

Button-Hole Cutters.

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RAPHAEL WOLFF, OF NEW YORK, N. Y.

IMPROVEMENT IN BUTTON-HOLE CUTTERS.

Specification forming part of Letters Patent No. 156,619, dated November 3, 1874; application filed July 30, 1874.

To all whom it may concern:

Be it known that I, RAPHAEL WOLFF, of the city, county, and State of New York, have invented a certain new and Improved Button-Hole Cutter, of which the following is a specification:

This invention is illustrated in the accompanying drawing, in which—

Figure 1 represents a sectional side view. Fig. 2 is a front view.

Similar letters indicate corresponding parts.

This invention relates to certain improvements on a button-hole cutter for which a patent was granted to me April 7, 1874, No. 149,556. These improvements consist in the combination of a spring with the revolving head and anvil, and with the cutting-blades, said head and anvil being provided with notches in their faces in such a manner that, whenever the head or anvil is turned until one of the notches comes opposite the corresponding blade, said notch is forced in gear with the blade and the head or anvil is arrested in the required position, and, by forcing the head or anvil against the action of its spring, the notches become disengaged from the blades and the head or anvil can be turned to any desired position. The punches, which are secured in the revolving head, are provided with grooves corresponding to or forming continuations of the notches in the face of the head, so that the back of the cutting-blade is permitted to extend into said grooves, and that the cut produced by the blades extends clear through to the eyelet-holes produced by the punches.

In the drawing, the letters A B designate two jaws, which are connected by a pivot, *a*, and each of which is provided with a handle, C or D, so that, by compressing said handles, the jaws are closed. A spring, *b*, which acts on the handles, has a tendency to throw the jaws open. From the jaw A projects a pin, *c*, to the outer end of which is firmly secured the cutting-blade *d*, while the inner cylindrical end of said pin forms the bearing for a head, *e*, in the circumference of which is secured a series of punches, *f*. Said head can be turned around on its pin, and it is arrested in the required position, as will be presently explained. From the jaw B extends a pin, *h*, to the outer

end of which is firmly secured the cutting-blade *i*, while its inner end forms the bearing for an anvil, *j*, which is, by preference, made polygonal, so that, by turning the same, either of its sides can be brought opposite to one of the punches in the head *e*. Said head is exposed to the action of a spring, *k*, which has a tendency to force the same outward against the back of the cutting-blade *d*; and in the face of the head is a series of notches, *l*, either one of which can be made to engage with the back edge of the blade *e*, so that the head will be retained in the required position. In the same manner the anvil *j* is exposed to the action of a spring, *m*, and it is provided in its face with a series of notches, *n*, which can be made to engage with the back of the blade *i*, and serve to arrest said anvil in the required position. In order to turn the head or the anvil said parts have to be forced back against the action of their springs until the notches clear the back edges of the blades *d* or *i*. The notches *l* on the head are in line with the punches *f*, and these punches are provided with grooves or slots *o*, Fig. 2, which form continuations of the notches *l*, and allow the back edge of the blade *d* to enter into the punches, so that the cut produced by the cutting-blades *d i* will extend clear through to the eyelet-holes produced by the punches. The length of the cut produced by the blades *d i* depends upon the distance to which the jaws A B are permitted to close. This distance may be regulated by means of a set-screw, E, which is tapped into the handle D, and bears against the inner surface of the handle C; or said distance may be regulated by adjusting the punches *f* in the head *e*, said punches being retained in position by means of set-screws.

The punches, however, instead of being hollow, as shown in the drawing, might be solid, and in this case the sides of the anvil would be provided with sockets or female dies to receive said punches.

When solid punches and sockets are used the length of the cut must be regulated by the set-screw E. The length of the cut may also be regulated by making either the head or the anvil eccentric; and, if desired, a separate cutting-blade may be combined with each punch, and the cutting-blade may be made to

cut on a surface of brass or other suitable material, instead of cutting against another cutting-blade.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a button-hole cutter, the punch-carrying head *e*, provided with radial grooves or notches upon its face, in combination with the spring *K* for holding the head *e* in contact with the cutter-blade, the jaw *A*, and cutting-blade *D*, all substantially as and for the purpose set forth.

2. In a button-hole cutter, the revolving anvil *j*, provided with radial grooves or notches, in combination with the spring *M* for holding

the anvil against the cutter-blade, the jaw *B*, and cutter-blade *i*, all substantially as and for the purpose set forth.

3. In a button-hole cutter, the grooved or slotted punches *f*, in combination with the revolving head *D* and anvil *j*, substantially as and for the purpose described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 25th day of July, 1874.

RAPHAEL WOLFF. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.