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D E C I S I O N
of 7 May 1996

Case Number: T 0542/94 - 3.2.1

Application Number: 90113201.9

Publication Number: 0400688

IPC: F16K 31/02, E03C 1/05

Language of the proceedings: EN

Title of invention:
Ultrasonic flow-control system

Applicant:
RECURRENT SOLUTIONS, Inc.

Opponent:
-

Headword:
-

Relevant legal provisions:
EPC Art. 76(1), 111(1)
EPC R. 67

Keyword:
"Divisional application - added subject-matter - no, after amendment"
"Decision re-appeals - remittal (yes)"

Decisions cited:
T 0151/84, T 0260/85, T 0159/86, T 0331/87, T 0514/88, T 0027/89, T 0192/89, T 0187/91, T 0441/92

Catchword:
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Case Number: T 0542/94 - 3.2.1

D E C I S I O N
of the Technical Board of Appeal 3.2.1
of 7 May 1996

Appellant: RECURRENT SOLUTIONS, Inc.
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted 4 February 1994 refusing European patent application No. 90 113 201.9 pursuant to Article 97(1) EPC.**

Composition of the Board:

Chairman: F. A. Gumbel
Members: P. Alting van Geusau
G. Davies

Summary of Facts and Submissions

I. European patent application No. 90 113 201.9 is a divisional application of European patent application No. 84 903 589.4, filed on 19 September 1984. This patent application was refused by a decision of the Examining Division given at oral proceedings on 12 January 1994 with written reasons posted on 4 February 1994.

The reason for the refusal was that the subject-matter of claim 1 of the main request filed with a letter dated 14 December 1993, did not comply with the requirements of Article 123(2) EPC. In particular, the Examining Division was of the opinion that there was no basis for a generalisation of the claimed subject-matter to relate to an automatic flow-control system for a faucet rather than to an ultrasonic flow-control system, as disclosed in the parent application.

II. On 30 March 1994 a notice of appeal was lodged against that decision together with payment of the prescribed fee. In the statement of grounds of appeal filed on 3 June 1994 the appellant disputed the Examining Division's view and in support of its submissions, filed affidavits by Mr Charles S. Allen and Mr Raymond Rogus, dated 25 May 1994 and 26 May 1994, respectively.

III. In a communication in preparation for oral proceedings auxiliarily requested by the appellant, the Board expressed the provisional opinion that, having regard to the originally distinctly disclosed aspect of avoidance of visible electrical connections to a faucet, which aspect was independent of ultrasonic flow control, there was no need to restrict the claim to an ultrasonic flow control system.

However, the Board drew attention to the fact that, in accordance with the disclosure of the parent application, elimination of electric wires was essentially the result of the use of a rechargeable battery in combination with a turbine driven generator. It would be immediately apparent to the skilled person that also the magnetic latching valve formed part of this combination of features in view of the fact that such a valve required very little power and was therefore particularly suitable for power supply by a small rechargeable battery.

Since claim 1 did not contain this full combination of features and since there appeared to be no support in the originally filed application documents for dispensing with the missing features (i.e. the battery and the turbine driven generator), claim 1 in accordance with the main request filed with letter dated 14 December 1994 did not appear to meet the requirements of Article 76(1) EPC.

IV. At oral proceedings held on 7 May 1996 the appellant filed main and auxiliary requests of which claim 1 in accordance with the main request reads as follows:

"1. An automatic flow-control faucet comprising a fluid conduit, having an inlet and an outlet (24), for conducting fluid from its inlet to its outlet, a valve (12) interposed in the conduit and operable between an open state, in which it permits flow through the conduit, and a closed state, in which it prevents flow through the conduit, an actuator (13) adapted for reception of drive signals and connected to the valve (12) for operating the valve between its open and closed states in response to the drive signals, and a sensor circuit (16, 20) for sensing the presence of objects in a target region (22) and for applying drive signals to

the actuator to control flow of fluid through the conduit in response to distance and/or motion of the sensed object, the automatic flow-control device characterised in that:
the actuator (14) is of the type that requires power only to change state so that it keeps the valve (12) in its open state when no power is applied to it in the open state, and it keeps the valve (12) in its closed state when no power is applied to it in the closed state; and
the flow-control device includes a self-contained power source (18, 68) that powers the sensor circuit."

V. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of claim 1 according to the main or auxiliary requests filed at the oral proceedings.

In support of these requests the appellant essentially relied on the following submissions:

The problems listed in the application as it was originally filed related to the lack of directivity and distance discrimination as well as undesired sensitivity to sound from vibration in stainless steel sinks of the conventional sensor means, on the one hand, and to the psychological barrier to adoption of a faucet with automatic flow control that needed to run electric wires to the faucet on the other hand. In contrast to the problems related to the sensor means the psychological-barrier problem was not linked to any particular sensing approach. Clearly the use of a latching valve contributed to the elimination of the psychological barrier because it minimised the energy use and thus made it feasible for use of an on-board power source such as a battery. Since the problem solved by this

second invention was not peculiar to any particular sensor variety, the solution claimed was not so limited either.

In respect of the question whether also the rechargeable battery and a turbine-driven generator as disclosed in the preferred embodiment belonged to the invention under consideration, it was readily apparent to a person skilled in the art that the apparatus of the invention would operate perfectly well with the use of a normal battery in place of the rechargeable battery. It was immediately apparent to any practitioner that elimination of external electrical wires only required the apparatus to have a self-contained power supply. Moreover, the originally-filed application refers in its summary of invention to energy-storage devices in general, a rechargeable battery being mentioned only as an example of such a device.

Also when considering the case law of the boards of appeal omission of a feature was admissible if it was obviously non-essential to the functioning of the apparatus claimed. In this respect reference was made to the decisions T 151/84, T 260/85 (OJ EPO 1989, 105), T 331/87 (OJ EPO 1991, 22), T 514/88 (OJ EPO 1992, 570), T 159/86, T 27/89, T 192/89 and T 187/91 (OJ EPO 1994, 572) according to which generalisations within the knowledge of the skilled person could be considered to be within the framework of the disclosure of a patent or patent application.

Reasons for the Decision

1. The appeal is admissible.

2. *Procedural considerations*

2.1 The present (divisional) application was rejected pursuant to Article 123(2) EPC because, in the Examining Division's opinion, there was no basis in the parent application for the broadening of the subject-matter to include an automatic flow control in general.

2.2 Considering that the subject-matter of claim 1 as filed in the divisional application remained essentially the same following the filing of the divisional application, Article 123(2) EPC referred to by the Examining Division does not apply.

Rather the issue to be decided in the present case is whether the present divisional application was filed in accordance with the provisions of Article 76(1) EPC, in particular the provision that a divisional application may be filed only in respect of subject-matter which does not extend beyond the content of the earlier application as filed.

2.3 It is to be noted that the requirement for admissibility of the claims of a divisional application under Article 76(1) EPC corresponds to that set out in Article 123(2) EPC (see also point 4.3 of the decision T 441/92 of 10 March 1995).

Since the Examining Division's arguments are essentially based on a comparison between the subject-matter of the parent application and that of claim 1 of the divisional application, their findings are in fact based on

Article 76(1) EPC. Hence, the imprecise ground for rejection mentioned in the decision under appeal did not put the appellant in a disadvantageous position so that there is no case for reimbursement of the appeal fee under Rule 67 EPC.

3. *Admissibility of the divisional application*

3.1 In the present case the subject-matter claimed in the divisional application essentially relates to an automatic flow-control faucet which is characterised in that it comprises a particular type of actuator (a latch valve) for fluid control and a self-contained power source that powers the control circuit.

In contrast thereto the claims as originally filed in the parent application were directed to an ultrasonic flow-control system and the sole preferred embodiment described also related to an ultrasonically-controlled system which, in addition to the features of claim 1 of the present main request, also included an ultrasonic flow control, a turbine and a generator assembly, together with a rechargeable battery so that the flow of water itself recharged the battery.

The issue to be decided here is therefore whether, by omitting from the claim the features relating to an ultrasonic flow control, and by not mentioning the turbine and the generator assembly including a rechargeable battery (thereby broadening the scope of the claimed subject-matter), the application offends against the requirements of Article 76(1) EPC, i.e. whether or not the subject-matter of the divisional application thereby was extended beyond the content of the earlier (parent) application as filed.

3.2 In accordance with the case law of the boards of appeal, the requirement that no subject-matter should be introduced which extends beyond the content of the application as filed is interpreted so as to allow an amendment only when there is a clear basis for that amendment in the application as originally filed.

In the present case, it has therefore to be examined whether the parent application comprises a basis for the more general definition of the invention as presented in claim 1 on file.

3.3 It was not disputed that there is no explicit disclosure of the specific combination of features as defined now in claim 1 as a distinct and complete solution to the problems stated in the parent application.

However, the basis for a claim may also be implicit if it would be immediately evident to the skilled person, when taking account of the disclosure of the application as a whole, that the claimed subject-matter provides a complete solution to the problem addressed. In this respect attention is drawn to the decision T 331/87 (supra, reasons points 3 and 5) referred to by the appellant.

3.4 The Board agrees with the appellant that there are two distinct problems addressed in the parent application, page 2, lines 25 to 30, and that the aspect of avoidance of the psychological barrier caused by the use of visible electrical connections to the faucet under consideration is immediately recognised by the skilled reader as being fully independent of the aspect of the ultrasonic flow control.

In the summary of invention of the parent application on page 3, lines 20 to 29, the elimination of the need for electric wires is exclusively related to the use of an energy-storage device, such as a rechargeable battery, as a power source for the automatic flow-control device, which solution does not have a technical link with the specific manner in which the flow of water in the faucet is controlled.

Therefore there is no need to restrict the claim directed to the solution of this further aspect to ultrasonic flow control means.

3.5 Considering the functioning of the flow control and in particular the disclosure of the functioning of the magnetic latching valve described on page 7, lines 13 to 30, the Board also follows the appellant's opinion that the skilled person would immediately realise that the magnetic latching valve is of essential importance for the solution of the problem relating to the avoidance of visible electric wires to the faucet in view of the fact that such a valve requires very little power and is therefore particularly suitable for power supply by a self-contained power source.

In this respect attention can also be drawn to the affidavits filed by the appellant, according to which it was immediately clear to the skilled persons in question, when reading the parent application, that the benefit intended to be obtained by using a latching valve was low energy consumption. Both authors of the affidavits expressed the view that this contributed to the object of avoiding the psychological barrier caused by use of visible electrical connections and at the same time made it practical to use a self-contained power source.

Moreover, also in view of the more general reference to the provision of a self-contained power source mentioned at the end of the detailed description of the preferred embodiment (see page 14, line 9) and the fact that in the circuit shown in Figure 4 the battery (68) is depicted without its recharging generator, the skilled person would, in the Board's opinion, immediately recognise the redundancy of the charging circuit for the proper functioning of the flow control system in its simplest form, when considering the aspect of avoiding the use of visible electrical connections.

3.6 As was emphasised by the appellant, when considering if the requirement of Article 76(1) or Article 123(2) EPC is complied with "it has to be distinguished between what is obvious but not disclosed and what is obviously disclosed but not stated explicitly in the document under consideration".

The Board supports such differentiation and, applied to the present case, it is considered to be immediately apparent to the skilled person from the disclosure of the parent application that for the solution of the second aspect in an automatic flow-control faucet arrangement in accordance with the preamble of claim 1, such as is for example known from DE-B-2 034 877 or from DE-A-2 755 665 (see point 4 of the decision under appeal), the low-energy latching valve and self-contained power source are the sole features which are essential for the elimination of power supply by means of external wired connections.

Therefore, although the combination of features of present claim 1 is not explicitly disclosed in the originally-filed application documents, the skilled person receives sufficient and unambiguous information therefrom to the effect that, for solving the problem

related to the second aspect, i.e. avoiding the use of visible electrical connections, it is essentially the combination of the use of a latching valve and a self-contained power source for power supply of the control means which provides the solution to this problem.

3.6 In view of the above conclusions, the Board is of the opinion that claim 1 in accordance with the main request meets the requirements of Article 76(1) EPC and that this claim is formally admissible as a claim in the present divisional application.

No objections under Article 76(1) EPC arise against the description and drawings.

4. *Remittal to the first instance*

4.1 The present application was rejected for reasons of non-compliance with Article 123(2) EPC only and was based on a claim with a different content to that of claim 1 of the main request.

It is to be noted that the subject-matter of claim 1 of the auxiliary request 2 considered by the Examining Division in the decision under appeal was similar to the subject-matter now claimed. Although also this auxiliary request was rejected for the reason that the claims did not include the ultrasonic sensing means (see point 3 of the decision under appeal), it can be derived from point 4 of the decision under appeal (dealing with auxiliary request 3) that the subject-matter of such a claim, if considered formally admissible, in the view of the Examining Division would appear to meet the requirements of novelty and inventive step. However, in view of the fact that when dealing with the requirements of novelty and inventive step of the auxiliary request 3 the Examining Division merely expressed its provisional

opinion, without giving a complete reasoning as to why the subject-matter under consideration should be considered novel and inventive, the Board considers it to be appropriate to remit the case to the first instance for further prosecution of the examination on the basis of claim 1 of the main request.

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 for further prosecution on the basis of claim 1 of the main request filed at the oral proceedings.

The Registrar: The Chairman:

S. Fabiani F. Gumbel