(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 125 530 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
22.08.2001 Bulletin 2001/34

(51) Int Cl.[7]: **A47G 9/10**

(21) Application number: **01200386.9**

(22) Date of filing: **02.02.2001**

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **04.02.2000 NL 1014292**

(71) Applicant: **JADE B.V.**
NL-7418 EC Deventer (NL)

(72) Inventor: **Achtereekte, Marco Hendrikus Bernardus**
7421 La Deventer (NL)

(74) Representative:
Van den Heuvel, Henricus Theodorus
Octrooibureau LIOC B.V.,
P.O. Box 1514
5200 BN 's-Hertogenbosch (NL)

(54) Pillow with differently supporting segments

(57) The invention relates to a pillow (11) with a substantially rectangular form, which pillow is provided with segments (14,15) with different supporting properties, wherein a first segment adjacent to at least the middle of one of the longitudinal sides of the pillow provides great support, characterized in that at a distance from the adjacent longitudinal side of the first segment are situated second segments (14) which provide a greater support than at least one third segment (15) located between the second segments (14).

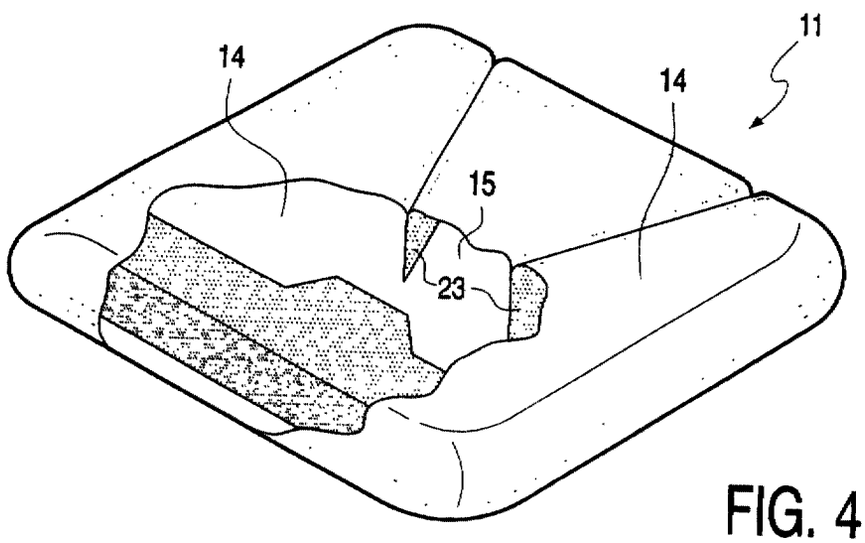

FIG. 4

EP 1 125 530 A1

Description

[0001] The invention relates to a pillow with a substantially rectangular form, which pillow is provided with segments with different supporting properties, wherein a first segment adjacent to at least the middle of one of the longitudinal sides of the pillow provides great support.

[0002] Pillows are used to support the head of a prone person. The conventional pillows consist of a single compartment in which a filling material is arranged. Since the conventional pillows support only the head, improved pillows have been developed with which the neck is also supported. A neck-cushion is arranged for this purpose close to at least one of the longitudinal sides such that the neck-cushion lies between the head and the body of a prone person when this latter rests his head on a part of the pillow which can be compared with a conventional pillow. Such a pillow is described in the German Gebrauchsmuster DE 91 08 786. The pillow described in this publication is constructed from two main compartments with differing supporting properties separated by a textile partition running substantially parallel to the longitudinal sides of the pillow. These pillows function well as long as the supported person remains lying on his back. Since a person usually turns over many times during a normal night's sleep, the existing pillow with neck-cushion offers too little comfort; a restless sleeper will sleep less well with such a pillow.

[0003] The object of the present invention is to provide a pillow of the type stated in the preamble with which the neck can also be supported in addition to the head but which, while retaining the advantages of the prior art, does not have the above described drawbacks.

[0004] The invention provides for this purpose a pillow of the type stated in the preamble wherein at a distance from the adjacent longitudinal side of the first segment are situated second segments which provide a greater support than at least one third segment located between the second segments. The first segment will thus be able to support the neck of a person when he is lying on his back, while the head is supported by a conventional part of the pillow. When the person turns over and rests partially on a shoulder, the head moves further from the lying surface. An improved comfort is obtained due to the second segments situated at a distance from the adjacent longitudinal side of the first segment. When the head is turned, the person will rest more on the shoulder, whereby for a pleasant recumbent posture the support of the head will have to be higher. In the supine position the head will after all support on the third segment of the pillow with a relatively limited degree of support (compared to the second segments). Conversely, when lying on the side the head will be displaced further sideward toward the edge of the pillow; the head is herein supported by one of the two second segments instead of by the third segment. The second segment supporting the head provides a greater degree of support and thus compensates (at least partly) the changed optimum distance of the head to the lying surface. This can result in a better sleep pattern and/or less muscular pain. For this purpose the second segments can for instance be given a thicker form than the third segment, they can be filled with a firmer material than the third segment, they can be filled with more material than the third segment, and so on.

[0005] The American patent US 5,016,303 describes a head and neck pillow which comprises a top compartment and a base compartment bearing the top compartment. The base compartment is provided with receiving means into which an element manufactured from foam is placed in order to adjust the height and hardness of the pillow. The top compartment can be folded round the base compartment and the pillow can be closed by a zip fastening. The pillow described in this patent also does not provide the functionality of the pillow according to the present invention.

[0006] The first segment parallel to the adjacent longitudinal side of the pillow preferably has a width in the order of magnitude of 15 to 37 centimetres. With this width it is possible to realize proper support of the neck of a person in supine position, while when the head turns the jaw remains clear of the first segment. A smaller width gives insufficient support of the neck and a greater width does not leave the jaw free.

[0007] The second segments can be coupled to the first segment. The second segments located some distance (preferably a distance of 4-15 centimetres) from the longitudinal side adjacent to the first segment provide the improved support sought when lying on the side. The jaw preferably undergoes as little resistance as possible from the second segments situated adjacently of the third segment and at a distance from the longitudinal side adjacent to the first segment. For simplified production and also to keep the pillow as far as possible in shape over a longer period, the first segment and the second segments can be coupled.

[0008] In yet another preferred embodiment the first segment has a greater height close to the adjacent longitudinal side of the pillow than at a distance from the adjacent longitudinal side of the pillow. The decreasing cross-sectional thickness at a greater distance from the longitudinal side adjacent to the first segment has the advantage that an even better fit with the neck can hereby be obtained and even greater comfort is thus provided.

[0009] An further improved fit with the human body can also be obtained when the second segments have a greater height than the first segment. Neck and head will after all preferably be situated at a greater distance from a mattress when a person rests on a shoulder than when he is in supine position.

[0010] At least one of the segments is preferably formed partially by a shaping element of resilient foam material. Such foam elements are advantageous and can furthermore be placed and held in position in a pillow

relatively simply. The material to be used is largely determined by the desired specifications of use of a pillow. Examples are natural latex, polyether and so on.

[0011] When a single shaping element partially determines the form of the first and second segments, the assembly of the pillow according to the invention is relatively simple. In addition, the logistics are also simpler than when all segments have to be assembled as separate components.

[0012] The pillow according to the invention can also be manufactured advantageously when a single shaping element partially determines the form of the first and third segment. This shaping element herein preferably comprises less material at the position of the third segment than at the position of the first segment. The combination of first and third segment in a single shaping element also results in the advantages already enumerated above. This shaping element can for instance be manufactured from an elongate resilient member, from which a part of the material is removed close to the ends.

[0013] The present invention will be further elucidated on the basis of the non-limitative embodiments shown in the following figures. Herein:

figure 1a shows a top view of a pillow according to the invention with schematically designated first, second and third segments,

figure 1b shows a top view of a pillow according to figure 1a, the first segment of which has an alternative embodiment,

figure 1c shows a top view of yet another embodiment variant of a pillow according to the invention with schematically designated first, second and third segments,

figure 2 is a perspective view of a partly cut-away pillow according to the invention in which a shaping element is received with which the first and second segments are substantially shaped,

figure 3 is a perspective view of a partly cut-away pillow according to the invention differing from figure 2, in which separate shaping elements are received with which the first and second segments are substantially shaped, and

figure 4 is a perspective view of yet another embodiment of a pillow according to the present invention.

[0014] Figure 1 shows a substantially rectangular pillow I with two longitudinal sides 2. A first segment 3 of pillow 1 is situated adjacently of one of the longitudinal sides 2. This first segment 3 provides a relatively great support, a support which is usually greater than the support provided by a head compartment 4. The first segment 3 has a length which is emphatically shorter than the length of longitudinal sides 2. Spaces 6 lying between the first segment 3 and the short sides 5 of the pillow can take a form comparable to the head compartment 4 or be provided with any other desired level of support, for instance a less firm support than first segment 3, so that the chin (jaw) supports only to a limited extent on pillow 1 when the head is turned. At a distance from the longitudinal side 2 of pillow 1 adjacent to first segment 3 there are provided second segments 7 between which a third segment 8 is situated. Second segments 7 are manufactured from a firmer material and/or are higher than the third segment 8 of pillow 1. The head of a person lying in supine position on pillow 1 will hereby be supported by the third segment 8 of pillow 1 while the neck is simultaneously supported by the first segment 3 of the pillow. When the person lying on pillow 1 rolls over to side position the head will be displaced to one of the second segments 7 of pillow 1. Second segments 7 provide the head of a person in side position with more support than the support which the third segment 8 provides to the head of a person in supine position. It is precisely this effect which is desired, since the head of a person lying on the side in a position with a relatively straight spine must be stabilized at a greater distance from the lying surface than the distance from the head of a person in supine position to the lying surface.

[0015] Figure 1b shows a pillow 9, the construction of which largely corresponds with that of pillow 1. Only a first segment 10 has a form differing from first segment 3 forming part of pillow 1. First segment 10 has a length which practically corresponds with the length of a longitudinal sides 2 of pillow 9. Corresponding components of pillow 9 are designated with the same reference numerals as pillow 1.

[0016] Figure 1c shows yet another variant of a pillow 11. A first segment 12 herein has a length which substantially corresponds with the length of pillow 11. First segment 12 is also provided with a projecting part 13 which is situated at about half the length. The projecting part 13 is situated on the side of the first segment 12 remote from longitudinal side 2. When a person is in supine position the neck can be firmly supported over a greater length than the neck of a person in side position; a greater length of support of the neck in side position results in a disagreeable engagement of the first segment 12 on the jaw of the prone person. Second segments 14 and third segment 15 can continue up to the longitudinal side 2 of pillow 11 located at a distance from first segment 12. While segments 14 and 15 can be formed by inserting support bodies into the pillow, they may also be formed by separate compartments of the pillow 11.

[0017] Figure 2 shows a partly cut-away pillow 16. In a pillowcase 17 is placed a shaping element 18 which is manufactured for instance from foam rubber or latex foam. Shaping element 18 provides the sought firmness of the first and second segments 3,7;10,7;12,14;20,22. First and second segments 3,7;10,7;12,14;20,22 are thus embodied integrally.

[0018] Figure 3 shows a partly cut-away pillow 19. A

shaping element 20 placed in pillow 19 has an elongate form and provides firmness to the first segment 20. A groove 21 is arranged in both ends of shaping element 20. The groove 21 is absent in the middle part of shaping element 20 not shown in this figure. Shaping element 20 is also less thick on the side directed toward the inside of pillow 19 than on the side directed toward the outside. The comfort of pillow 19 is hereby increased even further. A part of a second segment 22 is also visible.

[0019] Figure 4 finally shows a partly cut-away view of a pillow 11 as shown in top view in figure 1c. The first segment 12 with projecting part 13 is manufactured from a shaping body. The second segments 14 and third segment 15 are formed by compartments of pillow 11 which for this purpose are separated from each other by means of partitions 23. Pillow 11 according to the invention is obtained by filling the second compartments 14 with more or firmer filling material than third segment 15.

[0020] Although the invention is described on the basis of only a few embodiments, it will be apparent to all that the present invention is by no means limited to the described and shown embodiments. On the contrary, many more variations are possible for a skilled person within the scope of the invention. Segments 3,7,8,10,12,20,22 can thus transpose gradually into each other, the form of the shaping elements can be varied and it is possible to manufacture shaping elements from a plurality of materials with varying resilience characteristics, opposite longitudinal sides 2 of a pillow 1,9,11,16,19 can both also be provided with an adjacent first segment 3,10,12,20, whereby pillow 1,9,11,16,19 is can be used on two sides.

Claims

1. Pillow (1,9,11,16,19) with a substantially rectangular form, which pillow (1,9,11,16,19) is provided with segments (3,7,8,10,12,14,15,20,22) with different supporting properties, wherein a first segment (3,10,12,20) adjacent to at least the middle of one of the longitudinal sides (2) of the pillow (1,9,11,16,19) provides great support, **characterized in that** at a distance from the adjacent longitudinal side (2) of the first segment (3,10,12,20) are situated second segments (7,14,22) which provide a greater support than at least one third segment (8,15) located between the second segments (7,14,22).

2. Pillow (1,9,11,16,19) as claimed in claim 1, **characterized in that** the first segment (3,10,12,20) parallel to the adjacent longitudinal side (2) of the pillow (1,9,11,16,19) has a width in the order of magnitude of 15 to 37 centimetres.

3. Pillow (1,9,11,16,19) as claimed in either of the foregoing claims, **characterized in that** the second segments (7,14,22) are coupled to the first segment (3,10,12,20).

4. Pillow (1,9,11,16,19) as claimed in any of the foregoing claims, **characterized in that** the first segment (3,10,12,20) has a greater height close to the adjacent longitudinal side (2) of the pillow (1,9,11,16,19) than at a distance from the adjacent longitudinal side (2) of the pillow (1,9,11,16,19).

5. Pillow (1,9,11,16,19) as claimed in any of the foregoing claims, **characterized in that** the second segments (7,14,22) have a greater height than the first segment (3,10,12,20).

6. Pillow (1,9,11,16,19) as claimed in any of the foregoing claims, **characterized in that** at least one of the segments (3,7,8,10,12,14,15,20,22) is formed partially by a shaping element of resilient foam material.

7. Pillow (1,9,11,16,19) as claimed in any of the foregoing claims, **characterized in that** a single shaping element partially determines the form of the first and second segments (3,7,10,12,14,20,22).

8. Pillow (1,9,11,16,19) as claimed in any of the foregoing claims, **characterized in that** a single shaping element partially determines the form of the first and third segment (3,8,10,12,15,20) and wherein this shaping element comprises less material at the position of the third segment (8,15) than at the position of the first segment (3,10,12,20).

9. Pillow (1,9,11,16,19) as claimed in any of the foregoing claims, **characterized in that** the second segments (7,14,22) are located at a distance of 4 to 15 centimetres from the longitudinal side (2) of the pillow (1,9,11,16,19) adjacent to the first segment (3,10,12,20).

10. Pillow (1,9,11,16,19) as claimed in any of the foregoing claims, **characterized in that** the pillow (1,9,11,16,19) is provided with two first segments (3) which adjoin respectively the opposite longitudinal sides (2) of the pillow (1,9,11,16,19).

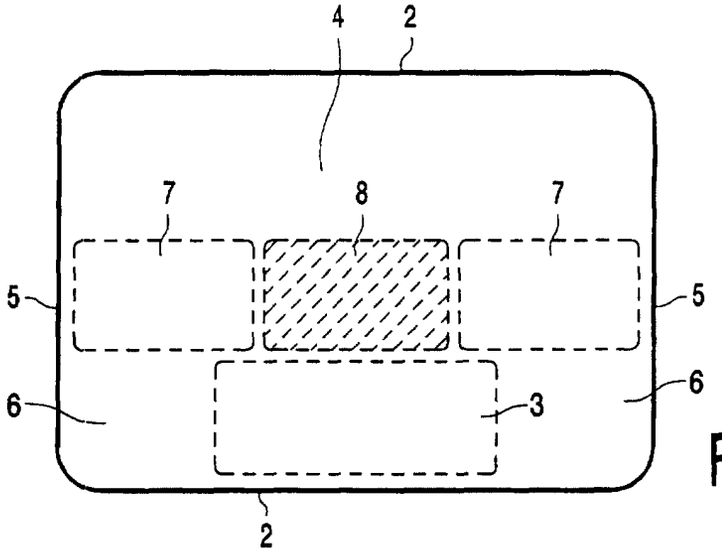

FIG. 1A

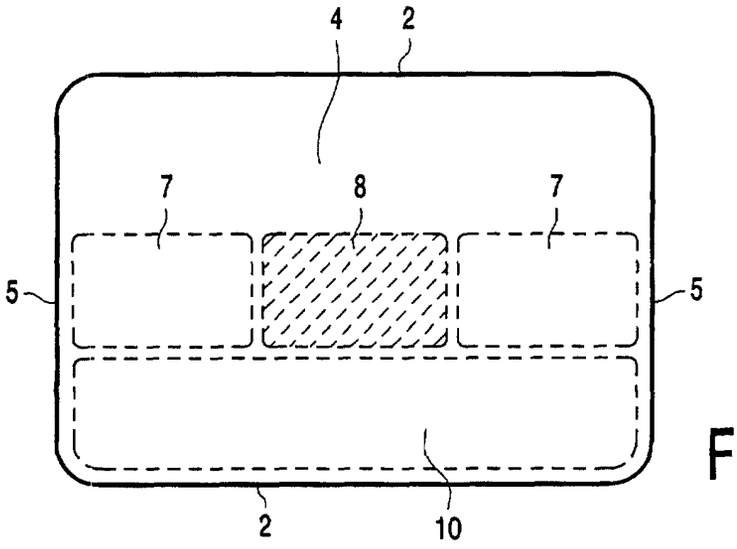

FIG. 1B

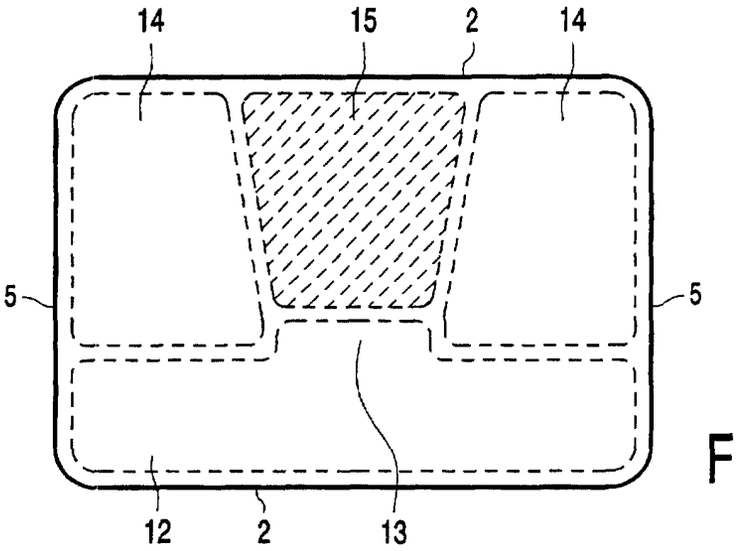

FIG. 1C

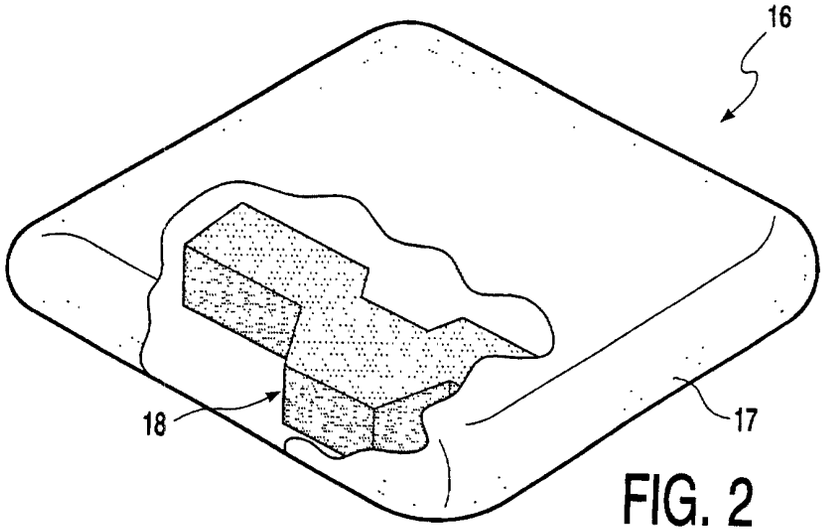

FIG. 2

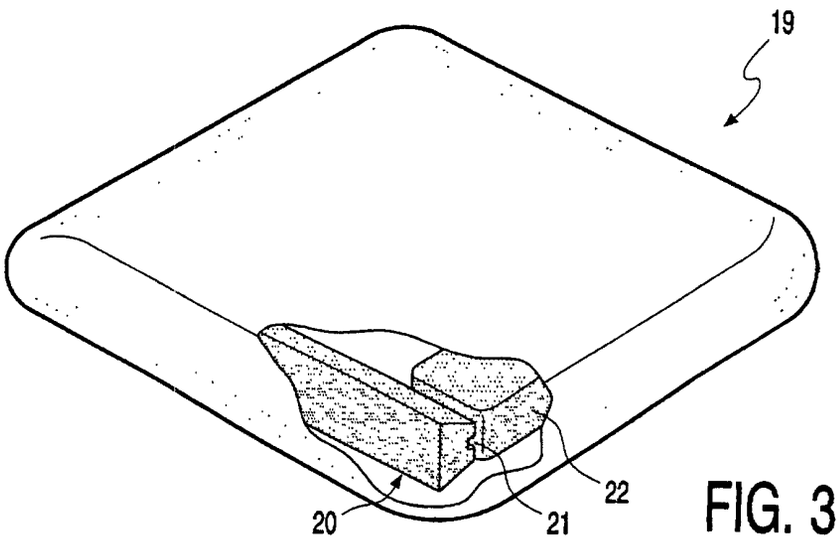

FIG. 3

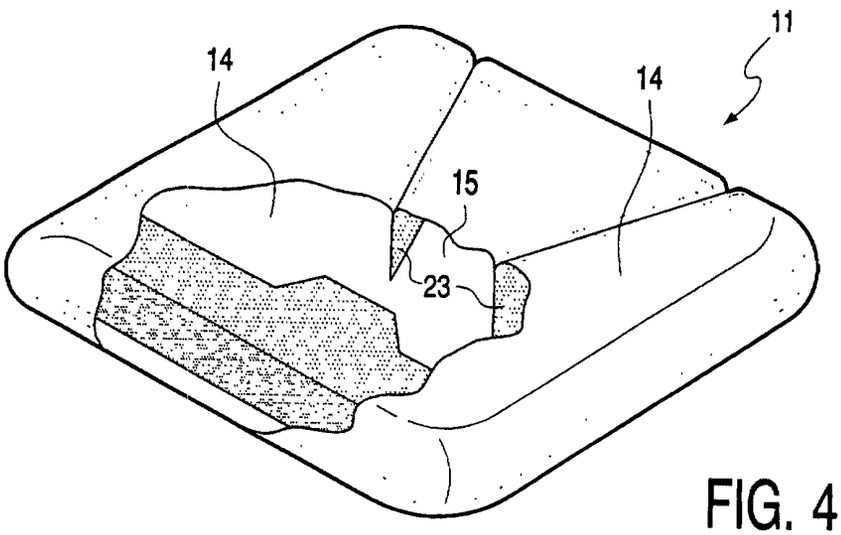

FIG. 4

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 01 20 0386

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	DE 36 27 286 A (DIAMONA HERMANN KOCH GMBH & CO) 18 February 1988 (1988-02-18) * figure 2 *	1-3,6,9, 10	A47G9/10
X	DE 295 10 134 U (DIAMONA HERMANN KOCH GMBH & CO) 24 August 1995 (1995-08-24) * claims 1,2; figure 1 *	1-3,9,10	
X	US 4 660 239 A (THOMAS) 28 April 1987 (1987-04-28) * column 3, line 2; figures *	1,2,4	
A,D	DE 91 08 786 U (TRABOLD) 13 August 1992 (1992-08-13) * claim 5; figures *	1,2,4,8	
A,D	US 5 016 303 A (TANAKA ET AL.) 21 May 1991 (1991-05-21) * column 2, line 56 - column 3, line 11; figure 3 *	1,2,4,6, 10	
A	US 5 644 810 A (KATO) 8 July 1997 (1997-07-08) * column 2, line 38 - line 42; figures *	1,2,4,10	TECHNICAL FIELDS SEARCHED (Int.Cl.7) A47G
A	FR 2 305 956 A (PLASTRE) 29 October 1976 (1976-10-29) * claim 4; figures *	1,2,8	

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	21 June 2001	Beugeling, G.L.H.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 01 20 0386

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

21-06-2001

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 3627286 A	18-02-1988	NONE	
DE 29510134 U	24-08-1995	NONE	
US 4660239 A	28-04-1987	CA 1238993 A	05-07-1988
DE 9108786 U	13-08-1992	NONE	
US 5016303 A	21-05-1991	NONE	
US 5644810 A	08-07-1997	NONE	
FR 2305956 A	29-10-1976	BE 866828 A	01-09-1978

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82