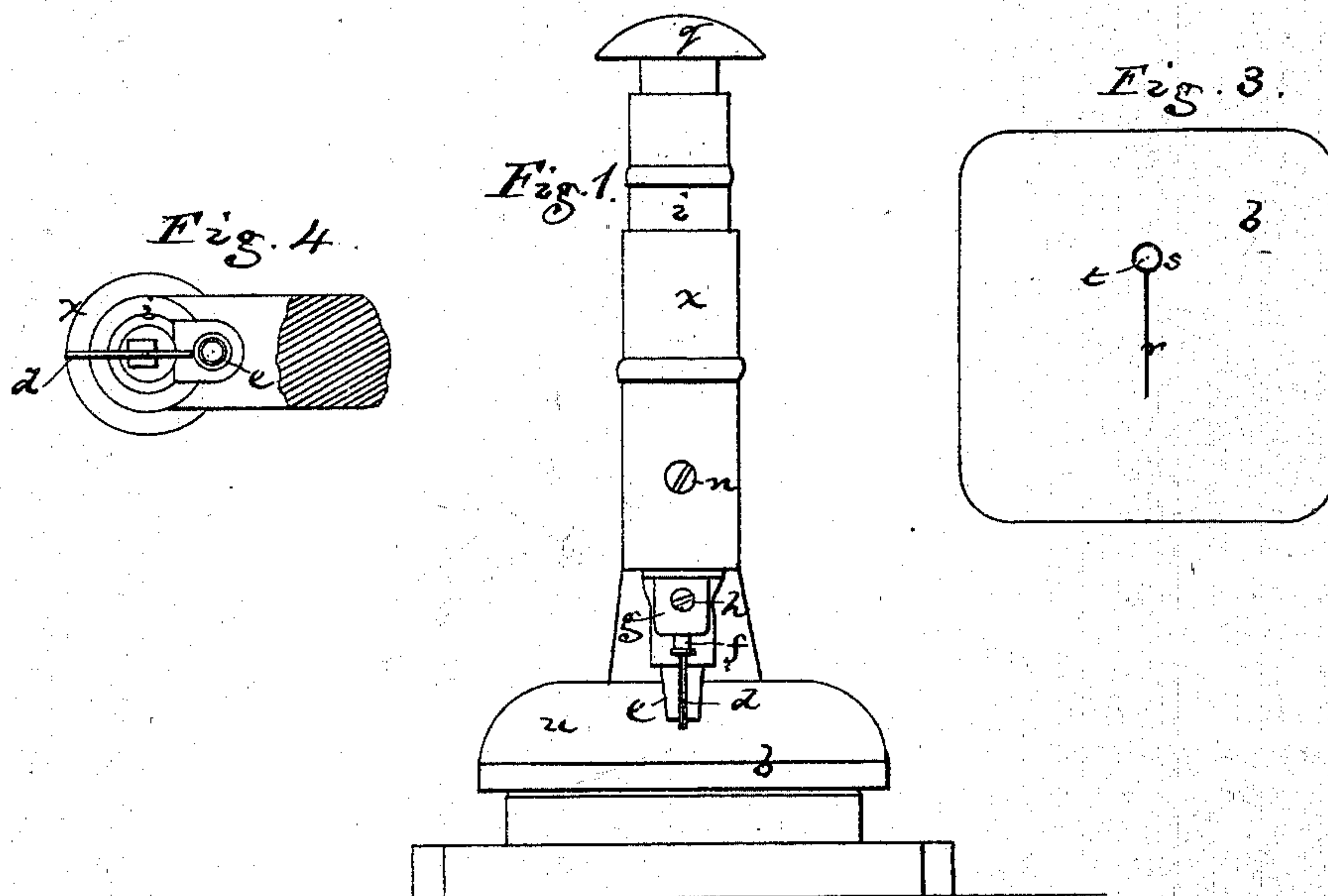
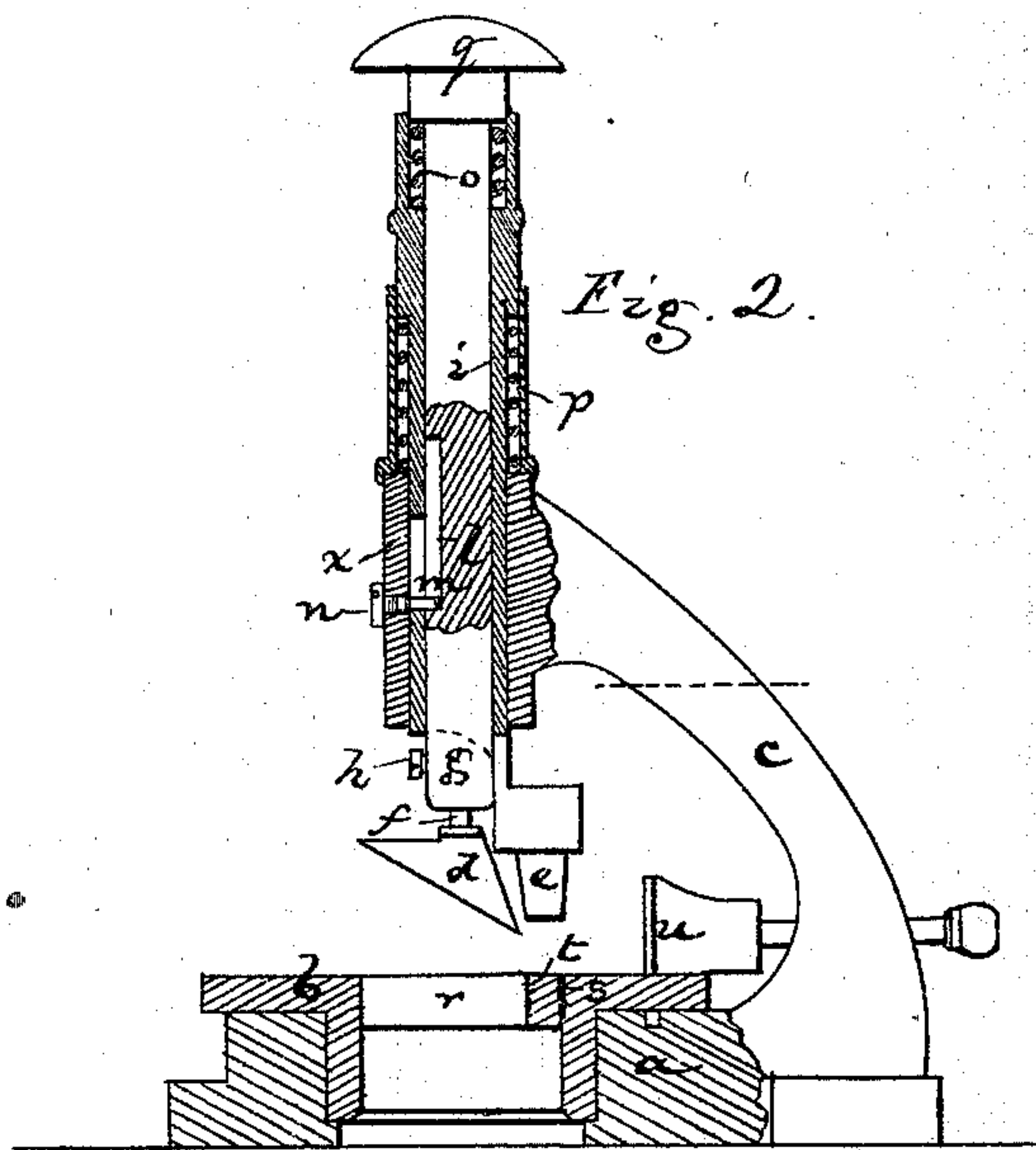


C. F. TEBBETS & G. NUTTING.

Button-Hole Cutters.

No. 139,437.

Patented May 27, 1873.



Witnesses,
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UNITED STATES PATENT OFFICE.

CHARLES F. TEBBETS AND GRANVILLE NUTTING, OF FITCHBURG, MASSACHUSETTS, ASSIGNORS TO "THE SHOE MACHINERY MANUFACTURING COMPANY OF CONNECTICUT."

IMPROVEMENT IN BUTTON-HOLE CUTTERS.

Specification forming part of Letters Patent No. **139,437**, dated May 27, 1873; application filed April 16, 1873.

To all whom it may concern:

Be it known that we, CHARLES F. TEBBETS and GRANVILLE NUTTING, both of Fitchburg, in the county of Worcester and State of Massachusetts, have invented an Improved Button-Hole Cutter; and we do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of our invention sufficient to enable those skilled in the art to practice it.

My invention relates to an organization in which the blade that forms the button-hole slit is fixed to the foot of a vertical spindle sliding in a vertical bearing. In such organization, I combine with the blade an eye-forming punch attached to an independently-moving carrier, the punch and slit-cutter moving toward a bed in which a slot is made to receive the blade, while the punch acts directly against the bed, or enters an annular slot in the bed made to receive it. The invention consists, primarily, in the combination with the stationary bed containing the blade-entering slot, of the vertically-acting blade and punch driven down by hand, and having relative movements, they being raised by a spring.

The drawing represents a mechanism embodying my invention.

Figure 1 shows the mechanism in front elevation. Fig. 2 is a sectional elevation. Fig. 3 is a plan of the bed. Fig. 4 shows the punch and cutter in reversed plan.

a denotes a base which supports a bed, *b*, and has extending from it a bent arm, *c*, that contains the vertical bearings for the punch and cutter stocks. *d* denotes the blade that cuts the button-hole slit, and *e* the punch that cuts the eye thereto. The cutter has a shank, *f*, fastened to a spindle, *g*, by a screw, *h*, and this spindle slides in a vertical sleeve, *i*, to an extension from the bottom of which the punch *e* is fastened. The sleeve *i* slides in a vertical tube or bearing, *x*, forming the head of the arm *c*. In the side of the spindle *g* is cut a vertical groove, *l*, and through the sleeve, *i*, in line with the said groove, is cut a slot, *m*, and through the slot and into the groove extends a pin, *n*, passing through the bearing, *x*. The bottom of the groove and slot form

the stops for the cutter-spindle and punch sleeve, and the spindle is held up normally by the stress of a spring, *o*, and the sleeve by the stress of a spring, *p*. The spindle has a head, *q*, and when this head is pressed down by hand the spindle and its blade descend independently of the punch, until the head strikes the top of the sleeve *i*, after which they descend together, or as one. In their descent, the blade passes through the cloth laid upon the bed-plate and into a slot, *r*, cutting the slit through the cloth, and the punch either cuts the hole in the cloth against the bed, or passes through the cloth into an annular slot, *s*, formed in the bed to receive it, a pin, *t*, forming the inner wall of the slot, the slot *r* running into the slot *s*, so as to insure connection of the slit and eye of the button-hole. The work laid upon the bed is held up to an edge-guide or gage, *u*, to cause successive holes to be cut equidistant from the edge, this guide and gage being made adjustable to vary the distance of the button-holes from the edge. The blade *d* is made angling as shown, and to enable it to cut slits of varying length (it being always driven down in cutting to the extent of its capability of movement) it is made adjustable vertically or with respect to the spindle *g*, the cutter-shank *f* sliding in the spindle and being confined in position by a suitable screw, *h*.

By this tool or mechanism button-holes can be very rapidly formed by percussive blows, and, the cloth being held stationary and on a flat bed, the holes can be formed with much greater accuracy than by employing pivoted levers to carry the cutter and cutter-bed.

I claim—

A button-hole punch mechanism, consisting of the stationary slotted bed, and the vertically-acting blade *d*, and punch *e*, moving relatively to the blade and its movement, and combined and arranged to operate therewith substantially as shown and described.

Executed this 9th day of April, A. D. 1873.

CHAS. F. TEBBETS.

GRANVILLE NUTTING.

Witnesses:

CHAS. TIMON, Jr.,

EDW. B. SAWTELL.