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D E C I S I O N
of 14 March 2002

Case Number: T 0560/00 - 3.2.4

Application Number: 92924740.1

Publication Number: 0615463

IPC: A62C 35/38

Language of the proceedings: EN

Title of invention:
Installation for fighting fire

Patentee:
Sundholm, Göran

Opponent:
(01) FOGTEC Brandschutz GmbH
(02) TOTAL WALTHER GmbH, Feuerschutz und Sicherheit

Headword:
-

Relevant legal provisions:
EPC Art. 54, 56, 123

Keyword:
"Novelty (yes)"
"Inventive step (yes)"

Decisions cited:
-

Catchword:
-



Case Number: T 0560/00 - 3.2.4

D E C I S I O N
of the Technical Board of Appeal 3.2.4
of 14 March 2002

Appellant: Sundholm, Göran
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 31 March 2000
revoking European patent No. 0 615 463 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman: C. A. J. Andries
Members: R. E. Gryc

C. Holtz

Summary of Facts and Submissions

I. The appellant (patent proprietor) lodged an appeal, received at the EPO on 30 May 2000, against the opposition division's decision revoking European patent No. 0 615 463 notified by post on 31 March 2000. The appeal fee was paid on 30 May 2000 and the statement setting out the grounds of appeal was filed on 31 July 2000.

II. Two oppositions were filed requesting revocation of the patent as a whole on the basis of Article 100(a) EPC in particular in view of the following prior art documents:

D2: DE-A-3 440 901,

D9: Brochure "Schnellansprechender horizontaler Seitenwandsprinkler mit vergrößerter Wurfweite", Total Walther Feuerschutz GmbH (Ein Unternehmen im Krupp-Konzern) and

D13: DD-B-157 211.

The opposition division held that lack of inventive step (Article 56 EPC) of the subject-matter of Claim 1 prejudiced the maintenance of the patent having regard to a combination of the teachings of documents D2 and D9.

III. In its statement setting out the grounds of appeal, the appellant contended that, in the absence of any concrete evidence, document D9, which is not dated, should not be considered as having been made available to the public before the priority date of the opposed

patent.

The appellant was of the opinion that the spray produced by the sprinklers of D2 having insufficient kinetic energy to form a barrier against fire and smoke, the skilled person would not look to D2 since D2 would not teach him how to produce the partitioning effects but would solely teach him how to fill a space with finely atomised liquid. The appellant also drew attention to the fact that the requirements for conventional sprinkler and water mist systems being different, it was not possible in an existing fire system to simply substitute one type for another type of nozzle.

As regards the system of D13, the appellant was of the opinion that it could not attack a fire burning at some distance from the spray heads.

With his letter of 14 February 2002 the appellant submitted a new main request and five auxiliary requests.

Both respondents 01 and 02 (respectively opponent 01 and opponent 02) pointed out that D9 was a typical publicity brochure which referred to the Total Walther company as a company of the Krupp concern; since this company left the Krupp concern in 1989, this proved that D9 has been made available to the public before the priority date (i.e. 1991) of the opposed patent.

As regards D2, respondent 01 contended that the nozzles disclosed therein produced a fog like spray for extinguishing a fire with a minimum risk of water damage so that, for the skilled person, it was obvious

to use a nozzle of D2 in an installation according to D9 and to arrive thus at the invention.

Respondent 02 pointed out that D2 related to nozzles producing microscopic water particles sprayed in a confined space for preventing penetration of oxygen into a fire and extinguishing the fire without water damages. Moreover, respondent 02 contended that, in the example as illustrated in Figure 2 of D2, the water beam concentrated in the distribution zone 5 should have a high penetration power and be able to produce a barrier of fog like spray.

Respondent 02 also was of the opinion that the teaching of D2 was not limited to the filling of a room with an extinguishing fog but that it disclosed also the ability of the fog like spray to produce a barrier effect against smoke and heat. For respondent 02, it was also obvious for the skilled person to combine the teachings of D9 and D13 in order to arrive at the subject-matter of Claim 1.

IV. Oral proceedings took place on 14 March 2002.

The appellant explained that the invention used the water fog in a new way by creating a circulation of air and water droplets which were easily transported to the seat of the fire, said circulation assisting the pushing down of the spray to produce a barrier of fog like spray in front of the door.

All parties considered D13 as the document closest to the invention.

The respondents contended that the functions of the

installation disclosed by D13 were not only to create a partitioning effect but also to fight a fire, at least in the area close to the installation. According to respondent 01, the main spray directions of the nozzles of D13 were oriented downwards in order to be able to produce a protective tunnel barrier. Respondent 02 argued that Claim 1 did not specify the form of the barrier, that a barrier might have any form and that the tunnel produced by the nozzles of D13 could thus be considered as a barrier in the meaning of Claim 1.

V. **Requests:**

At the end of the oral proceedings, the appellant requested that the decision under appeal be set aside and that the patent be maintained, with claims 1 to 11 of the main request, as submitted on 14 February 2002, or claims 1 to 8 of the first auxiliary request, as submitted in the oral proceedings on 14 March 2002, the amended description also submitted in these oral proceedings and drawings as granted, alternatively in accordance with either of the second to fifth auxiliary request, submitted on 14 February 2002.

The respondents requested that the appeal be dismissed.

VI. Claim 1 of the main request, as submitted on 14 February 2002, reads as follows:

"Installation for fighting fire , in particular for a comparatively small space (1; 31, 31a, 41, 41a; 61), such as a ship cabin or a hotel room, comprising at least one spray head (3, 4; 33, 33a, 34, 43, 43a; 63) and releasing means for activating said at least one spray head (3, 4; 33, 33a, 34, 43, 43a; 63)

characterised in that at least one spray head (4; 34; 63) arranged to have its main spray direction inclined at least to some extent downwards, which is adapted on activation to produce a barrier of fog-like spray (73, 74), is disposed near a door (10; 40, 40a, 50, 50a; 70) of the space(1; 31, 31a, 41, 41a; 61) and mounted on a wall or ceiling above the door, and in that the releasing means is adapted to activate said at least one spray head (4; 34; 63) near the door(10; 40, 40a, 50, 50a; 70) to produce the barrier of fog like spray."

Claim 1 of the first auxiliary request, as submitted in the oral proceedings on 14 March 2002, reads as follows:

"Installation for fighting fire, in particular for a comparatively small space (1; 31, 31a, 41, 41a; 61), such as a ship cabin or a hotel room, comprising at least one spray head (3, 4; 33, 33a, 34, 43, 43a; 63) and releasing means for activating said at least one spray head (3, 4; 33, 33a, 34, 43, 43a; 63) characterised in that at least one spray head (4; 34; 63) arranged to have its main spray direction inclined at least to some extent downwards, which is adapted on activation to produce a barrier of fog-like spray (73, 74), is disposed near a door (10; 40, 40a, 50, 50a; 70) of the space(1; 31, 31a, 41, 41a; 61) in said space (61), is mounted on a wall above the door (70) and includes said releasing means, and in that the releasing means is adapted to activate said at least one spray head (4; 34; 63) near the door(10; 40, 40a, 50, 50a; 70) to produce the barrier of fog-like spray inside the space, in front of the door."

Reasons for the Decision

1. *Admissibility*

The appeal is admissible.

2. *Main request (as submitted on 14 February 2002)*

Modification of Claim 1 (Article 123(2) EPC)

Claim 1 as granted has been modified (see in particular in column 7, line 13 of the patent specification, between the reference signs relating to the space and the expression: "and in that") inter alia by the addition of the following feature:

"and mounted on a wall or ceiling above the door".

This new feature taken in combination with the feature: "near the door" is a generalisation of the location of the spray head which covers the mounting of said spray head near the door either on the wall or on the ceiling both inside and outside the small space to be protected against fire.

However, the sole locations "near the door" which are disclosed by the application as originally filed are either on the wall above the door inside the space (see Figures 5 and 6) or on the ceiling in the corridor (see Figures 1 and 2) whereas, in the said application, locations "near the door", on the wall above the door in the corridor or on the ceiling inside the space, are disclosed neither explicitly nor implicitly.

Consequently, the aforementioned modification

introduces in the opposed patent subject-matter which extends beyond the content of the application as originally filed and it is therefore unallowable in application of Article 123(2) EPC.

The main request is thus unacceptable and must be rejected.

3. *First auxiliary request (as submitted at the oral proceedings)*

3.1 Modifications of Claim 1 (Article 123 EPC)

Claim 1 as granted (see column 7 of the patent specification) has been modified according to the following:

- (a) line 9, between the reference signs relating to the spray head and the word "which", the following feature has been added: "arranged to have its main spray direction inclined at least to some extent downwards".

Counterparts can be found in the application as originally filed on page 7, lines 12 to 13 and page 8, lines 10 to 11, 16 to 17 and 18 to 20 and also in Figure 5.

- (b) line 13, between the reference signs relating to the space and the expression: "and in that", the following features have been added: "in said space (61), is mounted on a wall above the door (70) and includes said releasing means".

Counterparts can be found in the application as

originally filed on page 7, lines 10 to 12 and also in Figure 5.

- (c) line 17, at the end of the claim, after the word "spray", the following features have been added: "inside the space, in front of the door."

Counterparts can be found in the application as originally filed on page 7, lines 10 to 12 and 24 to 28 and also in Figure 5.

These modifications do not add any new matter to the opposed patent and reduce the protection conferred by the claim so that they fulfil the requirements of Article 123(2) and (3) EPC and are therefore admissible.

3.2 Interpretation of Claim 1

The following expressions, used both in Claim 1 as granted and in Claim 1 of the first auxiliary request, should be interpreted as follows:

- "installation for fighting fire" (see column 7, line 3 of the patent specification): This expression must be interpreted as referring to an installation designed for extinguishing a fire starting not only close to the spray heads location but also at any place of the space protected by said spray heads, even at the worst place of said space i.e. at the end of the space opposite the spray heads location (see column 5, lines 21 to 24).
- "in particular for" (see column 7, line 3 of the

specification): In agreement with the appellant, this expression should be interpreted as meaning: "suitable for".

- "to some extent downwards": this expression, introduced into Claim 1 as granted between the reference signs relating to the spray head and the word "which" (see column 7, line 9 of the specification), should be given the general meaning of: "inclined under the horizontal".
- "barrier" (see column 7, lines 10 and 16 of the specification): in order that Claim 1 complies with Article 123(2) EPC and be allowable, the word "barrier" must be interpreted as designating a partition formed by a spray pressed downwards by a flow of hot air and smoke produced by a fire (see the application as originally filed: page 7, lines 17 to 20 and page 8, lines 22 to 23), i.e. not any type of partition (as contended by respondent 02 at the oral proceedings) which is not disclosed originally but a partition formed by a spray pattern which either has the overall shape of a curtain (a so-called curtain-like barrier) or provides a "curtain effect" (see in particular the application as originally filed: page 2, line 13; page 5, lines 8 to 9 and 13; page 6, line 26; page 7, line 14; page 9, lines 18 to 20; page 10, lines 1 to 2 and Figures 5 to 6).
- "fog-like spray" (see column 7, lines 10 to 11 and 16 to 17 of the specification): this expression should be interpreted according to the definition given in the description of the opposed patent (see column 2, lines 12 to 14 of the

specification) as designating a spray of small droplets having a diameter of typically 30 to 100 microns preferably set in a strong whirling motion.

3.3 The state of the art at the priority date

Document D9 bears no date, but on its front and last pages, references are made to the "Total Walther" company being part of the Krupp concern.

Respondent having submitted with his letter of 8 February 2001 evidences showing that by January 1990, the "Total Walther" company was no longer a company of the Krupp concern, it is logical to consider that D9 was printed before that the "Total Walther" company was sold by the Krupp concern i.e. before the end of year 1989.

However, and even if, as contended by opponent 02 this document was intended to be distributed to the public, such a distribution has not been proven. Therefore, the availability to the public of D9 before the priority date of the opposed patent has not been established with certainty and the Board cannot consider this document as forming part of the state of the art in the meaning of Article 54(2) EPC at the priority date.

3.4 Novelty (Article 54 EPC)

None of the two other remaining documents D2 and D13, considered in the appeal proceedings as forming part of the state of the art, discloses an installation comprising in combination all the features of Claim 1.

In particular, the Board agrees with the appellant's contention that the main function of the installation of D13 is not to fight a fire but to prevent a fire from spreading through an opening from one room to another.

Since novelty has not been disputed by the respondents during the oral proceedings, there is no need for further detailed substantiation.

Therefore, the subject-matter of Claim 1 is new in the meaning of Article 54 EPC.

3.5 The state of the art closest to the invention

The Board considers that D13 discloses the prior art closest to the invention, in particular because it belongs to the same technical field, and teaches the same basic idea of using spray heads located close to an opening for preventing a fire and the smoke generated by it from spreading through said opening (compare for example the opposed patent: column 1, lines 29 to 30; column 1 from line 58 to column 2, line 1 and column 3, lines 48 to 50 with D13: page 1, the title and lines 8 to 9 and page 2, lines 11 to 12 and the last paragraph).

However, the installation according to the invention differs from the installation of D13 in that fighting fires at any place of the space lodging its spray heads is its main function in addition to its partitioning function between two communicating spaces (see the opposed patent: column 5, lines 21 to 25).

Additional differences reside in that the at least one

spray head according to the invention:

- is arranged to have its main spray direction inclined at least to some extent downwards whereas, in D13, on the basis of the schematic view shown on Figure 3, the main spray direction of the spray head seems to be horizontal at least originally, if it is at all reasonable to derive a clear teaching from that schematic view.
- is adapted on activation to produce a barrier of fog-like spray in the meaning of the invention i.e. a spray of small droplets having a diameter of 30 to 100 microns (see the opposed patent: column 2, lines 12 to 13) whereas, in D13 the diameter of the droplets is not specified;
- is mounted on a wall above the door (70) whereas, in D13, the spray heads are located on both sides of and within the opening, as represented on Figures 1 and 2;
- is disposed near a "door" whereas, in D13, the opening between the rooms is not qualified as being a "door" in the meaning of the invention but just a passage, for example, for permanent goods conveyors (see D13: Figures 1 to 3).

3.6 Problem and solution

Starting from the installation of D13, and taking into account the above-mentioned differences, the problem to be solved by the skilled person is to improve said installation in order to provide it, beside its protective function, with the additional capability of

fighting a fire.

The Board is satisfied that, by virtue of the particular location, arrangement and adaptation of at least one spray head (see the opposed patent: column 5, lines 21 to 25), the installation as claimed in claim 1 does solve this problem.

3.7 Inventive step (Article 56 EPC)

3.7.1 D2 relates to spray heads designed for producing a spray having a good hovering capacity and being capable of filling up a space as a diffuse fog in order to extinguish a fire without causing damages inside the space. However, the pattern of the spray produced by the sprinklers of D2 differs from the spray pattern of the spray heads according to Claim 1 in that it cannot form a barrier in the meaning of the invention (see section 3.2 above).

Moreover, D2 does not specify what pressure is meant by the expression "high pressure" (see D2: page 5, line 10) and the Board has some doubt that, at the priority date of D2 (1983), a pressure corresponding to that quoted in the opposed patent (i.e. from 50 to 300 bar) was intended to be used in such an installation.

3.7.2 Therefore, even if the Board might agree with the argument of the respondent according to which replacing the nozzles of D13 by those of D2 would be obvious for the skilled person, the skilled person would not arrive at the invention by means of said modification because it is not sure that such a replacement would result in the installation keeping its protective function i.e. its capability of forming a barrier isolating two rooms

from each other.

The skilled person might have solved the problem stated in section 3.6 above without inventive step by mounting some nozzles of D2 in addition to (instead of in replacement of) the existing spray heads of D13 which form a protective tunnel barrier. However, also in that case, the skilled person would still not arrive at the invention because each one of the spray heads of D13 would not take up both the functions of fighting a fire and creating a protective barrier at the opening (see the specification: column 5, lines 21 to 25) as the one spray head according to the invention and these spray heads would still neither be mounted on a wall above the opening, with their main spray direction inclined to some extent downwards, nor operated at a sufficiently high pressure (50 bar up to 300 bar) to produce a fog-like spray in the meaning of the invention (see section 3.2 above).

- 3.7.3 When starting from the installation of D13 and in order to arrive at the invention, the skilled person would need thus to rethink completely said known installation on the basis of using double-functions spray heads and to adapt both the mounting and the functioning of these spray heads. All these modifications, made at the priority date without the help of any hint from the state of the art cannot be considered as following plainly and logically from the state of the art so that they imply an inventive step within the meaning of Article 56 EPC.

4. *Conclusion*

The present invention, as described and claimed in the

version of the opposed patent corresponding to the first auxiliary request filed during the oral proceedings, meets the requirements of the EPC and European patent No. 0 615 463 can therefore be maintained on the basis of said version.

5. Auxiliary requests 2 to 5 (as submitted on 14 February 2002)

Since the version of the opposed patent corresponding to the first auxiliary request has been accepted, there is no need for examining the other auxiliary requests.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the first instance with the order to maintain European patent No. 0 615 463 in the following version:

Claims: 1 to 8 of the first auxiliary request as submitted in the oral proceedings on 14 March 2002,

Description: columns 1 to 6 also filed on 14 March 2002, and

Drawings: Figures 1 to 9 as granted.

The Registrar:

The Chairman:

G. Magouliotis

C. Andries