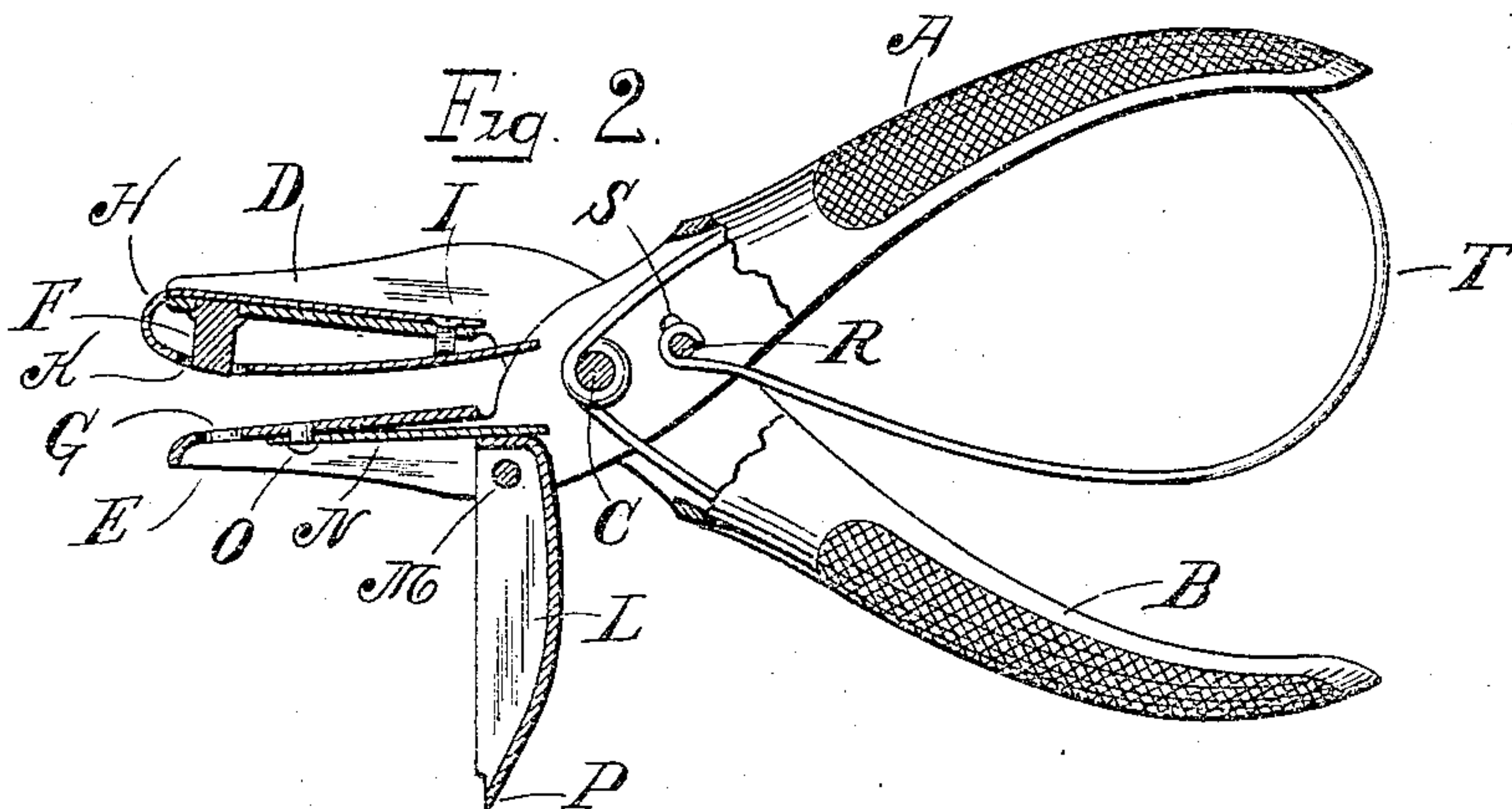
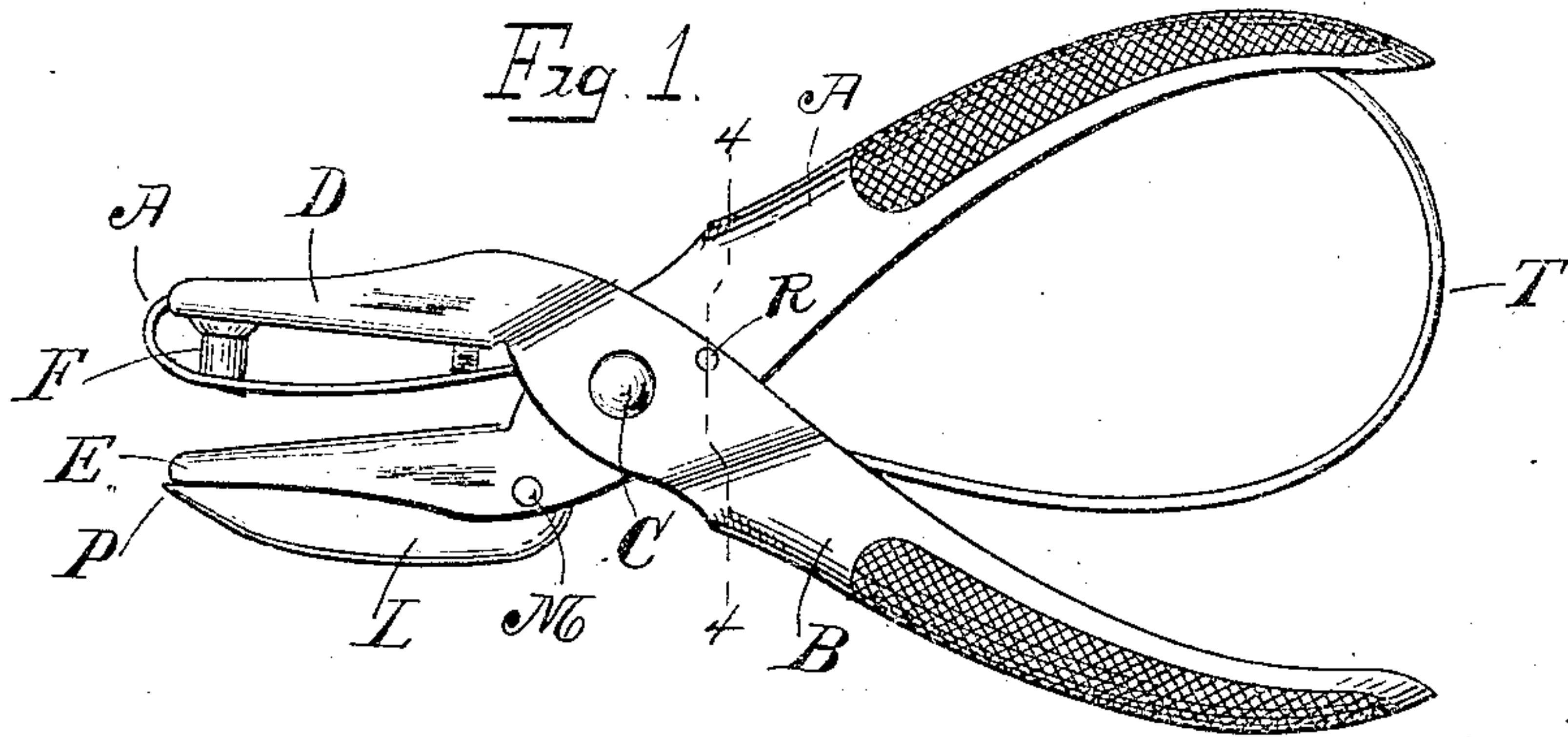
No. 765,954.

PATENTED JULY 26, 1904.

W. A. BERNARD.
PUNCH.

APPLICATION FILED JAN. 27, 1904.

NO MODEL.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM A. BERNARD, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO
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PUNCH.

SPECIFICATION forming part of Letters Patent No. 765,954, dated July 26, 1904.

Application filed January 27, 1904. Serial No. 190,841. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. BERNARD, of the city and county of New Haven, State of Connecticut, have invented new and useful Im-

5 improvements in Punches, of which the following is a full, clear, and exact description when taken in connection with the accompanying drawings, which form a part thereof, and in which—
10 Figure 1 represents a side elevation of a punch embodying my invention; Fig. 2, a longitudinal vertical section of the same, the re-
tainer being shown in its opened position; Fig. 3, a similar view, the punch and retainer being
15 shown closed; and Fig. 4, a transverse vertical section on line 4 4 of Fig. 1.

In all figures similar letters of reference represent like parts.

This invention relates to hand-punches; and
20 it consists in the production of a punch of this class having a novel and efficient spring-stripper for removing the papers or other articles operated upon from the punch; also, a conven-
iently-located pivoted retainer for the chips or
25 particles punched, which retainer is spring-held in position, and, further, a novel pin-and-slot connection between the pivoted cross-levers for limiting the movement of the punch in both directions.

30 The object of this invention is the production of a punch having the above-referred-to features, together with the several improvements and combinations of parts set forth and claimed hereinafter.

35 Referring to the drawings for a more particular description, the parts designated by the letters A and B represent the cross-levers, which are fulcrumed together at C. These levers are shown stamped out of sheet metal,
40 and their rear ends are formed to make convenient handle or grip portions of the tool, and their forward ends D and E form the hollow jaw portions, substantially of the type shown in reissued patent of the United States
45 No. 11,868, dated November 6, 1900. To the meeting face of one of the jaws D is affixed a punch F of any desired form, and in the jaw E is a die G corresponding to the punch.

H is the stripper, formed of a piece of sheet metal, secured at one end by screw I, rivet, or
50 other suitable means on the back of and within the hollow interior of the jaw D. The end of the stripper extends around to the meeting face of the jaw D and is provided with a perforation K for the punch F. When the jaws
55 are closed, as shown in Fig. 3, the free end of the stripper on the inner side of the jaw is pressed toward the jaw, which is possible, owing to its flexibility, length, and the location of the screw holding it in place. 60

L is a retainer for the chips or particles stamped from the paper or other article operated upon. This retainer is pivoted at M within the hollow interior of the jaw E, so that it does not objectionably protrude from
65 the tool. A spring-plate N is riveted or otherwise secured at O to the inner side of the jaw E, and its free end presses on a squared or cam-shaped portion of the retainer to hold the latter in its opened or closed positions, as
70 shown more particularly in Figs. 2 and 3. By this means the chips are held in the retainer until a convenient place for depositing them has been found, when it is only necessary to press downward upon the projecting flange or
75 lip P of the retainer to overcome the tension of the spring N, when the retainer will be opened and the chips may be ejected. When the retainer is returned to its normal position, it is held against accidental opening by the
80 spring N.

In punches of this class it is desirable that the punch be prevented from opening too far, so that only the thickness of paper can be inserted which it is advisable to have the punch
85 operate upon at one time. It is also desirable that the punch be limited in its movement in the reverse direction, as otherwise the punch F may be forced too far into the die G and become jammed. To effect this double limi-
90 tation of movement, a pin-and-slot connection is provided between the cross portions of the levers, as follows: At the fulcrum, as more particularly shown in Figs. 2, 3, and 4, one of the levers, as B, is shown bifurcated to form
95 a mortise or opening for the other lever A,

which may also, as shown, be bifurcated. A pin R extends from one side to the other of the mortise of the outer lever B through a curved slot S in the inner lever A. When the jaws are open, as shown in Fig. 2, the pin abuts against one end of the slot S to prevent the further opening movement of the jaws. When the jaws are closed, the pin comes in contact with the other end of the slot S to prevent further movement in this direction.

A spring T is shown coiled around the fulcrum-pin C, the two ends of which extend into the hollow portions of the handles, and one end may be prolonged and curved backward, as shown, to be secured or hooked onto the pin R. This curved portion of the spring is adapted to form a convenient means for carrying the tool.

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

1. In a hand-punch, or kindred instrumentality, the combination with cross-levers; of the jaws, one of which is formed hollow and has a die on its meeting face; and a retainer pivoted within the hollow interior of said jaw and extending forward beyond the end of said jaw, substantially as described.

2. In a hand-punch or kindred instrumentality, the combination with cross-levers; of the jaws, one of which has a die on its meeting face; a hollow box-like retainer pivoted to the back of said jaw; and a spring secured to

said jaw for holding said retainer in its closed position, substantially as described.

3. In a hand-punch, or kindred instrumentality, the combination with cross-levers; of the jaws, one of which is provided with a die on its meeting face; a retainer pivoted to the back of said jaw; and a spring engaging a cam-like surface on said retainer to hold it in its open or closed position, substantially as described.

4. In a hand-punch or kindred instrumentality, the combination with the jaws; of the operating-levers fulcrumed together; one of said levers being mortised to receive the other lever; a pin extending from one side of said mortised lever to the other side; and a curved slot, in said inner lever through which said pin projects, whereby the movement of said levers in opening and closing are limited, substantially as described.

5. In a hand-punch or kindred instrumentality, the combination with the jaws; of the operating-levers fulcrumed together; a slot in one of said levers; a pin secured to the other lever extending into said slot; and a spring bearing on said slotted lever and said pin, substantially as described.

In witness whereof I have hereunto set my hand on the 15th day of January, 1904.

WILLIAM A. BERNARD.

Witnesses:

WILLIAM R. PITKIN,
SAMUEL H. FISHER.