(No Model.)

G. CARLYLE.

MACHINE FOR GRINDING AND FORMING THE HEADS AND FACES OF PEARL BUTTONS.

No. 301,801. Patented July 8, 1884.

Fig. 1.

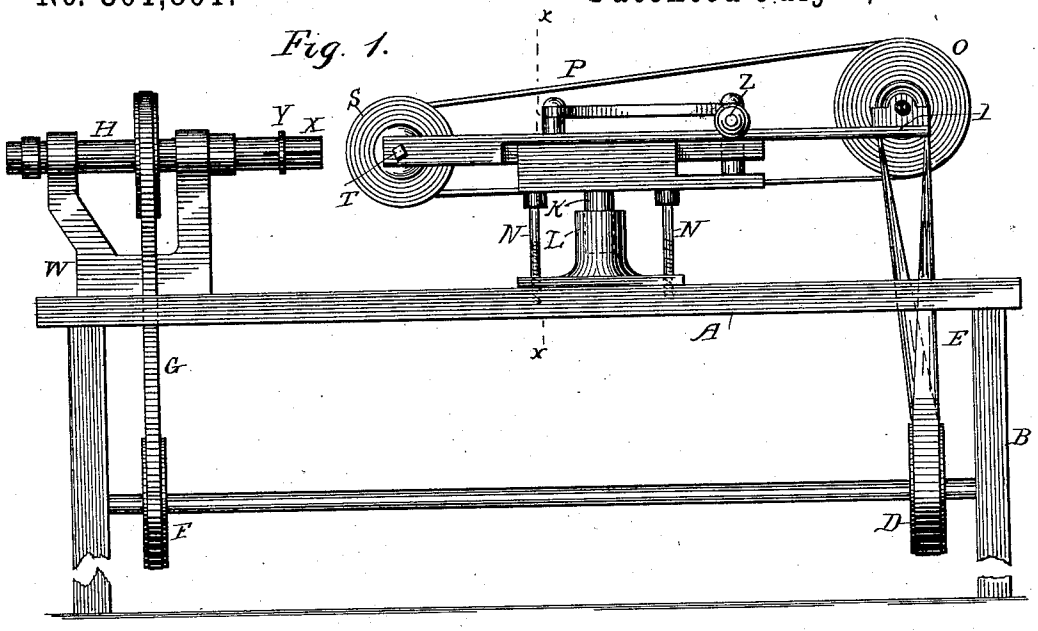
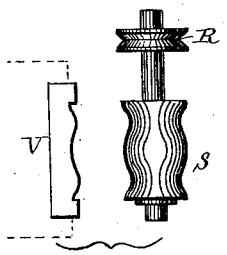


Fig. 4.



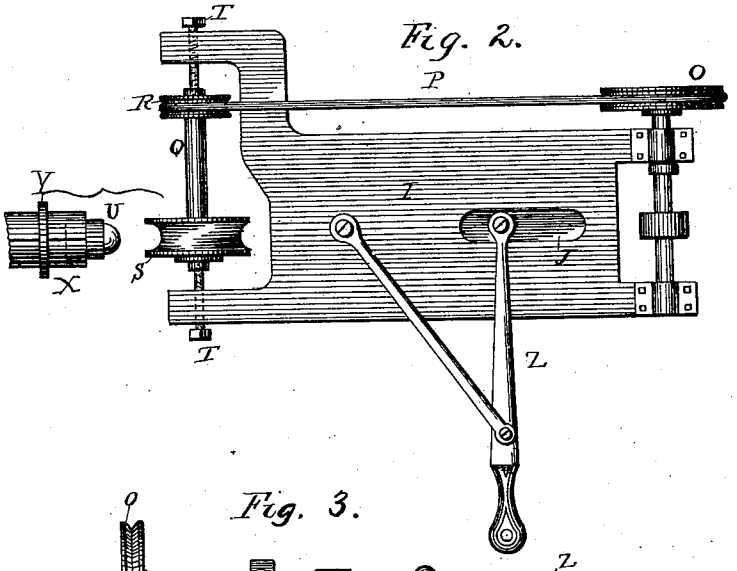
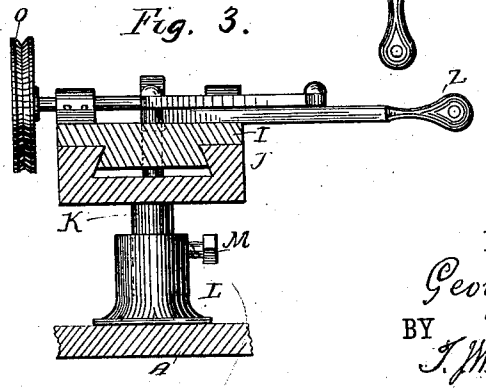


Fig. 2.

Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE CARLYLE, OF ADRIAN, MICHIGAN, ASSIGNOR OF THREE-FOURTHS TO LOUIS A. C. WAGNER, GEORGE W. WAGNER, AND JOHN W. WAGNER, ALL OF SAME PLACE.

MACHINE FOR GRINDING AND FORMING THE HEADS AND FACES OF PEARL BUTTONS.

SPECIFICATION forming part of Letters Patent No. 301,801, dated July 8, 1884.

Application filed November 28, 1883. (No model.)

To all whom it may concern:

Be it known that I, GEORGE CARLYLE, of Adrian, in the county of Lenawee and State of Michigan, have invented new and useful Improvements in Machines for Grinding and Forming the Heads or Faces of Pearl Buttons; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to certain new and useful improvements in the construction and operation of machines especially designed for forming and finishing the heads or faces of pearl buttons.

The invention consists in the peculiar construction of the various parts and their combination and operation, as more fully hereinafter described.

Figure 1 is a side elevation. Fig. 2 is a plan view of the grinding mechanism detached, and showing a part of the clamp with blank therein. Fig. 3 is a vertical cross-section through the head on the line *x x* of Fig. 1. Fig. 4 is a modification of Fig. 2.

In the accompanying drawings, which form a part of this specification, A represents the bed of the machine upon suitable standards or supports, B, between which is suitably journaled the driving-shaft C, provided with a pulley, D, by means of which and suitable belt, E, motion is communicated to the grinding apparatus, and provided with another pulley, F, which, through the belt G, gives motion to the fixed chuck-spindle H.

I is a sliding head on the slide J, which is supported upon a stem, K, in the socket L, where it is secured at any required height by means of the set-screw M. In order to adjust the height of this head I and slide J, set-screws N, of suitable construction, are employed.

Upon the slide I is suitably journaled a shaft carrying a pulley, O, which, by means of a suitable belt, P, communicates motion to the arbor Q, upon which is secured a pulley, R, and a grinding-wheel, S, made of emery, corundum, or other suitable material. The face of this grinding-wheel may be made of any suitable form which the operator desires to give the button, and the arbor Q is removably secured in place by the screw-points T, so that another arbor, carrying a pulley, R, and a grinding-wheel, S, (in Fig. 4,) of a different form, may be put in.

In Fig. 2 a blank, U, is shown, which has been presented to the grinding-wheel S in that figure, to form the head of what is ordinarily termed a "collar-button," which is to be finished in another machine, for which a simultaneous application for a patent is made.

In Fig. 4 the grinding-wheel S has just finished the face of the blank V, making a cup-shaped or concave-faced pearl button; and it will be seen that any shape and form may be given to the head or face of a button or stud by using a grinding-wheel which will form such shape.

W is a fixed head secured to the table A, and carries in suitable boxes the spindle H, the inwardly-projecting end of which carries a spring-clamp, X, which is provided with a ring, Y, which is retracted to allow the blank to be engaged with the clamp, and then projected to hold such blank in place.

In operation, the blank being inserted in the clamp and a suitable grinding-wheel in place, the operator projects the slide I by means of the lever Z, pivoted to J, and to a link pivoted to slide I, thereby pressing the revolving grinding-wheel against the face of the revolving blank until the abrasion has ground the surface of such blank into the desired form, when by the same means the operator retracts the slide and removes the blank preparatory to continuing the operation indefinitely, as above described.

What I claim as my invention is—

A machine for forming the heads or faces of pearl buttons or studs, consisting of a slide carrying a revolving grinding-wheel adapted to be projected and retracted, in combination with a fixed revolving spindle running at right angles with the shaft of the grinding-wheel, and provided with means for holding the blank from which such buttons are formed while such blank is subjected to the action of the grinding-wheel, substantially as specified.

GEORGE CARLYLE.

Witnesses:
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E. SCULLY.