

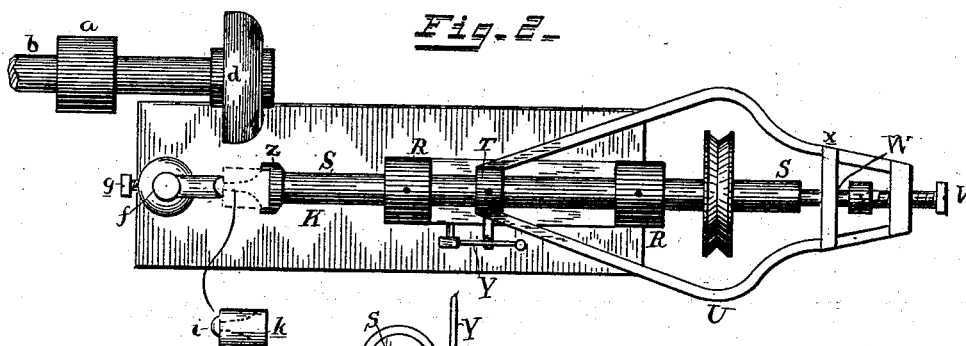
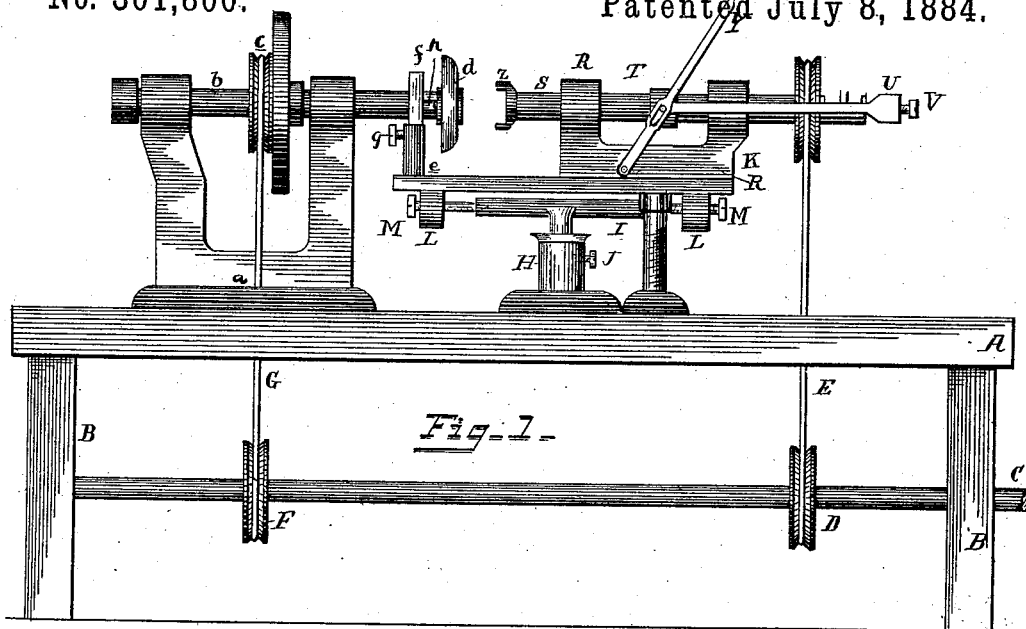
(No Model.)

G. CARLYLE.

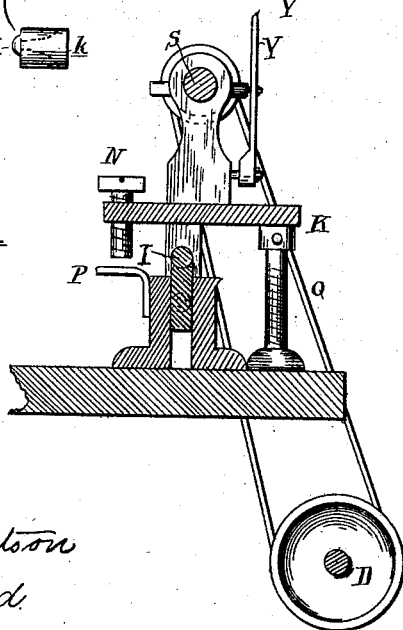
MACHINE FOR GRINDING AND FORMING THE NECKS OR SIDES OF PEARL BUTTONS.

No. 301,800.

Patented July 8, 1884.



*Fig. 3.*



WITNESSES:

*Wm. D. Robertson*  
*E. H. Bond.*

INVENTOR,

*George Carlyle.*  
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ATTORNEY.

# 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 NECKS OR SIDES OF PEARL BUTTONS.

SPECIFICATION forming part of Letters Patent No. 301,800, 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  
5 Improvements in Machines for Grinding and Forming the Necks or Sides 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 draw-  
10 ings, which form a part of this specification.

This invention relates to certain new and useful improvements in the construction and operation of machines for the purpose of forming the necks of collar-buttons or the sides of  
15 pearl buttons by the process of grinding; and it consists in the peculiar combinations and the construction and arrangement of parts hereinafter more fully described and claimed.

Figure 1 is a side elevation. Fig. 2 is a top  
20 plan, and Fig. 3 is an end elevation.

In the accompanying drawings, which form a part of this specification, A represents a table, supported upon suitable standards, B, which carries the working parts of the ma-  
25 chine.

C is the main driving-shaft, suitably journaled, and adapted to receive motion from any convenient source of power, and provided with a pulley, D, which gives motion through  
30 a suitable belt, E, to one part of the device, which will be hereinafter described, and another pulley, F, which, through the suitable belt, G, gives motion to another part of the device.

35 Secured to the table A is a socket-standard, H, which receives the T-shaped support I, which is adjustably secured in said socket by means of the set-screw J.

K is the bed proper of the machine, which  
40 is provided upon its under side with two lugs, L, and through these lugs pass the center screws, M, which engage with the standard I, as shown, in such a manner as to allow the bed K to be partially rotated or tilted to and  
45 from the work, the extent of such tilting being regulated by a set-screw, N, and stop P, upon one side, and a set-screw, Q, upon the

opposite side. Secured upon top of this bed K is the frame R, through which the shaft S passes, and in suitable journals is adapted to receive a suitable motion by means of the belt  
50 E, this shaft having sleeved upon it a collar, T, to which is secured the yoke U, through the end of which a centering-screw, V, passes to engage with the end of the shaft and adjust  
55 the same.

W is a neck turned in the shaft, and X is a cross-bar, the ends of which are secured to the yoke, and which rests within the neck W.

Y is a lever, the lower end of which is piv-  
60 otally secured to the bottom of the frame R, and this lever is also pivotally secured to the collar T in such manner that the yoke carrying the shaft is projected or retracted at the will of the operator. The inner end of this  
65 shaft is provided with a head, Z, provided with points to engage with the blank from which the button is made.

a is another frame secured to the table A in rear of the axle-line of the shaft S, and in the  
70 upper end of this frame is journaled the live-spindle b, provided with a pulley, c, and adapted to receive motion through the belt G. The overhanging end of this spindle b is provided with a grinding-wheel made of emery,  
75 corundum, or other suitable material.

Upon the bed K is secured a socket-standard, E, into which is inserted an adjustable and interchangeable standard, f, secured in place by the set-screw g, and projecting from  
80 this standard f, toward the axial line of the shaft S, is a bearing or resisting device, h, the free end of which is concave, as shown, adapted to receive a partially-inclosing head, i, of a pearl stud, which has heretofore been  
85 formed upon the blank k, which is shown in Fig. 2.

In practice, the pearl blank k, having had the head i formed upon it, is placed between the head Z of the spindle S and the resisting  
90 device h, the head i entering the concave end thereof, and such blank is then rigidly held in place by pressure upon the lever Y in the proper direction. The bed K is then tilted

toward the rotating grinding-wheel *d*, and thereby, in the rotation of such grinding-wheel, the neck or side of the button is formed, as shown in dotted outlines in Fig. 2, the distance of such tilting being controlled by the set-screws hereinbefore described.

In machines of this kind there will always be more or less of the grinding material floating in the air; and, as it will come in contact with the bearing parts of the machine, it will produce a great amount of wear of the same, and the live-spindle will soon get out of axial line with the resisting device if there be no means of adjusting the latter. I therefore consider it important that the standard which carries said resisting device be made changeable or adjustable. It is evident, however, that the resisting device may be made adjustable or changeable on the standard *f* without departing from the nature of my invention. Another advantage in having the said resisting device made changeable is that the machine may thus be adapted to blanks of various-shaped heads by changing the resisting device according to the shape of the head of the button then being made.

I am aware of Patents Nos. 76,301 and 286,663, and make no claim to the constructions shown therein.

What I claim as my invention is—

1. In a machine for the purpose described, a tilting table provided with mechanism for receiving a rotary motion from a main shaft and imparting the same to a blank held between said mechanism and a changeable resisting device, in combination with a grinding-wheel driven by mechanism deriving its motion from the said main shaft, substantially as described, the parts being constructed to operate substantially as and for the purpose specified.

2. In a machine for the purpose described, and in combination with the grinding-wheel and tilting table thereof, the means, as *N*, *P*, and *Q*, for adjustably limiting the movement of the said table, substantially as and for the purpose specified.

3. In a machine for the purposes described, and in combination with the spindle *S*, provided with the head *Z*, collar *T*, lever *Y*, and yoke *U*, a changeable standard carrying a resisting device in axial line with said spindle, all the parts named being attached to a tilting bed, substantially as and for the purposes specified.

GEORGE CARLYLE.

Witnesses:

H. S. SPRAGUE,  
E. SCULLY.