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Datasheet for the decision of 22 February 2013

Case Number: T 1278/09 - 3.3.05

Application Number: 01302454.2

Publication Number: 1136114

IPC: B01D 46/42, B01D 46/46, A61B 18/00

Language of the proceedings: EN

Title of invention:
Air filtration system with filter monitoring device

Applicant:
Stackhouse, Inc.

Opponent:
-

Headword:
Air Filter/STACKHOUSE

Relevant legal provisions:
EPC Art. 54(1)(2)

Keyword:
"Novelty (all requests): No - device configured for a specific purpose directly and unambignously disclosed in the prior art"

Decisions cited:
-

Catchword:
-

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Case Number: T 1278/09 - 3.3.05

D E C I S I O N
of the Technical Board of Appeal 3.3.05
of 22 February 2013

Appellant: (Applicant)
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Representative:
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted on 9 February 2009 refusing European application No. 01302454.2 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman: G. Raths
Members: J.-M. Schwaller
C. Vallet

Summary of Facts and Submissions

I. This appeal lies from the decision of the examining division refusing European patent application No. 01 302 454.2 on the grounds that the subject-matter then on file lacked the requirements of Articles 123(2), 84 and 56 EPC.

II. In the contested decision, the claimed replaceable filter structure was in particular held to be an obvious alternative to the filter known from document

D1: US 6 009 404.

III. With the grounds of appeal dated 8 June 2009, the appellant filed five sets of amended claims as a main request and as auxiliary requests 1 to 4.

Independent claim 1 of the main request reads as follows:

"*1. A replaceable filter structure for use within a filtration system for trapping airborne contaminants and positionable within an airflow channel of the filtration system through which air to be filtered travels, the replaceable filter structure comprising:*

a) at least one filtration medium; and

b) a self-contained microprocessor and memory device integral with the filter structure and communicable with a system processor of the filtration system, for calculating, and storing time duration operability of the at least one filtration medium in relation to

cumulative motor speed, operation duration, and air pressure difference measurements and being further arranged to send the operability data to the system processor."

Independent claim 1 of the first auxiliary request reads as follows (differences to the claims of the main request highlighted):

"*1. A replaceable filter structure for use within a filtration system for trapping airborne contaminants and positionable within an airflow channel of the filtration system through which air to be filtered travels, the replaceable filter structure comprising:*

a) at least one filtration medium; and

b) a self-contained microprocessor and memory device integral with the filter structure; ***the microprocessor and memory device being*** ~~*and*~~ *communicable with a system processor of the filtration system;* ***the microprocessor and memory device being configured to*** ~~*for*~~ *calculat****e****, and stor****e*** *time duration operability of the at least one filtration medium in relation to cumulative motor speed, operation duration, and air pressure difference measurements and being further arranged to send the operability data to the system processor.*"

Independent claim 1 of the second auxiliary request reads as follows (differences to the claims of the main request highlighted):

"*1. A replaceable filter structure for use within a filtration system for trapping airborne contaminants and positionable within an airflow channel of the filtration system through which air to be filtered travels, the replaceable filter structure comprising:*

a) at least one filtration medium; and

b) a self-contained microprocessor and memory device ~~integral with the filter structure and~~ communicable with a system processor of the filtration system; ***the microprocessor and memory device being configured to*** *~~for~~ calculat**e**, and stor**e** time duration operability of the at least one filtration medium in relation to cumulative motor speed, operation duration, and air pressure difference measurements and being further arranged to send the operability data to the system processor.*"

Independent claims 1 of the third and fourth auxiliary requests are identical with independent claims 1 of the first and second auxiliary request, respectively.

IV. In a communication dated 28 June 2012, the board expressed its preliminary opinion that the subject-matter of the different claims 1 on file lacked novelty over the filtering device known from document D1.

V. With a letter dated 25 October 2012, the appellant challenged the board's objections.

VI. In response to the summons to oral proceedings, the appellant submitted an amended set of claims dated

29 January 2013 as a new first auxiliary request. The previous first to fourth auxiliary requests were declared to become the new second to fifth auxiliary requests, respectively.

Claim 1 of the **new first auxiliary request** reads as follows (differences to the claims of the main request highlighted in bold):

"1. A replaceable filter structure for use within a filtration system for trapping airborne contaminants and positionable within an airflow channel of the filtration system through which air to be filtered travels, the replaceable filter structure comprising:

a) at least one filtration medium; and

b) a self-contained microprocessor and memory device integral with the filter structure and communicable with a system processor of the filtration system, ***configured for receiving operation duration data and air pressure difference measurement data from the system, and configured*** *for calculating, and storing time duration operability of the at least one filtration medium in relation to cumulative motor speed, operation duration, and air pressure difference measurements and being further arranged to send the operability data to the system processor.*"

VII. At the oral proceedings which took place on 22 February 2013, the discussion focused in essence on the issue of novelty, and the board also heard the arguments relating to inventive step, in particular in the light of the content of document D1.

VIII. The appellant requested to set aside the contested decision and to grant a patent on the basis of the claims according to the main request dated 8 June 2009, or alternatively on the basis of one of the sets of claims of the first to fifth auxiliary request dated 29 January 2013.

Reasons for the Decision

1. Main request

In the board's view, the subject-matter of claim 1 of this request lacks novelty over the disclosure of document D1 for the following reasons.

1.1 D1 (column 1, lines 14 to 21) relates to a method for cost-orientated monitoring and/or display of the operating condition of a **replaceable** (or regenerable) conditioning device, in particular a **filter**, flowed through by a fluid, wherein by means of at least one **sensor** at least one value from which the state of wear of the conditioning device can be deduced is measured continuously or at intervals. The measured value can be inter alia a pressure differential, the amount of through-flow of the fluid or a revolution speed (D1, column 5, lines 7 to 11).

1.2 As a means suitable for carrying out the above method, D1 describes (independent claim 23) a device comprising: **at least one measuring sensor** (11, 12) for measuring a parameter of the operating condition of the conditioning device,

an input unit (23) for data and/or functional dependencies, with respect to at least energy costs relating to the conditioning device (1),
a **memory unit** with non-volatile memories (19) for said data and/or functional dependencies,
a **calculator** (22) connected to the memory unit, and
a signalling or **display device** (28, 29) allocated to the conditioning device (1). A **remaining life time** (ΔT2) can be indicated on the display (D1, claim 28).

1.3 In the board's view, the above device comprises all the physical means defined in claim 1 at issue, and said means are furthermore plainly suitable for the different functions disclosed in claim 1 at issue. In particular, it is clear from Figures 7 and 8 that the calculator (22) and memory (19) are communicable via the contacts (54) with the other calculator (also labelled (22)) located in the programming unit (53). The calculator and memory in the device of D1 are thus "communicable" in the sense of claim 1, i.e. with another calculator, such as the "system processor of the filtration system" defined in claim 1 at issue. The calculator and memory defined in D1 further are plainly suitable for "calculating and storing time duration operability of the filtration medium in relation to cumulative motor speed, operation duration, and air pressure difference measurements" in the sense of claim 1 at issue, because any calculator/memory system is supposed to calculate, store and retrieve information of the type defined in claim 1. Furthermore, the calculator/memory system of D1 is in particular supposed to be used with the specific embodiment described in D1, column 12, lines 51 to 58, in which the data (fluid pressure loss, rotational speed of the

pump) collected by the memory and calculator are similar to those collected in claim 1, namely motor speed and fluid pressure difference.

1.4 The appellant argued that the subject-matter of claim 1 at issue was novel over the filtering device known from D1 because it was not "replaceable" in the sense of claim 1, which requires that the microprocessor and memory device be "self-contained and integral" with the filter structure. Furthermore, the device of D1 was not "arranged to send the operability data to the system processor".

1.5 The board cannot accept these arguments because the calculator/memory system of D1 is necessarily "arranged to send the operability data" to another processor, such as the one defined in claim 1, since it is configured for calculating a remaining lifetime ($\Delta T2$) and for sending this information via the contacts (54) to the other calculator (22) and the display (24).

That the calculator and memory are "self-integrated and integral" with the filter structure is not apparent for instance from the filtering device illustrated in particular by Figure 2 of D1 reproduced below.

However, according to the specific embodiment described in dependent claim 31 of D1, the whole device for monitoring an operation condition can be **integrated into a housing (5a; 5b) of the conditioning device comprising filter (4)**, i.e. "self-integrated and integral with the filter structure" and "replaceable" in the sense of claim 1.

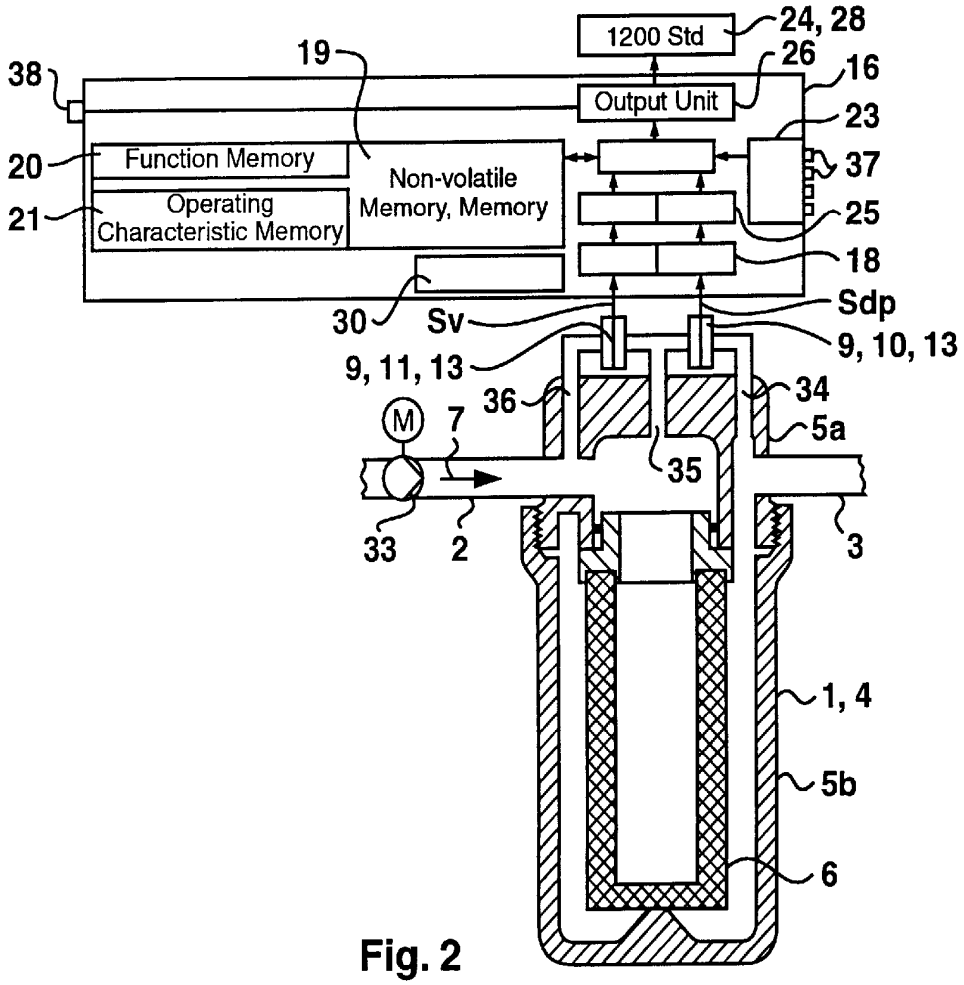

Fig. 2

1.6 It follows from the above that the device known from document D1 falls directly and unambiguously under the wording of claim 1 at issue, which therefore does not meet the novelty requirements of Article 54(1) and (2) EPC.

2. First auxiliary request - Novelty

Claim 1 of this request differs from claim 1 of the main request in that **instead of being** suitable "*for calculating and storing time duration operability of the at least one filtration medium in relation to cumulative motor speed, operation duration, and air pressure difference measurements*", the microprocessor

and memory device is defined as being configured for receiving operation duration data and air pressure difference measurement data from the system, and configured for "*calculating, and storing time duration operability of the at least one filtration medium in relation to cumulative motor speed, operation duration, and air pressure difference measurements*".

In the board's view there is no doubt that the calculator/memory system known from D1 is "configured for receiving operation duration data and air pressure difference measurement data from a system" since as indicated in point 1.3 it receives data such as the fluid pressure loss and the rotational speed of the pump, which clearly are the type of data received by the microprocessor and memory defined in claim 1 at issue.

That the calculator/memory system known from D1 is further "configured for calculating and storing time duration operability of the at least one filtration medium in relation to cumulative motor speed, operation duration, and air pressure difference measurements" is self-evident since, as explained in points 1.3 and 1.5 above, it receives data such as the pressure loss and the rotational speed of the pump and converts this data into a remaining time ($\Delta T2$) supposed to be displayed.

It follows that claim 1 of the new first auxiliary request also lacks novelty under Article 54(1) and (2) EPC.

3. Second to fifth auxiliary requests

The appellant declared at the oral proceedings that the arguments in favour of the novelty of the claims 1 of these requests would not be different from those put forward for the previous requests.

The board does not see which particular feature in these claims could provide novelty to the thus claimed subject-matter, which therefore also lacks the requirements of Article 54(1) and (2) EPC.

4. In summary, none of the requests on file can be allowed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman

C. Vodz G. Raths