(No Model.) 2 Sheets—Sheet 1.

G. TAYLOR.

MACHINE FOR EDGING AND SURFACING MARBLE TILES.

No. 474,033. Patented May 3, 1892.

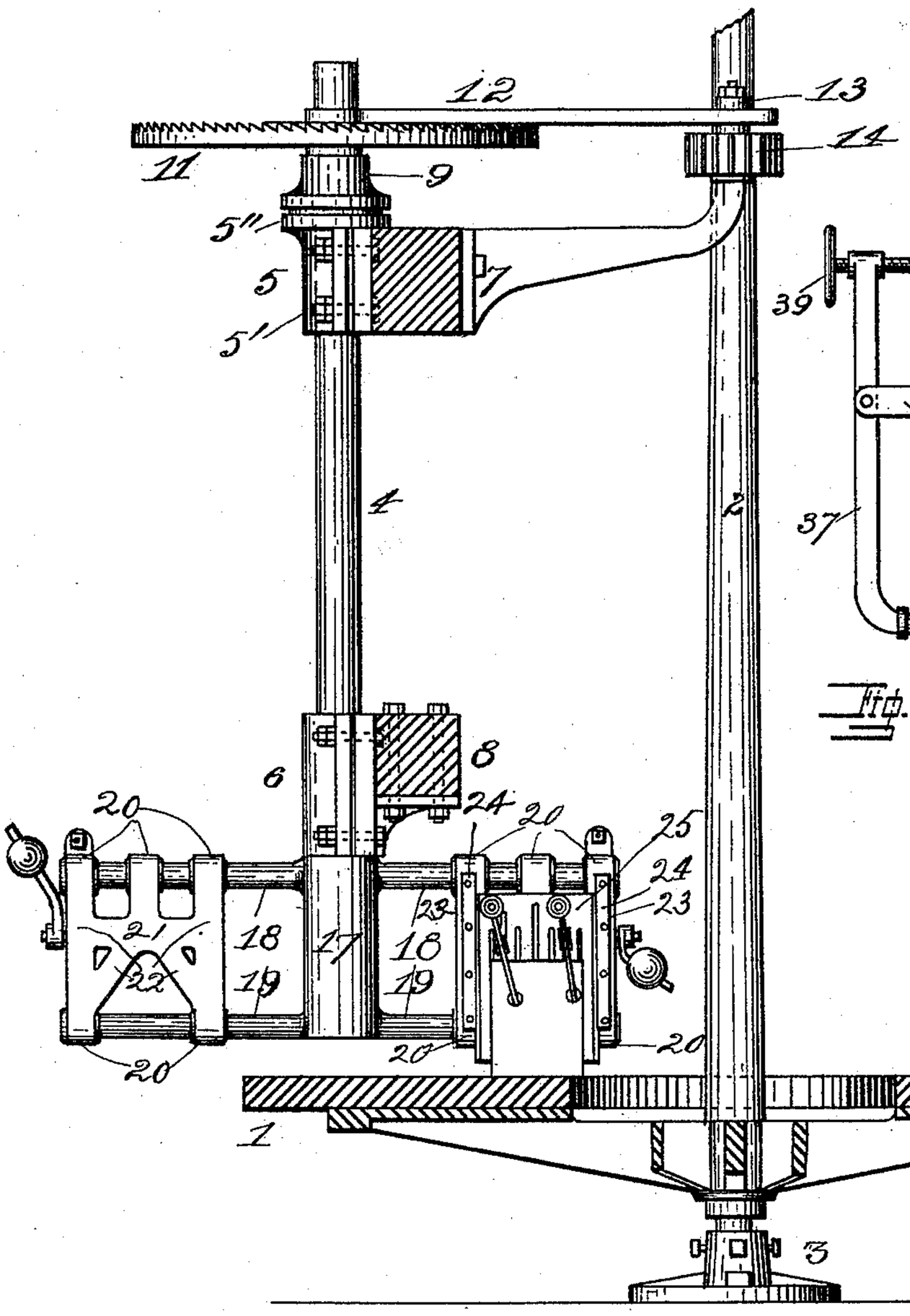

Fig. 1.

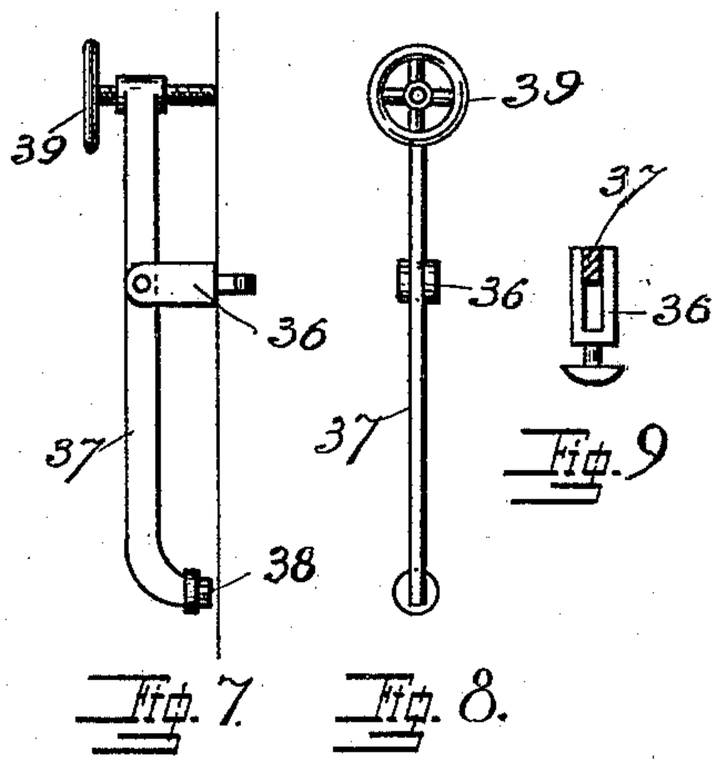

Fig. 7.

Fig. 8.

Fig. 9.

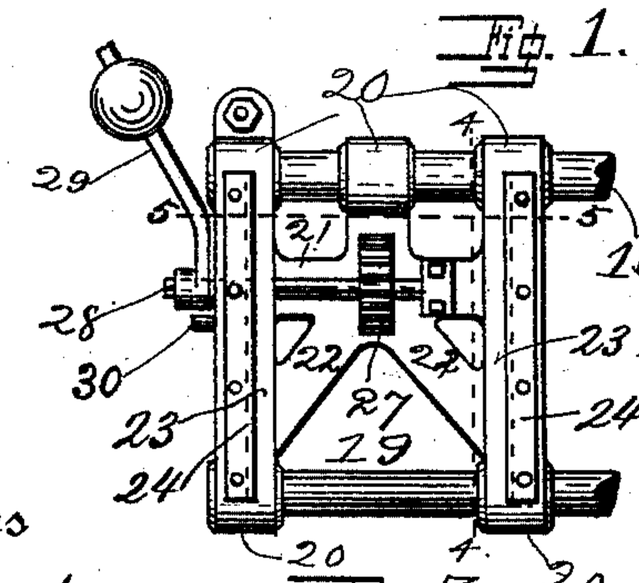

Fig. 3.

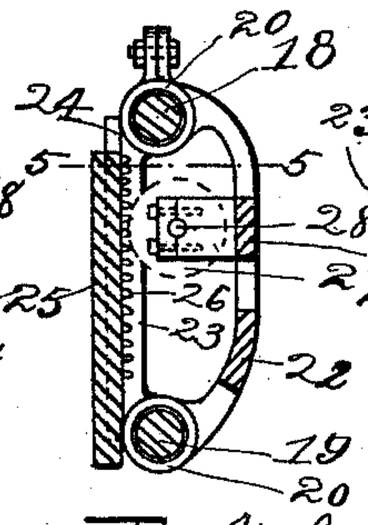

Fig. 4.

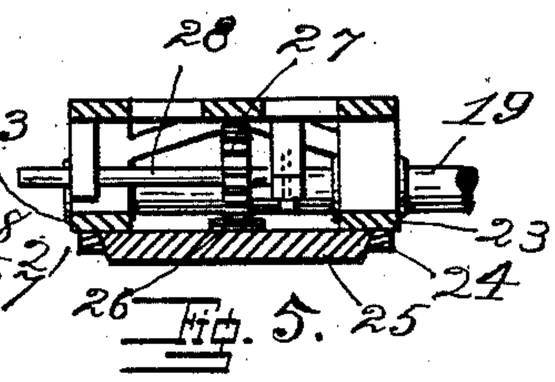

Fig. 5.

Witnesses
L. F. Hayden.
Edward Mood.

Inventor
George Taylor,
By his Attorneys
A. A. Woodson

(No Model.) 2 Sheets—Sheet 2.

G. TAYLOR.

MACHINE FOR EDGING AND SURFACING MARBLE TILES.

No. 474,033. Patented May 3, 1892.

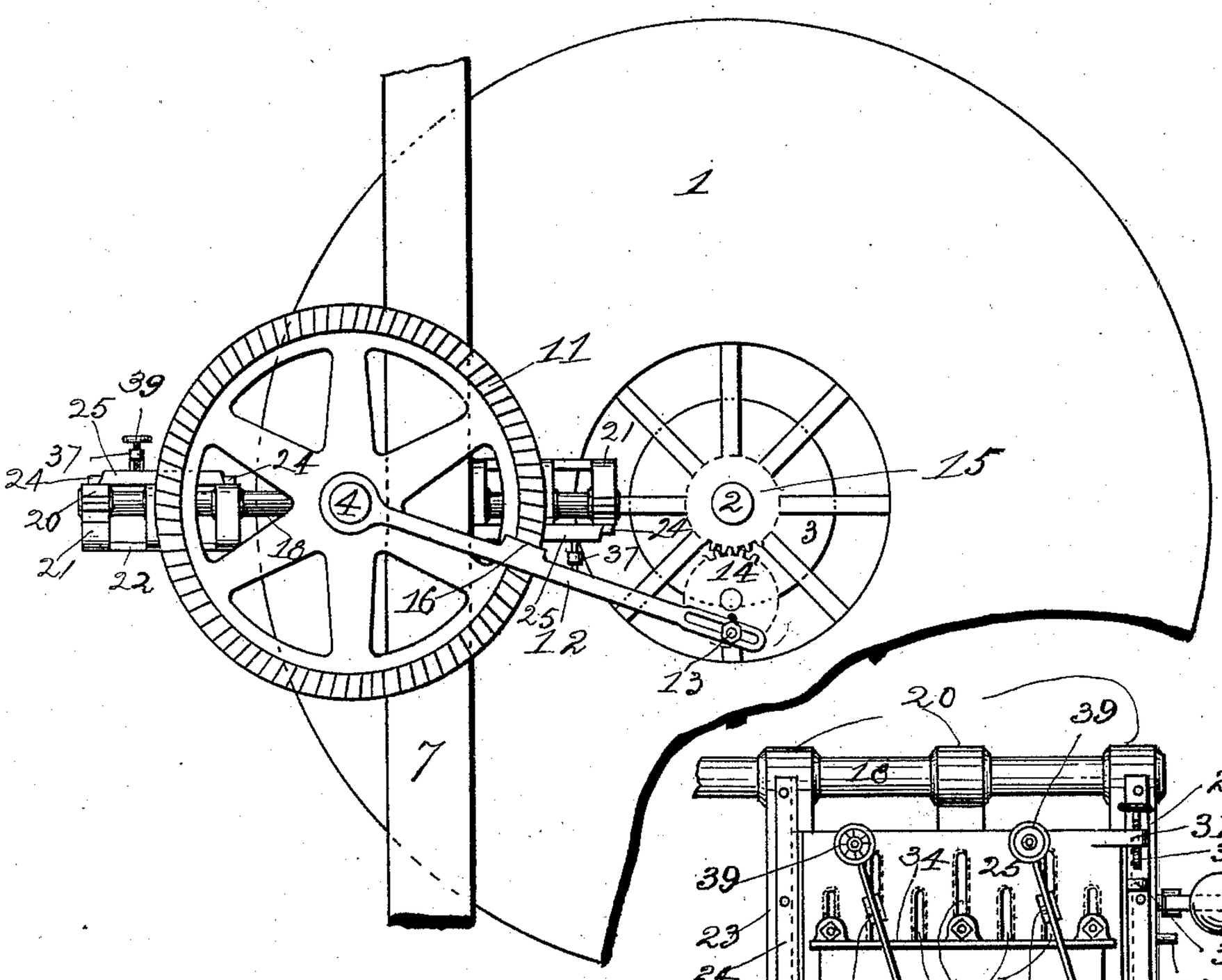

Fig. 2.

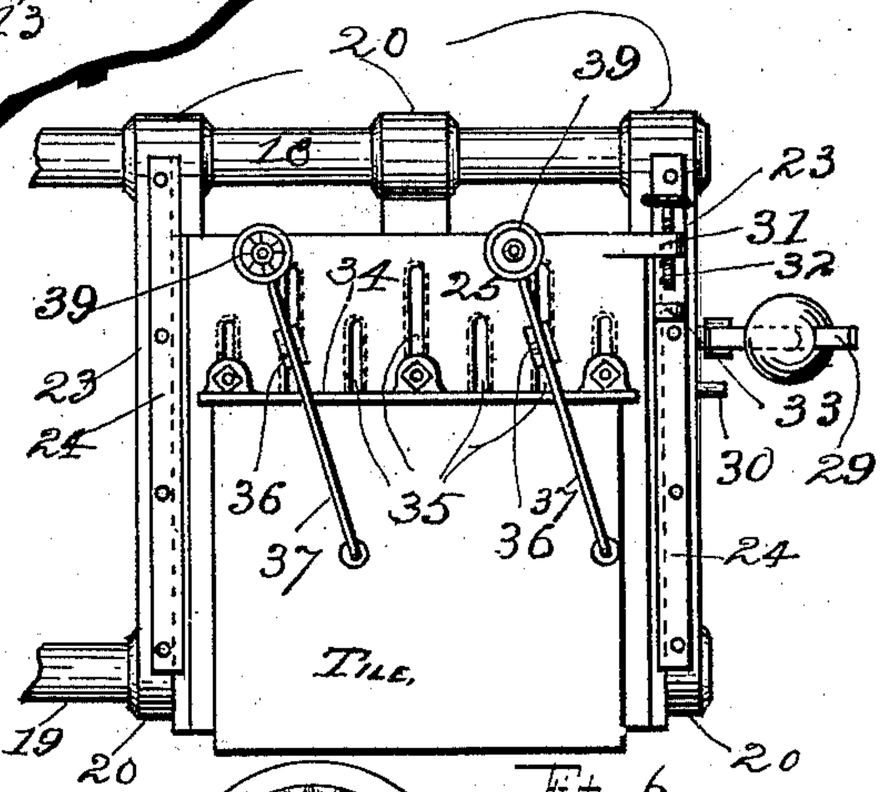

Fig. 6.

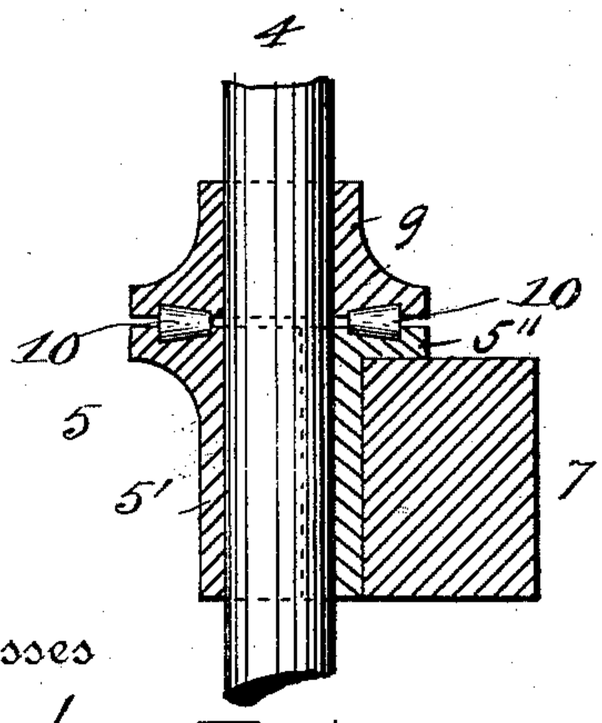

Fig. 10.

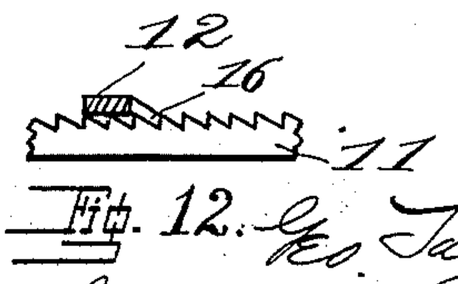

Fig. 12.

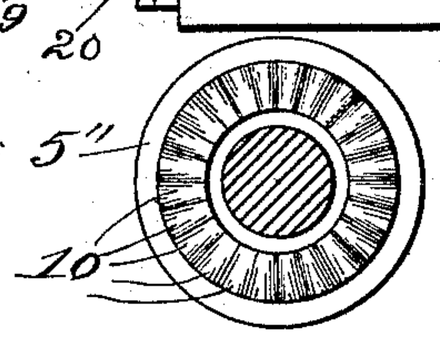

Fig. 11.

Witnesses
L. F. Hayden
Edward D. Wood.

Inventor
Geo. Taylor
By his Attorneys
A. L. Woodbridge

UNITED STATES PATENT OFFICE.

GEORGE TAYLOR, OF ATLANTA, GEORGIA.

MACHINE FOR EDGING AND SURFACING MARBLE TILES.

SPECIFICATION forming part of Letters Patent No. 474,033, dated May 3, 1892.

Application filed August 22, 1891. Serial No. 403,464. (No model.)

To all whom it may concern:

Be it known that I, GEORGE TAYLOR, of Atlanta, in the county of Fulton and State of Georgia, have invented certain new and useful Improvements in Machines for Edging and Surfacing Marble Tiles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

This invention relates, as above stated, to machinery and appliances for grinding by means of the ordinary circular metallic rubbing-bed blocks or slabs of marble, special attention being given to handling and holding the marble and feeding it onto and against the said rubbing-bed, the details of all of which will be hereinafter fully specified.

In the accompanying drawings, Figure 1 is a side elevation of the device, showing a tile in position over the rubbing-bed, said bed being in section. The figure also shows the mounting of the various parts. Fig. 2 is a plan of Fig. 1, further showing the elements therein shown. Fig. 3 is a front view of one of the tile-carriage frames, the carriage being removed to show the interior. Fig. 4 is a section on the line 4 4, Fig. 3, further showing the elements. Fig. 5 is a horizontal section on the line 5, Figs. 3 and 4, the bed-plate of the sliding carriage being shown in place. Fig. 6 is an enlarged front elevation of the carriage. Fig. 7 is a detail of the removable swiveled clamp in side elevation. Fig. 8 shows the same element in front elevation. Fig. 9 is a view of the swivel. Fig. 10 is a detail in vertical section of the upper bearing of the carriage-shaft. Fig. 11 is a view of the lower box thereof with the anti-friction cones in place. Fig. 12 is a detail of the device for revolving the carriage.

In the figures like reference marks indicate corresponding elements of construction in all the views.

The rubbing-bed 1 is of the usual form, consisting of cast-iron mounted on a revoluble shaft 2, set in an adjustable step 3 and driven by means of gearing. These elements may be of any description, and I do not wish to specify any particular character of rubbing-bed, as any kind may be used equally advantageously in connection with my device. A shaft 4 is carried in bearings 5 and 6, secured to suitable timbers 7 and 8, the bearing 5 being of such a nature as will sustain the weight of the shaft 4 and attached elements, while the bearing 6 may be an ordinary pillow-block bearing. The bearing 5 is preferably composed of a lower part 5′, which is bolted to the beam 7 and carries on its upper end a flange 5″, which has a conical-bottomed recess therein. A collar 9 is secured to the shaft 4 and has a flange chambered out in a corresponding manner to the flange 5″. Conical rollers 10 are placed within the recess formed by these chambers, and an anti-friction bearing is so formed which will easily carry the necessary weight without cutting. The shaft 4 is revolved by means of a crow ratchet-wheel 11 thereon and a lever 12, carrying an engaging-lip 16 and being pivoted on said shaft 4 and slotted at its distal extremity, through which slot works the wrist-pin 13 of a gear 14, mounted on a suitable bracket and meshing with a gear 15, Fig. 2, on the shaft 2. The gear 14 is slotted, as shown in that figure, to receive the wrist-pin, and radial adjustment is thereby had by means of which the vibrations of the lever 12 may be adjusted and the speed of the shaft 4 so be governed. On the lower end of this shaft 4 is carried a head 17, which has arms 18 and 19, projecting, preferably, in a radial direction therefrom, of which arms there may be any number desired, the capacity of the machine being calculated accordingly. Each arm 18 should be arranged directly over the arm 19, in order to receive the sleeves 20 of the frame 21, (best shown in Fig. 6,) one of which is split and compressible to engage the arm 18 and hold the frame 21 rigid thereon. The frame 21 is composed of back braces 22 (not necessary, but preferred for sake of strength and rigidity) and the vertical ways 23, to which ways are bolted the guides 24, having beveled inner edges. Dovetailed guides are so formed for the bed-plate 25, which has beveled edges to fit said guides. On the back of this plate 25 is a rack 26, which meshes with the gear 27 on the shaft 28, journaled on the frame 21 and having a weighted lever 29, which acts

to revolve said shaft in a direction which will, through said rock and gear, force the plate 25 downwardly in its guides. A stop-pin 30, set in the frame 21, limits the downward movement of said lever. A stop whereby a close adjustment of the point of stoppage may be had is constructed by casting or otherwise making upon the plate 25 an arm 31, Fig. 6, which carries a screw 32, the end of which screw comes into contact with the lug 33 on the frame. By means of the screw a close adjustment may be had and uniform-size tiles assured, a guide 34, bolted to the face of the plate 25, insuring that the tiles will be correctly placed. Slots 35 in the plate allow for the attachment and adjustment of the guide 34 and also of the swivel 36, in which the clamp 37 is pivoted, said clamp being in the form of a lever pivoted near its middle, downturned near its end, and having a soft-metal friction-piece 38, Fig. 7, cast in its bearing-face and a screw 39, preferably double-threaded for speed, passed through its other end, its end adapted to bear upon the plate 25 when in position. The head of the swivel 36 is oblong, so that when inserted in the slot in the plate turning it will hold it against withdrawal.

The operation of the device is as follows: A slab of marble, usually termed a "tile," is placed against the sliding plate of the carriage at that time off of the rubbing-bed and clamped thereon by the clamps, after which the said plate is raised by lifting the weight on the pinion-shaft. The next carriage in rotation may then be filled in the same manner. As soon as a carriage is over the rubbing-bed the plate is lowered until the edge of the tile rests on the same, the weight insuring a downward feed until the lever strikes the pin, when said carriage will descend by its own weight alone and a lighter pressure be given the feed until the screw carried on the arm in the plate contacts with the lug on the guide, which should take place before the revolution of the head shall have removed said carriage from over the rubbing-bed, which is provided for by the adjustment of the speed of the revolution of the head by moving the wrist-pin in its slot in the pinion, as specified. If another part of the rubbing-bed is desired to be used or if a wider tile is to be edged, the carriages one and all may be adjusted radially to the head by sliding them along on the arms thereof.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a device of the class specified, a rubbing-bed and a carriage suspended thereover comprising the frame having a gear mounted on a shaft therein and means for revolving same, a bed-plate mounted and movable vertically in guides on said frame and carrying on its back a rack engaging said gear, and means for securing a tile to said bed-plate, substantially as and for the purpose specified.

2. In a device of the class specified, a rubbing-bed, a tile-holding head pivoted thereover in such a position as to bring said tile into contact with said rubbing-bed, a ratchet-wheel on the shaft of said head, a gear mounted on the frame of the machine and carrying a wrist-pin, and an oscillating lever pivoted at one end on the said shaft and at the other engaging said wrist-pin, having intermediately a lip engaging the teeth of said ratchet, substantially as and for the purpose specified.

3. In a device of the class specified, a rubbing-bed and a carriage suspended thereover comprising the frame having a gear mounted on a shaft therein and means for revolving same, a bed-plate mounted and movable vertically in guides on said frame and carrying on its back side a rack meshing with said gear, correlative lugs on said frame and bed-plate, and a screw passing through the lug on the bed-plate, adapted to impinge against said lug on said frame, all combined, arranged, and operating substantially as and for the purpose specified.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

GEO. TAYLOR.

Witnesses:
A. P. WOOD,
EDW. P. WOOD.