



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

<p>(51) International Patent Classification <sup>6</sup> : B62D 1/06</p>	A1	<p>(11) International Publication Number: WO 95/03203 (43) International Publication Date: 2 February 1995 (02.02.95)</p>
<p>(21) International Application Number: PCT/AU94/00390 (22) International Filing Date: 14 July 1994 (14.07.94) (30) Priority Data: PM 0030 19 July 1993 (19.07.93) AU PM 2953 13 December 1993 (13.12.93) AU (71) Applicant: ROBERT HICKS PTY. LTD. [AU/AU]; A.C.N. 005 072 775, 72 Albert Street, Preston, VIC 3072 (AU). (72) Inventor: PAWSEY, Rayman, James; 33B Kingsley Crescent, Mont Albert, VIC 3127 (AU). (74) Agent: FREEHILL PATENT &amp; TRADE MARK SERVICES; Level 47, 101 Collins Street, Melbourne, VIC 3000 (AU).</p>		<p>(81) Designated States: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LT, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG), ARIPO patent (KE, MW, SD).  <b>Published</b> <i>With international search report.</i></p>
<p>(54) Title: STEERING WHEEL COVER</p>		
<p>(57) Abstract</p> <p>A steering wheel shade cover for a motor vehicle including a first portion (12) adapted to shade the front face of a steering wheel, a second portion (16) shaped to shade at least part of the rear face of the steering wheel and retaining means (17, 18) which allow the cover to be readily removable. In a further embodiment, the shade cover may be used as a cap.</p>		

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## STEERING WHEEL COVER

### Field of the invention

The invention relates to a cover for a steering wheel.

### Background of the invention

5 A common problem experienced by drivers of vehicles in warmer climates is that the air temperature in a vehicle which is parked in direct sunlight and which does not permit circulation of the air inside the vehicle may rise well above a comfortable ambient temperature. Further, steering wheels are often made of a dark colour which absorb heat and also light. Light absorbed is largely transformed into more heat. Consequently, it is  
10 common on warm days for steering wheels to become too hot to be comfortably handled by an unprotected human hand. This is undesirable as it may compromise the safety with which the vehicle is driven. Further, it may require a driver to delay departure while fresh circulating air cools the steering wheel.

A further problem experienced where steering wheels are exposed in this way to direct  
15 sunlight is that the steering wheel itself may fade more quickly than if it was protected during prolonged exposures to sunlight. As one part of the steering wheel may be more exposed to sunlight than other parts, a "patchy" appearance may result which is aesthetically undesirable.

Another problem is the overheating of ignition systems. This may result from exposure of  
20 the ignition and its housing to prolonged periods of high temperature direct sunlight. Overheating of ignition systems causes undue wear of electrical contacts and may also lead to heating of the electrical wiring of the vehicle. As a result, the ignition system may fail.

In order to overcome these problems, various steering wheel covers have been proposed. However, the covers which are known have little, if any, aesthetic appeal. Further, such  
25 covers generally have only provided for the protection of the steering wheel rim itself. Thus, radial arms may still be exposed to sunlight. Accidental touching of these arms may cause mild burns where they are exposed to direct heat and the arms may fade more quickly than the rim of the steering wheel resulting in an unsightly appearance of the steering wheel.

30 Some prior art covers which cover the front face of the steering wheel still fail to further cover the rear face of the steering wheel and the area between the steering wheel and the windscreen. Consequently, that area, which has a relatively high exposure to direct sunlight is not protected and is also subject to fading of colour. Further, covers known in the prior art have not shaded the steering wheel column and ignition system.

Further, it is quite common nowadays for a steering wheel lock to be placed across a steering wheel to prevent theft of the vehicle. One well known type of lock is sold under the trade mark "The Club" and comprises two members being a length of metal tubing and a telescopic arm protruding from it. A pair of oppositely disposed hooks are provided, one on each member, to engage the circumference of a steering wheel. When in place the tube extends a significant distance from the steering wheel. If a would-be thief attempts to turn the steering wheel with the lock in place the extended part of the tube engages part of the body of the vehicle preventing further rotation of the steering wheel.

As such locks are of metal, if they are left in the locked position across a steering wheel when the vehicle is in direct sunlight, like the steering wheel the temperature of the lock can be very high with the attendant problems discussed above.

Some prior art covers cover the entire steering wheel but cannot be installed when the locking device is in place nor can they be fitted in conjunction with such locks. Further such types of covers also fail to cover the area between the steering wheel and the windscreen which may be desirable to further shade the steering wheel column and the ignition system.

Accordingly, investigations have been carried out with a view to devising a steering wheel cover to protect steering wheels which is also, in itself, aesthetically pleasing.

### **Summary of the invention**

According to the invention there is provided a steering wheel shade cover including a first portion shaped substantially to shade the front face of a steering wheel, a second portion shaped to shade at least a portion of the rear face of said steering wheel said cover also including retaining means to locate the cover on the steering wheel and in use allow the cover to be readily removable.

In a further embodiment the retaining means is an elasticised strip forming a lower part of the first portion.

In a further embodiment the retaining means is a third portion connecting the first portion and the second portion such that, in use, the third portion lies on top of the steering wheel and retains the cover in place by means of gravity.

In a further embodiment one or more of the portions is made from a material which is substantially reflective to radiate heat.

In a further embodiment there is provided a steering wheel cover for a vehicle including a first portion adapted to fit around and cover a steering wheel and a second portion attached to part of the first portion which in use may extend between the steering wheel and the dashboard of the vehicle.

In a further embodiment the first portion is substantially circular.

In another preferred embodiment the steering wheel cover is cap shaped having a main body and a peak wherein the first portion is the main body of the cap and is adapted to fit around and cover the steering wheel and the second portion is the peak.

- 5 In another preferred embodiment a part of the circumference of the main body is elasticised so as to provide a firm fit around the steering wheel.

In another preferred embodiment the main body is generally hemispherical and comprises four substantially equal sized panels of approximately triangular shape .

- 10 In another preferred embodiment the steering wheel cover includes a first portion adapted to cover a steering wheel and a second portion connected to part of the first portion to form a pocket to receive at least a portion of the steering wheel.

- 15 In another preferred embodiment the steering wheel cover further includes an elongate spacer strip having one longitudinal edge connected to the first portion and the other longitudinal edge connected to the second portion, the first portion, second portion and the spacer strip forming the pocket.

In another preferred embodiment the elongate spacer strip has a width approximating the width of the steering wheel.

In another preferred embodiment the cover further includes at least one aperture to receive a portion of a steering wheel lock.

- 20 In another preferred embodiment the cover has two apertures each to receive a portion of a steering wheel lock. Preferably the aperture or apertures are in the spacer strip.

- 25 The cover may be manufactured from any material which substantially blocks the transmission of heat and light. Such a material may vary from a fine netting to a woven cloth. Synthetic materials may also be suitable. Material which reflects heat and light is advantageous in certain applications.

#### **Brief description of the drawings**

The invention is now further illustrated with reference to the accompanying drawings in which:

- Figure 1 is a perspective view of a first steering wheel cover according to the invention.
- 30 Figure 2 is a plan view of the first embodiment of the invention as illustrated in figure 1.
- Figure 3 is a side view of the first embodiment of the invention as illustrated in figure 1.
- Figure 4 is a perspective view of a second embodiment of the invention.

Figure 5 is a perspective view of the first embodiment of the invention in use.

Figure 6 is a front plan view of a third embodiment of a steering wheel cover according to the invention.

Figure 7 is a rear plan view of the third embodiment of the invention.

5 Figure 8 is a perspective view of the third embodiment.

Figure 9 is a front plan view of the third embodiment and steering wheel (shown in outline) when the steering wheel cover is in place.

Figures 1, 2 and 3 show a steering wheel cover 1 which comprises a first portion 2 and a second peak portion 3. Peak portion 3 and first portion 2 are joined along seam 4.

10 It can readily be seen that in this embodiment steering wheel cover 1 is recognisable as a cap in shape. Portion 2 comprises front panel 5 and two side panels 6 and 7. Further, a portion 9 of the circumference of portion 2 is elasticised.

Figure 4 illustrates a different form of the invention where the first portion 2 comprises four equally sized substantially triangular panels 10.

15 Figure 5 illustrates the first embodiment of the invention in use. The first portion 2 is placed over the steering wheel in an orientation such that the second portion is able to rest on the top of the dashboard of the vehicle. In other vehicles, the design of the steering wheel and the steering column may be such that the second portion hangs down between the steering wheel and the dashboard. In this situation, the second portion would still  
20 protect the back of the steering wheel from direct sunlight and a portion of the steering column and any associated ignition electric circuits thereby reducing their temperature.

As shown in the drawings figures 6 - 9 the steering wheel cover of the third embodiment 11 comprises a front face 12 having an upper edge 13 approximating the shape of an upper  
25 portion 14 of steering wheel 15. A rear face 16 is of semi-circular shape the edge of which also approximates the upper portion 14 of steering wheel 15. A spacer strip 17 interconnects front face 12 and rear face 16 to form a pocket 18 to receive the upper edge 14 of steering wheel 15.

The spacer strip 17 is provided with openings 19 and 20 to receive the tubular portion 21 of lock 22.

30 As front face 12 covers the front of steering wheel 15 it shields that front face 15 and a substantial part of lock 22 from direct sunlight. Spacer strip 17 and rear face 16 further shield upper edge 14 and the rear of steering wheel 15 from direct sunlight.

The steering wheel cover 11 may be made of any suitable material such as cotton and nylon. For certain applications it may also be advantageous to construct the cover partially or completely from material which reflects radiant heat and light.

Typically front face 12, rear face 16 and spacer strip 17 are stitched together along their perimeters to form the pocket 18.

Steering wheel cover 11 can be applied either before or after the lock 22 is put in place across steering wheel 15.

In the former case the steering wheel cover is inserted over the upper edge 14 of steering wheel 15. Lock 22 is then also inserted within pocket 18 and arm 21 is telescopically extended through opening 19 and/or 20. Lock 22 is then locked into position.

In the latter case lock 22 is placed into locked position across steering wheel 15. Opening 19 is inserted over the extended portion of arm 21 and thereafter the remainder of pocket 18 is placed over the upper edge 14 of steering wheel 15. Opening 20 may then be placed over the other end of lock 22.

The steering wheel cover of the first and second embodiments may also be provided with openings equivalent to openings 19 and 20 in the third embodiment so that these covers may be used with telescopically extending steering locks.

**The invention is defined by the following claims:**

1. A steering wheel shade cover including a first portion shaped substantially to shade the front face of a steering wheel, a second portion shaped to shade at least a portion of the rear face of said steering wheel said cover also including retaining means to  
5 locate the cover on the steering wheel and in use allow the cover to be readily removable.
2. A steering wheel shade cover according to claim 1 in which the retaining means is an elasticised strip forming a lower part of the first portion.
3. A steering wheel shade cover according to claim 1 in which the retaining means is a  
10 third portion connecting the first portion and the second portion such that, in use, the third portion lies on top of the steering wheel and retains the cover in place by means of gravity.
4. A steering wheel shade cover according to any one of the preceding claims in which one or more of the portions is made from a material which is substantially reflective  
15 to radiant heat.
5. A steering wheel shade cover according to claim 2 or 4 in which the second portion may extend between the steering wheel and the dashboard of the vehicle.
6. A steering wheel shade cover according to claim 5 wherein the first portion is substantially circular.
- 20 7. A steering wheel shade cover according to either claim 5 or 6, which steering wheel shade cover is cap shaped having a main body and a peak wherein the first portion is the main body of the cap and is adapted to fit around and cover the steering wheel and the second portion is the peak of the cap.
8. A steering wheel shade cover according to claim 7 wherein the main body is  
25 generally hemispherical and comprises four substantially equal sized panels of approximately triangular shape .
9. A steering wheel shade cover according to claim 3 including a first portion adapted to cover a steering wheel and a second portion connected to part of the first portion to form a pocket to receive at least a portion of the steering wheel.
- 30 10. A steering wheel shade cover according to claim 9 wherein the third portion of the cover includes an elongate spacer strip having one longitudinal edge connected to the first portion and the other longitudinal edge connected to the second portion, the first portion, second portion and the spacer strip forming the pocket.



11. A steering wheel shade cover according to claim 10 wherein the elongate spacer strip has a width approximating the thickness of the steering wheel rim.
12. A steering wheel shade cover according to any one of claims 1 to 11 wherein the cover further includes at least one aperture to receive a portion of a steering wheel lock.
- 5 13. A steering wheel shade cover according to claim 12 wherein the cover has two apertures each of which is adapted to receive a portion of a steering wheel lock.
14. A steering wheel shade cover according to claims 10 to 13 wherein the aperture or apertures are in the spacer strip.

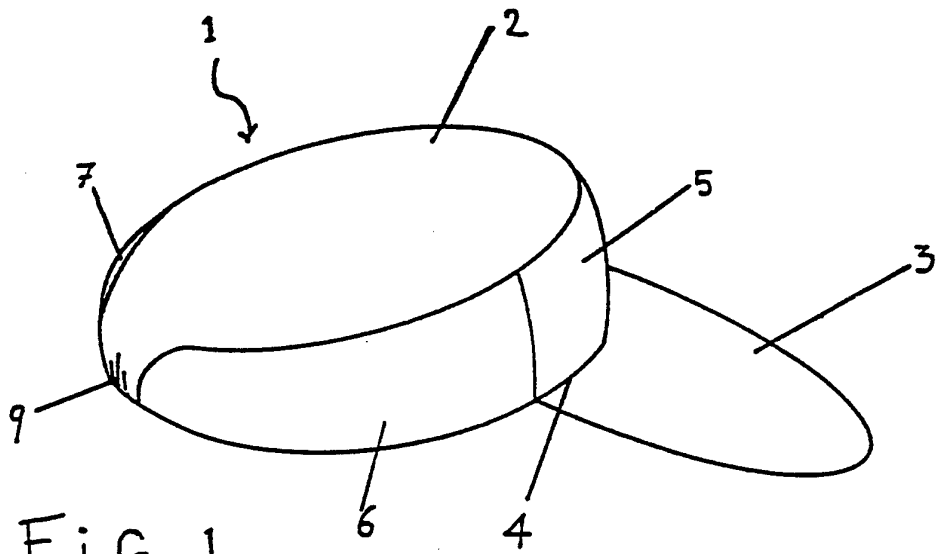


FIG. 1

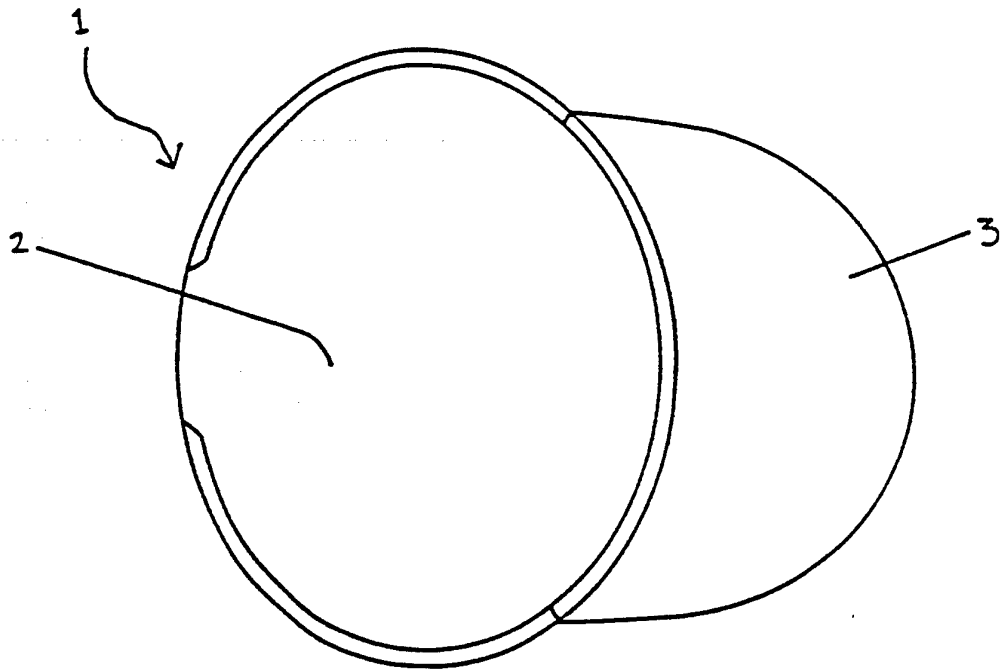


FIG. 2

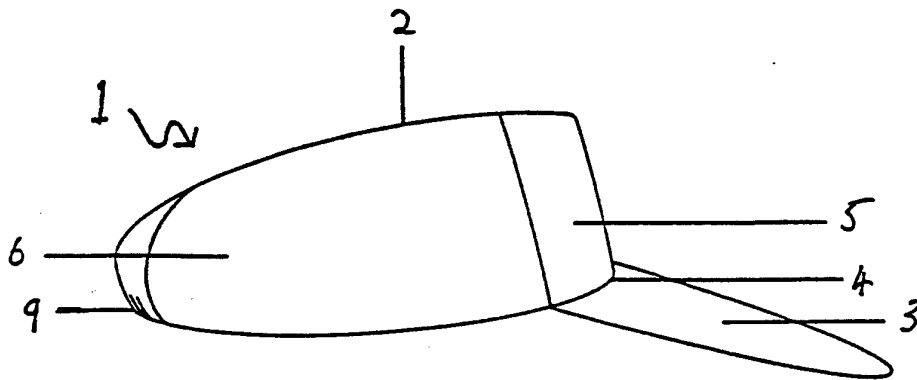


Fig 3

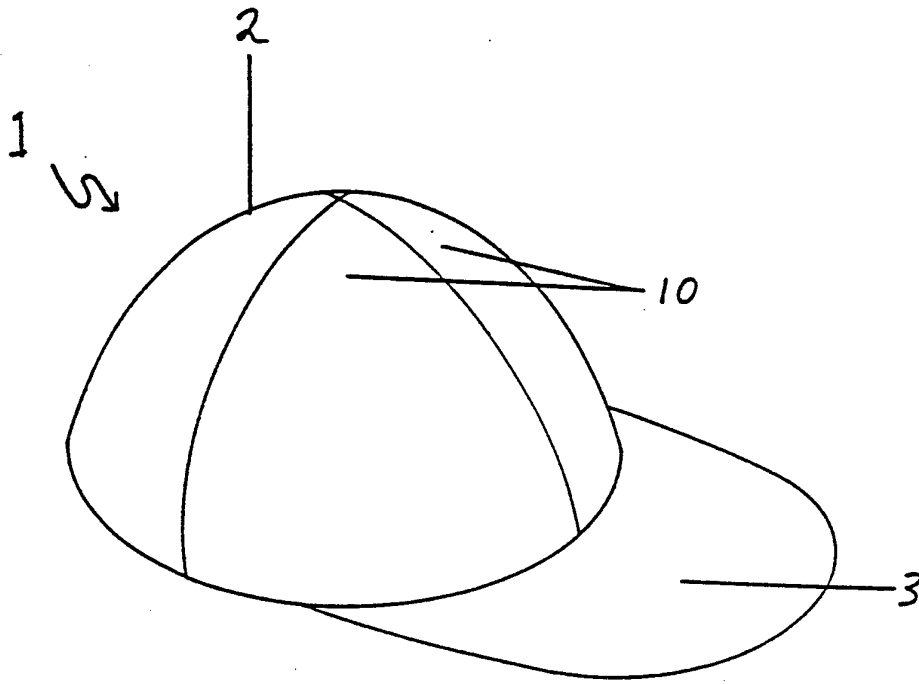


Fig 4

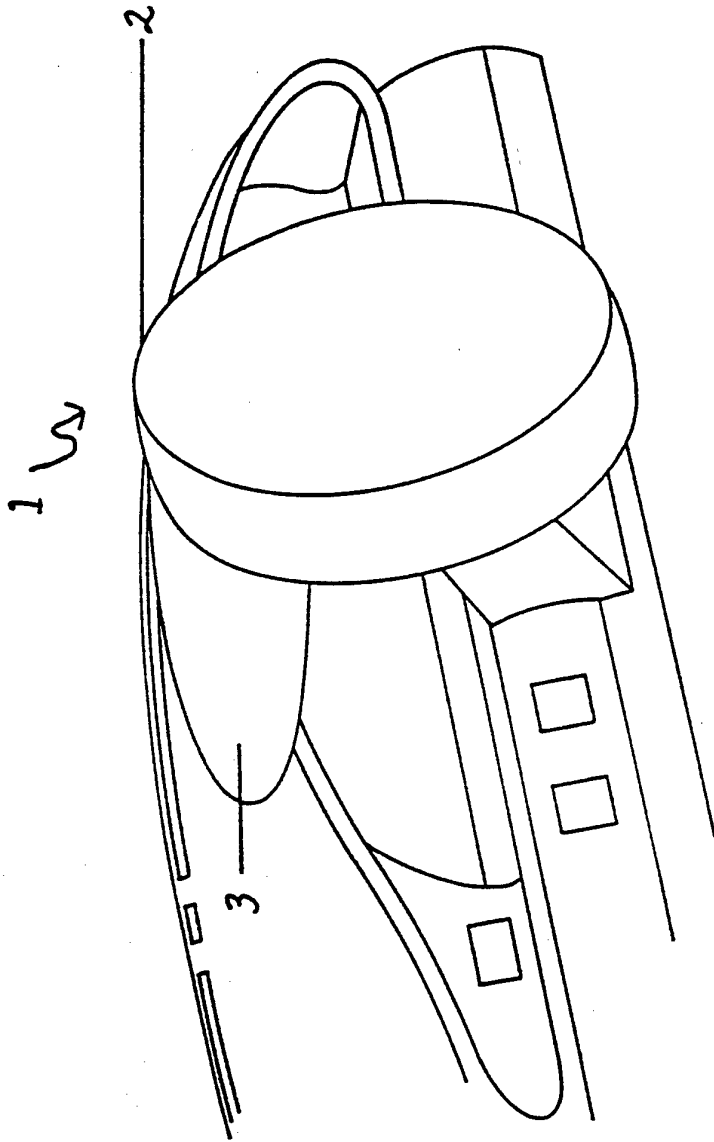


Fig. 5

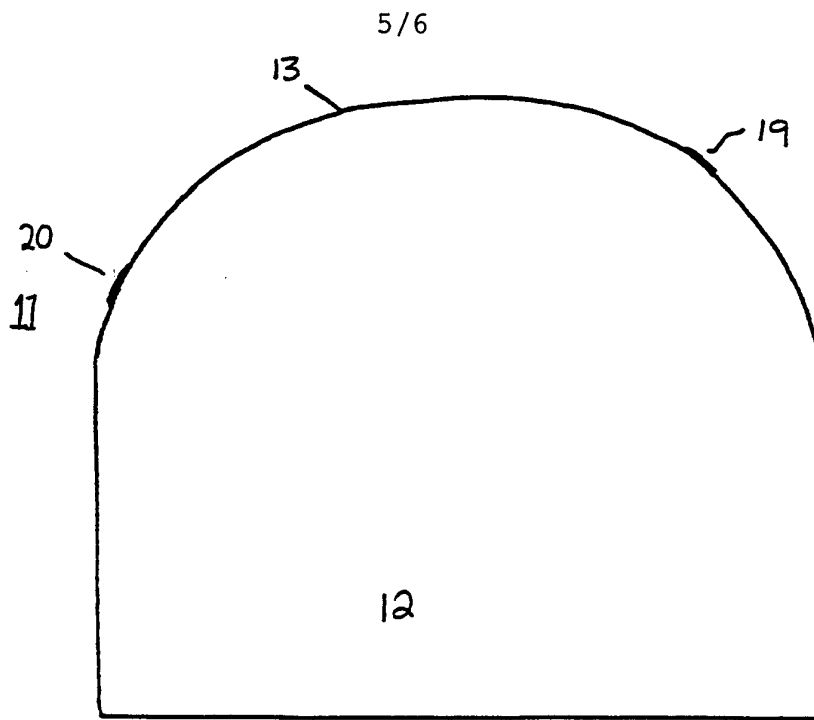


Fig. 6

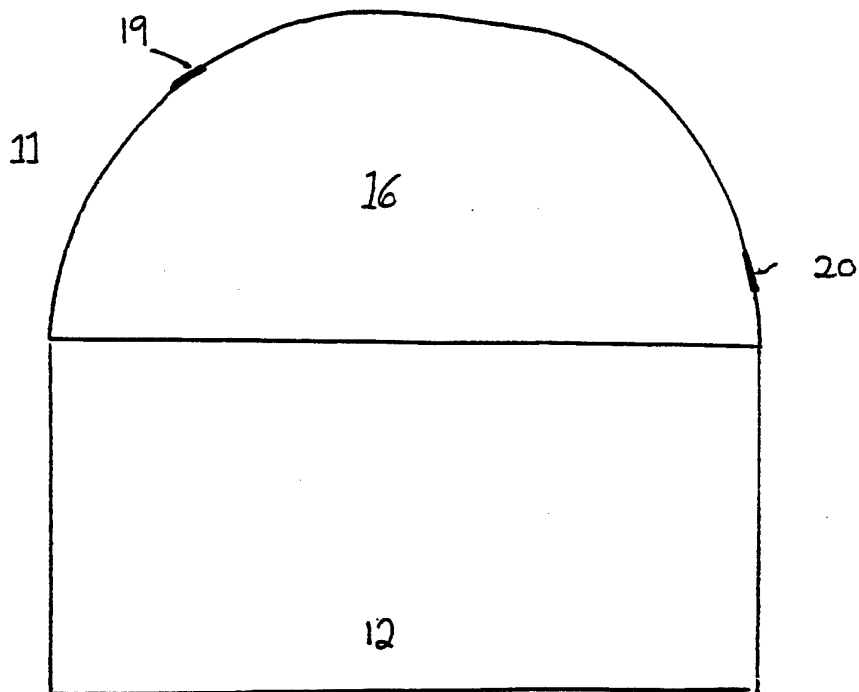


Fig 7

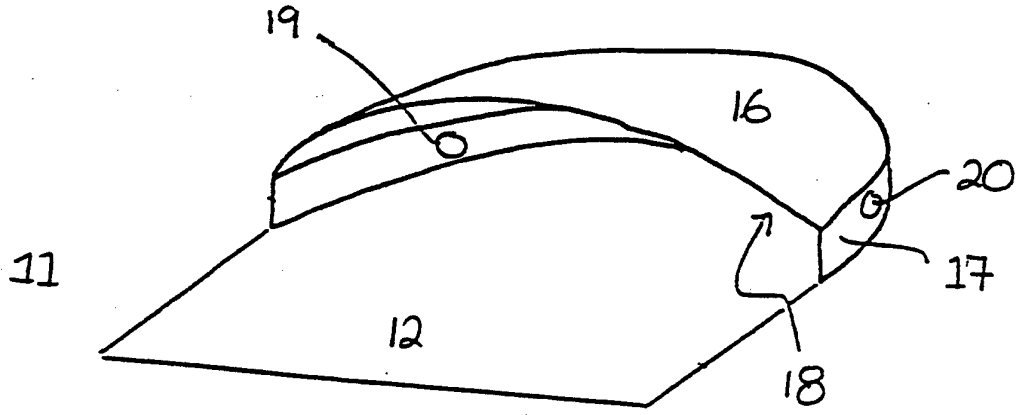


Fig. 8

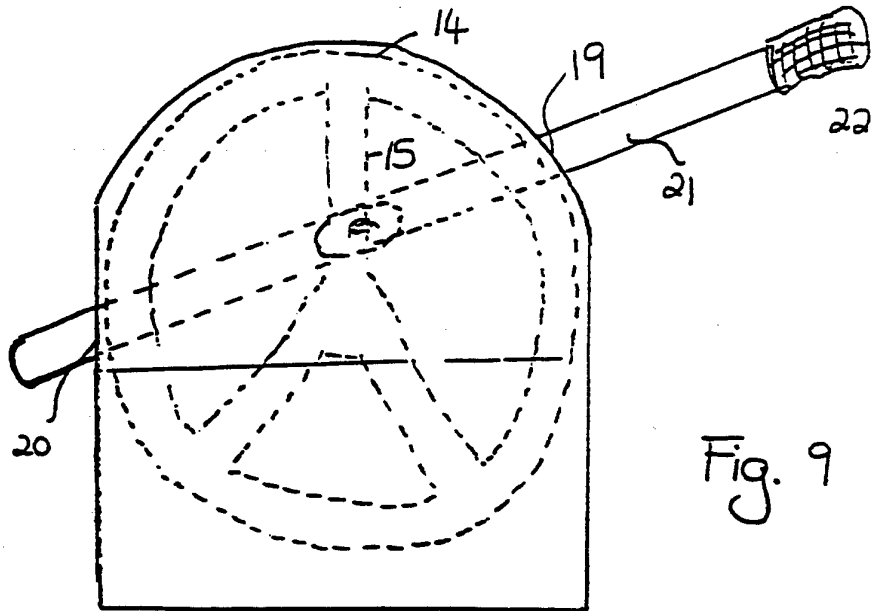
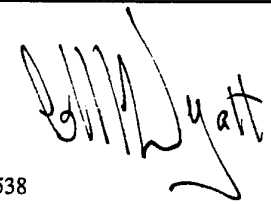


Fig. 9

<p><b>A. CLASSIFICATION OF SUBJECT MATTER</b> Int. Cl.<sup>6</sup> B62D 1/06</p> <p>According to International Patent Classification (IPC) or to both national classification and IPC</p>																								
<p><b>B. FIELDS SEARCHED</b></p> <p>Minimum documentation searched (classification system followed by classification symbols) IPC B62D 1/06, B60R 27/00</p> <p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched AU: IPC as above</p> <p>Electronic data base consulted during the international search (name of data base, and where practicable, search terms used) DERWENT</p>																								
<p><b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b></p> <table border="1"> <thead> <tr> <th>Category*</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to Claim No.</th> </tr> </thead> <tbody> <tr> <td>X</td> <td>US,A, 5014570 (FOGERTY JR) 14 May 1991 (14.05.91) column 1, line 55-column 2, line 6 and figures</td> <td>1, 3, 9-11</td> </tr> <tr> <td>X</td> <td>US,A, 4685499 (BLACK) 11 August 1987 (11.08.87) column 2, line 49-column 3, line 2 and figures</td> <td>1, 3, 9-11</td> </tr> <tr> <td>X</td> <td>US,A, 4458738 (WILSON) 10 July 1984 (10.07.84) column 2, line 39-column 3, line 5 and figures</td> <td>1, 3, 9-11</td> </tr> </tbody> </table> <p><input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.      <input type="checkbox"/> See patent family annex.</p> <p>* Special categories of cited documents :</p> <table border="0"> <tr> <td>"A" document defining the general state of the art which is not considered to be of particular relevance</td> <td>"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</td> </tr> <tr> <td>"E" earlier document but published on or after the international filing date</td> <td>"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</td> </tr> <tr> <td>"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)</td> <td>"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</td> </tr> <tr> <td>"O" document referring to an oral disclosure, use, exhibition or other means</td> <td>"&amp;" document member of the same patent family</td> </tr> <tr> <td>"P" document published prior to the international filing date but later than the priority date claimed</td> <td></td> </tr> </table>			Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to Claim No.	X	US,A, 5014570 (FOGERTY JR) 14 May 1991 (14.05.91) column 1, line 55-column 2, line 6 and figures	1, 3, 9-11	X	US,A, 4685499 (BLACK) 11 August 1987 (11.08.87) column 2, line 49-column 3, line 2 and figures	1, 3, 9-11	X	US,A, 4458738 (WILSON) 10 July 1984 (10.07.84) column 2, line 39-column 3, line 5 and figures	1, 3, 9-11	"A" document defining the general state of the art which is not considered to be of particular relevance	"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	"E" earlier document but published on or after the international filing date	"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	"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)	"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	"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family	"P" document published prior to the international filing date but later than the priority date claimed	
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Date of the actual completion of the international search 17 October 1994 (17.10.94)		Date of mailing of the international search report 24 Oct 1994 (24.10.94)																						
Name and mailing address of the ISA/AU AUSTRALIAN INDUSTRIAL PROPERTY ORGANISATION PO BOX 200 WODEN ACT 2606 AUSTRALIA Facsimile No. 06 2853929		Authorized officer  C M WYATT Telephone No. (06) 2832538																						



C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
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X	DE,A, 2622427 (KUBORN) 24 November 1977 (24.11.77) page 5, line 12-page 9, line 11	1, 4
X	US,A, 1997738 (MAXEDON et al) 16 April 1935 (16.04.35) whole document	1
X	US,A, 1927913 (BENNETT) 26 September 1933 (26.09.33) column 2, lines 69-95 and figures	1