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(56) Documents Cited

**GB 2183483 A GB 2161704 A GB 1454292 A**  
**GB 1302522 A EP 0614622 A1 EP 0200822 A1**  
**EP 0170947 A1 WO 93/17859 A1 WO 83/03195 A1**  
**US 5590430 A US 3663973 A**

(58) Field of Search

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**Online : EDOC,WPI,CLAIMS**

(54) Abstract Title

**Viscous fluid filled seat cushion**

(57) A seat cushion which automatically adjusts its shape to a person comprises a flexible, inelastic or elastomeric impermeable sealed membrane containing a viscous substance which distorts slowly under pressure, eg based on polydimethylsiloxane gum or glycerine. The cushion should be supported by a firm base or tray.

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## SEAT CUSHION

This invention relates to a seat cushion which may be integrated into seat padding or be a separate item placed on a seating surface for comfort.

Padded seats and cushions are well known for providing comfort for seated persons but when used for long periods of time discomfort occurs due to the weight of the human body being borne on a limited area of the anatomy.

This discomfort arises out of the seat not having been "tailor made" to match the individual anatomy of the seated person and out of the necessity for seats to provide a firm base for persons occupied in driving vehicles, operating machinery, typing or engaged in any prolonged seated occupation or leisure activity.

The object of the present invention is to provide a seat cushion which automatically adjusts its shape to conform to the individual physique of the person seated thereby equalising the load throughout the seated part of the anatomy thus relieving painful pressure loading on limited parts of the body and at the same time providing a firm support which does not change shape with sudden or brief movement.

Accordingly, this invention comprises a cushion in the form of a flexible, impermeable sealed membrane forming an envelope or bag of any convenient shape or size containing a viscous substance which distorts slowly under pressure, principally Polydimethylesiloxane gum with preparatory Boron or similar filler or the cushion bag may contain Glycerine mixed with Fullers Earth or the cushion bag may contain other materials with similar viscous properties.

The cushion bag if made of an inelastic membrane is not filled to capacity with the viscous substance but is partially filled to allow it to distort under load to conform to the shape of the seated person. If the cushion bag is made of elastic membrane it may be completely filled with the viscous substance since the elastic envelope will allow it to distort under load to conform to the shape of the seated person. The cushion bag should be supported by a firm base or tray in the seat.

The various shapes and appearance of seat cushions are so well known that drawings are not necessary to describe this invention.

## CLAIMS

- 1 A seat cushion comprising a flexible, impermeable sealed membrane forming an envelope or bag containing a viscous substance which distorts slowly under external pressure.
- 2 A seat cushion as claimed in Claim 1 wherein the viscous substance comprises Polydimethylsiloxane gum mixed with Boron or similar filler.
- 3 A seat cushion as claimed in Claim 1 wherein the viscous substance comprises Glycerine mixed with Fullers Earth or any other viscous substance which has similar viscous properties.
- 4 A seat cushion as claimed in Claim 1 wherein the envelope or bag comprises an inelastic membrane partially filled with the viscous substance.
- 5 A seat cushion as claimed in Claim 1 wherein the envelope or bag comprises an elastic membrane completely or partially filled with the viscous substance.
- 6 A seat cushion as claimed in Claim 1 which may be of any convenient shape or size.
- 7 A seat cushion as claimed in Claim 1 which may be incorporated as padding into a seat structure or which may be a separate item to be placed on a seating surface.

**Amendments to the claims have been filed as follows**

- 1 A seat cushion comprising a flexible, impermeable sealed membrane forming an envelope or bag containing Polydimethylsiloxane gum mixed with Boron.
- 2 A seat cushion as claimed in Claim 1 wherein the envelope or bag comprises an inelastic membrane partially filled with Polydimethylsiloxane gum mixed with Boron.
- 3 A seat cushion as claimed in Claim 1 wherein the envelope or bag comprises an elastic membrane completely or partially filled with Polydimethylsiloxane gum mixed with Boron.
- 4 A seat cushion as claimed in Claim 1 which may be of any convenient shape or size.
- 5 A seat cushion as claimed in Claim 1 which may be incorporated as padding into a seat structure or which may be a separate item to be placed on a seating surface.



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Claims searched: ALL

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Patents Act 1977  
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:  
UK Cl (Ed.Q): A4M M1B8  
Int Cl (Ed.6): A47C 27/00 27/08; A61G 7/057; B60N 2/44  
Other: Online : EDOC,WPI,CLAIMS

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X	GB2183483 A SMITH & NEPHEW : Whole document	1,4,6,7
X	GB2161704 A PERRING : Whole document	1,3-7
X	GB1454292 A SEARLE : Whole document	1,4,6,7
X	GB1302522 A VALE : Whole document	1,4-7
X	EP0614622 A1 JAY MEDICAL : See especially Tables I,II,III	1,2,4-7
X	EP0200822 A1 PARKER : See especially p.2 line 4 to p.3 line 11	1,4-7
X	EP0170947 A1 HESSEL : See especially p.3 line 16	1,3,5-7
X	WO93/17859 A1 ALDEN : See especially p.2 lines 10-20, p.7 lines 7-8 and p.11 lines 1-7	1,2,4-7
X	WO83/03195 A1 JAY : See especially p.10 line 4 onwards	1,4-7
X	US5590430 A SEREBOFF : See especially column 1 lines 24-31 and Example II	1,3-7
X	US3663973 A SPENCE : See column 4 line 69 onwards	1,2,4-7

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.