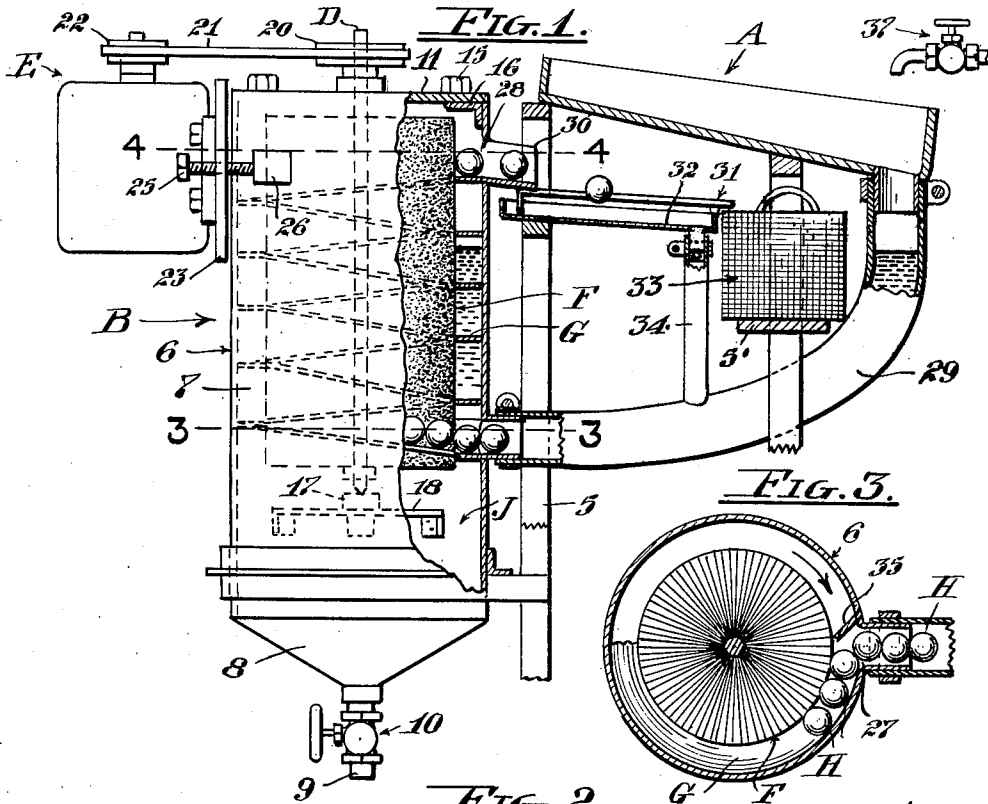
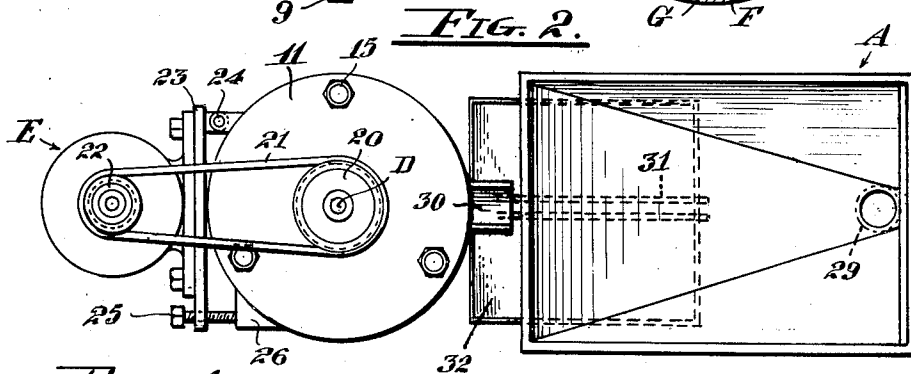
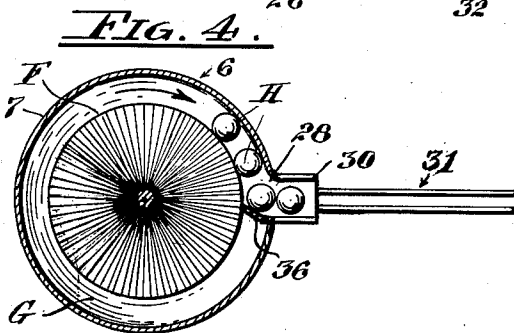


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GOLF BALL WASHING MACHINE HAVING HOPPER MEANS
FOR FEEDING BALLS AND LIQUID THERETO
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GOLF BALL WASHING MACHINE HAVING HOPPER MEANS FOR FEEDING BALLS AND LIQUID THERETO

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1 Claim. (Cl. 15—21)

This invention relates to a washing machine and has as its primary object the provision of a machine for washing golf balls and particularly such as have become fouled by contact with the ground during the course of playing the game of golf and especially when used on a practice field.

Another object is to provide a machine of the above character wherein a hopper may be charged with a considerable number of balls and the balls subsequently fed successively to and through a washing apparatus where each ball is individually subjected to a scrubbing action while immersed in water and thereafter delivered to a draining and drying rack, and whereby the washing operation may be rapidly and thoroughly effected.

With the foregoing objects in view together with such other objects and advantages as may subsequently appear, the invention resides in the parts and in the combination, construction and arrangement of parts hereinafter described and claimed, and as illustrated by way of example in the accompanying drawing in which:

FIG. 1 is a view in side elevation partly in section of the ball washing machine with portions broken away;

FIG. 2 is a plan view with portions removed;

FIG. 3 is a view in horizontal section as seen on the line 3—3 of FIG. 1 showing the manner in which the balls are initially fed to the washing apparatus; and

FIG. 4 is a view in horizontal section taken on the line 4—4 of FIG. 1 depicting the manner in which the balls are discharged from the washing apparatus.

Referring to the drawings more specifically A indicates a hopper for the reception of a quantity of balls to be washed and B designates generally a washing apparatus to which the balls in the hopper are fed successively one at a time by gravity. The hopper A and the washing apparatus B are supported on a frame 5 which may be of any suitable construction.

The washing apparatus B embodies a tank 6 having an upstanding cylindrical side wall 7 and having a downwardly and inwardly inclined bottom wall 8 leading to a drain outlet 9 fitted with a cut-off valve 10. The upper end of the tank 7 is closed by a cover 11 which is detachably connected by bolts 15 to a flange 16 fixed on the tank side wall which bolts pass through the cover 11 and are screwed into engagement with the flange.

A revolvable shaft D extends axially of tank 7 through the cover 11 and has its lower end journaled in a bearing 17 on a spider 18 carried on the interior of the tank. The upper end of the shaft D is fitted with a driven pulley 20 engaged by a belt 21 passing around a driving pulley 22 on the drive shaft of an electric motor E. The motor E is fixed on a vertical panel 23 hinged at 24 on one vertical edge thereof to the tank side wall 7 to swing horizontally and having a bolt 25 threaded through its opposite edge arranged to bear at its inner end against a stop 26 on the tank side wall 7, the bolt serving as a means for adjusting the panel 23 outward to take up slack in the belt 21.

Fixed on the shaft D is a cylindrical brush F the outer periphery of which is concentric with the cylindrical side wall 7 of the tank 6 and extends in spaced relation thereto a distance slightly less than the diameter of a golf ball H.

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The brush F has its lower end spaced above the bottom wall 8 of the tank and has its upper end spaced a short distance below the cover 11.

Fixedly carried on the inner face of the side wall of the tank and surrounding the brush F is a spiral runway G the lower end of which leads from a ball intake 27 extending through the tank side wall and the upper end of which terminates below but adjacent the upper end of the brush F and leads to a ball outlet 28 in the upper portion of the tank side wall. The inner margin of the runway G lies close to the periphery of the brush F. A longitudinally inclined tubular conduit 29 connects with the lower end of the hopper A and has its lower end connected to the intake 27. The conduit 29 has a diameter slightly greater than the diameter of a golf ball H so that such balls will feed from the trough A in a row and be delivered successively one at a time into the space extending between the side wall of the tank and the cylindrical perimeter of the brush F as shown in FIG. 3.

A chute 30 leads from the outlet 28 with its outer end extending over a drainage rack 31 comprising a pair of spaced parallel rails, the chute 30 serving to direct balls delivered from the outlet 28 onto the rails of the rack 31 which rails are supported in a slightly downwardly inclined position on and spaced above a tilted drip-pan 32 and leading to a portable basket 33 removably supported on a member 5' of the frame 5. A discharge pipe 34 leads from the pan 32 and connecting with the conduit 29 to deliver the water deposited on the pan to the conduit.

A baffle 35 extends from the margin of the intake 27 at the side thereof opposite the direction of approach to the runway G to confine the flow of balls to such direction and a baffle 36 extends inwardly from the side of the outlet 28 opposite the approach of the runway G for deflecting the balls H from the runway through the outlet.

Means are provided for delivering wash water to the interior of the washing apparatus B, which means is here shown as comprising a faucet 37 connected to a suitable source of water supply and arranged to direct water into the hopper A and conduit 29.

Water thus delivered to the hopper flows through the conduit 29 into the tank 6 through the intake 27 and is supplied in a quantity to establish a water level in the tank a short distance below the outlet 28 with a portion of the water occupying the conduit 29 so as to submerge the balls H as they pass through the conduit. The brush F will thus be submerged in water except that its upper end will project slightly above the water level to a point above the upper convolution of the runway G. Likewise the runway G will be submerged from its lower end to a point adjacent the upper end thereof.

In the operation of the invention, balls H to be washed are deposited in the hopper A, after delivering wash water to the washing apparatus by opening the faucet 37 to fill the tank 6 and conduit 29 as before described. A detergent may be added to the water in the hopper if desired. The motor E is then set in operation thereby rotating the brush F which is turned in the direction of the ascending convolutions of the spiral runway G.

The balls placed in the hopper A feed into the inclined conduit 29 and are discharged at the lower end of the conduit by the action of gravity as before stated, the balls being delivered one at a time through the inlet 27 into the tank onto the lower convolution of the runway G where the balls are successively frictionally engaged by the tips of the bristles of the rotating brush F and are thereby caused to roll upward along the runway. The space between the periphery of the brush F and the inner face of the encompassing cylindrical wall of the tank 7 is slightly less than the diameter of the balls H, so that the balls being held by the tank wall against movement

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away from the brush, will be engaged by the bristles under such pressure that movement of the balls upward along the runway will be insured. The balls in traversing the runway with a rolling movement the surfaces of the balls will be subjected to a brushing or scrubbing action while submerged in the body of wash water contained in the tank such as to effect the removal of dirt and foreign matter with which the balls were fouled.

As the brush revolves it acts as a circulating pump in that it effects advance of a portion of the water content of the tank to discharge through the outlet 28 where such water is collected by the pan 32 and delivered to the conduit 29 to be directed thereby back into the tank. The balls discharged from the outlet 28 are delivered by the trough 30 onto the rack 31 and then roll down the latter to discharge into the basket 33, water carried by the balls being drained therefrom as the balls traverse the rack and returned to the tank by the drip-pan 32, pipe 34 and conduit 29. Solids removed from the balls H within the tank 7 settle to and accumulate in a sump J at the lower end of the tank for subsequent removal, and are drained from the tank from time to time by opening the drain valve 10 at the lower end thereof.

In event the balls are so badly fouled as not to be sufficiently cleaned by a single run through the washing apparatus, they may obviously be delivered to the hopper A for a further treatment.

While a specific embodiment of the invention has been shown, I do not limit myself to the exact details of construction set forth, and the invention embraces such changes, modifications and equivalents of the parts and their formation and arrangement as come within the purview of the appended claim.

I claim:

In a ball washing machine, embodying a tank adapted

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to contain a cleaning solution, said tank comprising an upstanding rigid cylindrical side wall and top and bottom walls, said side wall having an inlet opening spaced above said bottom wall and having an outlet opening adjacent said top wall and spaced above said inlet opening, a fixed spiral runway mounted on the inner side of said tank side wall having a lower end leading from said inlet opening and an upper end leading to said outlet opening, a vertically extending revoluble cylindrical brush in said tank encompassed by said spiral runway and having upper and lower ends projecting above and below the ends of said runway and having its periphery arranged to engage and advance balls upward along said runway from said inlet opening and through said outlet on rotation of said brush; the improvement comprising a hopper exteriorly of said tank arranged adjacent the upper end of said tank having a lower end disposed on a plane spaced above said inlet opening, and a tubular conduit leading between the lower end of said hopper to said inlet opening adapted to convey both balls to be washed and liquid from said hopper to said tank, said hopper and conduit being adapted to deliver liquid to said tank to a predetermined level spaced below said outlet opening.

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