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R. C. INGOLDT
TUBULAR GOLF BAG

3,164,185

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2 Sheets-Sheet 1

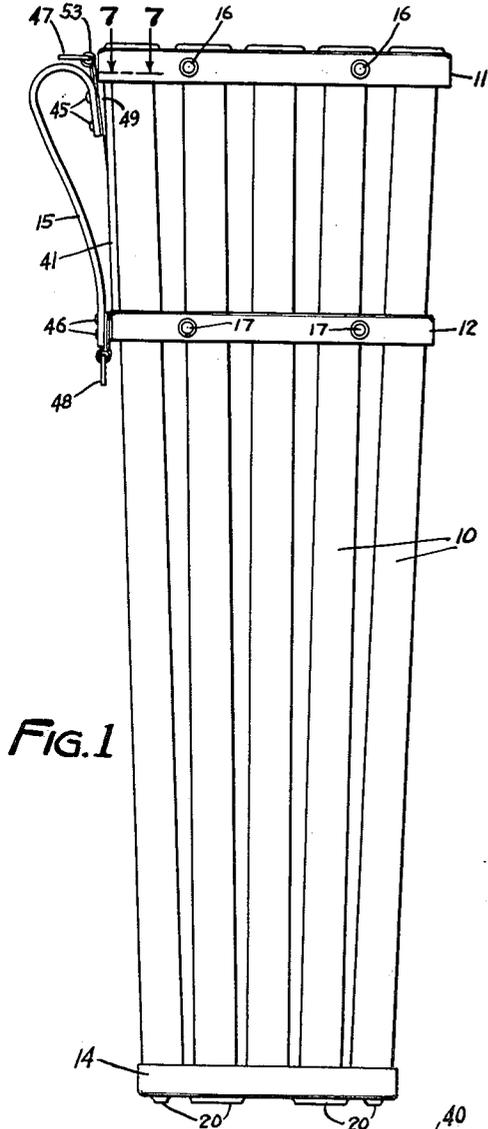


FIG. 1

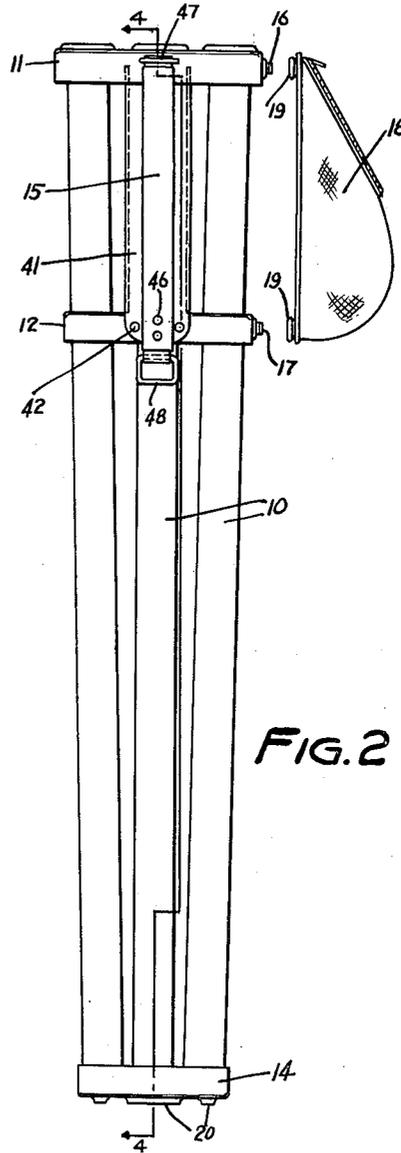


FIG. 2

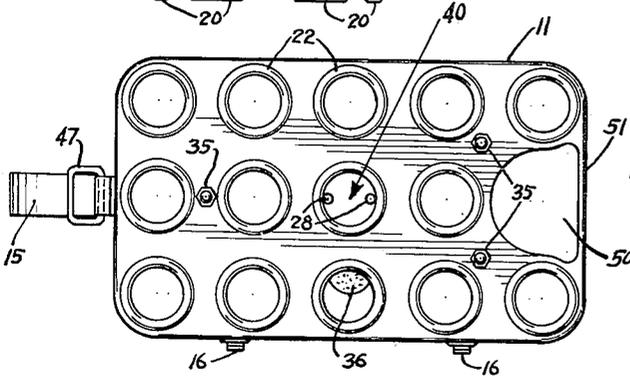


FIG. 3

INVENTOR.
ROBERT C. INGOLDT
BY
Moore, White & Durd
ATTORNEYS

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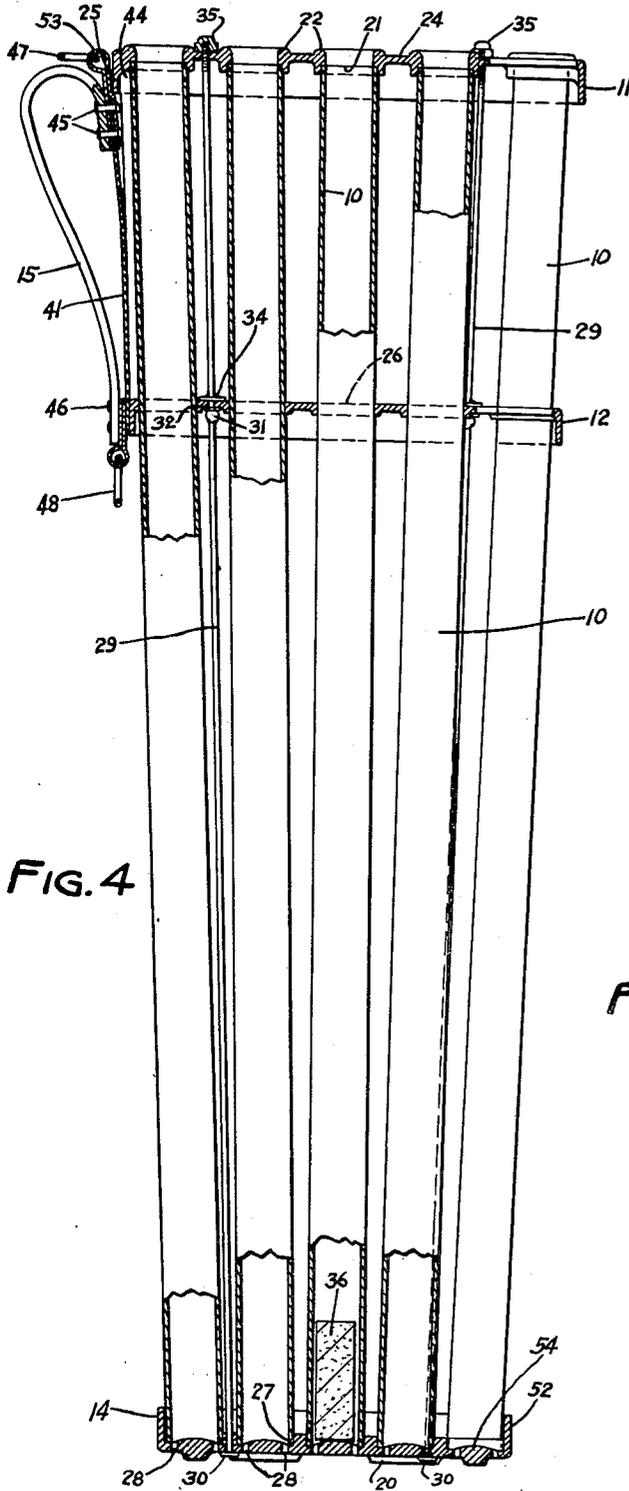


FIG. 4

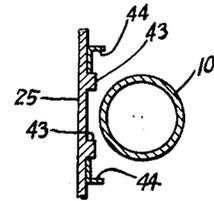


FIG. 7

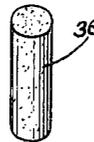


FIG. 6

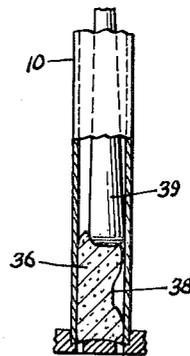


FIG. 5

INVENTOR.
ROBERT C. INGOLDT
BY
Moore, White & Durd
ATTORNEYS

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3,164,185

TUBULAR GOLF BAG

Robert C. Ingoldt, Hydro Lane, Chippewa, Wis.

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4 Claims. (Cl. 150-1.5)

This invention is an improved golf club supporting bag made principally from the tubes which serve as individual supports for the club shafts. Top, bottom, and intermediate spacers or plates are in intimate contact with the tubes to hold the ends together and to prevent them from yielding in the middle respectively. In the preferred form of the invention the top and bottom plates are held against the tubes to support them adjacent to each other in column compression by means of tie rods extending through the plates. A further feature of the construction is that the tubes are spaced more widely at the top than at their bottoms to space the club heads. The construction of the device also leaves open spaces between the tubes which minimizes solid surface presented to wind. Another feature of the bag is the detachable golf ball and accessory bag by means of which the clubs may be left at the professional's shack or other semi-public place without leaving the golf balls where they are subject to mysterious disappearance. The tie rods used to hold the tubes together have nuts on at least one end permitting ready removal of an end plate and individual replacement of tubes in the event of damage. A cushion loosely confined in the bottom of the tube protects the bottom plate against impact as the clubs are dropped into the bag, aids in holding club heads in a given position, and minimizes noise from clubs rattling during transport.

Golf bags have always been of rather heavy construction and the trend in recent years has been toward more substantial and, therefore, heavier bags. In addition there has also been a trend toward placing individual club receiving tubes or a collection of such tubes banded together inside of the ordinary bag in order to form compartments providing a separate place for each club. At least one known instance such an insert has a standard appearing bag constructed around the insert thus providing what is known as compartmented bag.

Since golf bags are rather substantial in weight anyway, the addition thereto of the individual tubes or compartmenting devices simply adds to the already substantial burden of carrying the bag. The clubs of course are a good deal heavier than the bag, but any reduction of weight would be advantageous to one carrying the bag and clubs or pulling a cart on which they are supported.

Furthermore, golf bags as widely presently known are made as integral units with golf ball pockets and places to store umbrellas and the like built in. Thus it is either necessary to remove the golf balls from the ball storage pockets and place them in the locker at the club or to hazard the chance that the balls may mysteriously disappear while stored in such a semi-public area. Golf balls that mysteriously disappear usually fail to reappear as mysteriously.

Yet another drawback of the usual golf bag as it is most commonly seen today is that it presents a solid surface to winds. While this fact is of relatively small moment, nevertheless the large bag on a cart particularly if parked on uneven ground can be blown over by a strong gust of wind. While such blowing over of golf carts with bags thereon may not be common it does happen and is an extreme annoyance when it does occur. Often times the clubs are partially or completely thrown out of the bag and considerable time is lost re-assembling and sorting various clubs into their proper location.

Finally, most golf bags are rather expensive even with-

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out adding the cost of placing individual tubes in it in order to give the compartmented effect.

Furthermore, even with tubes inside the normal golf bag there is a strong possibility of clubs banging against each other as a result of their rolling around during transport and thus marring club heads particularly of the woods, unless protected. This is the reason why many golfers who are particular about the condition of their clubs use socks on the heads of their wooden clubs.

It has even been proposed heretofore to make up a golf bag consisting of holding a group of tubes together each of which will receive a golf club shaft. Usually, however, these devices have some kind of central frame work which supplies the essential rigidity and strength of the unit and the tubes are merely held in place by the frame. The one known exception of the foregoing is a unit in which the tubes are wrapped together by braces or strapping into groups that are hinged together at one edge in order to allow them to be splayed out like the pages and covers of a book partially opened. In this form of a bag the tubes are held closely adjacent and parallel to each other in a flat line. In one such instance it was proposed to mold one-half of several tubes in one piece and likewise for a second cooperating piece. These two pieces were then secured together to form an integral unit with four or five openings. When individual tubes are used, they are banded together in groups of four or five tubes held flat so closely together as to present a substantially solid side also. Such a structure has substantially the same defect with respect to wind that the regular non-compartmented bag has.

Accordingly it is the principal object of this invention to provide a novel golf bag formed principally from tubes.

Another object of this invention is to provide such a novel golf bag in which the tubes form the principal structural strength of the bag.

A still further object of this invention is to provide such a bag in which the tubes are held in column compression.

A still further object of this invention is to provide such a tubular type golf bag that has a removable retaining plate at one end by means of which individual tubes may be removed and replaced as needed.

Yet another object of this invention is to provide a tubular type golf bag which, by reason of its construction, has considerable open space throughout its width and length to allow air to pass through thus minimizing reaction of the bag to wind.

A still further object of this invention is to provide a tubular type golf bag in which the tubes are substantially farther spaced from each other at the top than at the bottom whereby the golf club heads flare away from each other.

Yet a further object of this invention is to provide a tubular golf bag structure having cushions at the bottom of each of the tubes which not only absorb the shock of the club being dropped into the tube but also tends to hold the club against rotation once placed therein.

It is a still further object of this invention to provide a cushioning means in each of the tubes to protect the clubs and minimize the clubs rattling during transport as on a cart for example.

It is still another object of this invention to provide a golf bag having a removable golf ball pouch thereon which can be quickly and easily removed when the bag is stored.

Yet another object of this invention is to provide a tubular golf bag that has structure thereon minimizing the amount of moisture that will go into the tubes thereof in the event of exposure to rain.

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Still other objects are inherent in the specific structures disclosed by showing and describing them herein.

A still further object of this invention is to provide a rugged, structurally rigid bag of minimum weight in which the structural members consist of tubes positioned laterally by bottom, center and top support members and retained therein by the top and bottom members which are drawn together by tie rods designed to place the tubes in column compression to prevent twisting of the support members and to position the center support at any desired spacing between the top and bottom members.

To the accomplishment of the foregoing and related ends, this invention then comprises the features hereinafter fully described and particularly pointed out in the claims, the following description setting forth in detail certain illustrative embodiments of the invention, these being indicative, however, of but a few of the various ways in which the principles of the invention may be employed.

The invention is illustrated by the accompanying drawings in which the same numerals refer to corresponding parts and in which:

FIGURE 1 is a side elevation of the golf bag;

FIGURE 2 is an end elevation;

FIGURE 3 is a plan view drawn to a larger scale than FIGURES 1 and 2;

FIGURE 4 is a vertical section of the bag taken on the section line 4—4 of FIGURE 2 and drawn to the scale of FIGURE 3;

FIGURE 5 is a fragment of one tube the cushion therein interacting the fragment of a golf club handle drawn to the scale of FIGURE 4;

FIGURE 6 is an isometric view of a cushion for use in a tube of my tubular golf bag; and

FIGURE 7 is a fragmentary sectional view taken on the line 7—7 of FIGURE 1 but drawn to a larger scale than FIGURES 3 and 4.

Referring first to FIGURE 1 of the drawing a plurality of tubes 10 are seen held together by means of top plate 11, an intermediate plate 12, and a bottom plate 14. A handle 15 is conveniently secured at one end. On top plate 11 are a pair of snaps 16 and on plate 12 are a pair of snaps 17 which serve to support removably a golf ball bag 18. Bag 18 is provided with cooperating snap members 19 which engage the snap members 16 and 17 on the bag. Bottom plate 14 may be provided with feet 20 to engage a ground or other surface in a non-skid manner.

Referring now to FIGURE 4 the top plate 11 will be seen to be provided with a series of sockets 21 which are of a size to receive the outside diameter of tubes 10. The sockets 21 are open at their centers and therefore capable of receiving the end of a golf club shaft. As seen also in FIGURE 4 each open center on the socket 21 has a ring 22 formed on the otherwise planar top 24 of top plate 11. Rings 22 served to prevent rain water on engaging the top surface 24 of the bag from running down into the tubes. Instead it simply runs between the rings and off the edge of the planar top surface 24 of plate 11.

Intermediate plate 12 as seen in FIGURE 4 merely has holes 26 therein which are large enough to embrace the tubes 10 and hold them at this point in fixed relationship to each other to prevent bowing.

Bottom plate 14 is provided with sockets as at 27 the bottoms of which decline from their centers to peripherally located drain holes 28 shown in FIGURE 4. Drain holes 28 permit any moisture that does collect within each tube to escape. While two drain holes are shown as preferable, one will suffice. Always, however, the drain should be at the periphery of the socket so the cushion will not plug it.

Plate 11, 12 and 14 may be made of any suitable substance and in any suitable manner depending on the

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desires and materials of the manufacturer. The design lends itself to casting, molding, impact, extrusion or forging.

As shown clearly in FIGURE 4, the preferred form of the invention has tubes 10 held in column compression between top plate 11 and bottom plate 14. A very satisfactory way of accomplishing such column compression is by means of tie rods such as those designated 29 in FIGURE 4. As seen in that figure the tie rods have heads 30 which engage the bottom of plate 14. They extend upwardly therefrom to a swaged portion 31 which determines the height of the intermediate plate 12. Washers 32 rest on top of the swaged portions 31 and engage the inside bottom of plate 12. On the top of plate 12 are friction or wedging type fasteners known as speed nuts and designated 34. Tension rods 29 then extend up and apply tension between top plate 11 and bottom plate 14 by means of the finishing nuts 35. Since the threads of the finishing nuts are in a well, and the ends of the tension rod cannot extend through the nuts, there is an absolute limit to the amount of compression that may be placed on the tubes by means of the tension rods.

In the bottom of each tube, as shown in FIGURE 4, is a cushion 36 that is smaller in section than the inside diameter of the tubes 10. This cushion 36, shown separately in FIGURE 6, is formed from a flexible foam material and serves to pad the end of the tube against shocks otherwise applied by dropping clubs in the tubes. It is long enough in relation to its density to prevent bottoming of a club dropped from a height of about 30 inches. This is the height of the tubes less an inch or two of club handle just started in the tube and then dropped. Another way of stating this is that the cushion resists bottoming by a force on the order of 12 foot pounds. A density that has been found to be completely satisfactory in combination with the length of three inches is two pounds per cubic foot of bulk. That is to say a cushion made from flexible foam material of density two pounds per cubic foot that is three inches long will not bottom when a force of about 12 foot pounds is applied to it which is about the force generated when a club is dropped on it from a distance of 30 inches.

The action of these cushions in reaction to a club placed in a tube was observed by use of a tube that was clear and through which the interaction of club and cushion could be seen. This interaction is illustrated in FIGURE 5. Cushion 36 by reason of being substantially smaller than the inside diameter of the tube, will not merely compress but also collapses on one side at 38 when a club handle end 39 engages and tends to compress it. Because the pad is not supported all the way around the tube it crumples as at 38 and throws club butt end 39 against the side of tube 10. The club is, therefore, held against rotation both by its frictional engagement with the top of cushion 36 and the side of the tube 10. This combination of cushioning and gripping protects the club from shocks and holds it against rotation. Use of these cushions also minimizes movement and consequent rattling of or damage to the clubs during transport. Even when a bag is on a cart towed over rough terrain, club movement is minimized. While the cushion is shown as a cylinder, obviously columns of other shapes could be used. The thing of principal importance is that the cushion should be enough smaller than the inside diameter of the tube to cause caving without being so small as to allow wedging which destroys cushioning. It is considered most desirable to have a foam material of closed cell formation.

On the other hand, flexible or resilient materials not having closed cell construction have been used satisfactorily and particularly when they are molded with an external skin which tends to enclose the entire cushion in a moisture proof external covering. This type of skin is formed when the foaming takes place in closed molds producing the desired shape. The closed cell structure is considered preferable, because it will prevent collection of

moisture in the cushion. The most satisfactory materials known are flexible foams having a closed cell structure also skinned on the outside when molded in a mold of the desired shape. So forming the cushion is a double precaution, since it may be made with both a closed cell internal structure and skin formed on the outside. Cushions 36 are loosely confined in tubes 10; there is no possibility of their escaping therefrom in normal use.

In connection with the structure of the bag generally, it should be noted that tubes 10 are not only spaced farther apart at the top than at the bottom but they are spaced a distance at their tops greater than half their diameters, but less than a quarter of their diameters at the bottom.

From the central portion of the structure as at 40 in FIGURE 3 the tension rod nuts 35 that mark the upper ends of tension rods 29 are evenly spaced. To state this another way, a circle drawn with central portion 40 as its center will intersect all three of nuts 35. Since three points determine a plane, these three tension rods when drawn up produce even tension on the top and bottom plates in parallel relation to each other and provide amazing stability to the entire structure. Another desirable feature of the device is that by using these tension rods with nuts, the plate may be removed in order to remove and replace any individual tube that might be damaged beyond reasonable use.

The manner which handle 15 is secured to the bag is important to facilitate removal of top plate 11 for tube replacement. It will be seen that the formed plate 41 of handle assembly 15 is riveted or otherwise substantially permanently affixed to plate 12 as at 42. On the other hand the upper end of plate 41 is not riveted to top plate 11. Instead plate 41 has thereon lug portions 44 which extend up under the depending flange 25 of top plate 11. Bosses 43 are formed on the underside of top plate 11, and as seen in FIGURE 7, they engage the inner edges of lugs 44. Lugs 44 also engage the inside of depending flange 25 and clip 53 for ring 47 engages the flange 25 on the outside. It is clear there is interaction between the top plate 11 and the handle assembly that limits motion of the handle assembly top sideways, in and out as well as up. Only downward motion of the handle assembly 15 relative to top plate 11 remains free. Thus handle assembly 15 is carried with intermediate plate 12 when that plate is assembled to the bag and the top part of the handle assembly engages and is held against movement by bosses 43 and the inside and outside of depending flange 25 of top plate 11, as it is finally assembled to the bag. Top plate 11 may be lifted off alone after removing nuts 35, therefore, in order to slide out a damaged tube and replace it with a fresh one.

Handle 15 is also riveted to the plate 41 at the top, however, by rivets 45 extending through drawn portion 49 and clip 53 as shown riveted to handle 15 at the bottom as at 46. Thus handle 15 is rigidly secured to the plate 41 and the plate is rigidly secured to the bag when completely assembled yet without inhibiting the removal of top plate 11 if the occasion requires it. Usual strap receiving rings are shown at 47 and 48 for attaching a shoulder carrying strap to the bag if desired.

While tubes 10 are most commonly made of extruded plastic they are not cross hatched to show this material, as they may be made from any suitable material including treated fiber or light weight metal.

As may be seen by observing FIGURE 3, fourteen tubes are provided for golf clubs which is the maximum number of clubs specified by rules for tournament play.

An area 50 at one end of the plates is not occupied by a tube and is used to provide a rack for an umbrella or other accessory. As shown at 51 the top plate has a bar extending across at the outer edge of the space 50 to provide a retainer to hold an umbrella in space 50 and may also serve as a towel rack. Plate 12 is provided with a similar space and bar (not shown) and the up-turned flange of plate 14 as 52, of course, serves to hold the tip of the umbrella on the closed plate 14 which provides a bottom for the rack. A socket 54 may be provided to receive the tip of an umbrella if desired which will lower the tip of the umbrella still more with respect to flange portion 52 of plate 14 and assure retention of the umbrella under all ordinary circumstances.

It is apparent that many modifications and variations of this invention as hereinbefore set forth may be made without departing from the spirit and scope thereof. The specific embodiments described are given by way of example only and the invention is limited only by the terms of the appended claims.

What is claimed is:

1. A golf bag comprising, a plurality of tubes, a bottom plate having sockets to receive one end of each of said tubes, a top plate having open centered sockets to receive the other end of each of said tubes, means engaging said tubes intermediate of their ends to hold them in fixed lateral relationship, and means holding said top and bottom plates together engaged with said tubes to hold the latter in column compression.

2. The golf bag of claim 1 in which said means for holding the top and bottom plates together with the tubes between them in column compression are tension rods equipped with finishing nuts; whereby the tension rods are positively limited in the amount of compression that they can apply to said tubes in column compression.

3. A golf bag comprising, a plurality of tubes, a bottom plate having sockets to receive one end of each of said tubes, a top plate having open centered sockets to receive the other end of each of said tubes, means engaging said tubes intermediate of their ends to hold them in fixed lateral relationship, and means holding said top and bottom plates together engaged with said tubes to hold the latter in column compression; each tube having a cushion loosely confined in its bottom; said cushions being smaller in diameter than the inside diameter of said tubes.

4. The golf bag of claim 3 in which said tubes have drain holes in the bottoms thereof near the side walls of said tubes.

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