



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
25.01.2012 Bulletin 2012/04

(51) Int Cl.:
A44B 19/36 (2006.01)

(21) Application number: **10170570.5**

(22) Date of filing: **23.07.2010**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR
 Designated Extension States:
BA ME RS

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(54) **Stop of a zipper**

(57) A stop of a zipper is mounted at an end of the zipper, is L-shaped and has a mounting protrusion (101) and a limiting protrusion (102) formed transversely on a proximal end of the mounting protrusion (101). When the mounting protrusion (101) of the stop (10) is mounted into a slider (20), the limiting protrusion (102) and the

slanted upper surface (105) of the limiting protrusion (102) prevent the slider (20) from further sliding into a channel (25) of the slider (20) so the slider (20) stops actually. Moreover, corners and edges of the stop (10) may be all rounded so the stop (10) is able to smoothly slide into the slider (20).

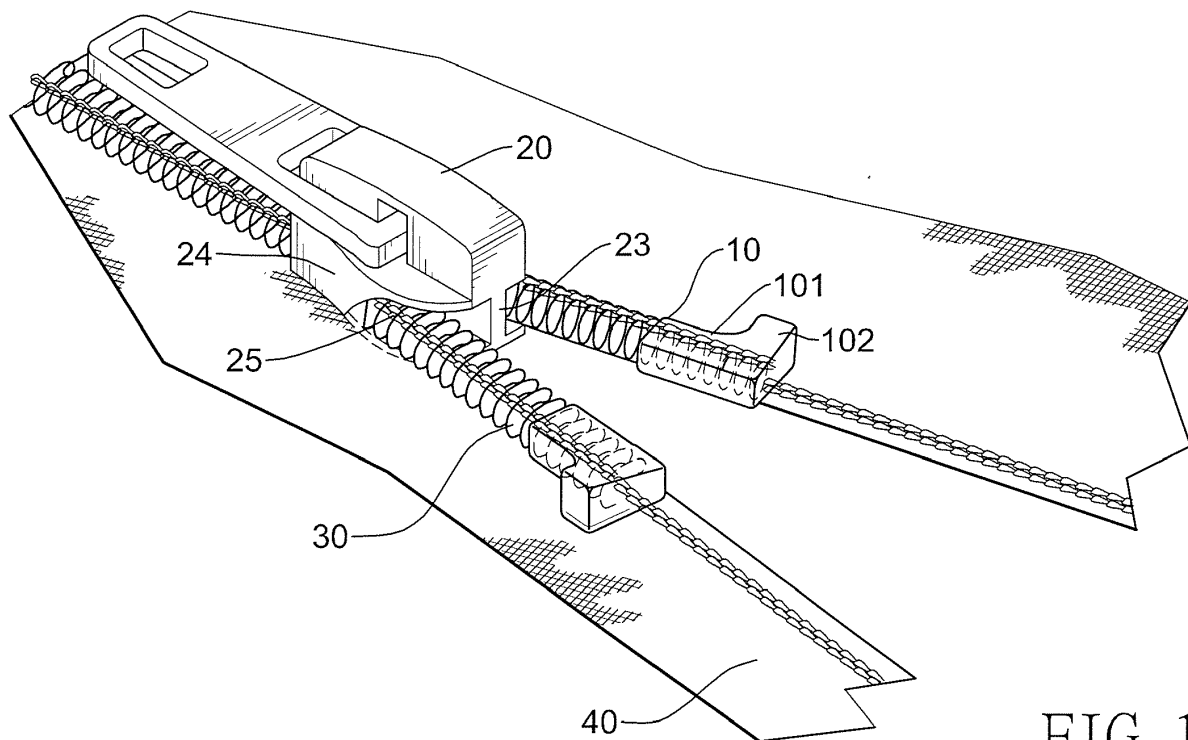


FIG. 1

Description

1. Field of the Invention

[0001] The present invention relates to a stop of a zipper, especially to a stop that is disposed in pairs with another stop at an end of the zipper to prevent a slider from sliding out of the zipper.

2. Description of the Prior Art(s)

[0002] Zippers are widely used on articles for daily use, such as clothes, bags and the like. A zipper has two tapes, a slider, two rows of teeth disposed respectively along the tapes and mounted through the slider, and four stops mounted on the tapes adjacent to ends of the rows of the teeth. When the slider is pulled to slide along the rows of the teeth, one row of the teeth alternatively engages or disengages from the other row of the teeth. Until the stops about the slider, sliding of the slider is stopped.

[0003] However, since a conventional stop of the zipper is substantially rectangular, when the slider is pulled forcibly, the conventional stops slide into and are jammed in the slider, and the slider does not stop at an expected position. Moreover, as the slider is usually made of metal and the conventional stop is made of plastic, the conventional stop wears down easily causing jammed in the slider more easily.

[0004] Furthermore, since the conventional stop is formed on the tapes by an ultrasonic welding process, a connection between the conventional stop and the tape is insecure and the conventional stop drops from the tape easily.

[0005] To overcome the shortcomings, the present invention provides a stop of a zipper to mitigate or obviate the aforementioned problems.

[0006] The main objective of the present invention is to provide a stop of a slider. The stop is mounted at an end of the zipper, is L-shaped and has a mounting protrusion and a limiting protrusion formed transversely on a proximal end of the mounting protrusion.

[0007] The stop may be attached to and integrated with an end of a corresponding row of teeth of the zipper so the stop has improved durability and structural strength.

[0008] When the mounting protrusion of the stop is mounted into a slider, the limiting protrusion and the slanted upper surface of the limiting protrusion prevent the slider from further sliding into a channel of the slider so the slider stops actually. Moreover, corners and edges of the stop may be all rounded so the stop is able to smoothly slide into the slider.

[0009] Other objectives, advantages and novel features of the invention will become more apparent from the following detailed description when taken in conjunction with the accompanying drawings.

IN THE DRAWINGS**[0010]**

Fig. 1 is an operational perspective view of a stop of a zipper in accordance with the present invention; Fig. 2 is an enlarged operational perspective view of the stop of the zipper in Fig. 1; Fig. 3 is an enlarged operational top view of the stop of the zipper in Fig. 1; and Fig. 4 is an operational front view of the stop of the zipper in Fig. 1.

[0011] With reference to Figs. 1 and 3, a zipper has two tapes 40, a slider 20 and two rows of teeth 30. The tapes 40 are sewn respectively on two corresponding edges of a cloth. The slider 20 has two channels 25, two sidewalls 24 and a dividing wall 23. The channels 25 are defined longitudinally through the slider 20. The sidewalls 24 are formed respectively on two opposite sides adjacent to a rear end of the slider 20. The dividing wall 23 is formed longitudinally at a front end of slider 20. The rows of the teeth 30 are arranged respectively along the tapes 40, are mounted respectively through the channel 25 of the slider 20 and alternatively engage each other when the slider 20 is pulled toward a close end of the zipper or disengage from each other when the slider 20 is pulled toward an open end of the zipper.

[0012] With further reference to Figs. 2 and 4, the stop 10 in accordance with the present invention is mounted on one of the tapes 40, is attached to and is integrated with an end of a corresponding row of the teeth 30 so the stop 10 has improved durability and structural strength, is substantially L-shaped and has multiple corners, multiple edges, a mounting protrusion 101, a limiting protrusion 102, a guiding surface 103.

[0013] The corners and the edges of the stop 10 are all rounded.

[0014] The mounting protrusion 101 is disposed longitudinally along an edge of the tape 40, is attached to and is integrated with the end of the corresponding row of the teeth 30 and has a distal end, a proximal end, a slanted upper surface 104 and an outer side surface. The proximal end of the mounting protrusion 101 is wider than the distal end of the mounting protrusion 101. The slanted upper surface 104 of the mounting protrusion 101 slopes up from the distal end of the mounting protrusion 101 to the proximal end of the mounting protrusion 101.

[0015] The limiting protrusion 102 is formed transversely on the proximal end of the mounting protrusion 101, is wider than the mounting protrusion 101 and has a distal end, a proximal end, a slanted upper surface 105 and a lower side surface. The distal end of the limiting protrusion 102 has a thickness larger a height of the channel 25 of the slider 20. The slanted upper surface 105 of the limiting protrusion 102 slopes up from the proximal end of the limiting protrusion 102 to the distal end of the limiting protrusion 102 and preferably, is merged smooth-

ly with the slanted upper surface 104 of the mounting protrusion 101.

[0016] The guiding surface 103 is smoothly formed concavely between the outer side surface of the mounting protrusion 101 and the lower side surface of the limiting protrusion 102.

[0017] The stop of the zipper as described has the following advantages. With reference to Fig. 3, when the slider 20 is pulled to a close end of the zipper, the mounting protrusion 101 of the stop 10 slides into a corresponding channel 25 of the slider 20. Since the limiting protrusion 102 is wider than the channel 25 of the slider 20, as a corresponding sidewall 24 of the slider 20 abuts the limiting protrusions 102 of the stop 10, the slider 20 stops sliding.

[0018] With further reference to Fig. 4, since the limiting protrusion 102 has the slanted upper surface 105 and the thickness of the distal end of the limiting protrusion 102 is larger than the height of the channel 25 of the slider 20, when the mounting protrusion 101 of the stop 10 is mounted into the slider 20, the limiting protrusion 102 does not further slides into the channel 25 of the slider 20 so the slider 20 stops actually. Moreover, since the corners and the edges of the stop 10 are all rounded, the stop 10 is able to smoothly slide into the slider 20.

[0019] Even though numerous characteristics and advantages of the present invention have been set forth in the foregoing description, together with details of the structure and features of the invention, the disclosure is illustrative only. Changes may be made in the details, especially in matters of shape, size, and arrangement of parts within the principles of the invention to the full extent indicated by the broad general meaning of the terms in which the appended claims are expressed.

Claims

1. A stop of a zipper being **characterized in that:**

the stop being L-shaped and having
a mounting protrusion (101) having a distal end
and a proximal end; and
a limiting protrusion (102) formed transversely
on the proximal end of the mounting protrusion
(101) and being wider than the mounting protrusion (101).

2. The stop of the zipper as claimed in claim 1, wherein the proximal end of the mounting protrusion (101) is wider than the distal end of the mounting protrusion (101).

3. The stop of the zipper as claimed in claim 1, wherein the mounting protrusion (101) has an outer side surface;
the limiting protrusion (102) has a lower side surface;
and

the stop further has a guiding surface (103) smoothly formed concavely between the outer side surface of the mounting protrusion (101) and the lower side surface of the limiting protrusion (102).

4. The stop of the zipper as claimed in claim 2, wherein the mounting protrusion (101) has an outer side surface;
the limiting protrusion (102) has a lower side surface;
and
the stop has a guiding surface (103) smoothly formed concavely between the outer side surface of the mounting protrusion (101) and the lower side surface of the limiting protrusion (102).

5. The stop as claimed in claims 1, 2, 3 or 4, wherein the limiting protrusion (102) has
a distal end;
a proximal end; and
a slanted upper surface (105) sloping up from the proximal end of the limiting protrusion (102) to the distal end of the limiting protrusion (102).

6. The stop of the zipper as claimed in claim 5, wherein the mounting protrusion (101) has a slanted upper surface (104) sloping up from the distal end of the mounting protrusion (101) to the proximal end of the mounting protrusion (101) and is merged smoothly with the slanted upper surface (104) of the limiting protrusion (102).

7. The stop of the zipper as claimed in claim 6 has multiple corner being rounded and multiple edges being rounded.

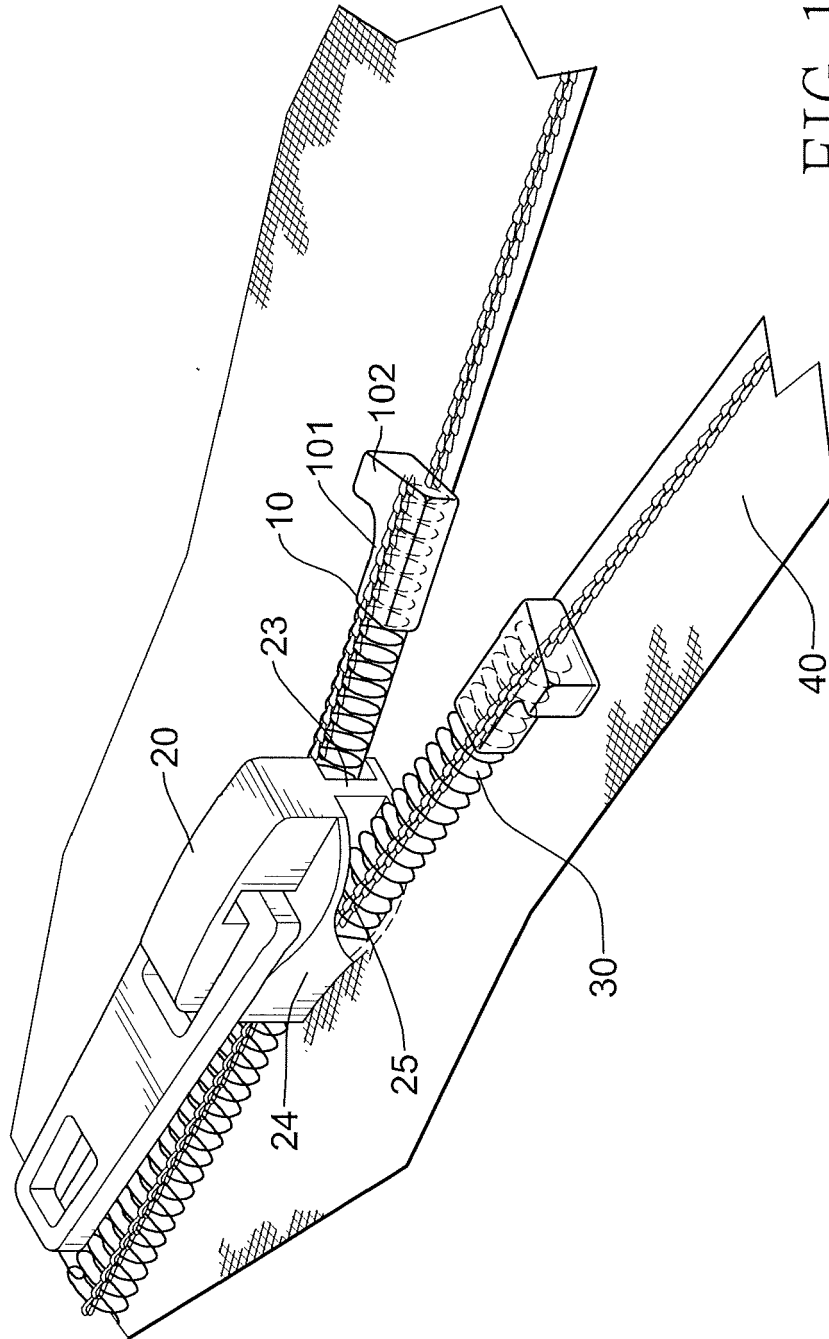


FIG. 1

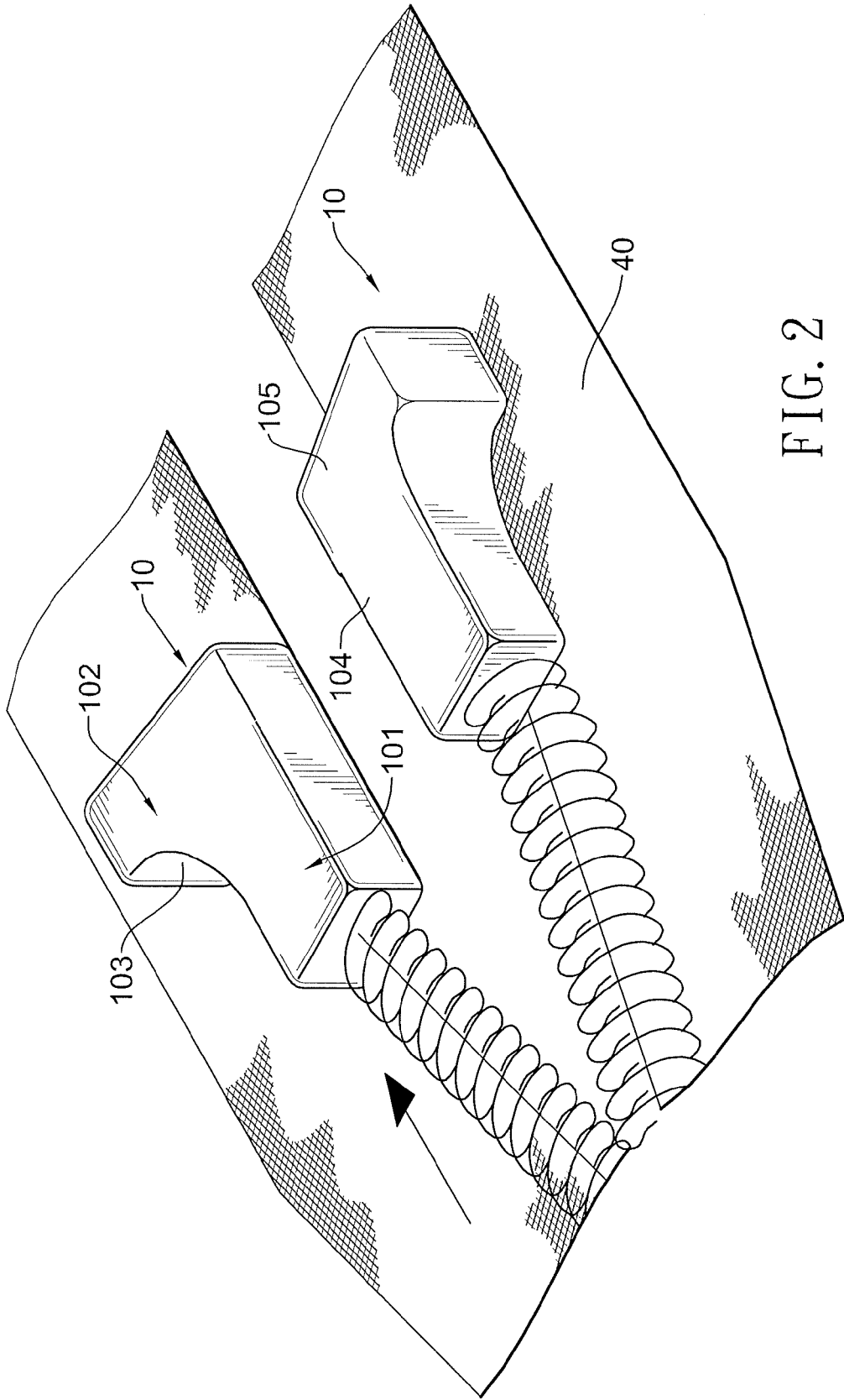


FIG. 2

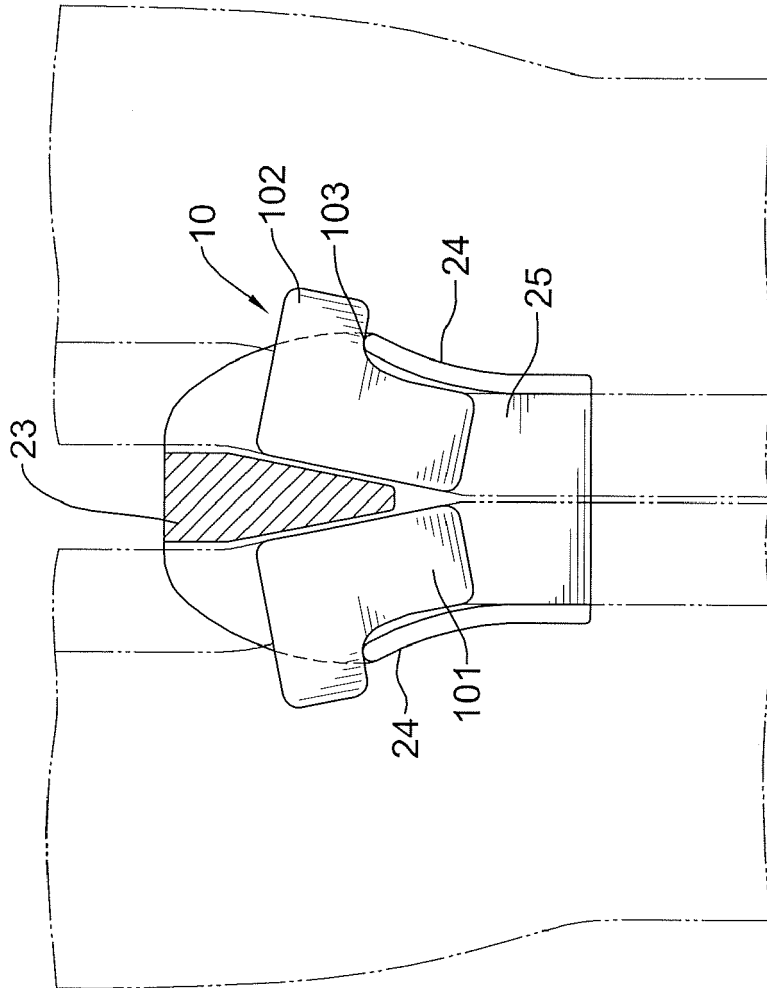


FIG. 3

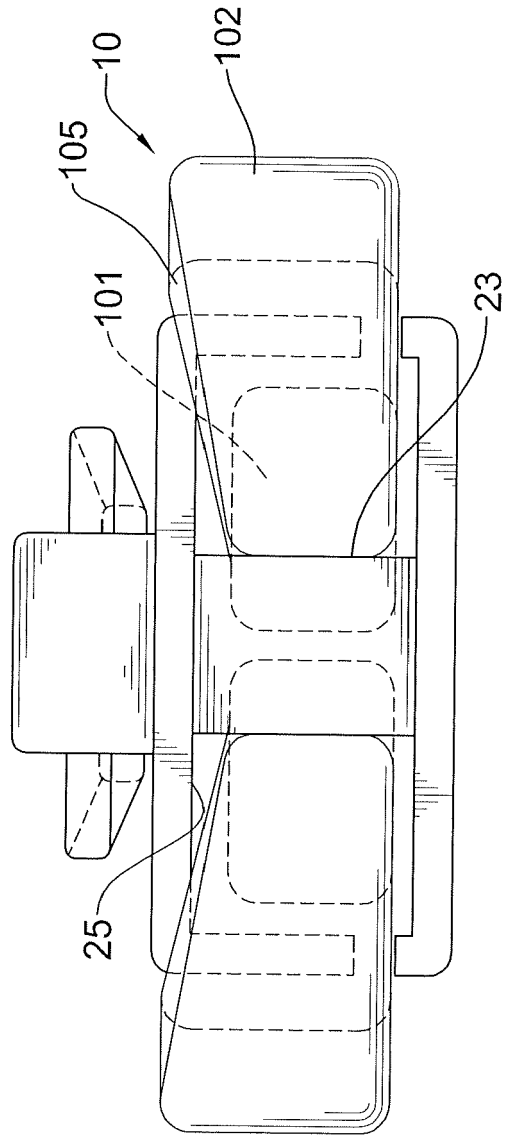


FIG. 4



EUROPEAN SEARCH REPORT

Application Number
EP 10 17 0570

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			A44B
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
The Hague		15 February 2011	Debard, Michel
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	

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EPO FORM 1503 03/02 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 10 17 0570

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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15-02-2011

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