

L. H. VERONNEAU.
FLOOR DRESSING MACHINE.
APPLICATION FILED MAR. 19, 1908.

942,474.

Patented Dec. 7, 1909.

2 SHEETS-SHEET 1.

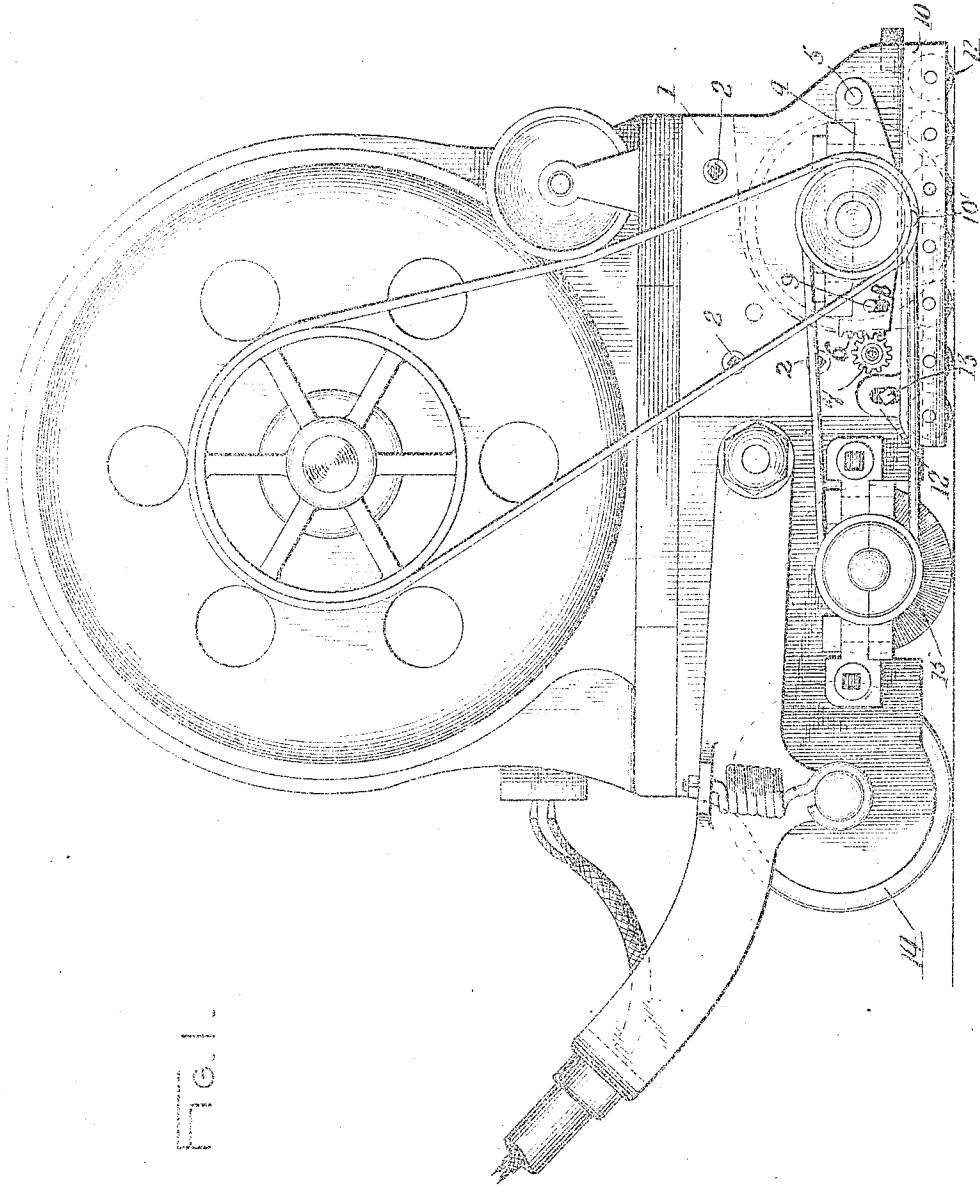


Fig. 1.

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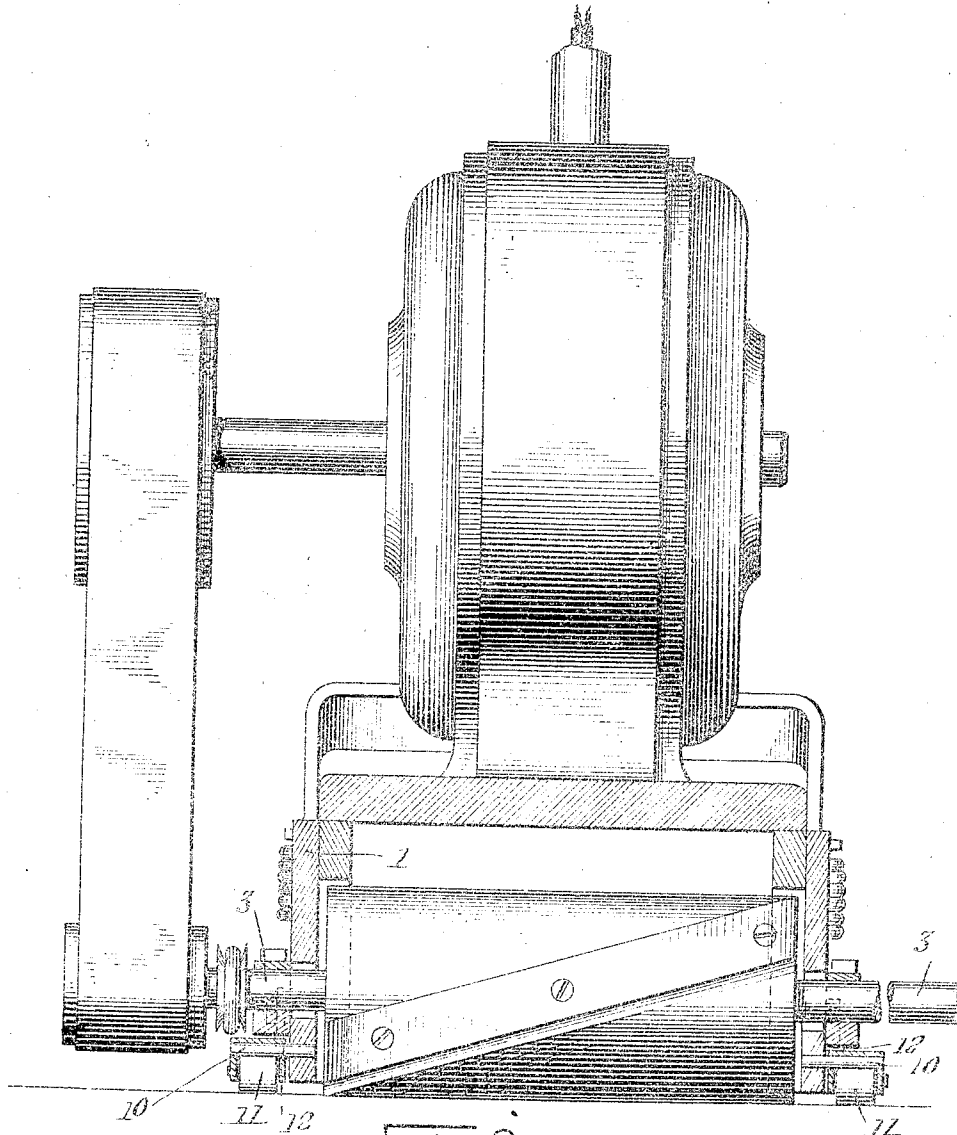


FIG. 2.

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UNITED STATES PATENT OFFICE.

LOUIS H. VERONNEAU, OF VIAUVILLE, NEAR MONTREAL, QUEBEC, CANADA.

FLOOR-DRESSING MACHINE.

Specification of Letters Patent.

Patented Dec. 7, 1909.

942,474.

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To all whom it may concern:

Be it known that I, LOUIS H. VERONNEAU, a citizen of the United States of America, residing at Viauville, near the city and district of Montreal, in the Province of Quebec, Canada, have invented certain new and useful Improvements in Floor-Dressing Machines; and I do hereby declare that the following is 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.

The invention to be hereinafter described relates to floor finishing machines, and more particularly to the arrangement of the runners for supporting the forward or operating end of the machine, and to means for adjusting the operating tool to vary the effective working of the same. As heretofore constructed, the great objection and difficulty with the majority of machines of this general class is that the carriage in which the operating tool is mounted, and the operating tool itself, are so connected that all movements of the carriage effect similar movements of the tool. The carriages themselves are so made that they follow all the irregularities of the surface over which they travel. Consequently, the tools carried by the carriages follow these same irregularities, with the result that the floors or other surfaces are very imperfectly dressed. In order to avoid this defect, it is necessary to mount the operating tool in such manner that no undesirable movements of the carriage will be transmitted to it. Furthermore, it is always advantageous to so mount the shaft that it may be readily and accurately adjusted to vary the effective working of the tool.

Broadly speaking, the invention comprises removable side plates adapted to be secured to the frame of the tool carriage, roller boxes pivotally connected to the side plates, and adjustable bearings pivotally mounted on the side plates and adapted to support the tool shaft.

In order to more clearly disclose the construction, operation and use of the invention, reference should be had to the accompanying drawings forming part of the present application.

Throughout the several figures of the drawings, like reference characters designate the same parts.

In the drawings: Figure 1 is a side eleva-

tion of the machine; and, Fig. 2 is a front elevation partly in cross-section to exhibit the cutter.

A suitable frame of compact form and simple construction may be used as a support for an electric motor, by which the tool of the machine is driven through suitable belt and pulley connections of well known form. One end portion of each of the sides of the frame is cut out, as indicated in dotted lines in Fig. 1, to allow the removal of the tool shaft and tool, as will later appear. To the outer face of these sides of the frame, near the cut out edge of the same, are secured plates 1, in such position as to completely overlap the entire cut out portions above mentioned. These plates may be solidly and removably secured to the frame by screw bolts 2, provided with socketed heads, or the like. Each of these plates is provided with a vertically elongated opening or slot, for the passage of the ends of the tool shaft 3. The outer ends of this shaft are mounted in adjustable bearing blocks 4, which are pivoted to the side plates as at 5. The opposite ends of the bearings are provided with rack teeth 6, which are engaged by a pinion 7. This pinion 7 turns freely about the shank of a screw bolt when the bolt is loosened, but is prevented from turning when the bolt is tightened. This is due to clamping of the pinion between the bolt and side plate when the bolt is tightened. Thus, in order to adjust the bearing blocks, the bolts on which the pinions 7 are mounted are loosened, the pinions turned in one direction or the other for the desired adjustment, and then the bolts are again tightened to hold the pinions in adjusted position. Each of the bearing blocks is provided with a slot 8, in which plays a limit or stop pin 9 fixed to the side plate 1. The purpose of this stop pin is to engage the upper and lower walls of the slot and prevent further movement of the bearing block. The relative proportions of the slots 8 and the vertical elongated openings in the side plates 1, are such that the shaft 3 mounted in the bearing blocks 4 may move vertically the full length of the openings in the plates, but cannot move quite far enough to frictionally engage either the upper or the lower edge of the openings. In the preferred form of the machine, this adjustment amounts to about one-eighth of an inch, which is amply sufficient to vary the cut of the planing or other tool

carried by the tool shaft 3 for all ordinary purposes. Greater adjustment, may of course be provided for by simply varying the length of the slots.

5 The greater part of the weight of the entire machine should be as near as possible over the tool, and just a little to the front of the same. It necessarily follows that the tool carriage or frame should be provided
10 with supports practically adjacent the outer ends of the tool shaft, upon which the frame may travel over the surface on which the tool is to be used. To that end, shells or roller boxes 10 are provided. These parts
15 are pivoted to the plates 1 at points 10', exactly and directly below the axis of rotation of the tools. Consequently, the axis of oscillation of the shells or pivoted parts and the axis of rotation of the tool, are in the same plane. Each of the boxes is provided
20 with a plurality of small rollers or runners 11, journaled therein and adapted to travel over the floor or other surface. A slotted lug 12 and guide bolt 13 serve to keep each
25 box close to the face of its side plate, and to prevent twisting of the same. Of course, as will be evident on reference to Fig. 1, the boxes 10 may follow all possible irregularities and uneven parts of the surface being
30 dressed, without in any way affecting the operating tool in following such irregularities. The boxes simply swing or oscillate about their pivots 10', allowing the
35 frame or carriage of the tool to follow a straight, even or level plane. The opposite end of the frame is, or may be, supported on suitable rollers or wheels 14, at either side. It does not matter whether these supports
40 do or do not follow the irregularities of the surface. If they do follow such irregularities, they will simply cause the entire frame to oscillate on the pivotal connections 10', and will not act to raise or lower the tool
45 shaft in any possible degree. The parts on one side of the machine are exact duplicates of the parts on the opposite side, so the description above given will fit both.

When it is desired to remove the tool
50 shaft, the side plates are simply unbolted, and the shaft and plates moved outward through the openings cut in the ends of the sides of the frame.

In order to preserve the knives, when a
55 planing tool is used, a rotary brush 15 is used. This is placed adjacent one end of the machine and driven from the planer by suitable belt and pulley connections, the whole machine being drawn over the surface
60 on which it is to be used by the handle, so that the floor or other surface may be swept clear ahead of the planer. Of course, by drawing the tool as above mentioned, the weight of the machine is tipped or thrown
65 directly on the ends of the runners at points

approximately above the cutting tool, thus holding the tool at all times to its work.

It is clear that many changes may be made in the construction and arrangements of the details, that many rearrangements of
70 the parts may be had, and that many other combinations of them may be resorted to, without in any way departing from the field and scope of the invention, and it is meant to include all such within the present appli-
75 cation, wherein only a preferred form of the invention has been illustrated and described.

It will be observed that this machine comprises a carriage having a rolling pivotal support, both at the front and rear, but with
80 only a single and invariable support of this kind at the forward end in the direction of the work, whereas the rocking boxes at the rear end provide an automatically variable support of the same nature permitting the
85 tool to operate in all circumstances, but affording an automatic adjustment to inequalities by the action of the boxes with rollers both before and behind their pivots
90 in the line of motion. These boxes also protect the rollers carried thereby and are very simple and strong, each being practically a straight bar of U-shape in cross section.

This machine is adapted to carry weight and to do hard work which would be obvi-
95 ously beyond the capability of any hand tool.

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

1. In combination with a support and side
100 plates secured thereto, a dressing tool mounted in said plates, boxes pivotally mounted to said plates, and a plurality of runners mounted in each box and almost entirely
105 inclosed thereby, one or more of said runners being on each side of the pivotal point of the box containing them, substantially as set forth.

2. In combination with a support and side
110 plates secured thereto, a dressing tool mounted in said plates, approximately straight bars parallel to the line of operation and pivoted at points between their ends to the
115 said plates, and runners, a plurality of which are carried by each of said bars, one or more of such runners being arranged respectively before and behind the pivotal
120 point of the bar carrying them, substantially as set forth.

3. In combination with a carriage having a roller support at one end and side plates
125 mounted on said carriage, a dressing tool between said plates, a pair of parts pivoted to its sides near the other end thereof, each of said parts being provided before and behind its pivotal point with runners, substantially as set forth.

4. In combination with a carriage and
130 dressing tool carried thereby, a roller sup-

port for one end of said carriage and means for providing automatically yielding support for its other end, said means comprising a pivoted bar and runners carried by
 5 said bar, one or more of said runners being respectively before and behind its pivoted point, substantially as set forth.

5. In combination with a carriage and dressing tool carried thereby, a pivotal support for one end of said carriage and supporting means carrying a plurality of rollers arranged in line parallel to the line of operation, said means being pivoted at a
 10 point between the more forward and the more rearward of said rollers, substantially as set forth.

6. In a floor dressing machine, a support, side plates secured thereto, bearing blocks adjustably secured to said side plates, a
 20 dressing tool mounted in said blocks, boxes pivotally secured to each of said side plates and adapted to oscillate in a vertical plane and a plurality of runners arranged parallel to the line of operation and mounted in said
 25 boxes.

7. In a floor dressing machine, a support,

side plates secured thereto, a dressing tool adjustably mounted in said side plates, means for adjusting said tool, means for limiting the adjustment of said tool boxes
 30 secured to each of said side plates, and adapted to oscillate in a vertical plane and a plurality of runners arranged parallel to the line of operation and mounted in said boxes.

8. In a floor dressing machine, a support, side plates secured thereto, a dressing tool adjustably mounted in said side plates, means for adjusting said tool, means for
 40 holding said dressing tool in adjusted position, boxes secured to each of said side plates and adapted to oscillate in a vertical plane, and a plurality of runners arranged parallel to the line of operation and mounted in said boxes.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

LOUIS H. VERONNEAU.

Witnesses:

EUGENE M. SLINNEY,
 M. S. BABCOCK.