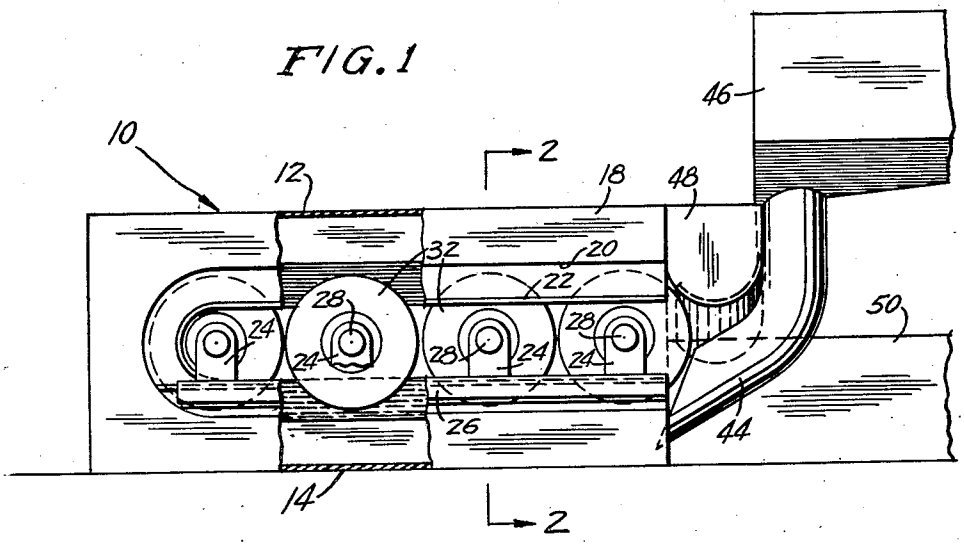
Dec. 3, 1957 D. A. YOUNG 2,814,813

GOLF BALL WASHING MACHINE

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FIG. 1



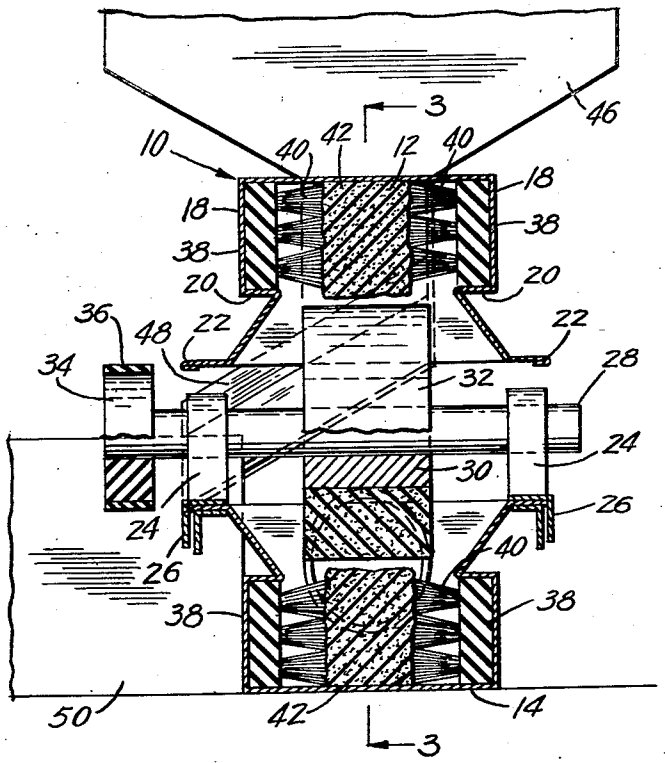


FIG. 2

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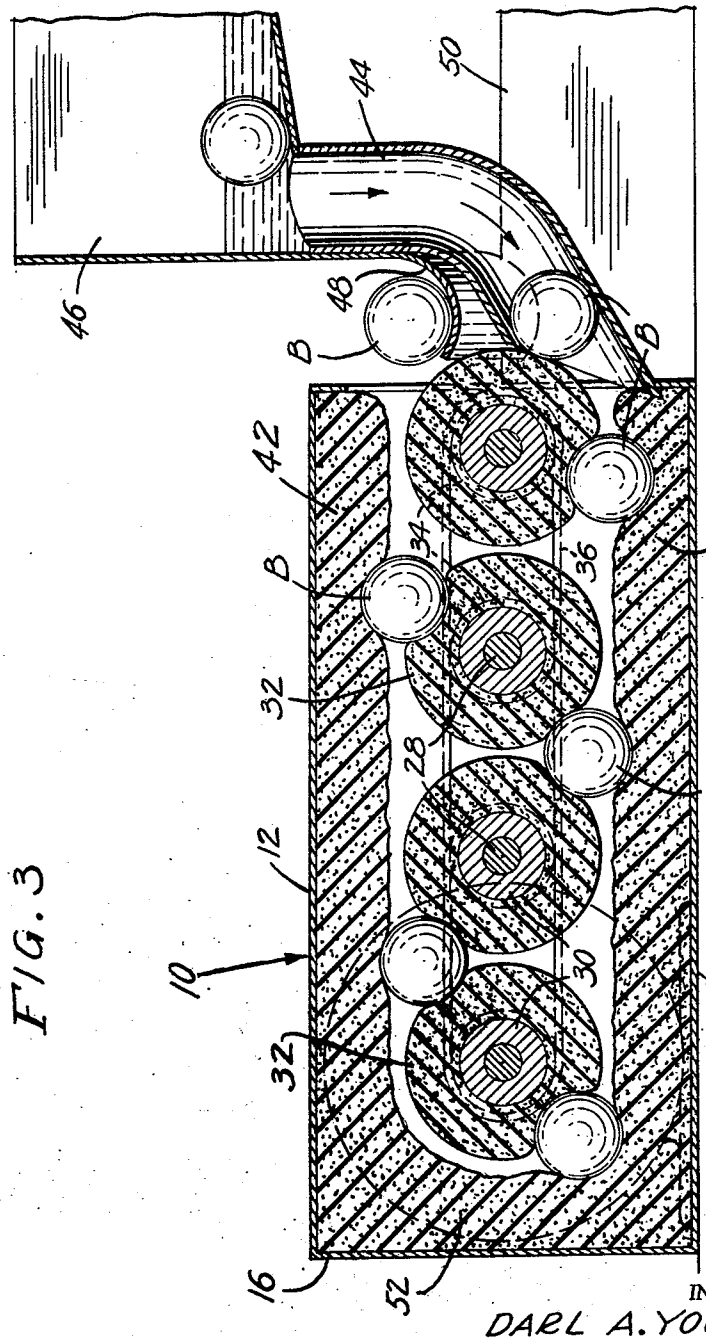


FIG. 3

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GOLF BALL WASHING MACHINE

Darl A. Young, Peru, Ill.

Application September 23, 1955, Serial No. 536,221

2 Claims. (Cl. 15—4)

This invention relates to apparatus adapted to wash or cleanse golf balls in substantial quantity, the apparatus being thus particularly adapted for use on driving ranges, and in similar operations.

The main object of the present invention is to provide a generally improved device of the type stated, in which golf balls can be loaded into a hopper, and will be fed gravitationally to the apparatus, being thereafter acted upon by a series of cleaning wheels acting in conjunction with associated cleaning pads and brushes, and power driven in such a manner as to convey the cleaned golf balls to an outlet, leading to a receptacle for the washed articles.

Another object is to provide a device as stated in which the cleaning action will be particularly effective, by reason of the provision of a plurality of soft-surfaced, sponge rubber cleaning rolls, so arranged relative to adjacent pads and brushes as to cause said rolls to be compressed by the golf balls passing thereby, thereby to alternately squeeze and expand the rolls in such a manner as to cause soapy liquids impregnating the same to be formed into a highly effective cleaning lather.

Another object is to provide a device as stated in which the cleaning of the golf balls will be effected in such a manner as insure to a maximum against cutting, marring, or damaging of the golf ball surfaces.

Another object of importance is to provide a device as referred to above in which the cleaning action will be such that the balls will be acted upon in part by the bristles of a series of cleaning brushes, and in part by sponge rubber pads acting in conjunction with the rolls, in an arrangement wherein the brushes act upon the golf balls responsive to compression of the pads to such an extent as to dispose the golf balls in contact with the surfaces of the brushes.

Other objects will appear from the following description, the claims appended thereto, and from the annexed drawing, in which like reference characters designate like parts throughout the several views, and wherein:

Figure 1 is a side elevational view of an apparatus formed according to the present invention, in which a portion of the apparatus has been broken away;

Figure 2 is an enlarged transverse sectional view on line 2—2 of Figure 1; and

Figure 3 is an enlarged longitudinal sectional view on line 3—3 of Figure 2.

The reference numeral **10** designates a casing formed of sheet metal or the like, said casing being adapted to be stationarily mounted on a suitable supporting surface, and including a flat, horizontal top wall **12**, a bottom wall **14** similar to the top wall **12**, a vertically disposed end wall **16**, and vertically disposed side walls **18**. The apparatus is closed at one end by the end wall **16**, but is open at its other end, as shown in Figure 3, to permit the golf ball B to be fed into the apparatus, and also discharged from the apparatus at the end of the cleaning operation.

The side walls **18** are undercut as at **20**, from the open end of the casing to a location spaced inwardly a short

distance from the closed end thereof (see Figure 1). The undercutting of the side walls **18** defines longitudinally extending, outwardly bulged side wall portions, and extending longitudinally and centrally of said outwardly bulged portions are slots defined between horizontal flanges **22** formed upon the side walls and projecting laterally, outwardly from the side walls.

By reason of this arrangement, it may be noted that the casing can be considered as a horizontally elongated, rectangular casing closed at one end and open at its other, with the side walls of the casing being formed with longitudinal, horizontal slots closed at one end, adjacent the closed end of the casing, and opening upon the open end of the casing.

Supported upon the lower longitudinal flanges **22** are uniformly spaced, upstanding bearing posts **24**, these being mounted upon angle irons **26** carried by the lower flanges of the side walls of the casing. The bearing posts **24** are apertured to receive the end portions of shafts **28**, the shafts being journalled in the bearing posts and extending transversely of the casing as shown in Figure 2 at locations uniformly spaced along the lengths of the slots.

Secured to the intermediate portions of the shafts are sleeve-like cores **30**, and bonded to said cores are rolls **32** formed of sponge rubber or other relatively soft, porous, resilient material.

The several shafts are simultaneously driven, through the medium of pulleys **34** secured to one of the projecting ends of the shafts, about which pulleys a drive belt **36** is trained, said drive belt extending from a suitable source of power, not shown. Alternatively, the rotation of the rolls can be effected manually, by the use of a suitable crank, or alternatively, gearing or other means can be employed. Still further, the passage of the golf balls themselves through the device can effect rotation of the rolls, in a manner which will be discussed in greater detail hereinafter.

Secured to the inner surfaces of the respective side walls, adjacent the side and bottom walls, are elongated brush bases **38**, formed of rubber material or the like, and embedded in the brush bases are tufts of bristles **40**, the bristle tufts projecting laterally, inwardly toward one another above and below the rolls as shown in Figure 2. Disposed between the tufts of bristles, in contact along opposite sides thereof with the outer ends of the bristle tufts, are soft, elongated sponge rubber pads **42**, having faces disposed in closely spaced relation to the rolls as shown in Figure 2.

An intake pipe has been designated at **44**, and extends to the open end of the casing, said intake pipe being adapted to feed golf balls by gravitation as shown in Figure 3 into the space between the pads **42** and the undersides of the rolls **32**. As the golf balls enter said spaces, they compress the pads and rolls as shown in Figure 3, and by setting up a means for insuring the continued feeding of the golf balls through the intake pipe **44**, the golf balls, following one behind the other, are forced longitudinally of the casing to the left in Figure 3, passing under the rolls, so as to cause the rolls to rotate, the golf balls passing about the innermost roll and then traveling in a reverse direction back to the open end of the casing, to pass to a discharge chute. The intake pipe leads from a hopper **46** in which the balls to be cleaned are disposed, and when the golf balls are cleaned and pass out of the open end of the casing, they fall into an inclined, transversely disposed chute **48**, leading to a receptacle **50** for cleaned golf balls.

The pads **42** in actuality comprise a single element, as shown in Figure 3, with the pads being integrally connected by a bight portion **52** at the closed end of the casing. Thus, the pads **42, 42, 52** in effect constitute a sponge rubber liner for the casing, with said liner being

approximately of C-shape and being disposed between correspondingly shaped brush assemblies **38, 40.** The C-shape of the liner defines a space between the horizontal arms thereof within which the series of rolls is disposed, forming a C-shaped passage extending about the rolls, through which passage the golf balls travel during the movement from the inlet to the outlet of the device.

As the golf balls move along the casing, they continually compress the pads **42** and rolls, and each compression of the pads and rolls causes cleaning liquid, such as soapy water or the like, to be forced out of the material of the pads and rolls, in a lathery or foamy form, to provide a highly desirable cleaning action for the golf balls. Further, as the golf balls pass any particular area of the device, the pads and rolls again expand so as to absorb the liquid once again, and this action continues as long as the device is in operation. Still further, the arrangement is one wherein, each time a pad **42** is compressed, bristle tufts are exposed, with the golf balls thus being forced against said bristle tufts so as to still further provide for an effective cleaning action of the golf balls.

The device is especially well adapted for use in cleaning golf balls in substantial quantities, and thus is adapted to be used to advantage on driving ranges, public golf courses, and the like.

It is believed apparent that the invention is not necessarily confined to the specific use or uses thereof described above, since it may be utilized for any purpose to which it may be suited. Nor is the invention to be necessarily limited to the specific construction illustrated and described, since such construction is only intended to be illustrative of the principles, it being considered that the invention comprehends any minor change in construction that may be permitted within the scope of the appended claims.

What is claimed is:

1. Apparatus for cleaning golf balls comprising an elongated casing; a series of cleaning rolls rotatably mounted in and extending longitudinally of said casing, the rolls being mounted in the casing for rotation about parallel axes extending transversely of the casing; a casing liner of approximate C-shape including a bight portion and horizontally extending arms, said arms and bight portion embracing the series of rolls, the liner and rolls being surfaced with a relatively soft, porous, resilient material, said rolls cooperating with the liner in defining an approximately C-shaped passage for golf balls to be cleaned with said golf balls traveling along said passage in contact with the liner and rolls; means turning the rolls in a common direction for moving golf balls through the passage, an intake pipe for feeding the golf balls into one end of said passage; a discharge chute adapted to receive golf balls passing out of the other end of the passage, said

casing being closed at one end with the bight portion of the liner engaged against the closed end of the casing, the other end of the casing being formed open with the inlet and outlet ends of the passage communicating with the open end of the casing; and a pair of brush assemblies disposed at opposite sides of said liner, said brush assemblies being formed to C-shapes approximating the C-shaped configuration of the liner, each brush assembly including inwardly projecting tufts of bristles normally engaging against the side surfaces of the liner, compression of said liner being adapted to expose some of said tufts for contacting of the golf balls by the bristle tufts.

2. Apparatus for cleaning golf balls comprising a horizontally elongated, substantially rectangular casing closed at one end and formed open at its other end, said casing having side walls formed with longitudinal, horizontally disposed slots opening upon the open end of the casing and terminating at their other ends short of the closed end of the casing; a plurality of shafts journalled in the casing, said shafts being spaced uniform distances apart along the lengths of the slots with the opposite ends of the respective shafts projecting out of said slots; cleaning rolls secured to the shafts for rotation therewith, said cleaning rolls rotating in a common plane, the rolls being surfaced with soft, porous, resilient material and the peripheries of the rolls being extended in closely spaced relation to one another; means having a driving connection to the several shafts operatively arranged to turn the rolls in a common direction; a casing liner of approximate C-shape having a bight portion engaged against the closed end of the casing and having arms extending horizontally above and below the respective cleaning rolls in close proximity to the cleaning rolls, said liner being disposed in a plane common to that of the cleaning rolls and being formed of a relatively soft, porous, resilient material; and a pair of brush assemblies secured to the walls of the casing at opposite sides of the liner, each brush assembly being of approximate C-shape to substantially duplicate the C-shaped configuration of the liner, and including a base secured to the associated side wall and a plurality of bristle tufts projecting laterally, inwardly of the base into engagement with the opposite sides of said liner, said liner being compressible by golf balls passing between the liner and rolls, to expose some at least of the bristle tufts to the passing golf balls.

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