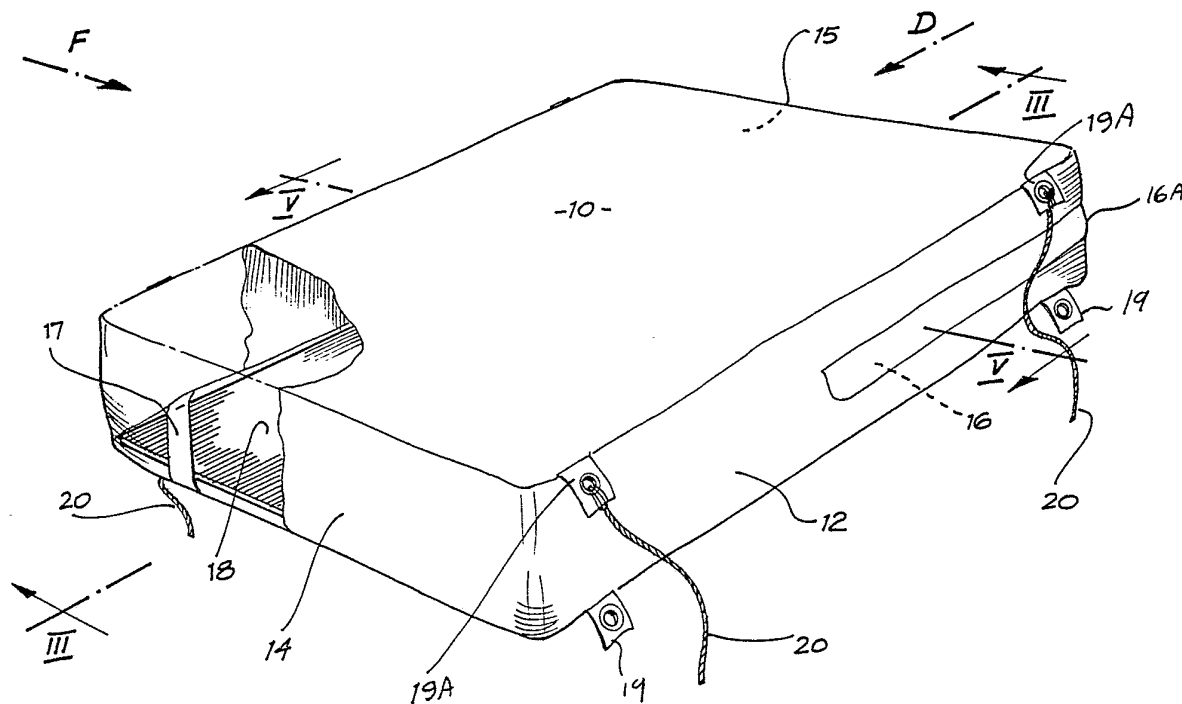




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(54) Title: PROTECTIVE COVERS



(57) Abstract

A protective cover or bag particularly suitable for use on the roof rack of a motor vehicle. The bottom portion (11) of the bag is supported and tensioned by a stiff sheet base element (18) engaged by corner gussets (17), and tied down and tensioned by lower tags (19). The bag is loaded through a zip fastener (16) and the top portion of the bag (10) is transversely tensioned by tie-down lines (20) on upper tags (19A).

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"PROTECTIVE COVERS"TECHNICAL FIELD

The present invention relates to protective covers and more particularly is concerned with protective luggage covers suitable for use on vehicles and the like. In this specification the expression "vehicles" shall mean any form of vehicle, whether a car, trailer, truck, motorcycle or otherwise.

BACKGROUND ART

For illustrative purposes only, the invention will be described with respect to the common problem of carrying luggage on the exterior of a car or the like, for example on the roof of the vehicle. Frequently cars are fitted with roof bars or roof racks (which may be fixed or removable), so that a load may be carried on the roof area of the vehicle and it is desirable that the contents of the load be protected from the weather as well as being secured reliably, especially if the vehicle is to be driven at relatively high speeds on the open road.

Commonly, articles such as suitcases and bags are simply tied with rope onto a roof rack, but this is a cumbersome and time consuming operation and ropes may well work loose, particularly if an unskilled and inexperienced person ties the load down; furthermore, no protection against the weather is afforded. To deal with this problem, it is common practice to wrap the articles individually or together with a suitable protective sheet such as a tarpaulin, but this presents an even greater problem in terms of loading and securing the tarpaulin in place. Frequently the tarpaulin will not be completely secured and as a result will rapidly fray or tear due to flapping in the wind as the vehicle moves and, apart from the nuisance of noise, little or no protection to the luggage is often achieved.

A more sophisticated solution involves the very substantial expense of securing to a roof rack or roof



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bars a rigid enclosure which, for example, may be capable of being opened like a suitcase or the like. Such enclosures may have weatherproof seals to protect the contents of the enclosure. However, these enclosures are very expensive and bulky to store when empty, and it is considered that there is a need for new and useful alternatives to such known arrangements. In particular, it would be desirable to produce an economically manufactured device which can easily be installed and removed, and yet be effective in use. Despite this longstanding requirement, the applicant is not aware of any effective solutions, and the present invention is aimed at dealing at least in part with these requirements.

DISCLOSURE OF THE INVENTION

According to the present invention, there is provided a luggage bag for mounting on a support surface of a vehicle such as a roof and for protecting and securing in position luggage, the luggage bag comprising a flexible body having top and bottom portions and capable of being opened and closed by closure means to protect the luggage from the surrounding environment. A substantially stiff sheet base element located in or on the bottom portion so as to hold the bottom portion substantially flat in use, lower connection means adapted to secure the bottom portion to the vehicle, and upper connection means adapted to be secured to the vehicle on either side of the bag and arranged to apply transverse tension to the top portion of the bag.

It has been found that the above combination of features can permit safe, secure and easy attachment of a luggage bag to a vehicle, especially if the bag is in an exposed location such as on the roof of a vehicle.

The base element may have various different forms, but is preferably removable from the bag, either in one piece or in several sections.

With great advantage in terms of economics and convenience, the luggage bag is fabricated to a



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rectangular configuration from a flexible weather resistant material incorporating gussets in the corners of the bottom portion into which the corners of the base element extend to apply the necessary tension to hold the bottom portion flat. For this purpose the base element is preferably a slightly flexible sheet such as water resistant fibreboard a few millimetres thick, but nevertheless is relatively stiff compared to the flexible body of the bag.

10 Preferably, the luggage bag is formed in a generally rectangular manner from panels of fabric such as waterproof ultraviolet resistant material.

The closure means is preferably a zip extending approximately halfway around the sides of the bag to provide easy access.

15 Especially for use on cars having integrally formed car roof racks having strips fixed to the car roof to protect paintwork from a load carried thereon and having longitudinal side rails for the attachment of securing ropes and the like, the invention can be implemented in a preferred embodiment wherein the bag is of generally flat rectangular form with a closable opening extending around the rear and the rear sidewall portions. Especially for this embodiment the connection means may incorporate securing points for the tie-down ropes secured at spaced points along the respective sides of the luggage bag.

BRIEF DESCRIPTION OF DRAWINGS

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

30 Figure 1 is a perspective view from the front of a luggage bag embodying the invention for use on a car roof rack;

Figure 2 is a side view of the luggage bag of Figure 1 taken in the direction of arrow F;

Figure 3 is a longitudinal sectional view through the bag of Figure 1 and taken along the line III-III;

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Figure 4 is a rear end view in the direction of arrow D illustrating the luggage bag when mounted on the roof of a car with an integral roof rack fixed to the car; and

5 Figure 5 is a transverse cross-sectional view taken along the line V-V of Figure 1.

MODES FOR CARRYING OUT THE INVENTION

The luggage bag is fabricated from cut sheets of ultra-violet resistant, weatherproof flexible fabric such as a plastic coated woven fabric or the like which is tough and strong, and the junctions between the panels of the luggage bag can be formed by either stitching or, more preferably, by heat rolling. The bag comprises rectangular top and bottom portions in the form of panels 10 and 11, longitudinal side walls 12, 13, a front end wall 14 and a rear end wall 15, the rear portion of the bag being adapted to be opened and closed by virtue of a zipper 16 which is preferably protected by a flap 16A and which extends around the rear and along the rear side wall portions.

The bag is further provided with a base element 18 of substantially stiff sheet material such as water-resistant fibreboard. It is preferred, however, that the base element is sufficiently elastically flexible so that the base element may be curved or bent for insertion into the base of the bag as will now be described. The corners of the interior of the bag adjacent the bottom portion 11 are provided with gussets 17 in the form of diagonal straps welded or otherwise secured across the corners of the bag. To insert the base element 18 into the bag the two leading corners are inserted under the gussets 17 at the front of the bag as may be clearly seen in Figure 1, the base element sheet is bowed, the rear corners are aligned to slide under the gussets 17 in the rear corners of the bag, and the base element is allowed to flatten out tensioning the bottom portion 11 of the flexible bag. In this manner the base

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element 18 is held securely in place by the corner gussets 17 while at the same time tensioning and providing shape to the bottom portion of the bag. It will be appreciated that although the gussets have been described by way of corner straps 17 they may take many other forms, for example as full width pockets at either end of the bag.

The base element 18 may also be provided in more than one part, and may typically be joined transversely across the mid-section of the base element. The two halves of a base element of this nature may either be completely separable or may be joined by a hinge line. This configuration is particularly suitable for use with a small vehicle where the base element may be removed from the bag, reduced in size by separation or folding, and conveniently stowed within the vehicle when the bag is removed from the roof rack.

The bottom portion of the bag is provided with four lower connection means in the form of tags 19 which may conveniently be provided with eyelets to enable ropes to be fastened to the tags to secure the bottom portion of the bag to the vehicle. In the configuration shown in Figure 4 the roof of a vehicle 20 is provided with a permanent roof rack having upright corner posts 22 supporting a perimeter rail 23. Roof racks of this type are normally also provided with longitudinal parallel strips 21 attached to the roof of the car for the protection of the roof and for the support of the load carried by the roof rack. The base portion of the bag is conveniently attached to such a roof rack by tying the tie-down ropes from lower tags 19 to the perimeter rail 23. The base element 18 bridges across the longitudinal rails 21 and prevents sagging of the bag between the rails, further protecting the roof of the vehicle and distributing the load evenly over the longitudinal rails 21.

The bag is further provided with upper connection

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means in the form of tags 19A, of a similar configuration to the tags 19 and which are conveniently provided with tie-down and tensioning ropes 20. In use when the bag is mounted on the roof rack of a vehicle as described above with reference to Figure 4 the tie-down ropes 20 are tensioned by tying firmly to the perimeter rail 23 on either side of the bag, applying a transverse tension to the top portion 10. In this manner the load is securely restrained within the bag and the top portion 10 is prevented from billowing due to wind force at high speed of the vehicle.

In a further form of the invention the base element 18 may be reinforced in a longitudinal direction or manufactured from a very stiff material so that the bag may be mounted on a roof rack of the type simply incorporating two transverse bars across the roof of the vehicle. The bars are located in line with the tags 19 and 19A which are tied to the respective bars.

Thus, at least in a preferred embodiment, the invention can provide numerous advantages including:

- (a) Easy, fast and secure attachment of the luggage bag to a car can be achieved, especially when an integral car roof rack is to be used.
- (b) When not required, the empty luggage bag can easily and quickly be removed and stowed inside a vehicle or elsewhere.
- (c) The capacity of the bag can be considerable, yet the means for applying the tension and the system for securing the bag to the roof rack is such that even with a partial load the bag is securely held in position without disadvantageous wind noise being generated by flapping fabric.
- (d) The luggage bag may be secured by ties to side rails of a car roof rack and will remain securely and safely in position even at high road speeds without any specific tie downs at the front or rear of the bag.



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- (e) The luggage bag can readily be made of weatherproof materials which can fully protect the luggage in normal use from rain, sun and dust.

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CLAIMS

1. A luggage bag for mounting on a support surface of a vehicle such as a roof and for protecting and securing in position luggage, the luggage bag
5 comprising a flexible body having top and bottom portions and capable of being opened and closed by closure means to protect the luggage from the surrounding environment, a substantially stiff sheet base element located in or on the bottom portion so as to hold the bottom portion
10 substantially flat in use, lower connection means adapted to secure the bottom portion to the vehicle, and upper connection means adapted to be secured to the vehicle on either side of the bag and arranged to apply transverse tension to the top portion of the bag.

15 2. A luggage bag as claimed in claim 1 wherein the base element is removable from the remainder of the bag.

3. A luggage bag as claimed in claim 2 wherein the interior of the bag is provided with gussets or
20 pockets located adjacent the bottom portion to receive and locate the corners or edges of the base element.

4. A luggage bag as claimed in claim 3 wherein the bag is substantially rectangular in plan form having rectangular top and bottom portions spaced by side and
25 end walls and a rectangular base element, and wherein the gussets form diagonal straps across the corners of the bag to locate the corners of the base element.

5. A luggage bag as claimed in claim 3 wherein the base element is sufficiently elastically flexible to
30 enable it to be bent for insertion of the corners or edges into the pockets or gussets.

6. A luggage bag as claimed in claim 1 wherein the upper and lower connection means comprise tags secured at or adjacent the side edges of the top and
35 bottom portions respectively, each tag having fixed thereto, or incorporating attachment means for, tie-down tendons.



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7. A luggage bag as claimed in claim 3 wherein the closure means comprise a zip fastener extending at least across the rear end wall and part way down the side walls.

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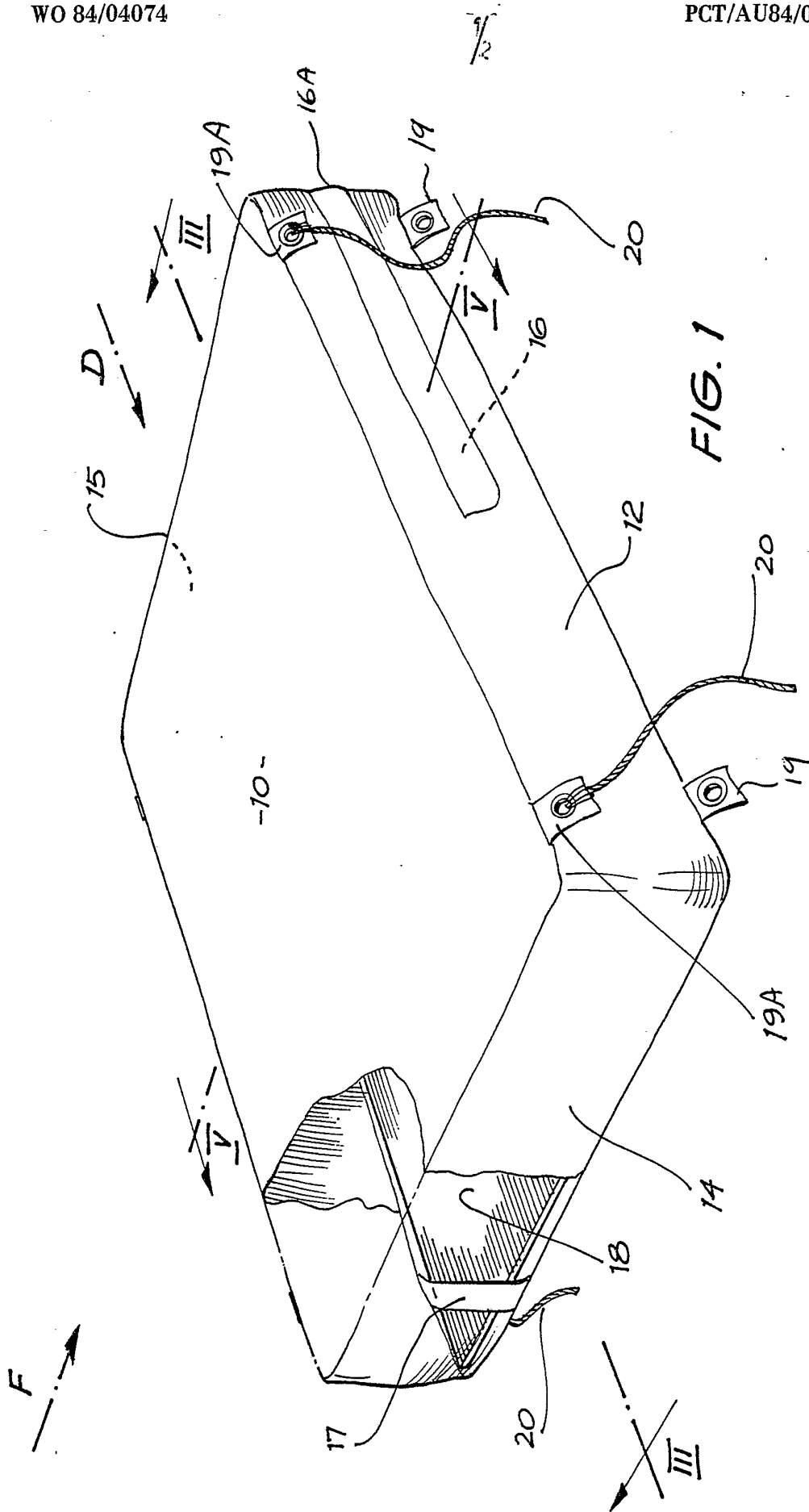


FIG. 1

FIG. 2

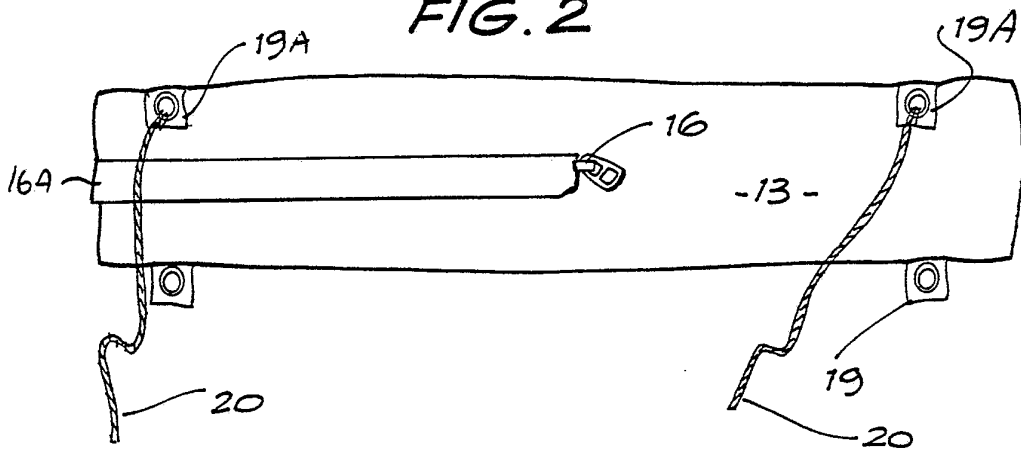


FIG. 3

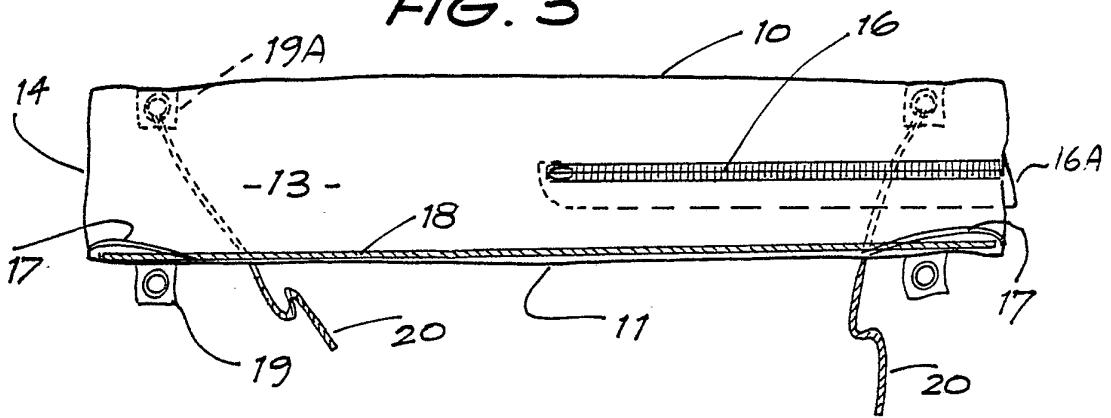


FIG. 4

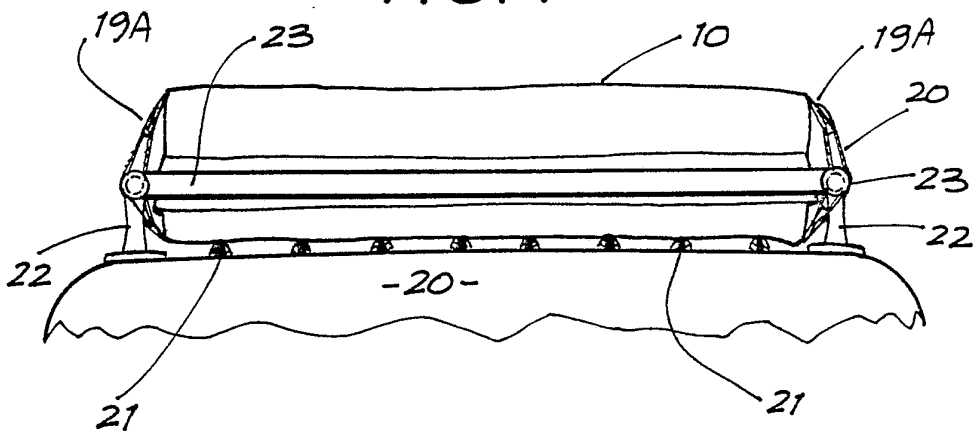
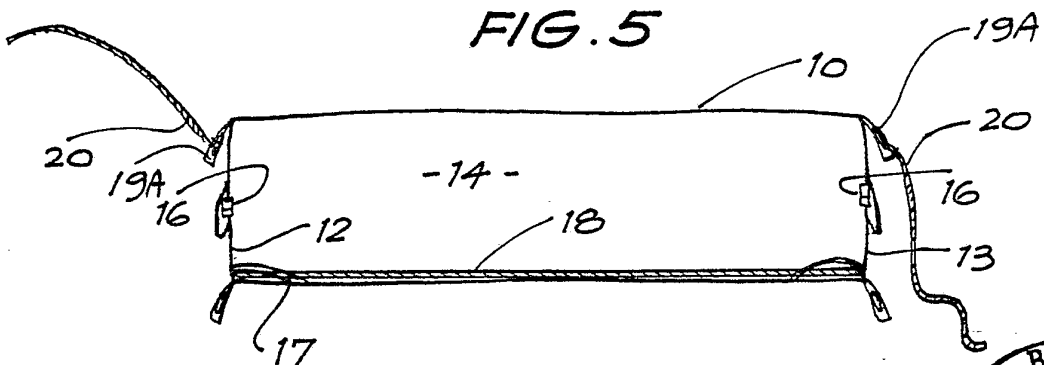


FIG. 5



INTERNATIONAL SEARCH REPORT

International Application No PCT/AU84/00063

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) ³		
According to International Patent Classification (IPC) or to both National Classification and IPC		
Int. Cl. ³ B60R 9/04		
II. FIELDS SEARCHED		
Minimum Documentation Searched ⁴		
Classification System	Classification Symbols	
IPC	B60R 9/04	
Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched ⁵		
AU : IPC as above; Australian Classification 94.9, 94.92, 94.921, 93.29		
III. DOCUMENTS CONSIDERED TO BE RELEVANT ¹⁴		
Category ⁶	Citation of Document, ¹⁵ with indication, where appropriate, of the relevant passages ¹⁷	Relevant to Claim No. ¹⁸
X	US, A, 2105989 (RUSH) 18 January 1938 (10.01.38)	(1-7)
X	US, A, 2196341 (RUSH) 9 April 1940 (09.04.40)	(1-7)
X	US, A, 2454608 (MEYERDICK) 23 November 1948 (23.11.48)	(1-7)
X	GB, A, 1177374 (STOCKI) 14 January 1970 (14.01.70)	(1-7)
X	US, A, 4050614 (SIMPSON) 27 September 1977 (27.09.77)	(1-7)
X	GB, A, 724687 (HANSEN) 23 February 1955 (23.02.55)	(1-7)
X	GB, A, 2045185 (ELSEGOOD) 29 October 1980 (29.10.80)	(1-7)
X	FR, A, 1147612 (DUBOIS) 27 November 1957 (22.11.57)	(1-7)
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X	DE, A, 2442104 (LEBRIJA GARDENAS) 13 March 1975 (13.03.75)	(1-7)
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Date of the Actual Completion of the International Search ¹	Date of Mailing of this International Search Report ²	
28 June 1984 (28.06.84)	(02-07-84) 2, JULY 1984	
International Searching Authority ¹	Signature of Authorized Officer ²⁰	
AUSTRALIAN PATENT OFFICE	A. S. Moore <i>A. S. Moore</i>	

ANNEX TO THE INTERNATIONAL SEARCH REPORT ON
INTERNATIONAL APPLICATION NO. PCT/AU PCT/AU84/00063

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document
Cited in Search
Report

Patent Family Members

GB 2045185

GB 2041304

FR 2411732

BE 866509

DE 2823183

NL 7714037

END OF ANNEX