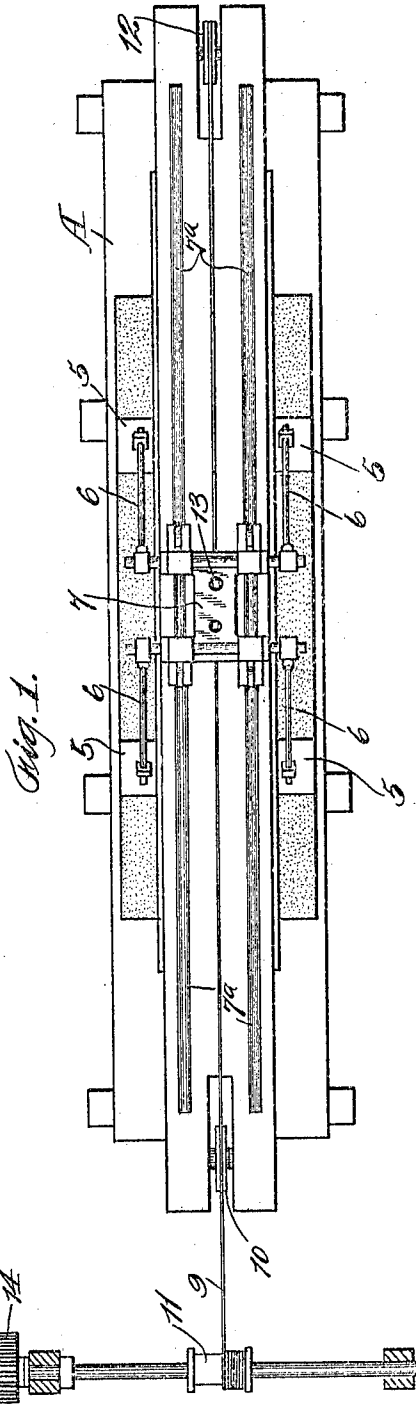


J. MODOTTI & E. QUAGELLI.
STONE POLISHING MACHINE.
APPLICATION FILED SEPT. 13, 1909.

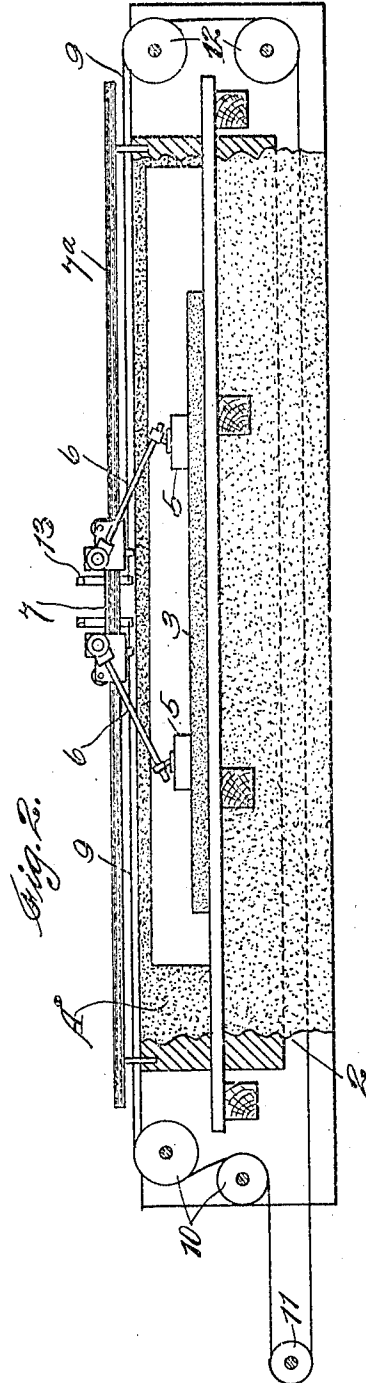
950,400.

Patented Feb. 22, 1910.

2 SHEETS—SHEET 1.



Witnesses
A. C. Maynard.
R. A. Berry.



Inventors,
Joseph Modotti and
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their attorney.

APPLICATION FILED SEPT. 13, 1909.

2 SHEETS—SHEET 2.

Fig. 4.

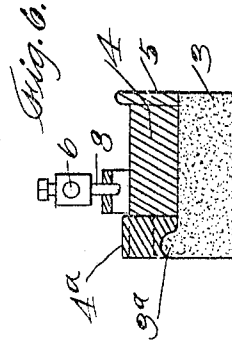


Fig. 6.

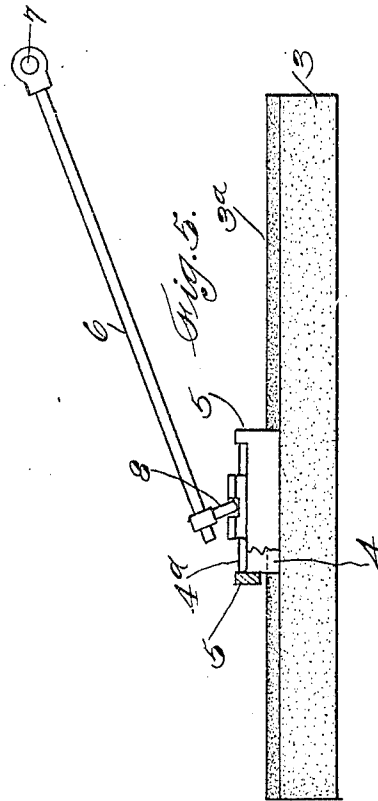


Fig. 5.

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UNITED STATES PATENT OFFICE.

JOSEPH MODOTTI AND ENRICO QUAGELLI. OF SAN FRANCISCO, CALIFORNIA.

STONE-POLISHING MACHINE.

950,400.

Specification of Letters Patent.

Patented Feb. 22, 1910.

Application filed September 13, 1909. Serial No. 517,359.

To all whom it may concern:

Be it known that we, JOSEPH MODOTTI and ENRICO QUAGELLI, citizens of the United States, residing in the city and county of San Francisco and State of California, have invented new and useful Improvements in Stone-Polishing Machines, of which the following is a specification.

Our invention relates to an apparatus which is designed for polishing stone and like work, and especially such surfaces as are not flat.

It consists in a combination of parts, and in details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a plan view. Fig. 2 is a side elevation. Fig. 3 is an end elevation and partial section. Fig. 4 is a view of the belt-shifting mechanism. Fig. 5 is an enlarged side elevation showing the polisher in position. Fig. 6 is a transverse section of the same.

It is the object of our invention to provide a mechanism which is designed for polishing surfaces of stone, or equivalent material where said surfaces are not perfectly flat, but may be formed with nosings, channels, or other longitudinally disposed elevations and depressions.

As shown in the drawings, A is a bed or foundation which may be made of concrete to provide sufficient solidity, and through the lower part of which may extend a channel or opening as at 2. The surface of this bed is preferably horizontal and straight, and adapted to receive the part to be polished. In the present case we have shown such a part at 3, this part having a projecting edge or nosing 3^a, such as will be found upon steps and the like.

The polishing devices consist of blocks 4—4^a; the block 4 being designed to slide upon the flat surface which would form the front of a step, in the present case, and the part 4^a has a groove made in it corresponding in shape to the nosing 3^a of the part to be polished. The two blocks 4—4^a abut together, and may be fitted in a carriage 5 having upturned ends to retain the polishing blocks in place. Upon this carriage a connecting rod 6 extends at an angle to a point of connection with a slidable carriage 7. This carriage may be guided and slidable upon the rods 7^a. As shown in Fig. 1 there are four of the polishers, each having a con-

necting rod 6, with a suitable carriage 7; the bed or table A being of sufficient size to receive several articles to be polished at the same time.

The carrier 5 is here shown as having an indentation or channel, and a connecting device 8 which is fixed to the rod 6 has the lower end adapted to enter the channel so that when the central main carriage 7 is reciprocated, the polishers will all be reciprocated in unison therewith. In order to produce a reciprocation of the carriage, we have shown a wire rope as at 9 connected with opposite ends of the carriage 7. From one end of the carriage this rope passes over direction pulleys 10, thence to a winding drum 11, around which it may make a sufficient number of turns to prevent slipping, thence it passes through the open channel 2 in the lower part of the bed A, thence over other direction pulleys 12, and returning over the top of the apparatus, connects with the opposite end of the carriage 7. By means of turnable pins 13 the rope or cable may be taken up at any time to maintain a proper tension and prevent lost motion. The drum 11 upon which the cable winds has fixed to it a gear-wheel 14, and this meshes with a pinion 15 mounted upon a screw-shaft 16. Upon the opposite end of the screw shaft 16 are drive and shifting pulleys of the usual character, shown at 17, with the forward and reverse belts 18 and 19 through which power is transmitted to these pulleys.

In order to automatically shift the reciprocating movement which is transmitted to the polishing surfaces, we have shown a shifting bar 20 having pins 21 fixed in it, and the end of the bar has the usual shifting pins 22 upon each side of the belts 18 and 19 so that the said belts may be moved in unison from the idler pulleys to the actual driving pulley. The shaft 16 being screw-threaded has a nut 23 adapted to travel upon it; the upper end of the neck having a fork or other projection 23^a extending with relation to the shifting bar 20 so that when the shaft and winding drum are being driven in one direction the nut will travel along the screw-shaft until the projection 23^a contacts with one of the lugs or pins 21 and thus moves the belt shifting bar 20 to change the belts 18—19, when the return movement will commence and will continue until the part 23^a contacts with the other pin or lug 21 and again shifts the belts 18—19, and reverses

the movement of the apparatus. The bar 20 is made with spaced holes or means for fixing the pins 21, and it will be obvious that by changing the position of these pins any length of stroke of the polishing apparatus may be produced. The spring 24 is adapted to press upon the bar 20 to prevent its moving out of place.

Having thus described our invention, what we claim and desire to secure by Letters Patent is—

1. The combination in a polishing machine, of a bed or support, a series of polishing blocks having faces contoured to correspond with the contours of the surfaces to be polished, carriers within which the polishing blocks are fixed, each of said carriers containing a plurality of the polishing blocks and said blocks being arranged in abutting relation in said carrier, a guided slidable carriage, connection between the carriage and each of the carriers, a flexible rope or chain having its ends connected with opposite ends of the carriage, guide pulleys and a winding drum over which the rope passes, and mechanism by which the drum is rotated alternately in opposite directions to transmit a reciprocating movement to the polishers.

2. The combination in a polishing apparatus, of a bed or support, polishing blocks having faces formed to fit the contour of the surfaces to be polished, single carriers in which a plurality of said blocks may be fixed in abutting relation, a guided slidable carriage, connecting rods flexibly connecting each of the carriers with the single immediate carriage, flexible ropes or chains con-

nected with opposite ends of the carriage, guide pulleys and winding drum and means around which the flexible transmitter passes, mechanism by which the drum is alternately rotated in opposite directions to produce a reciprocating movement of the polishers, and means by which slack of the rope may be taken up to prevent lost motion.

3. The combination in a polishing apparatus, of a longitudinally channeled bed or support, a plurality of polishing blocks adapted to fit the contour of the surfaces to be polished, carriers in which said blocks are fixed, a centrally guided and slidable carriage, rods or links connecting the carriers with the carriage, a flexible transmitting rope or chain, guide pulleys and a winding drum around which said chain passes, a screw-threaded countershaft having tight and loose pulleys fixed to one end and transmitting belts therefrom, gears upon the other end by which motion is transmitted to the drum shaft, a screw-threaded nut, or traveler movable upon the screw-threaded shaft, a belt shifting bar having pins adjustably fixed thereto and adapted to contact with the traveler whereby the direction of rotation of the drum is reversed and a reciprocating motion is transmitted to the polishing apparatus.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

JOSEPH MODOTTI.
ENRICO QUAGELIA.

Witnesses:

FREDERICK E. MAYNARD,
CHARLES EDELMAN.