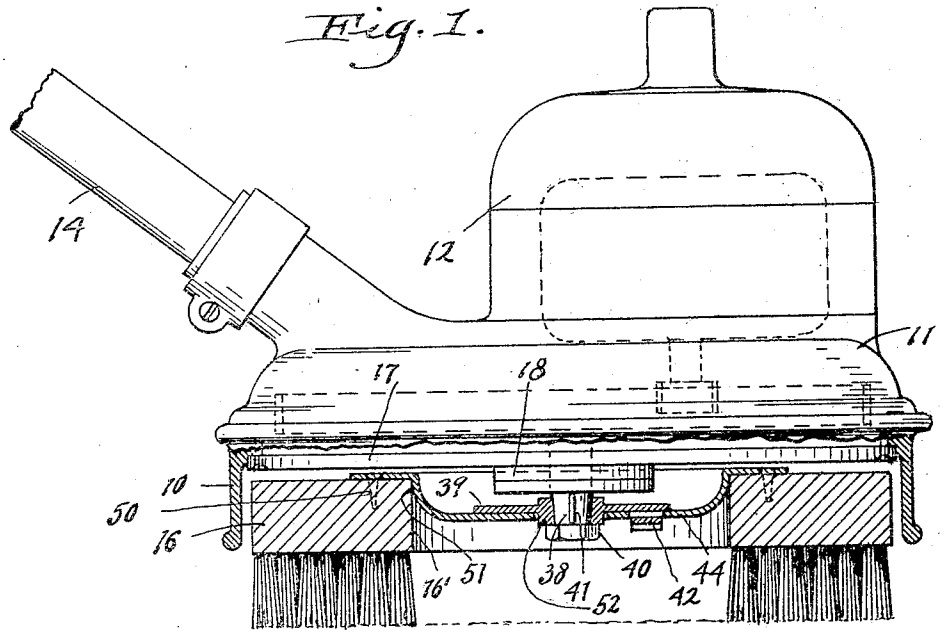
July 26, 1932. F. W. YUTZLER ET AL 1,869,179

FLOOR MACHINE

Original Filed Oct. 8, 1927

Fig. 1.



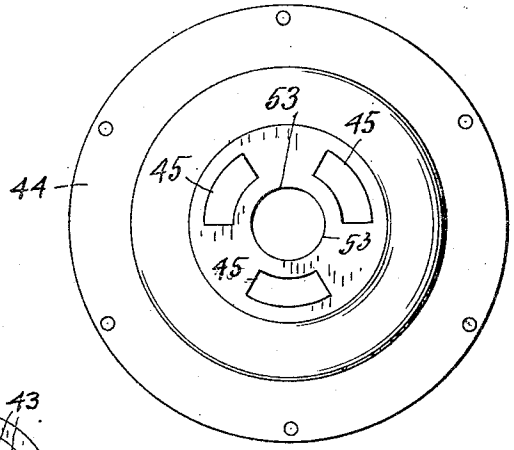


Fig. 2.

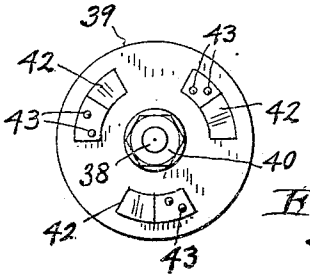


Fig. 3.

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UNITED STATES PATENT OFFICE

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FLOOR MACHINE

Original application filed October 8, 1927, Serial No. 224,814. Divided and this application filed November 21, 1930. Serial No. 497,156.

This invention relates particularly to machines for scrubbing, polishing and other work on floors and other flat surfaces, and has for one of its objects the provision of convenient means for detachably connecting the brush or working member of the machine, to the drive shaft.

The present application is a division of our earlier application Serial No. 224,814 filed October 8, 1927.

A further object of the invention is to provide an improved form of connection between the brush or working member, and the drive shaft, that will permit the working member to extend into the machine, so as to reduce the height of the machine to a minimum, and also provide a simple and convenient detaching means for the working member.

A further object of the invention is to provide means for intercepting lubricant which may escape from the gear casing of the machine, and preventing the same from leaking onto the floor or other surface on which the machine is operating.

Other objects of the invention and the features of novelty will be apparent from the following description taken in connection with the accompanying drawing, in which

Figure 1 is a side elevation of a machine embodying our invention, certain parts being shown in section;

Fig. 2 is a plan view of the plate by which the working member is connected to the driving member of the machine; and

Fig. 3 is a bottom plan of the driving flange to which the working member is attached.

Referring to the drawing, 10 indicates a casing or housing on which there is arranged an electric motor 12 which through suitable gearing, not shown, drives the vertical shaft 38. A partition 17 is arranged in the casing 10 and has a downwardly projecting boss 18 through which the shaft 38 projects. The shaft 38 has its lower end tapered and, on this tapered portion, a flange 39 is secured by means of the nut 40 and the key 41.

A rotatable brush or working member 16 is arranged in the casing 10, immediately below the partition 17, and has a central opening 16′ into which the boss 18 and the shaft 38 project.

Spring fingers 42 are secured on the underside of the flange 39, by rivets 43, or in any other suitable manner. A centrally dished or cupped plate, or disk, 44, has its peripheral portion secured on the brush or working member 16, by screws 50 and the dished portion of this plate fits the opening 16′ as indicated at 51.

The flange 39 has a central boss 52, on its lower side, and the plate 44 has a central opening 53 which engages the boss 52 and serves to center the brush or working member 16. The plate 44 is also provided with arcuate openings 45, arranged about the opening 52 and of such length, circumferentially, that the fingers 42 are adapted to pass through them.

When the working member 16 is placed in the position shown in Fig. 1, with the fingers 42 projecting through the openings 45, the working member may be rotated to cause the fingers 42 to engage with the portions of the plate 44 that are between the openings 45 and thereby clamp the plate 44 against the flange 39. The spring fingers also serve as the driving connection between the flange 39 and the plate 44, the rotation of the shaft 38 being such that the parts will be retained in their connected position. However, when it is desired to remove the member 16, the motor 12 is stopped and the member 16 is turned in the direction in which it normally rotates, thus bringing the fingers 42 into registration with the openings 45 and permitting the member 16 to be withdrawn.

The central dished portion of the plate 44 not only permits the member 16 to extend up into the casing 10, to a position close to the partition 17, but also provides a central cavity on the top of the working member, which is adapted to hold any grease that may work downwardly along the shaft 38, thus keeping this grease from dropping onto the floor. In this connection, it will be noted that the openings 45 underlie the flange 39 and are closed by the latter due to the clamp-

ing of the central portion of the plate 44 against the underside of the flange 39.

While we have illustrated and described what we now consider to be the preferred form of our invention, it will be understood that changes may be made in the details of construction and arrangement without departing from the spirit of the invention, as defined in the appended claims.

Having thus described our invention, what we claim is:

1. In a machine of the character described, the combination of a casing having a bottom wall, a shaft projecting from the bottom wall of said casing, a flange on said shaft, a working member arranged below said bottom wall and having a central opening into which said shaft projects, a centrally dished plate secured to said member and engaging the lower face of said flange, said plate having openings therein beneath said flange, and spring fingers on said flange extending through said openings and detachably connecting said plate to said flange.

2. In a machine of the character described, the combination of a casing having a bottom wall, a shaft projecting from the bottom wall of said casing, a flange on said shaft having a central boss on its lower face, a working member arranged below said bottom wall and having a central opening into which said shaft projects, a centrally dished plate secured to said member and having a central opening to receive said boss and thereby locate said working member in coaxial relation with said flange, said plate also having a plurality of openings surrounding said central opening therein and so located as to be covered by said flange, and spring fingers on said flange each extending through one of said plurality of openings and detachably clamping said plate to said flange and through which said member is driven by said flange.

3. In a machine of the character described, the combination of a casing, a driving shaft projecting through the bottom wall of said casing and having a driving flange thereon, a rotatable working member, a centrally dished plate secured to said member and having a central opening through which said shaft projects, and means for clamping said plate to said flange to form a driving connection therebetween and to close said central opening so that lubricant which accumulates in the dished portion of said plate will be prevented from leaking through said opening onto the surface on which said member operates.

In testimony whereof, we hereunto affix our signatures.

FRED W. YUTZLER.
GORDON E. KENT.