Neutral Citation Number: [2014] EWHC 2047 (Pat)

Case No: CH/2013/0552

IN THE HIGH COURT OF JUSTICE
CHANCERY DIVISION
PATENTS COURT

ON APPEAL FROM THE COMPTROLLER OF PATENTS
DECISION: BL O/353/13 [Dated 02 September 2013]

Royal Courts of Justice
Strand, London, WC2A 2LL

Date: 27/06/2014

Before:

MR. JUSTICE BIRSS

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Between:

Farrow Holdings Group Inc	**Appellant/ Respondent**
- and -	
Secretary of State for Defence	**Respondent/ Applicant**

- -
- -

Mr Christopher Hall (instructed by **IP Twentyone**) for the **Appellant**
Mr Richard Davis (instructed by **Secretary of State for Defence**) for the **Respondent**

Hearing dates: 13 June 2014

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Judgment

Mr Justice Birss:

1. This is an appeal from the decision of the Hearing Officer, Mr Peter Slater, Deputy Director acting for the Comptroller, dated 2 September 2013. Mr Slater's decision (OL 0/353/13) dealt with an application for revocation of two patents by the Secretary of State for Defence. The patents were by then in the name of Farrow Holdings Group Inc. The patents are numbers GB 2 344 348 and GB 2 372 039. The 039 patent is a divisional of the 348 parent patent. The patents claim priority from 4 December 1998 and were granted on 26 February 2003 and 30 October 2002 respectively. Mr Slater decided that both patents were invalid and revoked them under section 72 of the Patents Act 1977. On appeal the patentee does not challenge the decision relating to the divisional. From now on in this judgment "the patent" refers to the 348 patent.

2. Mr Slater decided that the patent was invalid for lack of inventive step over three matters forming part of the state of the art. The first two were different instances of a prior use which took place in Kalamaki, Greece, before the priority date. The third item of prior art was patent EP 0 358 648 entitled "Abrasive blasting apparatus" and published in 1991.

3. Before Mr Slater the patentee was represented by Mr Nigel Farrow who I understand to be a director and shareholder of the company. The patentee had been professionally represented for most of the proceedings but on the day the hearing took place it was not. Mr Farrow was a litigant in person.

4. The first point taken on appeal is under Article 6 ECHR arising from comments made by the Hearing Officer at the beginning of the hearing. Those comments are said to have unfairly put Mr Farrow under pressure and led to proceedings which were unfair. Before me it is submitted that the consequence of this point is that the proceeding was not a fair trial and the matter should be retried in the Patent Office. Next the patentee submits that there is a point on construction of claim 1 of the patent in which the Hearing Officer fell into error. Then it is submitted that the Hearing Officer failed to assess the evidence properly and reached the wrong conclusion about the nature of the two prior uses which took place at Kalamaki. Finally it is submitted that, considered properly, the claims of the patent which are in issue are not obvious over the prior art.

5. The Respondent does not accept any of these submissions. The Respondent submits that the hearing before the Hearing Officer was entirely fair and proper and there is no ground for complaint under Article 6. The Respondent also submits that the Hearing Officer correctly construed the claims, reached the right conclusion on the evidence, and reached the right conclusion on inventive step.

6. Before me the appellant was represented by Mr Christopher Hall of counsel instructed by IP Twentyone, neither of whom represented the appellant below. The Respondent is represented by Mr Richard Davis, who did appear below, and is instructed by the Secretary of State.

Article 6 ECHR

7. What happened in this case was as follows. The hearing had originally been listed for three days to take into account the need to cross-examine various witnesses. However, before the hearing (and while the patentee was still professionally represented) the patentee indicated it did not wish to cross-examine its opponent's witnesses. By the time the hearing took place there was to be no cross examination of any witnesses by either side. Accordingly the matter was going to take less time than the three days which had been set aside. When the proceedings started at 10.30am Mr Slater introduced himself and then said the following:

> "Could I just clarify one thing, we are not calling any witnesses and there is no cross examination anticipated. My guess is therefore that the three days that were originally estimated for this is a somewhat lengthy estimate and we will see how we get on today as to whether we can finish it in a day.
>
> Tradition would have it that we start at 10.30, rise at 1.00, come back and 2.00, and finish for the day at 4.00. If I envisage that we can finish in a day I will ask your permission perhaps to extend those hours."

8. It is submitted that these comments put Mr Farrow under unfair pressure in making him think that the judge wanted the case to be done in a day and therefore unduly

pressurised someone like Mr Farrow who was unfamiliar with court procedures. Before I consider that submission I will mention what else happened during the hearing. Mr Slater went on to note that since Mr Farrow was a litigant in person, opposing counsel, Mr Davis, should take that into account in making his submissions. This latter observation was the subject of mild criticism by Mr Hall but in my judgment there is nothing in that criticism. It was right for the Hearing Officer to invite counsel to bear in mind Mr Farrow's position and therefore, for example, for counsel to try not to use jargon without explaining what he meant and to take more time to explain concepts of law which might otherwise be something which would not need to be explained in detail in this specialist tribunal.

9. The case proceeded. Mr Davis made his submissions on behalf of the Secretary of State. They lasted from about 10.30 am until 2.30 pm (with a break for lunch from 1pm -2pm). Mr Farrow then presented his case. Near the end of his submissions Mr Farrow said this:

> "I rest my case. I do not have anything else to say here. Do I want a recess? The answer here is no, I do not. I look at you, and I am that sort of guy. It is going to cost me to come in tomorrow. It is going to cost me accommodation. It is going to cost me all the way down the road. I will stay here until 5.00 and I will answer your questions, but I have nothing to say after today because it was my heart my honesty and my belief."

10. The hearing continued until somewhere between 4.00pm and 5.00pm in the afternoon. It finished in a single day.

11. Mr Hall submitted that it was well established that owing to a litigant in person's inherent unfamiliarity with court proceedings, a tribunal should treat such a person with great care so as not to put that person under any undue pressure, citing ***Gee v Shell UK Limited*** [2002] EWCA Civ 1479 (per Scott Baker LJ with the agreement of Simon Brown and Sedley LJJ). I accept that submission. Mr Hall argued that the comments unfairly put Mr Farrow under pressure to finish the case in a shorter period than had been allowed or otherwise curtail his presentation. Alternatively he argued that the comments created the appearance of putting that sort of unfair pressure on Mr Farrow.

12. Mr Davis submits that there is nothing in this criticism. He points out that there was no evidence that Mr Farrow in fact felt under any pressure and relies on what Mr Farrow said near the end of his submissions to show that Mr Farrow did not feel under any pressure at all. The evidence shows that in fact Mr Farrow did not believe he was under any pressure and had said everything he wished to say during the course of the hearing. Accordingly there can be no basis for a submission that there is actual unfairness to the litigant.

13. Mr Davis also argued that the natural meaning of the words spoken by Mr Slater, taken in the overall context, cannot be construed as appearing to put any unfair pressure on Mr Farrow. Mr Davis submitted that all the Hearing Officer was doing was making a sensible case management indication at the start of the hearing. It was plain that, although the matter had been listed for three days, they were not necessary

given that there was to be no cross examination and it was sensible to make the point that it may be possible to complete the matters in a single day.

14. The right of a litigant under Article 6 ECHR to a fair hearing plays an important part in the maintenance of the rule of law in a free and democratic society. In this case, although Mr Farrow and his companies had been professionally represented before the hearing, by the time the matter was called on he was acting alone. In this situation the Comptroller's Hearing Officer needed to take great care so as not to put such a person under undue pressure. In my judgment that is exactly what Mr Slater did. He recognised Mr Farrow's position at the outset and, by inviting counsel to take Mr Farrow's status into account, made it clear to Mr Farrow that he was to be treated fairly. It was right for Mr Slater to raise the question of the timing of the hearing at the outset since the case obviously did not now need three days to be heard. Nothing in the words which were actually used by Mr Slater at the time could be interpreted by an objective and fair minded observer as putting any unfair pressure on Mr Farrow. Furthermore there is no evidence that Mr Farrow felt under any pressure at all as a result of what the Hearing Officer said, indeed the evidence is to the contrary given what Mr Farrow said later in the day. Mr Farrow did not wish to come back on a second day.

15. In my judgment this ground of the appeal is specious and I will dismiss it.

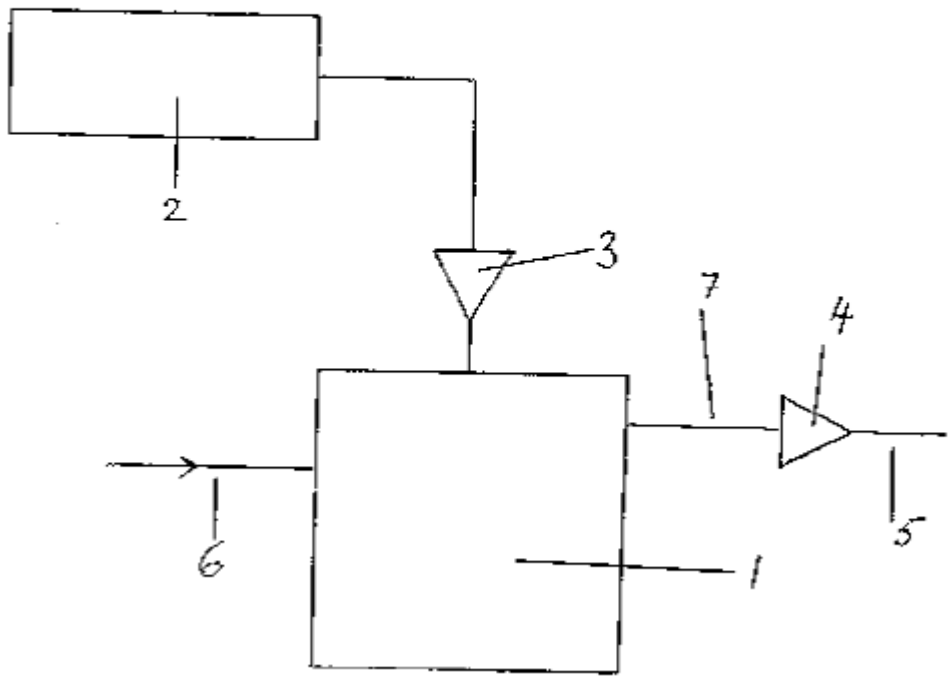
16. I turn to consider the substantive grounds of the appeal.

The Invention

17. Mr Slater summarised the disclosure of the Patent in paragraphs 4 to 8 of the Decision. These paragraphs were not criticised and are as follows:

> "4 The invention relates to a method for removing surface coatings such as paint, varnish or biological growth from the outer hull of a boat. The opening passages of the patents indicate that the removal of a layer from a surface by impacting an abrasive material against the layer is well known. Furthermore, grit or sand-blasting has been used for many years to clean stone buildings or painted metal surfaces such as railings and superstructures including oil rigs. The particles of grit or sand are usually mobilised by means of a carrier fluid, normally air or water.

FIGURE 1



5 According to the patent specification, commonly used methods suffer from the drawback that damage is often caused to the material beneath those layers being removed. This is especially true where the methods are employed to remove coatings or surfaces from a relatively soft material such as wood or fibre glass. The problem is particularly acute where the surface is part of a boat.

6 Figure 1 is the only illustration of the apparatus which is suitable for use in the claimed method. Compressed air is passed from a compressor 2, via an inlet valve 3 to the basting pot 1. Water is also supplied to the basting pot via an inlet pipe 6. The basting pot 1 also comprises an outlet pipe 7. The outlet pipe 7 has at its distal end a nozzle 5 through which the flow of material is controlled by means of outlet valve 4.

7 In the embodiment of the invention, a spray mixture of olivine and water from the domestic supply, at ambient temperature, is charged to the basting pot 1. However, the specification makes it clear that other minerals may be used e.g. andalusite, spodumene, diaspore, congolite, spessartine and andesine. Similarly, instead of water, other solvents may be

> used. Alkyl alcohols such as ethanol, propanol, iso-propanol, ethylene glycol or propylene glycol are all mentioned. Other solvents which may be contemplated include acetone, butanone and sulpholane.
>
> 8 When water is used as the carrier fluid its consumption is often quite high. However, the invention is alleged to minimise the amount of water used by heating the water prior to spraying. For example, the description states that: *"The water supplied from a domestic or external source is normally provided at a temperature of below 20C. Where necessary however it may be heated up to about 50C. Heating the water to a temperature of between 25 to 40C has been found to reduce water consumption.*" I have highlighted this aspect of the invention as it seems that this disclosure of heating the water and the effect it has on the blasting process is critical to Mr Farrow's defence at least insofar as the parent application is concerned. "

18. Claim 1 of the Patent is as follows:

> *"1. A method of removing a coating from a surface, the method comprising:*
>
> *(i) selecting a particulate solid suitable for re-moving the coating from the surface, the particulate solid having a particle size from 150 to 250 μm;*
>
> *(ii) selecting a fluid as a carrier for the particulate solid:*
>
> *(iii) heating the fluid to a temperature of from 25 to 50C;*
>
> *(iv) distributing the particulate solid in the fluid to form a spray mixture;*
>
> *(v) generating a pressurised jet to the spray mixture;*
>
> *(vi) impacting onto a coating the pressurised jet of spray mixture to remove the coating.*"

19. The claim is to removing a coating from a surface. The main limitations in the claim relate to temperature and particle size. The claim is not limited to a particular kind of surface and is not limited to the surface being part of a boat. The method is also not limited to the use of water nor to the particular pressure used. Pressure was the subject of the main claim in the divisional patent but that is irrelevant.

20. Before Mr Slater a number of other claims were in issue but on this appeal the only other claim of importance is claim 6 which is as follows:

> "*A method according to any preceding claim, wherein the fluid is heated to a temperature of from 25 to 40C.*"

21. It is easiest to see the point on construction in the context of the alleged prior use. The prior use at Kalamaki involved an operator using a pressurised water system with a lance to remove anti-fouling coatings on boat hulls. There was no dispute that the method used employed features (ii), (iv), (v) and (vi) of claim 1. There was also no dispute that the method used did not fall within feature (i) (particle size). As regards the temperature feature (iii), the applicant relied on two variants of the method used. One was called "active heating" and the other "passive heating".

22. For the active heating method, the evidence explained that water had been heated to somewhat below boiling point (60 or 70°C) and poured into the pressure vessel. By the time the water had emanated from the lance, it was estimated to be at around 40 to 45°C. Thus the water being used was in the range of temperatures required by feature (iii).

23. Mr Hall submitted that it was not within feature (iii) on its true construction because that feature required cold water to be heated up to a temperature within the range and did not cover a case in which water was heated to a temperature above the range and allowed to cool to fall within the range. He submitted that this was the ordinary meaning of the phrase "*heating the fluid to a temperature of from 25 to 50C*" and that these words should be given their natural meaning. The fluid has to be "heated up" to a temperature in the range. In support of that submission Mr Hall referred to page 4 line 4 of the patent which explains that the temperature of the liquid is preferably maintained below 50C and also to page 7 lines 21 to 30 which contains a teaching about heating up the water which is quoted in paragraph 8 of the Decision (above).

24. Mr Hall submitted that in ***Kirin-Amgen v Hoechst Marion Roussel*** [2005] RPC 9, Lord Hoffman explained the limits of the purpose of construction in paragraph 34 and 35 of his judgment and Mr Hall particularly emphasised the points made by Lord Hoffmann that:

> … the language he has chosen is usually of critical importance, the patentee is trying to describe something which, at any rate in his opinion, is new; which had not existed before and of which there may be no generally accepted definition;
>
> and
>
> …. although there may be some occasions in which a patentee has departed from conventional usage of the language one would not expect that to happen very often.

25. Mr Hall also referred to the decision of Hoffmann LJ (as he then was) in ***S.T.E.P. v Emson*** [1993] RPC 513 that:

> "the well known principle that patent claims are given the purposive construction does not mean that an integer can be treated as struck out if it does not appear to make any difference to the inventive concept."

26. In paragraph 100, Mr Slater held that the claim did not contain a requirement as to how the water was to reach the required temperature range and accordingly he

decided that the active heating I have described, which he found did take place at Kalamaki, fell within feature (iii). Mr Hall submits that this conclusion is wrong.

27. Mr Davis supports the Hearing Officer. Mr Davis submitted that the argument was flawed because it construed the words in isolation and not in the context of the other features of the claim. He submitted that the skilled reader would see that there was no point in just heating the fluid to a particular temperature for the sake of it. Given that this is a claim to a method, the fluid must be intended to do something at the claimed temperature. The way to make sense of the temperature limitation was to consider it in the light of the entire process. The claim meant that the fluid used in steps (iv) and (v) was a fluid within the temperature range referred to. In other words, what was important was that the fluid was within the temperature range required. No skilled person would think that the claim could be avoided by heating the water to a temperature above the range and then letting it cool into the range and then using it. Whether the water was heated up to the range or heated up above the range and cooled somewhat before use, in both cases the water has been heated and the temperature has reached the range required for use. The fact that there may have been a cooling step at one stage as well cannot be relevant.

28. I prefer Mr Davis' submissions to those of Mr Hall. Although read out of context one could conceive that a requirement to heat a fluid to a temperature within a range meant and meant only heating it up into that range and did not cover the possibility of heating it higher than the range and then allowing it to cool, it seems to me to interpret the feature this way is to do so without the context of the claim and the patent as a whole. Moreover it would be to ignore another critical aspect of claim construction, that claims are to be interpreted by a person skilled in the art who is seeking to understand what it is that the patentee used the language to mean. These considerations support Mr Davis' submissions, for the reasons he gives. No reader skilled in the art would believe that the patentee intended to exclude the possibility of heating the fluid somewhat above the range and allowing the water to cool. There is no obvious technical reason why this would make any sense. It would be a recipe for avoiding the claim.

29. Mr Hall submitted that his claim construction made sense when seen in the context of avoiding the possibility of scalding operators. However I do not accept that that is a determining factor. There is nothing in the patent to support Mr Hall's point and nothing which would lead a skilled person to think that the patentee intended to exclude a case in which heating had taken place but also some cooling.

30. What the patent is teaching is to use water in the removal process which is in the temperature range between 25 to 50°C. There is nothing in the patent to support the inference that it is important to be careful about exactly how the water has been taken from ambient temperature into the claimed temperature range.

31. Accordingly the Hearing Officer was right to interpret the claim in the manner he did. I will dismiss this aspect of the appeal.

The assessment of Mr Nicholson's evidence

32. The second point taken on appeal is the submission that the Hearing Officer failed to properly assess the evidence which had been filed by the Ministry of Defence in

relation to the prior uses relied on at Kalamaki. In particular this was the evidence of Mr Nicholson. It is convenient to consider the evidence relating to active heating separately from the evidence relating to the passive heating.

Active Heating

33. I have already described the key element of Mr Nicholson's evidence about the active heating which is alleged to have taken place in Kalamaki. If this evidence is accepted then feature (iii) of claim 1 was satisfied by the "active heating" prior use. Since the patentee did not cross examine Mr Nicholson it was necessary for the Hearing Officer to consider how to approach a situation in which the witnesses had not been cross examined. In paragraph 25 the Hearing Officer cited the decision of Mr Richard Arnold QC (as he then was) in ***Pan World Brands vs Tripp*** [2008] RPC 2, in which paragraph 36 states as follows:

> "Where, however, evidence is given in a witness statement filed on behalf of a party to registry proceedings which is not obviously incredible and the opposing party has neither given the witness advanced notice that his evidence is to be challenged nor challenged his evidence in cross-examination nor adduce evidence to contradict the witness's evidence despite having had the opportunity to do so, then I consider that the rule in *Brown v Dunn* applies and its is not open to the opposing party to invite the tribunal to disbelieve the witness's evidence."

34. Before me Mr Hall also referred to the decision of Mr Daniel Alexander QC in ***Advanced Perimeter Systems v Keycorp*** [2012] RPC 14 (paragraphs 18-22). These paragraphs and the cases cited in them make two important points: first that a tribunal is not *obliged* (my emphasis) to regard written evidence as establishing what it is seeking to establish just because there has been no cross-examination, and second, that evidence is always to be weighed according to the proof which was within the power of one side to have produced and of the other to contradict it. I accept Mr Hall's submissions that these principles apply in this case as well.

35. After referring to ***Pan World Brands***, the Hearing Officer continued in paragraphs 26 to 28 as follows:

> "26 I agree that without cross-examination Mr Nicolson's evidence must prima-facie remain unchallenged and so it would seem that Mr Farrow cannot invite me to disbelieve his evidence. However, as pointed out by Mr Farrow, this cuts both ways and so the evidence given by both parties' witnesses must stand unchallenged.
>
> 27 Of course, if I were to consider any of the evidence to be obviously incredible then I would take account of that in making up my own mind. As indicated in the Hearings Manual at 3.71: *'As with any other evidence, the Hearing Officer will need to decide how much weight to attach to it having regard to*

> *all of the circumstances of the case; in the Inpro case (paragraph 9) the court said even the evidence of an unsatisfactory expert who lacked objectivity was of some value as stating the most favourable level at which Inpro's case might be put. The ultimate decision is for the Hearing Officer alone based on all of the facts and evidence adduced in the proceedings, of which the expert's evidence is only one component.'*
>
> 28 I must admit that it is unfortunate that I do not have the benefit of cross-examination on this occasion, as this would have been a useful means by which the relationship between the parties and the reliability of their evidence could have been explored. I have therefore to decide the matter in light of the evidence currently before me. "

36. The Hearing Officer's conclusion in relation to the prior use was set out in paragraphs 98 to 100 of the Decision:

> "98 Overall, I have some concerns about Mr Nicholson's evidence. I also appreciate that he may be in competition with Mr Farrow and may not be an impartial third party. I am further concerned that Mr Harrison struggled to obtain independent evidence about the Kalamaki trials.
>
> 99 Again, I stress that it would have been useful to see Mr Nicholson undergo cross-examination to test his evidence. However, Mr Farrow chose not to cross-examine and despite my reservations I cannot go as far as to say that Mr Nicholson's evidence is obviously incredible. Indeed, as a general indication of what was known in the art before the priority date his evidence is not inconsistent with that of Messrs. King and Morris in particular and his earlier patent supports the idea that he tried heating the water.
>
> 100 Therefore, I will take what Mr Nicholson says about the active heating of the water at face value. I also consider that the water held in a metal blasting pot could heat up to over 25C passively in direct sunlight on a summer's day in Greece when subsequent trials were made – although not in January when the video was taken. Of course, part (iii) of claim 1 of the parent makes no requirement as to how the water reaches the required temperature range."

37. The critical finding was the sentence at the beginning of paragraph 100 and the statement that Mr Slater will take what Mr Nicholson says about the active heating of the water "at face value". Mr Hall submits that he should not have done this and that he should have examined the evidence critically.

38. I agree that Mr Slater should indeed have examined the evidence critically but do not agree that focussing on the words "at face value" indicates that he did not do so. They

need to be seen in the context of the decision as a whole. What the Hearing Officer meant in this sentence was that he was accepting Mr Nicholson's statements in the evidence that he did do what he said he did. That is all. It is not a fair reading of the decision to interpret the words "at face value" as meaning that Mr Slater did not consider the evidence critically. Mr Slater was taking care to evaluate and examine the evidence that was presented to him.

39. A distinction between the evidence on active heating and the evidence on passive heating (which I will consider below) is that there was no evidence before the Hearing Officer to actually contradict what Mr Nicholson said about active heating. The only point which was made on the patentee's behalf on appeal was to argue that Mr Nicholson's witness statement was not sufficiently cogent overall to establish what had happened in Kalamaki. In particular it was said that he does not explain with precision how the temperature was measured. Also, as Mr Hall contends, one needs to consider what evidence the patentee could have called to contradict the active heating evidence and also to bear in mind the efforts of Mr Harrison, the patentee's then patent attorney, to investigate what happened at Kalamaki and the difficulties he encountered. These are referred to in paragraph 97 of the decision.

40. An important aspect of the critical assessment of Mr Nicholson's evidence was that he was a competitor of Mr Farrow. That needed to be taken into account but the Hearing Officer took precisely that point into account in paragraph 98 of his Decision.

41. It is true that Mr Nicholson's evidence does not explain with precision how the temperature was estimated but there is nothing inherently incredible or improbable about the evidence that he gave. Mr Nicholson's statement describes what happened in Kalamaki in considerable detail, with numerous exhibits and a DVD. Moreover the idea that Mr Nicholson might have tried using hot water in the process was inherently credible since it is suggested in patent EP 0 358 648 which names Mr Nicholson as an inventor.

42. In truth the patentee's point is that Mr Nicholson's evidence about the heating used and temperatures reached in the active heating method are incredible and should not be accepted. The case had been one which was intended to accommodate cross-examination and if that was the patentee's case, it could and should have cross examined Mr Nicholson.

43. The Hearing Officer was not obliged to accept Mr Nicholson's evidence but there is no basis from which to infer that Mr Slater thought he was obliged to accept it. However in the absence of cross-examination, the Hearing Officer was entitled to weigh up the evidence such as it was. A finding based on Mr Nicholson's evidence that in Kalamaki at the relevant time the process had been run with water in the temperature ranges described was a finding he was entitled to reach. I reject this ground of appeal.

44. On that basis, and on the basis of the claim construction found by Mr Slater which I have accepted on appeal, claim 1 lacks inventive step for the reasons Mr Slater gave. The only difference between the active heating process at Kalamaki and claim 1 was the particle size feature (i) but Mr Slater held that did not involve an inventive step and that conclusion was not challenged on appeal.

Passive Heating

45. After explaining what has been called the active heating approach Mr Nicholson's evidence described what happened on subsequent occasions during summer months in Greece. He explained that his group regularly ran the machine with water at temperatures above 20°C, because with ambient temperature above 30°C in the summer months and with water coming into the pressure vessel at 18 to 20°C it was not long before the temperature in the pressure vessel rose naturally to 25°C and higher. He said the temperatures of the water in the pressure vessel rose above 25°C and was often over 30°C and stated that he could tell what the temperature of the water was from "*hand feel*" and that on "*one occasion we actually measured the temperature of the water in the pot using a thermometer*". Mr Nicholson said that they usually tried to keep the temperatures lower by shading the machinery so as to make working more comfortable.

46. Unlike the position relating to active heating, this evidence was challenged by evidence from Professor Shirvani, who was Professor of Engineering Design and Simulation at Anglia Ruskin University. Professor Shirvani considered the evidence of Mr Nicholson about this passive heating of the water vessels and expressed an opinion that he considered it exceptionally unlikely that the water in the pressure pot used by Mr Nicholson to temperatures in excess of 25C within a reasonable period. He explained that to heat 25 litres of water by a single degree with the power which would be provided on a hot day would take 175 minutes i.e. about 2½ hours. Thus there was not enough time for the water to heat up from the starting temperature of 18 to 20°C to the lower limit of the claimed range 25°C.

47. The Hearing Officer addressed Professor Shirvani's evidence at paragraphs 42 to 44. In relation to the passive heating the Hearing Officer said the following:

> "Professor Shirvani considers the passive heating of the water in the Kalamaki trials to between 25 and 50C to be surprising."

48. That is the totality of the Hearing Officer's assessment of this point save that in the context of Kalamaki itself at paragraph 94 Mr Slater reminds himself that he has already mentioned a view of the Professor in relation to the Kalamaki trials.

49. The difficulty on appeal is that it is not clear from the Decision what the Hearing Officer's reason was for deciding to accept Mr Nicholson's evidence about the passive water heating in the light of Professor Shirvani's evidence which directly challenged whether it was likely. I sympathise with the Hearing Officer given that neither party had chosen to cross examine the other's witness, but it seems to me to summarise the point being made by the Professor simply with the single word "surprising" as in the sentence quoted above is not an adequate summary of the objection. It would only have needed another sentence or two to explain why Mr Nicholson's evidence was accepted in the light of the points raised by the Professor but something of that kind was needed. On the materials as a whole, it was open to the Hearing Officer to accept Mr Nicholson's evidence despite the Professor's objection but if that was the outcome, the Hearing Officer should have given a reason. As a result I will consider the matter afresh.

50. Professor Shirvani's reason are, on the face of it, good reasons making it inherently unlikely that the passive heating described by Mr Nicholson could have raised the temperature to as high a level as Mr Nicholson said. Furthermore as Mr Hall submitted, there is no answer in reply evidence from the Ministry of Defence to this evidence. At first sight that is a strong point in the patentee's favour but it needs to be seen in the context of the unusual procedural history of these proceedings.

51. So far I have not rehearsed the torturous history of these proceedings. It took nine years for the matter to come to a hearing before the Office. When the case began the Kalamaki prior use was not relied on. That came in by a contested amendment to the applicant's statement of case in about 2005. All the witness statements are dated 2005 and 2006, including the statements of Mr Nicholson and Prof Shirvani.

52. Mr Davis tells me, and Mr Hall did not dissent, that at the point in time when Professor Shirvani's evidence was filed, which was in 2006, the patentee had indicated to the applicant that it intended to file further evidence. That was the reason, says Mr Davis, why the applicant did not file any evidence in reply at that stage. It was waiting for the patentee to complete its evidence. Moreover the patentee's counterstatement had not at this stage even been amended to address the Kalamaki prior use. It never was.

53. From this period the proceedings were then sidetracked in various ways. There was an application to strike out. It failed but I am told the Patent Office took more than a year to render a decision on the issue. If correct that is extremely unfortunate. There was then a problem caused by the insolvency of the company which at that time held the patents. The patents were transferred to the current appellant company but the renewal fees were not paid. This led to the patents being taken off the Register but then, in restoration proceedings, the patents were reinstated, building in many more years of delay. The matter of the lack of a proper pleading from the patentee about Kalamaki, the completion of the patentee's evidence and the possibility of evidence in reply was never sorted out. This is an extremely sorry state of affairs but it does explain at least to some extent how the evidence comes to be in the state it is in.

54. The other point made by Mr Davis is simply that Mr Nicholson explained in a signed statement on which he was prepared to be cross-examined that he actually measured the temperature of the water in the pot using a thermometer. It is true that Mr Nicholson's evidence leaves some details lacking about what took place in Greece but on the other hand his evidence is on the face of it credible and provides an explanation for what took place. That is solid evidence, submits Mr Davis, that a tribunal can accept. The Professor's opinion cannot and does not rule out the possibility that what Mr Nicholson says happened, did happen. If the two statements cannot be reconciled, that does not mean one is obliged to disbelieve Mr Nicholson.

55. I sympathise with the applicant given the history of these proceedings but I am struck by the simple cogency of the Professor's point. There is no statement from Mr Nicholson which takes into account what the Professor has said. It would have been a simple matter for the applicant to put the Professor's points to Mr Nicholson and provide his reaction in a short reply statement. One can only speculate what the witness might have said. He might have accepted that the water was not as hot as he thought or else he might have maintained that he measured the temperature, that it

was within the range he explained and that the Professor's explanation must be flawed in some way.

56. The other course open to the applicant was to cross-examine the Professor. Again it is speculation what would have happened. The Professor might have maintained his opinion unchanged or might have accepted that what Mr Nicholson said could be correct.

57. It was for the applicant to establish its case about the passive heating variant of the Kalamaki prior use. If there was a simple and compelling answer to the Professor's evidence, the applicant could readily have advanced it. I am not satisfied that the evidence relating to passive heating, taken as a whole, is sufficiently cogent to establish that the water temperature was greater than 25°C. Accordingly I will allow the appeal in this respect.

Lux Traffic Controls v Pike Signals

58. Finally in relation to Kalamaki in general I need to address a further point. Before me Mr Hall submitted that the temperature of the water used at Kalamaki in both the active heating and passive heating examples had not been made available to the public because even though the process was used in public without any confidentiality, a skilled person standing watching could not see what the temperature was or measure it. Accordingly this aspect of the prior use, whether active or passive heating, was not part of the state of the art following the approach to what is made available by a prior use explained in paragraph 35 of ***Lux Traffic Controls v Pike Signals*** [1993] RPC 107 (Aldous J). Mr Davis objected to this submission. Although ***Lux v Pike Signals*** was cited below (rightly by Mr Davis), the argument advanced before me was not advanced below. It involves an issue of fact and it may be that if the point had been taken properly, evidence might have been given on it. I am not prepared to consider this argument on appeal.

Kalamaki and claim 1 – conclusion

59. Although I have allowed the appeal in relation to Kalamaki passive heating, I have dismissed the appeal in relation to Kalamaki active heating. Accordingly claim 1 is invalid.

Patent EP 0358648 (Nicholson/Gagemarch)

60. I will now consider the appeal in relation to the finding that claim 1 is obvious over EP 0358648 (Nicholson/Gagemarch). The Hearing Officer referred to this as Gagemarch and I will do the same. The Hearing Officer's decision in relation to that was from paragraph 111 to 119. He explained that Gagemarch contains a description of a wet abrasive blasting apparatus that uses and re-uses wet sand or other solid abrasive medium. He determined that the differences between claim 1 and this prior art were features (i) and (iii). Feature (i) is the particle size feature and his decision that it was obvious over Gagemarch was not challenged on appeal. Feature (iii) is the temperature point. The Hearing Officer's decision on this is as follows:

> "116 Claim 9 of Gagemarch also says the temperature of the liquid may be above ambient temperature. Also, at the bottom

> of column 7, at lines 52-54 of the description says that the apparatus may be used for the *"removal of oils and greases from surfaces (possibly using hot water, or solvent in place of water, to speed removal)."*
>
> 117 Admittedly, this statement allows for a wide range of temperatures, although one might exclude the highest temperature in consideration of the safety of the operator. As I have already said, I do not believe the skilled person would necessarily think to increase the temperature. However, Gagemarch does point him in the right direction and so he might be expected to try heating the water to different temperatures to find a range which was hot enough to achieve an improvement in the blasting process whilst not running the risk of scalding the operator.
>
> 118 Again, in selecting his range of 25 to 50C, Mr Farrow says little in his patent specification to justify his selection other than to say that it was simply found to reduce water consumption. This does not match the requirement set out in *Boehringer* (see paragraph 36 above) where it is suggested that: "*The selection must be based on a substantial advantage of special character. "*
>
> 119 Overall, I consider that the invention as claimed in claim 1 of the parent application would have been obvious to the skilled person in view of the Gagemarch patent. Again, I also consider the features of claims 6, 9 and 12 to be entirely conventional and so appear also to lack an inventive step. "

61. The point was that Gagemarch contains a teaching to use hot water in order to help remove grease but does not mention the claimed temperature range. The Hearing Officer held that the skilled person would try heating water to different temperatures to find a range which was hot enough to achieve the improvement referred to while not running the risk of scalding the operator. He thought that arriving at a range of 25 to 50°C was obvious.

62. Mr Hall submitted that the Hearing Officer had ignored important evidence which had been given by Professor Shirvani about the existence of a prejudice which was against using hot water in this technique. The Hearing Officer did not directly address this aspect of the evidence of Professor Shirvani although in fairness to the Hearing Officer it is not clear to me that it was ever presented to him in the manner it is now presented by Mr Hall. Since the point was argued before me I will consider it.

63. Neither side cited any cases on the relevance of a prejudice in inventive step nor to the matter of the evidence necessary to establish it. I will refer to two text books. On the first point it is clear that a prejudice can be relevant to obviousness (see ***Terrell on the Law of Patents***, 17th Ed. paragraph 12-78 to 12-79 and the cases cited there). On the second point it is worth noting that the Technical Boards of Appeal of the EPO take a very strict approach to the establishment of a prejudice (see the ***Case Law of the Boards of Appeal of the EPO*** 7th Ed. 2013 paragraph 10.2 and the cases cited in that

section). What is required to be proved is the existence of a widely held but incorrect opinion of a technical fact. A statement in a single patent specification will not suffice.

64. The point arises from two paragraphs in the Professor's witness statement. Paragraph 32 refers to two patents, Schott and Lajoie. The Professor concludes from passages in these documents that the "general view" was that the temperature of the system should be kept cool. I am not persuaded that this evidence supports the existence of a relevant prejudice. The passages relied on refer to using water to cool the nozzle head to prevent heat build up or control dust. These are reasons why one might want to use water in this way. They do not show that the skilled person would simply reject or refuse to follow a teaching to hot water in order to remove grease and oils nor do they show that the skilled person had an (incorrect) opinion that hot water would not help remove grease and oils.

65. In paragraph 34 the Professor states: "*In relation to the blasting of boat hulls it appears to me that there was a prejudice within the Ministry of Defence against increasing the temperature of the blasting process*". He derives this from two letters written by Ivor Caplin MP, the Parliamentary Under-Secretary for Defence, dated 19 June 2003 and 11 July 2003 which are exhibited. I will not set out the contents of the letters. I accept that these letters do properly establish, as Professor Shirvani thought, that there was a view within the Ministry of Defence that water should not be heated in the application of a wet blast method to Royal Navy ships. Nonetheless these letters were written in 2003 and do not necessarily show whether that opinion existed before the priority date in 1998. Of more importance, as Mr Davis submitted, is that the letters relate specifically to the surfaces on ships but the patent claim and the prior art are both broader in scope. Thus any prejudice, if that is what the letters represent, is not established for the general case.

66. In my judgment the evidence is not sufficient to establish a prejudice with relevance to the question of inventive step in this case.

67. There was a point about the period of time between Gagemarch and the priority date. It was not a strong point in my judgment but the Hearing Officer recognised it (paragraph 111) in any case.

68. The other major point raised by Mr Hall on appeal was a reference to industry reaction. It was submitted that the Hearing Officer failed to consider the effect of that evidence. I do not accept that submission. Paragraph 63 of the decision records that Mr Farrow had given evidence of the success the system had had and makes a finding in the patentee's favour that the system is an excellent one which has enjoyed considerable success. It is true that in the section dealing specifically with inventive step the Decision does not refer back to this finding but the Hearing Officer clearly had it in mind. I reject this ground of appeal.

69. Thus I do not accept that the decision is open to criticism either relating to prejudice or industry reaction. Some time before me was spent on the question of selection patents. I do not think they come into the analysis for claim 1. Looking at the matter of obviousness of claim 1 over Gagemarch overall, the Hearing Officer did not think heating would necessarily occur to a skilled person from his common general knowledge alone (that is what I take from the second sentence in paragraph 117) but

as the Hearing Officer noted, the document contains an express teaching to use hot water in order to assist in the removal of grease and oils.

70. He held that the skilled person would try hot water. In order to do so they heat up the water. If that was all the skilled person would do then one can see temperatures above the claimed range might be used but this is whether the second element in the Hearing Officer's reasoning comes into play, the risk of scalding. Mr Slater held that the skilled person would try heating water to different temperatures to find a range which was hot enough to achieve the improvement referred to while not running the risk of scalding the operator. This was a finding the Hearing Officer was entitled to reach on the materials before him. I would have reached the same conclusion. Using water in the temperate range of from 25 to 50°C was natural and almost inevitable from Gagemarch.

71. Mr Hall also submitted that over Gagemarch what a skilled person would do, assuming against the patentee that they did decide to use hot water, would be to do what Mr Nicholson did at Kalamaki. In other words heat the water up to 60°-70°C and let it cool. However this argument only works if the claim is construed to be limited to "heating up". I have rejected that construction but in any event I seriously doubt that such a claim would be inventive over Gagemarch.

72. Accordingly I will dismiss the appeal in relation to claim 1 over Gagemarch.

Claim 6

73. The difference between claim 6 and claim 1 is at the top end of the temperature range. Claim 1 requires 25 – 50°C whereas in claim 6 the range is from 25 to 40°C. As Mr Hall points out, the patent states at page 7 line 23 that heating the water to a temperature between 25 and 40°C has been found to reduce water consumption.

74. Mr Slater held claim 6 was obvious over both Kalamaki and Gagemarch. Over Kalamaki there was a suggestion that this was an odd conclusion given that the temperatures used at Kalamaki fell within claim 6 but the Hearing Officer took the right approach since claim 6 was a novel claim as a result of its dependency on claim 1 and feature (i).

75. However I have allowed the appeal on passive heating, whereas over Kalamaki the Hearing Officer was considering the case over both active and passing heating. Importantly while the passive heating temperatures were within both claims, the evidence on active heating was that the temperature was from 40-45°C which starts where the range in claim 6 ends.

76. Nevertheless I do not see any basis for a finding that claim 6 involves an inventive step over Kalamaki active heating. A temperature of 40°C is within claim 6. At best one can take it that the evidence does not establish that water used at Kalamaki was actually at 40°C. All the evidence shows is that it was somewhere in the approximate range 40-45°C, however based on that there is no inventive step in using the process with water at any temperature within that range, including 40°C.

77. The case over Gagemarch is the same for claim 6 as for claim 1. The only difference is the somewhat narrower temperature range. Mr Slater clearly did not regard that as sufficient to give rise to an inventive step.

78. I have considered whether the passage in the patent at page 7 line 23 about reduced water consumption relied on by Mr Hall makes any difference to this conclusion. The argument is that the temperate range claimed in claim 6 has the advantage described in the patent and it is a special and unexpected one. This is not the same selection patent argument which Mr Slater had to contend with which from the decision (paragraphs 34-38 and 118), was a more wide ranging argument about synergy between the particular pressures, temperatures and particle sizes and was focussed on claim 1.

79. This is a simpler point, that the patent states the existence of an advantage associated with the temperature range in the claim and there is no evidence it was obvious that this advantage was available in this way. However in my judgment it does not provide a reason why claim 6 is not obvious. First, on the findings of the Hearing Officer the skilled person would arrive at a method within the claims by following the teaching in the prior art to assist in oil and grease removal and avoid scalding. The fact that this temperature range may also reduce water consumption is neither here nor there, at best it is a bonus effect. Second, it is clear that the question of whether this advantage actually exists or is co-extensive with the claim was in issue before the Hearing Officer. In paragraph 8 Mr Slater noted that the effect of the temperature range was a critical part of Mr Farrow's defence, in paragraph 38 Mr Slater records the applicant's submissions, pointing out the lack of evidence of inferior results obtained with different combinations of parameters, and in paragraph 118, albeit in the context of claim 1, he rejected the case on the reduction in water consumption. The Appellant's Notice and Grounds of Appeal do not seek to challenge this aspect of the decision.

80. Accordingly I will dismiss the appeal on claim 6.

Conclusion

81. I will dismiss this appeal.