

B. L. NEWHALL.

Button-Holes for Boots and Shoes.

No. 220,860.

Patented Oct. 21, 1879.

Fig: 3.

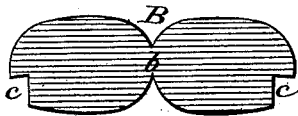


Fig: 4.

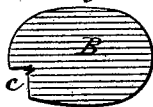


Fig: 1.

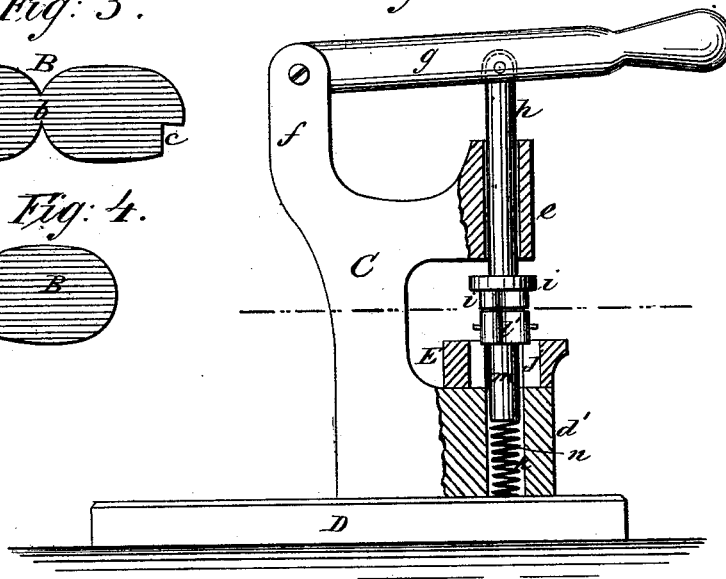


Fig: 2.

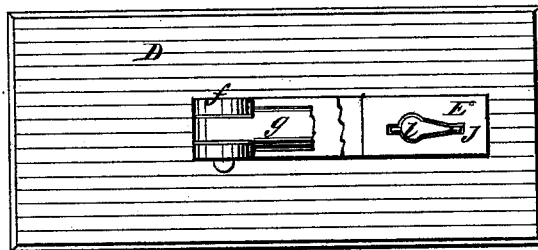


Fig: 5.

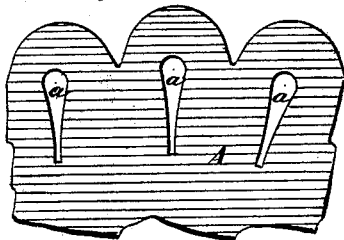


Fig: 6.

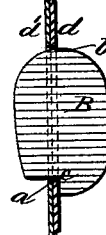
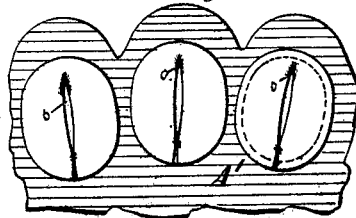


Fig: 7.



WITNESSES:

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BY *Munn & Co*  
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# UNITED STATES PATENT OFFICE.

BENJAMIN L. NEWHALL, OF LYNN, MASSACHUSETTS.

## IMPROVEMENT IN BUTTON-HOLES FOR BOOTS AND SHOES.

Specification forming part of Letters Patent No. **220,860**, dated October 21, 1879; application filed February 27, 1879.

*To all whom it may concern:*

Be it known that I, BENJAMIN L. NEWHALL, of Lynn, in the county of Essex and State of Massachusetts, have invented a new and Improved Button-Hole for Boots, Shoes, &c., of which the following is a specification.

This invention relates to improvements in the button-holes of buttoned boots, shoes, gaiters, &c., to the mode of making the same, and to a machine for applying the improvement.

The object of the invention is to give greater strength and durability to the button-holes.

The invention consists in a process of reinforcing button-holes by inserting a blank coated with "compo" in the flap and setting it thereto by pressure, in the peculiar construction of the blank, and in the mode of combining the blank with the flap, as hereinafter described.

In the accompanying drawings, Figure 1 represents, in side elevation and section, the machine for applying the piece or blank to the button-hole. Fig. 2 is a plan of the same, with lever and plunger cut away, exposing the anvil and lower part of the "set." Figs. 3 and 4 represent the blanks for the button-holes. Fig. 5 is a section of the button-flap of a gaiter. Fig. 6 shows the mode of inserting the blank or piece, and Fig. 7 shows the finished button-holes.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents a section of a button flap or piece in which are button-hole slits *a a*, made with an ordinary button-hole cutter, with adjustable gage to insure evenness in the position of the holes. B represents the blank or piece for inserting in the button-holes. It is composed of two ellipsoidal pieces of precisely the same size and shape, joined together at one end by a narrow web, *b*, and at the opposite ends just below the medial line provided with right-angular incuts or notches *c*. The two parts of the blank are folded together, skin side of the kid out, so that the notches will coincide exactly, as in Fig. 4, previous to insertion, and the entire outer surface or skin side is covered with a composition of gutta-percha and naphtha, known in the arts as "compo," or any other

suitable cement, glue, or other preparation of proper adhesive properties.

A space on both sides of the flap A, immediately around the button-holes *a*, equal to the space to be covered by the blanks B, is likewise coated with the preparation.

The mode of inserting the blanks in the button-holes is as follows: *d* in Fig. 6 represents the finished outside of the flap A, and *d'* the skin or inside of the same. The blank folded together, as above mentioned, is passed through the button-hole *a*, with the web *b* at the front, the half below the line of the notch being passed through to the inside or skin side of the flap, while the projecting end above the notch rests upon the part of the flap at the rear end of the hole, as clearly shown in Fig. 6. Thus arranged it is ready for the button-hole-setting machine. This machine consists of a frame, C, rising from a base, D, having an anvil-stand, *d'*, just above, a plunger-sleeve and guide, *e*, and at the rear and top jaws *f*, in which is fulcrumed a lever, *g*, carrying a plunger, *h*, passed through guide *e*, on which is a head, *i*. E is the anvil, with an elongated socket, *j*, made in it, below which, in the anvil-seat, is a spring-seat, *k*.

The sets proper consist of two parts, *l l'*, made of the general form of the button-hole, slightly tapered toward the top. The former projects downward from the plunger-head *i*, while the latter is attached to the upper end of a shaft, *m*, which rests on the spring *n* in the seat *k*. The two parts of the set join each other exactly when brought together, as in Fig. 1. On the set thus made the button-hole blank, after insertion in the button-hole in the flap, is placed over the lower set, and the upper flap is forced down through the opening between the two sides of the blank until it is in contact with the lower set. This forces the two parts of the blank on opposite sides of the piece A outward and against the two sides of the flap A on either side of the button-hole, and, heat having been applied to the compo to soften it, the pressure of the plunger forces the flap down until the sides of the blank below rest upon the anvil, while the upper side is pressed upon by the plunger, forcing the folded-over sides of the blank in contact with

the flap, and the two are securely fastened together by the compo, presenting the appearance of the button-holes *o* in flap A', Fig. 7.

The connected or webbed end of the button-hole piece, being at the front end of the button-hole, gives great strength at this point, where the greatest amount of strain and wear occur.

After the piece is fastened down by the compo, it may be further secured and ornamented with stitching.

Another mode of applying the pieces to the button-holes is to make them in two parts, one being placed on the outside of the flap around the button-hole, and the other on the inside, securing them to the button-hole flap by the compo, in the manner heretofore described.

The pieces B may be stamped out with a die of different sizes and materials, to suit the purpose to which they are to be applied.

Figs. 1 and 2 of the drawings, together with the description thereof, are intended to render more clear and intelligible my preferred means for setting the blanks, but will form the subject-matter of a separate application for a patent.

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

1. A process of re-enforcing button-holes, that consists in pasting a blank, B, in the button-hole of the flap, and setting it therein by pressure, as shown and described.

2. The blank or piece B for inserting in and setting to the button-hole, composed of two parts, with a connecting-web, *b*, and notches *c*, adapted to be inserted on button-holes *a* in the flap, and secured therein by an adhesive preparation, substantially as described.

3. A button-hole for boots, shoes, gaiters, and other similar articles, formed by combining the piece B, inserted in the button-hole *a*, with the flap A, the said piece B being fastened to the flap with compo, substantially as described.

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Witnesses:

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