June 6, 1950 J. G. FARGO 2,510,689

TERRAZZO BASE GRINDING AND POLISHING MACHINE

Filed March 17, 1948

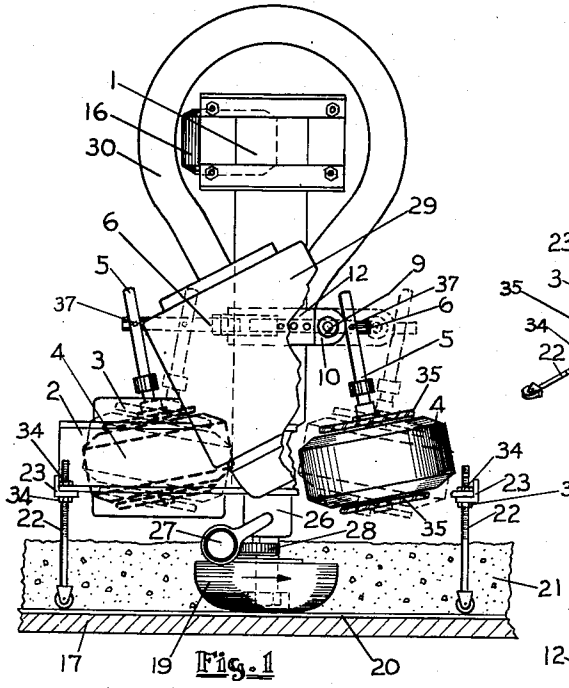


Fig. 1

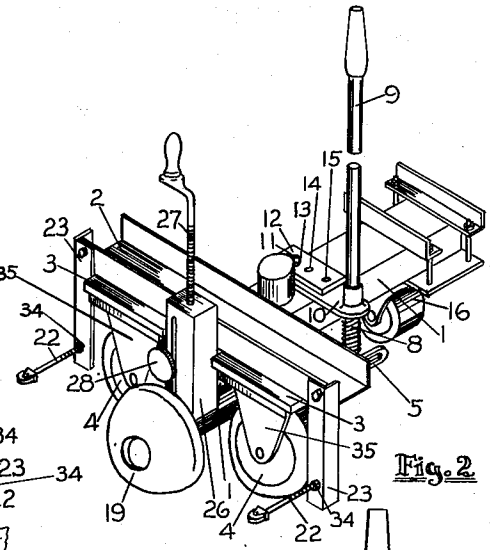


Fig. 2

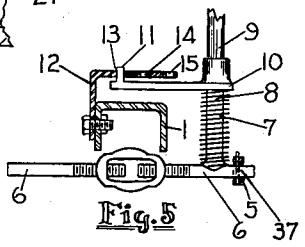


Fig. 5

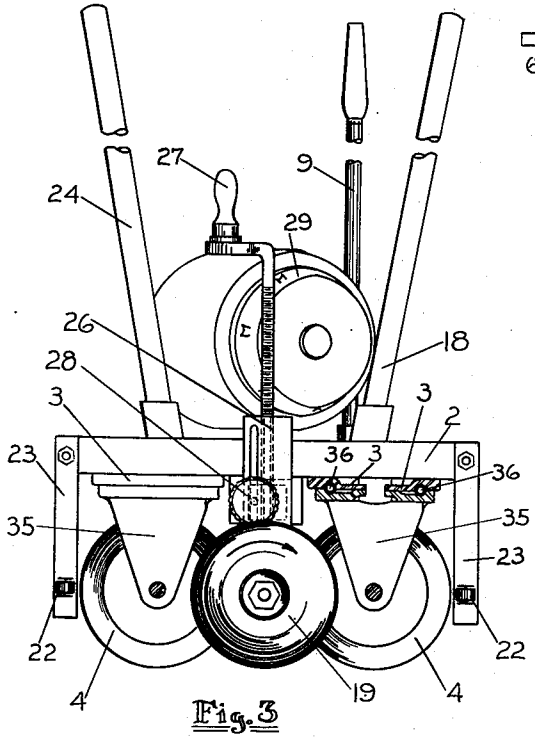


Fig. 3

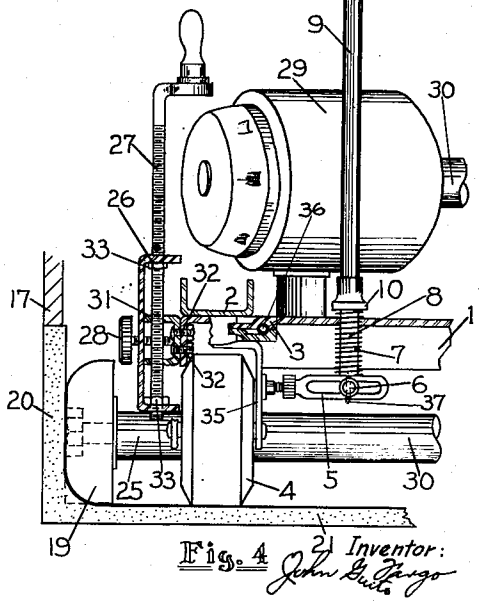


Fig. 4

Inventor:
John G. Fargo

Patented June 6, 1950 2,510,689

UNITED STATES PATENT OFFICE

2,510,689

TERRAZZO BASE GRINDING AND POLISHING MACHINE

John Guito Fargo, Indianapolis, Ind.

Application March 17, 1948, Serial No. 15,403

1 Claim. (Cl. 51—177)

1

The invention relates to a new improved type of motor-driven, terrazzo base machine for grinding and/or polishing terrazzo base consisting of a steering mechanism operating non-slip wheels to convert forward or backward thrust into side pressure exerted against an upright, parallel surface and having on such side of machine an abrasive, motor-driven, adjustable grinding wheel; and the objects of this improvement are, first, to eliminate most of the existing arduous method in which the operator from a kneeling or sitting position applies hand pressure direct to surface to be ground or polished with a hand-operated, motor-driven machine or attachment; second, to decrease unit cost by increasing unit production; third, to improve quality of workmanship; and, fourth, to improve working conditions and safeguard health by eliminating, through use of water, dust that accumulates from the dry grinding that is more popular with existing techniques.

One form of the invention is illustrated in the accompanying drawing, in which Figure 1 is a top view of the entire machine showing the steering mechanism in two positions; Figure 2, a perspective view of the machine as it appears after the removal of the motor and flexible shaft; Figure 3, a side view of the machine showing face of grinding stone with arrow thereon indicating direction of travel; and Figure 4, a detailed, cut-away view of the elevating mechanism and grinding stone assembly attached thereto. Figure 5 is a detailed cross-section of locking device indicated in Fig. 2.

The channel 1 and its crossmember 2, secured to the top of the channel 1, constitute the framework. To the crossmember 2, are bolted two ball-bearing, swivel plates 3—3, supporting horns 35—35 with ball-bearing race 36. Horns 35—35 contain two ball-bearing, rubber-tired wheels 4—4. To the horns 35—35, are secured two steering knuckles 5—5, the outer ends of which are connected by an adjustable tie rod 6 (Figure 1) with pivot pins 37—37 in such manner as to maintain tie rod 6 parallel to frame 2 in all positions. To one end of the tie rod 6, is welded a vertical shaft 7, over which is first placed a locking spring 8, and then a snug-fitting, tubular steering handle 9, at the lower end of which is secured a dowel pin arm 10, with dowel pin 11 secured thereon (Figure 2). To the channel 1, is secured a control plate 12 in which are three dowel pin holes 13, 14, and 15 (Figure 2). With the dowel pin 11 in dowel pin hole 13, the wheels 4—4, shown by their partially solid lines in Figure 1, are turned and locked toward the wall 17, as the machine is pushed forward from the starting point by the control handle 18, fastened to the crossmember 2, thus maintaining a pressure on the grinding stone 19 against the terrazzo base 20, formed at the junction of the floor 21 and wall 17. Two adjustable roller guides 22—22, adjusted by locking nuts 34—34 secured to roller guide holders 23—23, in turn secured to the crossmember 2, maintain the grinding stone 19 flush with the surface to be ground. All the above-mentioned parts of the machine, excluding the grinding stone, framework, and wheels, constitute the steering mechanism. By depressing the tubular steering handle 9, thus compressing locking spring 8 and disengaging dowel pin 11 from dowel pin hole 13 the dowel pin 11 can be pulled to dowel pin hole 15, reversing the angle of the wheels 4—4, shown in this new position in Figure 1 by all-dotted lines, toward the wall 17. The wheels 4—4 are then locked in place by releasing the tubular steering handle 9, the dowel pin 11 thus being thrust into dowel pin hole 15 by the locking spring 8. The machine can then be pulled to the starting point by control handle 18, and the pressure continuously maintained against the terrazzo base 20, by the grinding stone 19. From the starting point the operation is repeated continually, thus gradually grinding or polishing the particular section of terrazzo base until it is finally ground with a coarse grit abrasive stone or polished with a fine one, as the case may be. Dowel pin hole 14 is a neutral position, i. e., it is used to place the wheels 4—4 parallel to the terrazzo base 20, if desired. Control handle 24 may be used to operate machine from opposite side. To the outer end of channel 1, is secured a rubber-tired, all-ball bearing castor wheel 16, which, with the two wheels 4—4, provides three-wheel contact with the floor (Figure 2).

2

Terrazzo base 20, as shown in Figure 4, has a sanitary radius cove. A straight type base and substitute grinding stone are shown in dotted lines added to the aforementioned in Figure 4. Terrazzo floor and base are shown in the drawing and mentioned herein for illustrative purposes only. If additional steering traction on wheels 4—4 is desired, metal weights can be placed on top of the crossmember 2. Water may be fed direct to the grinding stone 19 by any suitable medium.

The grinding stone handle assembly 25, in which the grinding stone 19 turns, is secured to an elevating mechanism 26, and can be raised and lowered by a threaded crank 27, which is

free-turning through reamed holes in the upper and lower flanges of elevating mechanism **26**, being held therein in a vertically locked position with lock nuts **33—33** and threaded through the tapped holes of channel plate **31** (Figure 4), secured to crossmember **2** by studs **32—32**. Thus the grinding stone **19**, is adjusted to correct height by turning crank **27** in the required direction thereby traversing the elevating mechanism **26** through the channel plate **31** and the crossmember **2** to which the plate is fastened thereby raising or lowering the elevating mechanism **26**, the grinding stone handle assembly **25**, which is secured thereon, and the grinding stone **19** which turns in the grinding stone assembly. The elevating mechanism **26** is locked in the desired position by elevating mechanism thumb screw **28**, operating in a suitable slot on the elevating mechanism (Figure 2) but threaded into a tapped hole in the crossmember **2** (Figure 4).

Power can be furnished to the grinding stone **19**, by any suitable medium, such as, an electric motor **29**, mounted on channel **1**, with a flexible shaft housing **30**, enclosing a flexible shaft that is led into the grinding stone handle assembly **25**, all as indicated in the drawing though forming no part of the present invention.

I am aware that prior to my invention power-driven machines have been used to grind terrazzo base; but

I claim:

The combination, in a motor-driven, terrazzo base grinding and polishing machine, of a main frame, two supporting wheels adjacent one edge of the frame, brackets positioned under the frame and pivoted to the frame for supporting one portion of the frame on such wheels, another wheel under the frame at the opposite edge thereof and secured to the frame for supporting the remainder of the frame, an arm rigidly connected

to each bracket and extending therefrom in a direction laterally of the plane of the wheel, the arm being substantially parallel, a tie bar pivotally connected to the free end of each arm to tie the arms together, releasable locking means securing the tie bar in adjusted position with respect to the frame, a driving motor mounted on the frame, a driven shaft positioned under the frame and projecting at one end beyond the edge of the frame that is supported on the two first mentioned wheels, bearings suspending the driven shaft from the frame, such shaft being positioned to extend between the two first mentioned supporting wheels, a flexible shaft connecting the motor with the driven shaft, an abrading wheel secured to the end of the driven shaft that projects beyond the edge of the frame, two rigid bars secured to the frame and projecting from the edge thereof in positions parallel with the projecting portion of the driven shaft, and wheels mounted on the free ends of such rigid bars in positions approximately flush with the side face of the abrading wheel remote from the frame to space the frame from a vertical wall, one of the bearings suspending the driven shaft from the frame being adjustable to adjust the abrading wheel toward and from the main frame.

JOHN GUITO FARGO.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,871,042	Cavicchi	Aug. 9, 1932
1,984,205	Vinella	Dec. 11, 1934
2,298,228	Pond et al.	Oct. 6, 1942