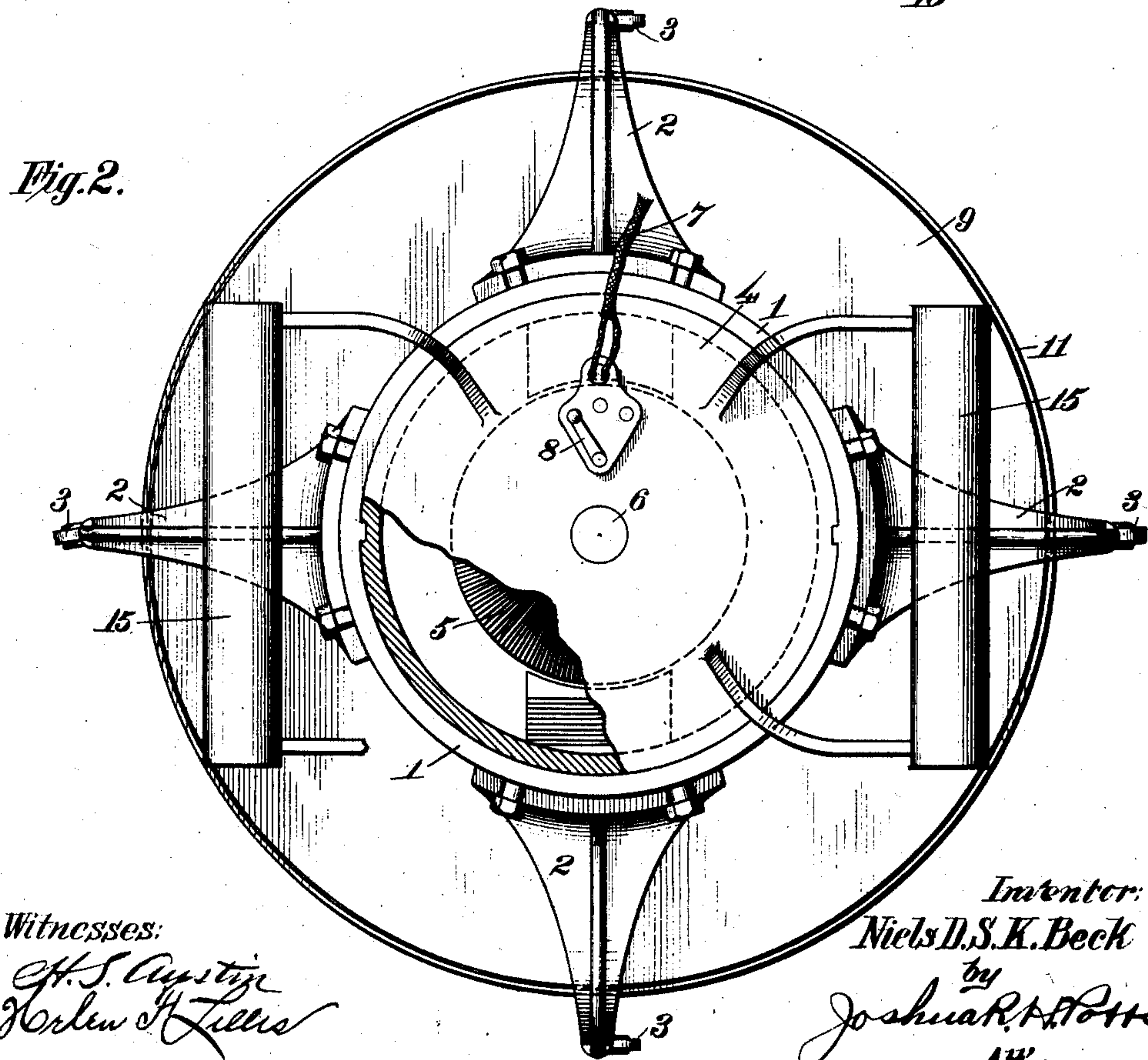
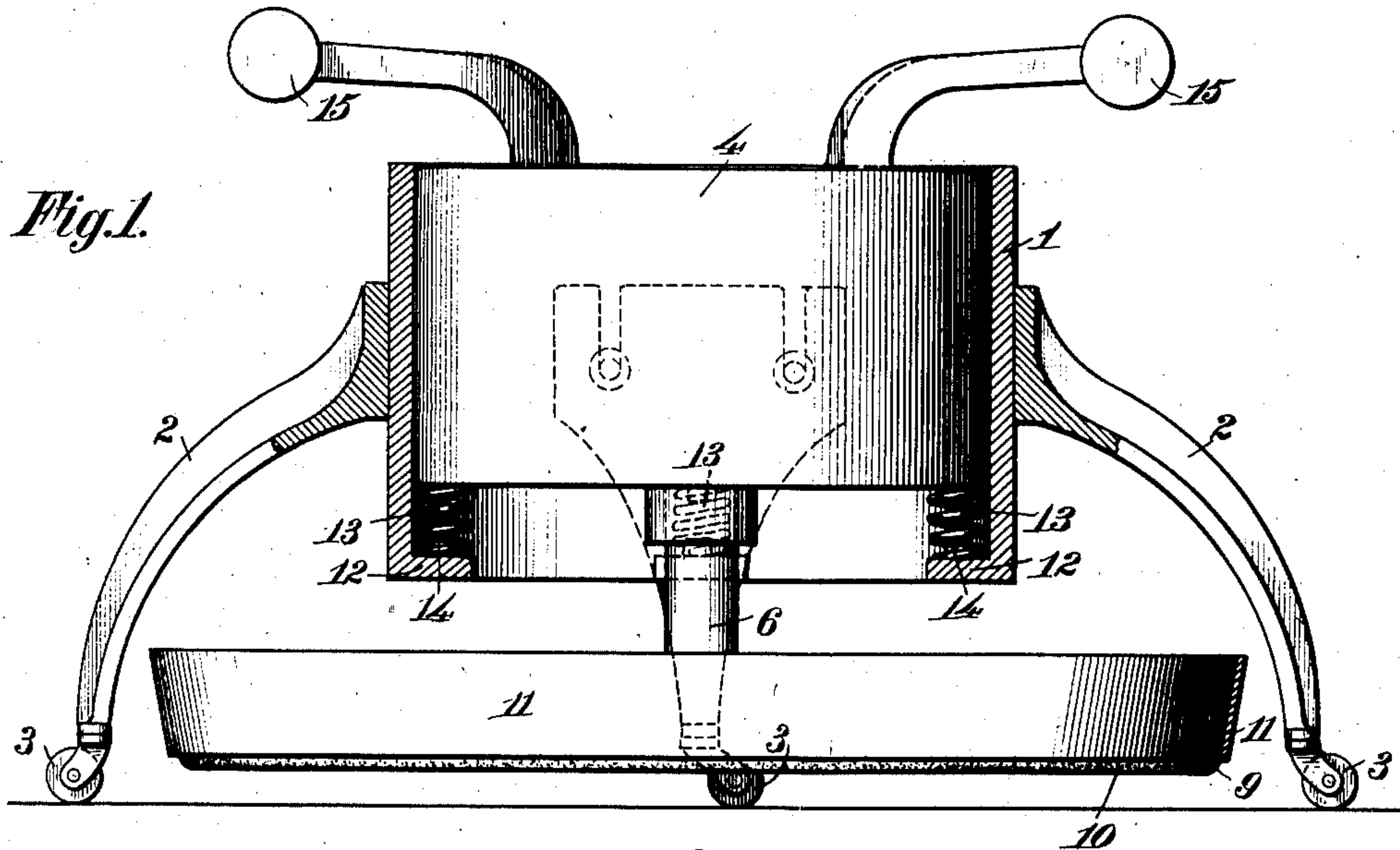


No. 864,403.

PATENTED AUG. 27, 1907.

N. D. S. K. BECK.
FLOOR FINISHING APPARATUS.
APPLICATION FILED MAY 31, 1907.



Witnesses:

Chas. S. Austen
Herbert H. Zeller

Inventor:
Niels D. S. K. Beck

by
Joshua R. Potts
Att'y.

UNITED STATES PATENT OFFICE.

NIELS DANIEL SOFUS KRISTIANSEN BECK, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF
TO LOUIS BROZ, OF CHICAGO, ILLINOIS.

FLOOR-FINISHING APPARATUS.

No. 864,403.

Specification of Letters Patent.

Patented Aug. 27, 1907.

Application filed May 31, 1907. Serial No. 376,694.

To all whom it may concern:

Be it known that I, NIELS DANIEL SOFUS KRISTIANSEN BECK, residing at 3710 State street, in the city of Chicago, county of Cook, and State of Illinois, have invented certain useful Improvements in Floor-Finishing Apparatus, of which the following is a specification.

My invention relates to floor finishing apparatus, and has particular reference to apparatus of the class mentioned which are readily moved about by hand, to sand paper, grind, polish or otherwise finish the floor, the operative portion of the machine being driven by a suitable motor.

The object of my invention is to provide a device of the class mentioned, which shall be light, strong and durable, and shall be of low cost to manufacture; and to provide a device as mentioned, wherein the grinding or finishing portion shall be driven by motor power, but which at the same time shall be responsive to manual pressure by the operator, to vary the frictional contact with the floor.

Further objects will appear and be described hereinafter.

With these objects in view my invention consists in a suitable frame, mounted upon casters or rollers, a motor box mounted for vertical reciprocation in said frame, a motor in said box, a shaft driven by said motor and a grinding or polishing disk mounted upon said shaft and vertically fixed in relation to said motor and motor box.

Further my invention consists in a suitable frame mounted upon casters or rollers, a motor mounted for vertical reciprocation in said frame, a shaft driven by said motor, a grinding or polishing disk fixed to said shaft and vertically fixed in relation to said motor, means for normally holding said motor and said disk in retracted position and means for manually depressing said motor and disk.

My invention further consists in various combinations and arrangements of parts all as will appear and claimed hereinafter.

My invention will be more readily understood by reference to the accompanying drawings forming a part of this specification and in which:

Figure 1 is a side elevation of a floor finishing machine embodying my invention in its preferred form, portions of the machine being shown in section, and Fig. 2 is a plan view thereof, a portion of the motor box top being broken away.

Referring to the drawings which illustrate a preferred form of embodiment of my invention, 1 indicates the frame of the device. This is preferably cylindrical and is supported upon a plurality of legs, 2, provided with casters or rollers, 3. The legs may be permanently attached to the frame, but I prefer to make them removable for obvious reasons.

Within or upon the frame, 1, I mount a motor box, 4. This is rotatably fixed with relation to the frame, but is free to move vertically therein. The box, 4 contains a suitable motor, 5, which drives a vertical shaft, 6, having suitable bearings in the box, 4. The motor may be of any preferred type. In the drawings I have shown an electric motor, but it is obvious that other motive power may be used, such as compressed air. When an electric motor is used, the current may be supplied from an external source as by wires, 7; or a storage battery (not shown) may be arranged upon the box, 4 or frame, 1. In either case a switch, 8 may be provided by means of which the motor may be started or stopped.

Upon the lower end of the shaft, 6, I provide a grinding or polishing disk. In the drawings, I have illustrated a sand papering disk, but it is obvious that this may be replaced by a scrubbing or polishing disk when desired. As shown it comprises a disk, 9, over which a sheet of sand paper, 10, is fixed by a ring, 11. The edges of the disk and ring are preferably conical in order to afford simple and efficient means for attaching the sand paper. For polishing the floor a piece of felt may be substituted for the sand paper.

The motor box and disk are normally retracted by springs suitably arranged for this purpose. As shown, I provide the frame, 1, with lugs, 12, and interpose between these and the box, 4, springs, 13. To hold the springs against accidental displacement, I may provide pockets in the bottom of the box and the top of the lugs in which the ends of the springs may seat; or I may provide bosses, 14 thereon which serve a like purpose. 15—15 indicate handles arranged upon the motor box, 4, and by means of which the disk is lowered into contact with the floor.

The operation of the device is as follows; a piece of sand paper or felt having been secured upon the disk, 9, by the ring, 11, and the motor, 5, having been started, the operator grasps the handles, 15—15 and presses the same downward against the pressure of the springs until the disk contacts the floor. It is evident that the apparatus may be readily moved about as desired by means of the handles, and further, that the operator may vary the pressure of the disk upon the floor by increasing or decreasing his pressure upon the handles. In this manner the disk is responsive to the operator and finer work may be accomplished than by hand or with machines which are not so readily responsive.

Another advantage lies in the fact that a motor box, 4 containing a motor driven by one kind of motor may be substituted for one having a motor driven by another power. Thus, if the work is to be done in a building equipped or supplied with electric power, a

motor box containing an electric motor, may be slipped into the frame, as the same may be readily connected to any of the electric sockets. However, if the building is without electric power, a box containing an electric motor and storage battery may be substituted: or if desired, a box containing a compressed air motor may be used, the power being supplied from a portable tank.

It is obvious that various modifications of my invention may be made without departing from the scope or spirit of my invention, hence, I do not limit myself to the precise construction shown and described herein.

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

1. In a device of the class described, a suitable frame mounted upon rollers, in combination with a motor receptacle mounted for vertical reciprocation in said frame, a motor in said receptacle, a shaft driven by said motor, and a grinding or polishing disk mounted upon the lower end of said shaft, substantially as described.

2. In a device of the class described, a suitable frame, mounted upon rollers, in combination with a motor, mounted for vertical reciprocation in said frame, a vertical shaft driven by said motor, and a disk fixed to the end of said shaft, substantially as described.

3. In a device of the class described, a suitable frame mounted upon rollers, in combination with a motor mounted for vertical reciprocation in said frame, a shaft driven by said motor, a disk fixed to the end of said shaft and vertically fixed in relation to said motor, means for normally holding said motor and said disk in retracted position, and means for manually depressing said motor and disk, substantially as described.

4. In a device of the class described, a suitable frame mounted upon rollers, in combination with a motor driven shaft, adapted to be rapidly rotated independently of move-

ment of the frame, and mounted for vertical reciprocation therein, a disk upon the lower end of said shaft, means for normally holding said disk in retracted position, and means for manually depressing said disk, substantially as described.

5. In a device of the class described, a suitable frame mounted upon rollers, in combination with a motor receptacle mounted for vertical reciprocation in said frame, a motor, a vertical shaft driven by said motor, a disk fixed upon said shaft, and vertically fixed in relation to said motor, a plurality of springs adapted to hold said motor receptacle and disk in retracted position and means for manually depressing the same, substantially as described.

6. In a device of the class described, a frame mounted upon rollers in combination with a motor receptacle rotatably fixed but vertically slidably within said frame, a motor in said receptacle, a shaft driven by said motor, a disk upon said shaft, means for normally holding said receptacle and disk in retracted position, and means for manually lowering the same, substantially as described.

7. In a device of the class described, a cylindrical frame mounted upon rollers, in combination with a cylindrical motor receptacle rotatably fixed but vertically slidably within said frame, a motor in said receptacle, a shaft driven by said motor, a disk upon the lower end of said shaft, springs normally holding said motor receptacle and disk in retracted position, and means for lowering the same, substantially as described.

8. In a device of the class described, a suitable frame, mounted upon a plurality of detachable legs, said legs having rollers on their lower ends, in combination with a motor mounted for vertical reciprocation in said frame, a vertical shaft driven by said motor, and a disk fixed to the end of said shaft, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

NIELS DANIEL SOFUS KRISTIANSEN BECK.

Witnesses:

HELEN F. LILLIS,
H. S. AUSTIN.