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(54) Slider with two pull tabs

(57) A description is given of a slider (1) with two pull tabs (2, 3) arranged symmetrically with respect to each other and each provided with a ring (2a, 3a), the slider comprising a hollow body (4) containing an escapement (5), the pawl (6) of which is designed to be inserted between the teeth of the zip in order to prevent movements between the zip and the slider (1), the escapement (5) being provided with elastic means (7) which keep its pawl (6) inserted between the teeth until it is disengaged by one or other of the pull tabs (2, 3). In the slider in question one (2) of the pull tabs (2, 3) is in contact with the escapement (5) via its ring (2a) in such a way that, when operated, it produces the said disengagement, and the other pull tab (3) is positioned with its ring (3a) in contact with an inclined plane (8) of a rigid member (9) which is positioned in such a way that operating the abovementioned pull tab (3) causes a rotation of the rigid member (9) sufficient to press it against one end (20i) of a movable pin (10) and to move it axially in such a way that the other end (20s) pushes the escapement (5), overcoming the resistance of the said elastic means (7) and disengaging the pawl (6) thereof.

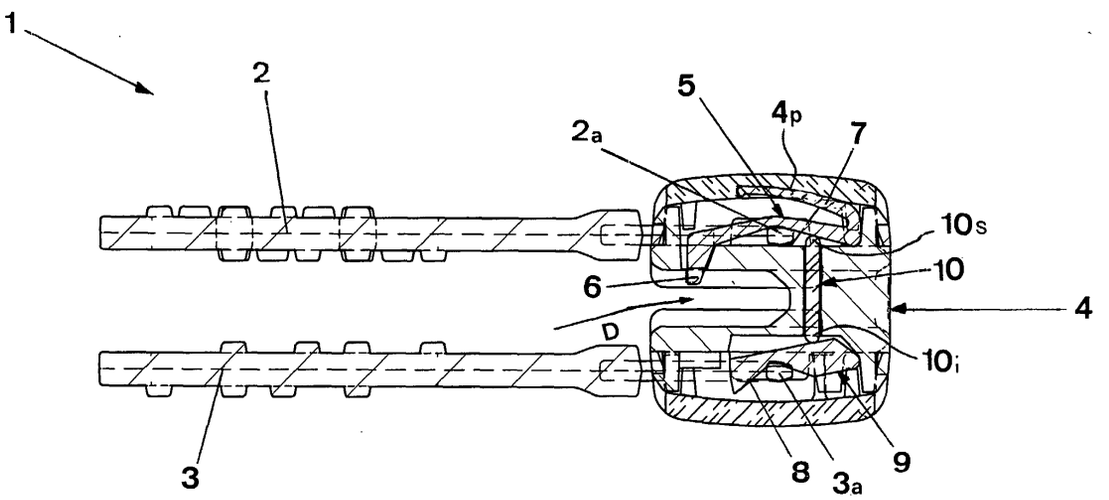

FIG.1

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Description

[0001] The present invention relates to the technological field of zips, which, as is known, basically consist of two rows of opposing teeth connected together or separated by sliding a specially designed member known as the slider along them by pulling a part of the slider that acts as a handle and is known as the pull tab, which is connected to the slider by a ring formed at or connected to its end.

[0002] In order to make it possible to operate the slider from either side of a zip, sliders have been designed with two pull tabs positioned symmetrically with respect to each other on opposite sides both of the slider and of the zip.

[0003] The present invention relates to sliders of the type with two pull tabs as described above. The sliders are provided with an escapement, located inside their hollow body, having a pawl which, when the slider is not to be moved, is pressed by elastic means between the teeth of the zip, thereby locking the slider in a desired position.

[0004] Hence the need to make the different component parts of a two-pull-tab slider in such a way that the said escapement is disengaged from the teeth of the zip when any one of the two pull tabs mentioned above is operated.

[0005] The inventor of the double pull-tab slider according to the present invention has devised a reliable and inexpensive solution which solves the problem outlined above in a very simple way.

[0006] In the slider of the invention one of the two pull tabs is connected by its ring directly to the abovementioned escapement, in such a way as to disengage it from the teeth by overcoming the resistance of the above-described elastic means, and the other pull tab has its ring pressing on an inclined plane formed on a rigid member positioned in the hollow body of the slider in such a way that, when operated, the said rigid member is rotated and pressed against the bottom end of a pin mounted movably inside the said hollow body whose top end is in contact with the escapement. When the said pin is moved upwards, it likewise disengages the escapement from the teeth of the zip, similarly overcoming the resistance of the already-described elastic means.

[0007] The subject of the present invention is therefore a slider with two pull tabs as disclosed in the appended Claim 1.

[0008] A more detailed description will now be given of a preferred illustrative embodiment of a slider according to the invention, with reference also to the appended drawings, in which:

- Figure 1 is a longitudinal section through a slider with two pull tabs according to the invention with the escapement inserted between the teeth of the zip;
- Figure 2 is a longitudinal section through the slider of Figure 1 when the escapement is disengaged from the teeth of the zip by operating the upper pull tab;
- Figure 3 is a longitudinal section through the slider of Figure 1 when the escapement is disengaged from the teeth of the zip by operating the lower pull tab; and
- Figure 4 is an exploded perspective view of the slider of the previous figures, in which the shapes and positions of the various component parts can be seen.

[0009] Figure 1 shows that in a slider 1 according to the invention there are two pull tabs 2, 3 arranged symmetrically either side of the hollow body 4 of the said slider 1. In this description this hollow body will be treated as if it were a single part, but in reality, as shown by the exploded view of Figure 4, it consists of several component parts connected and fixed together by known methods and principles.

[0010] The said two pull tabs 2, 3 are provided, as in almost all known sliders, with a ring 2a, 3a at the end connecting them to the slider 1. The abovementioned hollow body 4 contains an escapement 5, of which the pawl 6 is designed to be inserted between the teeth of the zip (the teeth not being shown in the drawings for obvious reasons of the need for clarity) to prevent the slider being slid relative to these teeth and opening or closing the zip when not wanted.

[0011] The escapement 5 is kept with the pawl 6 in the abovementioned locked position by elastic means, which in the present case take the form of a strip 7 which flexes elastically, is integral with the escapement 5 and is housed in the hollow body 4 of the slider 1 in such a way as to press against an internal wall 4p thereof.

[0012] When it is wished to release the teeth (the area occupied by which is indicated by the arrow D as a guide) so that the slider 1 can be moved, the user simply rotates the upper pull tab 2 upwards and pulls it in the appropriate direction to open or close the zip: its ring 2a, which is in contact with and traversed by the escapement 5, lifts its pawl 6 as the arrow F shows in Figure 2, overcoming the elastic resistance of the strip 7, and the slider 1 is free to move.

[0013] The same result is obtained (for which see Figure 3) by rotating downwards the other pull tab 3, which is underneath in the drawings.

[0014] The reason for this is that the ring 3a of the pull tab) 3 is in contact with an inclined plane 8 forming part of a suitably shaped rigid member 9 contained in the hollow body 4 in such a way that it can execute limited rotations. Operating the pull tab 3 rotates the rigid member 9 and pushes it against the bottom end 10i of a pin 10 housed in the body 4 of the slider in such a way as to be capable of axial movement. This pin 10 has its

above mentioned other end 10s in contact with the escapement 5, and its abovementioned axial movement overcomes the resistance of the elastic strip 7 and moves the escapement 5 far enough to disengage the pawl 6 from the teeth of the zip.

[0015] In conclusion by using the two-pull-tab slider 1 according to the invention it is possible to control the slider 1 to open or close a zip by acting on either of the two pull tabs 2, 3, and this is achieved by means of the component parts which are simple to produce, very inexpensive and operate with great reliability. As regards what materials may be used for all the various parts of the slider 1 of the invention, the inventor envisages the use of those metals, metal alloys or plastics which are known to those skilled in the art for this type of application.

Claims

1. Slider (1) with two pull tabs (2, 3) arranged symmetrically with respect to each other and each provided with a ring (2a, 3a), the slider comprising a hollow body (4) containing an escapement (5), the pawl (6) of which is designed to be inserted between the teeth of the zip in a reversible manner in order to prevent undesired movements between the zip and the said slider (1), this escapement (5) being provided with elastic means (7) which keep its pawl (6) inserted between the teeth until it is disengaged by one or other of the said two pull tabs (2, 3), enabling the slider (1) to be moved with respect to the abovementioned teeth, which slider (1) is **characterized in that** one (2) of the pull tabs (2, 3) is directly in contact with the said escapement (5) via its ring (2a) in such a way that, when operated, it produces the said disengagement, and the other pull tab (3) is positioned with its ring (3a) in contact with an inclined plane (8) forming part of a shaped rigid member (9) contained in the hollow body (4), this inclined plane (8) being positioned in such a way that operating the abovementioned pull tab (3) causes a rotation of the rigid member (9) sufficient to press it against one end (20i) of a movable pin (10) housed in the body (4) of the slider (1), and to move it axially in such a way that its other end (20s) pushes the said escapement (5), overcoming the resistance of the said elastic means (7) and disengaging the pawl (6) thereof from the teeth of the zip.

2. Slider with two pull tabs according to Claim 1, in which the said elastic means are a strip (7) which flexes elastically, is integral with the said escapement and is housed in the hollow body (4) of the slider (1) in such a way as to press against an internal wall (4p) thereof.

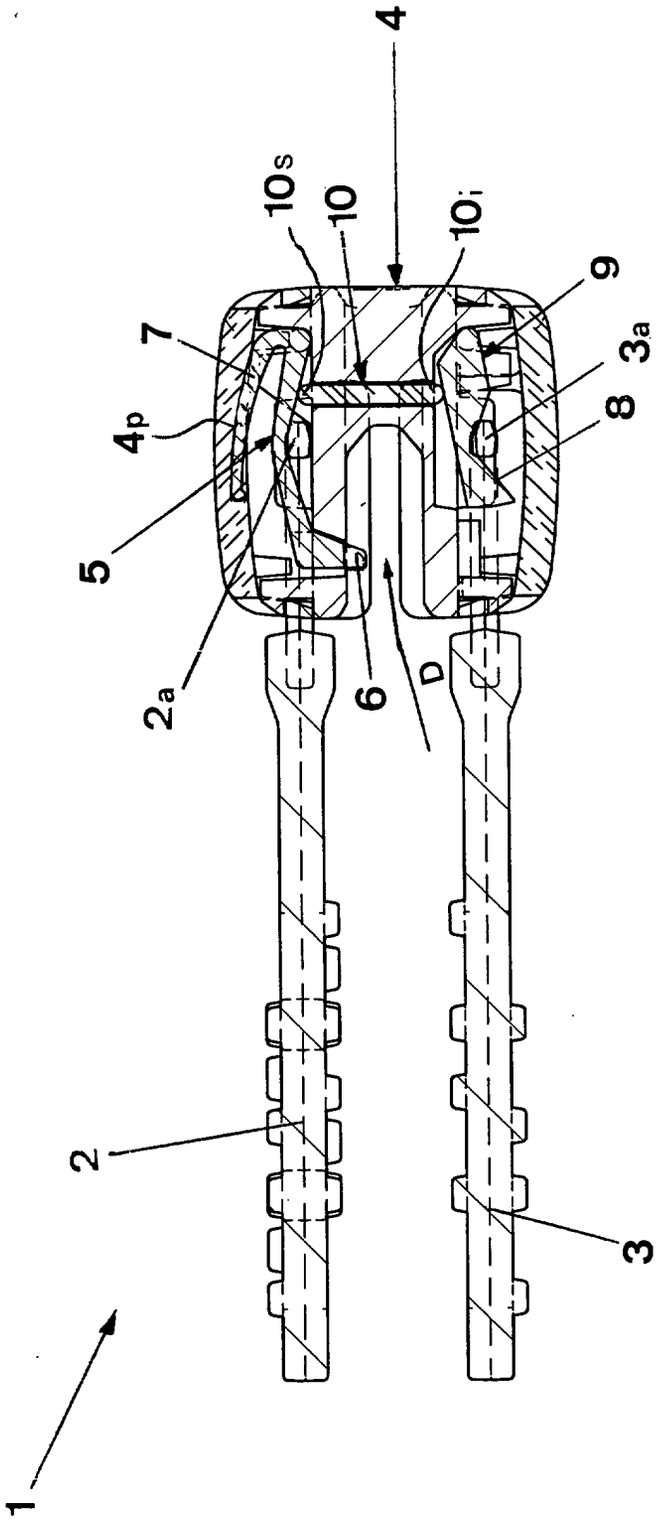

FIG.1

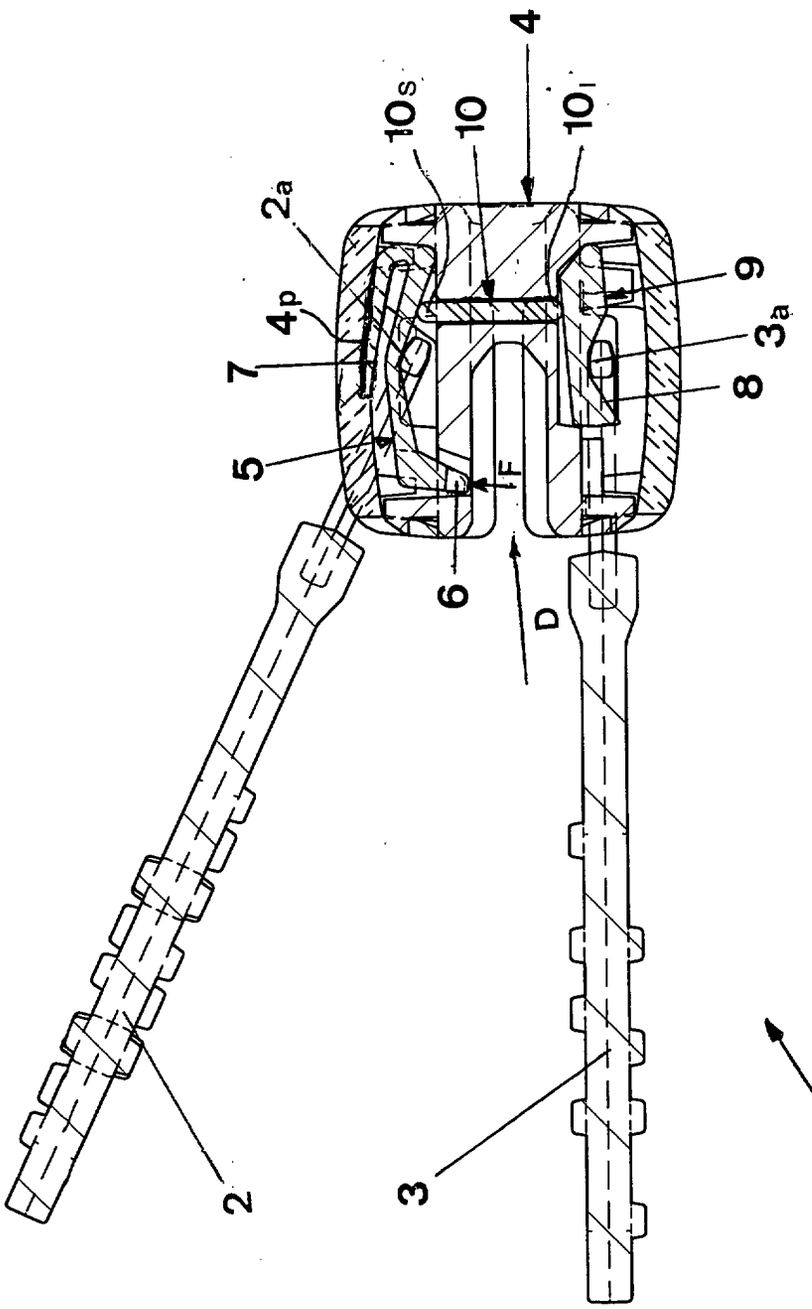

FIG. 2

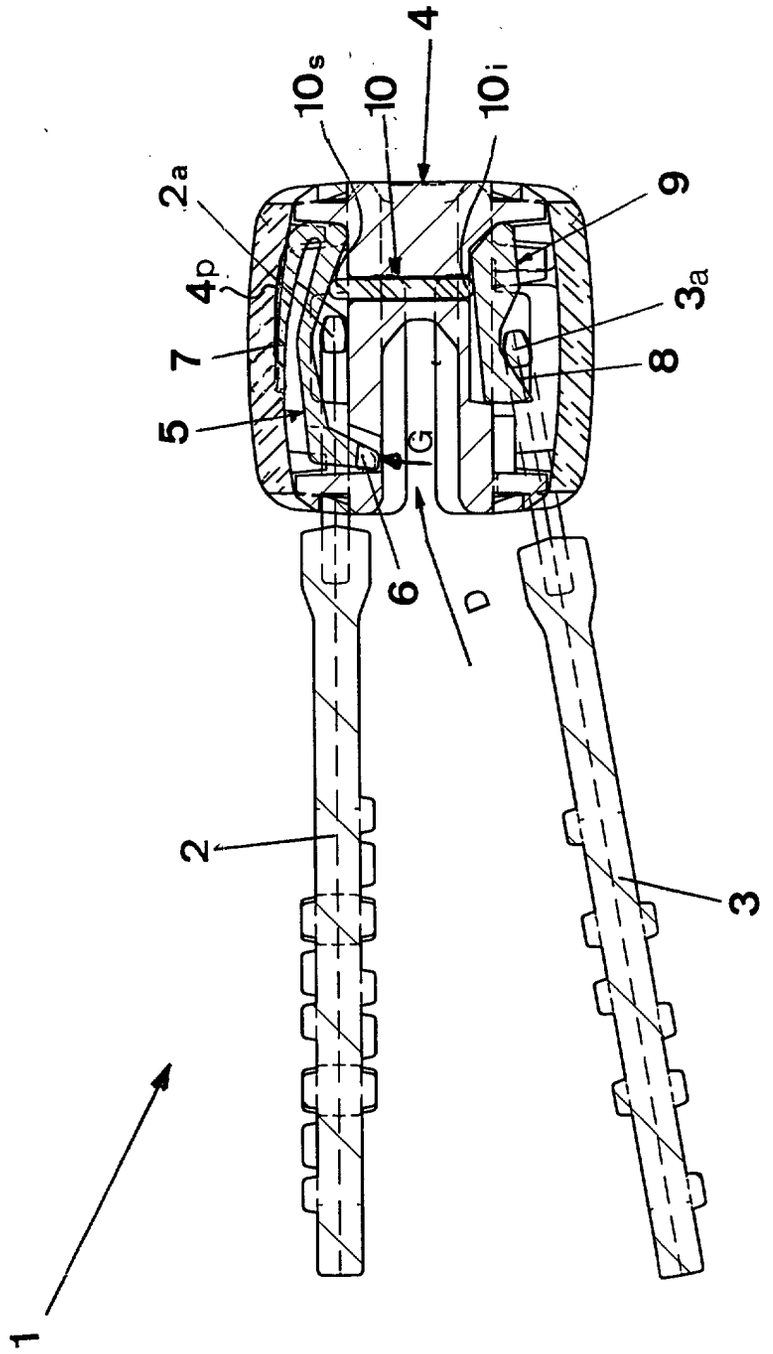

FIG. 3

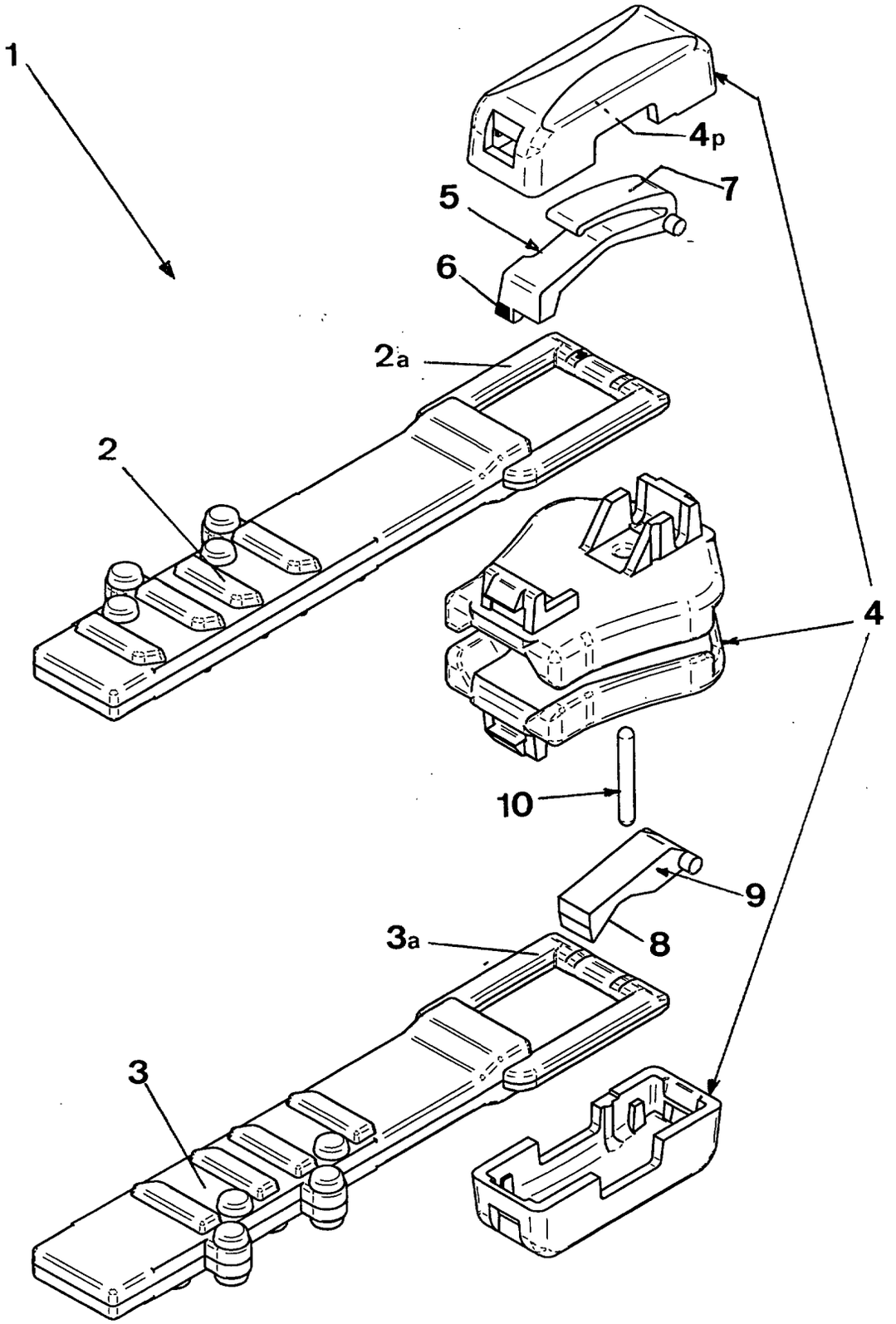

FIG.4

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EUROPEAN SEARCH REPORT

Application Number
EP 03 40 5910

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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
Munich	20 January 2005	Horubala, T

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