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 (56) Documents Cited:
GB 2487184 A **EP 2436428 A1**
WO 2003/092830 A1 **WO 2003/049822 A1**
US 4377306 A

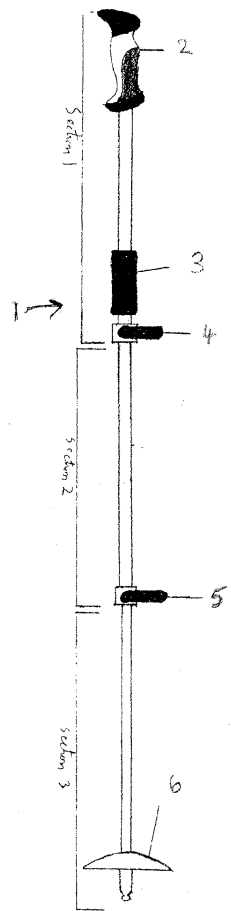
(71) Applicant(s):
Elliot Robert Glover
Milford Cottage, 180a Chobham Road,
SUNNINGDALE, Berkshire, SL5 0JA, United Kingdom
 (72) Inventor(s):
Elliot Robert Glover
 (74) Agent and/or Address for Service:
Coller IP Management Limited
Fugro House, Hithercroft Road, Wallingford,
Oxfordshire, OX10 9RB, United Kingdom

(58) Field of Search:
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(54) Title of the Invention: **Sports system**
 Abstract Title: **Collapsible snowboarding pole and attachment means**

(57) A system for use by a snowboarder to travel on a snowboard across a sports surface, said system comprising a collapsible pole 1 having an upper and a lower handle region 2, 3 towards one end of the pole and a sports surface engaging region 6 at the other end of the pole, wherein the arrangement is such as to allow the snow boarder to hold the pole in gloved hands and exert a driving force through the pole to the sports surface engaging region so as to achieve propulsion, and a releasable securing means for holding said pole when not in use wherein said securing means is located between the snowboarder's boots or to the side of one of the boots and orients the pole along the length of the board ready for use without requiring additional securing means and so as to accommodate flexing of the board along its length.

Figure 1A



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Figure 1A

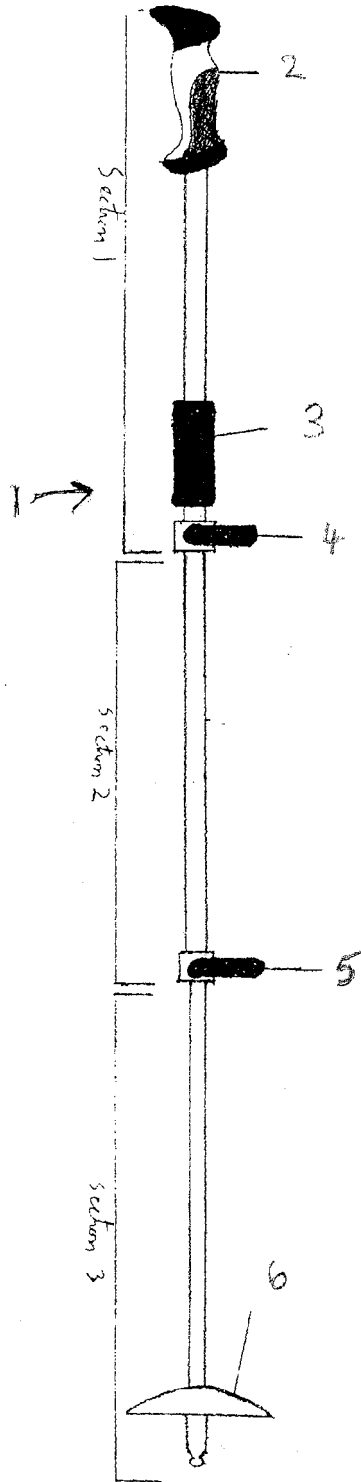


Figure 1B

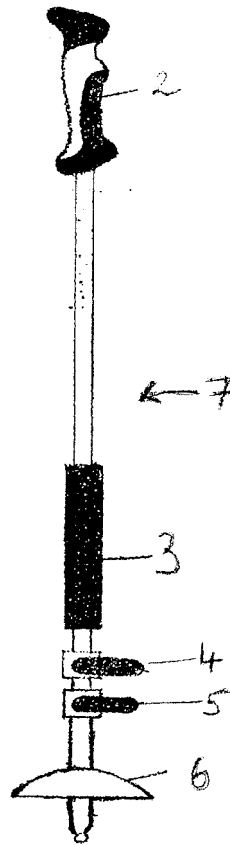
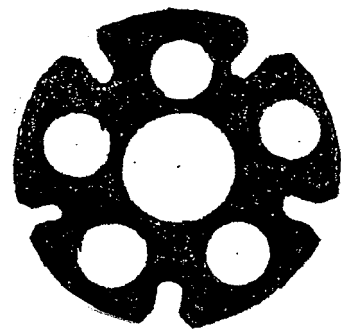


Figure 1

Figure 1C



2/2

Figure 2

Figure 2A

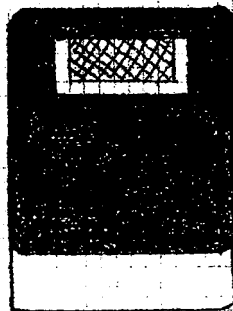
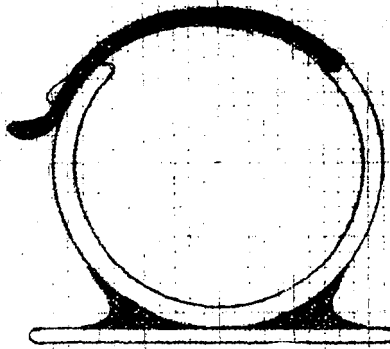


Figure 2B

Sports System

Field of Invention

The present invention relates to a sports pole system for snowboards to enable
5 snowboarders, skiers and other followers of mountain and outdoor pursuits to travel on
challenging terrain.

Background of Invention

A particular problem for snowboarders is that on flat terrain, and especially in ski
10 lift queues and the flatter areas around mountain restaurants and other buildings, it can
be very difficult to move the board around with efficiency and style. This is especially a
problem for older, unfit or less experienced snowboarders who have less muscle
strength and/or co-ordination. Generally the snowboarder resorts to taking one boot out
of the boot binding to push them along with the resulting free leg. This solution is very
15 awkward and can lead to loss of control and increased risk of injury. It can also be
extremely tiring and frustrating if long distances are involved. Typically the snowboarder
simply resorts to taking both feet out of the bindings, and walking while carrying the
board. The frustration is often increased as boarders are overtaken by skiers who are
able to keep moving by using their ski poles to keep or create momentum.

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Existing approaches to the snowboarders problem in moving over flat terrain
include the 'Snowboard Pole System' as described in GB 2487 184 (published 18th July
2012). This shows a collapsible pole and releasable attachments ('securings') for
receiving the pole and securing it either to the board, or snowboarder's boots or bindings
25 when not being used for propulsion. The specific embodiments in the application show a
pole which is adjustable in length through a single external lock mechanism and when
not in use the pole is attached to the board or snowboarder's boot or binding through two
releasable securings spaced towards each end of the pole. However, given that
snowboards, like skis, are designed to flex throughout their length in use, the
30 arrangement shown in the specific embodiments of a rigid pole fixed at multiple points
and extending along most of the board length does not appear to accommodate much
flexing of the board. Such flexibility of the board is especially important while cornering
('carving') at speed, winding through moguls and during certain manoeuvres popular with
snowboarders.

35

Another approach to the snowboarders 'flat terrain' problem is the 'Telescoping Snowboard Pole' described in a research project dated 30th April 2009 by Parry, D. *et al.* from Worcester Polytechnic Institute. This features a telescopic pole which when not in use for propulsion is intended to be collapsed and stored out of the way on the body of the snowboarder by attaching below the knee on the lower inside leg of the snowboarder. A main focus of this pole design is the use of internal locking and releasing mechanisms so as to avoid interference from dirt, water and other debris and perceived problems with activating external locking systems whilst in motion. The authors reviewed a number of internal locking mechanism options before presenting their own mechanism. Whilst meeting the authors' functional requirements, the internal components chosen for their ease of machining were found to be somewhat susceptible to wear in use.

Summary of the Invention

The present invention seeks to provide a sports pole system for snowboarders which comprises an adjustable multipurpose pole for use in propelling the user across flat or minimal slopes and storage means for the pole when not in use. The system seeks to retain the flexibility along the board required for travelling at speed and/or negotiating tight turns. The present invention also seeks to provide an improved and versatile sports pole for said system.

Accordingly, the present invention provides a system for use by a snowboarder to travel on a snowboard across a sports surface, said system comprising a collapsible pole having an upper and a lower handle region towards one end of the pole and a sports surface engaging region at the other end of the pole, wherein the arrangement is such as to allow the snow boarder to hold the pole in gloved hands and exert a driving force through the pole to the sports surface engaging region so as to achieve propulsion, and a releasable securing means for holding said pole when not in use wherein said securing means is located between the snowboarder's boots or to the side of one of the boots and orients the pole along the length of the board ready for use without requiring additional securing means and so as to accommodate flexing of the board along its length.

While not being used for propulsion, the pole is releaseably attached to the snowboard or the snowboarder's boots or bindings through the releasable securing

means. In one embodiment the securing means is constructed of flexible material so as to allow maximal flexibility of the board. An advantage of a single releasable securing means in addition to allowing for flexing of the board is that it allows rapid detachment of the pole when needed by the rider. A further advantage of the positioning and
5 accessibility of the pole and attachment is that it allows the rider to use these as a handle or pivot to adjust the position of the board to increase the range of stunts and moves by the boarder, especially in aerial manoeuvres.

In one embodiment the pole includes telescopic sections releaseably held by
10 locking means. Suitably the locking means for the pole sections are external to the pole.

In one embodiment the lower handle region of the pole includes a surface material which can be gripped at multiple sites along its length. Preferably the surface of the lower handle region is of foam or foam-like material or other material which can be
15 gripped securely when the pole is being used for maximal propulsion.

In one embodiment the upper handle region of the pole has at least one indent for receiving part of a gripping hand of the user.

20 In one embodiment the sports surface engaging region features a snow basket. Suitably the sports surface is selected from snow or artificial snow, dry ski slope matting, sand or other free flowing material.

An example of the invention will be described in more detail with reference to the
25 accompanying drawings in which:

Figure 1 shows a pole according to the invention in extended (Figure 1A) and collapsed (Figure 1B) configurations. Figure 1C (inset) shows the detail of a snow basket.

30 Figure 2 shows a detail of a releasable securing clip for the pole according to the invention in side-on view (Figure 2A) and end-on view (Figure 2B).

Detailed Description of the Invention

Referring to Figure 1, Figure 1A shows an expanded pole (1) according to the
35 invention. The pole shown is made up of three sections. In the embodiment shown the

upper handle (2) is at the top of section 1 of the pole and the lower handle (3) of foam material is towards the bottom of section 1. In an alternative embodiment the lower handle can be fitted along Section 2 of the pole and so allows for a greater variety of lower handle positioning along the pole. The snow basket (6) is shown in more detail in
5 Figure 1C in an end view. The style of basket chosen is intended to provide good grip for a range of snow conditions including powder.

Figure 1B shows a collapsed pole (7) according to the invention. The upper handle (2) shows a one-finger slot design. The lower handle (3) is of a foam material of sufficient
10 length to allow the user to grasp it securely at various places along its length. In the collapsed configuration the locking means (4) and (5) are clips which hold the pole sections in place are shown close together. The surface engaging end of the pole is in the form of a snow basket (6).

15 Referring to Figure 2, Figure 2A shows a releasable securing clip (side view) and Figure 2B the releasable securing clip from above.

The following further non-limiting examples of the system of the invention in use are for illustration only.

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Examples

When a snowboarder approaches flat terrain, or in anticipation of slowing and before coming to a stop, the rider can reach down and detach the collapsed pole of the system from its releasable securing. The rider can then extend the pole by releasing one
25 or more of the locking clips on the pole shaft. By holding the pole in two hands using the specially designed upper and lower handle regions, the rider can then deliver a strong driving force through the pole to the surface engaging region of the pole and thereby maintain momentum on the shallow slope or flat terrain. The lower handle is designed so as to allow flexible positioning of the lower hand which may depend on the type of slope
30 and amount of force required. For example different hand positioning will likely be used when the rider is using the pole for gliding slowly compared to when using the pole more like a canoe paddle to seek maximum force and speed.

Other uses of the pole by snowboarders include as a towing aid for assisting the

movement or control of other skiers or boarders such as learners or children or for helping to tow or control equipment. It will be apparent that with suitable pole attachments, for example with a sharp end or grasping means the pole can be used for picking up items from the ground or elsewhere while boarding. When the user is airborne the attached pole or pole securing means may also provide a way of moving the relative position of the board in flight for performing stunts etc.

The pole of the system of the present invention can also be used as a conventional walking pole in hilly or mountainous areas. The use of one or more walking poles can save walkers a considerable amount of energy. The poles according to the present invention are particularly useful as the ability to adjust the length of the pole enables the pole to be adapted to suit varying terrains for example uphill and downhill sections of a walk. The adjustable length feature also allows users of different heights to use the same pole.

Claims

1. A system for use by a snowboarder to travel on a snowboard across a sports surface, said system comprising a collapsible pole having an upper and a lower handle region towards one end of the pole and a sports surface engaging region at the other end of the pole, wherein the arrangement is such as to allow the snow boarder to hold the pole in gloved hands and exert a driving force through the pole to the sports surface engaging region so as to achieve propulsion, and a releasable securing means for holding said pole when not in use wherein said securing means is located between the snowboarder's boots or to the side of one of the boots and orients the pole along the length of the board ready for use without requiring additional securing means and so as to accommodate flexing of the board along its length.
2. A system according to claim 1 wherein the securing means is constructed of flexible material.
3. A system according to any preceding claim wherein the pole includes telescopic sections releaseably held by locking means.
4. A system according to claim 3 wherein the locking means for the pole sections are external of the pole.
5. A system according to any preceding claim wherein the lower handle region of the pole includes a surface material which can be gripped at multiple sites along its length.
6. A system according to claim 5 wherein the surface of the lower handle region is of foam or foam-like material.
7. A system according to any preceding claim wherein the upper handle region of the pole has at least one indent for receiving part of a gripping hand of the user.
8. A system according to any preceding claim wherein the sports surface engaging region features a snow basket.

9. A system according to any preceding claim wherein the sports surface is selected from snow or artificial snow, dry ski slope material, sand or other free flowing material.
 10. A system, pole or uses thereof substantially as described and with reference to one or more of the accompanying drawings or examples.
- 5



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Examiner: Mr Samuel Manger

Claims searched: 1-10

Date of search: 25 April 2014

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
Y	1-10	EP2436428 A1 (ROBERT) See whole document
Y	1-10	GB2487184 A (TILLEN) See whole document
A	-	WO2003/092830 A1 (MOELLER) See whole document
A	-	WO2003/049822 A1 (BARNES) See whole document
A	-	US4377306 A (ABATECOLA) See whole document

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^X :

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

A63C

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

Online: WPI, EPODOC

International Classification:

Subclass	Subgroup	Valid From
A63C	0005/03	01/01/2006
A63C	0011/22	01/01/2006