P. ZOBOLI & G. VICENTINI.

WALL DRESSING MACHINE.

APPLICATION FILED DEC. 13, 1915.

1,176,262.

Patented Mar. 21, 1916.

3 SHEETS—SHEET 1.

Fig. 1.

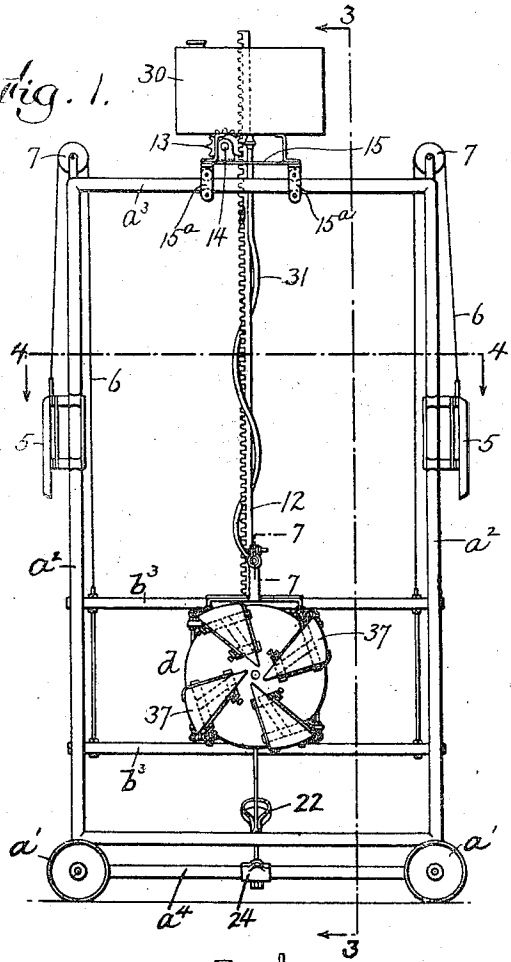



Fig. 2.

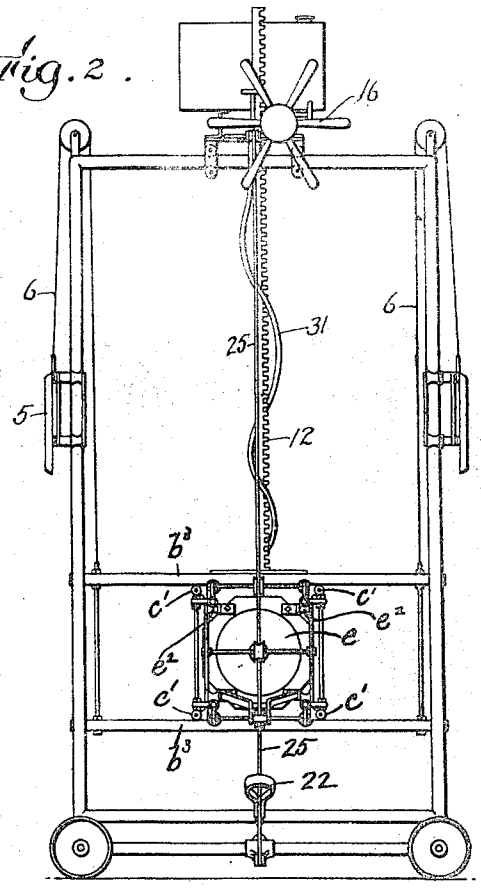



Fig. 3.

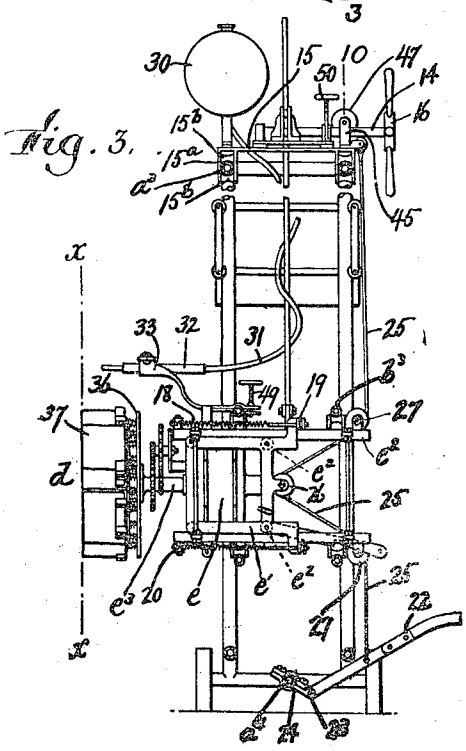
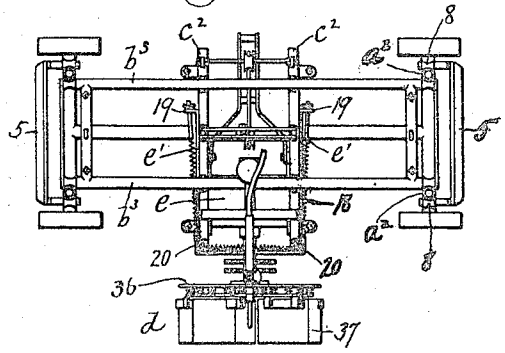



Fig. 4.




Inventors:
Partenio Zoboli
G. Vicentini

by Wright Brown Quinby & May
Attorneys.

P. ZOBOLI & G. VICENTINI.

WALL DRESSING MACHINE.

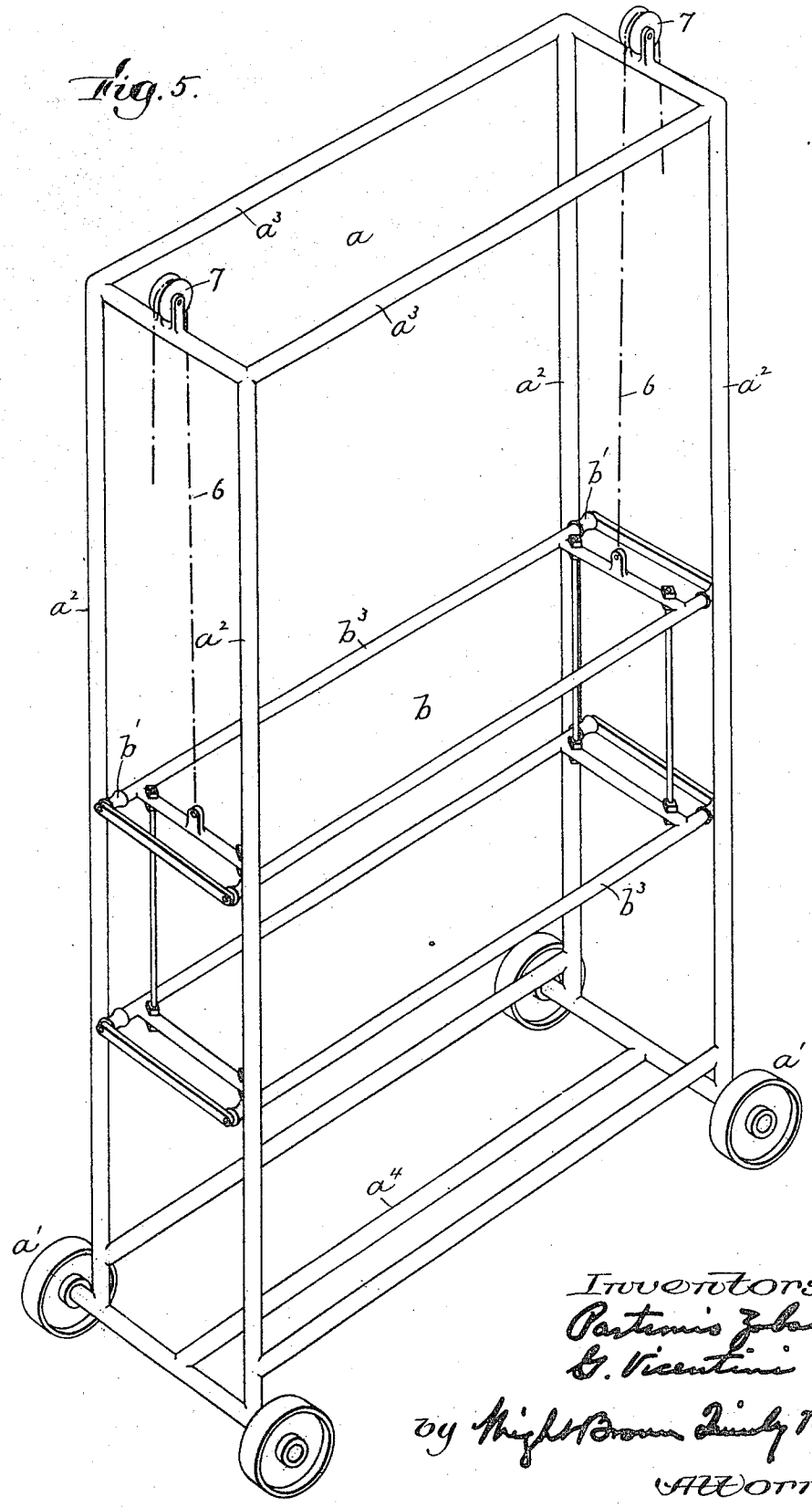
APPLICATION FILED DEC. 13, 1915.

1,176,262.

Patented Mar. 21, 1916.

3 SHEETS—SHEET 2.

Fig. 5.




Inventors:
Partenio Zoboli
G. Vicentini
by Wright Brown Quinby & May
Attorneys.

P. ZOBOLI & G. VICENTINI.

WALL DRESSING MACHINE.

APPLICATION FILED DEC. 13, 1915.

1,176,262.

Patented Mar. 21, 1916.

3 SHEETS—SHEET 3.

Fig. 6.

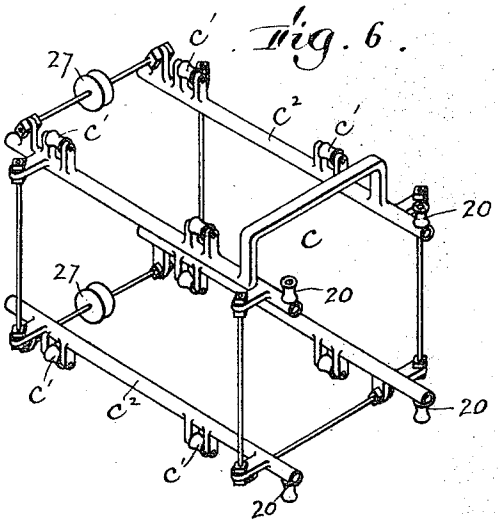



Fig. 9.

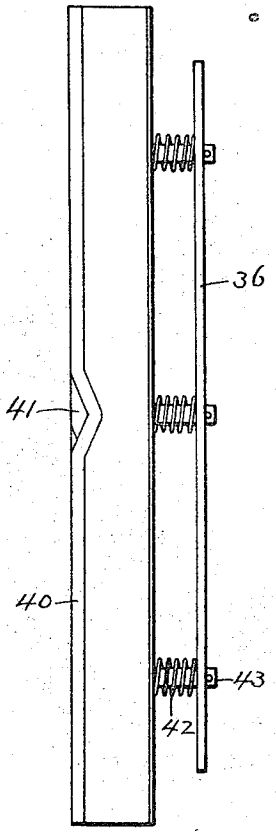



Fig. 8

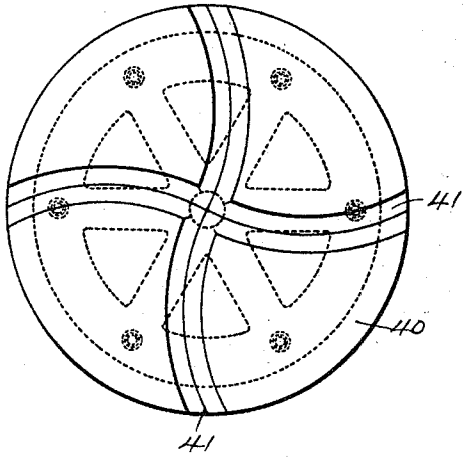



Fig. 7.

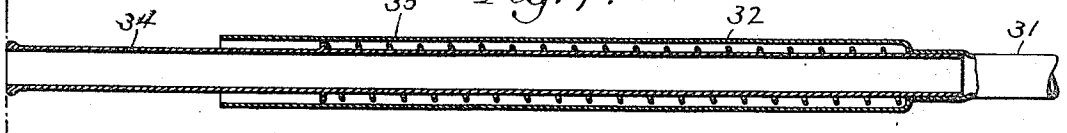
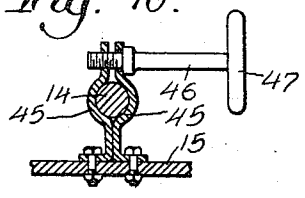



Fig. 10.




Inventors:
Patsemio Zoboli
G. Vicentini
by Wright Brown Quinby & May
Attorneys.

# UNITED STATES PATENT OFFICE.

PARTEMIO ZOBOLI AND GIOVANNI VICENTINI, OF CAMBRIDGE, MASSACHUSETTS.

## WALL-DRESSING MACHINE.

1,176,262. Specification of Letters Patent. Patented Mar. 21, 1916.

Application filed December 13, 1915. Serial No. 66,465.

*To all whom it may concern:*

Be it known that we, PARTEMIO ZOBOLI and GIOVANNI VICENTINI, subjects of the King of Italy, residing at Cambridge, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Wall-Dressing Machines, of which the following is a specification.

This invention relates to machines for forming a smooth surface on the vertical wall of a building or of an apartment, the material of the wall being of such nature that it is capable of being rendered smooth by abrasion or grinding, and being, for example, of concrete or other artificial stone, or of natural stone, such as ashler, marble, etc., and the surface formed by the machine of our invention being either on the exterior or the interior of a building.

The invention is embodied in a machine comprising an electric or other motor, a rotary dressing wheel driven by the motor and adapted to form a smooth surface on a relatively rough vertical wall, and a framework having provisions for presenting the wheel to the wall in such manner that the area of the surface formed thereby may be gradually increased without moving the framework as a whole, first, by successive adjustments of the wheel within the area of the framework, and, secondly, by changes of position of the framework from time to time.

Of the accompanying drawings forming a part of this specification: Figure 1 represents a front elevation of a machine embodying our invention; Fig. 2 represents a rear elevation of the same; Fig. 3 represents a section on line 3—3 of Fig. 1; Fig. 4 represents a section on line 4—4 of Fig. 1; Fig. 5 represents a perspective view showing the parts of the framework called the main frame and the lift; Fig. 6 represents a perspective view showing the part of the framework called the carriage; Fig. 7 represents a section on line 7—7 of Fig. 1; Fig. 8 represents a side view, and Fig. 9 an edge view of a dressing wheel adapted for polishing; Fig. 10 represents a section on the line 10 of Fig. 3.

The same reference characters indicate the same or similar parts in all the views.

The framework of the machine includes a horizontally movable main frame, indicated as a whole by $a$ (Fig. 5), mounted on wheels $a'$ and adapted to travel endwise on a horizontal support such as a floor, pavement, or staging, a vertically adjustable frame, indicated as a whole by $b$, guided in a vertical path by the upright corner members $a^2$ of the frame $a$, and hereinafter called the lift, and a horizontally adjustable frame, indicated as a whole by $c$ (Fig. 6), and hereinafter called the carriage, because it carries the rotary dressing wheel $d$ and the electric motor $e$, the shaft $e^3$ of which is attached to and rotates said wheel.

The lift $b$ has rollers $b'$ running on the uprights $a^2$ and is counterbalanced by weights 5 attached to cords or chains 6 and guided by pulleys 7 on the main frame $a$. The weights 5 are preferably formed as weighted frames having rollers 8 running on the outer sides of the main frame uprights $a^2$, as shown by Figs. 2 and 4. The lift is adjustable vertically to locate the driving wheel at any desired height, and is provided with a rack 12 connected with the carriage $c$ and meshing with a pinion 13 (Fig. 1) on a shaft 14, which is journaled in bearings on a sliding table 15, which is movable horizontally on the upper horizontal members $a^3$ of the main frame, said table having ears $15^a$ carrying rollers $15^b$ adapted to run on said members $a^3$.

The shaft 14 is provided with a hand wheel 16 by which it may be rotated to raise and lower the lift. Said shaft and hand wheel constitute a manually movable operating member.

The carriage $c$ is provided with rollers $c'$ (Fig. 6), which run upon the horizontal members $b^3$ of the lift $b$, as best shown by Fig. 2, the carriage being therefore horizontally adjustable on the lift in a direction at right angles with the axis of the dressing wheel $d$.

To the casing of the motor $e$ are rigidly attached frame members $e'$ (Figs. 3 and 4), said frame members being provided with rollers $e^2$ running on the inner sides of the horizontal members $c^2$ of the carriage. The motor, its shaft $e^3$, and the dressing wheel $d$ attached thereto are therefore movable to project or press the wheel outwardly against the vertical face of the wall indicated by the line $x$, $x$ (Fig. 3).

The frame $e'$ is yieldingly pressed against the wall by springs 18 (Figs. 3 and 4), which are preferably elongated helical springs connected at their ends to brackets 19 on the frame $e'$ and bearing on studs or

rollers 20 (Figs. 3, 4 and 6) on the carriage *c*, the springs being angularly arranged, as best shown by Fig. 4, and exerting an outward pull on the frame *e'* tending to press the dressing wheel against the wall.

The frame *e'* and the motor and dressing wheel carried thereby may be retracted from the wall by the operator by means including a treadle 22 pivoted at 23 to a slide 24 which is movable on the member $a^4$ of the main frame, and a flexible retracting cord 25 connected at its lower end with said treadle and at its upper end with the table 15. A bight of said cord engages a pulley 26 connected with the motor frame members *e'*, and is guided by pulleys 27 (Figs. 3 and 6) mounted on the carriage. When the treadle 22 is released, the motor and wheel are held yieldingly projected by the spring 18. When the treadle is depressed by the operator's foot the bight of the cord 25 is partly taken up and the motor and wheel are retracted.

It will now be seen that the wheel *d* is movable horizontally toward and from the wall independently of the carriage *c*, that the carriage and wheel are adjustable horizontally together parallel with the wall independently of the lift *b*, and that the lift, the carriage, and the wheel are adjustable vertically together parallel with the wall by the lift. The wheel is therefore adapted to operate on an area of the wall corresponding to the area of the main frame without movement of the latter, the wheel being allowed to remain in one position in contact with the wall for a sufficient period, and adjusted by movements of the carriage and lift to gradually enlarge the dressed portion of the work until an area coextensive with the area of the main frame has been dressed. After said area has been dressed, the main frame may be moved along preparatory to the dressing of another area.

The carriage *c*, the rack 12 connected therewith, the table 15 supporting the pinion shaft 14, and the treadle-supporting slide 24 may be adjusted horizontally by hand from time to time to shift the wheel laterally in a horizontal direction. The main frame may be supported by a floor or pavement, or by a staging above the floor or pavement.

Water is supplied to the work by a tank 30 mounted on the sliding table 15, and a conduit composed of a flexible tube 31 and a nozzle 34 attached to the tube and movable lengthwise in a sleeve 32 supported by a bracket 33 which is attached to the carriage *c*. The nozzle 34 is adapted to slide in the sleeve 32 and is normally pressed forward by a spring 35, so that it is adapted to bear yieldingly against the work. The nozzle is located above the wheel, so that water trickles therefrom to the portion of the work with which the wheel is in contact.

The dressing wheel *d*, shown by Figs. 1, 3 and 4, comprises a disk 36 (Figs. 3 and 9) attached to the motor shaft $e^3$ and blocks 37 of carborundum or other suitable abrasive material connected with said disk, preferably by means permitting the independent yielding of the blocks, the wheel thus constructed being adapted to impart a smooth surface to the wall without polishing. The disk 36 may be detachably secured to the shaft, and when the wall is to be polished a circular body 39 (Fig. 9), preferably of wood having a facing 40 of felt, may be substituted for the blocks 37. Said facing may have grooves 41 formed by pressing portions of the facing into corresponding grooves in the body 39. The disk 36 and the acting portion of the wheel may be held yieldingly spaced apart by springs 42 (Fig. 9) on studs 43 adapted to slide in orifices in the disk.

The counterbalancing weights 5 may be relied upon as the means for holding the lift and its load at any desired vertical adjustment. We prefer however to provide more positive means for this purpose, such as the means for frictionally resisting the rotation of the pinion shaft 14, shown by Fig. 10, said means including brake members 45 attached to the table 15, and a screw 46 adapted to press said members frictionally against the shaft 14, said screw having a handle 47. When the brake members 45 are set up against the shaft 14, they resist the rotation of the shaft sufficiently to prevent accidental vertical movement of the rack 12 and the lift. The counterbalancing weights 5 coöperate with said frictional means in holding the lift at the desired adjustment.

Means may be provided for frictionally resisting horizontal movement of the carriage on the lift, and of the table 15 on the main frame. Fig. 3 shows a screw 49 which may coöperate with suitable brake members in resisting movement of the carriage on the lift, and a screw 50 which may coöperate with suitable brake members in resisting movement of the table 15 on the main frame.

Having described our invention, we claim:

1. A wall dressing machine comprising a portable main frame, a lift vertically adjustable on the main frame, a carriage horizontally adjustable on the lift, a motor mounted directly on the carriage and movable therewith, and a rotary dressing wheel directly supported and driven by the motor.

2. A wall dressing machine comprising a portable main frame, a lift vertically adjustable on the main frame, a carriage horizontally adjustable on the lift, a motor mounted directly on the carriage and mov-

able therewith, a rotary dressing wheel directly supported and driven by the motor, counterbalancing means being provided for yieldingly maintaining the lift at any position to which it may be vertically adjusted, and frictional securing means coöperating with said counterbalancing means.

3. A wall dressing machine comprising a portable main frame, a lift vertically adjustable on the main frame, a carriage horizontally adjustable on the lift and vertically movable therewith, a motor mounted directly on the carriage and movable therewith, a rotary dressing wheel directly supported and driven by the motor, and manually operated mechanism for vertically adjusting the lift, said mechanism including a manually operated member movable horizontally with the carriage, and connections between said member and the carriage, said carriage when moved vertically also moving the lift.

4. A wall dressing machine comprising a portable main frame, a lift vertically adjustable on the main frame, a carriage horizontally adjustable on the lift, a motor mounted on the carriage, a rotary dressing wheel driven by the motor, a vertical rack movable horizontally with the carriage, a sliding table movable horizontally on the main frame, and a manually operable shaft journaled on said table and provided with a pinion meshing with said rack and adapted to vertically adjust the rack, carriage, and lift, and to conform to horizontal adjustments of the carriage.

5. A wall dressing machine comprising a portable main frame, a lift vertically adjustable on the main frame, a carriage horizontally adjustable on the lift, a motor mounted on the carriage, a rotary dressing wheel driven by the motor, a vertical rack movable horizontally with the carriage, a sliding table movable horizontally on the main frame, and a manually operable shaft journaled on said table and provided with a pinion meshing with said rack and adapted to vertically adjust the rack, carriage, and lift, and to conform to horizontal adjustments of the carriage, the table being provided with frictional means for resisting the rotation of said shaft to maintain the lift at any desired vertical adjustment.

6. A wall dressing machine comprising a portable main frame, a lift vertically adjustable on the main frame, a carriage horizontally adjustable on the lift, a motor mounted directly on the carriage and movable therewith, a rotary dressing wheel directly supported and driven by the motor, and counterbalancing means connected with the main frame and lift and adapted to yieldingly maintain the lift at any position to which it may be vertically adjusted.

7. A wall dressing machine comprising a portable main frame, a lift vertically adjustable on the main frame, a carriage horizontally adjustable on the lift, a motor mounted on the carriage, a rotary dressing wheel driven by the motor, a vertical rack movable horizontally with the carriage, a sliding table movable horizontally on the main frame, and a manually operable shaft journaled on said table and provided with a pinion meshing with said rack and adapted to vertically adjust the rack, carriage, and lift, and to conform to horizontal adjustments of the carriage, the table being provided with frictional means for resisting the rotation of said shaft to maintain the lift at any desired vertical adjustment, and counterbalancing means connected with the main frame and lift, and coöperating with said frictional means in holding the lift at any position to which it may be vertically adjusted.

8. A wall dressing machine comprising a portable main frame, a lift vertically adjustable on the main frame, a carriage horizontally adjustable on the lift, a motor mounted directly on the carriage and movable therewith, a rotary dressing wheel directly supported and driven by the motor, the motor and wheel being horizontally movable toward and from the work, and resilient means manually pressing the wheel yieldingly outward against the work.

9. A wall dressing machine comprising a portable main frame, a lift vertically adjustable on the main frame, a carriage horizontally adjustable on the lift, a motor mounted directly on the carriage and movable therewith, a rotary dressing wheel directly supported and driven by the motor, the motor and wheel being horizontally movable toward and from the work, resilient means manually pressing the wheel yieldingly outward against the work, and means controlled by the operator for retracting the wheel from the work.

10. A wall dressing machine comprising a portable main frame, a lift vertically adjustable on the main frame, a carriage horizontally adjustable on the lift, a motor mounted on the carriage, a rotary dressing wheel driven by the motor, the motor and wheel being horizontally movable toward and from the work, means for pressing the wheel yieldingly against the work, and means controlled by the operator for retracting the wheel from the work, said means including a treadle supported by the main frame, a cord connected at one end to said treadle, an elevated support on the main frame to which the other end of said cord is connected, a pair of cord guides connected with the carriage, and a bight-forming cord guide connected with the motor.

11. A wall dressing machine comprising a portable main frame, a lift vertically ad-

justable on the main frame, a carriage horizontally adjustable on the lift, a motor mounted on the carriage, a rotary dressing wheel driven by the motor, a vertical rack movable horizontally with the carriage, a sliding table movable horizontally on the main frame, means connected with the said carriage and table for vertically adjusting the carriage and lift, a tank on said table, and a conduit extending from said tank to a point over the wheel.

In testimony whereof we have affixed our signatures.

PARTEMIO ZOBOLI.
GIOVANNI VICENTINI.