

(12) **UK Patent Application** (19) **GB** (11) **2467566** (13) **A**

(43) Date of A Publication

11.08.2010

(21) Application No: **0901921.7**  
(22) Date of Filing: **06.02.2009**

(71) Applicant(s):  
**James Pittman**  
**92 Lower Lane, LITTLE GOMERSAL, Cleckheaton,**  
**Yorkshire, BD19 4HZ, United Kingdom**

(72) Inventor(s):  
**James Pittman**

(74) Agent and/or Address for Service:  
**Appleyard Lees**  
**15 Clare Road, HALIFAX, West Yorkshire, HX1 2HY,**  
**United Kingdom**

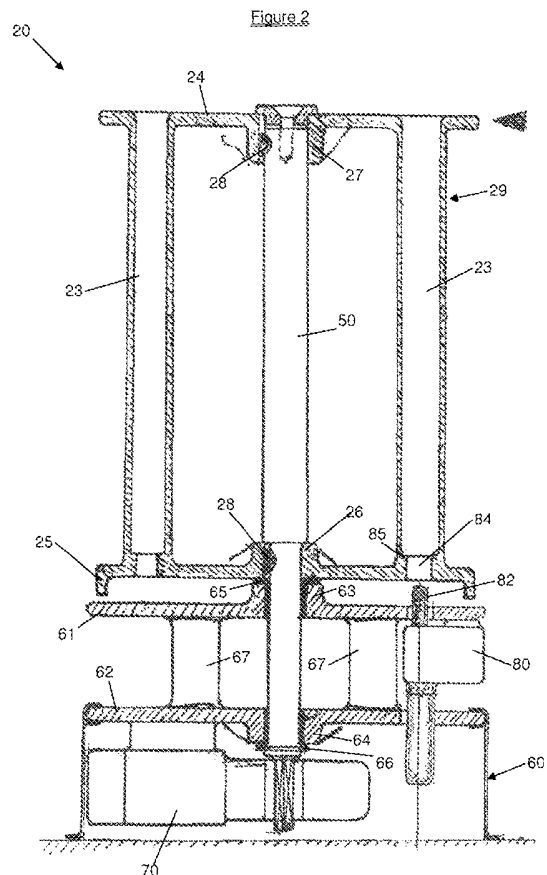
(51) INT CL:  
**A63B 55/00** (2006.01)

(56) Documents Cited:  
**GB 2278062 A** **WO 2001/003779 A1**  
**JP 110269894 A** **US 6407668 A**  
**US 4029136 A** **US 20060138161 A1**

(58) Field of Search:  
UK CL (Edition X) **A6D**  
INT CL **A63B**  
Other: **EPODOC WPI**

(54) Title of the Invention: **Improved golf club carrier**  
Abstract Title: **Golf Club Carrier**

(57) A kit for carrying golf clubs comprises a golf club carrier 20, for stowing two or more golf clubs and a club selection aid which is operable to highlight a desired club. The kit preferably comprises multiple receptacles 23 and the club selection means comprises an ejector 82 and a motor 70, the motor 70 may rotate the receptacles 23 in response to a signal from a wireless user interface or remote control so that the ejector 82 may raise the desired club higher than the other clubs in the carrier. The highlighting means may further comprise an illuminating means and a hood or lid may be provided to cover the golf clubs.



GB 2467566 A

Figure 1

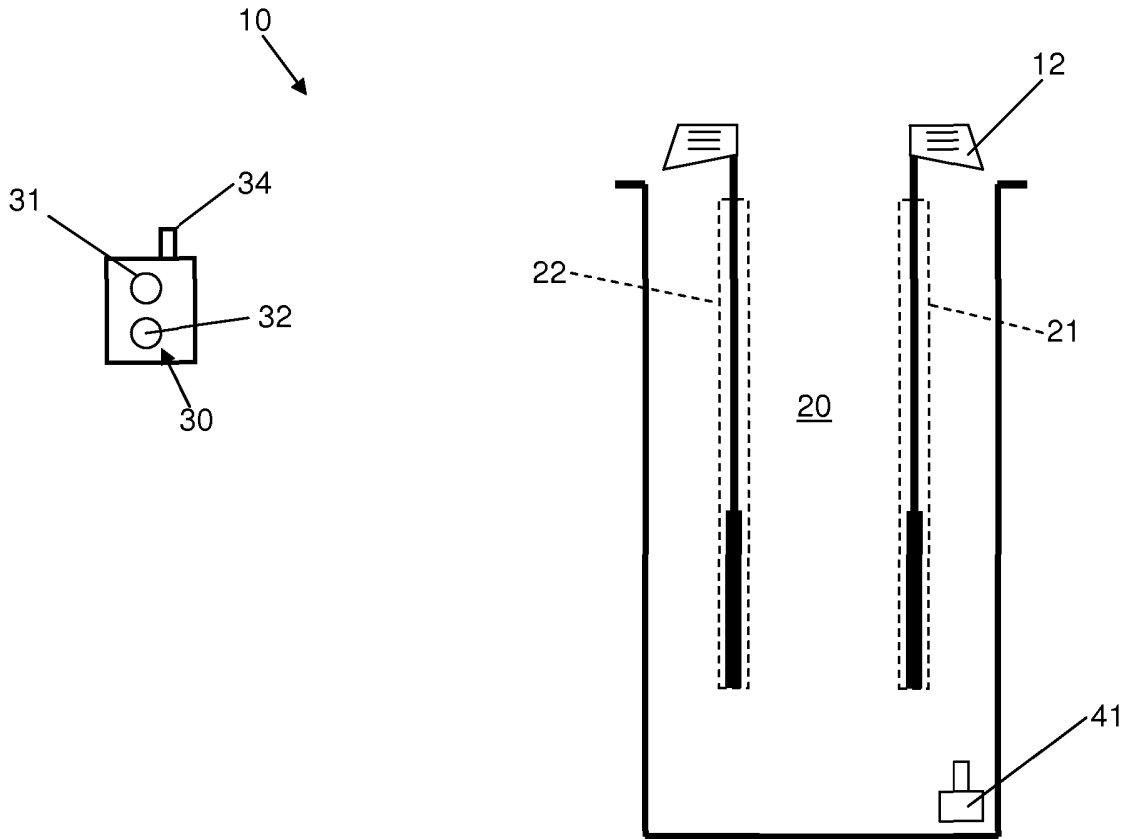


Figure 2

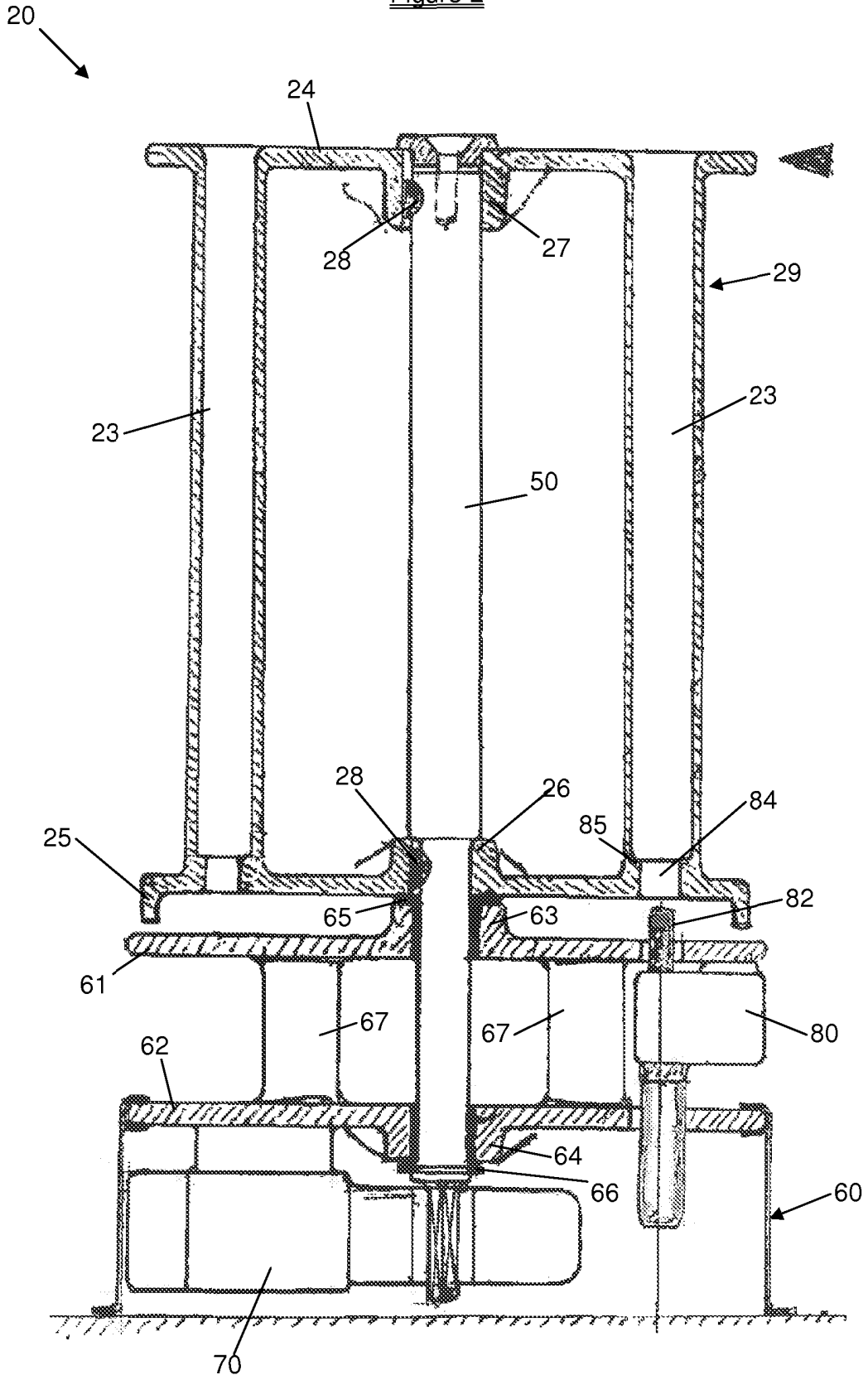
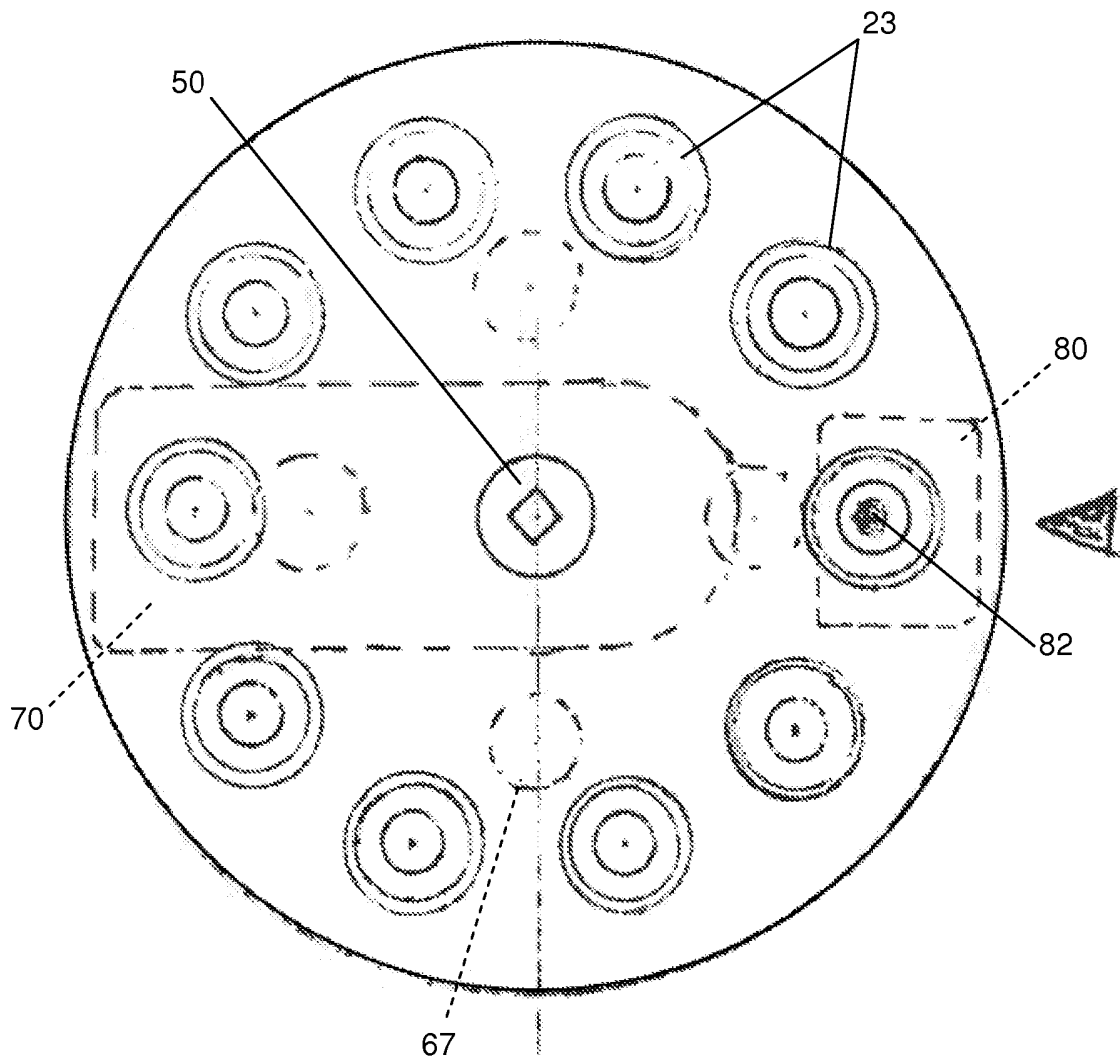


Figure 3



## Improved Golf Club Carrier

The present invention relates to an improved golf club carrier and a method of selecting a desired golf club from a carrier. In particular, although not exclusively, the present invention  
5 relates to an improved golf bag and related method.

Golf bags in general are well known and comprise a carrier partitioned into a number of chambers for receiving golf clubs, handle first, through an open top. The golf clubs are generally arranged so that their shafts are aligned along a longitudinal axis of the golf bag.  
10 Moreover, the golf club heads generally protrude from the open top of the golf bag. This allows numbering on the bottom of each golf club's head to be visible to the player when making a selection. Moreover, the head of each golf club is visible to the player so that the selection of the appropriate club may also be based on visual recognition of the club.

15 The rules of golf state that, when on the course, a golf bag may contain no more than 14 clubs. These can be a selection of woods, irons and putters dependant on the individual players' preference. When on the course, players transport the golf bag so that they have the whole selection of clubs to choose from when they reach each particular shot.

20 When a player approaches their ball, they assess the conditions, distance and trajectory that they want the ball to go and subsequently make a mental decision as to which club to play the ball with. Once they have made their decision, they select the appropriate club, play their shot and replace the club in the bag. The player then transports the golf bag to the next shot, which can be a matter of yards or up to several hundred yards.

25

When on the golf course, it is desirable to avoid "slow play" at all times. Thus it is important that players do not spend unnecessary time selecting the correct club from their golf bag.

30 Whilst players may arrange their clubs at the beginning of the round to be in a known order, as the player progresses around the course, the clubs can become dis-organised and so the player must search through the golf bag each time a club is to be selected from the bag. Moreover, the head's of forward golf clubs may obscure clubs behind them, thus making a quick selection more difficult.

35 Players may choose to manually carry the golf bag around the course. However, it is also know for golf bags to be attached to golf trolleys or golf buggies. In this case, selection is made harder because the player generally views the golf bag from one aspect, this exacerbating the difficulty when clubs nearer to the player obscure those clubs behind.

It is an aim of the present invention to overcome at least one of the above or other identified problem.

5 It is a further aim of the present invention to provide a golf carrier and a method of selecting a golf club from a golf bag that allows a player to select a desired club from the golf bag quicker and in a more convenient manner.

10 According to a first aspect there is provided a kit for carrying golf clubs wherein the kit comprises: a golf club carrier for stowing two or more golf clubs; and a club selection aid; wherein the club selection aid is operable to highlight a desired golf club.

15 In the exemplary embodiments the club selection aid comprises a user interface. Suitably, the user interface includes at least two selectors. Here, each selector corresponds to a golf club stowed in the golf club carrier. Operation of a selector causes the club selection aid to highlight the corresponding club. Preferably the user interface is separate to the golf club carrier.

20 In the exemplary embodiments, the user interface comprises a portable unit. Preferably, the portable unit is sized so as to fit in a pocket of a user. The user interface may also be incorporated into other electronic equipment used by a golfer. Suitably, the user interface communicates wirelessly with a receiver of a golf club carrier. Each selector may be marked with a suitable marking to identify the club that the selector corresponds to.

25 In the exemplary embodiments the golf club carrier comprises a club selection aid that visually alerts the user to the desired club. Suitably, the golf club carrier comprises at least two receptacles, each for storing a golf club. Thus for instance, the club selection aid may comprise an ejector that ejects a club stowed in the receptacle determined by the user interface to protrude higher than the un-selected clubs. Suitably, an ejector may be provided under each receptacle. Alternatively, two-or-more receptacles may share a common ejector.  
30 Relative movement between the ejector and each common receptacle may enable the club within the receptacle determined by the user interface to be ejected. Preferably the receptacles are arranged so that each club is stowed on a circumferential location. Here, the club selection aid includes a rotation means to rotate at least one of the ejector or receptacles relative to the other. It is advantageous if the receptacles are rotated as here, the desired club  
35 is always ejected at the same predefined location relative to the position of the golf club carrier. When the receptacles are rotated so that the desired receptacle is in a predefined location prior to ejection, the club selection aid may additionally or alternatively to the ejector comprise an illumination means to alert the user to the correct club's receptacle being aligned

at the predefined location. It is advantageous for the golf clubs to be rotated to a pre-determined position as this enables the golfer to know exactly where to look.

5 Suitably, the golf club carrier comprises a top section. The top section may comprise two or more tubes, each tube forming a receptacle. The tubes may be arranged about a central axis. Thus the top section may be rotatable about the central axis. The golf club carrier may also comprise a bottom section. The bottom section may rotatably mount the top section. The bottom section may include a rotation means. The bottom section may include the ejector. The bottom section may remain stationary relative to a surface that it is rested on.

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In the exemplary embodiments, the club selection aid includes a receiver for receiving a control signal from a user interface. The control signal determines the desired receptacle to be highlighted. The receiver may be wireless.

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The golf club carrier may be incorporated into a golf bag. That is, the golf club carrier may be inserted into a cover. The cover may include a lid that is fixed relative to the bottom section. The lid may prevent access to the receptacles. Here, the lid includes an aperture, through which a golf club may be removed. When the golf club carrier includes a rotation means that rotates the desired receptacle to a predefined location, the aperture may denote the pre-determined location. Thus the cover protects a user from movement of the golf clubs.

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25 According to a second aspect of the present invention there is provided a golf club carrier comprising at least two receptacles each for receiving a single golf club and a controllable club selection aid that is controllable by a user interface to highlight a golf club stored in a receptacle determined by the user interface. Thus there is provided a golf carrier for use in the kit of the first aspect.

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30 According to a third aspect of the present invention there is provided a user interface for controlling a club selection aid of a golf club carrier wherein the user interface includes, at least two operable buttons, each button being operable to control a club selection aid of a golf carrier to highlight a golf club stored in a receptacle corresponding to said operable button.

30

35 According to a fourth aspect, there is provided a method of selecting a golf club from a golf club carrier, the method comprising causing a desired golf club stowed within a golf club carrier to be highlighted. The method may comprise operating a user interface to cause the desired club to be highlighted. The method may comprise causing a club selection aid of a golf club carrier to visually highlight the desired club. The method may comprise causing the desired golf club to be raised upwards of the other stowed clubs. The method may comprise rotating a

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top section of the golf club carrier stowing the golf clubs relative to a bottom section, such that the desired club is moved to a predetermined location.

For a better understanding of the invention, and to show how embodiments of the same may be carried into effect, reference will now be made, by way of example, to the accompanying  
5 diagrammatic drawings in which:

Figure 1 shows a kit for carrying golf clubs.

10 Figure 2 shows a cross-section through a golf club carrier that forms part of the kit.

Figure 3 shows a top view of Figure 2.

Referring to Figure 1, a kit 10 is shown for carrying golf clubs 12. The kit comprises a golf club  
15 carrier 20 and a user interface 30. The golf club carrier 20 includes two receptacles 21, 22 each for receiving a golf club 12. The golf club carrier 20 further includes a club selection aid comprising a highlighting means, wherein the highlighting means is controlled to highlight the golf club 12 stowed within either the first receptacle 21 or the second receptacle 22. The club selection aid highlights the club by drawing a user's attention to the club. The club selection  
20 aid includes a receiver 41 for receiving a control signal. The receiver controls the highlighting means to highlight the desired club.

The user interface 30 comprises a first 31 and second 32 operable button. Operating the first button causes a transmitter 34 of the user interface 30 to transmit a wireless control signal to  
25 the receiver 41. The signal instructs the club selection aid to highlight the golf club stowed within the first receptacle 21. Thus the golfer may immediately select the correct club from the golf club carrier. Operation of the second operable button 32 causes the club selection aid to highlight the other golf club.

30 Referring to Figure 2, a second embodiment of a golf club carrier 20 is shown. The golf club carrier 20 includes a plurality of receptacles, such as tubes 23. Each tube 23 forms a receptacle for receiving a handle and shaft of a golf club. At a lowermost portion of the tube, the internal diameter narrows to form a ledge 85. The ledge 85 allows the end of the club's handle to rest thereon. The tubes 23 are positioned parallel to each other and extend  
35 upwardly. The tubes 23 are arranged on a circumferential location (as shown in Figure 3). The tubes 23 are integrally formed with a top plate 24 and bottom plate 25 to form a top section 29. At a centre of the circumference that the tubes are located on, the top and bottom plates include an aperture. The top and bottom plates include annular flanges 26, 27 turned



towards each other. The annular flanges include locks 28 that lock the top section to a shaft 50. Thus rotation of the shaft 50, rotates the tubes 23.

5 The shaft 50 is rotatably mounted in a bottom section 60. Here the bottom section 60 includes two spaced frame plates 61, 62. Each frame plate 61, 62 includes a central aperture through which the shaft 50 extends. The central aperture of each frame plate 61, 62 has an outwardly turned annular flange 63, 64. Combined radial thrust bearings 65, 66 co-operate with the annular flanges and shaft 50 to rotatably support the shaft 50 and top section 29.

10 A motor 70 is secured to the underside of the lower most frame plate 62. Suitably, the motor 70 is an electric motor, such as a Valeo 12vdc geared motor. Thus battery means (not shown) are also housed within the lower section. It will be appreciated that the battery means will be advantageously rechargeable in a well known manner. The motor 70 includes a gear that co-operates with an end of the shaft 50 in order to rotate the shaft. As will be appreciated, the  
15 motor is required to rotate the shaft 50 to discrete locations such that at each location a tube is located at a predetermined position. As such it is necessary for the motor to include control means such as a controller, relay, proximity sensor and encoder. Such control means operate in a well known manner to rotate the shaft between a number of discrete locations.

20 The two frame plates 61, 62 are spaced apart by spacers 67 secured between the two frame plates. Located in the space between the two frame plates 61, 63 is a highlighting means such as an ejector 80. The ejector 80 is positioned under a tube 23. The ejector 80 comprises a vertical linear actuator that is controllable to raise and lower an abutment member 82. When  
25 in the lowered position (as shown) the abutment member 82 is clear of the top section such that the top section is free to rotate. When in the raised position the abutment member 82 extends through the lowermost aperture 84 of the tube 23. The abutment member 82 rises higher than the ledge 85, thereby abutting the end of a golf club stowed in the tube 23. Thus the golf club is caused to be raised upwardly.

30 Referring to Figure 3, in use, a user interface 40 sends a control signal to a receiver 41. In turn the receiver 41 controls the motor to rotate the shaft 50 a desired degree of angular rotation such that the desired tube is aligned above the ejector. Once aligned, the ejector is operated to push the golf club stowed within the tube upwardly. Thus the desired golf club is caused to protrude above the other stowed golf clubs and a golfer may easily select the  
35 correct club. Since the location of the button corresponding to the golf club is fixed in relation to the user interface, the golfer will quickly become familiar with the layout and be able to operate the desired button quickly. Thus rather than searching through a number of clubs, the golfer can select the correct club by operating the button corresponding to that club and then

picking the club raised up from the others. Moreover, because the desired club has been rotated to a pre-defined position, the golfer knows exactly where the club will be.

5 Once the golfer has played their shot, the club can be returned to the empty tube 23. A default button on the user interface may then be operated to cause the ejector to drop downwardly, thus allowing the club to drop under gravity to be stowed within the tube. When another club is desired, the golfer operates the corresponding button. Here an encoder on the motor 70 determines where the desired tube is relative to the tube aligned with the ejector and rotates the shaft, in one direction or the other, the required angular degree such that the newly desired club is aligned with the ejector, and the club raised as before.

15 As a safety feature, the electric supply to the motor may be switched off when the ejector is in the raised position. Furthermore, the golf club carrier may be encased within a housing (not shown). The housing may give the golf club carrier the appearance of a traditional golf bag. The housing may include a cover (not shown) such that the heads of the golf clubs are stowed beneath the cover. Here the cover has a single aperture, located above the ejector, through which clubs may be removed. Thus a golfer cannot access the club heads when they rotate except through the aperture. As a further feature, the aperture may be openable. For instance, an upwardly hinged door may be provided. Here, the door may be manually raised and lowered to remove and replace golf clubs. Alternatively, the door may be biased to the closed position. When the golf club is raised, the head of the golf club may abut the hinged door and push it open. Alternatively, the door may be automated. The cover may include a sensor so that power to the carrier is cut when the door is not fully closed.

25 As an additional feature, the golf club carrier may include an illuminator, such as a light. The light may be turned on when the ejector is in the raised position. Thus, the ejector may not be required to raise the club out of the aperture in the cover. Rather the golfer is alerted that the correct club is ready to be removed from the carrier by the illumination of the light. In this case the carrier may not even include the ejector.

30 In alternative embodiments, rather than rotating the tubes, the golf club carrier may be arranged to rotate the ejector and, where necessary, the cover. Here the ejector would be secured to the shaft 50 rather than the upper section. In yet a further embodiment, the golf club carrier includes an ejector aligned under each tube. Thus no rotation means is required.

35 Rather, operation of a button on the user interface causes the corresponding ejector under the desired tube to raise the club.

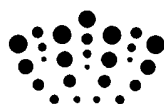
Since all of the embodiments require the golf club carrier to be supplied with power means, the golf club carrier may additionally be adapted to include other powered features such as a cooled chamber for storing food or drink.

- 5 Attention is directed to all papers and documents which are filed concurrently with or previous to this specification in connection with this application and which are open to public inspection with this specification, and the contents of all such papers and documents are incorporated herein by reference.
- 10 All of the features disclosed in this specification (including any accompanying claims, abstract and drawings), and/or all of the steps of any method or process so disclosed, may be combined in any combination, except combinations where at least some of such features and/or steps are mutually exclusive.
- 15 Each feature disclosed in this specification (including any accompanying claims, abstract and drawings) may be replaced by alternative features serving the same, equivalent or similar purpose, unless expressly stated otherwise. Thus, unless expressly stated otherwise, each feature disclosed is one example only of a generic series of equivalent or similar features.
- 20 The invention is not restricted to the details of the foregoing embodiment(s). The invention extends to any novel one, or any novel combination, of the features disclosed in this specification (including any accompanying claims, abstract and drawings), or to any novel one, or any novel combination, of the steps of any method or process so disclosed.

**Claims**

1. A kit for carrying golf clubs wherein the kit comprises:  
a golf club carrier for stowing two or more golf clubs; and  
5 a club selection aid; wherein  
the club selection aid is operable to highlight a desired golf club.
2. The kit of claim 1, wherein the club selection aid comprises a user interface having at  
least two selectors, wherein, each selector corresponds to where a golf club will, in use, be  
10 stowed in the golf club carrier and operation of a selector is arranged to cause the club  
selection aid to highlight the corresponding club.
3. The kit of claim 2, wherein the user interface is separate to the golf club carrier and the  
user interface communicates wirelessly with a receiver in the golf club carrier.  
15
4. The kit of any preceding claim wherein the club selection aid visually alerts the user to  
the desired club.
5. The kit of claim 4, wherein the golf club carrier comprises at least two receptacles, each  
20 for stowing a golf club, and the club selection aid comprises an ejector that is arranged, in use,  
to eject a club stowed in the receptacle determined by the user interface to protrude higher  
than the un-selected clubs.
6. The kit of claim 5, wherein an ejector is provided under each receptacle.  
25
7. The kit of claim 5, wherein two-or-more receptacles share a common ejector and relative  
movement between the ejector and each common receptacle enables the club within the  
receptacle determined by the user interface to be ejected.
- 30 8. The kit of claim 7 wherein each receptacle is arranged so that a club stowed therein is  
positioned on a circumferential location, the club selection aid including a rotation means to  
rotate either the ejector or the receptacles relative to the other in order to align the club within  
the receptacle determined by the user interface with the ejector.
- 35 9. The kit of claim 8, wherein the receptacles are rotated relative to the ejector so that the  
desired receptacle is in a predefined location prior to ejection.

10. The kit of claim 9, wherein the club selection aid additionally or alternatively to the ejector comprises an illumination means to alert the user to the correct club's receptacle being aligned at the predefined location.
- 5 11. The kit of any of claims 5 to 10 including a cover associated with at least one of the receptacles, which cover is arranged to be moved from a position in which the club beneath is at least partially obscured to a position in which the club can be removed from the receptacle.
12. The kit as claimed in claim 11 in which ejection of the club is arranged to cause the  
10 movement of the cover.
13. The kit of any preceding claim wherein the golf club carrier is incorporated into a golf bag.
- 15 14. The kit of claim 13, wherein the golf bag includes a lid that is fixed relative to a bottom section of the golf club carrier wherein the lid includes an aperture, through which a golf club is removable.
- 20 15. A golf club carrier comprising at least two receptacles, each for receiving a single golf club, and a controllable club selection aid that is controllable by a user interface to highlight a golf club stowed in a receptacle determined by the user interface.
- 25 16. A user interface for controlling a club selection aid of a golf club carrier wherein the user interface includes at least two operable buttons, each button being operable to control a club selection aid of a golf carrier to highlight a golf club stored in a receptacle corresponding to said operable button.
- 30 17. The golf club carrier of claim 15 or user interface of claim 16, for use in a kit as claimed in any of claims 1 to 14.
18. A method of selecting a golf club from a golf club carrier, the method comprising causing a desired golf club carrier to be highlighted.
- 35 19. A method as claimed in claim 18 when selecting a club from the kit as claimed in any of claims 1 to 14.
20. A kit, golf club carrier, user interface or method of selecting a golf club substantially as herein described with reference to the drawings.



**Application No:** GB0901921.7

**Examiner:** Dr David Palmer

**Claims searched:** 1-20

**Date of search:** 12 May 2009

**Patents Act 1977: Search Report under Section 17**

**Documents considered to be relevant:**

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
X	1-6, 13, 15-19	US 2006/138161 A1 (WEMPE et al) See whole document especially the figures.
X	1, 2, 4-6, 13, 15, 17-19	US 4029136 A (JACOBY) See whole document especially the figures.
X	1, 2, 4-6, 13, 15-19	JP 11269894 A (NIFCO) 19.05.89 (See the figures and EPO Abstract).
X	1, 4-6, 13, 15, 17-19.	US 6407668 A (BEHAM) See whole document especially the figures.
X	1-4, 11, 13-19	GB 2278062 A (ARKINSON et al) See whole document especially the figures and page 5 paragraph 3 - page 6 paragraph 4.
X	1, 2, 4, 11, 13-15, 17-19	WO 01/03779 A1 (ROY et al) See whole document especially the figures.

**Categories:**

X Document indicating lack of novelty or inventive step	A Document indicating technological background and/or state of the art.
Y Document indicating lack of inventive step if combined with one or more other documents of same category.	P Document published on or after the declared priority date but before the filing date of this invention.
& Member of the same patent family	E Patent document published on or after, but with priority date earlier than, the filing date of this application.

**Field of Search:**

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC<sup>X</sup> :

A6D

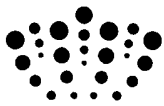
Worldwide search of patent documents classified in the following areas of the IPC

A63B

The following online and other databases have been used in the preparation of this search report

EPODOC, WPI

**International Classification:**



<b>Subclass</b>	<b>Subgroup</b>	<b>Valid From</b>
A63B	0055/00	01/01/2006