

No. 675,183.

Patented May 28, 1901.

W. E. ALLEN.
DENTAL TOOL.

(Application filed July 30, 1900.)

(No Model.)

Fig. 1.

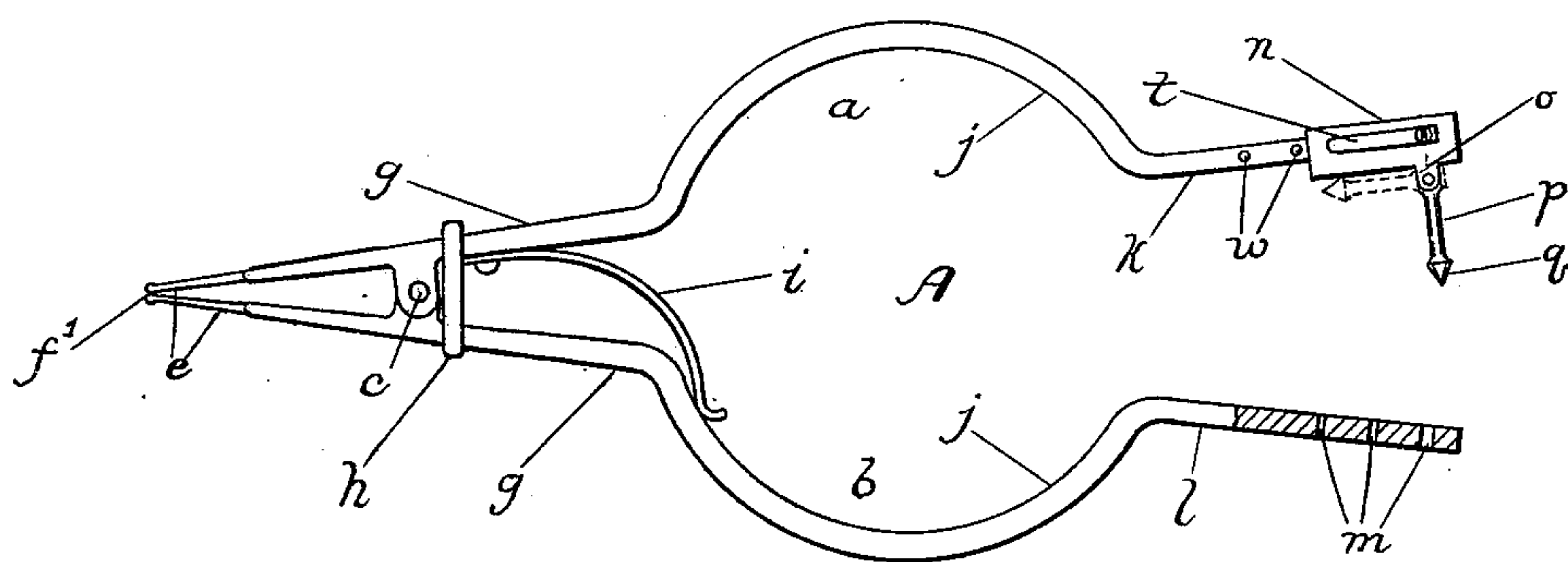


Fig. 2.

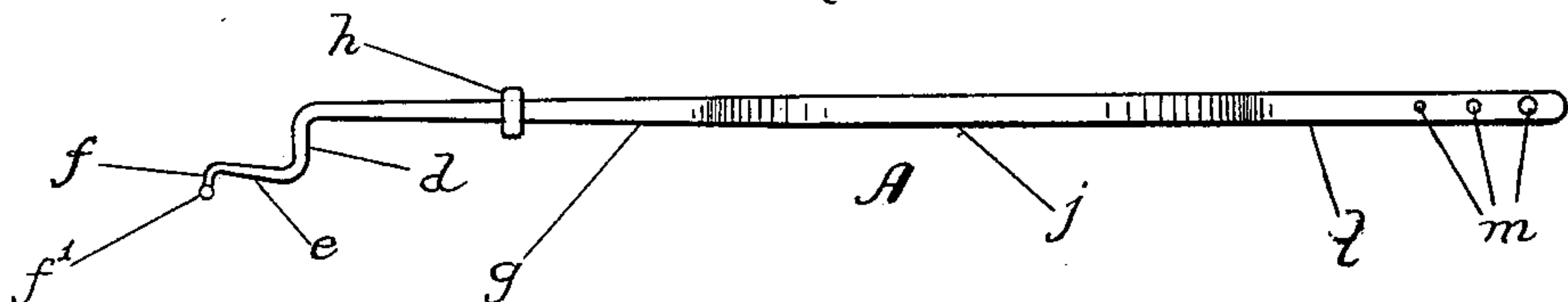


Fig. 3.

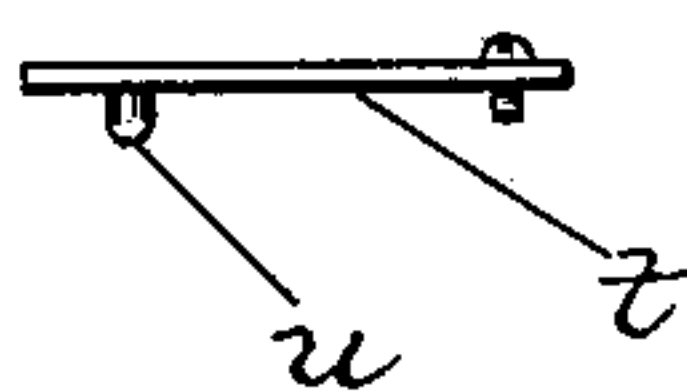


Fig. 4.

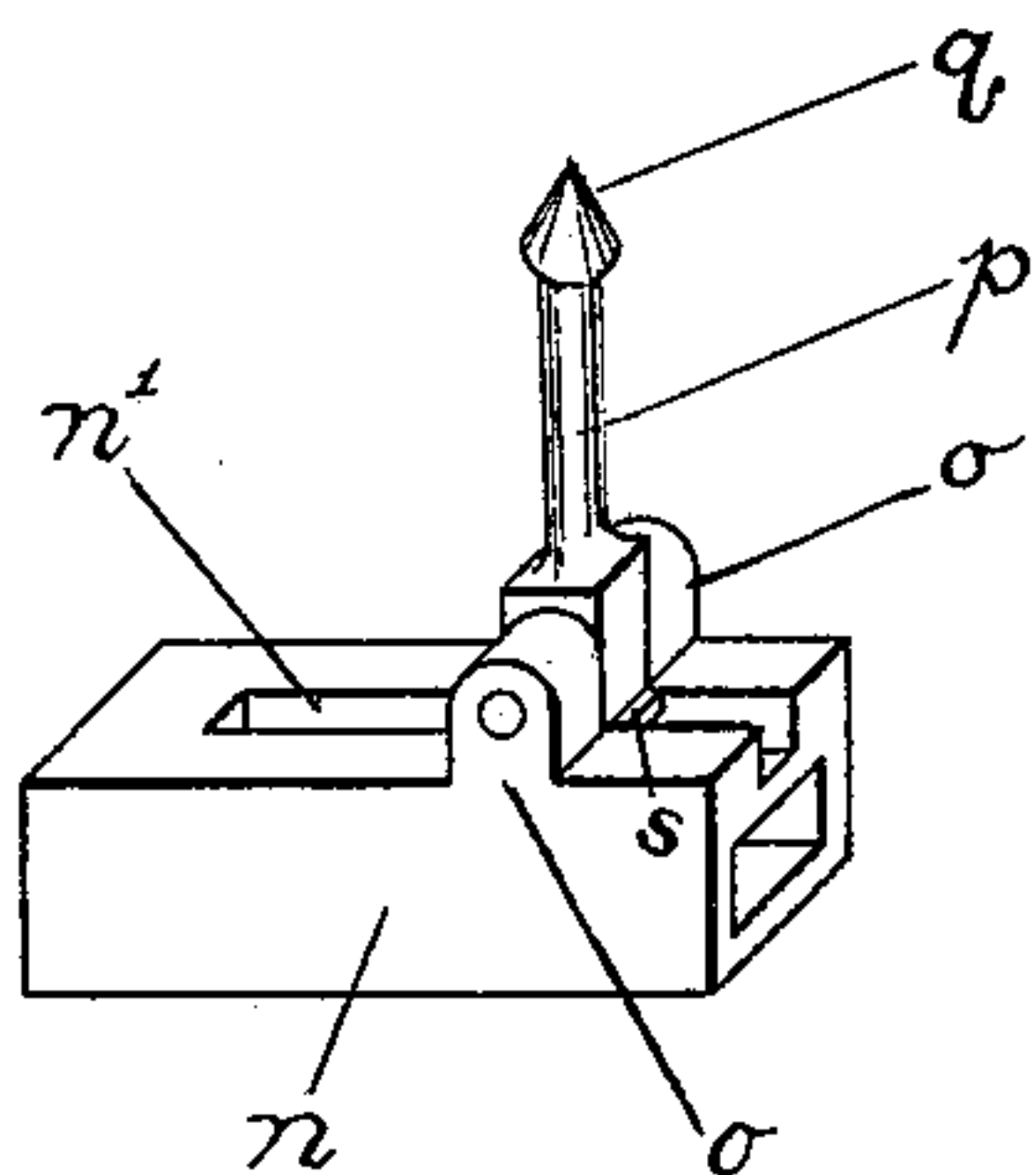
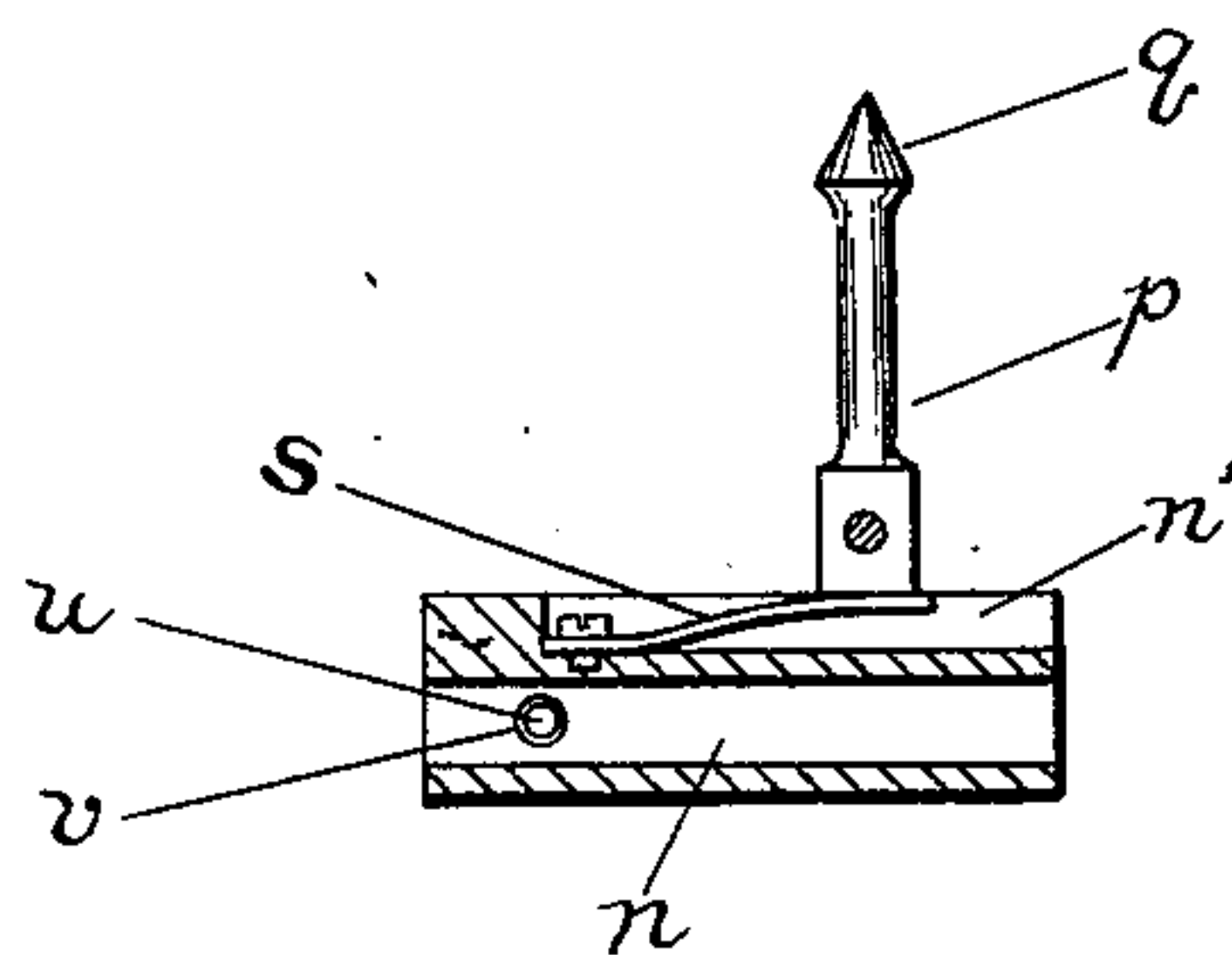


Fig. 5.



Witnesses.

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DENTAL TOOL.

SPECIFICATION forming part of Letters Patent No. 675,183, dated May 28, 1901.

Application filed July 30, 1900. Serial No. 25,215. (No model.)

To all whom it may concern:

Be it known that I, WILLIS ED. ALLEN, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Dental Tools, of which the following is a specification.

This invention relates to dental tools; and its object is to provide an improved rubber-dam punch attached to the handle ends of forceps for applying a clamp to the rubber dam on a tooth.

Reference is to be had to the accompanying drawings, in which—

Figure 1 is a plan view of my improved tool. Fig. 2 is a side view thereof. Fig. 3 is a detail view of the spring for holding the punching-die sleeve in different adjusted positions. Fig. 4 is a detail perspective view, on a larger scale, of the sleeve carrying the punching-die. Fig. 5 is a vertical longitudinal section thereof.

Referring to the drawings, A designates my improved tool, comprising two members *a* and *b*, pivotally joined together intermediate of their ends by ears *c*, so that when the members on one side of the pivot-ears are moved toward each other the members on the other side of said pivot-ears will move away from each other. On one side of said pivot *c* the two members of the tool are tapered and are angularly or laterally bent, as at *d*. From such lateral portions project longitudinally-extending portions *e*, and at the outer ends thereof are laterally-extending pins *f*, provided at their extremities with knobs *f'*. This side of the tool just described forms a pair of rubber-dam-clamp forceps for spreading the clamp. A spring *i* is secured to one straight portion *g* adjacent the pivot *c* and bears against the opposite member of the tool, tending to press the jaws of the forceps together. On the other side of the pivot *c* the two members *a* and *b* of the tool are formed with straight portions *g*, around which is a metallic band *h*, adapted to slide thereon to hold the spreading jaws of the forceps open against the action of the spring. The two members *a* and *b* are further formed, as shown in Fig. 1, with oppositely-curved portions *j*, which form handles both for the forceps and for the punch, which I shall now describe. At the

ends of the curved portions *j* opposite the straight portions *g* the two members *a* and *b*, respectively, are each provided with a longitudinally-extending portion *k* and *l*. The portion *l* of one member serves as the female die-plate of the punch, and for this purpose is provided with several holes *m* of different sizes. The longitudinal portion *k* of the other member has a sleeve *n*, (shown in detail in Figs. 4 and 5,) and said sleeve is provided with a recess *n'* and an ear *o* on each side of said recess. Between the ears a punching-die *p* is pivoted for the purpose hereinafter described, said punch having a conical head *q*, adapted for its point to enter any one of the holes *n* in the female die-plate according as the sleeve may be slid along to bring the punching-die in registry therewith.

The base of the punching-die *p* is angular, as shown, and a flat spring *s* is secured in the recess *n'* and presses against the angular base of said punching-die, so as to hold it either in vertical position for punching or to swing it to a horizontal position, so that it will be out of the way of the operator's fingers and permit the jaws of the forceps part of the tool to be fully spread or opened. In order to hold said punch-die sleeve *n* in different adjusted positions, so as to bring the punching-die *p* in registry with any certain one of the holes *m*, I have provided a flat spring *t*, secured by a screw at one end to the side of the sleeve *n* and provided at its free end with a stud-pin *u*, taking through an opening *v* in the sleeve to engage with depressions *w* in the side of the portion *k* of the pivoted member *a*.

It is obvious that the form or shape of the jaws of the forceps need not be exactly as shown in the drawings. On the contrary, these jaws may be varied to suit the ideas of the manufacturer.

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

1. A tool for the purpose described, comprising two pivoted members one of which is provided with a female die-plate; a sleeve on the other member opposite said die-plate, and provided with a recess and an ear on each side of said recess; a punching-die pivotally mounted between said ears and provided with an angular base; and a spring secured in said

recess with its free end bearing against said angular base whereby to hold said punching-die in different positions with respect to said sleeve.

5 2. A tool for the purpose described, comprising two members pivoted together and provided with oppositely-curved handle portions, and one of said members being formed beyond its curved handle portion with several
10 holes of different sizes; a sleeve mounted on the opposite member beyond its curved handle portion and provided with a recess and an ear on each side of said recess, a punching-die pivoted between said ears and provided
15 with an angular base; and a spring in said recess and bearing against said angular base, as set forth.

3. A tool for the purpose described, comprising two pivoted members one of which is

provided with a female die-plate having a 20 plurality of holes of different sizes, and the other member provided with several depressions, *w*; a sleeve mounted to slide on said last-named pivoted member and provided with a spring, *t*, whose free end has a stud 25 adapted to take into any one of said depressions whereby to hold said sleeve at different positions along its respective member; and a punching-die mounted on said sleeve and carried thereby into registry with the different 30 holes in said die-plate.

In testimony whereof I affix my signature in the presence of two witnesses.

WILLIS ED. ALLEN.

Witnesses:

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