

J. NEUMEISTER.  
PEARL BUTTON MACHINERY.

No. 558,458.

Patented Apr. 14, 1896.

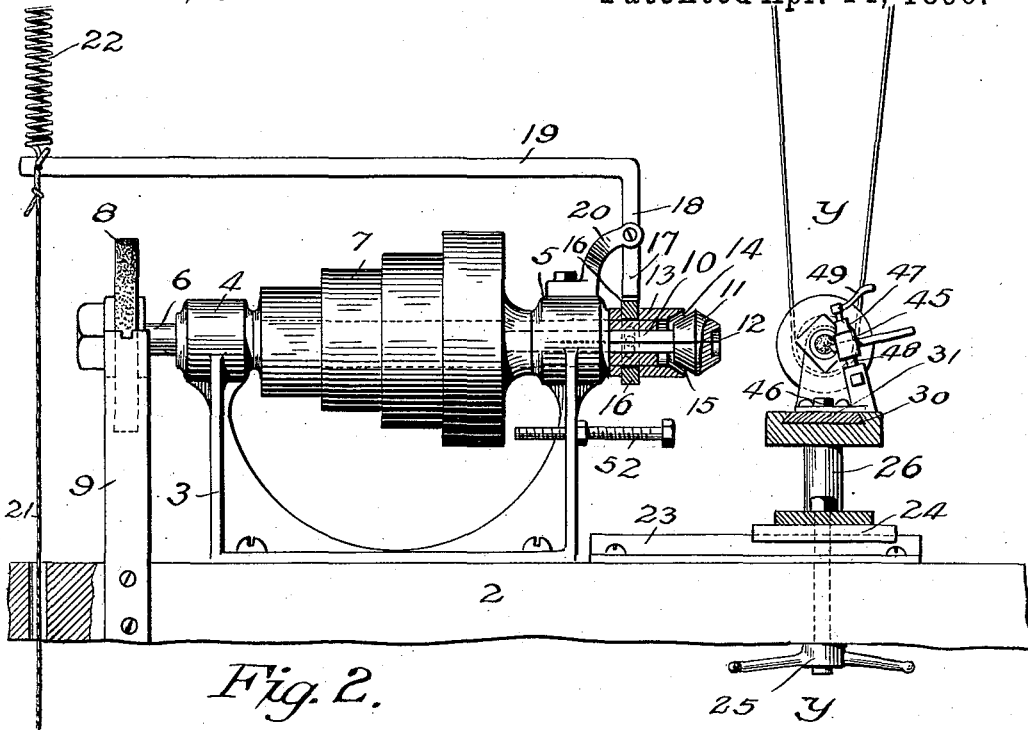


Fig. 2.

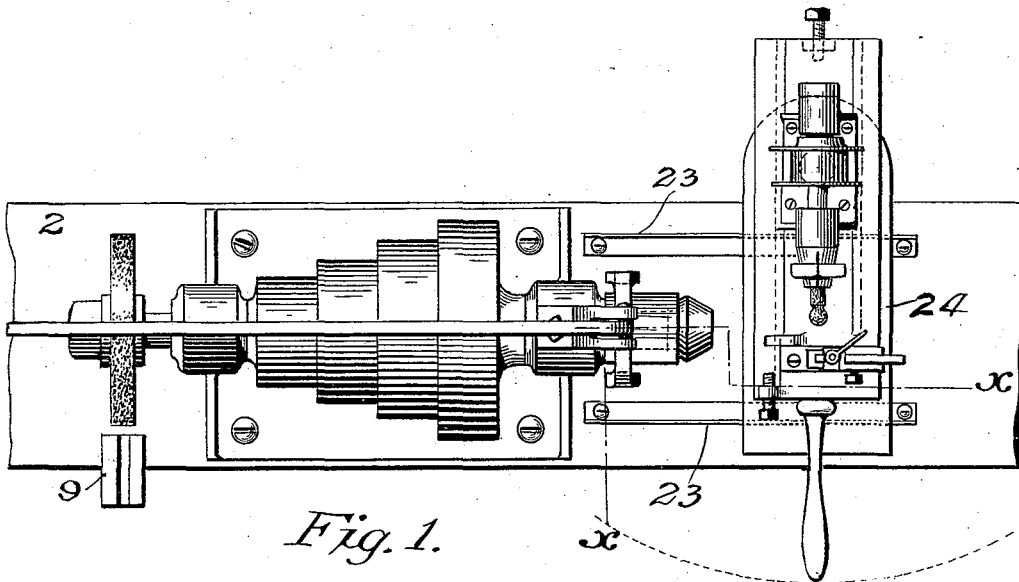


Fig. 1.

Witnesses  
 Chas. E. Van Doren.  
*[Signature]*

Inventor:  
 John Neumeister;  
 By *[Signature]*  
 his Attorneys.

(No Model.)

2 Sheets—Sheet 2.

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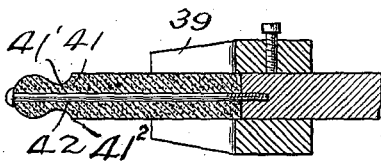
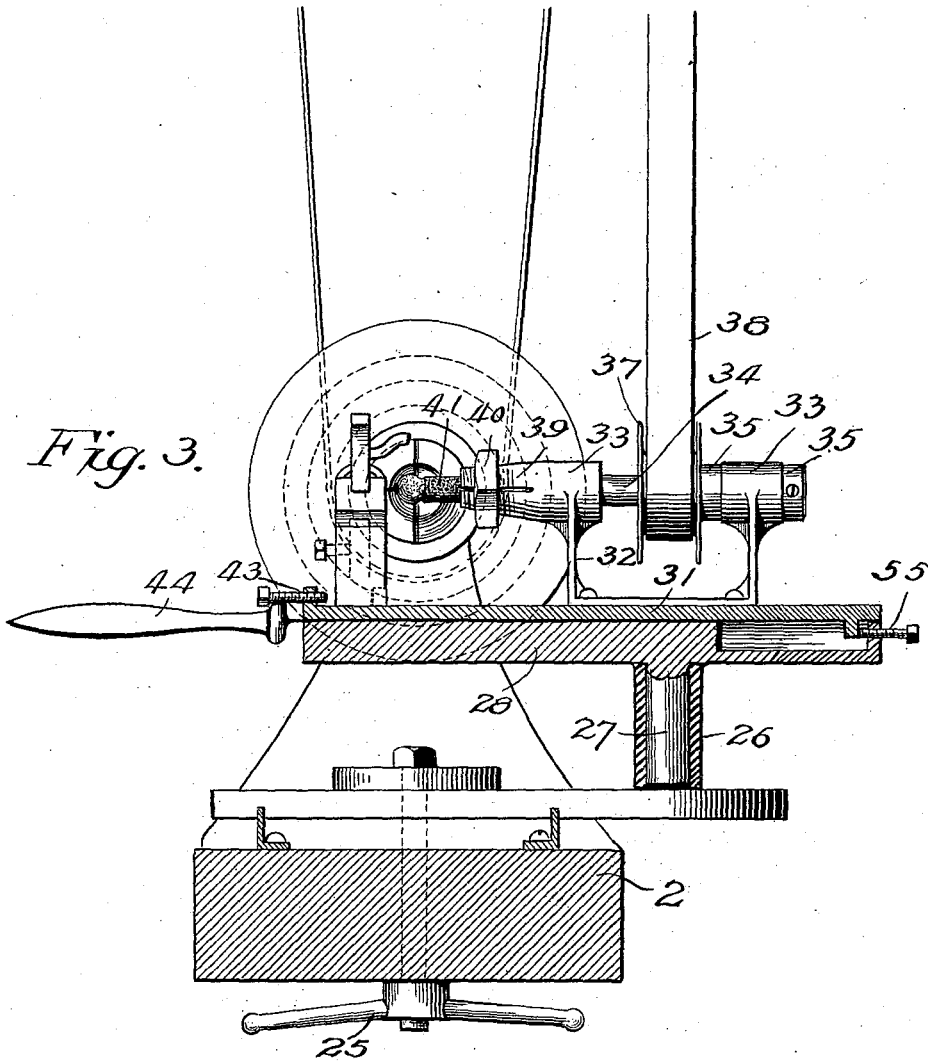


Fig. 5.

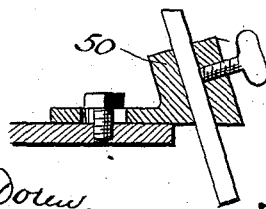


Fig. 4.

Witnesses  
 Chas. E. Van Doren.  
 C. H. Lyon

Inventor:  
 John Neumeister.  
 By Paul & Hawley  
 his Attorneys.

# UNITED STATES PATENT OFFICE.

JOHN NEUMEISTER, OF MINNEAPOLIS, MINNESOTA.

## PEARL-BUTTON MACHINERY.

SPECIFICATION forming part of Letters Patent No. 558,458, dated April 14, 1896.

Application filed December 9, 1893. Serial No. 493,289. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN NEUMEISTER, of the city of Minneapolis, county of Hennepin, State of Minnesota, have invented certain new and useful Improvements in Pearl-Button Machinery, of which the following is a specification.

My invention relates to means for making pearl buttons by machine-tools in place of the hand-tools so much used during the past.

The object which I have in view is to provide a machine adapted for very rapid work, in which but few movements shall be necessary in its operation, and which shall be simple, cheap, and durable in its construction.

To this end my invention consists in general in the constructions and combinations as hereinafter described, and particularly pointed out in the claims.

The invention will be more readily understood by reference to the accompanying drawings, forming part of this specification, and in which—

Figure 1 is a plan view of a machine embodying my invention. Fig. 2 is a side elevation thereof, a portion being shown in section on the line *xx* of Fig. 1. Fig. 3 is an enlarged end view and partly a sectional view on the line *yy* of Fig. 2. Fig. 4 is an enlarged detail showing a modified form of tool-holder. Fig. 5 is an enlarged detail view of the emery-stick.

As shown in the drawings, 2 represents a suitable bed of wood or metal whereon is secured the head frame or block 3, provided with bearings 4 and 5 for the shaft 6, on which the cone-pulley 7 is secured. Upon the rear end of the shaft a small emery-wheel 8 is fastened, and opposite the periphery thereof is a tool-rest 9, secured to the bed, and upon which a tool may be held while being sharpened. The forward end of the shaft or spindle is hollow to receive the shank 10 of the split chuck 11, adapted to hold a pearl-button blank. Upon the end of the spindle is a sliding ring 13, having the beveled inner face 14, adapted to engage the oppositely-beveled back 15 of the chuck-head and being forced thereon to contract the parts of the head and lock the button-blank firmly therein. For moving the ring or sleeve a slip ring and a yoke 16 17 are provided, the yoke being pro-

vided upon the vertical arm 18 of the lever 19. The arm 18 is pivoted upon the bracket 20, extending from the top of the bearing 5, and extends back therefrom. A cord or rod 21 extends from the rear end to a suitable treadle placed within reach of the foot of the operator. The lever is normally held up and the clutch ring or sleeve held back by a coiled spring 22, as shown, which acts to release the chuck when the treadle is freed.

In front of the lathe-head I provide short parallel ways 23 for the bed-plate 24, which is capable of adjustment thereon to or from the lathe-head. By means of the clamp 25 the plate may be secured in any position. On the rear end of the plate 24, and preferably integral therewith, is the sleeve or socket 26, adapted to receive the stud 27, which projects downward from the swinging tool-carriage plate 28. In the top of the swinging plate 28 is a wide groove 30, containing the sliding bar or plate 31, adapted to slide therein. This last-named bar or plate carries the standards 32, having bearings 33 for the short shaft 34. Locking-collars 35, arranged upon opposite sides of the rear bearing, prevent the sliding of the shaft in its bearings, and on the shaft is a flanged belt-pulley 37, over which runs a narrow belt 38, driven from a counter-shaft preferably arranged at considerable distance above the machine. The midway or normal position of the pulley 37 is directly above the pivot-stud 27, so that the plate 28 with the parts carried thereby may be swung in either direction without materially affecting the operation of the belt upon the pulley.

The forward end of the short shaft carries a cone-shaped split clutch or chuck 39, adapted to be contracted by the nut 40 thereon, to lock the emery-stick 41 firmly in place in the chuck. This emery-stick is turned down so that its end presents the appearance of a nearly complete ball. (See particularly Fig. 5.) The stick is preferably hollow to receive the screw 42, which passes through into a fixed part and serves to stiffen the neck 41' of the stick. When the slide is drawn forward against the adjustable stop 43, the emery-ball is brought into line with the center of the chuck and of a button-blank held therein. The operator holding the handle 44 swings the carriage 28 with its shaft and emery-stick

toward the chuck, carrying the side of the emery-stick into engagement with the blank held in the chuck. The ball cuts out the center, while the shoulder 41<sup>2</sup> grinds down the edge of the blank. After first grinding out the center of the button in this way, the operator forces back the handle 44 and there-  
 5 with the sliding plate 31, thus moving the downwardly-inclined steel cutting-tool 45 into  
 10 line with either the center or one side of the button-blank. The tool is carried in the holder 46 adjustably secured upon the slide 31. The upper part of the tool-holder is a  
 15 head 47, mounted upon a spindle 48, adjustable in the lower part of the rest, so that the tool may be raised or lowered. A set-screw 49 in the top of the head fastens the tool in place. In place of this tool-holder I may employ one like that shown in Fig. 4, the tool-  
 20 socket 50 thereof inclining upwardly and toward the chuck to present the edge of the tool at a more acute angle to the face of the button. From either of these tool-rests the tools may be almost instantly removed or re-  
 25 placed to be passed to or from the emery-wheel 8. The swinging play of the plate 28 is limited by the adjustable stop-screws 52, extending from one standard of the head-block.  
 30 It will be seen that the backward and forward swing of the tool carriage or plate 28 occupies but a portion of a second, which time is also sufficient for changing the positions of the emery and the steel tools on the carriage. The emery-stick presents its side to  
 35 the button, so that all points of the button are equally affected when both are in rapid revolution, there being no idle point upon the emery, as would be the case if the end of  
 40 the emery-stick were presented to the button-blank. The tool-carriage 28 is long and its swing so little that the twist of the short shaft and its pulley with respect to the over-  
 45 lying counter-shaft in no way affects the best possible operation of the belt thereon. For the backward thrust of the sliding plate

of the tool-carriage either the inner end of the handle 44 may be depended upon as a stop or an adjustable stop 55 may be arranged in the rear end of the carriage-plate in position adapted to engage with a part of the sliding plate.

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

1. The combination, in a pearl-button machine, the lathe-head, the spindle thereof, provided with the emery grinding-wheel, a tool-rest opposite the same, the chuck carried in the opposite end of said spindle and having the beveled back, the sliding ring arranged about said spindle and inwardly beveled, a foot-treadle, and a pivoted lever connected therewith and with said sliding ring whereby the latter may be moved to engage and compress the parts of said chuck, the transversely-arranged sliding plate provided opposite said chuck and arranged to swing in a horizontal plane, a chuck carried upon said plate in connection with means for driving the chuck, the ball-headed emery-stick provided in said chuck upon said sliding plate and the cutting-tool holder provided upon said sliding plate opposite said emery-stick, substantially as described.

2. The combination with the other operative parts of a pearl-button machine, of the transverse revoluble chuck, the emery-stick provided with the contoured end and provided also with the longitudinal hole and the headed bolt or screw extending through the stick and having its end secured in said chuck whereby the emery-stick is both held in position longitudinally and also strengthened, substantially as described.

In testimony whereof I have hereunto set my hand this 28th day of November, 1893, at Minneapolis, Minnesota.

JOHN NEUMEISTER.

In presence of—

C. G. HAWLEY,  
 FREDRIK S. LYON.