

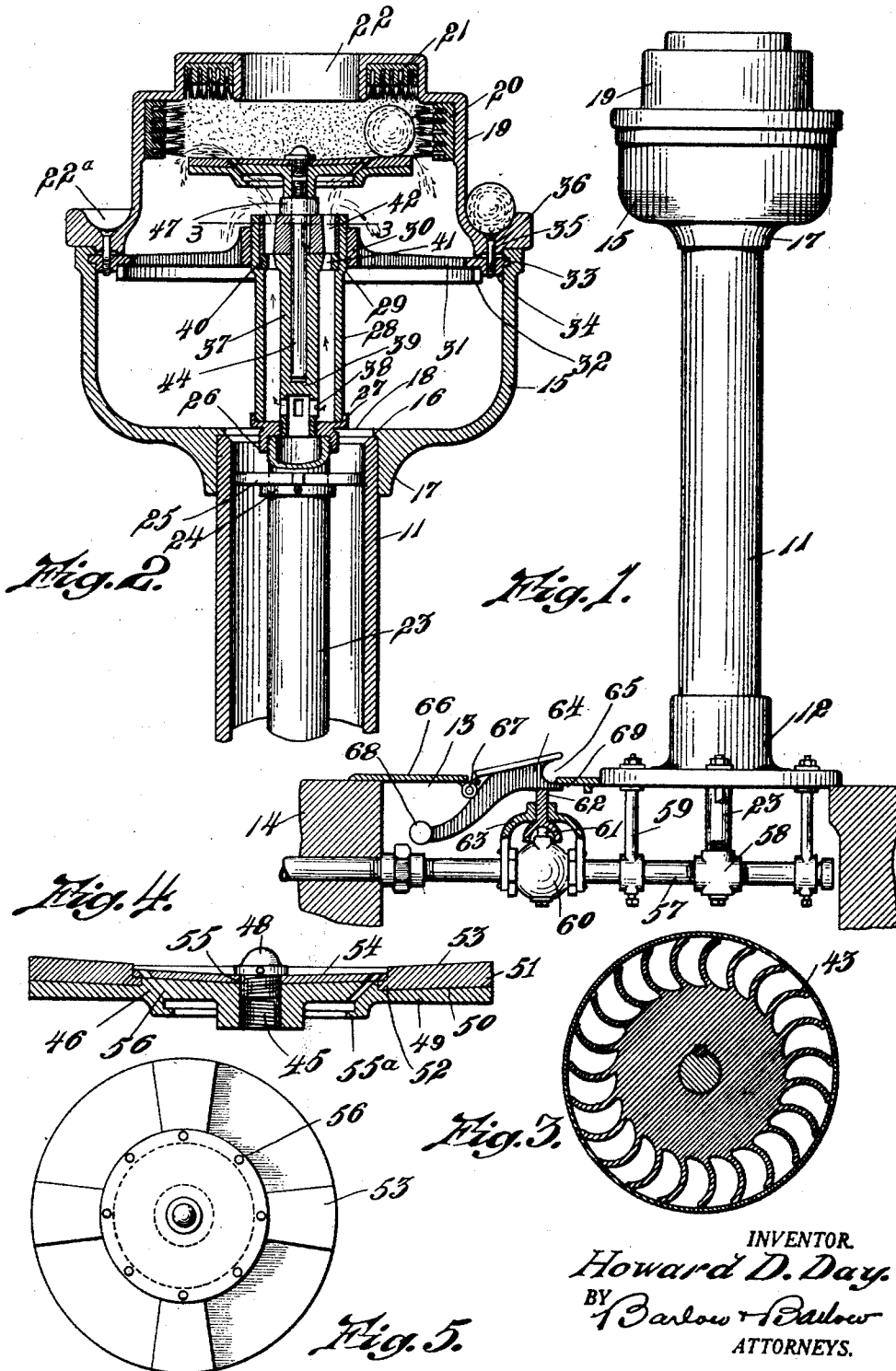
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CLEANING MACHINE

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CLEANING MACHINE

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The present invention relates to machines for washing articles such as golf balls and the like, and is of the general type shown in my copending application, Serial No. 273,895, filed April 30, 1928.

In playing games with balls, especially games in which balls having a rough surface are used, such as golf, the balls often become soiled and should be frequently cleaned in order to be more sightly and more conspicuous.

One object of my invention is to provide an improved machine for cleaning golf balls and the like by subjecting the balls to scrubbing means in the presence of a cleaning fluid.

Another object is to provide mechanism for rapidly vibrating balls to be cleaned between ring shaped brushes disposed at right angles to each other.

A third object is to direct cleaning fluid towards the balls to be cleaned so as to assist the rapid vibration and rotation of the balls.

An additional object pertains to an improved mounting for the casing containing the motor mechanism.

With these and other objects in view, the invention consists of certain novel features of construction, as will be more fully described in the specification, and particularly pointed out in the claims.

In the accompanying drawings,—Figure 1 is an elevation, partly in section, of the improved ball washing machine;

Figure 2 is an enlarged vertical section of the upper portion of the machine;

Figure 3 is an enlarged section through the rotor on the line 3—3 of Figure 2;

Figure 4 is an enlarged section of the ball carrying disk, showing the cleaning fluid passages; and

Figure 5 is a plan view of the ball carrying disk, with the ball-vibrating strips thereon.

Referring to the drawings, the machine comprises a hollow standard 11, having a flanged base 12 for supporting the machine over an opening 13 in a suitable foundation 14. On the upper end of the standard 11 is

a bowl-shaped casing 15 having a flange or shoulder 16 resting on the standard 11 and a tubular extension 17 which fits snugly around the said upper end of the standard 11; the flange 16 circumscribes an opening 18 for exit of waste cleaning fluid, as hereinafter described.

An upper cap-like housing 19 rests on the casing 15, and is detachably secured thereto as hereinafter described. Within the housing 19, as clearly shown in Figure 2, is a cylindrical brush member 20, suitably secured therein, and an annular brush member 21, suitably secured to the top of housing 19 in right-angle juxtaposition to the cylindrical brush member 20. The housing 19 has an opening 22 for the insertion and removal of the balls from the machine, and has a trough 22a, equipped with drain passages, not shown, for holding the washed balls.

Vertically disposed within the standard 11 is a fluid supply conduit 23; a collar 24, secured to the pipe 23 by a set-screw or the like, supports a centering spider 25 which engages the sides of the standard 11. The upper end of supply conduit 23 is screw-threaded to receive a correspondingly threaded flanged coupling 26. Upstanding flanges or shoulders 27 receive a tubular member 28, offset at 29, and centered by a spider 30. The spider 30 has arms 31 which pass through slots 32 in a depending flange of the housing 19 and terminate in fingers 33, which seat in bayonet lock slots of usual type formed in the upper portion of casing 15 to lock therein; a thickened portion 34, on each arm 31, receives a screw 35 which passes through a bore 36 in the housing 19, thus detachably locking the housing 19, the spider 30, and the casing 15 together.

Screwthreadedly secured to the inner portion of coupling 26 is a tubular bearing 37 having side openings 38 and a closure section 39 at the lower portion thereof. The upper portion of the bearing 37 is formed as a disk 40 which rests on the offset 29 of the tubular member 28, and which has guide passages 41 for directing the cleaning fluid upwardly, as hereinafter described. Rotatably mounted on the disk 40 is a fluid motor hav-

ing a rotor 42, shown in section in Figure 3, having vanes 43, and keyed, or otherwise secured to a vertical shaft 44 rotatably supported within the bearing 37 above the closure section 39. The upper end of shaft 44 projects above the rotor 42, and is screw threaded to receive the threaded bore 45 of a dished turntable 46, a spacing collar 47 positioning the upper edge of the turntable in proper relation to the lower edge of the brush member 20. A cap 48 closes the upper end of the threaded bore 45.

The turntable 46 may be made in one piece, if desired, but preferably includes a base 49 having an annular recess 50 in which a ring 51 having a shoulder 52 is seated. On the ring 51 are secured, in any desired manner, a plurality of strips of rubber or the like 53 for vibrating or jolting the golf balls during the cleaning operation. A plate 54, having a bore 55 therethrough, through which the cap 48 passes, seats in the shoulder 52, the insertion of cap 48 thus locking the parts of the turntable 46 together. The base 49 has a flange 55^a for guiding cleaning fluid into a plurality of passages 56 extending upwardly and outwardly through the base 46 and plate 54.

Considering Figure 1, the fluid supply conduit 23 communicates with a fluid pipe 57 through a coupling 58. The pipe 57 is suitably supported by flanges 59, and includes a control valve 60, which is opened to permit passage of the cleaning fluid on downward movement of the valve stem 61. A push member 62, mounted in a bearing 63, may be pushed downwardly by pressing on a treadle member 64, positioned in an opening 65 of a foot plate 66; the treadle member is pivotally mounted on the foot plate at 67, and has a center balancing weight 68 which normally lifts the treadle member when pressure is not applied, until a shoulder 69 thereof contacts with the edge of the foot plate member 66.

When using my improved device, the balls to be cleaned are inserted through the opening 22 onto the turntable 46, and the foot treadle 64 is depressed, the cleaning fluid then passing upwardly through supply conduit 23, openings 38, tubular member 28, and guide passages 41 to impact against the rotor vanes 43 and thus rotate the turntable 46. The motion of the turntable forces the balls outwardly against the stationary bristles of brush members 20 and 21, thus retarding the balls slightly, so that the turntable rotates at a greater peripheral speed. The strips 53 therefore impact the balls, and produce a vibrating motion which increases the contact of the balls with the stationary bristles of brush member 21; the surface of the balls is thus constantly moved and continuously brought into engagement with the brush bristles.

During this engagement, the brushes and

the balls are supplied with a continuous stream of cleaning fluid emerging from the oblique passages 56, the used fluid then passing over the edge of the turntable into the casing 15 and to waste through the hollow standard 11.

At the completion of the cleaning operation the foot is removed from the treadle 64, thus stopping the machine, and the clean balls roll into the center of the turntable for removal and for deposit in the groove 22^a for drainage of surplus fluid and for drying.

The foregoing description is directed towards the construction illustrated, but I desire it to be understood that I reserve the privilege of resorting to all the mechanical changes to which the device is susceptible, the invention being defined and limited only by the terms of the appended claims.

Having thus described my invention, I claim:

1. In a cleaning machine, a housing, cleaning brushes mounted in said housing, a rotatable carrier in said housing, positioned to bring an article thereon in operative relation to said cleaning brushes, a fluid supply conduit, fluid passages through said carrier communicating with the surface thereof and directed towards said cleaning brushes, whereby the fluid forces a ball to be cleaned towards said brushes, and means for guiding fluid from said conduit to said passages.

2. In a cleaning machine, a housing, cleaning brushes mounted in said housing, a rotatable carrier in said housing positioned to bring an article thereon in operative relation to said cleaning brushes, a fluid supply conduit, fluid passages in said carrier communicating with the surface thereof and directed towards said cleaning brushes, whereby the fluid forces a ball to be cleaned towards said brushes, adjacent the periphery thereof, and means for guiding fluid from said conduit to said passages.

3. In a cleaning machine, a housing, cleaning brushes mounted in said housing, a rotatable carrier in said housing positioned to bring an article thereon in operative relation to said cleaning brushes, fluid passages in said carrier communicating with the surface thereof, and directed towards said cleaning brushes, whereby the fluid forces a ball to be cleaned towards said brushes, a fluid motor operatively connected to said carrier, a fluid supply conduit, means for guiding fluid from said conduit to said motor, and means for directing a portion of the fluid leaving said motor to said passages.

4. In a cleaning machine, a housing, cleaning brushes mounted in said housing, a rotatable carrier in said housing positioned to bring an article thereon in operative relation to said cleaning brushes, fluid passages in said carrier communicating with the surface thereof, a fluid motor operatively connected

to said carrier, a fluid supply conduit, means for guiding fluid from said conduit to said motor, and a fluid receiving recess in said carrier communicating with said fluid passages and positioned to receive waste fluid from said motor.

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5. In a cleaning machine, a housing, cleaning brushes mounted in said housing, a rotatable carrier in said housing positioned to bring an article thereon in operative relation to said cleaning brushes, fluid passages in said carrier communicating with the surface thereof, a fluid motor operatively connected to said carrier, a fluid supply conduit, means for guiding fluid from said conduit to said motor, and an annular fluid receiving recess in said carrier communicating with said fluid passages and positioned to receive waste fluid from said motor.

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6. In a cleaning machine, a housing, cleaning brushes mounted in said housing, a fluid supply conduit, tubular bearing means mounted on said conduit, a motor mounted in said bearing means, a shaft keyed to said motor, and a rotatable carrier secured to said shaft and positioned to bring an article thereon into operative relation to said cleaning brushes.

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7. In a cleaning machine, a housing, cleaning brushes mounted in said housing, a rotatable carrier positioned to bring an article thereon in operative relation to said cleaning brushes, a fluid supply conduit, a fluid motor operatively connected to said carrier, said motor comprising a rotor and vanes thereon, a tubular element mounted on said conduit, bearing means for said motor in said tubular element, and guide passages in said tubular element for directing fluid from said conduit to said vanes.

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8. In a cleaning machine, a housing, cleaning brushes mounted therein, a rotatable article carrier in said housing in operative relation to said cleaning brushes, a fluid motor operatively connected to said carrier, a fluid supply conduit, means for conducting fluid from said conduit to said motor, means for conducting discharged fluid from said motor to the working face of the carrier, to act as cleaning fluid upon articles thereon, said cleaning fluid subsequently discharging from the carrier periphery.

In testimony whereof I affix my signature.
HOWARD D. DAY.

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