

John Tunnecliff & Patrick Cahill.
Machine for Ornamenting Buttons.
 assigned to A. P. Critchlow

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PATENTED

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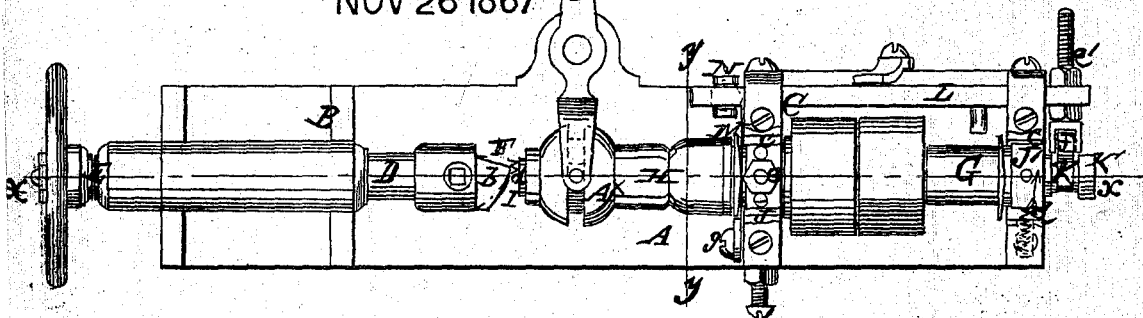


Fig. 2.

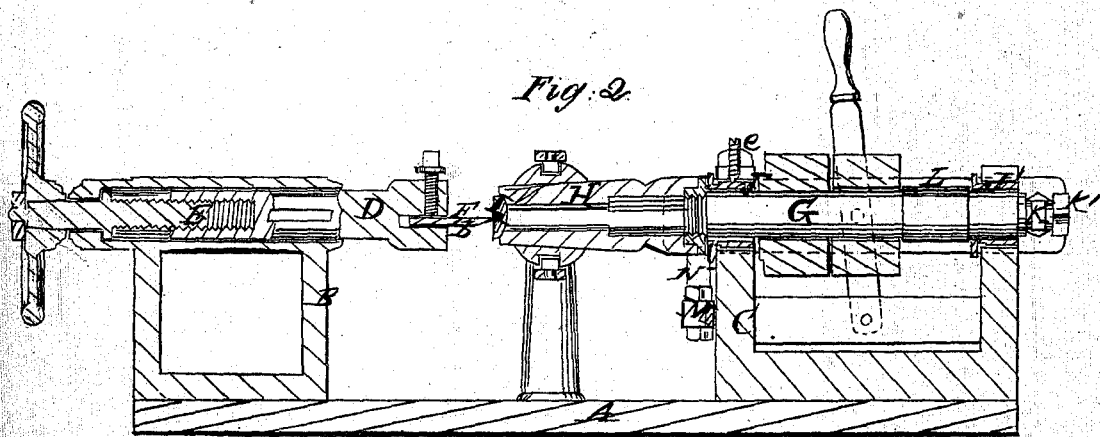


Fig. 3.

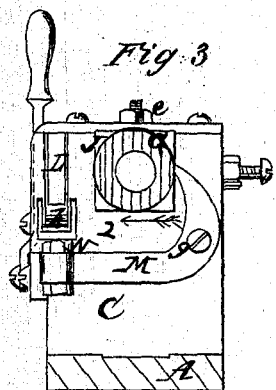


Fig. 4.

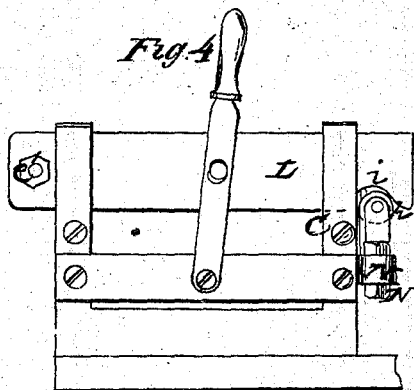


Fig. 5.

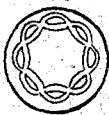
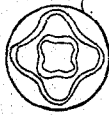


Fig. 6.



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JOHN TUNNICLIFF AND PATRICK CAHILL, OF NORTHAMPTON, MASSACHUSETTS, ASSIGNORS TO A. P. CRITCHLOW, OF SAME PLACE.

Letters Patent No. 71,429, dated November 26, 1867.

MACHINE FOR ORNAMENTING BUTTONS.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that we, JOHN TUNNICLIFF and PATRICK CAHILL, of Northampton, in the county of Hampshire, and State of Massachusetts, have invented a new and improved Machine for Ornamenting Buttons, and that the following description, taken in connection with the accompanying drawings, hereinafter referred to, forms a full and exact specification of the same, wherein we have set forth the nature and principles of our said improvements, by which our invention may be distinguished from all others of a similar class, together with such parts as we claim, and desire to have secured to us by Letters Patent.

This invention relates to a new and improved machine for cutting sinuous grooves in buttons manufactured of vegetable ivory and other materials which will admit of being cut or grooved.

The object of the invention is to ornament buttons in this style in an economical and expeditious manner.

In the accompanying sheet of drawings—

Figure 1 is a plan or top view of our invention.

Figure 2, a longitudinal vertical section of the same, taken in the line *x x*, fig. 1.

Figure 3, a transverse vertical section of the same, taken in the line *y y*, fig. 1.

Figure 4, a side view of a portion of the same.

Figures 5 and 6, detached face views of buttons ornamented by our invention.

Similar letters of reference indicate like parts.

A represents the bed-plate of our machine, which is a kind of lathe, and B C are two heads, attached permanently to the bed-plate. The head B is provided with a sliding bar, D, operated by a screw, E, and arranged substantially as the sliding centre-point bar of an ordinary turning-lathe, as will be clearly seen by referring to fig. 2. In the inner end of this bar D the cutter F is secured, which is simply a point, *a*, formed on the end of a steel plate, *b*, as shown in figs. 1 and 2. In the other head, C, a rotary mandrel, G, is fitted, having a chuck, H, on its inner end, in which the buttons I to be ornamented are secured while being cut or operated upon. This chuck may be of wood, of conical form, and hollow, and slitted longitudinally, a circular recess being made in its end to receive the buttons, and the latter clamped by means of a collar, A*, fitted on the chuck, and moved by a lever, B*, as will be fully understood by referring to fig. 1. The rotary mandrel G has its bearings, J J', fitted in slots *c* in the head C, so that a requisite degree of play or movement is allowed them, (see fig. 1,) and a spiral spring, *d*, is made to bear against the rear bearing J', which has a tendency to press it in the direction indicated by the arrow 1, (see fig. 1.) The front bearing J is retained, when it is not desired to have it moved, by a screw, *e*. On the rear part of the mandrel G there are two squares, K K', placed in such a relative position with each other that the angles of one square will be opposite the centres of the sides of the other square, as shown in figs. 1 and 2. L represents a sliding bar, fitted at the front side of the head C, and having an arm, *e'*, fitted transversely in its outer end, in which a roller, *f*, is placed, against which the squares K K' are alternately pressed by the spring *d*, the roller *f* being moved in line with one square, and then with the other, by adjusting the sliding bar L. From the above description, it will be seen that when the mandrel G is rotated, it will have a vibrating movement given it by one of the squares, say K, and the spring *d* and the button I, in the chuck, by having the cutter F moved in contact with it, will have a sinuous groove cut in its face, and by moving the bar L so that the roller *f* will be brought in line with the other square K', another sinuous groove will be cut eccentric with the first one, but crossing it at points in such a manner as to resemble a circular chain with connected links, (see fig. 5.) In fig. 6 a modification of this ornament is shown, which is effected by adjusting or moving the front bearing J of the mandrel G, after one of the grooves has been cut in the button, as follows: On the inner side of the head C there is secured by a pivot, *g*, a curved lever, M, having an adjustable upright arm, N, in its outer end, with a roller, *h*, in its upper end. This arm M, when this latter ornamentation is to be made, is adjusted sufficiently high to cause the roller *h* to be acted upon by a bevelled notch, *z*, in the sliding bar L, when the latter is moved to bring the roller *f* in arm *e* in contact with the outer square K' on the rotary mandrel, and the lever M, by the action of the sliding bar L on the roller *h*, is moved so that its inner end will shove the bearing J in the direction indicated by arrow 2, (see fig. 3,) the set-screw *e* being loosened to admit of this movement of J. By this adjustment of the front bearing J, the larger sinuous

groove is cut, when the mandrel is adjusted out of line with the cutter-bar D, and the smaller groove cut when said mandrel is nearer in line with it.

By this simple machine, buttons of the kind specified may be ornamented very expeditiously, and at a small cost.

Having thus described our invention, we claim as new, and desire to secure by Letters Patent—

1. The rotary mandrel G, fitted in movable bearings J J', and provided with squares K K', in combination with the adjustable roller f, connected with a sliding bar L on the head C, all arranged to operate in connection with the cutter F, substantially in the manner as and for the purpose set forth.

2. The lever M, provided with the adjustable roller-arm N, in combination with the bevelled notch i in the sliding bar L, and the mandrel G, fitted in movable bearings J J', substantially as and for the purpose specified.

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