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D E C I S I O N
of 4 October 2000

Case Number: T 0426/99 - 3.2.4

Application Number: 93906336.8

Publication Number: 0569584

IPC: B65B 3/04

Language of the proceedings: EN

Title of invention:
Bottled Water Station

Patentee:
EBTECH, INC

Opponent:
Elkay Manufacturing Company

Headword:
-

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

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

Decisions cited:
-

Catchword:
-



Case Number: T 0426/99 - 3.2.4

D E C I S I O N
of the Technical Board of Appeal 3.2.4
of 4 October 2000

Appellant: EBTECH, INC.
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Respondent: Elkay Manufacturing Company
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Representative: Bibby, William Mark
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 26 February 1999
revoking European patent No. 0 569 584 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 on 23 April 1999 against the opposition division's decision notified by post on 26 February 1999 revoking European patent No. 0 569 584.

The appeal fee was paid simultaneously and the statement setting out the grounds of appeal was filed on 6 July 1999.

- II. An opposition was filed requesting revocation of the patent as a whole on the basis of Article 100(a) EPC. The opposition division held that lack of inventive step (Article 56 EPC) of the subject-matter of Claims 1 and 12 on file prejudiced the maintenance of the patent having regard to the combined teachings of the following documents:

D1: WO-A-90/03919 and

D10: US-A-4 793 514.

- III. In the statement of the grounds of appeal, the appellant contended mainly that neither D1, nor D10 taught or suggested modifying the single flow path probe of D1 to include a second flow path, the teachings of these two documents being incompatible.

After the respondent (opponent) has referred to the following two documents:

D2: US-A-1 319 376 and

D9: US-A-3 892 235,

the appellant replied that D2 failed to disclose an actuator probe similar to the probe claimed in Claim 1 and that the probe of D2 was incompatible either with the probe structure of D1 or with the cap assembly of D10. He was also of the opinion that the skilled person would not combine the teachings of D1 and D9 since D9 concerns a pressurized system which operates in a completely different manner than the unpressurized bottled water dispenser of D1.

On the contrary, the respondent emphasized that the general concept of providing separate flow paths for the simultaneous exchange of air and water between the reservoir and the bottle was already disclosed by D10, this concept being known for eliminating the glugging action that occurs in a water station of the kind disclosed in D1 which has a single flow path for both air and water. Therefore, according to him, the skilled person wishing to get rid of said glugging action would naturally and logically modify the probe of D1 accordingly.

The respondent made the same reasoning with the teaching of D2 in combination with the teaching of D1 or D10 and contended that, in D2, the air flow path included a first segment defined by vents (10) and a second segment between vents (10) and the lowermost end of tube (24) and that covering said lowermost end by the water level would stop the air flowing into the bottle.

Moreover, he contended that the subject-matter of Claim 12 lacked novelty over the teaching of D2.

According to the respondent, the mode of operation

described in D9 was exactly the same as that defined in the claims of the opposed patent and the skilled person would have regard to the teaching of this document although it was not concerned with dispensing water for drinking.

IV. Oral proceedings took place on 4 October 2000.

Although the respondent had been duly summoned to oral proceedings he did not appear and the proceedings continued without him in accordance with Rule 71(2) EPC.

The appellant filed new independent Claims 1 and 12 as a basis for a sole request and contended in particular that D10 gave an incorrect information as regards the fatigue failure of the bottom of the bottles described as being caused by air bubbling upwardly inside the bottle. In his opinion, it was implicit that the actuator probe of the receiver assembly according to the invention does not extend up to the bottom of the inverted bottle since the probe is used for opening and closing the valve. Also, the appellant pointed out that neither D2 nor D9 were concerned with plastic bottles and with the problem of bottle cracking.

At the end of the oral proceedings, the appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of Claims 1 and 12 as submitted in the oral proceedings and Claims 2 to 11 and 13 to 15 as granted.

It was noted that the respondent had requested in writing that the appeal be dismissed.

V. Claim 1 on file reads as follows:

"1. A bottled water station of the type to provide water for drinking and cooking, comprising:

- a bottle cap (20) mounted onto a water bottle (12), said bottle cap including a valve member (24);
- a station housing (14) including an upwardly open vented water reservoir (16); and
- a receiver assembly (38) on said reservoir (16) and including means for receiving and supporting said water bottle (12) in an inverted orientation with said bottle cap (20) thereon;

said receiver assembly (38) including an actuator probe (26) for engaging said bottle cap (20) to displace said valve member (24) to an open position when the bottle (12) with said cap (20) thereon is received by said receiver assembly;

said actuator probe (26) defining a first flow path (70, 80) for water flow passage from the bottle (12) to said reservoir (16),

characterised by said actuator probe defining a second flow path (72, 82, 83) for air flow passage from said reservoir into the bottle, said first and second flow paths being separate from one another from said reservoir to the bottle interior to allow substantially simultaneous and separate exchange respectively of water and air between said reservoir and the bottle;

said second flow path (72, 82, 83) having a lowermost end disposed within an upper region of said reservoir in a position to be covered and closed by water within said reservoir when the reservoir water level rises to a substantially filled condition, and to be uncovered and exposed when the reservoir water level falls below said lowermost end, whereby air flow passage from said reservoir and through said second flow path into the

bottle is interrupted by the water within said reservoir when the reservoir water level rises to the substantially filled condition to correspondingly halt downward flow of water from the bottle (12) and through said first flow path (70, 80) to said reservoir (16), and further whereby air flow passage from said reservoir (16) and through said second flow path into the bottle (12) is resumed when the reservoir water level falls below said lowermost end to correspondingly permit resumed downward water flow from the bottle and through said first flow path to said reservoir. "

Claim 12 on file reads as follows:

"12. A receiver assembly for use in a bottled water station of the type to provide water for drinking and cooking having an upwardly open and vented water reservoir, said receiver assembly comprising: support funnel means (40) for receiving and supporting a water bottle (12) in an inverted orientation for drain flow passage of water from the bottle; means for mounting said support funnel means (40) over the reservoir whereby water draining from the bottle flows into the reservoir; and an actuator probe (26) within said support funnel means (40), said probe (26) having a size and shape to extend a short distance into the interior of the bottle supported by said support funnel means (40), said probe (26) defining a flow path (70, 80, 72, 82, 83) for an exchange of water and air between the reservoir (16) and the bottle (12); characterised by said flow path consisting of separate first (70, 80) and second (72, 82, 83) flow paths, the first flow path being for water and the second flow path for air thereby allowing substantially

simultaneous and separate exchange respectively of water and air between the reservoir (16) and the bottle (12),
said second flow path (72, 82, 83) having a lowermost end disposed within an upper region of said reservoir in a position to be covered and closed by water within said reservoir (16) when the reservoir water level rises to a substantially filled condition, and to be uncovered and exposed when the reservoir water level falls below said lowermost end, whereby air flow passage from said reservoir and through said second flow path into the bottle is interrupted by the water within said reservoir when the reservoir water level rises to the substantially filled condition to correspondingly halt downward flow of water from the bottle and through said first flow path to said reservoir, and further whereby air flow passage from said reservoir and through said second flow path into the bottle is resumed when the reservoir water level falls below said lowermost end to correspondingly permit resumed downward water flow from the bottle and through said first flow path to said reservoir."

Reasons for the Decision

1. *Admissibility*

The appeal is admissible.

2. *Claim 1 as submitted in the oral proceedings*

2.1 Modifications (Article 123 EPC)

Compared to Claim 1 as granted (see page 6 of the patent specification), the new Claim 1 differs

therefrom as follows:

- **column 9, line 57:** Between the words "station" and "comprising" of Claim 1 as granted the following sentence has been introduced:

"of the type to provide water for drinking and cooking"

This additional sentence defines more precisely the technical field of the invention and a support can be found in the application as originally filed, on page 2, lines 3 and 4.

- **column 10, lines 23 to 25:** The words: "substantially simultaneous" of Claim 1 as granted have been deleted and replaced after the word "bottle" by the following sentence:

", said first and second flow paths being separate from one another from said reservoir to the bottle interior to allow substantially simultaneous and separate exchange respectively of water and air between said reservoir and the bottle".

This sentence clearly specifies that the two passages inside the actuator probe for respectively the flow of air and the flow of water are completely separated from one another from one end to the other end, i.e. between the reservoir and the interior of the bottle. A support can be found in the application as originally filed, for example on page 9, lines 7 to 10 or in Figures 2 to 8.

- **column 10, lines 32 to 33 and 44 to 45:** The expression: "the substantially filled condition" used in Claim 1 as granted has been replaced by:

"said lowermost end".

When the water level rises into the reservoir and reaches the lowermost extent of the lock collar 56 which forms the lowermost end of the air flow path through the probe, the air trapped inside the annular chamber delimited by the insert tube 74 and the lock collar 56 can still escape upwards into the bottle interior through the annular space 82 between the probe tube 66 and the insert tube 74. An equilibrium between the pressures inside and outside the bottle is reached at a position of the water level corresponding to the "substantially filled condition" which is necessarily higher than the lowermost end of the second flow path (i.e. the lowermost extent of the lock collar 56). Therefore, when the water level falls down, said lowermost end remains "covered and closed" by water up to the moment the falling water level has reached a position below said lowermost end and not up to the moment the water level starts to fall down from said "substantially filled condition", which is higher as said lowermost end.

The above-mentioned modification avoids a misunderstanding of the functioning of the probe wrongly described in column 9, lines 4 to 10 of the patent.

Therefore all the above-mentioned modifications contribute to clarify the claims and since they are supported by the application as originally filed and

reduce the protection conferred by the patent, no objection is made in application of Article 123 EPC.

2.2 Interpretation of Claim 1

In the light of the description of the originally filed application and in the context of the invention, the following expressions in Claim 1 as granted which have been kept in the new Claim 1 should be interpreted as follows:

- **valve member** (see column 10 of the patent specification, lines 2 and 13): designates a closure member capable of being displaced to an open position and being returned back to its initial closed position (see for example Figures 4 to 8 of the application as originally filed and the corresponding text).

- **actuator probe** (see column 10, lines 11 to 12, 16 and 22): designates an elongated member capable of opening a valve member closing initially a bottle and of penetrating inside the interior of said bottle (see Figures 2 to 8 of the application as originally filed).

- **substantially filled condition** (see column 10, lines 30 to 31 and 37 to 38): designates the maximum level of the water inside the reservoir when an equilibrium between air pressures and columns of water respectively inside and outside the bottle is reached.

2.3 Novelty (Article 54 EPC)

The actuator probe of the receiver assembly according to Claim 1 defines two separate flow paths for respectively water and air whereas the probe disclosed in D1 comprises only one flow path for both water and air.

The water station according to Claim 1 comprises a bottle cap including a valve member and an actuator probe the function of which is to engage and to displace said valve member to an open position whereas the liquid dispensing apparatus of D2 (see Figure 1) does not comprise such an assembly. Moreover, inside the probe (plug 8a, 17, 19) of the dispenser according to D2 the paths for water and air flows are not separated from each other in the meaning of the present invention but form a single path (see D2: plug 8a, 17, 19 in Figures 2, 4, 5 and 7).

D9 does not concern a bottled water station of the type to provide water for drinking and cooking but an inhalation apparatus functioning with compressed air or oxygen i.e. in a completely different way as the claimed station, e.g. having no valve member in the meaning of the present invention (see section 2.2 above).

D10 is concerned with a closure assembly comprising no valve member and with a receiver assembly having no actuator probe in the meaning of the present invention (see section 2.2 above).

Therefore, in comparison with the state of the art described in the most relevant cited documents D1, D2, D9 and D10, the subject-matter of Claim 1 is new in the meaning of Article 54 EPC.

2.4 The closest state of the art

Among the above-mentioned relevant prior art documents cited by the respondent, D1 is the only one disclosing a bottled water station comprising all the features described in the precharacterising portion of Claim 1. Therefore, the Board considers that the state of the art disclosed by D1 is the closest to the invention.

The subject-matter of Claim 1 differs from said closest state of the art by all the features of the characterising portion of Claim 1.

2.5 Problem and solution

When taking into account the aforementioned differences (see section 2.4, second paragraph), the problem appears to be to improve the water station of D1 in order to avoid bottle failure as a result of mechanical fatigue due to pressure fluctuations inside the bottle during water delivery from the bottle to the station reservoir (see the patent specification: column 2, lines 21 to 44).

The Board is satisfied that, as claimed in Claim 1, the provision inside the actuator probe of D1 of a second flow path for air flow passage separate from the existing path for water flow does solve this problem.

2.6 Inventive step (Article 56 EPC)

2.6.1 The teaching of D10 pertains to the same technical field (i.e. the contamination-free delivery of water for human consumption) and poses the same problem as the invention (i.e. to prevent flexing of the walls and

bottom of water bottles made from flexible material - see D10: column 1, lines 6 to 15, 43 to 46 and 52 to 63). However, D10 solves the problem by using a specific closure assembly to be placed on the spout of the bottle, which defines two flow paths respectively for air and water separate from one another, said closure assembly being structurally different from the bottle cap claimed in Claim 1 and totally incompatible with the use of an actuator probe of the type disclosed in D1, particularly in view of the presence in D1 of a valve member in the meaning of the present invention on the one hand, and the presence in D10 of a long air tube extending upwardly to a point adjacent to the bottle bottom on the other hand.

Therefore, the Board cannot agree with the respondent's allegation that the subject-matter of Claim 1 lacks inventive step in view of D1 and D10 because, even if the skilled person starting from D1 would have consulted D10 and decided to combine the teachings of these two documents, he could not arrive at a bottle station according to Claim 1 without substantial adaptations of the devices. For example, in its present state, the actuator probe of D1 would not be able to open and close the valve members of those embodiments of D10 comprising a valve member (see D10: Figures 3, 4 and 9) and the separate flow paths for water and air flows would not be provided in the probe itself as according to the invention but would remain in the closure assembly. Therefore, as far as D1 and D10 are concerned, it is not realistic to combine a probe of the type disclosed in D1 with one of the closure assemblies equipped with a valve member represented on Figures 3, 4 and 9 of D10 because, without substantial modifications, they simply cannot work together, i.e.

are incompatible with each other.

- 2.6.2 In his written submissions the respondent also contended that the subject-matter of Claim 1 lacked inventive step in the light of the teaching of D2 when applied to D1 or D10. The Board also cannot agree with this contention for the following reasons:

D2 is concerned neither with the contamination problem of the water nor with the problem of preventing fatigue failure of the bottom of the container due to continuous flexing since, at the filing date of D2, the containers were likely not made of plastic but of glass or metal. Consequently, at the priority date, the skilled person starting from the liquid dispensing system of D1 and searching for a solution to the problem of preventing fatigue failure of the liquid container had a priori no reason to consult D2, let alone to combine components of two different assemblies which are not compatible with each other and which cannot work together. It is the case, for example, with the probe (8a, 17, 19) of D2 which is not an actuator probe in the meaning of the present invention and cannot open the valve member of the type disclosed in D1 since, if the annular plug portion (70) of the bottle cap (50) of D1 were separated from the sleeve portion (62) of the cap upon the forceable insertion of the bushing (19) of the probe of D2, the water flow path through the probe would be closed by the detached plug portion covering the upper extremity of the bushing in the same manner as shown on Figure 4b of D1.

And even if, unlikely and without any hint, the skilled person would combine nevertheless only arbitrarily chosen components of the two assemblies and, in

particular, would try to apply to the probe of D1 the teaching regarding the probe of D2, the flow paths for water and air would still not be separate from one another from the reservoir to the bottle interior (i.e. along the entire length of the probe) since, in the probe of D2, these two paths join themselves inside the probe to form a single flow path in the tube 17 forming the upper portion 8a of the communicating duct (see Figures 1 and 2).

For the aforementioned reasons, the Board is convinced that, even if the skilled person had combined the teachings of D1 and D2, he would not have been led to the invention.

2.6.3 Apart from the fact that D9 relates to a device to moisten oxygen or air under pressure, it does not even suggest the problem to be solved, let alone a solution to said problem so that a person skilled in the art would not be guided to a solution by D9. On the contrary, a person skilled in the art knowing the problem and also reading in D10 the reason for such a problem, namely the upwardly bubbling of air in a conventional plastic water bottle, would not consider the teaching of D9, since the teaching of D9 results in such a bubbling. Without knowing the present invention there would have been no reason to apply the teaching of D9 in the embodiment of D1.

2.6.4 Therefore, the Board considers that to improve the liquid dispensing system of D1 according to the teaching of Claim 1 does not follow plainly and logically from the most relevant prior art known, in particular from D2, D9 or D10, and involves an inventive step in the meaning of Article 56 EPC.

3. *Claim 12 as submitted in the oral proceedings*

3.1 Modifications (Article 123 EPC)

Compared to Claim 12 as granted (see columns 12 and 13 of the patent specification), the following amendments have been made in the new Claim 12:

- **column 12, line 26:** Between the words "station" and "having" the same following sentence as for Claim 1 has been introduced i.e.:

"of the type to provide water for drinking and cooking"

As already mentioned in section 2.1 above, this sentence specifies the technical field of the invention and is supported in the application as originally filed, on page 2, lines 3 and 4.

- **column 12, line 27:** The expression "bottled water station" has been replaced by "receiver assembly", in order to be coherent with the statement indicating the designation of the subject-matter of the invention.
- **column 12, line 38 and 41:** For clarity reasons, the unclear term "providing" has been deleted without extending the protection conferred. On the contrary the deletion of the expression "at least" limits the scope of the protection, since the extension is now limited to a short distance.
- **column 12, lines 45 to 47:** The sentence: "said actuator probe (26) defining a second flow path

(72, 82, 83) in addition to said first flow path for" has been deleted and replaced by the following sentence:

"said flow path consisting of separate first (70, 80) and second (72, 82, 83) flow paths, the first flow path being for water and the second flow path for air thereby allowing"

This modification clearly specifies that the two flow paths are structurally separated within the actuator probe and reserved for the exchange of respectively air and water between the reservoir and the interior of the bottle. A support can be found in the application as originally filed, for example on page 9, lines 7 to 10 or in Figures 2 to 8.

- **column 12, lines 56 and 57 and column 13, line 9:**
The expression: "the substantially filled condition" used in Claim 1 has been replaced by: "said lowermost end" for the same reasons as for Claim 1 (see section 2.1 above).

3.2 Interpretation of Claim 12

The meaning to be given to the expressions in Claim 12: "actuator probe" (see column 12, lines 36 and 45) and "substantially filled condition" (see column 12, lines 54 and 55 and column 13, lines 2 to 3) is the same as the one given to the corresponding expression of Claim 1 (see section 2.2 above).

The phrase: "said probe (26) having a size and shape to extend a short distance into the interior of the

bottle" (see column 12, lines 37 to 39) should be interpreted in the light of the description and drawings (see the specification, column 8, lines 34 to 37 and Figure 4) as meaning that the probe is just so long as to penetrate into the bottle the distance needed for the water flow ports (70) and the vents slots (72) of the probe tube to pass the central cap sleeve (94) of the bottle cap and to communicate with the bottle interior.

3.3 Novelty (Article 54 EPC)

The probe of the assembly claimed in Claim 12 defines a flow path consisting in two separate flow paths allowing substantially simultaneous and separate exchange respectively of water and air between the reservoir and the bottle whereas the probes of either D1 or D2 define, along at least a portion of the length of the probe, a single common flow path for both air and water.

D9 is not concerned with a receiver assembly for use in a bottled water station of the type to provide water for drinking and cooking but with an inhalation therapy apparatus which does not comprise support funnel means for receiving and supporting a water bottle in an inverted orientation, as well as means for mounting said support funnel means over the reservoir.

The receiver assembly of D10 does not comprise an actuator probe defining two separate flow paths for air and water flows and having a size and shape to extend a short distance into the interior of the bottle supported by the support funnel means.

Therefore, contrary to the respondent's contention, the subject-matter of Claim 12 is new within the meaning of Article 54 EPC with respect to the state of the art known from cited documents D1, D2, D9 and D10.

3.4 The closest state of the art

Among the above-mentioned relevant prior art documents, D1 is the only one disclosing a receiver assembly comprising all the features described in the precharacterising portion of Claim 12. Therefore, the Board considers that the state of the art disclosed by D1 is the closest to the invention.

The subject-matter of Claim 12 differs therefrom by all the features of the characterising portion of the claim.

3.5 Problem, solution and inventive step

All the considerations regarding the subject-matter of Claim 1 made in sections 2.5 and 2.6 above remain valid with respect to the subject-matter of Claim 12 which therefore also involves an inventive step in the meaning of Article 56 EPC over the prior art known, more particularly, from D1, D2, D9 and D10.

4. *Conclusion*

For the foregoing reasons, the Board considers that the reasons stated by the respondent in his written contentions did not prejudice the maintenance of the patent in the amended version submitted as the basis of the sole request filed at the oral proceedings.

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 the patent in the following version:

Claims: 1 and 12 as submitted in the oral proceedings and Claims 2 to 11 and 13 to 15 as granted,

Description: as granted,

Figures: 1 to 8 as granted.

The Registrar:

The Chairman:

G. Magouliotis

C. Andries