US 20060266845A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2006/0266845 A1**

Knowles (43) **Pub. Date: Nov. 30, 2006**

(54) **MODEL CAR RACE TRACK**

(76) Inventor: **Derek Andrew Knowles**, Chester (GB)

Correspondence Address:
BLAKELY SOKOLOFF TAYLOR & ZAFMAN/PDC
12400 WILSHIRE BOULEVARD
SEVENTH FLOOR
LOS ANGELES, CA 90025 (US)

(21) Appl. No.: **10/548,515**

(22) PCT Filed: **Feb. 25, 2004**

(86) PCT No.: **PCT/GB04/00741**

(30) **Foreign Application Priority Data**

Mar. 6, 2003 (GB) 0305087.9

Jun. 4, 2003 (GB) 0312741.2

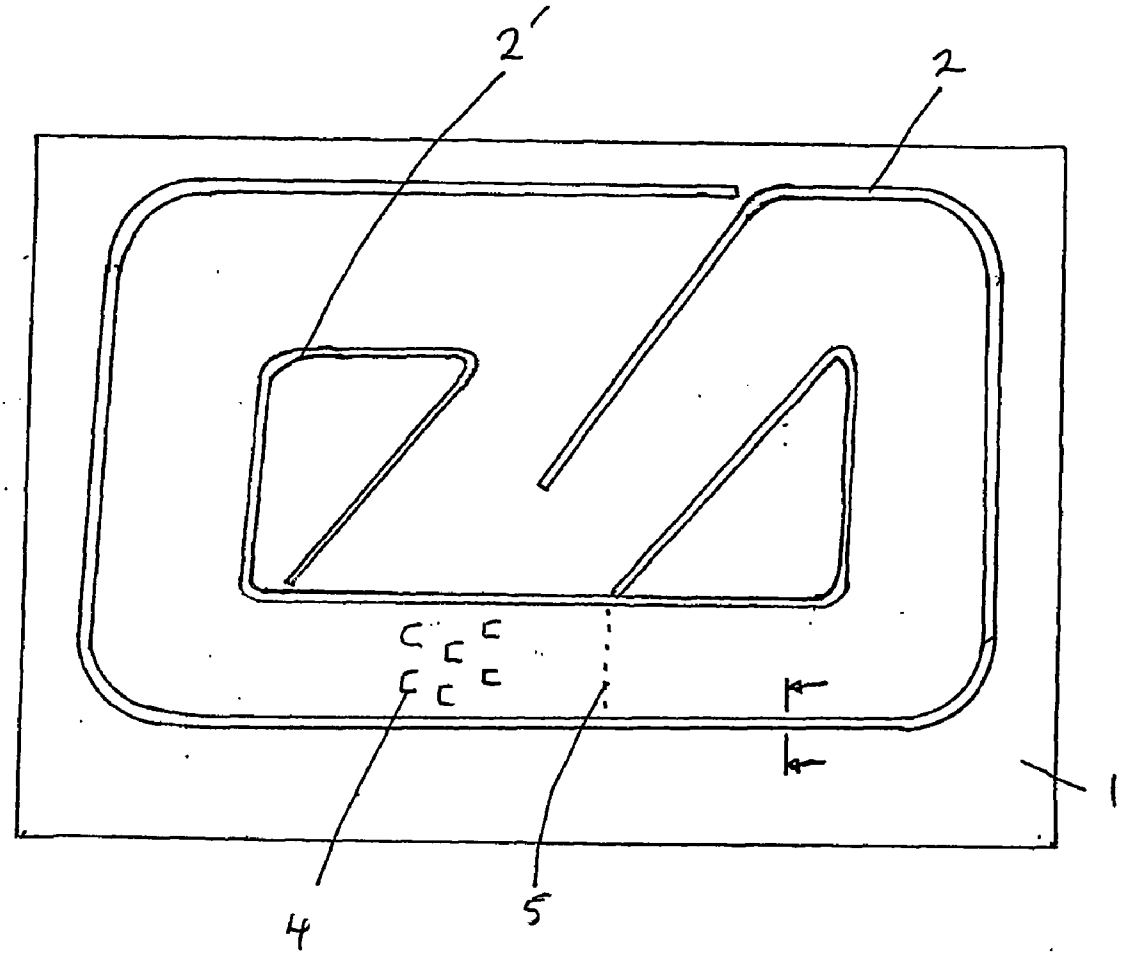
Publication Classification

(51) **Int. Cl.**
A63H 18/00 (2006.01)

(52) **U.S. Cl.** ..... **238/10 F**; 446/444

(57) **ABSTRACT**

The model car race track shown in the drawings comprises a sheet I of PVC material of approximately 0.5 mm to 2 mm thickness which is printed on a first side (shown in FIG. **1**) with indicia indicating the course of a race track for toy remote control racing cars of the type described above. In order to delimit the route of the race track and to prevent the cars from leaving the track, two elongate flexible barriers (**2, 2'**) are releasably secured to the sheet in positions overlaying the indicated position of the track barriers (or in any other positions desired by the user).



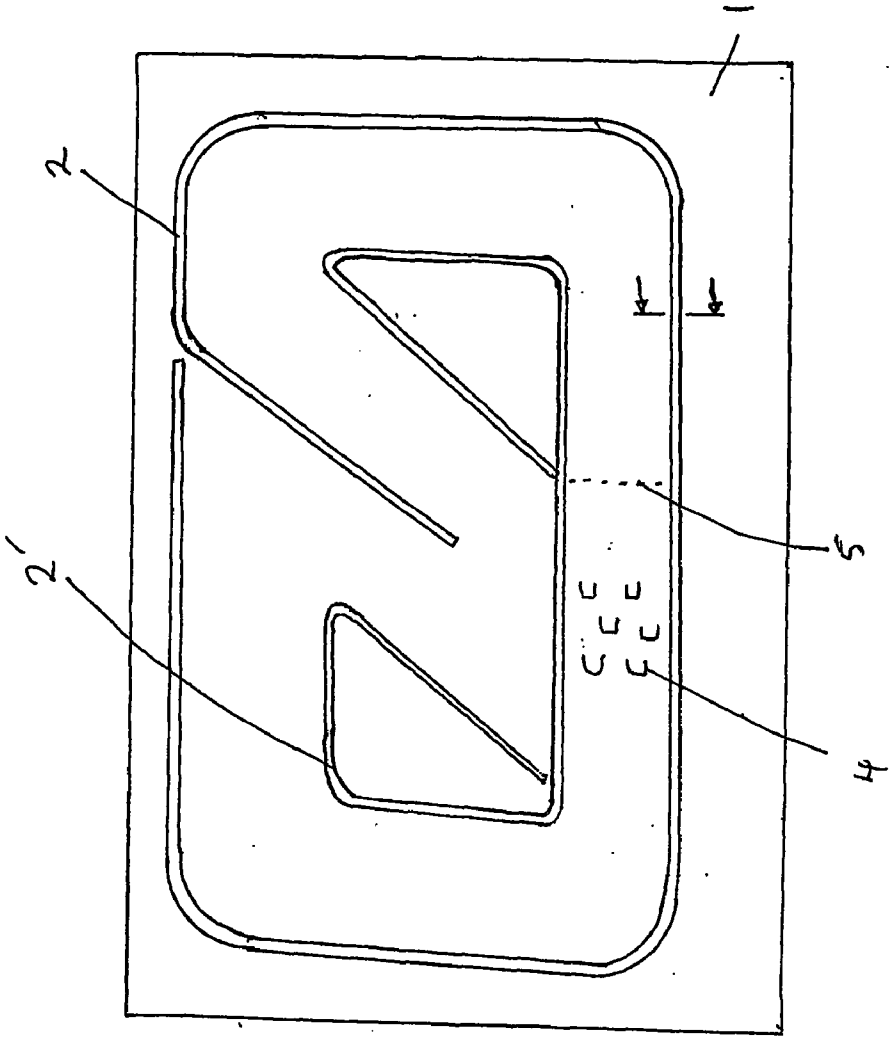


Fig. 1

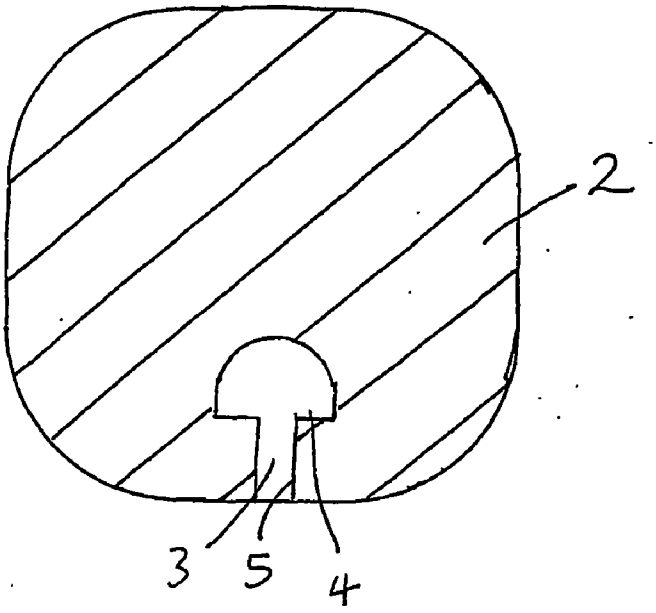


Fig. 2

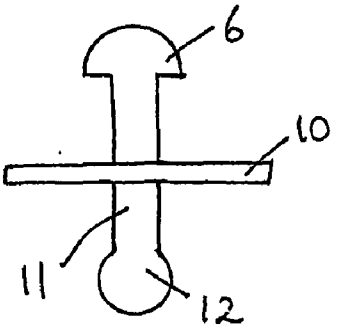


Fig. 4

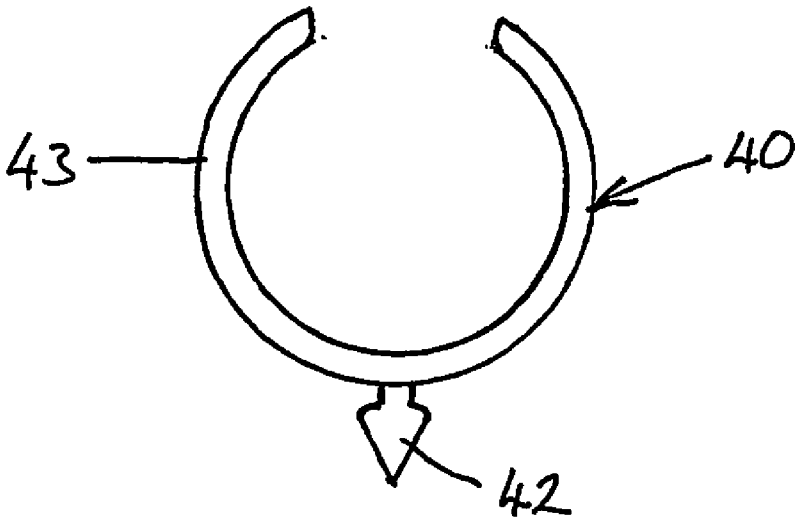


Fig. 10

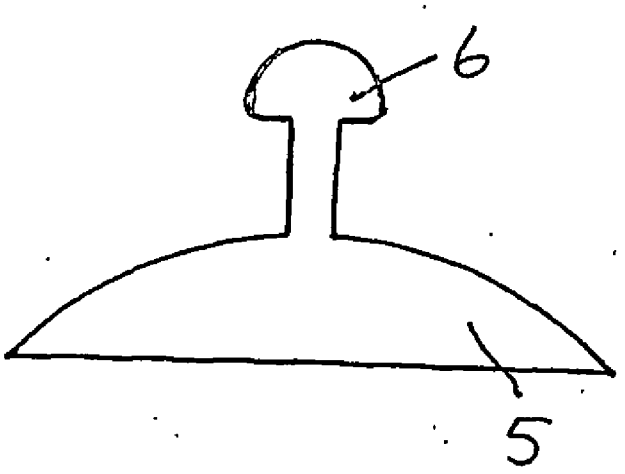


Fig. 3

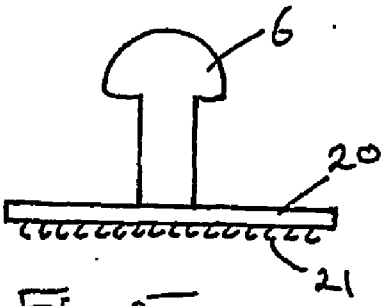


Fig. 5

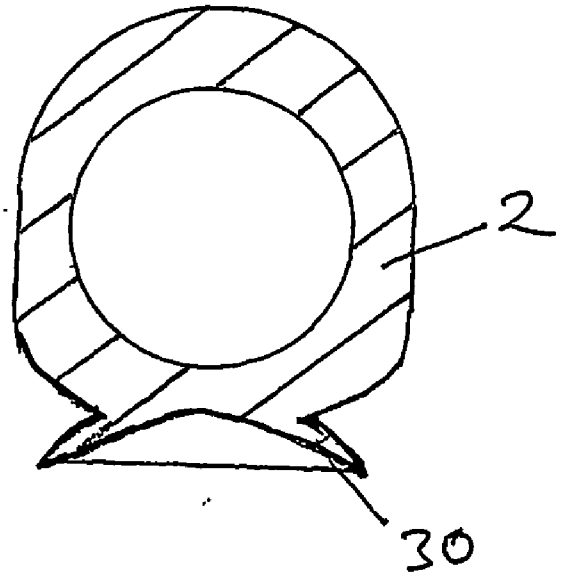


Fig. 6

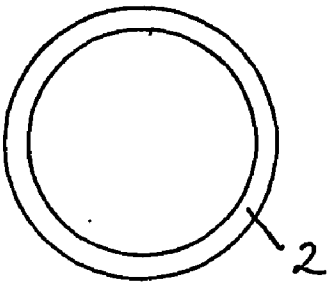


Fig. 7

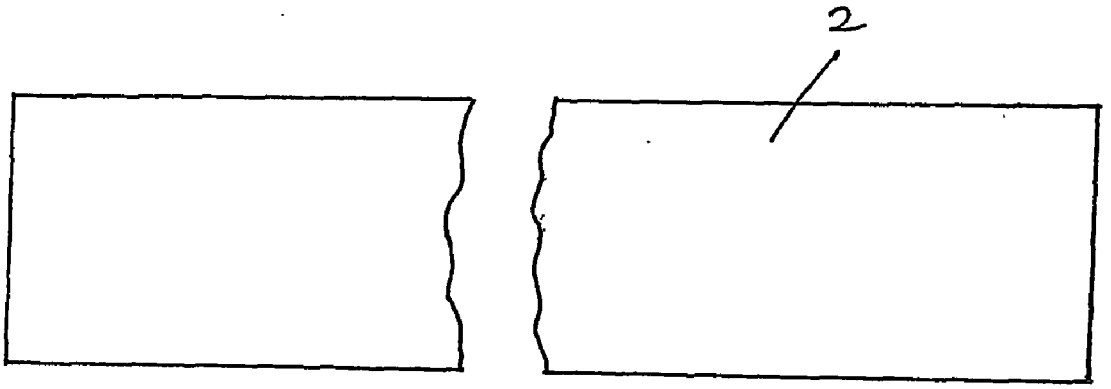


Fig. 8

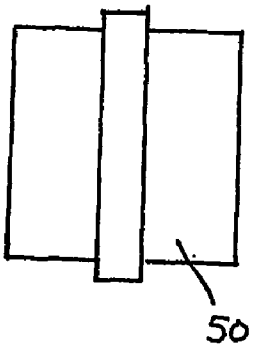


Fig. 9

MODEL CAR RACE TRACK

[0001] The present invention relates to a model car race track for use with wireless remote controlled (usually radio controlled or infra red controlled) model racing cars and more particularly to a model car race track that can be stored in a rolled up condition and then rolled out flat for use.

[0002] Recent advances in technology have led to the development of small, pocket sized "micro" wireless remote controlled model racing cars, such as the Tomy Bit Charg-G. Such cars are only about 60 mm long, 32 cm wide and 24 mm tall and contain rechargeable batteries that are charged by "docking" the car onto a charging port on the controller. Since the cars are so small they can be used in confined indoor spaces and have become very popular in recent times.

[0003] A disadvantage with such toy racing cars is that they do not operate satisfactorily on carpeted surfaces since dust and fibres can become tangled in the drive mechanism and the uneven surface of the carpet provides excessive drag. Accordingly, the cars need to be operated on a smooth flat surface for best results.

[0004] Provided two or more cars are operating on different frequencies they can be raced together. In such circumstances the enjoyment of the racing can be greatly improved by providing a track around which the cars can race, the track being delimited by side walls or barriers through which the cars cannot pass. Although the cars are small, when used indoors a relatively large surface is required to form a satisfactory race track. Accordingly, there is a need for provision of a race track, having a smooth running surface upon which the cars can be operated and provided with side walls or barriers delimiting a course for the cars, which can be quickly and easily packed away when not in use.

[0005] It is known to provide rigid barrier sections that can be assembled and placed on a playing surface to delimit the course of a race track. However, such barrier sections require disassembly to be packed away. The assembly and disassembly of the barrier is thus a time consuming chore and once a preferred race track design has been achieved it may not be possible to recreate the preferred design once the barriers have been disassembled for storage.

[0006] According to the present invention there is provided a race track for a toy racing car comprising a substrate having a running surface upon which the car can be driven and at least one elongate barrier member releasably securable to the substrate to delimit a route around which the car can be raced, wherein both the substrate and the at least one elongate barrier member are formed from flexible materials.

[0007] The formation of both the substrate and the barrier member from flexible materials permits the race track to be stored in a rolled condition with the elongate barrier member secured to the substrate, if desired.

[0008] Preferably the flexible substrate comprises a sheet of flexible material such as polythene, PVC or rubber. The sheet may have indicia provided on one or both sides thereof indicating suggested positions for the placing of said elongate barrier member so as to define a race track, as well as other indicia, such as starting grids and lane markings for the race track.

[0009] Each elongate barrier member may be formed from a moulded or extruded strip of rubber, polyurethane foam, polyvinylchloride or similar flexible resilient material of circular, square, rectangular or other cross section. The barrier member may be in the form of a solid section or a hollow tubular section, such as in the manner of a pipe. Alternatively, each elongate barrier may be formed from a length of rope or cord.

[0010] The barrier member may be formed from a series of sections securable to one another end to end such that the overall length of the barrier can be varied by adding or subtracting sections.

[0011] In one embodiment the elongate barrier member is releasably securable to the running surface of the substrate by means of suction cups provided on the lower face of the barrier member. The suction cups may be attached to the lower face of the barrier member or may be formed integrally with the barrier member.

[0012] In an alternative embodiment the elongate barrier member may be releasably securable to the running surface of the substrate by means of a layer of weak adhesive or cohesive layer provided on the lower face of the barrier member. It is also envisaged that the material from which the substrate and the barrier members is formed may be such that a weak cohesive bond is formed when the barrier member is pressed against the surface of the substrate.

[0013] In a further embodiment the substrate may be provided with a plurality of apertures or female fastening means, the lower face of each barrier member being provided with a plurality of pins or male fastening members adapted to be received by said apertures or females fastening means of the substrate to releasably secure the barrier members to the substrate. The fastening members may be formed integrally with the barrier members.

[0014] Alternatively each male fastening member may comprise a lower part of a securing means, each securing means having a further fastening member provided on an upper part thereof, said further fastening member being receivable in corresponding receiving apertures provided in the lower face of the barrier member.

[0015] In a preferred embodiment each securing means includes a lower male fastening member adapted to be received by said apertures of the substrate and an upper retaining member adapted to engage at least part of the peripheral surface of the barrier member in order to retain the securing means thereon such that the securing means can be clipped onto the barrier member at any desired location.

[0016] In a yet further embodiment at least a portion of the substrate may be coated with a ferro-magnetic material and the elongate barrier member may be releasably securable to said portion of the substrate by means of magnetic material provided at least on the lower face thereof. Preferably said magnetic material is incorporated into the material forming at least part of the elongate barrier member.

[0017] It is also envisaged that the running surface of the substrate may be provided with a flock or fibrous material defining a loop type fastening part of a hook and loop fastener and the lower face of the elongate barrier member may be provided with hook type fastening material such that the elongate barrier member may be releasably secured to the substrate.

[0018] According to a further aspect the present invention provides a barrier or side wall securable to a surface to define the route of a race track for toy racing cars, the barrier comprising an elongate flexible member, securing means being provided on the lower face of the member or being securable thereto whereby the barrier can be releasably secured to the surface in any chosen position and any sinuous, curved or straight arrangement to delimit a route around which the car can be raced, the securing means preferably comprising one of a plurality of suction cups; a layer of weak adhesive or cohesive layer; magnetic material; a plurality of pins or male fastening members extending from the lower surface of the member, said fastening members adapted to be inserted into apertures or recesses provided in the surface; or hook type fastening means releasbly securable to a loop type material provided on the surface.

[0019] According to a further aspect of the invention there is provided a race track for a toy racing car comprising a substrate having a running surface upon which the car can be driven, raised portions being provided on the surface of the substrate defining one or more elongate barriers or side walls delimiting a route around which the car can be raced, wherein both the substrate and the at least one elongate barrier member are formed from flexible materials permitting the race track to be stored in a rolled condition with the elongate barrier member secured to the substrate. Preferably the raised portions are formed integrally with the substrate.

[0020] The present invention will be described further, by way of example, with reference to the accompanying drawings, in which:—

[0021] **FIG. 1** is a plan view of one side of a model car race track according to the present invention;

[0022] **FIG. 2** is a sectional view through a portion of the barrier member indicated by line A-A in **FIG. 1**;

[0023] **FIG. 3** is a side elevation of a securing member according to a first embodiment of the present invention;

[0024] **FIG. 4** is a side elevation of a securing member according to a second embodiment of the invention;

[0025] **FIG. 5** is a side elevation of a securing member according to a third embodiment of the invention;

[0026] **FIG. 6** is a sectional view through a barrier member according to further embodiment of the invention;

[0027] **FIG. 7** is an end view of a barrier according to a fifth embodiment of the invention;

[0028] **FIG. 8** is a side view of the barrier of **FIG. 7**;

[0029] **FIG. 9** is a side view of a connecting member for interconnecting sections of barrier as shown in **FIGS. 7 and 8**;

[0030] **FIG. 10** is a side view of a securing clip according to the fifth embodiment of the invention.

[0031] The model car race track shown in the drawings comprises a sheet **1** of PVC material of approximately 0.5 mm to 2 mm thickness which is printed on a first side (shown in **FIG. 1**) with indicia indicating the course of a race track for toy remote control racing cars of the type described above.

[0032] In order to delimit the route of the race track and to prevent the cars from leaving the track, two elongate flexible barriers **2**, **2'** are releasably secured to the sheet in positions overlaying the indicated position of the track barriers (or in any other positions desired by the user). In the example shown in **FIG. 1** the barriers are secured to the sheet over pre-printed markings to delimit the course of a race track having four left hand bends and a right hand bend separated by straights. Markings are also provided on the sheet to indicate a starting grid positions **4** and a finish line **5**. Whilst one particular track design is shown, many other different designs may be possible. Such designs may require the use of more or less elongate barriers than the design shown in **FIG. 1** and the number of barriers provided with the sheet may be varied accordingly.

[0033] As shown in **FIG. 2**, each elongate barrier **2**, **2'** comprises an extruded polyurethane foam section (although other resilient flexible material such as rubber or neoprene may be equally suitable) having an elongate channel **3** provided in a lower face thereof, a innermost region **4** of the channel having a diameter greater than the outermost region **5** of the channel, for receiving a plurality of securing members (see FIGS. **3** to **5**), each securing member having a retaining peg extending from an upper region thereof, each retaining peg having an enlarged head portion adapted to be received within the channel **3** provided in the lower face of the barrier **2** to retain the peg of each securing member in the channel. The securing member may be fitted to the elongate channel by forcing the peg into the channel **3** in a direction perpendicular to the channel or by sliding the pegs into the channel from a free end thereof.

[0034] In a first embodiment each securing member comprises a suction cup **5** by means of which the barriers **2**, **2'** can be releasably secured to the sheet **1**, a retaining peg **6** extending from the upper face of the suction cup **5** for insertion into the elongate channel **3** provided in the lower face of the barrier **2**, **2'** as described above. In the event more secure adhesion to the sheet is required, a weak adhesive or double sided tape (having stronger adhesive on the side in contact with the barrier) may be provided on the faces of the suction cups **5**.

[0035] In a second embodiment each securing member comprises a base **10** having a peg **6** extending from the upper face thereof for retaining the securing member in the channel **3** as described above, and a further retaining peg **11** extending downwardly from the lower face of the base **10** and having an enlarged head portion **12** at a lower end thereof, a plurality of aperture or recesses (not shown) being provided in the upper surface of the sheet or being formed through the sheet into which apertures or recesses the retaining pegs **11** of the securing means can be inserted to releasably secure the barrier **2**, **2'** to the sheet **1**.

[0036] In a third embodiment each securing member comprises a base **20** having a peg **6** extending from the upper face thereof as described above, the lower face of the base **20** of the securing member being provided with a hook part **21** of a hook and loop fastening system, said hook part **21** being secured to said base **20** or being formed integrally therewith.

[0037] It is also envisaged that the securing members may be formed integrally with the barrier as shown in **FIG. 6**

wherein a fourth embodiment is shown in which a plurality of suction cups **30** are integrally moulded on the lower face of the flexible barrier.

[**0038**] In a fifth embodiment of the invention, shown in FIGS. **7** to **10**, the barrier comprises a plurality of elongate tubular hollow sections **2** formed from PVC or other suitable polymeric material in the manner of a pipe, the sections being interconnected by means of connecting members **50** (shown in **FIG. 9**) having end portions dimensioned to be received in adjacent ends of the sections of barrier and a central portion having a diameter equal to the diameter of the barrier. In this manner the length of barrier can be varied as desired by adding or removing sections thereto or therefrom in order to produce a barrier or the required length.

[**0039**] The barrier can be secured to the track by means of securing clips **40** shown in **FIG. 10**. Each clip comprises a lower retaining peg **42** having an enlarged end, in the form of an arrow head, said retaining peg being receivable any of a plurality of apertures provided in the sheet **1** as discussed above in order to secure the clip to the sheet **1**. The upper part of each clip comprises a resilient circular barrier retaining member **43** having an upper open section, the inner diameter of the retaining member **43** being substantially equal to or slightly less than the outer diameter of the tubular barrier **2** whereby the retaining member **43** of the securing clip can be clipped around a section of the barrier **2** to secure the clip to the barrier at any desired location. In use, a plurality of securing clips **40** can be clipped to the barrier **2** at spaced locations and the retaining pegs **42** of the securing clips **40** can be inserted into the apertures in the sheet **1** to secure the barrier in the desired position on the sheet **1** to define and delimit a race track thereon.

[**0040**] The flexibility of the sheet and the barriers and the strength of the attachment of the barriers to the sheet permits the race track to be rolled up and stored in a rolled condition with the barriers remaining in the desired positions on the sheet.

[**0041**] The reverse side of the sheet (not shown) may be have a grid pattern printed thereon to allow the user to design their own race tracks by securing the barriers to the track in any desired position. The flexibility of the barriers permit them to be shaped into the desired configuration to create curved and straight sections. Example tracks may be provided on separate sheets of paper or may be printed on the edges of the sheet on a grid pattern corresponding to that provided on the sheet by on a smaller scale. Accordingly, the grid pattern on the sheet can be used as a guide in placement of the barriers to facilitate the reproduction of the example track designs on the sheet.

[**0042**] It is envisaged that the barrier **2** may be sold separately from the sheet **1** for use on a variety of surfaces and a selection of securing means may be provided in accordance with each of the above embodiments, the particular securing means to be used being selected depending on the surface to which the barrier is to be secured.

[**0043**] In an alternative embodiment (not shown) the sheet forming the track may be formed from a mesh material, such as a loose weave fabric coated with polymeric material, having a plurality of apertures of suitable dimensions for the receipt of the retaining pegs of the securing clips in order to maximise the number of available apertures into which the barrier securing clips can be inserted to provide maximum flexibility in the shape of the barriers, thus maximising the number the possible track designs.

1-21. (canceled)

22. A race track for a toy racing car comprising a flexible substrate (**1**) of flexible sheet material having a running surface upon which the car can be driven and at least one elongate barrier member (**2**, **2'**) releasably securable to the substrate in any chosen position or in any of a plurality of positions to delimit a route around which the car can be raced, wherein both the substrate (**1**) and the at least one elongate barrier member (**2**, **2'**) are formed from flexible materials.

23. A race track for a toy racing car as claimed in claim 22, wherein the flexible sheet material is polythene, PVC or rubber.

24. A race track for a toy racing car as claimed in claim 23, wherein the sheet is provided with indicia on one or both sides thereof indicating suggested positions for the placing of said elongate barrier member (**2**, **2'**) so as to define a race track, as well as other indicia (**4**, **5**), such as starting grids (**4**) and lane markings for the race track.

25. A race track for a toy racing car as claimed in claim 22, wherein the or each elongate barrier member (**2**, **2'**) is formed from a moulded or extruded strip (**2** in **FIG. 2** or **6**) of rubber, polyurethane foam, polyvinylchloride or similar flexible resilient material of circular, square, rectangular or other cross section.

26. A race track for a toy racing car as claimed in claim 22, wherein the or each barrier member (**2**, **2'**) is in the form of a solid section (**FIG. 2**) or a hollow tubular section (**FIG. 7**), such as in the manner of a pipe.

27. A race track for a toy racing car as claimed in claim 22, wherein the or each elongate barrier (**2**, **2'**) is formed from a length of rope or cord.

28. A race track for a toy racing car as claimed claim 22, wherein the or each barrier member (**2**, **2'**) is formed from a series of sections (**FIG. 8**) securable to one another end to end such that the overall length of the barrier can be varied by adding or subtracting sections.

29. A race track for a toy racing car as claimed in claim 22, wherein the or each elongate barrier member (**2**, **2'**) is releasably securable to the running surface of the substrate by means of suction cups (**5**) provided on the lower face of the barrier member (**2** of **FIG. 6**).

30. A race track for a toy racing car as claimed in claim 29, wherein the suction cups (**5**) are attached to the lower face of the barrier member (**2FIG. 6**).

31. A race track for a toy racing car as claimed in claim 29, wherein the suction cups (**30**) are formed integrally with the barrier member (**2FIG. 6**).

32. A race track for a toy racing car as claimed in claim 22, wherein the or each elongate barrier member (**2**, **2'**) is releasably securable to the running surface of the substrate by means of a layer of weak adhesive or cohesive layer provided on the lower face of the barrier member.

33. A race track for a toy racing car as claimed in claim 22, wherein the material from which the substrate and the or each barrier member (**2**, **2'**) is formed may be such that a weak cohesive bond is formed when the barrier member is pressed against the surface of the substrate.

34. A race track for a toy racing car as claimed in claim 22, wherein the substrate (**1**) is provided with a plurality of apertures or female fastening means, the lower face of the or

each barrier member (**2**, **2'**) being provided with a plurality of pins (**12**) or male fastening members adapted to be received by said apertures or females fastening means of the substrate (**1**) to releasably secure the barrier member (**2**, **2'**) to the substrate (**1**).

35. A race track for a toy racing car as claimed in claim 34, wherein the fastening members may be formed integrally with the or each barrier member (**2**, **2'**).

36. A race track for a toy racing car as claimed in claim 34, wherein each male fastening member may comprise a lower part (**12**) of a securing means (**11**), each securing means having a further fastening member (**6**) provided on an upper part thereof, said further fastening member being receivable in corresponding receiving apertures provided in the lower face of the or each barrier member.

37. A race track for a toy racing car as claimed in claim 34, wherein each securing means includes a lower male fastening member adapted to be received by said apertures (**3**, **4**) of the substrate (**2**, **2'**) and an upper retaining member (**43**) adapted to engage at least part of the peripheral surface of the barrier member (**2**, **2'**) in order to retain the securing means thereon such that the securing means (**40**) can be clipped onto the barrier member (**2**, **2'**) at any desired location.

38. A race track for a toy racing car as claimed in claim 22, wherein at least a portion of the substrate (**1**) is coated with a ferro-magnetic material and the or each elongate barrier member (**2**, **2'**) is releasably securable to said portion of the substrate (**1**) by means of magnetic material provided at least on the lower face thereof.

39. A race track for a toy racing car as claimed in claim 38, wherein said magnetic material is incorporated into the material forming at least part of the elongate barrier member (**2**, **2'**).

40. A race track for a toy racing car as claimed in claim 22, wherein the running surface of the substrate (**1**) is provided with a flock or fibrous material defining a loop type fastening part of a hook and loop fastener and the lower face of the or each elongate barrier member (**2**, **2'**) being provided with hook type fastening material (**21**) such that the elongate barrier member (**2**, **2'**) may be releasably secured to the substrate (**1**).

41. A race track for a toy racing car as claimed in claim 22, wherein both the substrate (**1**) and the at least one elongate barrier member (**2**, **2'**) are formed from flexible materials permitting the race track to be stored in a rolled condition with the elongate barrier member (**2**, **2'**) secured to the substrate (**1**).

* * * * *