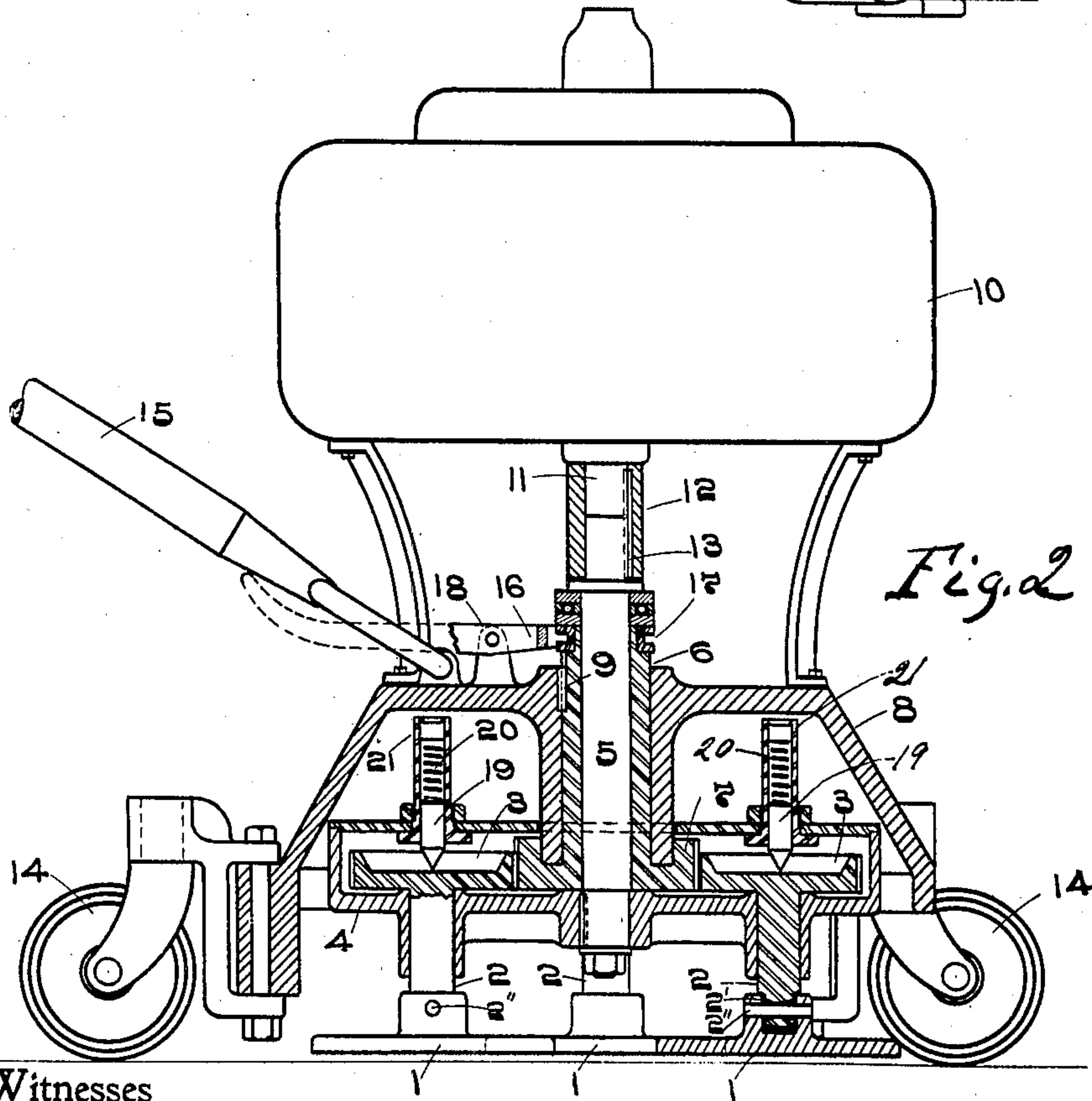
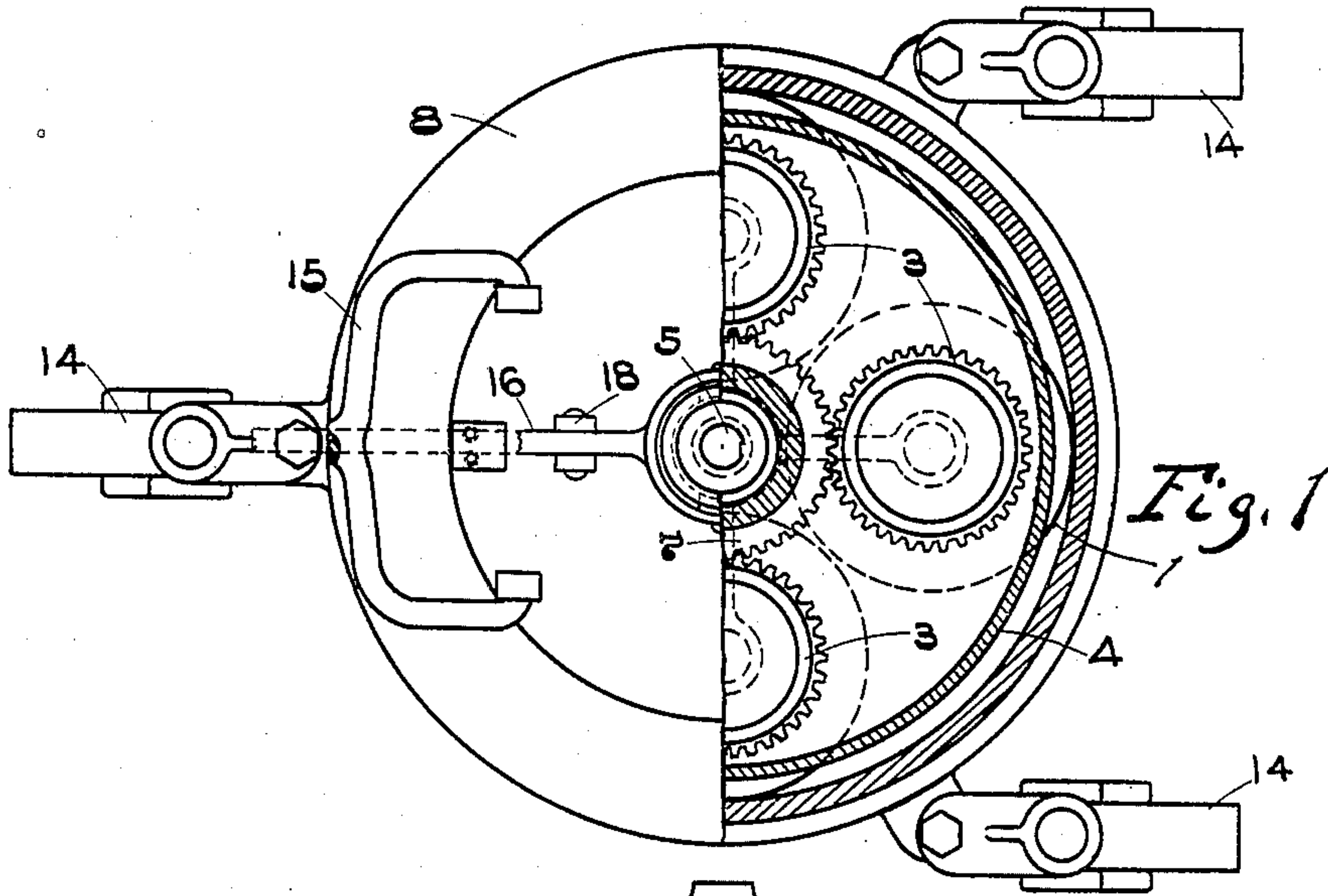


No. 862,747.

PATENTED AUG. 6, 1907.

A. A. MILLER.
FLOOR POLISHING MACHINE.
APPLICATION FILED MAY 3, 1906.



Witnesses

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UNITED STATES PATENT OFFICE.

ABEL A. MILLER, OF FRANKLIN, PENNSYLVANIA.

FLOOR-POLISHING MACHINE.

No. 862,747.

Specification of Letters Patent.

Patented Aug. 6, 1907.

Application filed May 3, 1906. Serial No. 314,985.

To all whom it may concern:

Be it known that I, ABEL A. MILLER, a citizen of the United States, residing at Franklin, in the county of Venango and State of Pennsylvania, have invented certain new and useful Improvements in Floor-Polishing Machines, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in floor-polishing machines, the construction and operation of which will be fully understood from the following specification, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view, partly in horizontal section, the motor being removed for the purpose of exposing other parts to view. Fig. 2 is a central vertical section of the floor-polishing machine, the operating motor which is located thereon being shown in elevation.

The object of my invention is to provide a machine for the purpose of smoothing and polishing floors.

The construction of same is substantially as follows:—

A plurality of planetary disks 1, 1, 1, each provided with abrasive material upon its lower face, are adapted to contact with the floor; each of said disks is mounted upon a vertical shaft 2, 2, 2, which shaft is provided at its upper end with a spur-gear 3, 3, 3; said shafts 2 are in turn concentrically mounted in the horizontally-revoluble head 4, which is rigidly secured at its central point to the vertical shaft 5, which extends through the sleeve 6 of a spur-gear 7, which gear 7 is so mounted in the housing 8 as to be vertically movable therein, but is prevented from revolving by means of the feather 9. Upon said housing 8 is mounted an electric motor 10, of the vertical type, which has upon the lower end of its shaft 11 a sleeve 12, which the upper end of shaft 5 enters, and to which shaft 5 and to the thereto attached head 4, revoluble motion is communicated by said motor. Shaft 5 is secured from revolving in said sleeve by means of a feather 13, which permits the vertical movement of said shaft in said sleeve.

Gears 3 mesh with gear 7; and as the head 4 is directly revolved by the motor, as aforesaid, gears 3 and the thereto attached disks 1 are caused to revolve upon their respective shafts 2. It is this circular motion of the disk, with head 4, about a common center, and the simultaneous revolving of said disk upon its own center, which is here referred to as a planetary motion, and causes said disks to be referred to as planetary disks.

A vertical motion of the disks is provided for in so constructing sleeve 6 and shaft 5 that they may have a vertical movement in the housing 8, which vertical movement is to allow the disks 1 to accommodate themselves, to a certain extent, to unevenness in the surface of the floor which is being operated upon.

The housing 8 is mounted upon wheels 14, for the

purpose of effecting the easy portability of the disks. A handle 15 is provided, by which my device may be manually propelled.

For the purpose of raising disks 1 from the floor when desired, I provide a lever 16, which engages the annularly-slotted head 17 on the upper end of sleeve 6; a fulcrum 18 is provided for said lever, and the free end of same passes out beneath handle 15, and its extremity is upwardly curved to contact with said handle, so that when said handle is lowered, it will press upon the approximate end of said lever and lower the same, thus raising said sleeve 6, with shaft 5, the head 4 and disks 1.

By this construction, when the operator releases his hold upon handle 15, the same will drop upon lever 18, and disks 1 will be raised from the floor, thus precluding any possible damage to the floor from a protracted action of the disks.

In addition to the vertical movement of head 4, each shaft 2 is also constructed to have a certain amount of vertical movement in its respective bearing. Located centrally above each gear 3, is a pin 19, which is pressed downward upon said gear by a spiral spring 20, which is inclosed in a spring-case 21; thus an amount of vertical play and yieldability is provided for in disks 1, to insure their proper working upon floors of considerable unevenness of surface.

Each disk 1 is flexibly mounted upon its respective shaft so as to be capable of a certain amount of wobble or tilting motion, which is obtained in the following manner. Upon the upper face of the disk is a sleeve 2' which the lower part of shaft 2 enters, and said sleeve is bored somewhat larger than the diameter of the end of said shaft which it receives; a pin 2'' is then driven through sleeve 2' and shaft 2,—the hole in the shaft being somewhat larger than the diameter of said pin. By this construction the disks are readily enabled to mount slight projections upon the floor and to accommodate themselves to slight differences in height between the boards or sections of the floor.

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

In a floor polishing machine a plurality of abrading disks revolubly mounted in a vertically movable, revoluble head, a portable housing in which said head is revolubly mounted, a motor mounted upon said housing with its shaft connected to said head for the purpose set forth, a stationary gear centrally mounted in said housing, shafts revolubly mounted in said head, to the lower end of which said disks are flexibly attached, and a gear rigidly attached to the upper end of each of said shafts and meshing with said stationary gear, said disks being spring held to floor contact.

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

ABEL A. MILLER.

Witnesses:

HOMER R. BLAIR,
D. I. DALE.