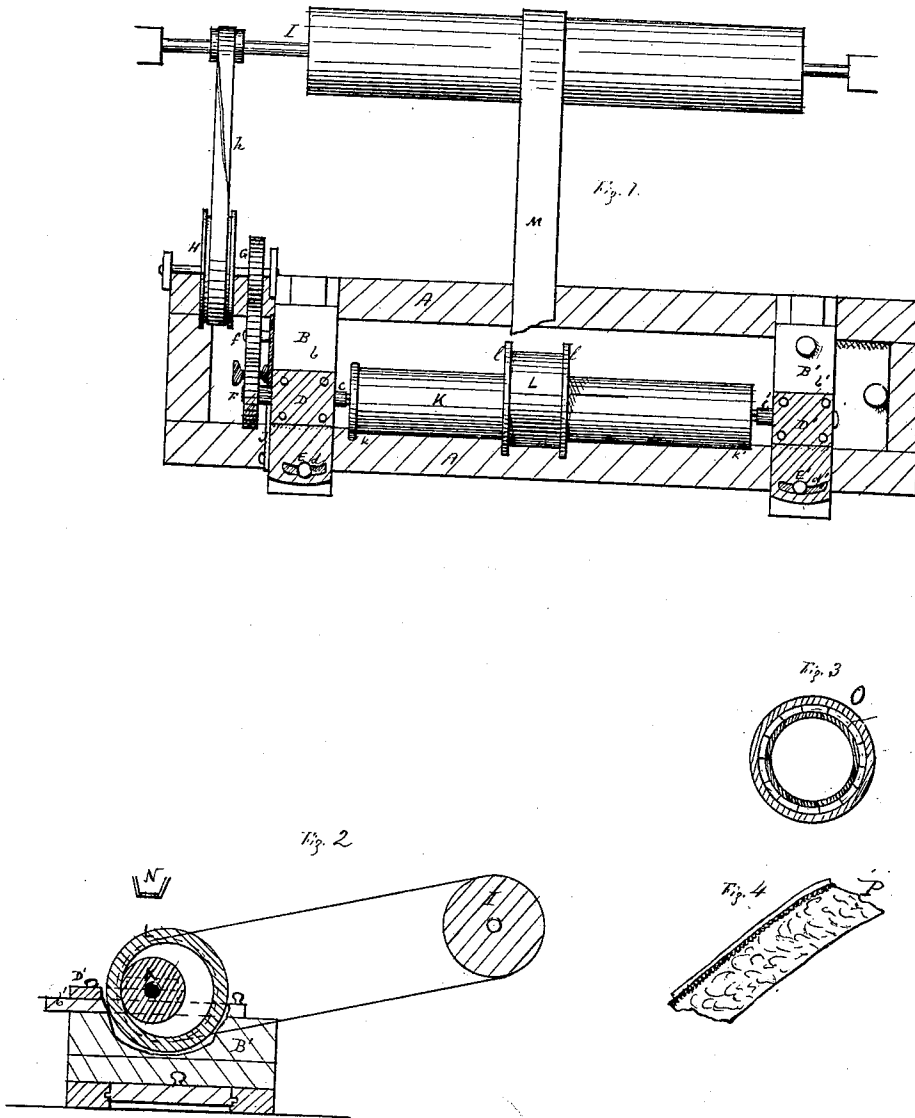


J. H. VOLK.

MACHINE FOR GRINDING AND POLISHING MARBLES.

No. 102,184.

Patented Apr. 19, 1870.



Witnesses: J. B. Furber
John W. Intosh

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Inventor

United States Patent Office.

JOHN H. VOLK, OF CHICAGO, ILLINOIS.

Letters Patent No. 102,184, dated April 19, 1870.

IMPROVEMENT IN MACHINE FOR GRINDING AND POLISHING MARBLE.

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, JOHN H. VOLK, of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in "Machine for Grinding and Polishing Marble and Stone Columns;" and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings making part of this specification, and to the letters of reference marked thereon, like letters indicating like parts wherever they occur.

To enable others skilled in the art to construct and use my invention, I will proceed to describe it.

Figure 1 represents the plan, and

Figure 2 represent the end elevation of the machine.

Figure 3 is polishing-cylinder, and

Figure 4, polishing-belt.

The object of my invention being to wear down or grind and polish marble and stone columns by machinery, its nature consists in placing a roughed and pointed column in a horizontal position on suitably-constructed and adjustable carriage, and passing over the said column a metallic sleeve, cylinder, or ring, of a larger diameter than the column, which cylinder or ring, by revolving, grinds the column.

The invention consists also in a polishing-sleeve, cylinder, ring, or belt, arranged and operating as will be hereinafter fully explained.

A is a strong frame, in which carriages B B' are affixed, one of them, B', sliding lengthways.

The top cushions or blocks *b b'* of the said carriages slide crossways by means of dovetail and groove, and the centers C C', for the column, are suitably journaled in plates D D', provided with curvilinear slots *d d'*, and set-screws, E E', for the purpose of adjusting the said centers in proper position.

One of the centers C is provided with cog-wheel F connected, by means of an intermediate pinion, *f*, with cog-wheel G and pulley H, which, by a cross-belt, *h*, is connected with shaft I.

The intermediate pinion *f* is journaled to plate J, pivoted to the stationary part of carriage B, and fixed in place by a set-screw; this for the purpose of establishing connection between cog-wheels F and G, with every change in the distance between them.

K is a column of marble, granite, or any other stone, placed between the centers and adjusted so as to have the outside line *k k'* parallel to the shaft I.

L is a metallic sleeve, or cylinder or ring, of a larger diameter than the column *k* put over the same, having smooth surface on the inside; and flanges *l l* on the outside.

M is a belt connecting cylinder L with the shaft I, and revolving the same.

The whole gear is so arranged that, while cylinder L rapidly revolves in one direction, column *k* slowly revolves in an opposite direction.

The belt M, when in operation, is intended to be pressed in the middle by a suitably-constructed lever in one direction, or in the other, for the purpose of allowing the cylinder L, while revolving, to travel along the column from end to end, or remain in place for some time, thus giving the control of the rubbing-cylinder L into the hands of an attendant, although ordinary mechanical devices may be used, of such kind as to communicate automatically, to the cylinder L, the above-described rotary and long reciprocating motion.

N is a water-trough, suitably arranged and placed over the column K.

The operation consists in this, that, after marble or stone column is roughed and pointed to shape, the rubbing-cylinder L is put on, and the column placed between the centers and adjusted, so as to have the line *k k'* parallel to the shaft I.

Belt M is affixed so as to bring a part of the inside surface of the rubbing-cylinder sufficiently close to the column.

The machinery is started, and the column is worn down to the proper size by sharp sand, coarse sand, fine sand, then by grit and hone placed into the rubbing-cylinder, while it is revolving around and traveling along the column.

After the rubbing process is over, the rubbing-cylinder is taken off, the grit and sand washed off, and the polishing-sleeve, cylinder, or ring, or the polishing belt, is put on the column, and, if the last is used, then it is passed over the shaft I also.

The polishing-sleeve, cylinder, or ring O is constructed in the same way as the rubbing device, except that the polishing device is inlaid inside with smooth blocks of wood, onto which an ordinary polishing-cloth is affixed, and it is operated round the column in the same manner as described above.

The polishing-belt P consists of an ordinary belt lined with the polishing-cloth, and, when polishing-belt is used, then it is passed over the column and the shaft I, without any cylinder or ring.

An ordinary putty polish is applied to the cloth. The polishing-cylinder or belt is used until the column is polished.

For producing moldings and other similar ornaments, the inside surface of the rubbing-ring may be shaped accordingly.

For shaping oval columns large cylinder has to be used, while the column has to remain stationary until one side is finished, then it is turned over for finish-

ing the other side, and then the connecting surfaces between the sides are finished by hand.

What I claim as new, and desire to secure by Letters Patent, is—

1. A machine for grinding down and polishing marble, granite, or stone columns, consisting of the frame A, carriages B B' with their adjustable blocks *b b'*, and centers C C', gear-wheels F *f* and G, pulley H, shaft I, and cross-belt *h*, or their equivalent, when constructed and arranged substantially as herein described, for the purpose of causing a stone column

mounted therein, and a belt passing about it and the shaft I, to move in opposite directions, as set forth.

2. A rubbing or polishing-cylinder, sleeve or ring L, constructed and arranged to be operated in the manner substantially as herein described and for the purpose set forth.

JOHN H. VOLK.

Witnesses:

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