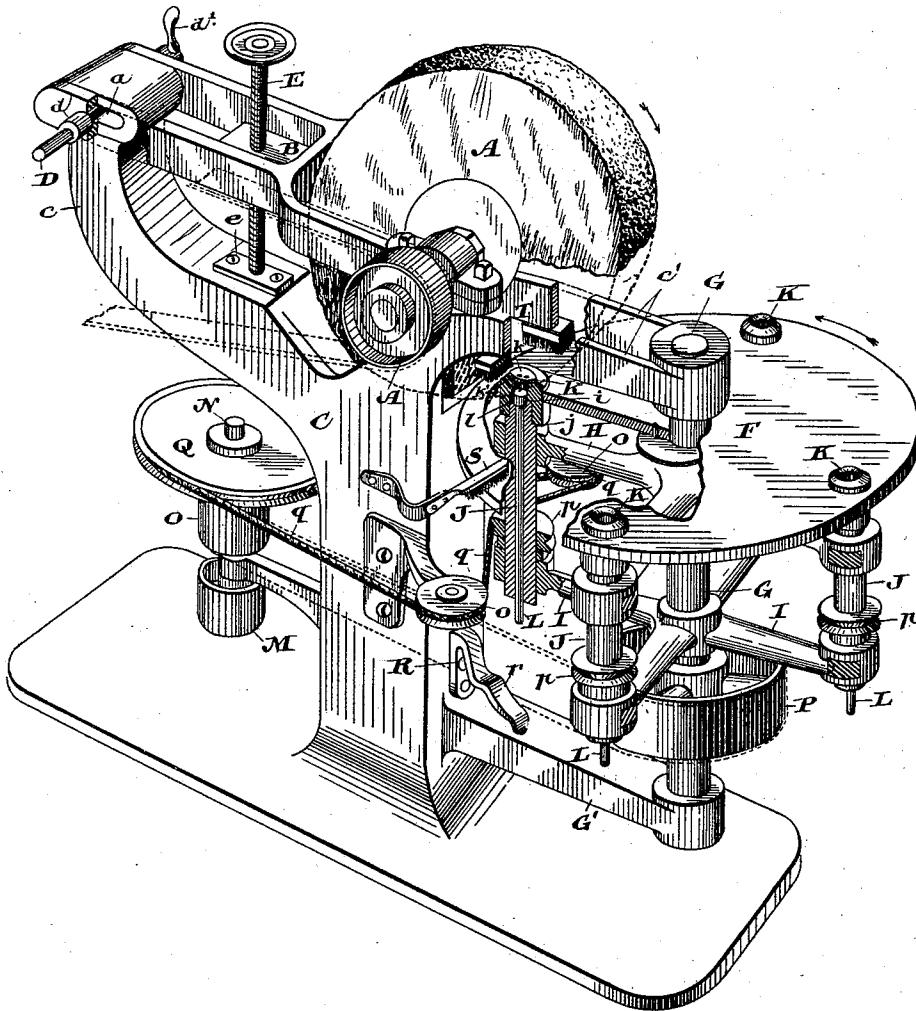


(No Model.)

D. B. SHANTZ.
MACHINE FOR POLISHING BUTTONS.

No. 477,274.

Patented June 21, 1892.



Witnesses.

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UNITED STATES PATENT OFFICE.

DILMAN B. SHANTZ, OF BERLIN, CANADA.

MACHINE FOR POLISHING BUTTONS.

SPECIFICATION forming part of Letters Patent No. 477,274, dated June 21, 1892.

Application filed March 12, 1891. Serial No. 384,806. (No model.) Patented in Canada April 3, 1891, No. 36,311.

To all whom it may concern:

Be it known that I, DILMAN BRUBACHER SHANTZ, manufacturer, of the town of Berlin, in the county of Waterloo, in the Province of Ontario, Canada, have invented a new and useful Machine for Polishing Buttons, of which the following is a specification.

This invention has been patented in the Dominion of Canada under date of April 3, 1891, No. 36,311.

The object of the invention is to design a machine for polishing buttons in which the buttons may be automatically and continuously fed under and each button perfectly polished by the buffing-wheel as it passes under it; and it consists, essentially, of a buffing-wheel adjustably held in position over a series of rotating chucks, in the top of which the buttons are placed, the said chucks being also caused to revolve past the buffing-wheel, so as to successively bring each button under the buffing-wheel to be polished, simple mechanism being provided to eject the button after it is polished, and the whole being arranged and constructed in detail in the manner hereinafter more particularly explained.

The figure is a perspective view partially in section to exhibit the construction and operation of my machine.

A is the buffing-wheel, which is journaled in the free end of the adjustable open frame B, and is caused to revolve in the direction indicated by arrow from the pulley A', which is connected by belt and driven from a conveniently-located driving-pulley. The other ends of the open frame B extend on both sides of the rear arm c, forming part of the main frame C.

D is a spindle passing through the ends of the frame B and the slot a in the top of the arm c. The spindle D is provided at one end with a collar d, and the other end is threaded to receive a handle d'. By turning the handle d' so as to force the collar of the handle d' inwardly the ends of the open frame may be clamped against the upper part of the arm c. In order to raise or lower the buffing-wheel to any desired position, I provide a screw-spindle E, operated by a hand-wheel, the bottom end of the screw-spindle being loosely secured in a hole in the plate e, attached to the rear arm c. The screw-spindle E passes through

a web in the open frame, and by turning the hand-wheel at the top of the screw-spindle the frame B may be raised or lowered, as desired, and then clamped between the collar d and handle d', as before stated.

F is a circular table or disk revolving with the central spindle G in the direction indicated by arrow and supported upon and secured to the shoulder formed on the top of the hub of the upper radiating arms H, secured to the spindle G. The spindle G is journaled at the top in the bearing formed at the end of the forwardly-projecting arms c' and at the bottom in the bearing formed at the end of the lower extension-arm G'.

I are the lower radiating arms, also secured on the spindle G. The outer ends of the arms H and I are preferably formed as shown and have circular holes formed in them to receive the hollow spindles J.

K are the series of chucks extending through circular holes in the disk F and detachably secured against the shoulders j, formed at the top of the hollow spindles J.

L are rods extending through the hollow spindles J and having enlarged upper ends i to support the rods L in position on the interior shoulders l in the spindles J. The rods L at their upper ends correspond in size and shape to the holes k, made in the chucks K, and are designed to be operated in the manner hereinafter described to eject the buttons from out of the chucks K after they have been polished. The chuck K has a concave recess k' of the requisite size and shape to receive the button.

M is the driving-pulley secured to the spindle N. O is a pulley secured to the same spindle and connected by belt, as shown by dotted lines, to the larger pulley P, secured to the central spindle G.

Q is a V-shaped grooved pulley secured on the spindle N. A cord or round belt q extends around the guide-pulleys o, so as to press against and drive each V-shaped chuck-driving pulley p as it is brought around under or nearly under the buffing-wheel A.

It will be seen from the above that the table or disk F, with its chuck K, revolves at a comparatively slow speed to that in which each chuck revolves as it moves into and remains in position under the buffing-wheel A, and

consequently the button in the chuck will be perfectly polished before it comes out from under the buffing-wheel A.

In order to eject the button out of the chuck K after it has been polished, I provide a rod L, as before described, and raise each successive rod when the chuck K has passed the buffing-wheel A by the raised projection *r* in the bracket R, which is concentric with the central spindle G and on a line with the path of the bottom of the rods L. I also provide a brush S, extending obliquely over the table out of the radial line, as indicated. The bottom of the brush is slightly above the table, which as it revolves brings each button ejected against the brush S, which guides or sweeps it from the table into a box below.

Although I show only four chucks K, with their operating mechanism, it will of course be understood that there will be as many chucks as may be conveniently placed around the circular table F. The chucks K and hollow spindles J will be supported in similar bearings to those shown in the end of the arms H and I, in the rim of the wheel of which the arms will form the spokes.

As it is intended, as above stated, that the chucks K shall be close together, I secure two brushes T, one to the bottom of each of the forwardly-projecting arms *c'*, in proximity to the buffing-wheel A and over the path of the chucks K, so that as the buffing-wheel A revolves the current of air produced by its revolution will not raise the button situated at each side of the button being polished out of its chuck, each of them being at this period underneath its corresponding brush.

In operating my machine I first place buttons in all the chucks K and then place a button in each chuck immediately after the finished button is ejected. In this manner I can readily and quickly feed the buttons into the chucks, by which they will be securely held until polished, after which they will be ejected, as hereinbefore described.

Although I show a chuck K with one size of concave recess, it will be of course understood that I make chucks K with different sizes of recesses to hold different sizes of buttons. As

the chucks K are detachably secured on the top of the hollow spindles J, chucks with recesses corresponding to the size of the button intended to be polished may be substituted when required.

What I claim as my invention is—

1. The buffing-wheel A, supported in bearings in the open frame B, which extends on both sides of the slotted rear arm *c* and is clamped in position by the spindle D with handle *d'*, in combination with the chucks K, detachably secured on the top of the spindles J, which are successively caused to revolve by the cord *q* passing around the pulley Q, guide-pulleys *o*, and pressing against the chuck-revolving pulley *p*, secured to the spindle J, as specified.

2. The buffing-wheel A, supported in bearings in the open frame B, which extends on both sides of the rear arm *c* and is adjusted vertically by the screw-spindle E, in combination with the chucks K, detachably secured on the top of the spindles J, which are successively caused to revolve by the cord *q* passing around the pulley Q, guide-pulleys *o*, and pressing against the chuck-revolving pulley *p*, secured to the spindle J, as specified.

3. The chucks K, detachably secured on the hollow spindles J, which are driven as described, in combination with the rod L, which is raised by the raised projection *r* on the bracket R as it passes it, substantially as and for the purpose specified.

4. The chucks K, detachably secured on the hollow spindle J and carried around past the buffing-wheel by the circular revolving table F, in combination with the rod L, operated as described, and a brush S, arranged as and for the purpose specified.

5. The chucks K, attached to or forming part of the spindle J and carried around past the buffing-wheel by the circular revolving table F, in combination with the brushes T, secured to the forwardly-projecting arms *c'*, and arranged as and for the purpose specified.

DILMAN B. SHANTZ.

Witnesses:

SOLOMON BRUBACHER,
IDA SHANTZ.