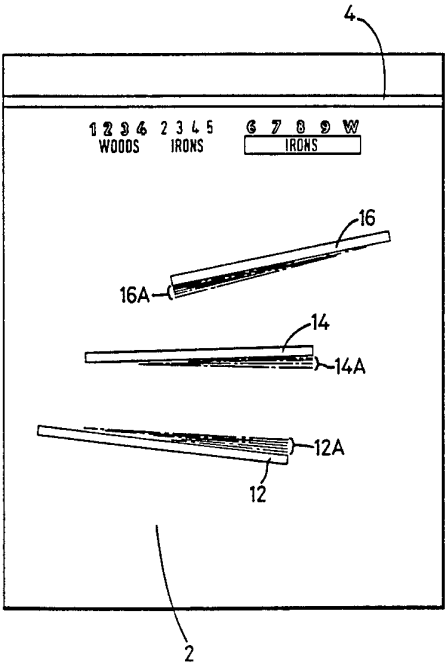




## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification <sup>5</sup> :</b>  <b>A63B 69/36</b>	<b>A1</b>	<b>(11) International Publication Number:</b> <b>WO 94/07576</b>  <b>(43) International Publication Date:</b> 14 April 1994 (14.04.94)
<b>(21) International Application Number:</b> PCT/GB93/02004 <b>(22) International Filing Date:</b> 24 September 1993 (24.09.93)  <b>(30) Priority data:</b> 9220285.2                      25 September 1992 (25.09.92)   GB PCT/GB93/00348            5 March 1993 (05.03.93)        WO <b>(34) Countries for which the regional or international application was filed:</b> GB et al.  <b>(71) Applicant (for all designated States except US):</b> SWING-TRUE LIMITED [-/-]; International Commercial Centre, Suite 10.5, P.O. Box 627, Main Street, Gibraltar (GI).  <b>(72) Inventors; and</b> <b>(75) Inventors/Applicants (for US only) :</b> DE KNIGHT, René, Edgadito [US/AD]; Banc Agricol, P.O. Box 140, La Massana (AD). HAYNES, Major, Robert [GB/GB]; Briarclyst, Beer, Seaton, Devon EX12 3ED (GB).		<b>(74) Agent:</b> GALLAFENT & CO.; 8 Staple Inn, London WC1V 7QH (GB).  <b>(81) Designated States:</b> AU, CA, JP, US, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).  <b>Published</b> <i>With international search report.</i>
<b>(54) Title:</b> APPARATUS FOR TEACHING OR CORRECTING THE STANCE OF A GOLFER		
 <p>The diagram shows a rectangular mat (2) with a grid of numbered strips. The strips are labeled 1 through 16. Above the strips, there are labels: '1 2 3 4' under 'WOODS', '2 3 4 5' under 'IRONS', and '6 7 8 9 W' under 'IRONS'. Three golf club silhouettes are shown: a driver (16) with a head (16A), a wedge (14) with a head (14A), and an iron (12) with a head (12A). A line (4) points to the top edge of the mat.</p>		
<b>(57) Abstract</b>  <p>A golfer's stance for correctly addressing a golf ball using different clubs is taught or improved by using a mat having a ball line on it with markings showing the different locations at which the ball should be put. The mat has on it either a single detachable strip or different sets of detachable or permanent strips. The or each strip indicates optimum stance lines with which the golfer's feet should be aligned when using a club of weight or number associated with the strip being used at any one time.</p>		

**FOR THE PURPOSES OF INFORMATION ONLY**

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AT	Austria	FR	France	MR	Mauritania
AU	Australia	GA	Gabon	MW	Malawi
BB	Barbados	GB	United Kingdom	NE	Niger
BE	Belgium	GN	Guinea	NL	Netherlands
BF	Burkina Faso	GR	Greece	NO	Norway
BG	Bulgaria	HU	Hungary	NZ	New Zealand
BJ	Benin	IE	Ireland	PL	Poland
BR	Brazil	IT	Italy	PT	Portugal
BY	Belarus	JP	Japan	RO	Romania
CA	Canada	KP	Democratic People's Republic of Korea	RU	Russian Federation
CF	Central African Republic	KR	Republic of Korea	SD	Sudan
CG	Congo	KZ	Kazakhstan	SE	Sweden
CH	Switzerland	LI	Liechtenstein	SI	Slovenia
CI	Côte d'Ivoire	LK	Sri Lanka	SK	Slovak Republic
CM	Cameroon	LU	Luxembourg	SN	Senegal
CN	China	LV	Latvia	TD	Chad
CS	Czechoslovakia	MC	Monaco	TG	Togo
CZ	Czech Republic	MG	Madagascar	UA	Ukraine
DE	Germany	ML	Mali	US	United States of America
DK	Denmark	MN	Mongolia	UZ	Uzbekistan
ES	Spain			VN	Viet Nam
FI	Finland				

- 1 -

APPARATUS FOR TEACHING OR CORRECTING  
THE STANCE OF A GOLFER

This invention relates to golfing apparatus, and particularly to apparatus for teaching golfers where  
5 their feet should be placed when hitting a golf ball in a specified direction with a known club. The apparatus can be used to train tyro golfers, or to help experienced golfers to eliminate a stance or swing defect.

10 People wishing to learn golf usually take lessons from an experienced golfer and/or use a video to learn the correct grip and stance. The present invention aims at providing a teaching aid to act as a visual guide, intended to be recalled from memory by the golfer when  
15 addressing a ball and used mentally to position the feet correctly when wishing to use a selected club.

Various apparatus has been proposed to assist in developing appropriate stance and swing. US Patent  
20 Specification 4384718 discloses a device consisting of three flat strips variably positionable one with another to secure appropriate positioning of the golfer's feet and the ball. A more popular approach to the problem involves the provision of a mat with markings on it on

- 2 -

which the golfer is to stand. US Specifications 4915387, 2606026 and 4023810, and British Patent Specification 1305710 are representative of this approach. Most involve complex markings for foot position and they do not address the importance of providing a visual guide corresponding to the desired line of flight of the ball when it is struck.

United States Patent Specification 4434983 discloses a mat having a T-bar guide secured to its surface with the horizontal portion of the T providing a plurality of possible positions in which a tee may be located. The device shown in this specification, however, does not allow for the positioning of the feet of the golfer such that the line joining the fronts of the golfer's feet when positioned on the mat runs at an angle to the intended line of flight of the ball. It is inflexible and visually cluttered.

We have now found that improved mats may be designed which are simple in construction and effective in training by providing a mat having a flight line for the ball marked clearly on it generally near one edge, and provided with one or more means to define a stance line which can be adjusted both with respect to its distance from the flight line and with respect to its angle.

Accordingly the present invention provides apparatus for teaching or correcting the stance of a golfer when addressing a golf ball, including a mat covering an area big enough to accommodate both feet of the golfer when adopting an addressing stance, in which the mat is marked with a ball line of alternative ball positions aligned with the intended line of flight of a golf ball, and in

- 3 -

which the line has associated with it indicia indicating the positions along the line at which a golf ball should be placed when it is to be struck with a golf club of specified weight or number, and in which the mat has means defining at least one stance line which is at an adjustable position from the ball line and which subtends an acute angle with the ball line. The apparatus may include a suitable stand for the ball, designed to be placed on the line and to support the ball above the mat at a level corresponding to the optimum level above the ground of a teed-up ball.

Using such a mat, the golf professional can identify for the trainee golfer the appropriate stance line for any particular wood or iron and this can be noted down and used subsequently by the trainee when he or she wishes to practice without the professional. Preferably the ball line has three alternative ball positions designed to correspond with a comfortable position for placing the ball to be struck with woods, long irons and short irons respectively.

According to a particular feature of the present invention, there is provided for use in conjunction with the mat, a flexible upstanding guide, designed to be positioned such that it lies above the surface of the mat and extends from a planar section positioned adjacent to the side of the ball line remote from the user and substantially at the position of the ball on the tee to an arcuate section which extends to cross over the ball line so that its free end lies between the feet of the user and the ball line. The guide thus serves to define an arcuate path which is the optimum path of the head of the club as it approaches the ball.

- 4 -

As the club is swung to hit the ball, if it is swung in the correct arc (so that the ball takes off along the ball line), the guide is untouched and does not move. If, on the other hand, the club is swung such that the ball follows not the intended flight path or line of flight but a path angled towards the golfer, the club will hit the arcuate portion of the guide and give a clear indication to the golfer that the portion of the swing just before the contact of the head of the ball was too far away, so the ball will swing in. Conversely, if the swing is such that the ball travels at an acute angle to the intended flight path but on the far side of the flight path remote from the golfer, the club will hit that part of the guide immediately adjacent the initial portion of the flight path. The guide is preferably made of resilient and impact resistant plastics so that it is not damaged by being hit by a club, but it is extremely easy for the trainee golfer to see whether he is swinging the club in such a way as to make the ball go to the left or the right of the intended line of flight.

This form of guide, which preferably has means enabling it to be secured relative to the ball line, for example by being traversed by a tee which passes through part of the guide and part of the ball line, constitutes a second and separate feature of the invention and can be used independently of the mat described above.

The present invention will now be described by way of example with reference to the accompanying drawings, in which:

Figure 1 is a plan view of one mat of the present invention;

- 5 -

Figure 2 is a plan view of a second embodiment,

Figure 3 is a plan view of a third embodiment,

5 Figure 4 is a plan view of a fourth embodiment, and

Figure 5 is a perspective view of the swing guide unit shown in plan in Figure 4.

10 In the drawings, corresponding components in all four embodiments are given the same references.

The apparatus shown in the drawings comprises a mat 2 of rubber or other non-slip material which is hard-wearing.  
15 The mat has moulded into it, or applied to it, various indicia as described below. The mat is preferably provided on one or both faces with ribs (not shown) extending parallel with the short edges of the mat to enable it to be easily rolled up for storage and laid  
20 flat for use. The underside of the mat may have webbing strips attached which can be tied together or otherwise fixed, e.g., with a burr fastener, to hold the mat rolled up. In a particularly preferred case, the strips may incorporate loops enabling the mat to be hung up flat on  
25 two speed hooks, if desired.

In other versions of the mat, its main body 2 may be of plastics material with a surface of simulated grass. The club labels and the stance strip(s) symbols could then be  
30 printed on plastics labels which could then be welded or otherwise adhered to the simulated grass.

The first indicium is a ball line 4, consisting of a stripe of contrasting colour near one short edge of the

- 6 -

mat, to form a 'ball line' intended to be on or parallel to the intended line of flight or flight path of a golf ball positioned on a suitable tee set on the line at the time it is to be struck by a golfer having his or her

5 feet on the body of the mat. In parallel with the ball line 4 is a row of numbers in three groups spaced-apart from each other by non-uniform distances. One group of numbers is intended to show where a golf ball is to be positioned on ball line 4 when the golfer is using any of

10 four woods. The respective numbers are applied to the surface of the mat 2 in a colour which a clear contrast therewith, such as red. Associated with the number is the legend 'woods' of which the letters may also be of the same colour. Obviously, any style of lettering may

15 be used. Of the other two groups, one group is dedicated to the longer irons, and is differentiated visually from the numbers associated with woods, as by the numbers themselves being printed on a background of yellow or contrasting colour, with the legend 'irons' being applied

20 adjacent thereto in any convenient and permanent manner. The position of the ball when being addressed by the shorter irons is indicated by the remaining group of numbers, which are shown in yet another contrasting colour, such as beige, with the associated legend 'irons'

25 being printed in black on a rectangular background also of beige. The letter 'W' is included with the shorter irons, as corresponding to where the ball is to be positioned on line 4 when intended to be hit with a wedge.

30

Permanently positioned on mat 2 are three stance strips 12, 14 and 16. A golfer is intended to position the toes of his or her shoes in line with the axis of strip 12, or with one of its associated 'phantom' strips 12a. In



- 7 -

similar fashion, the golfer is intended to use stance line 14 or its associated phantom lines when using the longer irons, and strip 16 or sub-strips 16a when using the shorter irons. In all cases, the particular line or  
5 axis to be used for aligning the tips of the golfers shoes is usually found pragmatically, either by the golfer himself, or when assisted by a professional.

It can be seen from Figure 1 that the phantom strips in  
10 effect delineate a series of lines diverging at successive angles from the axis of the main strip. Although not shown in the drawing, the phantom lines may be provided with a series of references, so that when a golfer is using say a number 2 wood, he knows from his  
15 experience that he should position his feet aligned with say, line 12-5, in the case where the phantom lines are numbered from, say, 1 to 6.

Although the distances of the main stance lines 12 to 16  
20 from line 4 are fixed, and correspond to where the feature be positioned of a golfer of average height, taller or shorter golfers may position their shoes so that they are forward of their respective stance line, in the case of shorter golfers, or further away from the  
25 respective stance line, in the case of taller golfers. In all cases, the tips of the golfer's shoes should be positioned on a line parallel with the respective stance line and at a distance from that line which has been found by experiment and/or tuition. It has been found  
30 that after the apparatus of this invention has been used for teaching or correcting a golfer's stance when using a particular club, when he or she is actually playing golf, and needs to use that club to address a ball, a golfer is able to project a mental image of the ball line and his

- 8 -

stance line on to the ground, and to position his body and feet accordingly so as to be able to hit the ball with accustomed ease.

5 In that embodiment of the invention shown in Figure 2, the ball line 4 is in the same position on the mat 2 as in Figure 1. A minor change is that the numbers of the respective sub-groups of clubs are placed on labels 6, 8 and 10 of different colours which contrast with each  
10 other and with the green of the main body of the mat. Extending transversely to the ball line 4, on both sides thereof, are perpendicular sight lines 22. Each line is aligned with a respective number on the labels, so as to indicate fairly precisely at what part of ball line 4 a  
15 golf ball should be teed-up.

The sight lines 22 are of use in helping the golfer to ensure that the face of his club is always parallel with a sight line 22 when approaching and contacting the ball  
20 at the respective point on line 4. It has been found that the golfer is able to detect any divergence between the club face and the respective sight lines as the club comes in focus when approaching the ball. This serves to help the golfer to perfect his or her grip on the club to  
25 reduce or remove any tendency to hook or slice.

The main difference over Figure 1 is that the stance lines 12 to 16 are adjustable. To this end, each stance line is formed from a strip of tough plastics material,  
30 such as of polymethylmethacrylate, having its main body coloured white, but having a transparent end portion 19 with a centre line 20 extending along the axis of the strip. At one end of the strip, and projecting from the underface thereof, is a stud 23 which is able to be

- 9 -

inserted into any of a line of metal sockets 18 embedded in the material of the mat. The sockets 18 are aligned perpendicularly to line 4, and each has a reference letter positioned alongside it to identify it. As shown, letters are used, but of course numbers or other symbols could be used similarly. Also as shown, the symbols associated with the sockets for use with each of the stance strips are referenced uniquely, but of course the same references can be used in association with each stance strip, as there is unlikely to be confusion about which is the stance strip to be used when the golfer is intending to use any particular club.

Positioned in parallel with the line of sockets 18 is a strip 21 of a colour contrasting with the background colour of the mat. On the strip 21 is a series of marks or references. If marks are used, then alongside the strip is a series of symbols, so that the marks are uniquely identified and enable the line of sockets 18 and the strip 21 to function as a coördinate system by means of which the strip 16 may be reliably repositioned on the mat surface in exactly the same position as it was on a previous occasion when its coördinates were noted. Thus for example, when a golfer had been using a number 6 iron, he or she might have found by experiment or tuition that his shoes should have a common tangent formed by a strip 16 when extending between socket A on the right-hand side of 16 as viewed, and mark 4 on the left-hand as viewed. Thus the player could have noted in a notebook that for him, when using a number 6 iron, stance strip 16 would have the coördinates A4. He could build a look-up table for the positions of all three strips when used with each golf club.

- 10 -

It will be seen that with the stance strips 12 and 14, their respective sockets 18 are on the left-hand side of the mat for a right-handed golfer, and the respective reference strips 21 are on the right-hand side.

5

The sockets 18 may take the form of hollow rivets extending through the body of the material of the mat 2, in which case the rivets would form a series of sockets on the other face of the mat.

10

In all mats of the present invention, the markings shown in the Figures is intended to be reproduced on the other face of the mat 2, but orientated to accommodate a left-handed golfer. In such a case, the sockets appearing on the 'wrong' face of the mat can be ignored by the golfer as they will have no references associated with them, thus indicating that they are not to be used, whereas it will be clear to such a golfer which line of sockets and which respective reference line 21 he would be intended to use.

20

As an alternative to using a stud-and-socket pivotal connection, the weight-bearing surfaces of the mat may be covered with a tough looped-pile fabric, while the undersurface of most of the length of each strip is covered with a fabric presenting resilient hooks, to provide two fabrics able to act as burr-fastening material of the type sold under the trade mark VELCRO. In such a case, the line of sockets 18 would be replaced by a line of reference symbols, similar to line 21 of Figure 2, to indicate unambiguously with what the respective end of the stance strip should be aligned. After the strip has been so aligned with the reference symbols at both ends thereof, the strip is pressed down

25

30

- 11 -

on top of the mat, as by the golfer's feet, to cause the hooks to become embedded firmly in the looped-pile fabric, thus holding the stance strip firmly in position against accidental displacement by the golfer's feet when  
5 addressing and striking the ball.

In an alternative embodiment, not shown in the drawings, the mat 2 may have permanently secured to it three pairs of parallel strips of looped-pile fabric extending  
10 substantially perpendicular to ball line 4. Each stance strip may have two patches of hooked-pile fabric secured to its underside, so that each strip may be secured to its respective pair of looped-pile strips to extend between them at a desired angle to the ball line, and at  
15 a chosen distance therefrom.

Alternatively the mat may be divided either physically or notionally into a graticule permitting small areas of its surface to be identified by some coördinate system, such  
20 as  $(x,y)$  or  $(r,\theta)$ . Each mat may be sold with a look-up table setting out the coördinate positions of where both ends of a strip should be located to mark the toe-line of a golfer of known height and stance, when using a club associated with that strip. The two points or areas  
25 indicated by the table are identified or marked, and the marks on the respective strip are aligned with them before the strip is pressed down into position, from which it can be removed by force when it needs to be re-positioned for use by a golfer of different height and/or  
30 stance.

Whereas the mat may be sold with a look-up table devised by the manufacturer, it is preferred for the golfer to produce his or her own look-up table, based on his club

- 12 -

professional's advice and/or his or her own experience.

When using the apparatus of the present invention, the golfer selects a particular club and positions his or her ball on a suitable support stand which is placed on line 5 4 in line with the symbols corresponding to that club. The golfer then positions on the mat at least that stance strip corresponding to the club intended to be used. The golfer positions the strip with its ends at the two 10 points indicated by his or the manufacturer's look-up table, and then presses the stance strip firmly into place. The golfer then positions his or her feet on the mat at a comfortable distance apart and in the appropriate position relative to the stance strip. If 15 his or her natural stance places his or her feet at a distance apart less than the length of the respective stance strip, then his or her feet are positioned equal distances from both ends of the respective strip.

20 For a golfer of average build, the tips of his shoes are intended to rest on the perceived median line of the respective stance strip. The golfer then adjusts the position of his grip on the handle of the selected golf club so that, when standing easily in an addressing 25 position, the head of the golf club is just behind the teed-up golf ball. Teeing up may be effected by using a modified tee having a foot backed with a hook-pile fabric to mate with a strip of looped-pile fabric extending along the line 4.

30

The ball line 4 may also be used to improve putting performance. Placing his ball on the line, the golfer would adjust the position of his feet relatively to the line until the ball travels along the line consistently

- 13 -

when struck. Hopefully, when doing so, the golfer's feet are able to be positioned relative to a stance strip so that, although that stance strip is intended to be used with another golf club, its coördinates may make it  
5 useful when the golfer is using a putter.

In a form of mat shown in Figure 3, the ball is intended to be positioned on one of only three positions when using any of the regular clubs. Each of these positions  
10 is indicated by a rectangular area 24 extending perpendicularly to line 4. Each area 24 has associated with it a label 30 of beige or other contrasting colour having on it the numbers and types of the clubs which are to be used when a ball is positioned at the intersection  
15 of area 24 and ball line 4. Each area 24 may be of the colour associated with the particular sub-group of clubs, as already discussed in connection with the previous embodiments, leaving the line 4 white to make a stronger visual impression on the golfer.

20 Extending perpendicularly to line 4 from each area 24 is a reference line 26, likewise of a colour which contrasts with the visible surface of mat 2. The lines 26 end short of line 4, so as not to reduce its visual impact,  
25 although the centre line is longer to act as a pointer to the central ball spot 32.

The main difference over the previous two embodiments is that there is a single stance strip to be used  
30 irrespective of the club. To enable the stance strip to be positioned anywhere over the range of positions possible with the other two embodiments, the surface of the mat is provided with two lines of patches 28 of looped-pile fabric. The under surface of the stance

- 14 -

strip 12 has its ends covered with patches 29 of hook-pile fabric. Each line of patches 28 has reference symbols associated with it so that the stance strip 12 may be arranged to be pressed into contact with any patch 28 in each series, so as to ensure that the strip 12 extends at any desired angle to the axis of ball line 4, and at an appropriate distance therefrom. As shown, the strip 12 would have the coördinates C5.

10 The manner in which the strip 12 is held in position on the mat against accidental displacement does not form part of the subject-matter of this invention. In any embodiment the hollow rivets and studs may be replaced by VELCRO fasteners. The strip 12 may even have a stud at one end and a VELCRO patch at the other, to cooperate with a line of rivets and a line of patches.

It is envisaged that, irrespective of which club a golfer is intending to use, a right-handed golfer will place his left foot with his toe against strip 12 and the inner side of his shoe at a tangent to the left-most reference line 26. His right foot would then be positioned at any other area of the mat surface at which his stance is of the appropriate width for the club being used and with strip 12 being tangential to the toe of his shoe.

It is envisaged that the mats would be sold by or through professional golfers. When such a 'pro' is teaching a tyro by means of the mat, the use of a look-up table could be dispensed with. Instead, the pro could adjust the position of the feet of the tyro on a pragmatic basis for all the clubs that he or she would use. Once the stance strip, or the respective stance strip, had been so adjusted, the coördinates of its ends would be noted in a



- 15 -

personal look-up table, to permit the strips to have their positions changed for use with different clubs, and perhaps by different golfers, and later reattached to the mat.

5

Referring now to Figures 4 and 5, Figure 4 shows in plan view a further form of mat in accordance with the invention, The mat consists basically of a rectangular area of plastics simulated turf material (for example that sold under the Registered Trade Mark ASTROTURF). Adjacent the top edge of the mat as shown in the drawing is an inset white strip for defining the desired line of flight line. This is inset from the upper surface of the plastics "grass" on the mat and has three circular apertures 40 which register with apertures in the base of the mat itself.

Likewise, inset in the simulated grass are three short labels 42 which bear printing (not shown in the drawing) identifying the relevant club to use with the associated hole 40. Thus, for example, the left hand label may read 1, 2 3 & 5 woods and the centre and right hand labels refer to appropriate numbers and long irons and short irons respectively.

25

Extending vertically as shown in the drawing are three inset white strips 44 aligned with each of the holes. Again, each consists of a plastics strip inset into the "grass" and adhered or welded to the base material of the simulated turf mat.

30

Along the opposite side edges of the mat are inset two strips 46, 48 bearing respectively letters and numbers as shown.

- 16 -

It can thus be seen that all of the markings on the mat so far described are recessed from the upper "grassy" surface of the mat.

5 This makes for a particularly elegant construction since the upper surface of simulated plastics grass mats consists essentially of the ends of a set of upstanding strips or bristles. Such a surface presents a high friction surface both for someone standing on the mat and  
10 also for anything placed on the mat. Thus, in this embodiment, it is found to be entirely sufficient if the stance line is defined by a bar 50 which is simply laid on the top of the mat. Preferably the bar 50 has a cross section consisting of a lightly arched base with an  
15 upstanding rib on it. The edges of the base tend to dig in very slightly to the surface of the simulated turf and render the bar resistant to movement once it has been placed in position by the user. The placement is, as explained above, effected in accordance with the advice  
20 of the teacher having regard to the particular club proposed to be used by the golfer and, of course, having regard to the golfer's height and build. As illustrated in Figure 4, the position of bar 50 may simply be designated as "C5".

25 As shown at the top of Figure 4, and as illustrated by itself in the perspective drawing of Figure 5, the mat cooperates with an indicator to assist the user perfecting his swing.

30 The indicator consists of a base member 60 having an aperture 62 and a short mounting rail 63 for receipt of the swing indicator strip described below. The base member 60 may be hinged at 61 to enable it to be folded

- 17 -

to a convenient size for being kept inside the rolled up mat, but is preferably of the extent shown so that it sits underneath the mat and is firmly held in position. In use, aperture 62 is registered with one of the apertures 40 and movement is prevented in a translational direction parallel to strip 4 by the tee which is inserted through aperture 62 and then aperture 40 when the mat is first set up. Aperture 62 is elongate so enabling the swing guide member to be positioned with mounting rail 63 adjacent the top edge of mat 2 as shown in Figure 4 or slightly spaced therefrom. When it is slightly spaced therefrom, there is also a certain small rotational freedom of movement about the axis of the tee which passes through aperture 62.

Mounted in the mounting rail 63 is a guide blade 64 which consists of a strip of tough preferably transparent plastics material, most conveniently a tough polycarbonate material such as those sold under the trade mark LEXAN. As can be seen, this has a straight section bearing a rail 65 which is a press fit with rail 63 and an arcuate section which extends, when rail 65 is set into rail 63, over base 60. The arcuate portion of the blade 66 extends above the surface of mat 2 and curves across the edge of the mat and then across strip 4. The arcuate portion 66 is preformed to a shape corresponding to the desired path of the head of the club as it approaches a ball seated on a tee set in one of the apertures 40.

In use, the swing guide provides an easily detectable indication of whether the user of the mat has, on any particular occasion, swung the club to pass substantially along the desired path (in which case the club will not

- 18 -

touch any part of the upstanding blade 64, or whether the swing was rotated, relative to a notional vertical axis passing through the user, slightly clockwise as seen in Figure 4 (in which case the end of the blade 64 adjacent the rail 65 will be impacted by the club head) or slightly anti-clockwise (in which case the arcuate blade 66 will be struck. This provides an easy visual indication of the correctness or otherwise of the user's swing.

10

It will be appreciated that the swing guide shown in Figure 5 is particularly well adapted for use with the mat shown in Figure 4, but that it can, in practice, be used without it, e.g. simply locating a tee through aperture 62 and fixing the base relative to the ground or floor in some appropriate fashion.

15

It will thus been seen that the present invention provides a mat by means of which golfers may be enabled to place their feet relative to a ball in a position projected mentally from the mat of this invention and known to be appropriate to the club to be used to hit the ball.

20

- 19 -

CLAIMS

1. Apparatus for teaching or correcting the stance of a golfer when addressing a golf ball, including a mat  
5 covering an area big enough to accommodate both feet of the golfer when adopting an addressing stance, in which the mat is marked with a ball line of alternative ball positions aligned with the intended line of flight of a golf ball, and in which the line has associated with it  
10 indicia indicating the positions along the line at which a golf ball should be placed when it is to be struck with a golf club of specified weight or number, and in which the mat has means defining at least one stance line which is spaced from the ball line and which subtends an acute  
15 angle with it.

2. Apparatus as claimed in Claim 1, in which the mat is made in two parts which are adjustably secured together, in which one part bears the ball line, and in which the  
20 other part has at least one stance line defined thereon.

3. Apparatus as claimed in Claim 1 or 2, in which three stance lines are defined on the mat, each at different distances from the ball line and at different angles  
25 thereto.

4. Apparatus as claimed in Claim 1, in which the or each stance line is able to be detachably secured to one surface of the mat, so as to extend between pre-  
30 determined points thereon.

5. Apparatus as claimed in any preceding Claim, in which the ball locations on the ball line which are to be used when the golfer is using a wood are differentiated

- 20 -

visually from those ball locations which are to be used when the golfer is using irons.

5 6. Apparatus as claimed in Claim 5, in which the positions to be associated with the lower-numbered irons are further differentiated visually from those associated with the higher-numbered irons.

10 7. Apparatus as claimed in Claim 3, or any claim dependent therefrom, in which each stance line has the same visual indications associated with it as have the numbers associated with the ball locations for the respective sub-set of clubs.

15 8. Apparatus as claimed in any preceding Claim, in which the ball line extends across the shorter width of a mat having a base of rubber or like resilient material, the ball line being visually distinguishable from the rest of the area of the mat and from the or each stance  
20 line.

25 9. Apparatus as claimed in Claim 4, or any Claim dependent therefrom, in which each strip defining a stance line has a backing layer of a material which is able to be releasably fastened to a surface layer of the mat by the application of force to the exposed face of the strip.

30 10. Apparatus as claimed in any preceding Claim, in which the ball line is traversed by a plurality of sight lines extending normally to the axis of the ball line, the sight lines being visually distinguishable from the ball line to act as a orientation guides for the heads of golf clubs.

- 21 -

11. Apparatus as claimed in Claim 4 or any Claim dependent therefrom, in which the mat has in it a longitudinal series of sockets associated with each stance line, and in which each stance strip has  
5 projecting from one end thereof a stud able to be fitted in any socket to act as a pivot for the strip.

12. Apparatus as claimed in any preceding Claim, in which the region of the mat on which a stance line is to  
10 be adjustably positioned has attached to it a strip of releasable fastening material able to be engaged by one end of a stance strip, the fastening strip extending substantially normal to the ball line.

13. Apparatus as claimed in Claim 12, in which each region has a pair of parallel strips of releasable fastening material secured to it, so that each stance strip may have its end secured at any location along the length of the fastening strip so as to extend between the  
15 pair of fastening strips at any chosen angle relative to the axis of the ball line.  
20

14. Golf swing guide apparatus, e.g. for use in conjunction with the apparatus of any one of the preceding Claims, and comprising a base member and a  
25 flexible upstanding guide, the guide being portionable such that it lies above the surface of the mat and extends from a planar section positioned adjacent the ball line remote from the user and substantially at the position of the ball on the tee to an arcuate section  
30 which extends to cross the ball line so that its free end lies between the feet of one user and the ball line.

1/5

FIG. 1

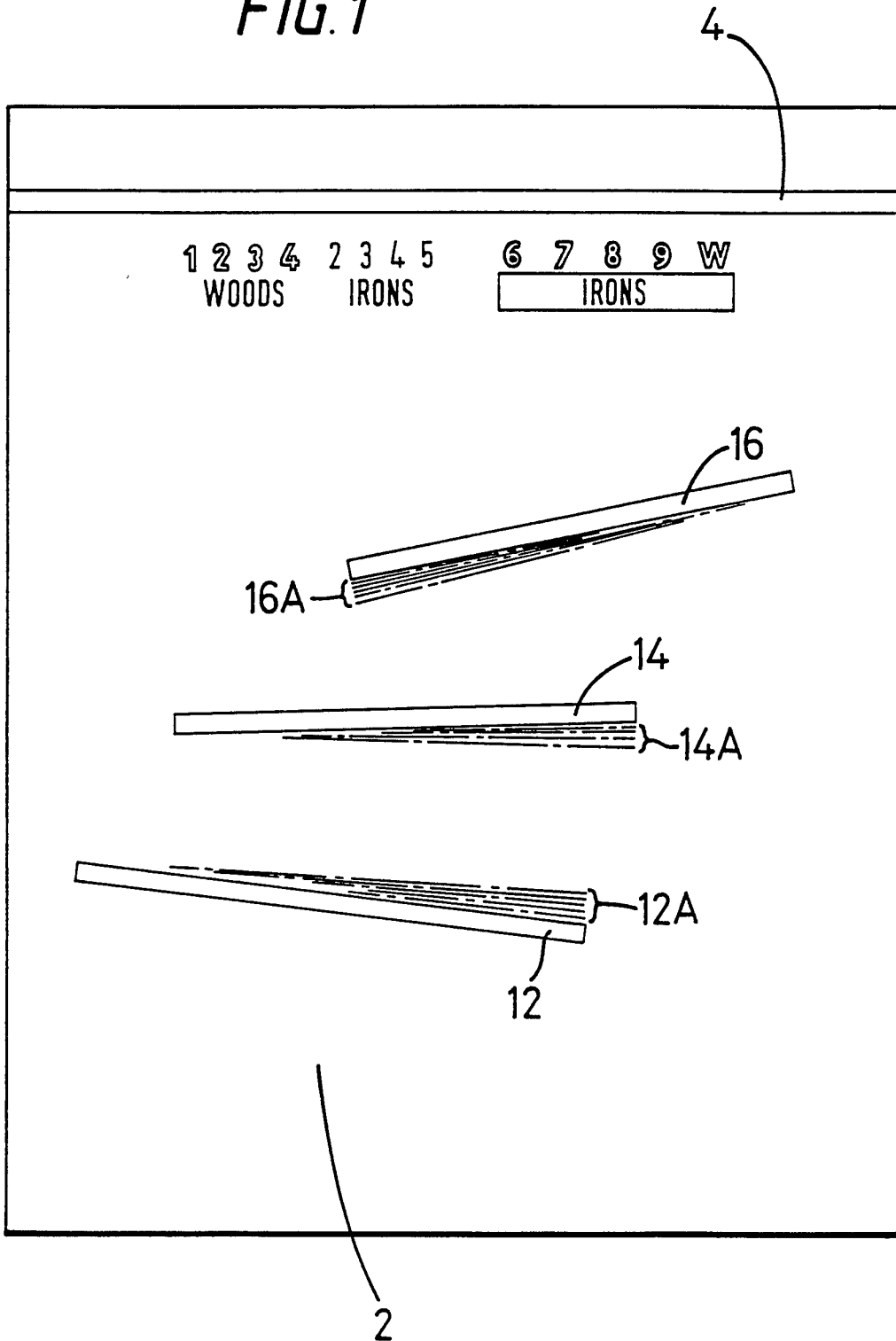
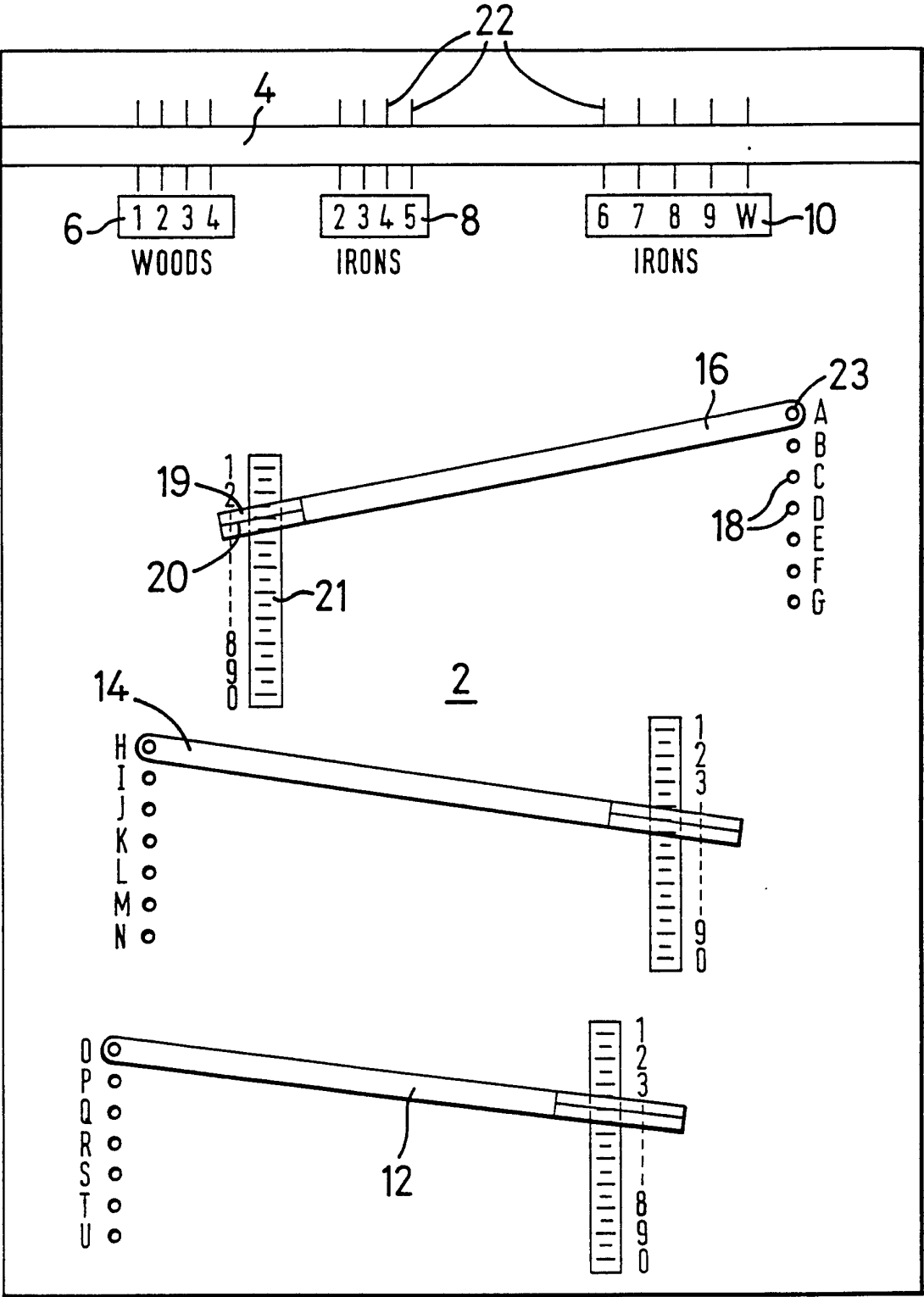


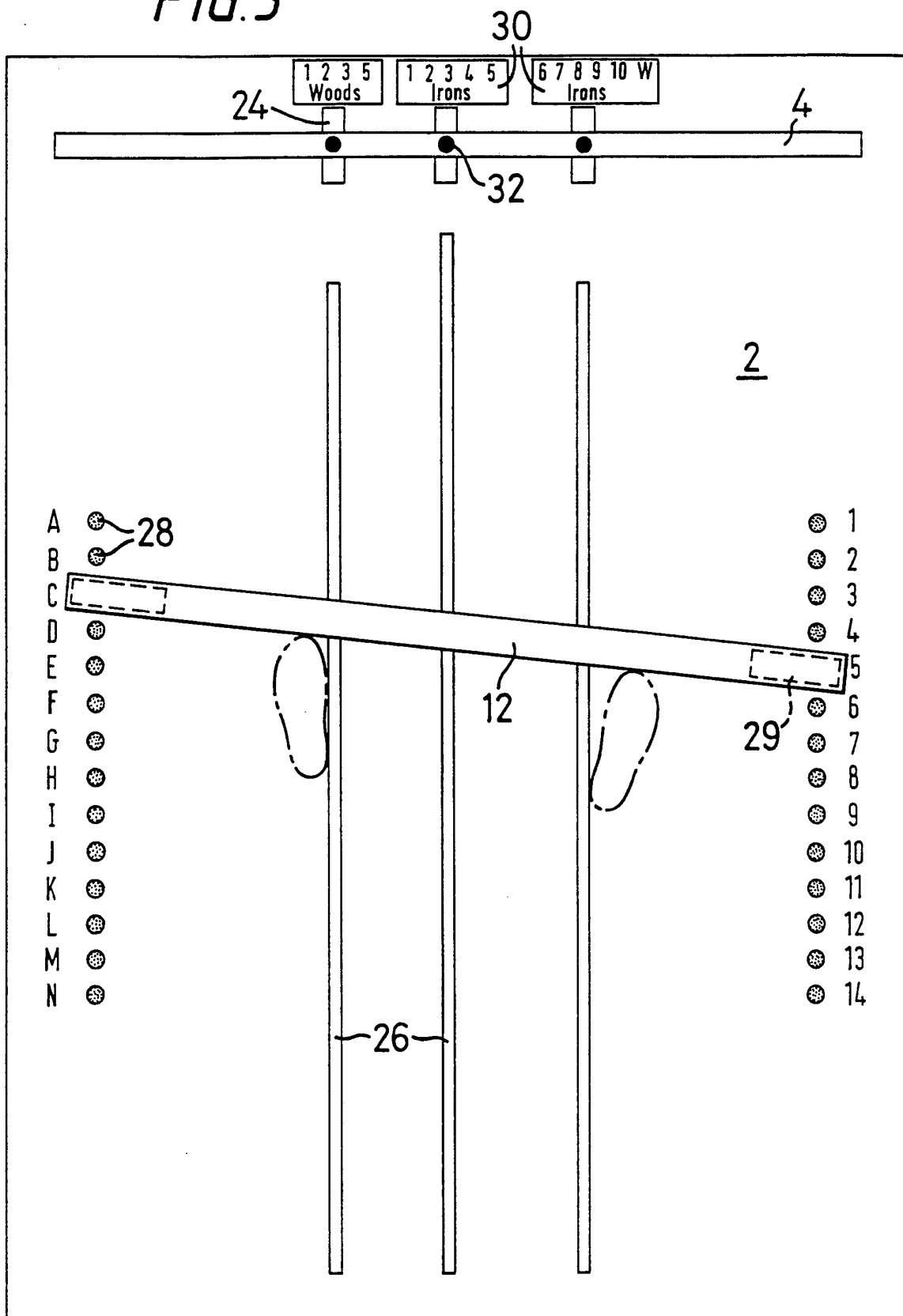


FIG. 2



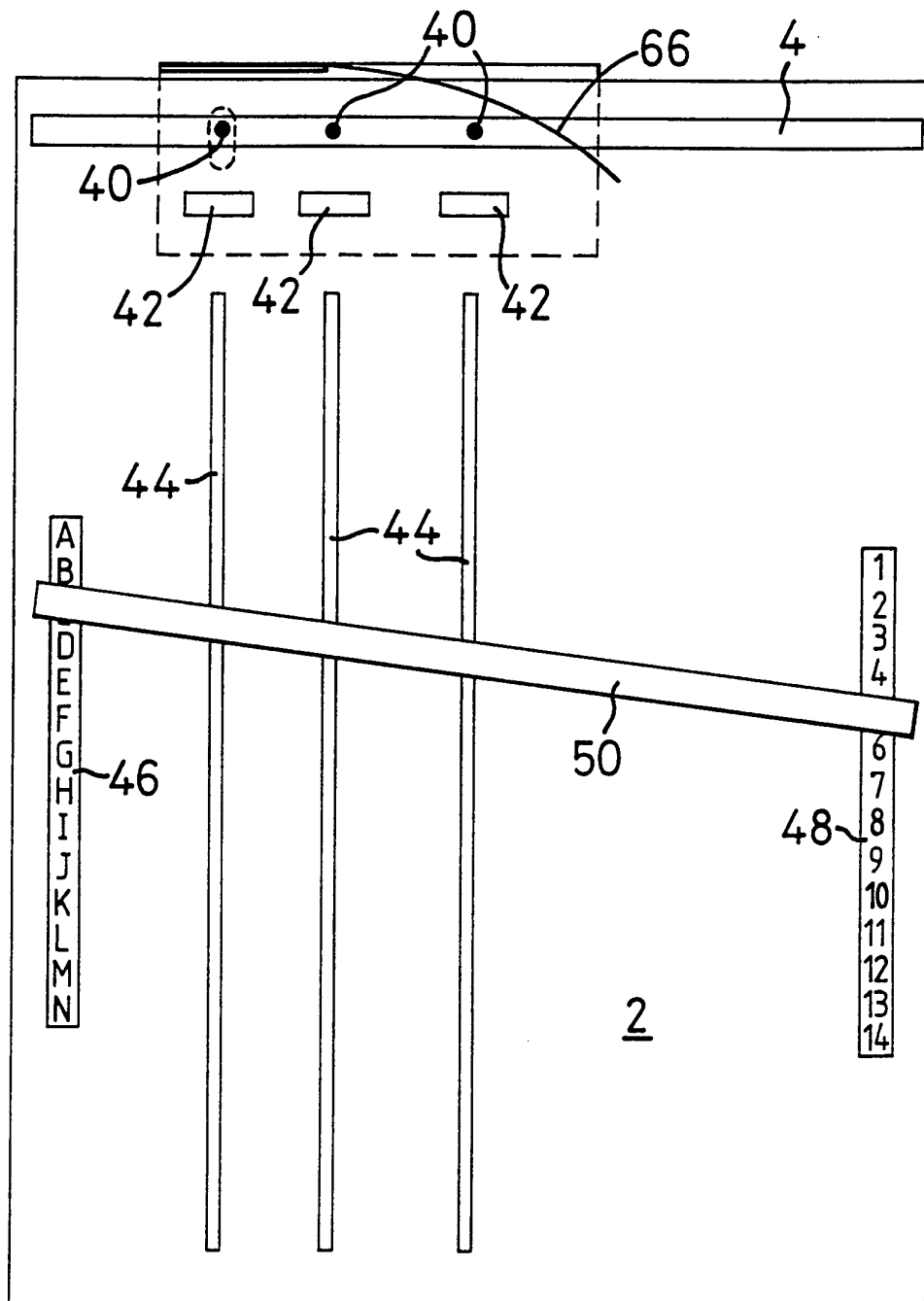
3/5

FIG. 3



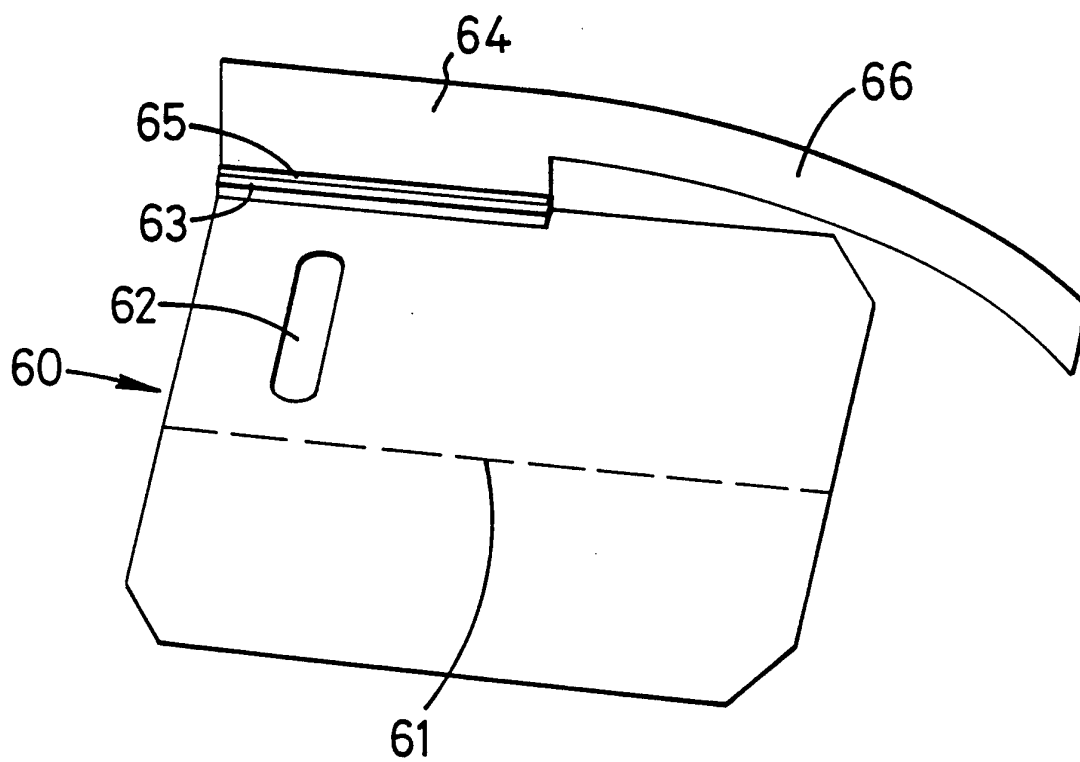
4/5

FIG. 4



5/5

FIG. 5



## INTERNATIONAL SEARCH REPORT

International application No.

PCT/GB 93/02004

## A. CLASSIFICATION OF SUBJECT MATTER

IPC5: A63B 69/36

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC5: A63B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US, A, 1409688 (J.D. EDGAR), 14 March 1922 (14.03.22), figures 1,2 --	14
A	US, A, 2606026 (B.F. YOUNG), 5 August 1952 (05.08.52), the whole document --	1-13
A	US, A, 4023810 (W.R. LORANG), 17 May 1977 (17.05.77), the whole document --	1-13
A	US, A, 4915387 (G.D. BAXSTROM), 10 April 1990 (10.04.90), the whole document -- -----	1-13

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

## \* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

Date of mailing of the international search report

3 January 1994

21. 01. 94

Name and mailing address of the International Searching Authority

Authorized officer



European Patent Office, P.B. 5818 Patentlaan 2  
NL-2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl.  
Fax: (+31-70) 340-3016

Johan Löfstedt

SA 7595

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

27/11/93

International application No.

PCT/GB 93/02004

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US-A-	1409688	14/03/22	NONE		
US-A-	2606026	05/08/52	NONE		
US-A-	4023810	17/05/77	US-A-	4037847	26/07/77
US-A-	4915387	10/04/90	CA-A-	2001626	31/05/90
			JP-A-	2220676	03/09/90