

No. 712,482.

Patented Nov. 4, 1902.

W. A. BERNARD.
HAND PUNCH.

(Application filed July 28, 1902.)

(No Model.)

Fig. 1.

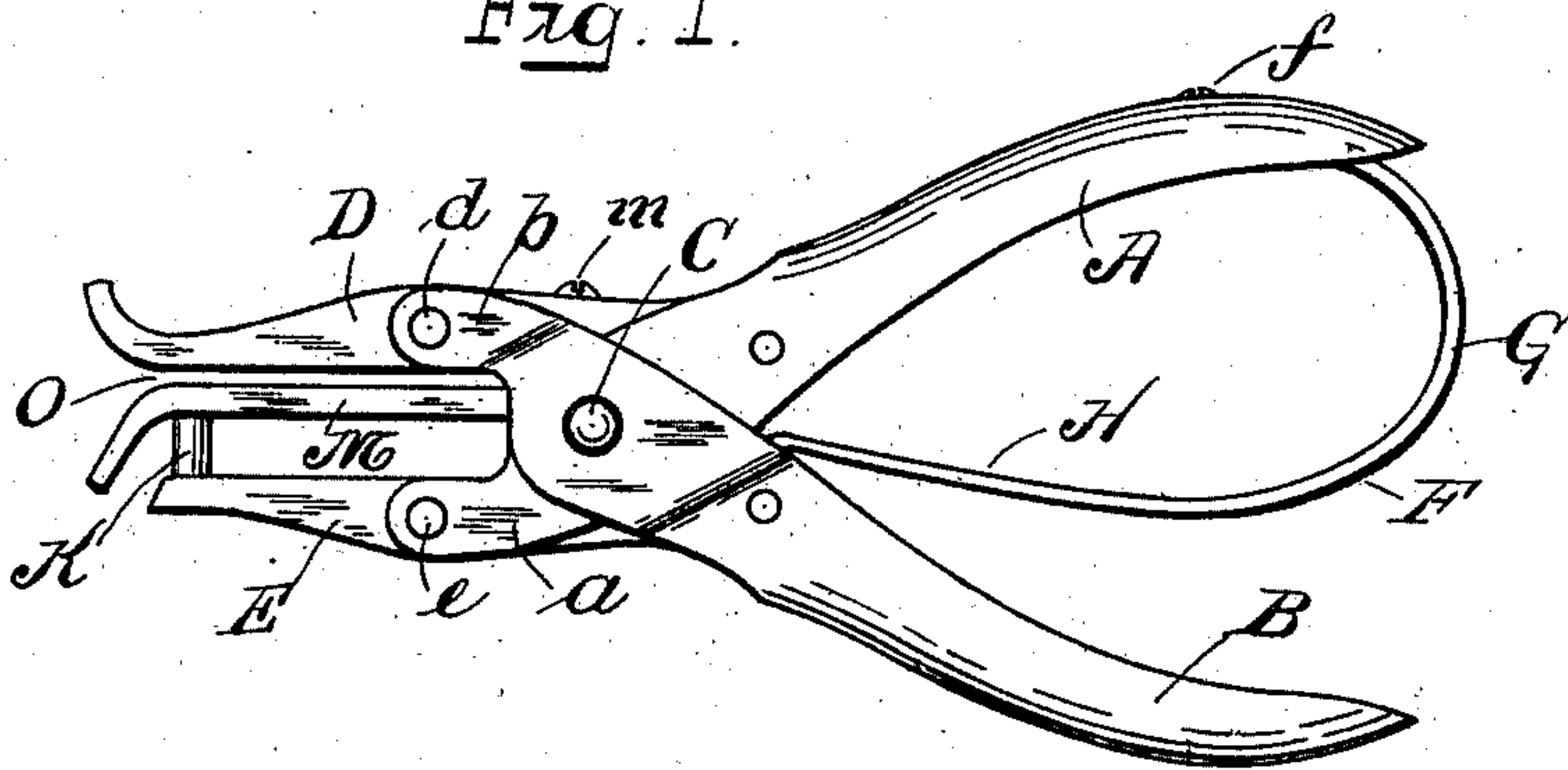


Fig. 2.

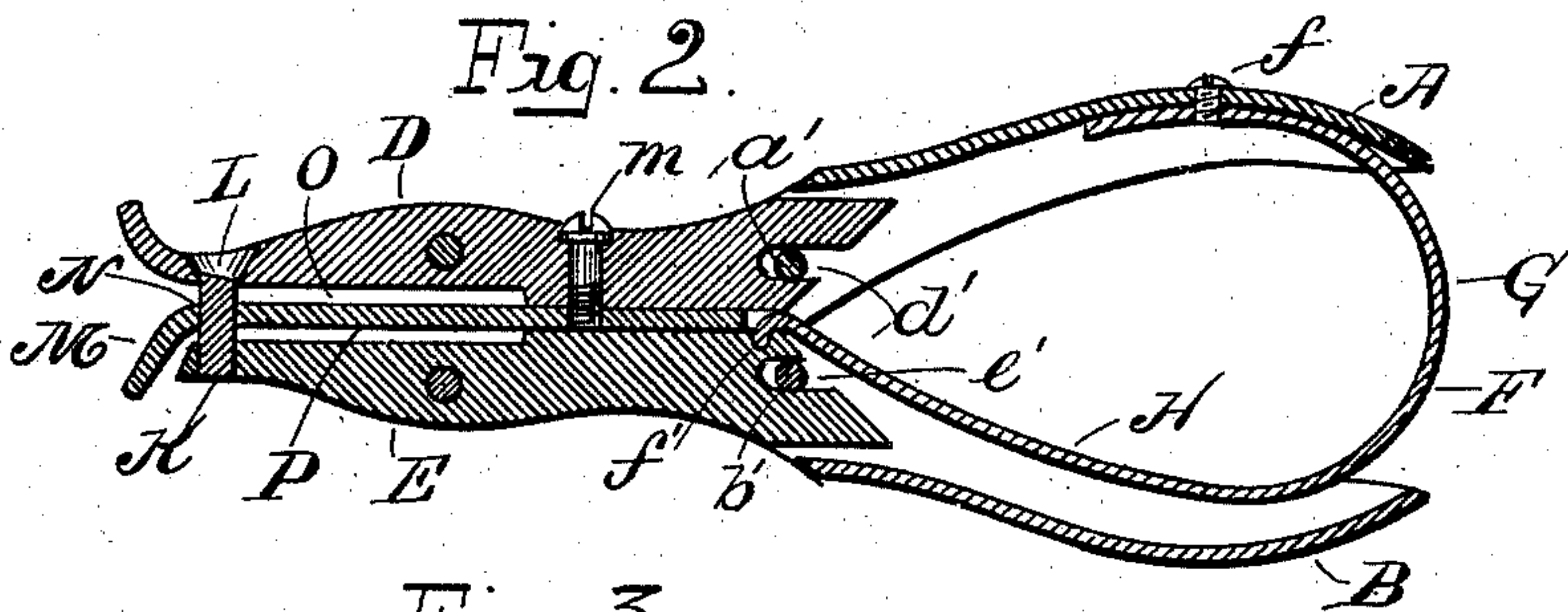


Fig. 3.

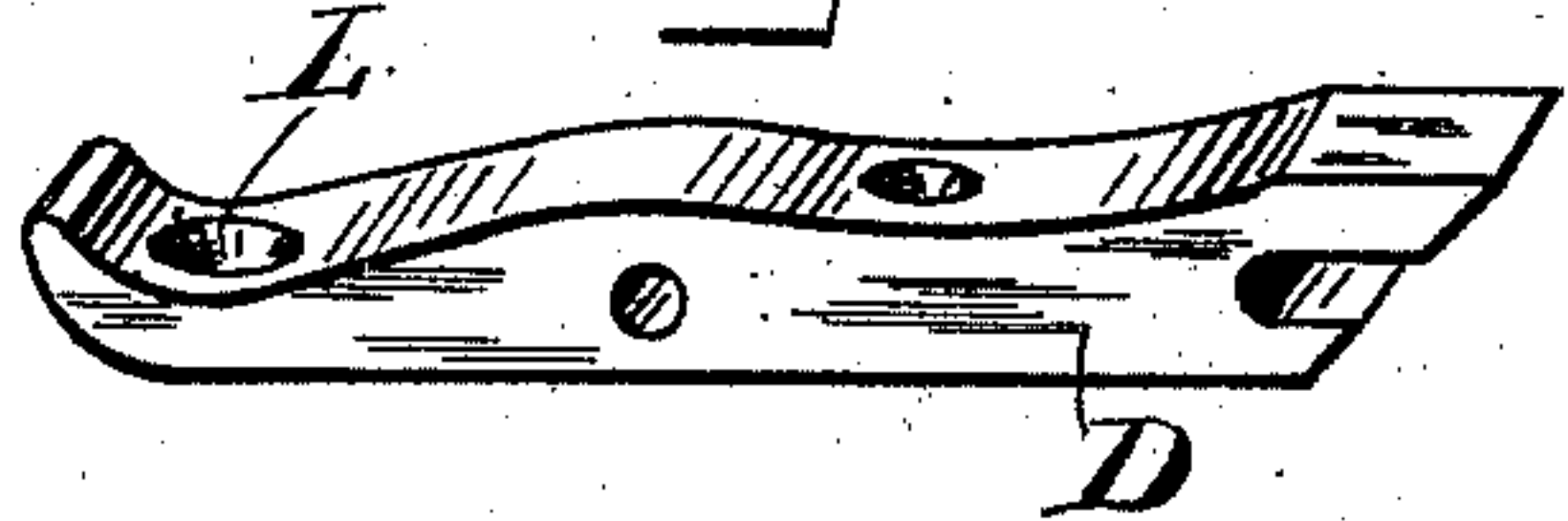


Fig. 4.

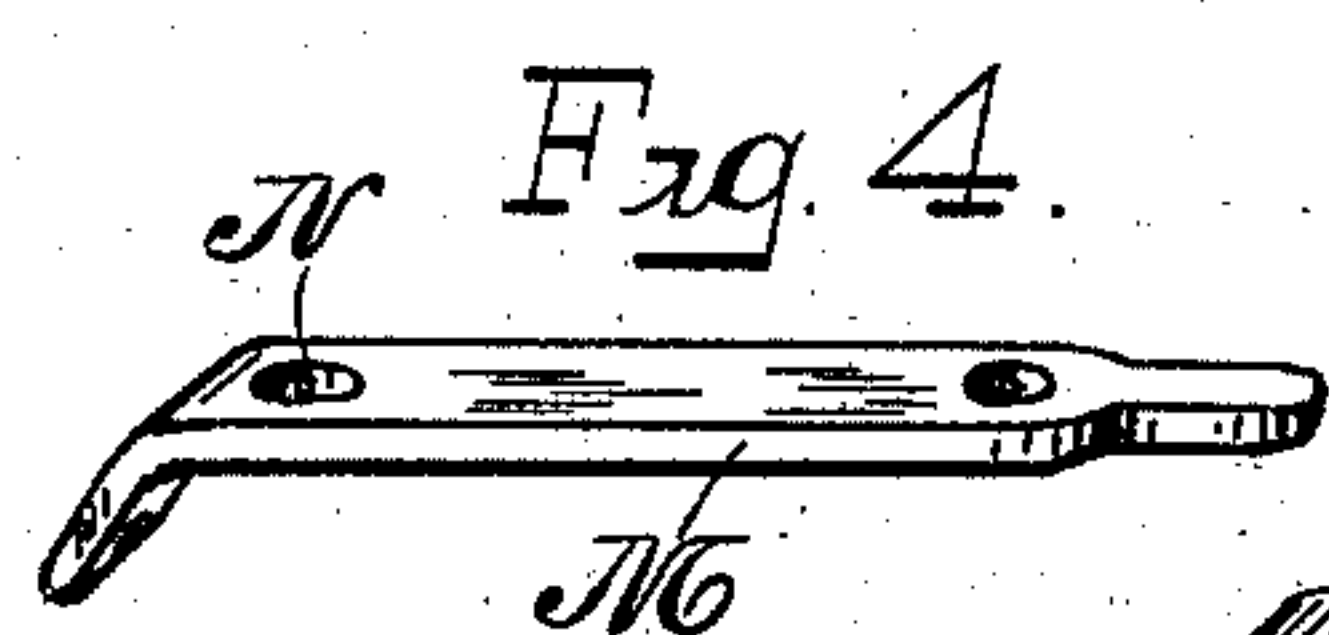
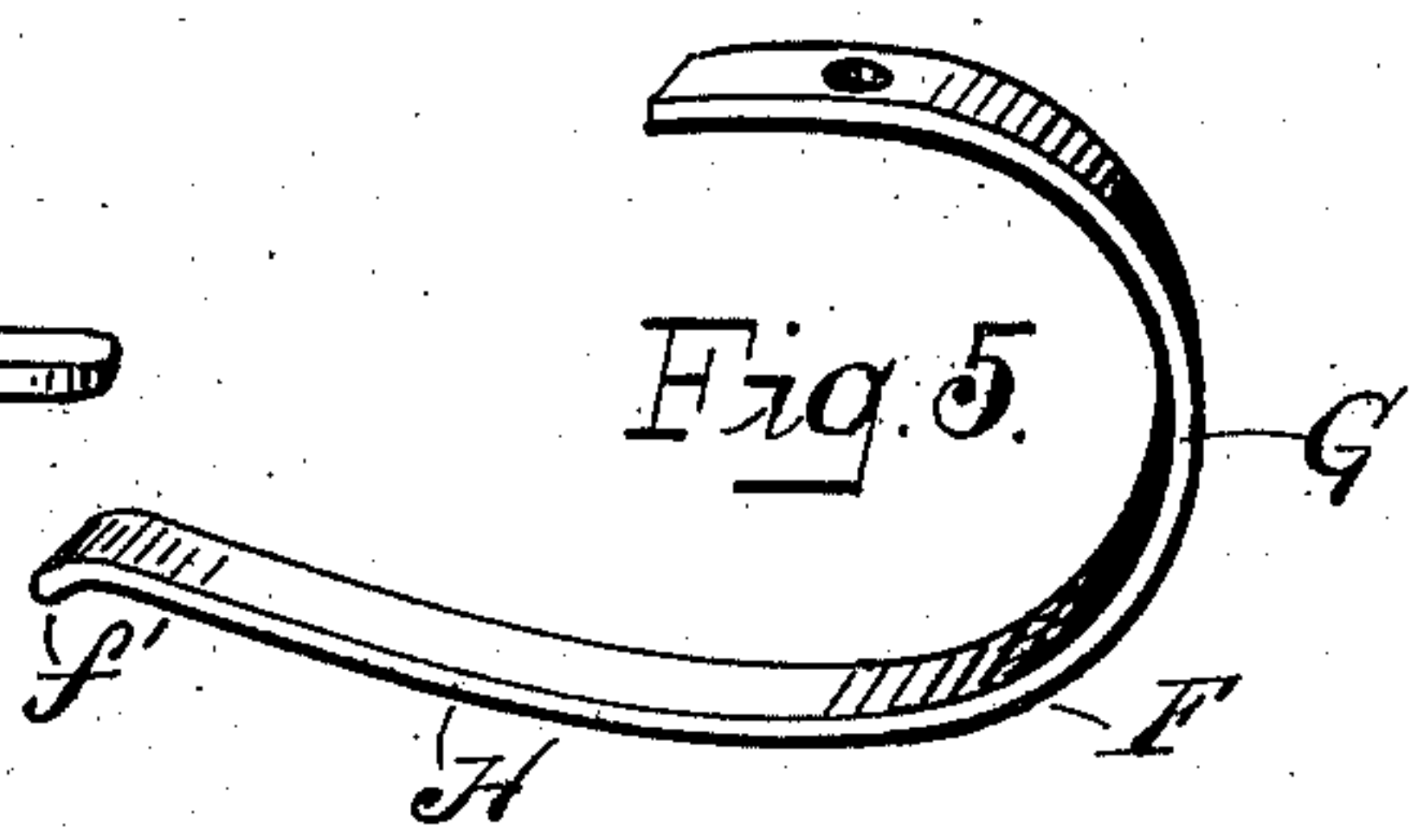


Fig. 5.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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HAND-PUNCH.

SPECIFICATION forming part of Letters Patent No. 712,482, dated November 4, 1902.

Application filed July 28, 1902. Serial No. 117,302. (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 a new and useful Improvement in Hand-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—

Figure 1 represents a side elevation of a punch embodying my invention; Fig. 2, a longitudinal vertical section of the same, the jaws being shown closed; Figs. 3 and 4, perspective views of one jaw and the stripper of the punch, respectively, shown detached; and Fig. 5, a similar view of the spring.

In all figures similar letters of reference represent like parts.

This invention relates to hand-punches, and has for its object the production of a novel, simple, and efficient punch having the various improvements and combinations of parts hereinafter described.

Referring to the drawings for a more particular description, the parts designated by the letters A and B represent the handle-levers of the punch, which in general form resemble those shown in prior Letters Patent of the United States, granted to me May 6, 1890, numbered 427,220, in that they are formed of sheet metal and are each provided at their forward ends with two flat parallel plates *a* and *b*, the plates of one handle passing between those of the other handle and being fulcrumed thereto at C.

D and E represent jaws pivoted to the forward ends of the plates *a* and *b* at *d* and *e* and at their rear ends extending into the hollow interior of the handle-levers, with which they have a sliding connection, (herein shown as slots *d'* and *e'* and pins *a'* and *b'*,) so that the opening or closing of the handle-levers imparts to the jaws a movement parallel to each other.

F is a spring (a flat steel band) bent to the form particularly illustrated in Fig. 5, having a curved portion G and a comparatively straight portion H. One end of the spring is secured by a screw *f* or other means to one of the handle-levers, as A, and the other end

engages by a hook *f'* or other means the rear of the jaw E, extending into the hollow of the other handle-lever B. When the curved portion G of the spring is compressed, as by closing the handle-levers, the straight portion H of the spring is moved forward in its relation with the handle-levers. As at the same time the jaw E is also moving forward at substantially the same rate, by bearing the free or movable end of the spring on the jaw or member thus movable in the same manner any friction or wear is obviated. The only movement of the free end of the spring in its relation with the jaw is a turning or swivel movement of the end of the spring on the jaw.

K is a punch secured to the jaw E at right angles thereto, and L is a corresponding perforation in the jaw D, whereby on the closing of the jaws the punch enters the perforation L to perforate any paper or other article placed between the jaws.

M is a substantially flat stripper-plate formed separate from the jaws and adapted to be secured to the jaw D by a screw *m* or other means. The stripper has a perforation N, registering with the perforation L in the jaw D when the stripper is secured to the jaw. A recess O is provided between the stripper M and jaw D, as in the under side of the jaw, for the insertion of the article to be punched; but when it is desired to punch an article or articles of greater thickness the stripper may be removed and through the presence of a further recess, as P, in the other jaw more space obtained for the insertion of the article. Further, when the punch becomes dulled the stripper M may be removed and the end of the punch filed or otherwise brought to a proper edge again without detaching the punch itself.

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

1. In a tool of the plier type, the combination with lever-handles; of a jaw having a sliding connection with one of said handles; and a flat, curved spring connected to said jaw and one handle, substantially as described.

2. In a tool of the plier type, the combina-

tion with lever-handles; of a jaw having a sliding connection with one of said handles; and a flat, curved spring connected to said jaw and the other handle, substantially as
5 described.

3. In a tool of the plier type, the combination with lever-handles fulcrumed together; of a member pivoted to one of said handles and having a sliding connection with the
10 other handle; and a spring connected to said member and to the handle with which said member is pivotally connected, substantially as described.

4. In a tool of the plier type, the combination with hollow lever-handles fulcrumed together; of jaws each pivotally connected to

one of said handles and extending into the hollow interior of and having a sliding connection with the other handle; a punch carried by one of said jaws; a receiving-die carried by the other jaw; and an independent
20 stripper-arm extending into the hollow interior of one of said handles and detachably connected to said die-carrying jaw therein, substantially as described.

In witness whereof I have hereunto set my
25 hand on the 23d day of July, 1902.

WILLIAM A. BERNARD.

Witnesses:

WILLIAM R. PITKIN,
SAMUEL H. FISHER.