

**OPINION UNDER SECTION 74A**

Patent	<b>EP(UK) 0566635</b>
Proprietor(s)	Lundberg & son VVS-Produkter AE
Exclusive Licensee	
Requester	ZGP Limited, on 6 April 2009
Observer(s)	Mr David Edwards Mr Chris Challis
Date Opinion issued	6 July 2009

**The request**

1. The comptroller has been requested to issue an opinion as to whether EP patent no. EP0566635 (“the Patent”) is infringed by the shower head (“the Ecocamel shower head”) which is enclosed with the request. The Requestor ZGP Limited, represented by A. Messulam & Co. Ltd., asserts that there would be no such infringement. The criteria for such infringement is defined in Section 60(1) of the United Kingdom Patents Act 1977 (“the Act”).
2. To support their argument the Requestor has submitted the following evidence.
  - D1. A written statement.
  - D2. A sheet of four photographs showing various aspects of the Ecocamel shower head.
  - D3. An Ecocamel shower head and its packaging.

**Observations**

3. Observations in response to the request were received from Page White and Farrer on behalf of the Swedish Attorneys acting for Lundberg & Son (“the Proprietor”). Observations were also received from Mr Christopher Challis of Challis Water Controls, who is apparently a UK licensee of the Patent, and Mr David Edwards of Capture Environmental Systems Ltd. The Proprietor asserts that claims 1, 2, 4, 5 and 6 of the

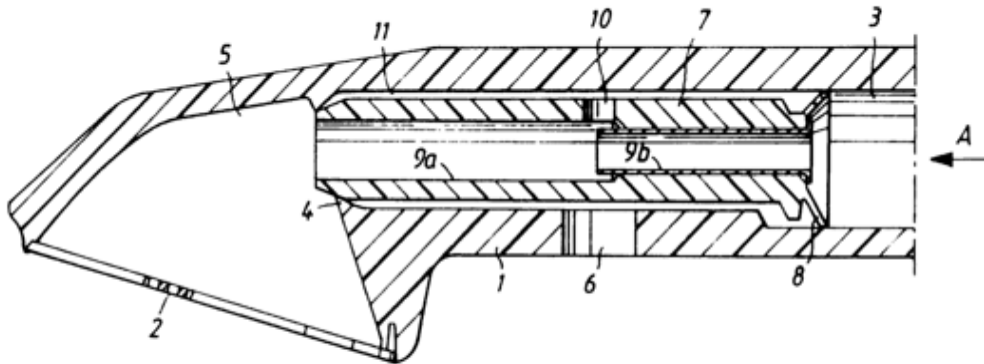
Patent are infringed. Both of the further two observers believe that the Opinion request should be refused, i.e. it should be found that the Patent is infringed.

### Observations in reply

4. Observations in reply were received from the Requestor in which they provide further observations as to why they believe that the Patent is not infringed. A shower head said to be made by Lundberg was also included with the observations in reply.

### The Patent

5. The Patent was granted on 5 March 1997 and is still in force in the UK. The Patent relates to a device for a shower head, in particular a device for limiting the amount of water flowing through the shower head. An embodiment of the invention is shown in the figure below, this being the sole figure of the Patent.



6. The figure above shows a shower grip comprising an embodiment of the water limiting device of the invention. The shower grip 1 comprises a duct 3 through which water is intended to flow in the direction of arrow A towards a sprayer 2. The water limiting device comprises an ejector valve 7 located within duct 3, where said valve is located against restriction 4 at the end of the duct. A hole 6 is formed in the side wall of the grip and a radial air duct 10 is provided in the side wall of the valve, said wall defining sub-ducts 9a, 9b. The radial air duct communicates

with an annular space 11 formed between the valve and the side wall of the duct 3, where said annular space is filled with air and extends between the restriction and a flange 8 at the end of the valve. In use, water flows through sub-ducts 9a, 9b and is mixed with air which enters via hole 6, passes through annular space 11 and is introduced into the sub-ducts by means of radial air duct 10. The water/air mixture flows through the sub-ducts and out of sprayer 2.

7. Claim 1 of the Patent is the sole independent claim, with claims 2 to 6 all being dependent upon one or more of the preceding claims. Claim 1 of the Patent reads as follows:

*A device for limiting the amount of water flowing through a shower head, comprising an ejector valve (7) disposed immediately adjacent to the shower head, which valve admixes air to the water flow fed to the outlet (2) of the shower head and is provided with an axial water duct (9b) and a substantially radial air duct (10) communicating therewith, characterized in that the inlet of the air duct (10) terminates into a space between the inner wall of the shower head (1) and the exterior of the ejector valve (7).*

### **The Ecocamel shower head**

8. The four photographs of the Ecocamel shower head are shown below.



Figure 1

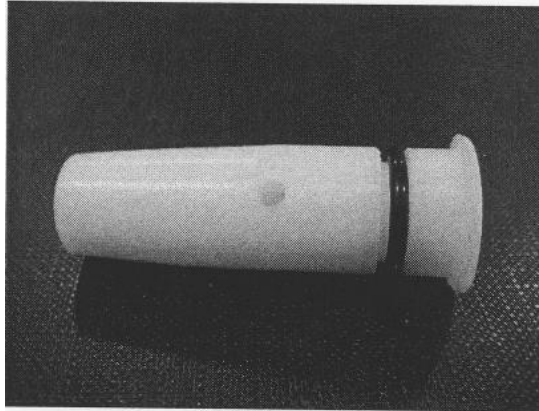


Figure 2



Figure 3



Figure 4

9. In the written statement of the Requestor, figure 1 is said to show “a shower handle without the ejector valve removed”. Figure 2 shows “an

ejector valve insert which fits in end of the shower handle remote from the shower head”. Figure 3 shows “the hose end of the shower handle without the ejector valve”, and figure 4 shows “the hose end of the shower handle with the ejector valve in place”. Despite the description of figure 1 provided by the Requestor, it is my belief that this figure actually shows the shower handle *with* the ejector valve removed.

### **Claim construction**

10. My first task in considering infringement is to decide how to construe the claims of the Patent. Then I must decide whether the Ecocamel shower head falls within the scope of the claims so construed. In order to decide the proper construction to put upon the claims I shall follow the standard principles of claim construction as set out in *Kirin-Amgen and others v Hoechst Marion Roussel Limited and others* [2005] RPC 9. I must put a purposive construction on the claims; interpret them in the light of the description and drawings as instructed by section 125(1) the Act; and take account of the Protocol to Article 69 of the EPC. The correct approach, as set out by Lord Hoffmann in *Kirin-Amgen*, is to determine what a person skilled in the art would have understood the patentee to have used the language of the claim to mean.
11. Section 125(1) of the Act states that:

*“For the purposes of this Act an invention for a patent for which an application has been made or for which a patent has been granted shall, unless the context otherwise requires, be taken to be that specified in a claim of the specification of the application or patent, as the case may be, as interpreted by the description and any drawings contained in that specification, and the extent of the protection conferred by a patent or application for a patent shall be determined accordingly.”*

and the Protocol on the Interpretation of Article 69 of the EPC (which corresponds to section 125(1) ) states that:

*“Article 69 should not be interpreted in the sense that the extent of the protection conferred by a European patent is to be understood as that defined by the strict, literal meaning of the wording used in the claims, the description and drawings being employed only for the purpose of resolving an ambiguity found in the claims. Neither should it be interpreted in the sense that the claims serve only as a guideline and that the actual protection conferred may extend to what, from a consideration of the description and drawings by a person skilled in the art, the patentee has contemplated. On the contrary, it is to be*

*interpreted as defining a position between these extremes which combines a fair protection for the patentee with a reasonable degree of certainty for third parties”.*

12. Claim 1 begins:

*A device for limiting the amount of water flowing through a shower head,*

Leaving aside for the time being what exactly a shower head comprises, I think it is clear that the invention is intended to limit water flowing therethrough. The exact nature of the device has not yet been defined, but a purposive construction would lead one to realise that the device allows less water to flow through the shower head than if it were not present.

13. Claim 1 continues:

*comprising an ejector valve (7) disposed immediately adjacent to the shower head, which valve admixes air to the water flow fed to the outlet (2) of the shower head and is provided with an axial water duct (9b) and a substantially radial air duct (10) communicating therewith,*

Dictionary definitions of a valve typically refer to a device for controlling the passage of fluid through a pipe, this being consistent with the opening line of claim 1 which refers to flow limitation. To eject is to send or drive out precipitately or with force, which again is consistent with the opening line where it is said that the water flows *through* a shower head. Whilst the particular embodiment shown in the figure of the Patent above comprises two valve parts 9a, 9b, it is clear from the description that the valve need not necessarily be of such a construction. At column 2 line 5 it is said that the valve is “integrated in or, alternatively, detachably inserted in the duct”, and at line 15 the valve is said to have “no moving parts”. Therefore the valve structure is relatively simple, albeit having further features as defined later in the passage above.

14. The valve is also said to admix air to the water flow fed to the outlet of the shower head, therefore it must be possible for both of these fluids to somehow enter and exit the ejector valve. An axial water duct is provided in the valve, this clearly referring to a passage along the axis of the valve into which water may enter and out of which the air/water mixture may exit. The air enters through the substantially radial air duct which communicates with the axial water duct. Therefore it is also clear that there is an opening along a radius of the valve through which air enters separately to the entry point of the axial water duct.
15. To my mind these opening passages are mostly simply construed, albeit

that the nature of the shower head, and how exactly the ejector valve is disposed immediately adjacent to it, require further thought. The term “shower head” is not frequently used throughout the Patent, and there is no clear definition as to what a shower head comprises. The first mention of a shower head in the Patent is when the prior art is discussed. At column 1 lines 15 and 16 it is described how the “shower head sprayer” of prior art devices may be provided with small holes so as to limit water usage. This is the first implication that the sprayer is simply one part of a shower head. In the detailed description of the figure “shower grip 1” and “sprayer 2” are referred to, but the shower head is not mentioned again until the claims. In claim 6 it is mentioned that “a portion of the shower head (1) [is] formed as a shower grip, which portion is provided with a sprayer”. The clear implication from this claim is that a shower head should be thought of as the whole of the device shown in the figure above. That is to say a shower head has a handle or grip portion which a user holds, and a sprayer attached to the handle from which water is ejected. I believe that the skilled man, and indeed a member of the general public, when asked to define a shower head would consider the whole of the device commonly attached to a water supply hose as the shower head. This is also consistent with the packaging of the Ecocamel shower head, upon which the description “Aerated Shower Head” is apparently applied to the whole device, i.e. hand grip and sprayer.

16. Next, the passage “*comprising an ejector valve (7) disposed immediately adjacent to the shower head*” must be purposively construed. It is clear from the Requestor’s written statement that they believe that the shower head in claim 1 refers to the sprayer component. However, I have already decided that shower head should mean both the grip and sprayer. It should also be noted that the valve is said to be immediately adjacent the shower head, and not the outlet which is also referred to in the claim. As the requestor points out, at column 3 lines 9 and 10 of the Patent, valve 7 is said to be “located as close to the sprayer as possible”. However, this is simply one preferable feature, and it does not necessarily mean that claim 1 has been written inaccurately and that “shower head” should be read as “sprayer”. As described in the Patent it is advantageous to locate the valve as close as possible to the sprayer so that the point of mixture between air and water is not far removed, and so that less water is downstream of the valve when the supply is switched off. However this is merely an advantage, and it is clear from the Patent that the device would work to mix air and water, and limit water usage, with the valve located further away from the sprayer. I agree with the Requestor when they write in their observations in reply that “there is a lack of clarity in the main claim which needs to be resolved”, but I believe that this confusion lies in the use of the phrase “immediately adjacent” rather than “shower head”. To

describe a valve located within a shower head as “immediately adjacent” is slightly unclear, but I believe that to replace the phrase “shower head” with “sprayer” so as to overcome this lack of clarity is to go too far and to rely too much on one preferable feature. Therefore I believe that the opening passage of claim 1 should be construed as meaning the valve is located within or immediately adjacent to any part of the shower head, including the grip portion.

17. Finally claim 1 concludes with:

*characterized in that the inlet of the air duct (10) terminates into a space between the inner wall of the shower head (1) and the exterior of the ejector valve (7).*

The air duct has previously been construed by me as being an aperture located along a radius of the valve and in communication with the axial water duct. Therefore it is clear that the aperture has an opening into a space located between the inner wall of the shower head and the exterior of the ejector valve, so that air may pass from the space into the valve. The purpose of the space between the shower head and valve is described in the paragraph bridging columns 2 and 3 of the Patent where it is said “On induction of air into the duct 10, air is induced in the space 11 through the hole 6. The air induced through hole 6 must pass around the valve 7 before it is inducted in the duct 10, which prevents or substantially reduces the noise which could arise, if the hole 6 and the inlet of the duct 10 were located close to each other”. The hole 6 referred to in this passage is one which is formed in the shower head wall, said hole being necessary if air is to be admitted to the valve at all. Whilst I believe that the hole 6 and duct 10 need not be located so far apart as shown in the figure, it is clear to me that as the duct 10 terminates into the space, any air entering the valve must have come from, or travelled through, said space. Whilst the hole 6 is not introduced until claim 2, it is clear to me that if the hole is aligned with the duct 10 then no space, as defined in claim 1, exists above the air duct 10. If this is not the case then there is apparently no purpose in having the space present between the valve and inner wall of the shower head.

## **Infringement**

18. Upon inspecting all of the evidence provided with this Opinion request it is clear to me that the Ecocamel shower head has a broadly similar purpose to that of the device of the Patent, i.e. to limit water flow through the shower head and to eject a mixture of water and air. This is not disputed by either the Requestor, Proprietor, or any of the other

observers. The Ecocamel shower head includes an ejector valve with an axial water duct, through which water may pass from an inlet towards a spray head. The ejector valve has a radial air duct which permits air to enter the axial water duct and for the two fluids to be mixed therein. The wall of the shower head has an aperture through which air may pass so as to enter the radial air duct in the ejector valve. Upon inspecting figures 3 and 4 of the photographs shown above it can be seen that, when the ejector valve is inserted into the shower head, the aperture in the shower head and the radial air duct are substantially aligned, and both are at an end of the shower head remote from the sprayer.

19. Having construed claim 1 of the Patent to mean that the ejector valve is located within or immediately adjacent to any part of the shower head, it is my opinion that the Ecocamel shower head has all of the features of the opening preamble of claim 1 of the Patent, i.e. all features prior to the characterising part.
20. Turning now to the characterising part of claim 1, it is the Requestor's original assertion that "The outer surface of the ejector valve is a tight fit in the end of the shower handle and when it is inserted it leaves no space whatever between itself and the housing of the shower handle. Furthermore, the air duct of the ejector valve aligns directly with a hole in the shower handle and the intake air does not pass through any confined space as it is admitted from the ambient atmosphere". The first part of this statement is difficult to confirm given the size and fit of the parts referred to, and so I will return to this point later. I do however agree with the statement that the air duct and the hole are directly aligned with each other.
21. In the observations filed by Mr Challis there is a statement concerning the presence or otherwise of a space between the ejector valve and shower handle. Mr Challis states "Our engineers have examined in detail the EcoCamel ejector and have found in contradiction to their fundamental claim their ejector indeed does terminate into a space between the inner wall of the shower and the exterior of the ejector valve and as such negates their fundamental claim of a difference between the 2 ejectors". The observations filed by Mr David Edwards do not directly address the spacing between the ejector and shower handle, but it is stated that "...on inspection I found the injector to be almost, barring minor cosmetic alteration, exactly the same as the injector used in the Lundberg showerhead". The Proprietor's observations are more detailed regarding this point. They claim to have examined a product corresponding with the shower head shown in the photographs above, and to have discovered that the ejector valve is sealed from the inside wall of the shower head by an O-ring. This they claim "...indicates a space between the outside of the ejector and the inside of the shower

head". They also comment on the radial air inlet hole of the ejector aligning with the hole in the shower head.

22. The Proprietor claims to have experimented with their example of an Ecocamel shower head, and in particular they claim to have been able to press air into the inlet and sprayer of the shower head whilst the water inlet and outlet holes of the ejector were closed off. This is said to show that "...a space exists between the inner wall of the shower head and the exterior of the ejector valve, which means that the inlet of the air duct (in the ejector) terminates into a space between the inner wall of the shower head and the exterior of the ejector valve". Whilst I have no further evidence to confirm the result of this experiment, I am willing to accept that the Proprietor was able to achieve this effect.
23. In their observations in reply the Requestor concedes that "...on account of manufacturing tolerances, there is an unavoidable small gap between the outer surface of the body of the valve and the inner surface of the grip which can be regarded as an annular space. However, they also go on to state that this gap "serves no useful purpose". They also describe the presence of a second O-ring which is said to show that "... there is no direct air passage from that hole to the sprayer. All air entering the hole has to enter the ejector valve". The Requestor also describes the presence of a water insoluble grease which is said to occupy the small gap. Therefore, given all of the evidence presented to me, I accept that there is a space between the exterior of the ejector valve and the inner wall of the Ecocamel shower head. However, the purpose of this space, and the definition of the radial air duct terminating into the space is important.
24. I have previously stated, when purposively construing the wording of claim 1 of the Patent that, as the radial duct terminates into the space between the shower head and ejector valve, any air entering the valve must have come from, or travelled through, said space. As the radial air duct of the Ecocamel shower head is directly aligned with the aperture in the shower handle any air drawn into the ejector valve is drawn directly from the ambient and not from the space. The purpose of the space in the shower head of the Patent is said to be to reduce noise by having the air drawn through the space from one inlet to the next. No such action would take place with the Ecocamel shower head as both inlets are directly aligned. Therefore it is not just the presence of the space which is important, but the purpose it serves and how the air entering the ejector valve passes through said space. From the evidence presented to me it is clear that there is a space between the ejector valve and inner wall of the Ecocamel shower head, but that this space does not form any part of the air flow passage from the aperture in the shower grip to the radial air duct in the ejector valve. Therefore it is my opinion that the

radial air duct in the wall of the ejector valve of the Ecocamel shower head does not terminate into a space between the wall of the ejector valve and the inner wall of shower head as it is directly aligned with the hole in the outer wall of the shower head.

25. As I have found that claim 1 of the Patent is not infringed, it is not necessary for me to go on to assess the infringement position of the appendant claims 2 to 6.

### **Opinion**

26. I conclude that, from the evidence in front of me, the Patent would not be infringed should the Ecocamel shower head be manufactured, disposed of, offered for disposal, used, imported, or kept for disposal or otherwise within the United Kingdom.

### **Application for review**

27. Under section 74B and rule 98, the proprietor may, within three months of the date of issue of this opinion, apply to the comptroller for a review of the opinion.

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### **NOTE**

*This opinion is not based on the outcome of fully litigated proceedings. Rather, it is based on whatever material the persons requesting the opinion and filing observations have chosen to put before the Office.*

Peter Gardiner  
Examiner