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D E C I S I O N
of 9 July 2002

Case Number: T 0849/99 - 3.2.3

Application Number: 93301870.7

Publication Number: 0560611

IPC: B08B 9/04, B08B 5/02

Language of the proceedings: EN

Title of invention:
In-duct cleaning apparatus

Patentee:
Ataka Corporation & Engineering Co. Ltd.

Opponent:
Kipp Umwelttechnik GmbH

Headword:
-

Relevant legal provisions:
EPC Art. 56, 100

Keyword:
"Inventive step - no"
"Opposition grounds"

Decisions cited:
-

Catchword:
-



Case Number: T 0849/99

D E C I S I O N
of the Technical Board of Appeal 3.2.3
of 9 July 2002

Appellant: Kipp Umwelttechnik GmbH
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Representative: Wiebusch Manfred
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Respondent: Ataka Construction & Engineering Co. Ltd.
(Proprietor of the patent) 1-9, 2-chome, Itachibori
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Representative: Ablett, Graham Keith
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office dated 5 July 1999
rejecting the opposition filed against European
patent No. 0 560 611 pursuant to Article 102(2)
EPC.

Composition of the Board:

Chairman: C. T. Wilson
Members: F. Brösamle
J.-P. Seitz

Summary of Facts and Submissions

I. With decision of 5 July 1999 the opposition division rejected the opposition filed against European patent No. 0 560 611 pursuant to Article 102(2) EPC.

II. Claim 1 as granted reads as follows:

"1. An in-duct cleaning apparatus for cleaning duct inside surfaces, said apparatus comprising:

a travelling means (3) drivable for moving forwards and backwards in the interior of a duct (1) to be cleaned;

a video camera (25) carried by said travelling means;

an image display means (5) for displaying an image taken by said video camera (25) to enable monitoring of the interior of the duct (1);

a control means (4) for controlling the travelling of said travelling means (3) in accordance with an image displayed on said image display means (4);

an air compressor (11); and

a compressed air ejecting nozzle (23) carried by said travelling means (3) and connected for receiving compressed air from said compressor (11) and for ejecting compressed air towards the interior of the duct;

characterised in that said compressed air ejecting nozzle (60) is provided on the travelling means (3) to be rotatable through a predetermined angle around an axis substantially parallel to

said duct (1) and to be inclined at an angle to said axis of rotation of the compressed air ejecting nozzle."

III. Against the above decision of the opposition division the opponent - appellant in the following - lodged an appeal on 26 August 1999 paying the fee and filing the statement of grounds of appeal on the same day. The appellant argued that the subject-matter of claim 1 in the light of

- (E1) EP-A-0 365 921
- (E2) GB-A-2 149 051 and
- (E3) US-A-2 821 814

lacked inventive step.

The patentee - respondent in the following did not share these findings and defended the patent in the granted form according to his main request.

IV. Following the board's Communication pursuant to Article 11(2) RPBA in which the board focussed on the requirements of Articles 56 and 100 EPC oral proceedings were held on 9 July 2002 - in which the respondent as communicated in his letter of 9 May 2002 was not present so that they were continued without him (Rule 71(2) EPC).

V. In the oral proceedings the appellant essentially argued as follows:

- the nearest prior art is seen in (E1) in which document an in-duct cleaning apparatus is disclosed having an air ejecting nozzle carried by

- travelling means and being rotatable through a predetermined angle around an axis parallel to the duct and furthermore being inclined at an angle to its axis of rotation;
- the features not known from (E1), namely a video camera, an image display means and control means for controlling the travelling means would be clearly derivable from (E2) which also relates to a cleaning robot;

 - a skilled person confronted with the problem of investigating the degree of contamination of a duct and also the cleaning effect of the duct, i. e. the problem to be solved by the invention, would easily combine (E1) and (E2) and directly arrive at the subject-matter of claim 1 even if not all degrees of freedom for moving the compressed air ejecting nozzle of the apparatus according to (E1) had to be maintained.

VI. The respondent argued (in writing) as follows:

- with respect to the subject-matter of claim 1 the construction laid down in (E1) is relatively complex and based on many working modes not envisaged in the claimed cleaning apparatus which is characterized by a nozzle rotatable around an axis parallel to the axis of a duct to be cleaned;

- continuous rotation about 360° would not be possible with the apparatus laid down in (E1), see its air supplying hoses being twisted in that case;

- even if (E2) discloses a video camera there would

not be disclosed a control means which directly used the image formed by the video camera to control the air ejecting nozzle;

- although (E3) describes a nozzle rotatable with respect to a pipe there would be no teaching derivable from (E3) as to how the nozzle is moved with respect to the pipe.

VII. The appellant requests that the decision under appeal be set aside and that the European patent No. 0 560 611 be revoked.

VIII. The respondent requests in writing that the appeal be dismissed and that the patent be maintained. He auxiliarily requested to set aside the decision under appeal and to maintain the patent on the basis of claims 1 to 14 filed with letter dated 27 January 2000.

Reasons for the Decision

1. The appeal is admissible.

2. *Novelty*

Novelty not being disputed by the appellant and the board the crucial issue to be decided is inventive step.

3. *Inventive step*

3.1 Starting point of the invention is in agreement with the appellant's findings (E1) which document relates to an in-duct cleaning apparatus for cleaning duct inside

surfaces by a compressed air ejecting nozzle carried by travelling means and being rotatable around a predetermined angle around an axis (substantially) parallel to the duct and being inclined at an angle to its axis of rotation, see Figures 1 to 3 reference signs "55" for the nozzle, "1, 3" for the travelling means, and see column 6, line 56 to column 7, line 2, disclosing the rotation angle of 360° of the nozzle (in both directions).

- 3.2 What is not known from (E1) is any means to automatically and remotely investigate the degree and location of any contamination inside the duct and to control the efficiency of the cleaning carried out.
- 3.3 The objectively remaining technical problem to be solved when starting from (E1) is therefore to create a possibility to check the degree and location of contamination of the inside surface of the duct to be cleaned and also to control the cleaning step itself.
- 3.4 According to claim 1 the above technical problem is solved by the application of a video camera carried by the travelling means (of the compressed air ejecting nozzle), the signals thereof being fed to an image display means to enable monitoring of the interior of the duct and by control means for controlling the said travelling means.
- 3.5 Starting from (E1) and confronted with the above problem of the invention a skilled person would turn to (E2) which also relates to a cleaning apparatus/robot and which clearly addresses the problem underlying the invention namely to monitor the inside surface of a duct to be cleaned by means of a video camera, see

page 1, lines 97 to 102, and page 4, lines 95 to 116, and to apply remote control means for controlling the operation of the cleaning means, see claim 1 of (E2), last feature.

3.6 Under these circumstances the board cannot see any obstacle against the combination of (E1) and (E2) even if (E1) is based on a more complicated cleaning apparatus offering possibilities which are not carried out in the subject-matter of claim 1. Claim 1 does not exclude by its wording a robot arm according to (E1). The simplification of a known robot arm by deleting degrees of freedom is felt to be within the possibilities of a person skilled in the technical field of robots/manipulators and not inventive.

3.7 Since in (E1) a 360° rotation of its nozzle is clearly set out, see column 7, lines 1/2, and granted claim 1 by its wording "to be rotatable through a predetermined angle" does not exclude rotating motions disclosed in (E1), respondent's argument with respect to twisting hoses cannot be accepted.

Whether or not control means are literally disclosed in (E2) appears to be irrelevant since a skilled person using a video camera and display means according to (E2) would necessarily make use of any appropriate control means to carry out the remote control mentioned in (E2), see its claim 1, last feature.

Even if problems existed with twisting air supply hoses a skilled person could turn to (E3) clearly pointing to rotatable nozzles in its column 1, lines 25 to 42, so that none of respondent's arguments in support of his main request can support the inventiveness of the

subject-matter of granted claim 1.

- 3.8 Summarizing, the subject-matter of claim 1 is novel but not based on an inventive step within the meaning of Articles 56 and 100(a) EPC so that claim 1 is not valid.

Auxiliary request

4. With letter dated 27 January 2000 the respondent filed claims 1 to 14 to be considered auxiliarily.

With respect to above claims **10 to 14** the board has observed in its Communication pursuant to Article 11(2) RPBA posted on 15 November 2001, see remarks 3 and 4, that Rule 57(a) EPC permits amendments to the claims provided they are occasioned by grounds for opposition specified in Article 100 EPC and that these claims could not be seen as a reaction to grounds of opposition under Articles 100(a), 100(b) or 100(c) EPC and that the auxiliary request, if maintained - would be rejected for this reason. The respondent did not present arguments to the contrary so that the auxiliary request is rejected.

5. Since neither the main request or the auxiliary request of the respondent are allowable European patent No. 0 560 611 cannot be upheld.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:

A. Counillon

C. T. Wilson