

(No Model.)

N. S. VALENTINE.  
BURNISHING MACHINE.

No. 264,423.

Patented Sept. 12, 1882.

Fig. 2.

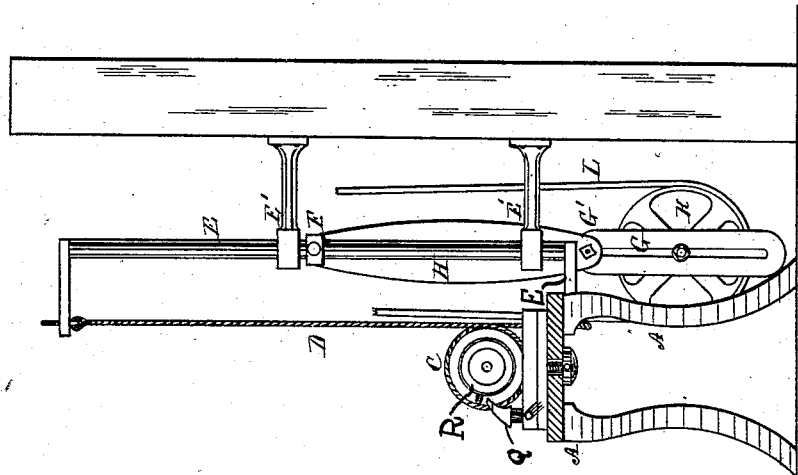
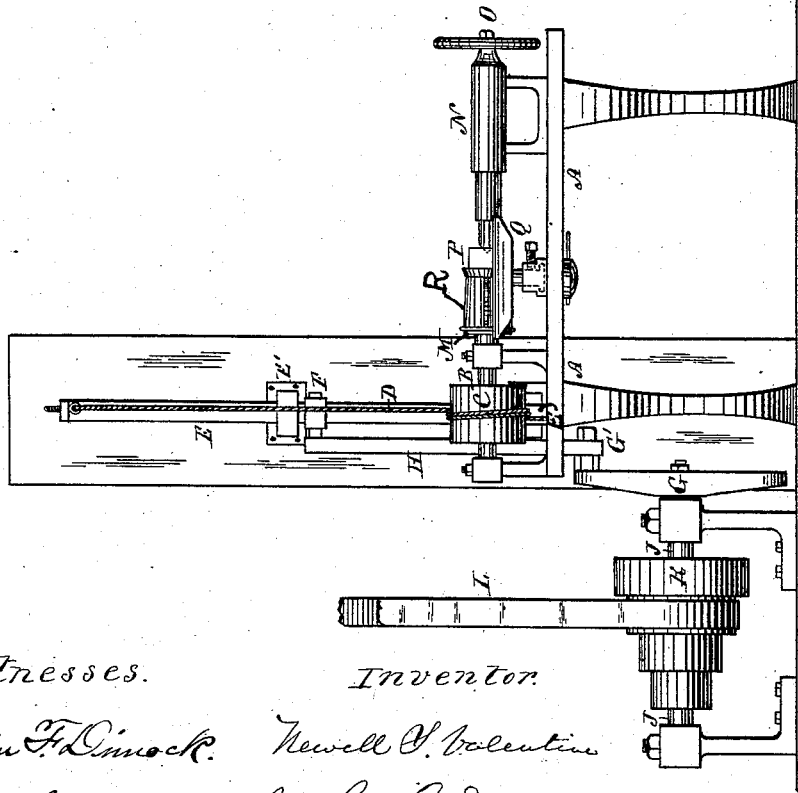


Fig. 1.



Witnesses.

Inventor.

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# UNITED STATES PATENT OFFICE.

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## BURNISHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 264,423, dated September 12, 1882.

Application filed July 1, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, NEWELL S. VALENTINE, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Burnishing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, whereby a person skilled in the art can make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Like letters in the figures indicate the same parts.

My improvement relates to machines for holding and rotating plated hollow ware or other metallic articles of a curved form during the process of burnishing, particularly such articles as are furnished with a handle or other obstruction which prevents them from being revolved continuously in one direction during the operation of burnishing.

The object of my invention is to provide a machine which will burnish, by a reciprocating rotary motion, nearly the whole surface of such articles as those above mentioned, which are now burnished wholly by hand.

In the accompanying drawings, illustrating my invention, Figure 1 is a front view of my improved burnishing-machine. Fig. 2 is an end view of the same.

A is the fixed frame of the machine.

B is a spindle turning in bearings on the frame A in a similar manner to the spindle of a lathe.

C is a pulley or drum upon the spindle B.

D is a cord or strap passing one or more times around the drum C, and having its ends attached to a reciprocating bar, E.

E is a bar sliding in fixed bearings E', which may be upon the frame A of the machine or attached to a separate fixed support. The ends of the cord D are attached to the upper and lower ends of the bar E, and the cord is drawn tight, so that the movement up and down of the bar turns the drum C, around which the cord is coiled, in a rotary direction back and forth. The reciprocating bar E is furnished with a cross-head, F, which is con-

nected with the crank G by the connecting-rod H, which communicates motion to the bar E as the crank revolves.

J is the main shaft, which is driven by the pulley K and belt L in the customary manner. It turns in bearings forming part of the frame of the machine or set upon an independent support. The crank G is attached to the shaft J, and is operated by it. This crank is furnished with a sliding crank-pin, G', which can be set at any desired distance from the center of the shaft, so as to give more or less throw to the bar E. The bar E can thus be made to move sufficiently to give a full turn to the drum C, or to rotate it through any portion of the circumference.

M is a head upon the spindle B, to which is attached, by means of a screw or other convenient device, a form or block upon which the article R to be burnished is placed.

N is a sliding head, which can be moved back and forth longitudinally upon the frame A, and clamped in any position in a similar manner to the sliding head of a lathe. It is furnished with a screw, O, for pressing a block, P, firmly against the article to be burnished to hold it firmly upon the forming-block while being burnished. The block P turns with the article burnished, and is not necessarily held up by the screw O. If the article burnished has an open bottom, the block P may be attached to the head M.

Q is a tool-rest for supporting the burnishing-tool.

The operation of my improved machine is as follows: A cup, R, having a handle, or any other article, is placed upon the forming-block attached to the head M, and the block P is screwed up against it to hold it in place and prevent it from turning. The length of throw of the crank is adjusted to rotate the drum C through the arc required to reach around the cup without including the handle. The machine is then set in operation by throwing on the belt of the shaft J. The movement of the bar E then rotates the cup back and forth in such a manner that the handle does not pass a burnisher held upon the rest Q, and the

whole cup, except the parts near and under the handle, is finished. The part near the handle is afterward finished by hand.

What I claim as my invention is—

- 5 In a burnishing-machine, a rotary spindle, B, provided with blocks M P, or equivalent means for holding the article to be burnished, and a drum, C, in combination with the cord D, the reciprocating bar E, the connecting-rod

H, and the revolving adjustable crank G, 10 whereby said spindle is partially revolved back and forth with a reciprocating rotary motion of less than a full circumference, substantially as described.

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Witnesses:

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