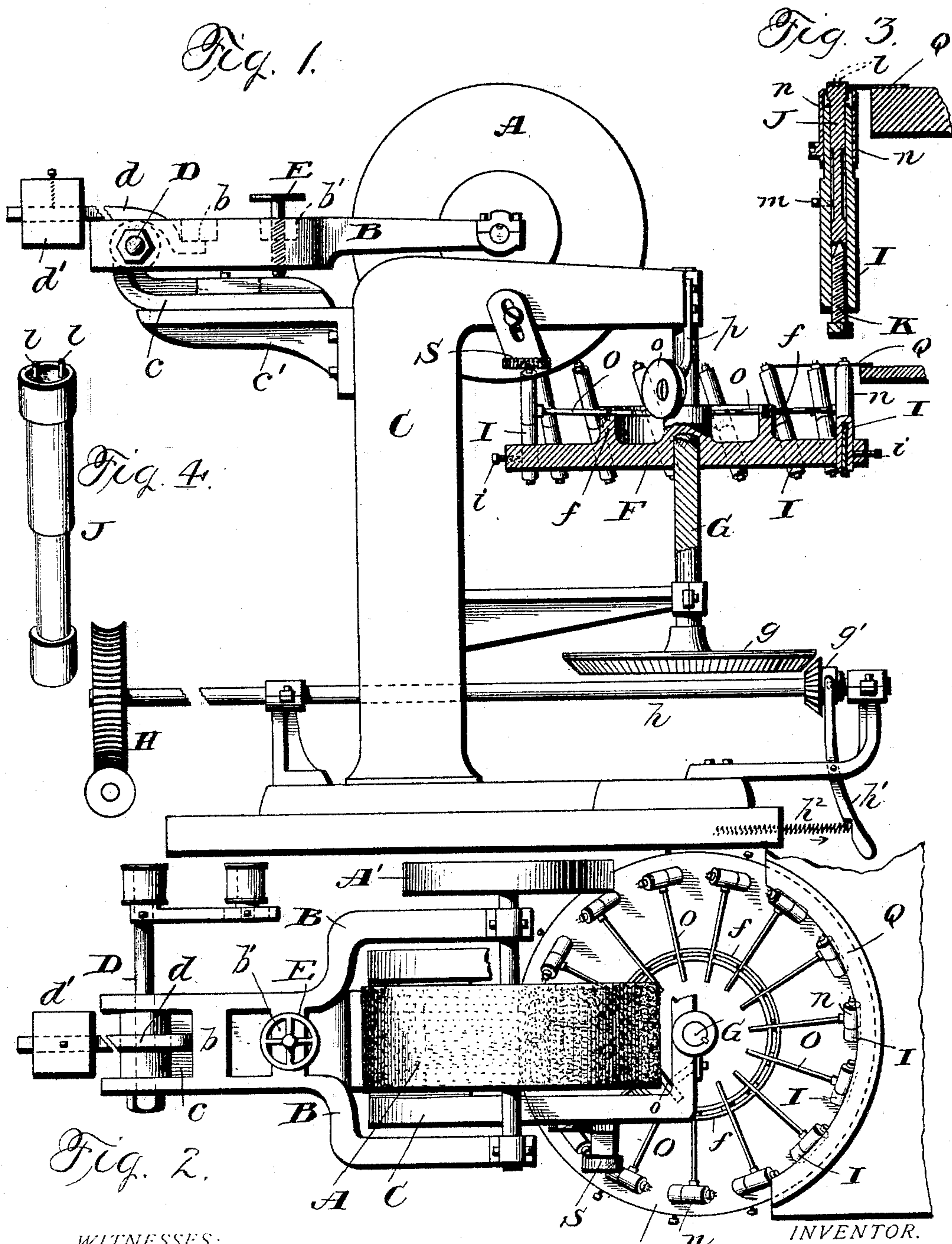


(No Model.)

S. B. ESHLEMAN.  
MACHINE FOR POLISHING BUTTONS.

No. 497,715.

Patented May 16, 1893.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

SAMUEL B. ESHLEMAN, OF ROCHESTER, NEW YORK, ASSIGNOR TO THE M. B. SHANTZ COMPANY, OF SAME PLACE.

## MACHINE FOR POLISHING BUTTONS.

SPECIFICATION forming part of Letters Patent No. 497,715, dated May 16, 1893.

Application filed January 9, 1893. Serial No. 457,803. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL B. ESHLEMAN, a subject of the Queen of Great Britain, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Machines for Polishing Buttons; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in that class of machines which are designed for polishing buttons, and it has for its object, among others, to provide a machine which will polish the concave surface and also a portion of the under surface adjacent to the rims of the buttons.

The invention has for a further object to provide a machine of the character mentioned, with a buffing-wheel which will be automatically adjusted so that at the will of the operator any desired degree of friction or pressure may be applied at all times without special adjustment.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon form a part of this specification, like letters of reference indicating the same parts throughout the several views, and in which—

Figure 1, is a side view partly in section, of a machine constructed in accordance with my invention. Fig. 2, is a top plan view of the machine. Fig. 3, is a sectional view of the button holding and releasing devices. Fig. 4, is a side view of the holder proper.

Reference now being had to the details of the drawings by letter, A designates the buffing-wheel which is of the usual construction journaled between two arms of an open frame B, and receiving motion from the pulley A'. The frame B is pivoted upon a horizontal shaft or rod D that is journaled or supported by the upturned end of a block or bar c adjustably supported by a bracket c' bolted or otherwise attached to a standard C. The bar c provides for the adjustment of the wheel

in a horizontal direction toward or from the button-holders, to be described. This adjustment is effected in any well known way.

For effecting the automatic, vertical adjustment hereinafter referred to, I employ an arm or bar d that rests or fulcrums between its ends upon the journal of the shaft D and has its inner end engaging the under side of a cross-bar b of the frame B and carries upon its outer end an adjustable weight d'. The weight thus acts as a counterbalance to the buffing-wheel and by its adjustment along the bar or lever d, enables the wheel to rest with varying pressure upon the buttons being polished. A set-screw is preferably provided to hold the weight at the point to which it is adjusted. To regulate the descent of the wheel B, a screw E is tapped through a cross-bar b' of the frame whose lower end is adapted to strike the upper side of the slide c.

The adjustment of the buffing-wheel avoids undesirable rapidity, and its pressure upon the buttons will always be at least that due to the weight of the wheel and its frame, but the latter varying of course according to the location of the counterbalance.

F designates an ordinary revolving table mounted on a vertical shaft G passing through its center, and journaled above and below the same by horizontal arms or projections from the standard C. The revolution of the shaft and table is effected by means of gearing comprising a bevel-wheel g on the shaft, and a bevel pinion g' on a horizontal shaft h. The pinion is adapted to be disengaged from the wheel to stop the revolution of the table, by an ordinary clutch lever h'. The latter however is normally held by a spring h<sup>2</sup>, in position to cause said wheel and pinion to mesh. The shaft h is rotated by a worm-gear H.

Extending around the table F, near its periphery, is a series of circular obliquely extending holes, in each of which is placed a tube or sleeve I which is there held by a set-screw i. In each sleeve is a spindle J whose lower end is journaled on the hardened conical end of a screw K in the lower end of the sleeve, and whose upper end is enlarged and made to stand above and outside of the upper end of the sleeve. The upper end of the spindle is to receive the button to be polished,



and for holding said button thereon I provide two pins *l* which project above the face thereof to enter the holes provided in the buttons for sewing the same in place. The set-screw *k* enables the spindle or holder to be adjusted vertically, while to prevent said spindle from being thrown out of the sleeve, a set-screw *m* is tapped through the latter to engage shoulders formed on the spindle by reducing its diameter for a portion of its length. The obliquity of direction of the holes receiving the sleeves, causes the holders to stand with their axes inclined with reference to the axis of the buffing-wheel, and this relation causes the latter when engaging the upper end of the spindle, or button thereon, to rotate said spindle and thus produce the necessary rotation of the button that is being polished.

Surrounding the upper reduced end of the sleeve *I*, and movable longitudinally thereon, is a short tube or collar *n*, which by its upward movement is adapted to dislodge a button from the upper end of the spindle. To move said tube to perform this function, I employ a rod *O* for each tube engaging a socketed lug on the side thereof at one end and pivoted or fulcrumed between its ends upon an annular flange *f* upon the upper side of the revolving table *F*. Said flange has in its upper face a circular recess and a radial notch for each lever, the circular recess being designed to receive the ends of short pins on each side of each lever, to retain the latter in position.

By *o* I designate a circular disk supported by an arm *p* that depends from the upper horizontally projecting arm of the standard *C*, and supports said disk at such distance above the revolving table *F*, that as the latter revolves the inner end of each lever *O* will strike and be depressed thereby, and thus raise its outer collar engaging end, and with it the collar *n*.

To assist in placing the button upon its holder, I provide a rubber strip or table *Q* with its inner edge cut to an arc corresponding with that of the table *F* and with its surface even with the enlarged upper end of the spindle and pressing against the periphery of such enlargement. The friction of the rubber strip *Q* against the latter, causes the spindle and the pins on the same to revolve as they pass the operator, and guided and steadied by the rubber strip as a support for the hand, the button can be held against the revolving pins until they find the holes in the button.

In operating the machine, the buttons, after the holes have been drilled, are successively placed upon the spindles as they pass, through the aid of the elastic table *Q* furnishing a support to the hand of the operator in the act of placing the buttons upon the pins.

The drawings show pins of one size, but they may be of any desired size corresponding to the distance apart of the holes drilled

through the button, and I thus provide for using my machine with buttons of different sizes, by simply substituting a single part, viz., the spindle corresponding to the distance apart of the holes in the button.

The revolving-table may be constructed of any desired size, and corresponding to the number of holders which it may be required to carry.

After the button has passed beneath the buffer and been subjected to its action, by the revolution of the table *F*, the lever *O* is tilted as already indicated, and thus the button releasing tube is raised, dislodging the button; but in case the button should remain in position on the top of the holder or tube, after being removed from the holder by the action of the tube, it may be removed therefrom by the brush *S*. The obliquity of the holders besides causing the same to rotate when the button is engaged by the buffing wheel, also by presenting the edge of the button to the latter enables the under surface adjacent to the rim to be polished.

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

1. In combination with a buffing-wheel, of the revolving table carried by a vertical shaft and a rotary holder having pins to engage the button openings a sleeve, and a set-screw on which the holder rests, substantially as described.

2. In combination with a buffing-wheel, of the revolving table carried by a vertical shaft and the rotary holder comprising a spindle having pins on its upper end and having its axis inclined relatively to that of the wheel and a tube with a vertically adjustable set-screw on which said spindle rests.

3. In combination with a buffing-wheel, of the revolving table, the sleeves carried thereby and a spindle in each sleeve having pins on its upper end, the tubes and set-screws in said tubes on which the spindles rest said sleeves being arranged at an incline relative to the axis of the wheel, and the friction strip substantially as shown and described.

4. In combination with a buffing-wheel, the rotary spindle having pins on its upper end carried by the latter, and the arc-shaped piece to engage said spindle to rotate the same for the placing of the button on its pins, substantially as described and for the purpose specified.

5. In combination with a button holder, a reciprocable sleeve thereon, a pivoted lever engaging the latter, the rotary table supporting said parts, and the stationary part to engage said lever to rock it as the table revolves.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL B. ESHLEMAN.

Witnesses:

H. K. ELSTON,  
M. T. BLY.