L. H. MITCHELL.

FINISHING TOOL.

APPLICATION FILED SEPT. 16, 1914.

1,193,407.

Patented Aug. 1, 1916.

2 SHEETS—SHEET 1.

Fig. 1.

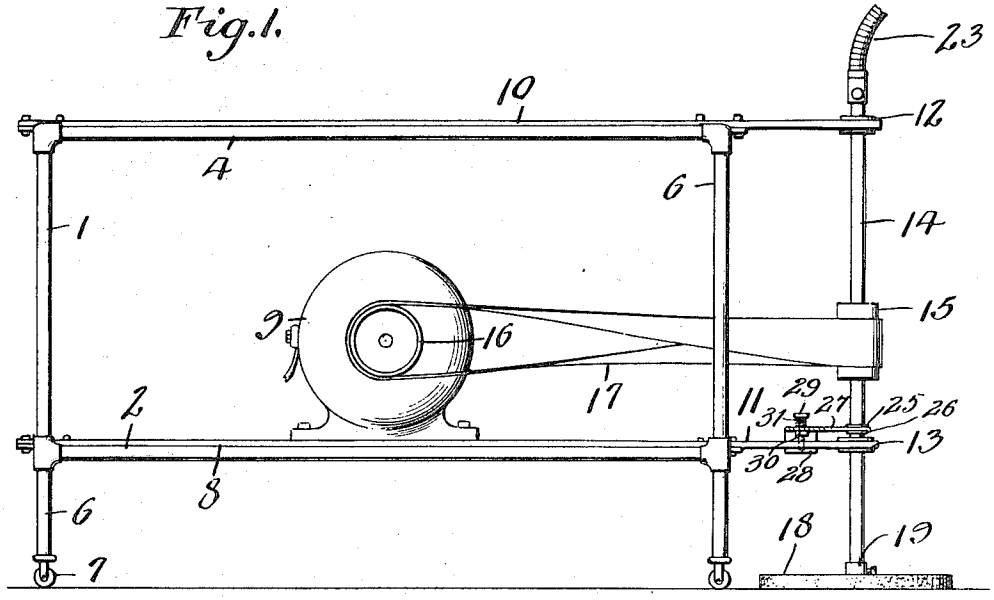
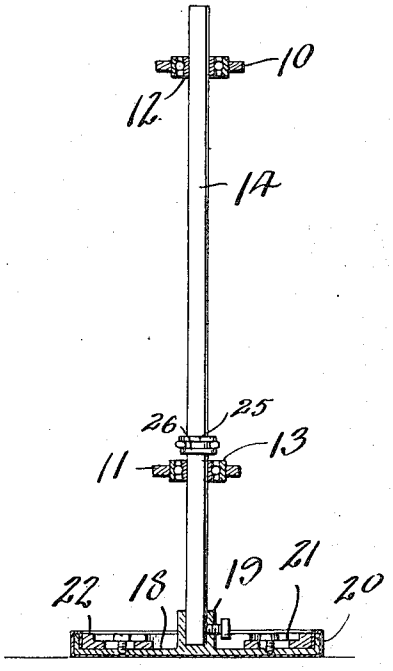


Fig. 3.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

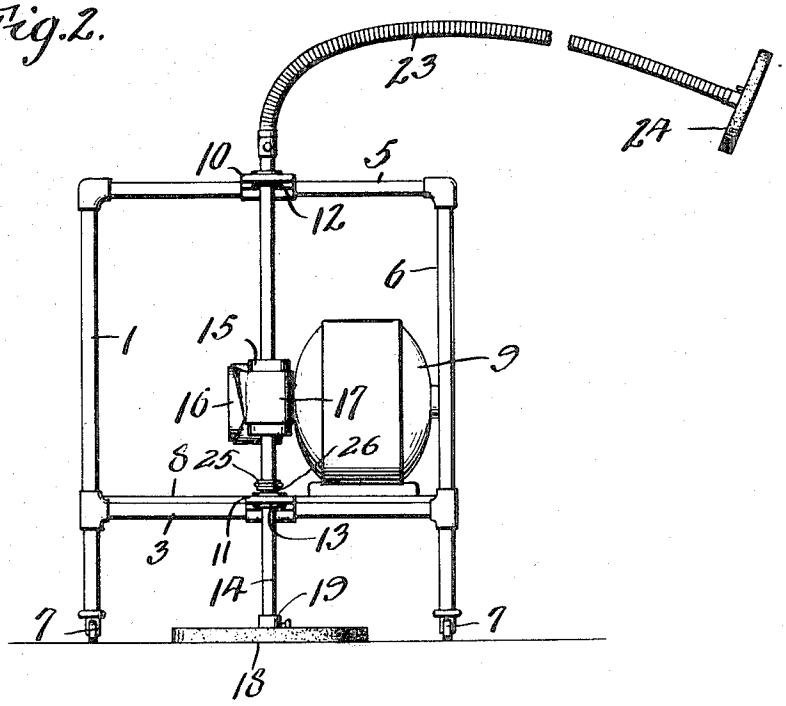


Fig. 4.

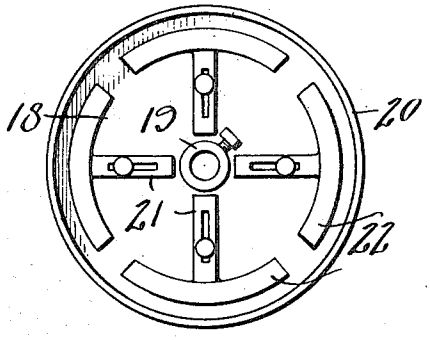
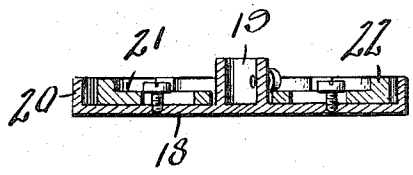


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

LEONARD H. MITCHELL, OF OAKDALE, CALIFORNIA, ASSIGNOR OF ONE-HALF TO ZUE G. PECK, SR., OF TULARE, CALIFORNIA.

FINISHING-TOOL.

1,193,407. Specification of Letters Patent. Patented Aug. 1, 1916.

Application filed September 16, 1914. Serial No. 862,070.

To all whom it may concern:

Be it known that I, LEONARD H. MITCHELL, a citizen of the United States, residing at Oakdale, in the county of Stanislaus and State of California, have invented new and useful Improvements in Finishing-Tools, of which the following is a specification.

This invention relates to improvements in finishing machines and has particular application to a motor driven finishing machine whereby floors and other surfaces may be scraped, cleaned, polished, planed and otherwise acted upon.

In carrying out the present invention, it is my purpose to improve and simplify the general construction of motor operated machines of this class and to provide a machine wherein the finishing tool may be moved toward and away from the surface being acted upon so that the pressure of such elements upon the floor may be varied.

It is also my purpose to provide a machine of the class described whereby hand carried tools may be operated so that vertical and other walls may be treated.

With the above and other objects in view, the invention consists in the construction, combination and arrangement of parts hereinafter set forth in and falling within the scope of the claim.

In the accompanying drawings, Figure 1 is a view in side elevation of a finishing machine constructed in accordance with the present invention. Fig. 2 is a view in end elevation thereof. Fig. 3 is a vertical sectional view through the bearings supporting the tool carrying shaft. Fig. 4 is a top plan view of the disk carrying the finishing substance. Fig. 5 is a cross sectional view through such disk.

Referring now to the drawings in detail, 1 designates a wheeled frame comprising longitudinal side bars 2, 2 spaced apart in parallelism and interconnected through the medium of end bars 3, 3 and longitudinal side bars 4, 4 interconnected through the medium of end bars 5, 5 and disposed above the first-mentioned bars and spaced apart therefrom and vertical legs 6 secured to the corners of the rectangular frames formed by the sets of bars 2, 3 and 4, 5, the lower extremities of the leg 6 being provided with casters 7 whereby the supporting frame formed by the bars 2, 3, 4, 5 and the leg 6 may be readily transported from one place to another. The lower rectangular frame formed by the bars 2 and 3 is provided with a platform 8 and mounted upon the platform 8 is a driving motor 9, which, in this instance, is of the electrically actuated type.

Resting upon the end bars 5, 5 and suitably secured thereto and extending longitudinally of the frame is a rod 10 having one extremity thereof projecting beyond the adjacent end of the frame, while resting upon the end bars 3 and suitably secured thereto and arranged longitudinally of the frame is a rod 11 disposed below the rod 10 and having the end thereof corresponding with the projecting end of the rod 10 projected beyond the adjacent end portion of the frame 1. The projecting ends of the rods 10 and 11 are provided with vertically alining bearings 12, 13 respectively and rotatably mounted within these alining bearings is a vertical shaft 14 having a belt pulley 15 keyed thereon and trained over the belt pulley 15 and a belt pulley 16 on the shaft of the motor 9 is a driving belt 17 whereby the shaft 14 is rotated in the operation of the motor 9. The shaft 14 is capable of vertical adjustment within the bearings 12 and 13 and in order to hold the shaft in the desired adjusted position the bearing 13 is provided with suitable holding means. This holding means preferably comprises a collar 25 fixed to the shaft 14 immediately above the bearing 13 and formed with an annular groove 26 in which are mounted the legs of a yoke 27 carried by a vertically adjustable member 28 mounted upon the adjacent portion of the rod 11 and passed through the vertically adjustable member 28 is a vertical adjusting screw 29 having a nut 30 threaded thereon below the adjacent portion of the member 28, a spring 31 surrounding the screw 29 between the upper headed end thereof and the upper portion of the member 28. By turning the nut 30 on the adjusting screw 29, the member 28 carrying the yoke 27 may be elevated and lowered to impart a corresponding motion to the shaft 14, the spring 31 coöperating with the nut to hold the shaft in position.

18 designates a circular finishing disk having the upper face thereof formed with a central disposed socket 19 designed to receive the lower extremity of the shaft 14 whereby the disk may be fixed to the shaft

to revolve therewith. Formed on the periphery of the disk and extending upwardly therefrom is an annular flange 20, while mounted on the upper surface of the disk and extending radially thereof are adjusting bars 21 having the outer extremities thereof equipped with segmental shoes 22 disposed adjacent to the inner surface of the flange 20 and coöperating therewith to grip the marginal edge of the emery paper, sand paper or other material applied to the lower face of the disk, the bars 21 being capable of radial adjustment and provided with set screws working through slots in the disk 18 whereby the bars may be held in the desired adjusted position. If desired, a flexible shaft 23 may have one end thereof detachably connected with the upper end of the vertical shaft 14 and the opposite end equipped with a disk 24 similar in construction to the disk 18 and designed to carry sand paper, emery paper or other polishing material whereby walls, ceilings and the like may be finished off.

From the foregoing description taken in connection with the accompanying drawings, the construction, mode of operation and manner of employing my invention will be readily apparent. It will be seen that I have provided a finishing machine which may be readily transported from place to place and whereby the pressure of the finishing tool on the surface being acted upon may be varied at will. Furthermore, it will be noted that the strain on the longitudinally extending bars is distributed evenly and uniformly over the entire structure owing to the motor and the driving connections between the motor and the shaft being disposed between such bars.

I claim:

A machine of the class described comprising a frame, a vertical shaft journaled in said frame and capable of rotation and having one end equipped with a finishing device, said shaft being capable of vertical adjustment in its bearings, a collar fixed to said shaft and formed with an annular groove, a yoke having the legs thereof disposed within said groove, and an adjusting member carrying said yoke and vertically adjustable on said frame to lower and elevate said shaft, and means for driving said shaft.

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

LEONARD H. MITCHELL.

Witnesses:

E. C. PECK,

S. A. EVANS.