

(No Model.)

J. H. LAWLES.
BUTTON MAKING MACHINE.

No. 466,693.

Patented Jan. 5, 1892.

Fig. I.

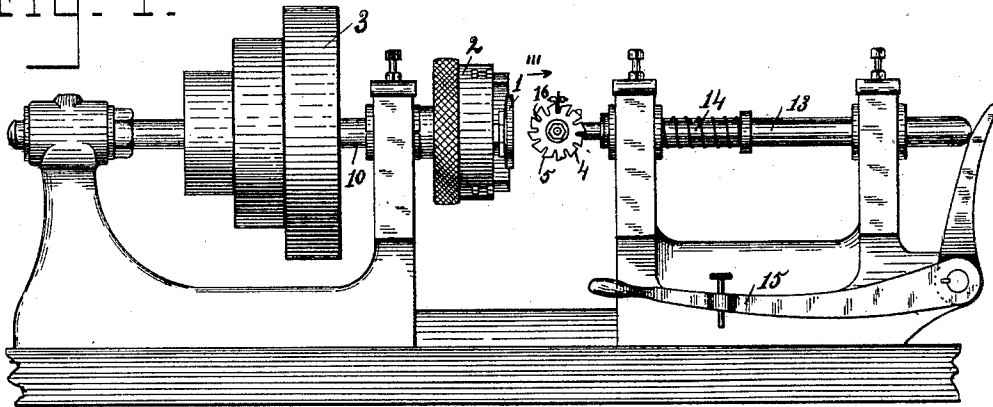


Fig. II.

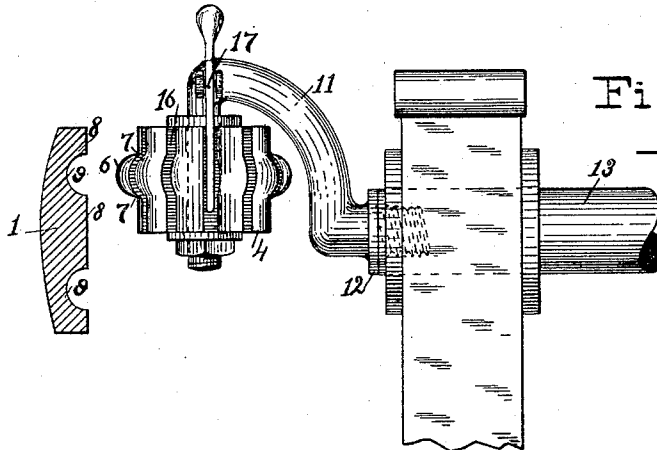
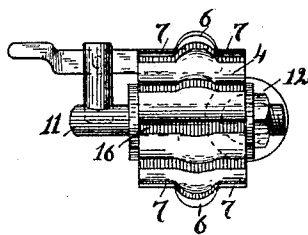


Fig. III.



Witnesses

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BUTTON-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 466,693, dated January 5, 1892.

Application filed April 29, 1891. Serial No. 390,904. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH H. LAWLES, a citizen of the United States, residing at Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Button-Making Machines, of which the following is a specification.

The present machine has for its object the doing of such parts of the work in fashioning the faces of the button as cannot be done readily with the tool shown in my prior application, Serial No. 370,792, filed November 8, 1890.

My invention provides a tool rotatable at the will of the operator to bring to engagement with the face of the button to be operated on any one of a number of cutting-knives or scraping-faces whereby the design of a desired shape is formed on the button.

In the accompanying drawings, Figure I is a side elevation of my improved machine. Fig. II is a plan view of a part of such a machine to a larger scale, showing a button in section. Fig. III is a horizontal elevation of the tool in the direction of arrow III, Fig. I.

The designs adapted to be formed by my tool are concentric, and preferably the button and not the tool is rotated. Such a button is, for example, shown at 1 clamped in a chuck 2, having suitable means 3 for imparting to it a rapid rotation.

4 is my improved trimming and shaping tool. It consists of a series of knife-edges 5, arranged in circular form, having suitable clearing-space 16 between them, and having their faces, as shown in Figs. II and III, made with such a contour as to impart to the button the desired shape. For instance, in Fig. II each knife-edge has a projecting lip at 6 and flat portions at 7 7, so that when the tool is brought into engagement with the face of the button, the latter being in rapid rotation, its face will have formed on it the flattened surfaces 8 and the annular groove 9. It will be seen that the extreme width of the tool is only half the diameter of the button, and it may be considerably less where the design to be formed by the tool is of slight width. The tool 4 is removable at pleasure. A number of such tools are provided having knife-edges of varying contours and a tool is employed for any particular job whose shape corre-

sponds to that of the design to be produced. The tool 4 is fixed with its axis at right angles to the axis of rotation of spindle 10, and is carried by the curved arm 11, having a screw-threaded end and a shoulder 12, whereby it can be turned into the end of mandrel 13 to a rigid stop. The mandrel is retracted by spring 14 and may be advanced to bring the tool 4 to the face of the button by treadle 15. The mandrel and tool are held rigid while the button is rapidly rotated before it until the edge 5 being used is dull. A finger-piece 17 is then lifted from engagement in one of the notches 16 of the tool, so as to allow another and freshly-sharpened edge to come into engagement with the button. In this way the edge may be renewed a number of times without removing the tool from the mandrel, and great rapidity of working can be had. Hitherto this work has been entirely performed by hand-labor at considerable expense. A sharpened file or similar instrument being held by hand up against the face of the revolving button, considerable skill was required, and even then the work varied and lacked in perfection of finish. A succession of differently-shaped tools were necessarily used for making a single design, if such design were not of the crudest character. My tool renders it possible for the work to be done by any apprentice and forms the entire design, even if it be quite complex, at a single operation. It is useful not only in the forming of designs, but in finishing of such designs as have been partially or roughly formed by the tool shown in my prior application, already referred to—for instance, in the clearing away or deepening of a channel formed by that tool, or forming narrow channels, which cannot be formed by such tool.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. In a button-forming machine, in combination with a relatively revoluble button-holding chuck and mandrel, a button-shaping tool mounted on said mandrel on an axis transverse to the spindle and consisting of a circular series of knife-edges surrounding said axis and in planes radial thereto, and suitable means under control of the operator for retaining said tool at any point so as to bring

one or the other of such knife-edges into engagement with the face of the button, substantially as set forth.

5 2. The combination of the spindle, the mandrel, the rotatable tool having a series of cutting-edges and mounted on the mandrel as an axis parallel to the face of the object to be cut, and a movable stop, whereby said rotat-

able tool may be arrested so as to bring any one of its cutting-edges into operation, substantially as set forth. 10

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Witnesses:

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