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(54) Hair iron

(57) There is described a hair iron for reducing the transfer of heat generated in a heating plate (20) to a body (10), whereby to minimize transfer of heat from the heating plate to the body, thereby reducing the incidence of burns and enabling the device to be more safely utilized. The hair iron has a pair of heating portions (50), intended to be held together in contact so that hair held therebetween can be treated. Each heating portion comprises a heating plate (20) to which current is applied and whose temperature is maintained uniformly, a connection member (30) with which the heating plate is engaged and having adiabatic functions, and a body (10) in which the connection member (30) is mounted. The heating plate, connection member and body are assembled such that they are engaged in three-steps such that the heating plate (20) is completely projected to the outside of the body (10).

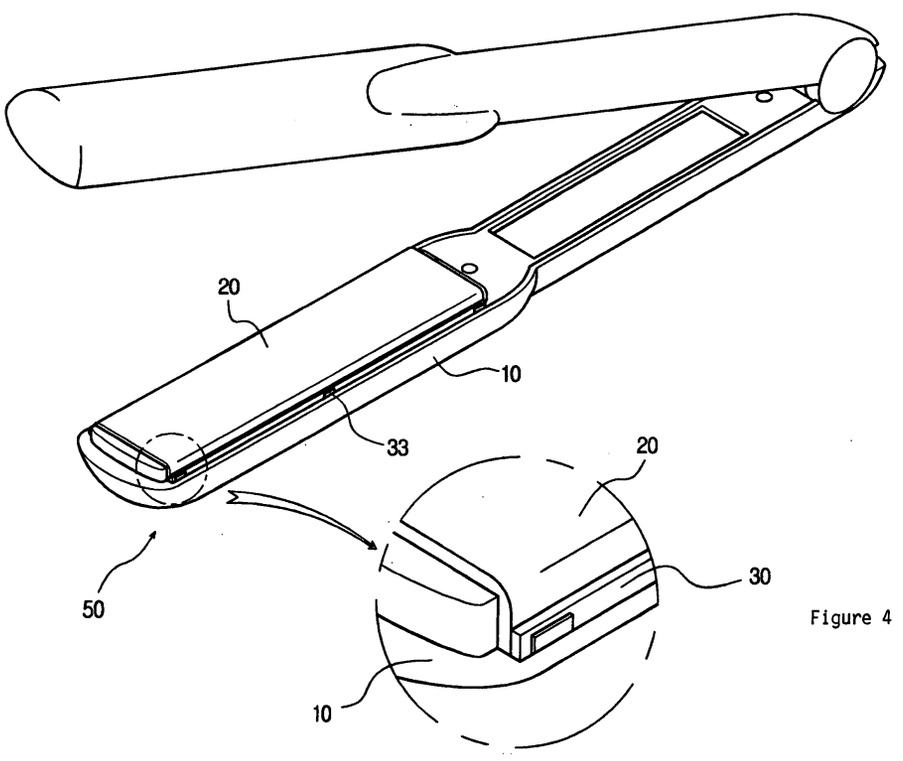

Figure 4

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Description

[0001] The present invention relates to a hair iron for reducing the transfer of the generated heat from its heating plate to its body portion, and more particularly, to a hair iron which is capable of minimizing the direct transfer of the generated heat from the heating plate to the body, whereby the incidence of burns is reduced, and the iron can be used more safely.

[0002] A conventional hair iron, as shown in Figure 1, has bodies 1 which are coupled by a hinge portion 5 and may be opened to a given angle by means of a spring. Respective heating plates 2 are formed on the inner surface of each of the bodies 1. The heating plates 2 are positioned at the inner surface of the bodies 1 when in a collapsed state. The heating plates 2, the bodies 1 and connection members are coupled in a line contact, without forming any space. Electrical circuits for converting the input power supplied, by means of a power supply cord 4, to another energy and transmitting the energy to other portion, are built into the bodies 1.

[0003] The hair iron is used to treat a user's hair in various styles, by using the raised temperature of the heating plates 2. However, since the user uses the hair iron by manually grasping it, any heat generated by the heating plate which is transferred to the body, may cause burning.

[0004] Therefore, in considering said problems in the art, the present invention seeks to provide a hair iron which is capable of minimizing direct transfer of the heat generated in the heating plate to the body, whereby the danger of burning is reduced. and the device can thus be more safely utilized.

[0005] According to the invention, there is provided a hair iron having a pair of heating portions intended, in use, to be held together in contact so that hair to be held therebetween is treated, each said heating portion comprising: a heating plate to which electric current may be applied and whose temperature is maintained uniformly; a connection member with which said heating plate is engaged; and a body in which said connection member is mounted.

[0006] Preferably, the heating portion is constructed such that a small space is formed between the heating plate, the connection member and the body, whereby the transfer of heat generated in the heating plate to the body is minimized.

[0007] Preferably, the heating portion is also constructed such that an engagement portion of the heating plate, the connection member and the body is contacted in a spot by a protrusion, whereby the transfer of heat generated in the heating plate to the connection member can be minimized.

[0008] Preferably, the connection member is formed with a protrusion to be engaged with engagement portions of the heating plate and the body, and when being engaged, the heating plate, the connection member and the body are formed with a gap and are contacted in a spot.

[0009] Preferably, a spacing member is disposed between the connection member and the body and is made of cushion material.

[0010] The above and other objects, features and other advantages of the present invention will be more clearly understood from the following detailed description taken in conjunction with the accompanying drawings, in which:

Figure 1 is a perspective view showing a conventional hair iron;
Figure 2 is a disassembled perspective view showing the hair iron according to an embodiment of the present invention;
Figure 3 is a perspective view showing a connection member of the hair iron of Figure 2; and
Figure 4 is an illustrative view showing use of the hair iron according to the present invention.

[0011] There will now be provided a more detailed description of a preferred embodiment of the present invention, referring to Figures 2 to 4. In these drawings, the reference numeral 50 denotes a heating portion.

[0012] Each heating portion 50 comprises a heating plate 20 to which electric current is applied and whose temperature is maintained uniformly, a connection member 30 with which the heating plate 20 is engaged and having adiabatic functions, and a body 10 in which the connection member 30 is mounted.

[0013] When the heating plate 20, the connection member 30 and the body 10 are assembled, they are engaged in three-steps so that the heating plate 20 is completely projected to the outside of the body 10.

[0014] Also, the heating portion 50 is constructed, such that a minute space is formed between the heating plate 20, the connection member 30 and the body 10, whereby the transfer of the heat generated in the heating plate 20 to the body 10 can be minimized.

[0015] The connection member 30, as shown in Figure 3, is formed with at least 2 protrusions 31 which are engaged with engagement rails 21 (see Figure 2) of the heating plate 20.

[0016] The engagement rails 21 are formed of "⊏"-shaped grooves and make a multi-point contact with the connection member 30, via the semi-elliptical sliding protrusions 31.

[0017] Also, the connection member 30 is formed with at least 2 gap protrusions 33 on its outer surface with which the body 20 is engaged. The gap protrusions 33 cause the connection member 30 to be spaced from the body 10 by a predetermined amount. Also, the gap protrusions 33 are formed with minutely being protruded.

[0018] Spacing members 11 made of resilient (cushion) material are formed between the body 10 and the connection member 30 being engaged with the heating plate 20.

[0019] The spacing members 11 (see Figure 2) are

disposed on the inner surface of the body 10 at a predetermined height, and the connection member 30 is placed on the upper surface of the spacing members 11. This prevents the connection member 30 from coming into direct contact with the body 10.

[0020] As mentioned above, the heating plate 20, being engaged with the connection member 30, is also engaged with the body 10.

[0021] The operation of the hair iron of the present invention will now be described.

[0022] A power cord (not shown) is connected to the body 10, and is connected to an external power supply unit. Next, a power switch on the body 10 is turned on by the user, to supply power to the hair iron.

[0023] When the hair iron has reached a predetermined temperature set by a temperature control portion (not shown) and power is supplied to the circuit, energy is transferred to the heating plate 20 and heat is generated in the heating plate 20.

[0024] The heating plate 20 is typically heated to a temperature greater than 150°C. However, since the heating plate 20 is engaged with the connection member 30, direct transfer of the heat being generated to the surface of the body 10 is minimized.

[0025] In the above manner, since the spacing members 11 are disposed on the inner surface of the body 10 at a predetermined height, the connection member 30 is spaced from the body 10, without being in direct contact with the body 10, and thus the direct transfer of heat to the surface of the body 10 can be minimized.

[0026] Also, the connection member 30 is formed with 2 or more gap protrusions 33 at its outer surface with which the body 20 is engaged. The gap protrusions 33 cause the connection member 30 to be spaced from the body 10 by a predetermined amount. Also, the gap protrusions 33 are formed with minutely being protruded.

[0027] According to the hair iron structure of the present invention, since direct transfer of the heat generated in the heating plate of the hair iron to the body portion is minimized, the hair iron does not cause burns and can be more safely utilized.

Claims

1. A hair iron having a pair of heating portions intended, in use, to be held together in contact so that hair to be held therebetween is treated, each said heating portion comprising:

   a heating plate to which electric current may be applied and whose temperature is maintained uniformly;
   a connection member with which said heating plate is engaged; and
   a body in which said connection member is mounted.

2. The hair iron as claimed in claim 1, wherein said heating portion is constructed such that a space is formed between said heating plate, said connection member and said body and whereby the transfer of heat generated in said heating plate to said body is minimized.

3. The hair iron as claimed in either one of claims 1 or 2, wherein said heating portion is constructed such that an engagement portion of said heating plate, said connection member and said body make point contact via a protrusion, whereby the transfer of heat generated in said heating plate to said connection member is minimized.

4. The hair iron as claimed in any one of the preceding claims, wherein said connection member is formed with one or more protrusions which engage with engagement portions of said heating plate and said body, such that when engaged with one other, said heating plate, said connection member and said body are formed with a gap and make point contact with each other.

5. The hair iron as claimed in any one of the preceding claims, wherein at least one spacing member made of resilient material is disposed between said connection member and said body.

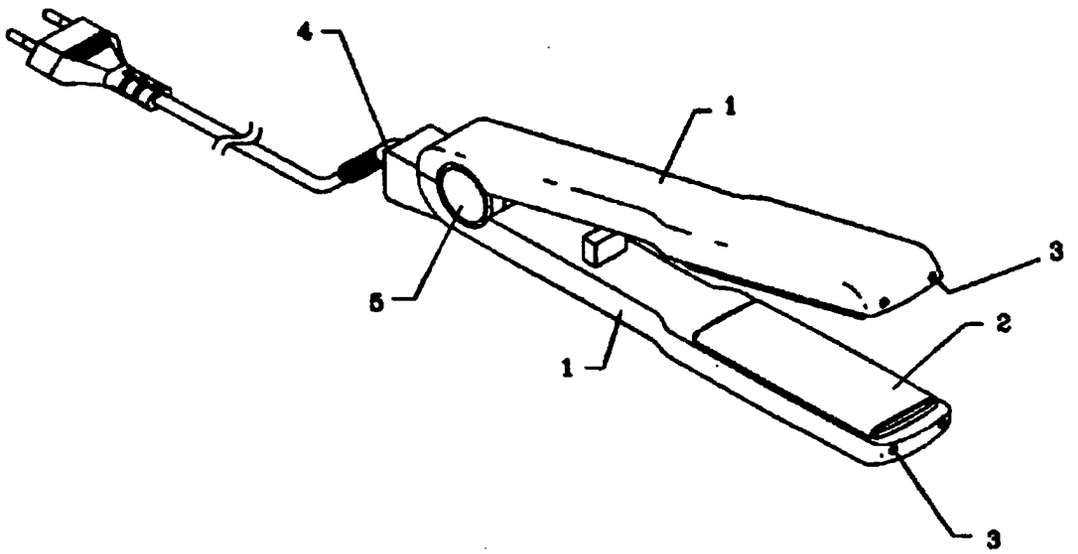

Figure 1

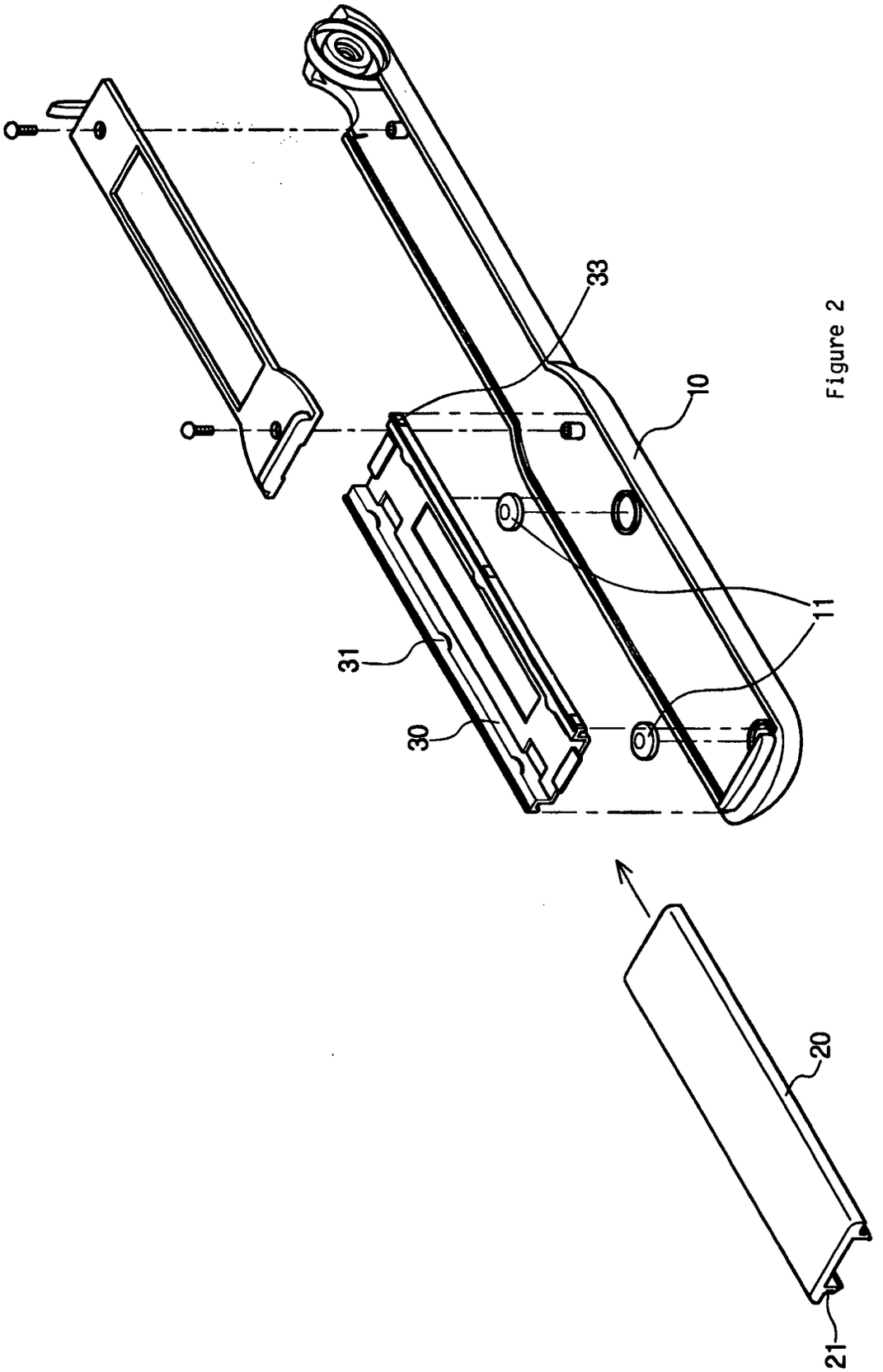

Figure 2

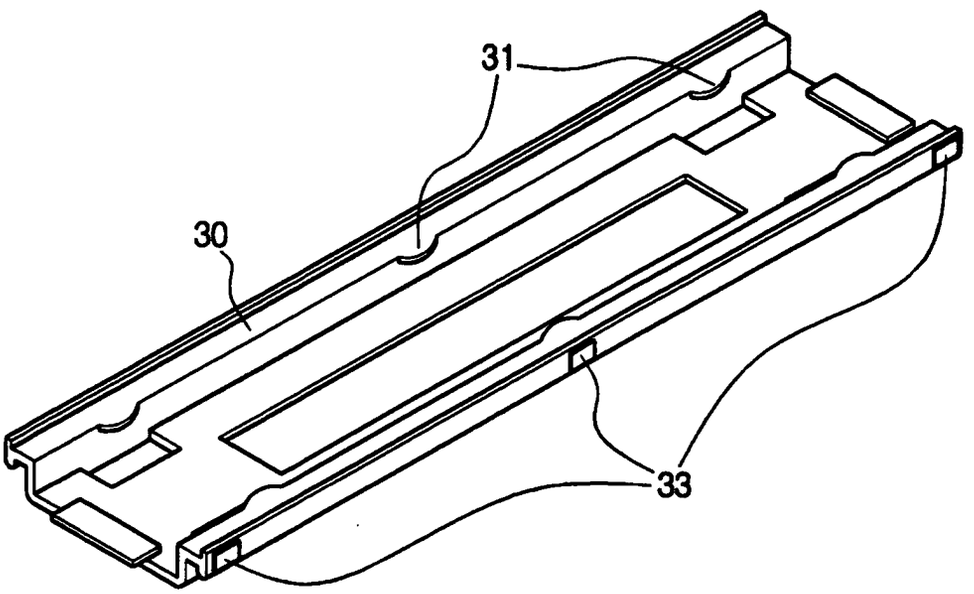

Figure 3

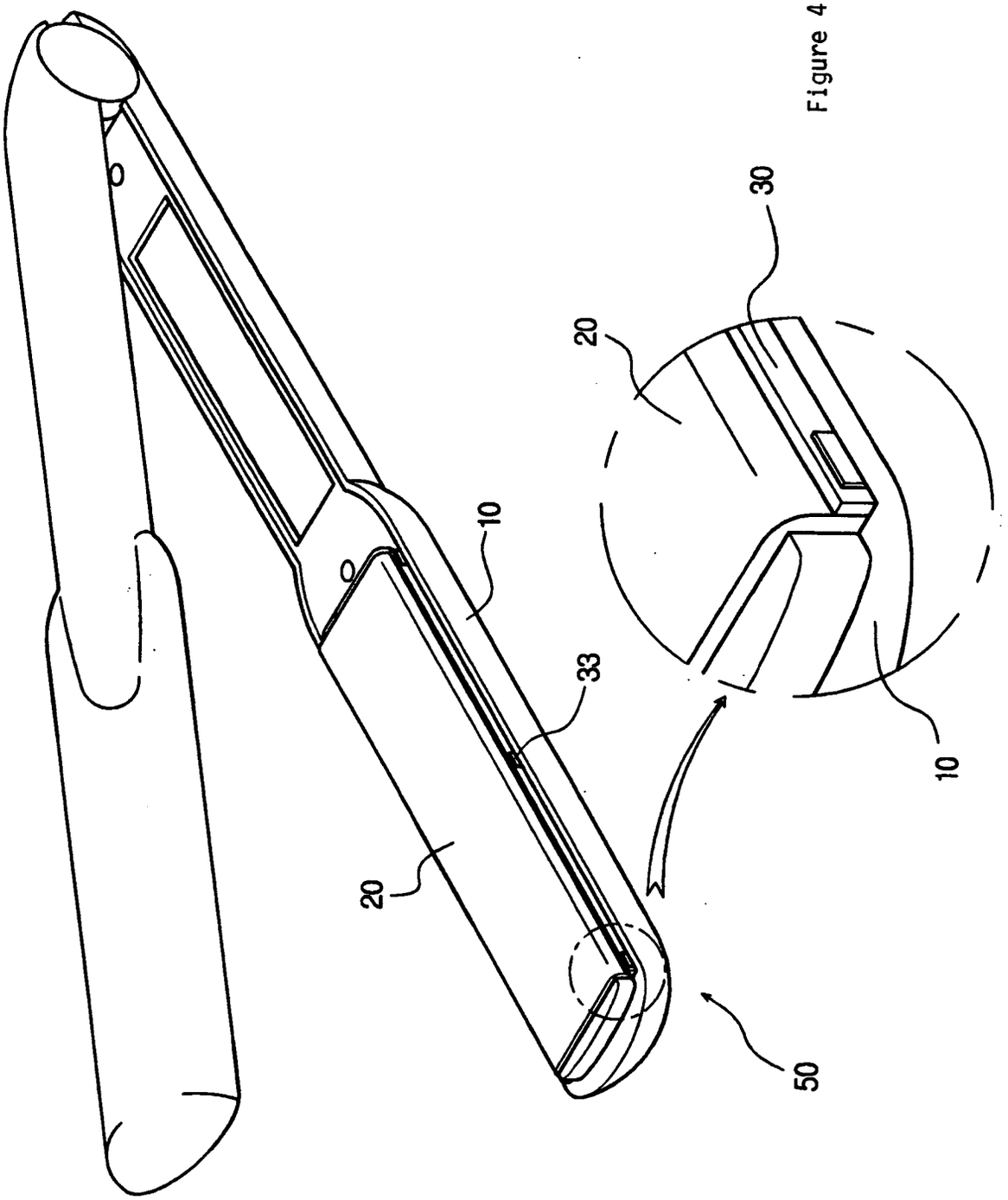

Figure 4

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EUROPEAN SEARCH REPORT

Application Number
EP 03 25 6106

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	28 January 2004	Coniglio, C

CATEGORY OF CITED DOCUMENTS

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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 03 25 6106

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
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28-01-2004

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