Jan. 7, 1958 J. E. BORAH 2,819,109

BALL RETRIEVER

Filed June 4, 1953

FIG. 1.

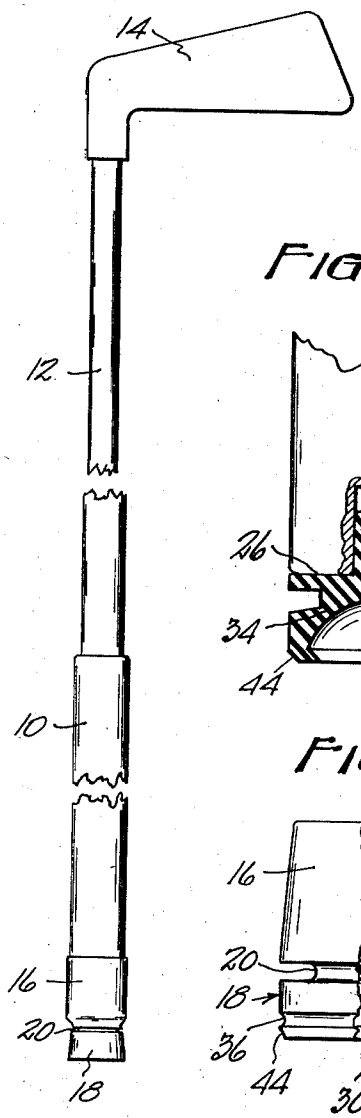


FIG. 2.

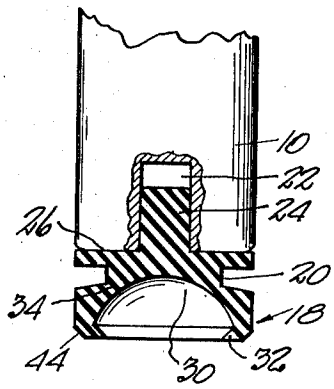


FIG. 3.

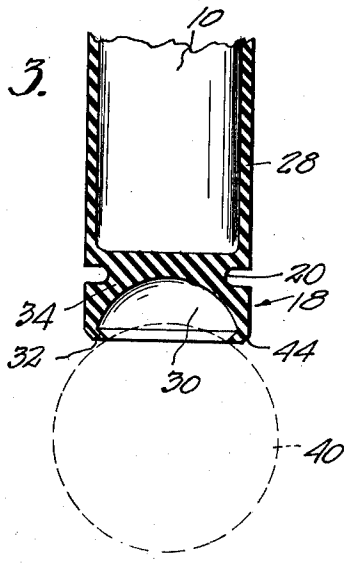


FIG. 4.

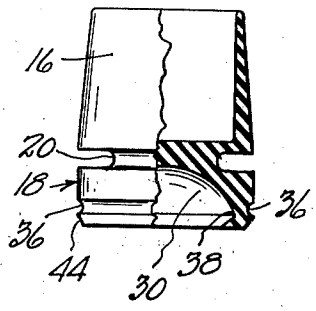
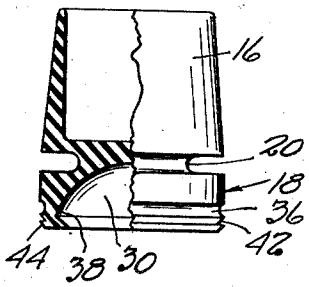


FIG. 5.



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BALL RETRIEVER

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1 Claim. (Cl. 294—19)

This invention relates to improvements in ball retrievers, and more particularly to a retriever for golf balls which is adapted to be mounted upon the shaft of a golf club to project from the end of the hand grip thereof.

The primary object of this invention is to provide a device of this character which is adapted to grip the irregular surface of a ball at a circumferential inwardly projecting flange at the mouth of a resilient socketed body, wherein the flange is thin and narrow and wherein the inner edge of the flange is so proportioned to the shape and depth of the socket that the ball has clearance with the bottom of the socket when it is gripped by the flange along a circular line of smaller dimension than the circumference of the ball.

A further object is to provide a golf ball retriever having a resilient body provided with a concave socket and an inwardly directed marginal lip, which is characterized by a circumferential groove in the outer wall of the body located in a plane substantially parallel to said lip and spaced from said lip a distance substantially equal to the depth of said socket.

A further object is to provide a ball retriever formed integrally from resilient material and being characterized by the mounting portion and a cup-shaped end portion joined at a restricted or reduced dimension neck portion, whereby at least a small amount of distortion of either of the end portions may occur without distorting the other end portion.

Other objects will be apparent from the following specification.

In the drawing:

Fig. 1 is a view illustrating the ball retriever mounted upon the handle portion of a golf club;

Fig. 2 is an enlarged axial sectional view of the ball retriever mounted upon a golf club by means of an inserted stud;

Fig. 3 is an enlarged axial sectional view illustrating the ball retriever formed as a part of a hand grip sheath;

Fig. 4 is a side view of a modified embodiment of the invention with parts shown in section; and

Fig. 5 is a side view of another modified embodiment of the invention with parts shown in section.

Referring to the drawing, and particularly to Fig. 1 thereof, the numeral **10** designates the handle portion of a golf club having the usual shaft **12** mounting the club head **14**. A ball retriever is mounted upon the handle portion **10**, the same consisting, as illustrated in Fig. 1, of a skirt portion **16** and circular cup or socket portion **18**, the portions **16** and **18** being formed integrally and being separated by a restricted integral neck portion **20**.

The ball retriever is preferably of substantially the same shape and configuration as illustrated in Fig. 2 except for the difference in the means of attachment to the golf club. Thus in Fig. 2 the handle portion **10** has an axial socket **22** in its outer end, and a stud portion **24** is formed centrally of and projects from the socket portion

18 and is secured in the socket **22** either by a snug fit or with the use of an adhesive. The base surface **26** of the head **18** will bear flat against the outer end of the club handle **10**. The groove **20** is formed in the head **18** spaced from the plane of the shaft abutting surface **26**.

A third means of attachment of the ball retriever is illustrated in Fig. 3, wherein the head **18** is shown integral with an elongated sleeve or sheath **28** which forms the surface sheath for the golf club handle **10**. In this instance the groove **20** is formed at the junction of the head **18** and the handle sheath **28** and preferably is spaced from the end surface of the handle **10**.

In each of the embodiments of Figs. 1, 2 and 3, the head of the retainer has a socket portion **30** formed therein open at the outer end of that member, the same being provided with a restricted mouth defined by an inwardly projecting narrow circumferential flange **32** which is of tapered cross-section and terminates at a sharp edge portion. The maximum diameter of the ball retainer portion **18** will not be substantially greater than the handle, and in the preferred dimension will preferably be less than one and one-fourth inch in diameter. The retainer will project from the end surface of the club a distance not substantially greater than one-half inch. The socket **30** will preferably be of a depth in the order of three-tenths of an inch, and its maximum diameter inwardly of the lip **32** will preferably be one inch or slightly less. The diameter of the socket at the mouth, measured from diametrically opposed inner edge portions of the lip **32**, will be in the order of seven-eighths of an inch to nine-tenths of an inch. The dimensions quoted are those which apply in cases where the device is mounted upon the club.

The groove **20**, which defines a restricted dimension neck portion at **34** between the retainer portion **18** and the mount therefor, is so positioned that it is spaced from the outer face of the lip a distance substantially equal to the depth of the socket **30**. This arrangement provides at the reduced portion **34** an annular integral joint between the socket and its mounting of a nature to be free to flex. This is of importance in connection with a device of this character because it makes possible the distortion and spreading of the socket **18** upon application of minimum pressures and in such a manner that it is not necessary to stretch or distort a large bulk of material as has been true in the constructions illustrated in my co-pending applications, Ser. No. 300,061, filed June 21, 1952, now Patent No. 2,750,222 dated June 12, 1956 and Ser. No. 340,237, filed March 4, 1953.

Still another advantage of the provision of this groove is that it makes possible the application of a skirted type of retainer to a club having a hand grip of non-circular cross-section without transmitting the irregularity of the shape of the club to the ball-retaining socket portion **18**. Thus, if the cross-section of the club handle is oval such as to have flat surfaces thereon as is sometimes true in golf clubs, the distortion of the skirt to accommodate the major transverse axis or dimension of the handle would, in my prior constructions, tend to distort the ball-retaining cup in such a manner that the mouth of the cup would not lie flat and would not be truly circular. No such distortion of the cup occurs here and, instead, the distortion is taken up at the slot **20** which will be distorted or reshaped to be of greater width at some points than at others around its circumference when the device is mounted on a club handle of non-circular cross-section. Thus, the two principal advantages of this device are, first, that the formation of the groove **20** increases the sensitivity and flexibility of the skirt portion of the socket to accommodate its application to a ball by light pressure, and, second, that distortion of the

mounting portion of the device will not distort the ball-gripping portion of the device. The second of these advantages is an important principle in the skirted type of construction illustrated in Figs. 1, 4 and 5, and it may also be important in the Fig. 3 embodiment and is of little importance in the Fig. 2 embodiment.

In order to increase the flexibility of the device at and adjacent the lip, a construction as illustrated in Fig. 4 may be employed in which a circumferential groove **36** is formed in the outer surface of the retainer portion **18** between the groove **20** and the flat open outer end of the cup member. This groove will be shallow compared to the depth of the groove **20** and will preferably occur adjacent to the large dimension point **38** of the socket inwardly of and at the base of the flange **32**. This groove **36** serves to reduce the bulk of rubber at and around the margin of the flange **32** so as to increase the sensitivity of the device and further reduce the pressure which is required to be applied in order to effect a grip of the device upon the pebbled surface of a golf ball **40**.

Another variation of the same thought is to provide, not only the groove **36** in the outer periphery of the portion **18**, but also to provide a second and preferably smaller circumferential groove **42** between the mouth of the socket and the circumferential groove **36**. The groove **42** is located substantially in line with the flange **32** to reduce the mass of the rubber at that flange.

One feature of all of the embodiments of the invention is the formation of a circumferential frusto conical or tapered surface at **44** between the outer surface of the flange **32** and the circular or cylindrical surface defining the lateral outer outline of the portion **18**. This serves to enhance the flexibility of the portion **18** by avoiding the occurrence of a thick portion in the plane of the mouth of the socket and is a further factor incorporating sensitivity in the device for effective gripping action without requiring the use of substantial pressure.

Each of these devices has, as one characteristic thereof, provision for a pumping action employed to effect a grip. In other words, in applying the device to a ball, if the cup fits over the ball, pressure is applied, released, and then applied again, the grip of the device upon the ball may be greater and more certain than if pressure is applied by only one stroke. One of the advantages of the pumping action is that the second stroke facilitates the reorientation of the lip or flange of the cup to the ball throughout its full circumferential extent in the event its first application was not fully accurate.

Another advantage of the present construction is that the grooves thereof, and particularly the groove **20**, permits lateral distortion of the outer portion **18** relative to the remainder of the device with minimum danger of damage or breakage when the club is laid down or strikes an abutment.

While the preferred embodiments of the invention have been illustrated and described, it will be understood that changes in the construction may be made within the scope of the appended claim without departing from the spirit of the invention.

I claim:

A ball retriever adapted to be mounted on the end of a shaft, comprising a thin unitary resilient and elastic body having a mounting portion at one end for the shaft, an intermediate reduced portion and a circular ball-gripping portion at the other end of a cross-sectional size substantially equal to the cross-sectional size of said other end, said ball-gripping end portion having a concavity centered at its end and provided with a restricted mouth defined by an inwardly projecting narrow marginal flexible lip, said reduced portion being of a cross-sectional dimension not substantially greater than the cross-sectional dimension of said mouth and less than the cross-sectional size of said shaft whereby distortion of one end portion of said body is not transmitted to the other end portion thereof.

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