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Datasheet for the decision of 18 November 2010

Case Number: T 0166/09 - 3.2.08

Application Number: 01111574.8

Publication Number: 1154110

IPC: E05F 15/00

Language of the proceedings: EN

Title of invention:
Trapping protector

Patent Proprietor:
BLEDIN, ANTHONY, DR.

Opponent:
Brose Fahrzeugteile GmbH & Co. KG, Coburg

Headword:
-

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step - yes"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0166/09 - 3.2.08

D E C I S I O N
of the Technical Board of Appeal 3.2.08
of 18 November 2010

Appellant: (Patent Proprietor)
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Decision under appeal: **Interlocutory decision of the Opposition Division of the European Patent Office posted 14 October 2008 concerning maintenance of European patent No. 1154110 in amended form.**

Composition of the Board:

Chairman: R. Ries
Members: P. Acton
E. Dufrasne

Summary of Facts and Submissions

I. The appellant (patent proprietor) filed a notice of appeal received at the EPO on 11 December 2008 against the opposition division's interlocutory decision posted on 14 October 2008 finding that, taking into account the amendments made during the opposition proceedings, the European patent met the requirements of the Convention. The appeal fee was paid simultaneously and the statement of grounds was received on 23 February 2009.

II. Oral proceedings took place before the board of appeal on 18 November 2010.

The appellant requests that the decision under appeal be set aside and that the patent be maintained on the basis of the main request filed during the oral proceedings, replacing all former requests.

The respondent (opponent) requests that the appeal be dismissed.

III. Independent claim 1 according to the main request reads:

"A trapping protector capable of detecting the presence of an object in a sensing region (34) comprising:

a) at least one body portion (15)
b) at least one ground electrode (25) embedded in said body portion (15);
c) at least one sensor electrode (22) arranged spaced apart from said ground electrode (25) and embedded in said body portion (15), said sensor electrode

(22) and said ground electrode (25) being charged to different electrical potentials;

d) said body portion (15) being at least partially made of an electrically non-conductive material in order to insulate said sensor electrode (22) with respect to said ground electrode (25);

e) a zone of reduced rigidity (23, 24) provided between said at least one ground electrode (25) and said at least one sensor electrode (22); said zone of reduced rigidity (23, 24) being arranged within said body portion (15) and coextruded together with the body portion (15), said zone of reduced rigidity (23) is in the form of an air gap provided in said body portion (15) or in the form of a material of higher resilience than that of said body portion (15), wherein said material of higher resilience is made of sponge rubber;

f) said body portion (15) comprising an electrically conductive region (40) surrounding said sensor electrode (22) and an electrically conductive region (40) surrounding said ground electrode (25);

g) a device (26) for creating input signals to be applied to said sensor electrode (22) and for receiving output signals from said electrode (22),

h) the device (26) is capable of receiving both output signals changing depending on a change in capacity between said sensor electrode (22) and said ground electrode (25) in case of the presence of a dielectric object in the sensing region (34), and output signals changing depending on a change in capacity between said sensor electrode (22) and said ground electrode (25) in case of the presence of a non-conductive object due to an alteration in

the mutual position of said sensor electrode (22) and said ground electrode (25)."

IV. The following document is used for the present decision:

D2: EP-A-0 856 425

V. The respondent's arguments can be summarised for the present decision as follows:

The subject-matter of claim 1 did not involve an inventive step for the following reasons.

D2 did not disclose amongst others the feature according to which

– the body portion comprises an electrically conductive region surrounding the sensor electrode and an electrically conductive region surrounding the ground electrode (feature f).

However, when acknowledging the prior art, D2 mentioned in column 1, lines 35 to 36 two conductive regions made of polymers, which were separated by a hollow portion. These corresponded to the conductive regions surrounding the electrodes according to feature f.

Moreover, the patent in suit itself pointed out in column 3, lines 23 to 27 that electrically conductive regions surrounding the electrodes were known per se in the prior art.

Therefore, the provision of feature f was obvious and the subject-matter of claim 1 did not involve an inventive step.

VI. The appellant's arguments can be summarised for the present decision as follows:

The technical effect achieved by feature f was to enlarge the cross-section and change the shape of the electrodes, thereby providing a higher sensitivity and allowing their size and orientation to be changed (see column 3, lines 19 to 20 and column 5, lines 45 and 46).

The polymeric conductive zones addressed in D2 when describing the prior art (see column 1, lines 33 to 34) were parts of a contact switch and not of a capacitive switch as in the patent in suit. Therefore, these conductive zones did not achieve the object of providing a specific size and orientation of the sensing region and, consequently, could not lead to feature f in an obvious way.

As for the paragraph of the patent in suit cited by the respondent (column 3, lines 25 to 26), it merely disclosed that it was known to insert electrically conductive regions into the sealing of window frames. However, there was no evidence that the electrically conductive regions of the prior art referred to in that paragraph were used to change the size and orientation of the sensing region, as achieved in the patent.

Consequently, at least since none of the prior art documents used in the proceedings disclosed or

suggested feature f, the subject-matter of claim 1 as a whole involved an inventive step.

Reasons for the Decision

1. The appeal is admissible.

2. Allowability of the amendments

2.1 Present claim 1 is based on claims 1, 7, 12 and 13 as granted in combination with the technical features described in paragraphs [0012] and [0015] of the application as originally filed. Moreover, the wording " ... the presence of a dielectric object in the sensing region (34), or to an alteration in the mutual position ..." (in feature e of the patent as granted) has been replaced by "... the presence of a dielectric object in the sensing region (34), and ... due to an alteration in the mutual position ..." (in feature h); whereby the word "and" was also used in the same context in claim 13 as originally filed.

2.2 The dependent claims 2 to 9 of the main request correspond to claims 8 to 11 and 14 to 17 of the patent as granted.

2.3 Hence, present claims 1 to 9 satisfy the requirements of Article 123(2) EPC. In the oral proceedings this was not disputed by the respondent.

3. Inventive step

3.1 D2 discloses undisputedly (see in particular Figure 2):

A trapping door protector comprising:
at least one body portion (sealing profile 4)
at least one ground electrode (12) embedded in said body portion (4);
at least one sensor electrode (12) arranged spaced apart from said ground electrode (12) and embedded in said body portion (4), said sensor electrode (12) and said ground electrode (12) being charged to different electrical potentials;
said body portion (4) being at least partially made of an electrically non-conductive material in order to insulate said sensor electrode (12) with respect to said ground electrode (12);
a zone of reduced rigidity (gap 15, column 4, lines 35 to 38) provided between said at least one ground electrode (12) and said at least one sensor electrode (12); said zone of reduced rigidity (15) being arranged within said body portion (4) and coextruded together with the body portion (4) (see column 3, line 10), said zone of reduced rigidity (15) is in the form of an air gap provided in said body portion (4);
a device (20) for creating input signals to be applied to said sensor electrode (12) and for receiving output signals from said electrode (12),
the device (20) is capable of receiving output signals changing depending on a change in capacity between said sensor electrode (12) and said ground electrode (12) in case of the presence of a non-conductive object due to an alteration in the mutual position of said sensor

electrode (12) and said ground electrode (12) (see column 4, lines 39 to 45).

3.2 Therefore, the subject-matter of claim 1 differs from the trapping protector according to D2 amongst others in:

– a body portion comprising an electrically conductive region surrounding the sensor electrode and an electrically conductive region surrounding the ground electrode (feature f).

The problem to be solved by said distinguishing feature of the present invention is the provision of a trapping protector which has a higher sensitivity of the sensing region and which permits the sensing region to be changed in size and orientation (see column 3, lines 19 to 20 and column 5, lines 45 to 46).

3.3 As correctly noted by the respondent, D2 does indeed disclose polymeric conductive zones when describing a trapping door protector of the prior art (see column 1, lines 33 to 34). However, firstly these conductive zones are themselves the electrodes, and do not surround further separate electrodes. Moreover, these zones constitute the two parts of a contact switch (see column 1, lines 33 to 34) and not the two electrodes of the condenser according to D2 and to the patent in suit. Therefore, the trapping protector of the prior art cited in D2 relies on a completely different physical principle. Given this situation, the skilled person would not have any motivation to combine the polymeric regions of the acknowledged prior art with the electrodes of D2 in order to achieve the object posed.

Furthermore, contrary to the respondent's arguments, the passage in the patent specification, column 3, lines 23 to 27 does not state that international application WO 98/25780 cited therein discloses electrodes surrounded by an electrically conductive zone, but merely that such conductive zones - not necessarily surrounding electrodes - can be produced in accordance with the international application. Therefore, without the knowledge of the content of the international application - which is not part of the prior art used in the present appeal proceedings - it is not possible to assess whether or not it discloses the claimed feature f.

Hence, since none of the prior art documents used in the appeal proceedings discloses or suggests the use of conductive regions surrounding the electrodes of the trapping protector (feature f), the subject-matter of claim 1 involves an inventive step.

Therefore, it is not necessary for the board to consider further distinguishing features of the invention in view of D2 and their possible contribution to inventive step.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance with the order to maintain the patent according to:

claims 1 to 9	of the main request filed during the oral proceedings;
columns 1 to 8	of the adapted description filed during the oral proceedings; and
figures 1 to 13	of the patent as granted.

The Registrar: The Chairman:

V. Commare R. Ries