D. H. Cunningham,

Button Hole Cutter.

No. 107,009. Patented Sept. 6. 1870.

Fig. 2.

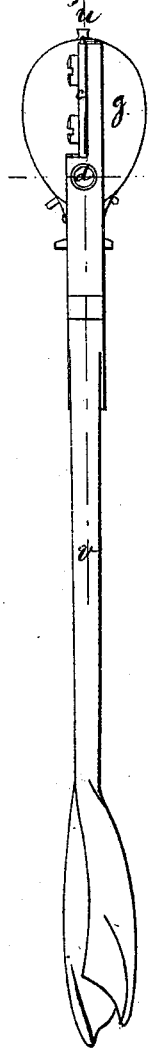


Fig. 3.

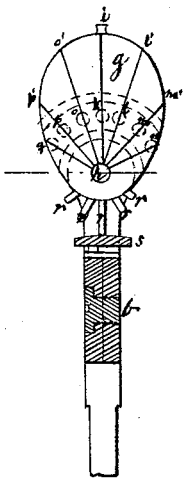


Fig. 4.

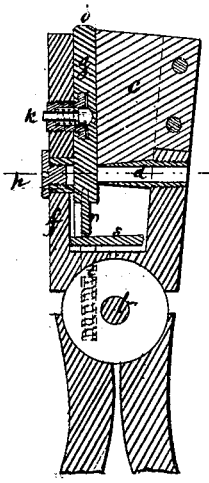
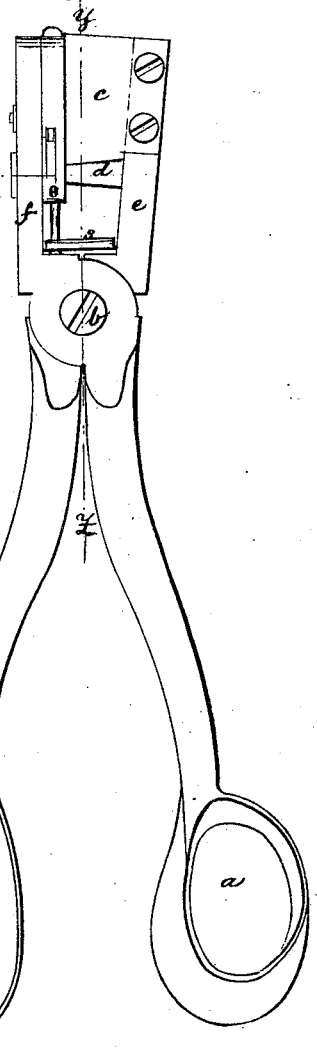


Fig. 1.



Witnesses:

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DAVID H. CUNNINGHAM, OF WALTHAM, MASSACHUSETTS.

Letters Patent No. 107,009, *dated September* 6, 1870; *antedated August* 20, 1870.

IMPROVEMENT IN BUTTON-HOLE CUTTERS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, DAVID H. CUNNINGHAM, of Waltham, in the county of Middlesex and State of Massachusetts, have invented a new and improved Mode for Button-hole Cutter; and I do hereby declare that the following is a true and exact description thereof, reference being had to the annexed drawing making a part of this specification, in which—

Figure 1 is a side view;

Figure 2 is a top view;

Figure 3 is a section on the line *y z*, taken on fig. 1; and

Figure 4 is a section on the line *u v*, taken on fig. 2.

To enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation.

Figure 1 shows a side view of my improved button-hole cutter, where *a a* are the handles and *b* the pin, around which the cutter opens.

c is the cutter, secured to the arm *e* by means of screws, as shown.

d is the hollow tube cutter, screwed into the arm *e*, and making a joint with the blade *c*, as shown in fig. 4.

In the arm *f* is a hole, directly under the tube cutter *d*, whereinto fits a tube, *h*, cast in one piece with base-plate *g*, and secured by means of a screw.

As will be seen, this base-plate *g* may be turned around the center *h*, which is directly under the tube *d*, thus always presenting the same surface to the said cutter *d*.

i is a small projection, by which means the base-plate *g* may easily be turned round the center *h*.

At *k*, in the arm *f*, is a T-headed cylinder, screwed from above.

The head of this cylinder plays into a T-groove, cut into the base-plate *g*, and concentric with the center *h*.

In the cylinder *k* are a piston and spring, as shown in fig. 4. The upper end of this piston is rounded, so as to fit recesses *l m n o p q*, for the purpose of holding the base-plate firmly in its position, either as marked *h i*, or turned so that either of the lines *h n*, *h m'*, *h l'*, *h o'*, *h p'*, and *h g'* becomes the center line of the cutter, or corresponding to the line *h i*.

By means of turning the base-plate, the length of the hole is altered, as in one case the line *h n* will be directly under the cutter, and thus cut only the length represented by that line, and so on with the other cuts.

The base-plate *g* is made of an elliptical form, or the shape generally known as the egg ellipse, whereby I obtain great difference in the length of the cuts, with very little turning from the center line.

In the rear of the base-plate *g* are gauge-pins *r r r r r*, touching a gauge-plate, *s*, behind. This plate is for the purpose of gauging the commencement of a button-hole from the edge of the cloth to be operated upon.

The gauge-plate *s* is made with a small bar, *t*, playing into the arm *f*, and pressured forward automatically by means of a coiled spring, similar to the one described at *k*.

To operate my cutters, turn the base-plate *g* on one side till the line indicated on the top corresponds with the length of the hole to be cut. Separate the handles *a a*, when the jaws are also opened, and push the cloth or material to be operated upon, till it touches the gauge-plate *s*, then pressure the handles *a a* together and the work is done.

By repeating the above any ordinary length of button-hole may easily be made, and a great saving in time is thus secured over ordinary cutters.

Having thus described the nature, construction, and operation of my invention,

I wish to secure by Letters Patent, and claim—

1. The elliptical base-plate *g*, revolving around and directly under the circular cutter *d*, as described.

2. The T-headed screw *k*, with the piston and coiled spring, in combination with the T-headed groove and gauge-points on the under side of the base-plate, as set forth.

3. The gauge-plate *s*, in combination with the projections *r r r r*, for the purpose as fully set forth and described.

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Witnesses:

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