

J. F. HILL.  
BUTTON-HOLE CUTTER.

No. 173,630.

Patented Feb. 15, 1876.

Fig. 1.

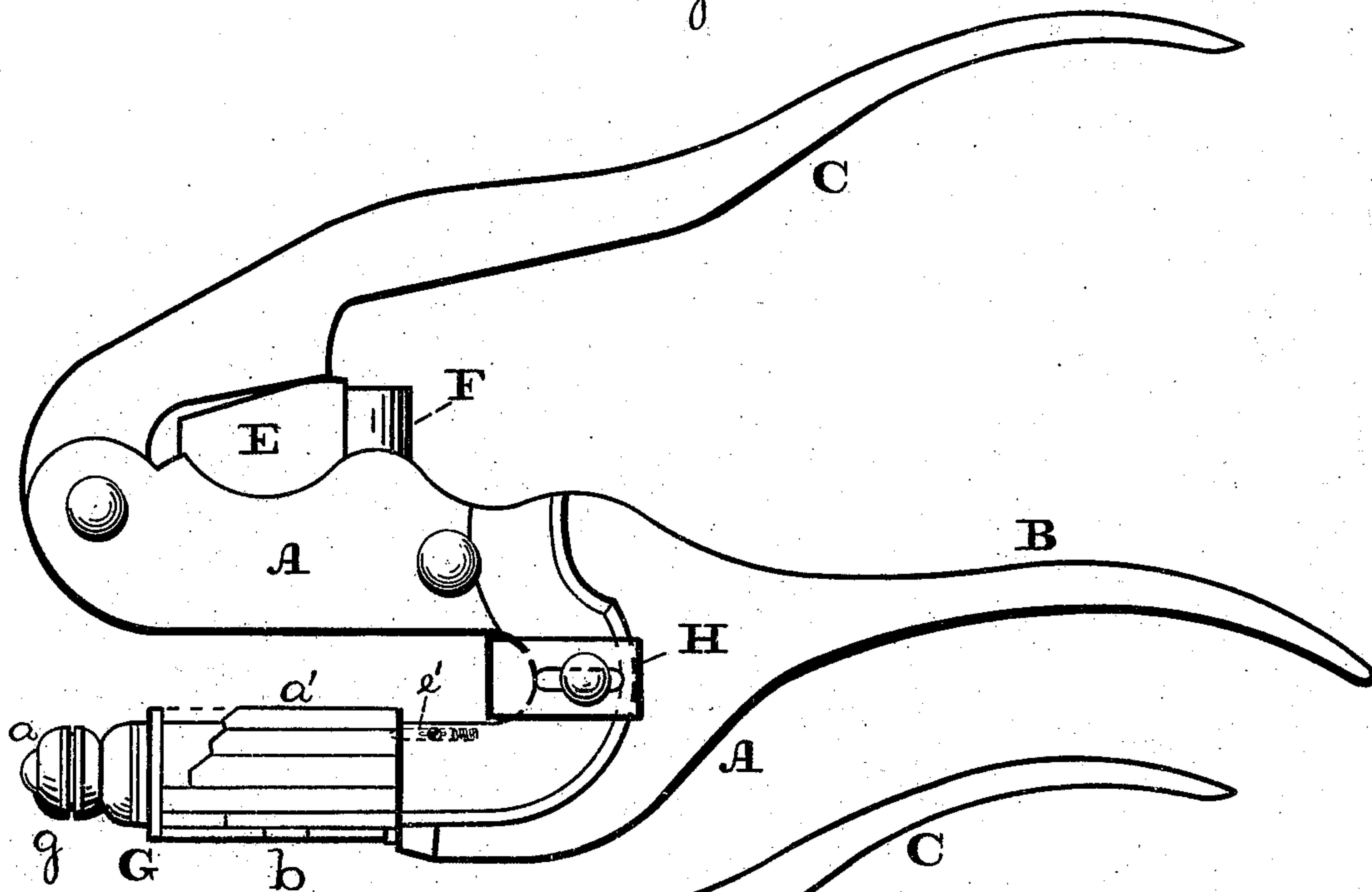


Fig. 2.

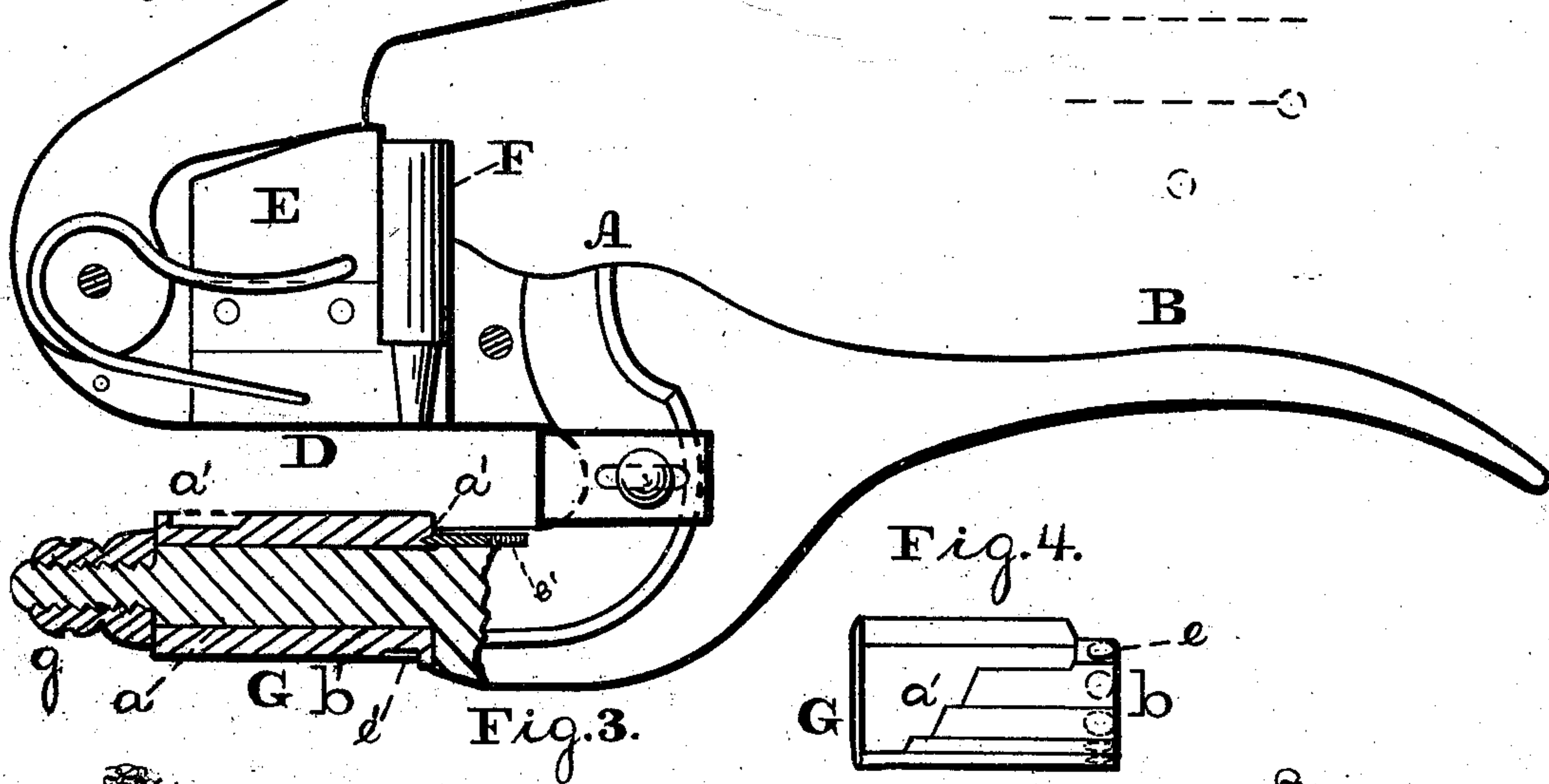


Fig. 3.

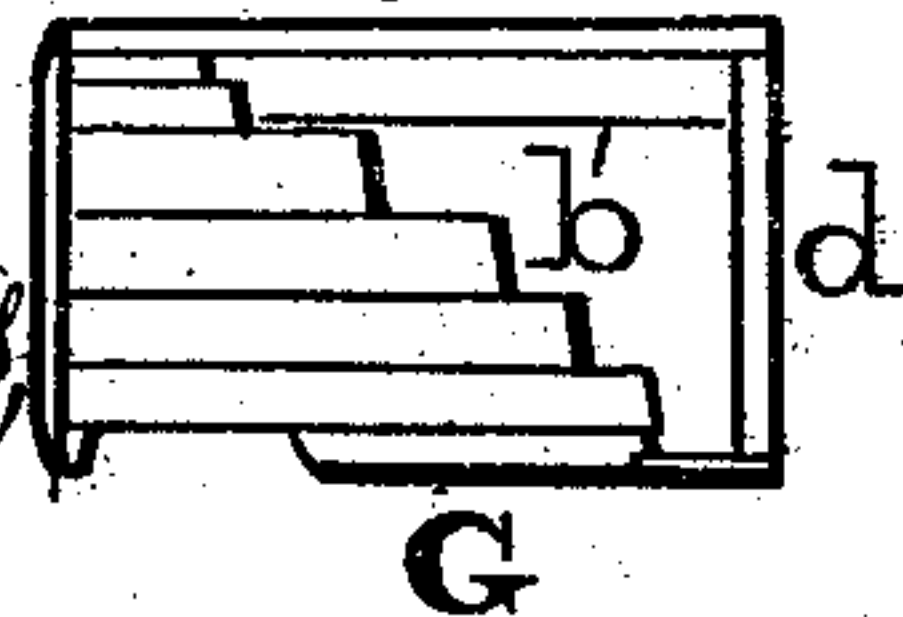


Fig. 4.

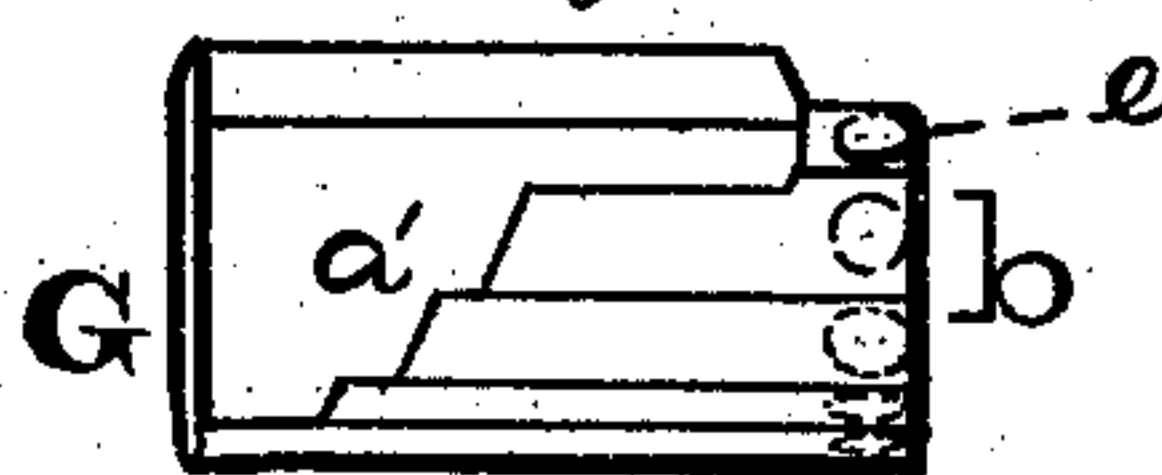
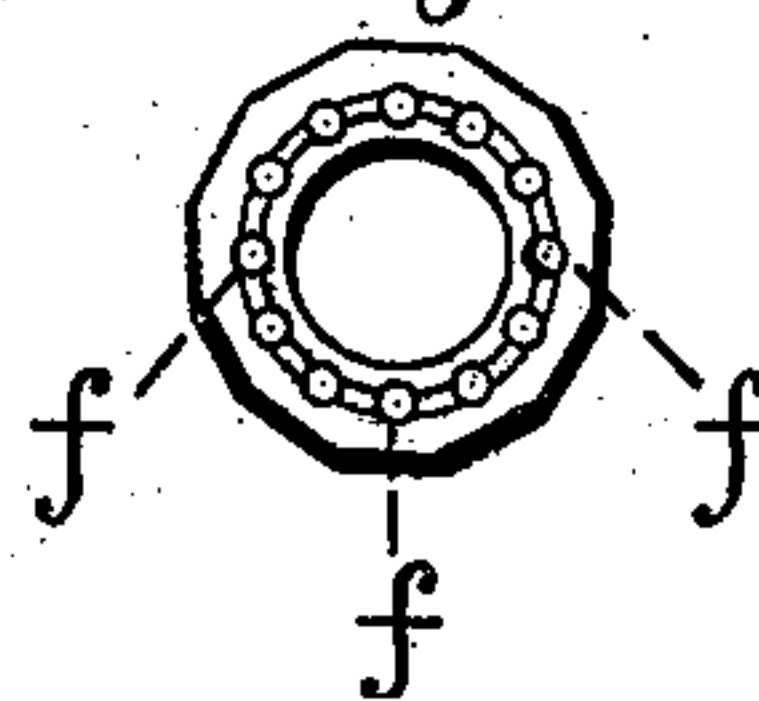


Fig. 5.



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN BUTTON-HOLE CUTTERS.

Specification forming part of Letters Patent No. 173,630, dated February 15, 1876; application filed December 17, 1875.

*To all whom it may concern :*

Be it known that I, JOSEPH F. HILL, of the city and county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Button-Hole Cutters; and I do hereby declare the following to be a clear and exact description of the nature thereof, sufficient to enable others skilled in the art to which my invention appertains to fully understand, make, and use the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a side view of the device embodying my invention. Fig. 2 is a similar view, partly sectional. Figs. 3 and 4 are faces of the cutting-bed. Fig. 5 is an end view thereof.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of a bed which is constructed with ascending and descending steps for cutting button-holes, with or without eyelets, in combination with an intermediate step for cutting merely an eyelet-hole. It also consists in means for preventing unintentional rotation of the bed, concealing the fastening, preventing dust reaching the same, and dispensing with projecting parts whereby the fabric will not catch or be cut.

Referring to the drawings, A represents the stock; B, the handle thereof, and C the lever, which is hinged at one end to the forward end of the stock A. In the stock A there is fitted a sliding blade, D, which is secured to a head, E, to which is also connected the eyelet-punch F, whose cutting-edge is adjacent to the cutting-edge of the blade D. The upper face of the head E is cam-shaped, and the portion of the lever C near its axis comes in contact with said face of the head, so that when the lever C is operated the portion in contact with the cam-face of the head E will slide over said face and cause the depression of the blade, the full leverage of the lever C being exerted, and the power disposed at or about the center of the head E, whereby the blade will be most quickly and powerfully depressed. Below the blade there is located a bed, G, which is journaled on a pin, *a*, projecting forwardly from the lower portion of stock, and space exists between

the blade and bed for the introduction of the fabric to be cut. The bed is many-sided, of different lengths, and the sides are in two series—one constituting a number of ascending steps, *a'*, and the other a number of descending steps, *b'*, the starting-point being from the inner end of the bed, so that the ascending steps have solid portions *b* adjacent to the stock or under the eyelet-punch F, and the descending steps have a space, *d*, adjacent to the stock or under the eyelet-punch. A single step, *e*, is formed between the two series, and occupies a position in line with the eyelet-punch. Projecting from the lower part of the stock, and adjacent to the pin *a*, is a spring-stud, *e'*, and on the inner end of the bed is a series of openings, *f*, into which the stud *e'*, is adapted to drop. A nut, *g*, fitted on the pin *a*, will tighten the bed against the stock, and thus lateral and longitudinal displacement of the bed is prevented, the stud *e'* and openings *f* being concealed and protected from dust, and the stud prevented from tearing the fabric.

It will be seen that when it is desired to cut a button-hole with an eyelet, power will be applied in a rotary direction to the bed so as to overcome the hold of the spring-stud *e'* in the opening *f*, and the bed will then be rotated until the side of the ascending steps *a'* having the desired size, is uppermost, the proper opening and stud engaging.

The lever C will now be operated, and it will be seen that both the blade and the eyelet-punch will act on the fabric and cut a slit and eye therein. If, however, the bed is rotated so that one of the sides of the descending steps is uppermost, the space *d* will come under the eyelet-punch, so that the latter has no action on the fabric; consequently, only the blade cuts a slit, the punch having no power to cut an eye.

When, however, it is desired to cut only an eyelet-opening, the bed is rotated until the single step *e* is uppermost. In this case the blade is above a space not occupied by the steps and the eyelet-punch will act on the fabric bearing against the single step, so that only an eyelet-hole or opening will be made.

The upward motion of the lever C will be

produced by a spring, *h*, suitably applied. *H* represents an adjustable bed, fitted to the stock, and occupying a position between the upper and lower portions of said stock, whereby provision is had for regulating the size of the button-hole to be cut.

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

1. The rotating bed *G*, having a series of ascending and descending steps, *a' b'*, in com-

bination with a single step, *e*, intermediate of the said steps *a' b'*, substantially as and for purpose set forth.

2. The combination, with the stock *A* and rotating bed *G*, formed with openings *f* on its inner face, of the spring-pressed stud *e'*, substantially as and for the purpose set forth.

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Witnesses:

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