H. Loewenberg,

Button-Hole Cutter,

No. 35,163. Patented May 6, 1862.

Fig. 1.

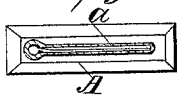


Fig. 3.

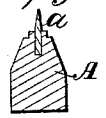


Fig. 5.

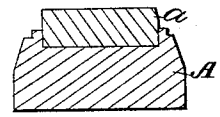


Fig. 2.

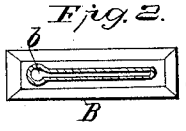


Fig. 4.

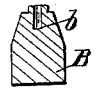
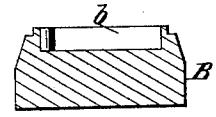


Fig. 6.



Witnesses:
R. H. Eddy.
A. P. Seale Jr.

Inventor:
Henry Loewenberg.

AM. PHOTO-LITHO. CO. N.Y. (OSBORNE'S PROCESS)

UNITED STATES PATENT OFFICE.

HENRY LOEWENBERG, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN MODE OF MAKING BUTTON-HOLES.

Specification forming part of Letters Patent No. **35,163**, dated May 6, 1862.

To all whom it may concern:

Be it known that I, HENRY LOEWENBERG, a native of the Kingdom of Prussia, and now residing in Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement or Mode of Manufacturing Button-Holes in Cloth, Leather, or other Material; and I do hereby declare the same to be fully described in the following specification.

In carrying out my invention I make use of gutta-percha or a cementing composition, dies, heat, and pressure. The gutta-percha is to be employed in the shape of a thin sheet, or, what is better, a layer of gutta-percha spread on cloth or some other flexible and easily-cut material. I prefer to use a very loosely-woven or netted cloth or one having fine meshes in it, in which case it will only be necessary to apply the gutta-percha to one side of the cloth. If, however, a closely-woven or a fulled cloth or a close fabric is used, the gutta-percha may be spread on opposite sides of it. In almost all garments in which button-holes are required to be made, such holes are formed in two or more thicknesses of cloth.

In making a button-hole by my process, the sheet of gutta-percha or cloth covered with gutta-percha is to be interposed between the two layers of cloth and where each button-hole is to be formed, after which the usual cut for the button-hole is to be made through both the layers of cloth and the intermediate layer of gutta-percha-covered cloth. This having been done, the next step of the process is to place the slit between the two dies, having their pressing-surfaces properly made, so as to imitate the stitching of an ordinary sewed button-hole. One of these dies should be made with a separator or guide, or thin or knife-like projections, to extend from it and pass through the slit made in the cloth, the other die being constructed with a recess to receive such guide.

Figure 1 is a top view of the lower die as provided with such a guide. Fig. 2 is an under side view of the upper die. Figs. 3 and 4 are transverse sections, and Figs. 5 and 6 are longitudinal sections, of such dies.

In these figures, A is the lower, and B the upper, die. The former is provided with the guide, which is shown at *a*, while the latter has the guide chamber or recess *b*, which is of a form and size to correspond with and receive the guide or guard. This guard may have a sharp cutting-edge for cutting through the cloth and forming the button-hole slit; but as a general thing I prefer to make the slit by other means.

In placing the cloth between the two dies, the guide or separator should extend through the slit of the cloth. Either one or both the dies should be in a heated state, the temperature thereof being such as, while it will cause the gutta-percha to melt and run into the cloth, will not cause the die or dies to burn either the gutta-percha or the cloth. Next, one of the dies should be forced toward the other, so as to compress the cloth firmly between them, the pressure being kept on long enough to cause the gutta-percha to melt and run into, or more or less through, the two thicknesses of cloth, whereby they, around the button-hole slit, will not only be cemented together, but will be impressed by the dies, so as to have the appearance of being stitched or sewed. The separator or guide keeps the two edges of the slit separate from each other, and thus prevents them from becoming cemented together by the gutta-percha. After the heat and pressure have been applied a suitable time, the dies may be drawn apart and the cloth removed from them.

If desirable, the cloth may be again submitted to pressure between another set of such dies in a cool state, and this in order to cool and rapidly set the melted or heated gutta-percha.

I do not intend to confine my invention strictly to the employment of gutta-percha, as other cementing substances or compositions, capable of being rendered fluid by heat and of afterward hardening, may be used.

Eyelet-holes may be made in cloth or other material in a like manner, the dies and the separator being formed to correspond with the shape of the holes to be produced.

I claim as my invention—

The new method, substantially as above described, of making either button or eyelet holes, such involving the employment of dies, heat, pressure, and gutta-percha, or its equivalent, substantially in manner as specified.

HENRY LOEWENBERG.

Witnesses:

R. H. EDDY,

F. P. HALE, Jr.