S. D. Tucker,

Electrotyping,

No. 85,411. Patented Dec. 29, 1868.

Fig. 4

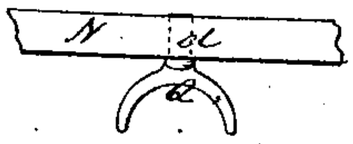


Fig. 1

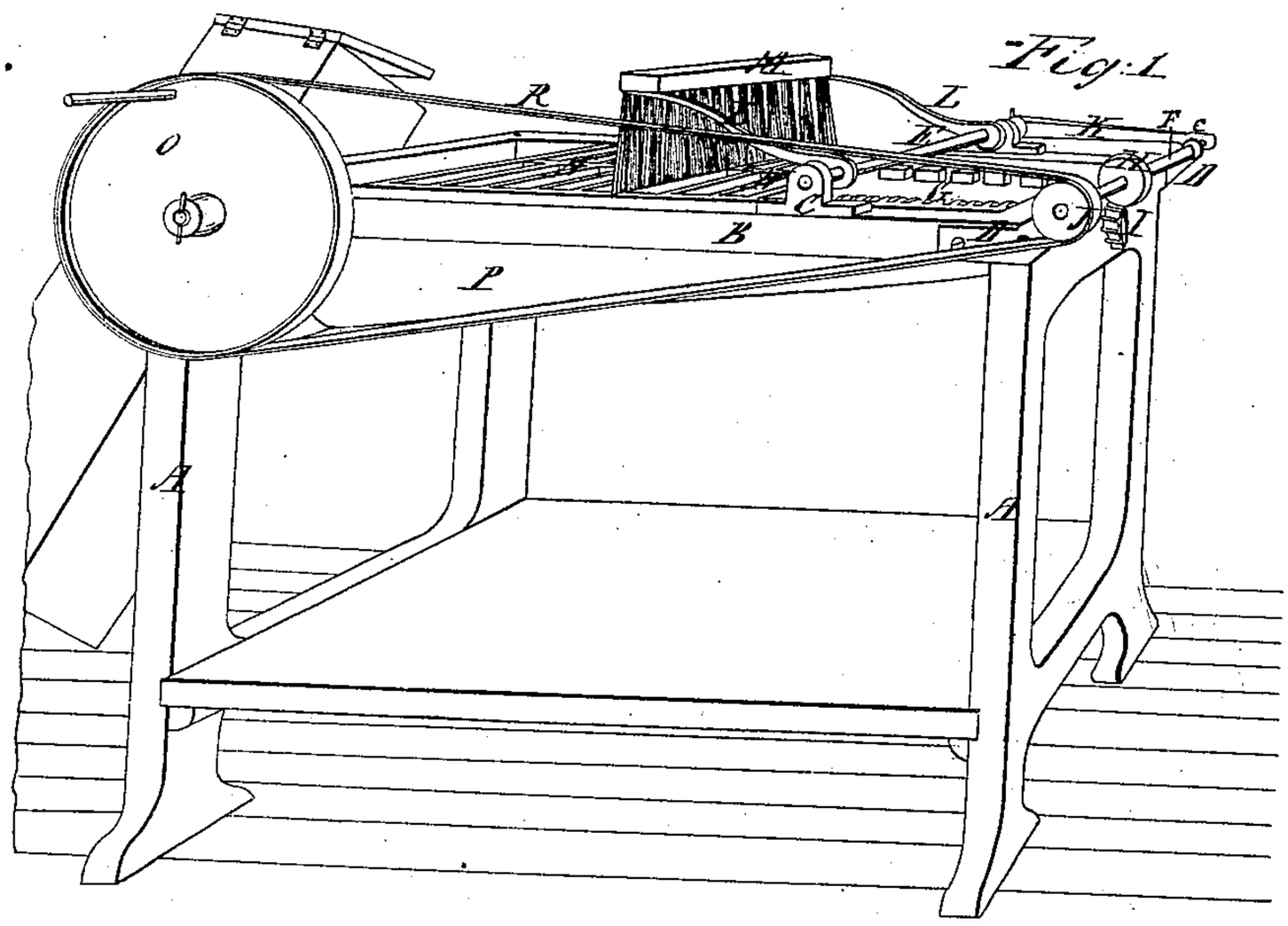
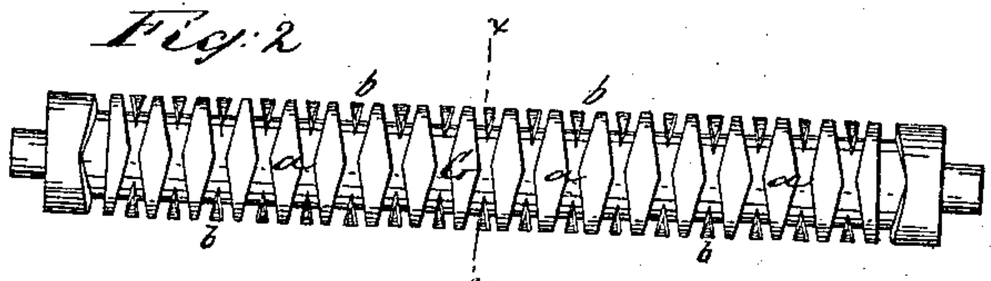


Fig. 2



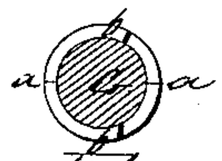


Fig. 3

Witnesses

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STEPHEN D. TUCKER, OF NEW YORK, N. Y.

Letters Patent No. 85,411, *dated December* 29, 1868.

IMPROVED MACHINE FOR COATING THE SURFACES OF ELECTROTYPE-MOULDS WITH PLUMBAGO.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, STEPHEN D. TUCKER, of the city, county, and State of New York, have invented certain new and useful Improvements in Machines for Black-Leading or Bronzing Wax or Gutta-Percha Moulds for Electrotyping; and I do hereby declare the following to be a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, and the figures and letters of reference thereon, in which—

Figure 1 is a view in perspective of the machine, with the cover removed;

Figures 2 and 3, enlarged views of the right and left-hand screw: and

Figure 4, a view of the fork, which works in the grooves of the screw.

Similar letters of reference indicate like parts in the several drawings.

My invention consists—

First, in a novel mechanism for reciprocating the carriage on which the mould is laid to be black-leaded or bronzed for electrotyping.

Second, in a mechanism for operating the brush in combination with the mechanism for moving the carriage.

Third, in the general combination and arrangement of parts.

To enable others skilled in the art to make and use my invention, I will describe its construction and operation.

To the bars B B, which, with the uprights A A, form the frame, are secured the bearings C C of the shaft E, and D D of the shaft F; the former shaft operating the brush, and the latter, the right and left-hand screw G.

This shaft F is driven by the pulley J, to which motion is imparted from the hand-wheel O by the belt R.

On this shaft is keyed the worm H, which drives the worm-wheel I, secured on the end of the screw G.

The shaft E, which works the brush M, is actuated by the slotted arm K and the wrist-pin *c*, on the end of the shaft F.

The reciprocating carriage N, which carries the mould, is constructed to slide between the bars B, forming the frame, and is supported by small blocks secured to the inner sides of the bars, beneath it.

The screw G is constructed in the manner and of the form plainly shown in figs. 2 and 3, being made with two helical grooves, one turning in opposite direction to the other, or having right and left-hand threads.

It is supported at one end by a cross-bar extending under the carriage N, between the side-bars B B, and at the other end in a suitable bearing in the right-hand frame A.

The fork Q, which works in the grooves of the screw, is arranged to turn in a socket, *d*, in the centre of the end-bar of the frame forming the carriage N.

An inclined apron, P, is secured beneath the carriage, to catch the black-lead, and a proper aperture is made in the frame, at the lower end, to allow the accumulated powder to be removed.

A suitable cover is made to enclose the top part of the machine, to prevent the powder being wasted, and is provided with a door at one end for passing the mould in and out.

The operation of the machine is as follows:

The wax or other mould is laid on the carriage N, the lead sprinkled over it, and the door closed. The rotary motion then given to the wheel O is changed, (through the medium of the screw G, actuated by the worm-wheel I and worm H, on the shaft F,) to impart a slow reciprocating movement to the carriage, and to give a rapid motion to the operating-brush M, which coats the surface of the mould with lead.

The carriage moves slowly forward, carrying the mould under the brush until the fork Q, working in one of the grooves of the screw, has arrived at the end, when, by the peculiar form of the end of the groove, it is turned and guided into the other groove cut in the reverse direction, and the carriage moves backward in the opposite direction, its movement being thus changed each time the fork Q arrives at either end of the screw.

Having thus fully described my invention,

I claim—

1. The right and left hand screw G, in combination with the carriage for carrying the mould to and fro, substantially as described and specified.

2. The combination, with the screw G, of the vibrating brush M, substantially as described and specified.

3. The combination of the screw G, worm H, shaft E, crank-pin *c*, slotted lever K, brush M, and carriage N, constructed substantially as described and specified.

STEPHEN D. TUCKER.

Witnesses:

JOHN COCHRAN,

THOMAS BELL.