

Neutral Citation Number: [2014] EWHC 228 (Pat)

Case No: HC12C02319

IN THE HIGH COURT OF JUSTICE
CHANCERY DIVISION
PATENTS COURT

Royal Courts of Justice
Rolls Building, Fetter Lane, London, EC4A 1NL

Date: 10/02/2014

Before :

MR JUSTICE ROTH

Between :

COLLINGWOOD LIGHTING LIMITED

Claimant

- and -

AURORA LIMITED

Defendant

Mark Vanhegan QC and Tom Alkin (instructed by EMW Law LLP) for the Claimant
Michael Edenborough QC and Tom St Quintin (instructed by Lewis Silkin LLP) for the
Defendant

Hearing dates: 24-26 July 2013

Approved Judgment

I direct that pursuant to CPR PD 39A para 6.1 no official shorthand note shall be taken of this Judgment and that copies of this version as handed down may be treated as authentic.

.....
MR JUSTICE ROTH

Mr Justice Roth :

Introduction

1. By this action the claimant (“Collingwood”) contends that the defendant (“Aurora”) has infringed its patent for a fire resistant LED downlight. The patent is GB 2475649 B (“the Patent”). Aurora claims that the Patent is invalid on grounds of anticipation and obviousness, but if the Patent should be valid contends that its products complained of did not infringe. Alternatively, Aurora seeks a declaration that a redesign of its product (“the redesign”) does not infringe the Patent. Since Aurora has apparently been selling the redesign, Collingwood seeks a finding of infringement in relation also to the redesign and relief in respect of that product.
2. The Patent is for a lighting unit with a solid state lighting element and a fire resistant housing for fitting into an aperture in building partitions. The priority date of the Patent is 12 November 2008. Solid state lighting refers to light emitted by semi-conductors. Although there were two types of solid state lighting elements¹, the LED (i.e. light-emitting diode) and OLED (i.e. organic light-emitting diode), as at 2008 OLEDs were primarily used in lighting areas relating to displays, in particular mobile telephone displays. It is common ground that for all practical purposes the Patent would have been understood by the skilled addressee as relating to LED downlights for use in ceilings, where fire resistance was required. That is particularly the case for downlights in residential buildings.
3. Such lighting units are referred to in the industry as “luminaires”. A luminaire comprises a light source (e.g. an incandescent bulb, a fluorescent tube or an LED) combined with an optical structure to manage the light (e.g. a reflector, lens and/or diffuser) and a structure to hold the combination of light source and optics in place while typically routing power to the lamp (e.g. a standard lamp base or ceiling rose). The combination of light source and optics is sometimes referred to in the industry as a “lamp” whereas a luminaire is a lamp plus its mounting or housing. A downlight luminaire is also frequently referred to simply as a “downlighter” or “downlight” and that expression will be used in this judgment.
4. Collingwood’s product manufactured according to the Patent was launched in about May 2009, under the name “FireLED”. However, Collingwood ceased actively to promote it from about April 2010 when another downlighter called the Halers H2 (which is protected by a different patent) was introduced. For reasons that will be explained, the Halers H2 was initially sold by Halers Lighting Ltd (“Halers”), a separate company related to Collingwood by common ownership and control, although it is now being marketed by Collingwood directly. Because of the success of the Halers H2, Collingwood started phasing out the FireLED product in late 2010 and sales of the latter effectively ceased in November 2011.
5. A fire-rated downlighter is a downlighter that does not compromise compliance with the fire resistance requirements under the UK Building Regulations of the ceiling into which it is fitted. Those requirements specify that the floor and ceiling must maintain their structural integrity for a minimum period when subjected to standard fire tests.

¹ There is also now a further kind of solid state lighting, PLED (i.e. polymer light-emitting diode).

6. Downlighters became common in the 1980s with the increasing use of tungsten halogen lamps, which provide a light closer to daylight than traditional incandescent bulbs. Fire-rated downlighters with halogen lamps were introduced later, but had been available for several years before the priority date. The fire resistance was provided in one of two ways. Either the lamp was enclosed by a steel can, with any holes in the can (for ventilation or cabling) surrounded by intumescent mastic, a flame-proof material that expands in the event of fire; or the downlighter as a whole was covered by a fire resistant hood and/or cover made from intumescent material. Where a can was used for fire protection, it was generally made of steel, which melts at well over 1200° C and therefore satisfies the fire test. Although aluminium is commonly used in manufacturing standard luminaires, it has a much lower melting point and would not satisfy the fire test.
7. A LED generates light by passing a current through a semi-conductor chip. Until about 1998, LEDs were used almost exclusively as lights on panel displays, but LED technology developed significantly in the following years. After a subsidiary of Philips introduced a high power LED in early 2006, interest in the potential of LED luminaires greatly increased. High power LED lighting offered higher efficiency, because of lower energy consumption and long life. However, with LEDs thermal management is a key issue since if the LED becomes too hot, that affects its light output and service life. LEDs are generally mounted onto a metal core printed circuit board (“PCB” or “MCPCB”) that conducts heat from the LED emitters onto a metal plate. To conduct heat away from the metal plate, luminaire manufacturers used a heat sink that was attached to the MCPCB. This is usually a cast or extruded component made of a highly conductive material, such as aluminium, so as to conduct and dissipate the heat efficiently. Heat sinks can take a variety of forms, with different size, surface area and methodology. A common form is a finned design so as to increase the surface area relative to the volume. However, for a fire-rated LED downlight, there is the additional requirement to provide a fire barrier so as to satisfy the Building Regulations, as explained above. Thus the need for both fire protection and thermal management in effect pull in different directions. Fire protection involves the provision of an effective firewall through or around the downlighter whereas thermal management involves the effective conduction and dissipation of heat away from the LED elements and the MCPCB.
8. Aurora’s products which are alleged to infringe the Patent are the Aurora I-9 range. There are five specific products but it is common ground that on the issue of infringement the differences between them are immaterial. Further, as referred to at the outset, Aurora recently introduced the redesign, which is clearly intended, in the event that Aurora should lose on validity and the I-9 range be found to infringe, to avoid such infringement.

The Parties

9. Prior to the introduction of its FireLED product, Collingwood had not been involved in the supply of general downlights. Since the late 1990s, it had been a more specialised company, engaged in supply of what was described as “accent LED lighting” products, i.e. lighting that adds atmosphere rather than providing a main light source. That field is very project based, where a designer would specify a Collingwood product which the installing contractor would then specially order through an electrical wholesaler. Collingwood produced some 600 specialist LED

products of that kind and before it launched the FireLED had not been engaged in the production of 'volume' lighting that forms part of a wholesaler's standard stock.

10. Collingwood's Managing Director explained that initially the FireLED started to prejudice the company's core, accent lighting business as the activity of its sales team became concentrated on the FireLED. Accordingly, when the Halers H2 product was developed, that was launched through a new company with a separate sales force, with the Collingwood sales force reverting to concentration on its accent lighting range. Orders still received for the FireLED continued to be supplied by Collingwood until the product was withdrawn. Collingwood also has a separate division that supplies lighting components.
11. Aurora is a major supplier of lighting products. It is the English subsidiary of a large Swiss group that is involved in manufacturing, distribution, sales and marketing of luminaires and lamps in 38 countries. Aurora is a significantly larger company and has a much broader product range than Collingwood. There are some 10 active companies in the Aurora Group. Aurora itself has considerable experience of patents and has filed about 10 patents or patent applications since 2002.

The Proceedings

12. This action was started in June 2012 and the Particulars of Infringement were re-amended in May 2013. By agreement between the parties, there was no disclosure. Collingwood was represented at trial by Mr Vanhegan QC and Mr Alkin, and Aurora by Mr Edenborough QC and Mr St Quintin. The trial was very efficiently conducted and completed within its 3 days estimate, with full written closings submitted thereafter.
13. Each side called one witness of fact and one expert.

Witnesses of fact

14. Collingwood's witness was Mr Justin Maeers, who has been with the company for some 25 years. He is now its Managing Director and Chief Technical Officer. I found him to be an honest witness, and the fact that there were a number of careless mistakes in his witness statements, which he readily acknowledged when they were pointed out, does not in my view reflect on his overall credibility. I do not accept the submission advanced for Aurora that Mr Maeers was an inherently unreliable witness. That said, part of his evidence was general hearsay, in particular as regards the fact that he claimed that everyone in the field was talking about the FireLED product. He referred in particular to electrical wholesalers, but there was no evidence from any wholesaler to support this, nor was Mr Maeers involved directly in selling to such customers. I also think that he was prone to overplay the significance of the volume of sales of FireLED made by Collingwood. Although he said that Collingwood had sold FireLED products to about 1,025 of the 3,000-3,500 electrical wholesale outlets in the UK, given that on his corrected figures only some 20,700 units had been sold to those outlets in the calendar year 2010, the actual volume of sales is not so significant. But I recognise that Collingwood had ceased actively to promote the FireLED in the second half of 2010 and that over 70% of those sales were made in the first 6 months of the year; and further that some wholesalers are much larger than others, and thus may well have purchased a more significant quantity of the product than a simple average.

15. Aurora called Mr Mark Comiskey. He is a chartered accountant and is not an officer of Aurora but a director and Chief Financial Officer of Aurora's Swiss parent company. Although he was also broadly an honest witness, his evidence was heavily reliant on what he was told by others in the company – not just the sales force, who I accept comprise many individuals who could not sensibly be called individually to give evidence, but more particularly a Mr Kevin Bell, the executive director of Aurora to whom its sales force ultimately reports, and Mr Andrew Johnson, the founder of the Aurora Group who is named as the inventor on most of Aurora's patents and who was the developer and originator of the Aurora I-9 products, assisted by Aurora's technical director, Mr Darren Casey. There was no particular reason given why none of those three individuals was called to give evidence. Mr Comiskey readily accepted that Mr Bell would have a better knowledge than he of the day-to-day experience of Aurora's sales force, and Mr Johnson and Mr Casey would have a better understanding of technical matters concerning the design of the downlights.
16. Moreover, in one important respect I found Mr Comiskey's evidence to be defensive and disingenuous. In his witness statement, Mr Comiskey asserted that the Aurora product was not "copied" from "an [sic] Collingwood product". That led Collingwood's solicitors to seek clarification, and potentially disclosure as to how the design of the Aurora product originated. Their letter of 22 April 2013 stated:

"Presumably the word "copied" is intended to indicate that the Aurora product was in no way designed as a consequence of having seen the Collingwood product made in accordance with [the Patent] ("the Collingwood Product") or indeed the Halers H2 LED product referred to in paragraph 17 of Mr Comiskey's statement. Our client finds it a remarkable proposition that the Aurora product was designed wholly independently of, and without knowledge of, the Collingwood Product or the Halers H2 product."

The reply from Aurora's solicitors was expressed as follows:

"You state that your client finds it "a remarkable proposition that the Aurora product was designed wholly independently of, and without knowledge of, the Collingwood Product or the Halers H2 product". On that basis, if Mr Comiskey wishes to maintain that position, you request that our client gives specific disclosure of all documents relating to that independent design process.

We confirm that Mr Comiskey does wish to maintain the position set out in his witness statement. This is plainly a matter on which your client will be entitled to cross examine Mr Comiskey at trial...."

17. However, it emerged in cross-examination that the Aurora I-9 downlighter had been "derived" from the Halers H2 product. Mr Comiskey said that the Halers product had not been "copied" but was "the starting point" for the I-9. It therefore is clearly not the case that the Aurora product was designed without knowledge of the Halers H2. Aurora's solicitors' letter, which was based on information supplied by Mr Comiskey,

in my view presents a misleading picture, and Mr Comiskey accepted that he knew that it was incorrect when the letter was sent. He also was well aware that Collingwood and Halers were under common ownership. I found the attempted justification, in Counsel's written closing, on the basis that in terms the letter only confirms "the position set out in [Mr Comiskey's] witness statement" wholly unpersuasive.

Experts

18. Collingwood's expert was Mr Edmund Glenny, who had worked as a technical manager at Philips Lighting Ltd ("Philips") for over 25 years until he retired in 2012. He was not himself a luminaire designer, but between 2009 and 2012 he had chaired the International Electrotechnical Committee dealing with standardisation of lighting products, including LED lighting products. I found him to be a thorough and careful witness, seeking to assist the court.
19. Aurora's expert was Ms Liz Peck. Ms Peck had also worked for Philips, as a senior lighting designer between 2003 and 2007, and since 2007 has run her own lighting design consultancy, LPA Lighting. She also had never designed LED luminaires or fire-rated downlights, and her skills lay more in advising on the mode and models of lighting to be used to meet particular requirements. Ms Peck was clearly an honest witness and is no doubt very skilled in her professional practice. However, I found that although she stated in her report how the concept of the notional skilled person had been (correctly) explained to her, when she came to address that person's approach to the common general knowledge or the cited prior art, she attributed much more imagination to the skilled person than is appropriate. I also found her to be somewhat partisan in seeking to favour the position of Aurora. For example, she engaged in an elaborate analysis of a drawing in one of the key pieces of documentary prior art to suggest that there must be an error in the drawing so that, when corrected, it would give a teaching closer to one of the features of the patented invention. That was a degree of scrutiny, involving considerable enlargement of the drawing, that I regard as wholly unrealistic of what would be expected of the skilled person, leading to the suggested error which Ms Peck admitted she herself had only discovered in discussion with Aurora's lawyers.

The Patent

20. I have referred above to the tension between the requirements for fire resistance in a downlight and thermal management of an LED luminaire. Prior to the priority date, this was addressed using one of the two established ways of fire-rating a downlighter: by enclosure of the luminaire (and thus both MCPCB and heat sink) with a steel fire can or with an intumescent fire hood or cover. Indeed, those were the methods used prior to the introduction of Collingwood's FireLED product by all the major manufacturers in the UK of fire-rated downlighters: JCC Lighting Products Ltd ("JCC"), Scolmore, Robus (the brand name of the LED Group) and Aurora.²

² The market for fire-rated downlighters outside the UK is very small, apparently because the internal ceilings in domestic buildings tend to be made of concrete not plasterboard and wood.

heat from the heat sink to be dissipated by both convection and radiation without restriction. This is illustrated in the embodiment of the invention shown in Figure 2 of the Patent, reproduced using the same colouring to highlight the heat sink (21), fire resistant housing (11) and LED lighting element and PCB (17):

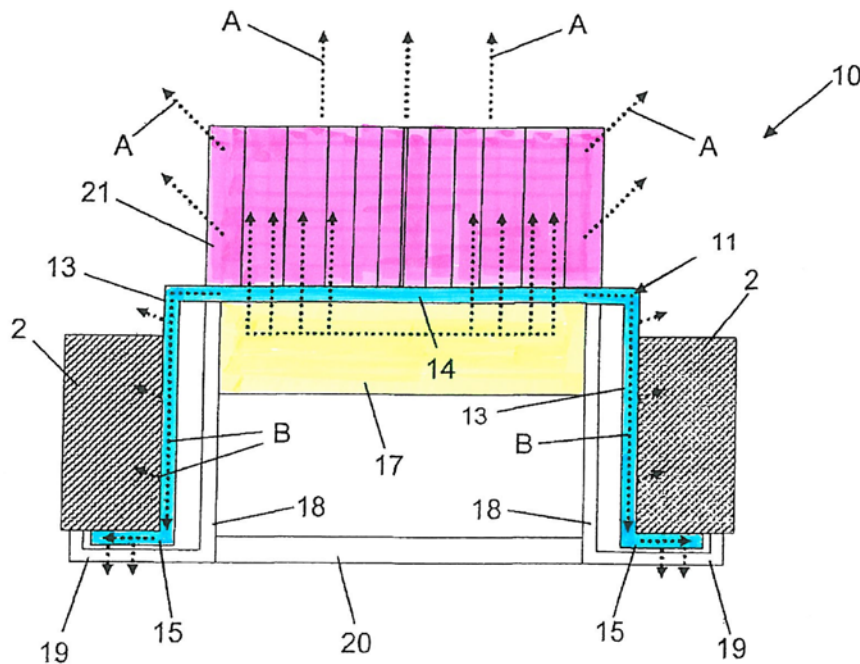


Fig. 2

24. Moving the heat sink from the inside of the fire resistant housing to the outside of the fire resistant housing may seem like a simple change, but it is trite to observe that the simplicity of a concept does not mean that it is not inventive. It is common ground that as at the priority date, no fire-rated LED downlighter had a heat sink outside the fire resistant housing.
25. The Patent includes 15 subsidiary claims to the main claim, but in the end none was pursued apart from a method claim in Claim 16, and even that was not urged by Collingwood with much force.

The Skilled Person

26. It is common ground that the skilled person ("SP") would be a designer of luminaires. Ms Peck in her first report suggested that the SP would be a person practising in the design and manufacture of LED luminaires but later said that s/he would be a designer of luminaires generally. Mr Glennly considered that the SP would be a designer of fire-rated downlights. However, I do not think it makes any practical difference whether the SP is specifically a designer of fire-rated downlights or luminaires more generally. As set out below, it is common ground that the common general knowledge ("CGK") would include familiarity with LEDs, the requirements for fire-rated downlights and knowledge of the design of such downlights at the material time. Both sides agree that the SP would be working for a manufacturer of lighting units that makes fire resistant downlights. S/he may, but would not necessarily, have an

engineering qualification, and most of his or her knowledge would have been acquired through on-the-job experience rather than any technical qualification.

The Common General Knowledge (CGK)

27. It may be helpful to bring together, in summary, what was agreed to constitute the CGK of the SP as at the priority date. S/he would:
- i) consider that a luminaire made to be mounted in an aperture is most usually a downlighter to be fitted into a ceiling;
 - ii) be aware of LED light source as a major form of such a downlight;
 - iii) know that thermal management of LED luminaires is a key aspect of the design, since performance and longevity are significantly adversely affected by excessive heat;
 - iv) know that a high power LED luminaire therefore needs a heat sink to dissipate heat from the LEDs and MCPCB on which the LEDs are mounted;
 - v) know that there are various forms of heat sink: they can be active (eg a cooling fan) or passive, fixed at the rear of the MCPCB using a conductive material, such as aluminium. The larger the surface area of the heat sink and the better the air flow around it, the more effective is the dissipation of heat;
 - vi) know that a fire-rated downlight must not compromise compliance of the ceiling with the Building Regulations, which in November 2008 meant the 2007 edition that required a ceiling to maintain its structural integrity for specified periods when subjected to standard fire tests involving specified temperatures;
 - vii) be familiar with a number of fire-rated LED downlights on the market: some involved LED modules being retro-fitted to standard fire-rated downlight fixtures with steel cans; then from about February 2008 integrated fire-rated LED downlights were produced and sold. The SP would be aware of the fire-rated downlights produced by the four major UK manufacturers (JCC, Scolmore, Robus and Aurora);
 - viii) know that that the standard method of providing fire protection was by enclosing the LED elements and heat sink in a fire can with ventilation holes surrounded by intumescent material, or within a fire hood made of (or incorporating) intumescent material;
 - ix) know that fire cans were usually made out of steel, which melts at over 1200° C, and could not be made out of aluminium which melts at below the temperature in a standard fire test after 15 minutes;
 - x) be aware that steel is not a particularly good thermal conductor and is only about one fifth as thermally conductive as aluminium.
28. There were two aspects on which there was dispute regarding the CGK. First, Mr Glenny was of the view that the general understanding was that the heat sink is

attached to or in direct contact with the MCPCB so as to maximise the efficient conduction of heat away from the MCPCB (or put another way, to minimise thermal resistance). Ms Peck said that the CGK was that the heat sink must be thermally connected to the MCPCB but not necessarily physically connected. In a limited sense, I think the latter proposition may be correct, albeit that in practice this was achieved by direct physical contact. But it does not in my view begin to support the further point expressly alleged by Aurora to be CGK in its particulars, i.e. that “the heat sink is located [or even may be located] on the outside of the [fire resistant] housing so that air may circulate around it.” Far from that being CGK, in none of the fire-rated LED downlights on the market as at November 2008 was the heat sink outside the fire resistant housing, with heat conducted through that housing to the heat sink. Indeed, Ms Peck’s expressly accepted in her report that use of the fire resistant housing to act as a thermal bridge to the heat sink was not part of CGK. Although she suggested in her oral evidence that designing a LED downlight with the heat sink inside the fire hood was “counter-intuitive”, it is clear that all the major UK manufacturers had done precisely that for their integrated fire-rated LED downlights on the market as at November 2008, although it appeared that Ms Peck was not personally very familiar with those products. I have no hesitation in rejecting Aurora’s contention that placing the heat sink outside of the fire resistant housing was part of the CGK.

29. Secondly, there was an issue as to whether the enclosure of the heat sink by the fire can or hood was perceived to be a serious problem. However, Mr Maeers was clear in his evidence that this was not generally considered to be a problem. Mr Glenny also said that average luminaire designers had not by late 2008 identified a problem posed by fire cans for thermal management of such LED downlights. Indeed, the evidence was that two of the major manufacturers (JCC and Scolmore) continue to sell dedicated fire-rated LED downlights with the heat sink contained within a ventilated fire can. This evidence of Mr Maeers and Mr Glenny was not challenged, and I find that it was no part of the CGK as at the priority date that there was a particular problem with the then standard approach to thermal management of fire-rated LED downlights.

Novelty

30. The challenge based on anticipation rested on one piece of documentary prior art, a US Patent application published in May 2007 for a product called “Mondloch”.
31. Mondloch is described as an LED lighting system for use in environments with high magnetic fields or that require low EMI emissions, such as MRI operating rooms in hospitals. In that regard, the purpose of the invention, as explained in the discussion in the patent application, was to create an MRI-compatible lighting system, as a replacement for fluorescent lighting, incandescent lighting or metal halide lighting, all of which contained or used ferrous metals which interfered with the operation of the MRI equipment. Mondloch is not designed or stated to be fire resistant. The description of the preferred embodiment of Mondloch uses an aluminium main reflector as a mounting structure housing the PCB, with the main heat sink attached to the rear of that reflector-cum-housing. The claims in Mondloch, in all their variants, refer to it as a “non-ferrous lighting fixture”. Thus, Mondloch, although an LED downlight, is not a fire resistant luminaire at all. The anticipation is said to arise from taking what is alleged to be the design of Mondloch together with the reference in the

patent application to the prior art that refers to previous lighting systems using ferrous metals.

32. In a much cited passage in *Synthon BV v SmithKline Beecham plc* [2005] UKHL 59, [2006] RPC 10 at [22]-[23], Lord Hoffmann summarised the law on novelty:

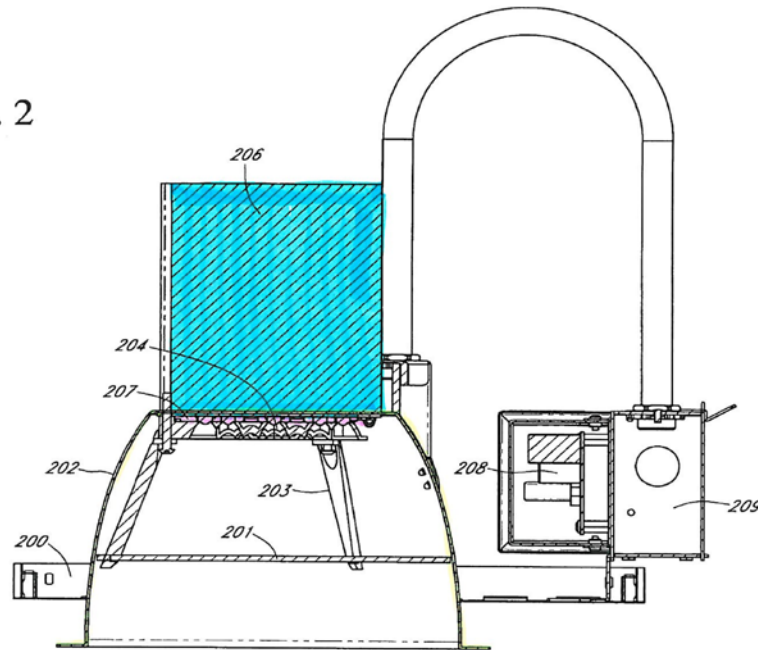
“22. ... the matter relied upon as prior art must disclose subject-matter which, if performed, would necessarily result in an infringement of the patent. That may be because the prior art discloses the same invention. In that case there will be no question that performance of the earlier invention would infringe and usually it will be apparent to someone who is aware of both the prior art and the patent that it will do so. But patent infringement does not require that one should be aware that one is infringing: "whether or not a person is working [an] ... invention is an objective fact independent of what he knows or thinks about what he is doing": *Merrell Dow Pharmaceuticals Inc v H N Norton & Co Ltd* [1996] RPC 76, 90. It follows that, whether or not it would be apparent to anyone at the time, whenever subject-matter described in the prior disclosure is capable of being performed and is such that, if performed, it must result in the patent being infringed, the disclosure condition is satisfied. The flag has been planted, even though the author or maker of the prior art was not aware that he was doing so.

Thus, in *Merrell Dow*, the ingestion of terfenadine by hay-fever sufferers, which was the subject of prior disclosure, necessarily entailed the making of the patented acid metabolite in their livers. It was therefore an anticipation of the acid metabolite, even though no one was aware that it was being made or even that it existed. But the infringement must be not merely a possible or even likely consequence of performing the invention disclosed by the prior disclosure. It must be necessarily entailed. If there is more than one possible consequence, one cannot say that performing the disclosed invention will infringe. The flag has not been planted on the patented invention, although a person performing the invention disclosed by the prior art may carry it there by accident or (if he is aware of the patented invention) by design....”

33. Mondloch itself clearly does not disclose a fire-rated LED downlight, since the housing/reflector is not specified or described as providing any fire resistance but on the contrary as being made out of aluminium (which would preclude the product from being fire-rated). Therefore, for the SP to derive the invention of the Patent from Mondloch, s/he would have to read it as clearly leading to an adjustment to what is there described by substituting for the aluminium reflector/housing a reflector/housing made of steel, the very thing that Mondloch is expressly designed to avoid. Thus I consider that it cannot possibly be said that performing the subject-matter described in Mondloch will *necessarily* lead to the making of the subject-matter of the Patent.

34. In my judgment, that is sufficient to dispose of the novelty argument. However, there is a further objection to anticipation based on Mondloch. That involves consideration of what the Mondloch design actually involves. It is most easily explained by reference to figure 2 in the Mondloch patent application:

FIG. 2



In that diagram, (207) is the PCB on which the LEDs are mounted; (202) is the main parabolic aluminium reflector; and (206), here coloured blue, is the primary heat sink which is on the outside of the reflector.

35. However, it is not clear from either the drawing or the general description in the application that the reflector completely seals the PCB from the heat sink such that, if it were made of steel, it would provide a fire barrier. The question is whether the PCB is in part directly connected to the heat sink by way of an aperture in the reflector. Mr Glenny considered that there is such a direct connection, referring to passages in the general description which state that “[t]he thermally-conductive substrate printed circuit board is thermally bonded to the heat sink”, and to the “aluminium substrate PCB/heat sink assembly” for which the aluminium reflector is a “mounting structure”. Ms Peck disagreed with that analysis, relying on other passages in the description and arguing by close analysis of a blow-up of the above illustration that it contains two errors. As Ms Peck observed, these points would not have been of central importance to the person preparing the Mondloch description. But they are of critical importance for present purposes, and even if Ms Peck’s view were to be preferred, I consider that this uncertainty means that Mondloch cannot be said clearly and unambiguously to disclose the invention of the Patent.

Obviousness

36. In its pleaded case, Aurora asserted that the invention claimed in the Patent was obvious over, first, the CGK, and then four pieces of prior art: Mondloch; a US patent granted in November 2005 for a product called “Ryan”; and two Aurora products.

The CGK

37. In *Ratiopharm GmbH v Napp Pharmaceuticals Holding Ltd* [2008] EWHC 3070 (Pat), Floyd J emphasised at [154] the importance of a party that seeks to allege obviousness over the CGK providing particulars of what it alleged constituted the CGK. He continued, at [155]:
- “There are a number of things to note about the plea of obviousness based on common general knowledge. The first is self-evident: it is that it is essential that the starting point for the plea is indeed established to be common general knowledge. If the matter alleged to be common general knowledge is not established as such then the result is just the same as if a documentary starting point is not shown to have been published before the priority date: the attack based on it is likely to fail.”
38. Here, the particulars which Aurora pleaded as constituting the CGK included the assertion that it was CGK that the heat sink is located on the outside of the fire resistant housing. However, as discussed above, I have found that this was definitely not part of the CGK. Indeed, the standard, accepted approach for fire-rated LED downlighters was precisely the opposite. In my judgment, this finding fatally undermines Aurora’s contention that the Patent was obvious over the CGK.
39. Thus the concept of the Patent differed from the state of the art that constituted CGK as set out above, in that it placed the PCB in thermal contact with the *inside* of the fire resistant housing, and the heat sink in thermal contact with the *outside* of the fire resistant housing, such that the housing acted as a thermal bridge conducting heat to the heat sink while maintaining the integrity of the fire seal. It is common ground that this is technically advantageous over the previously accepted approach in that it enables more effective dissipation of heat from the heat sink, and thus better performance of the LEDs. Mr Glenny described this approach as “neat and clever.” The FireLED won the awards for “Overall Innovative Product of the Year” and “Innovative Lighting Product of the Year” at the Electircity Industry Awards 2009. Since its introduction, this concept has been very successful, albeit that greater commercial success came to the refinement of this concept in the Halers H2 over the initial FireLED.
40. Moreover, the question “why was it not done before?”, that is often relevant, is in my view particularly powerful when considering an allegation of obviousness over CGK. Here is a concept that brings distinct advantages yet none of the major manufacturers had introduced it before the priority date. Ms Peck accepted that there was no technical reason why Aurora could not have made such a product in 2008, or indeed in 2005. I have no doubt that this was not done because it was generally considered that housing which provided the necessary fire resistance could not also provide an effective thermal bridge to the heat sink. In my view, the Patent represented a real inventive step over the CGK.

The cited prior art

41. The courts have frequently stressed the need to guard against hindsight when addressing the question of obviousness. Further, two judicial observations about the

approach of the SP to the prior art are particularly pertinent for this case. First, in *Inhale v Quadrant* [2002] RPC 21, Laddie J stated, at [47]:

“A fiction in patent law is that the notional uninventive skilled man in the art is deemed to have read and assimilated any piece of prior art pleaded by the party attacking the patent claim. If the invention is obvious to that person in the light of a particular piece of prior art, the claim is invalid. It is no answer to say that in real life the prior art would never have come to the attention of a worker in the field, for example because it was tucked away on the top shelf of a public library or because it was in a language which nobody in the art knew. The notional skilled person is assumed to have read and understood the contents of the prior art. However that does not mean that all prior art will be considered equally interesting. The notional skilled person is assumed to be interested in the field of technology covered by the patent in suit, but he is not assumed to know or suspect in advance of reading it that any particular piece of prior art has the answer to a problem he faces or is relevant to it. He comes to the prior art without any preconceptions and, in particular, without any expectation that it offers him a solution to any problem he has in mind. Some pieces of prior art will be much more interesting than others. A document directed at solving the particular problem at issue will be seized upon by the skilled addressee. Its very contents may suggest that it is a worthwhile starting point for further development. But the same may not be the case where a document comes, say, from a distant and unrelated field. For example, in theory a notional skilled person engaged in trying to improve the operation of an internal combustion engine is assumed to know, have read and assimilated the contents of all published material including those, say, in the baking field. It may be that a document in the latter field discloses something which, if applied to the internal combustion art, would produce a marked improvement in performance. However, the person skilled in the art is not deemed to read the baking document in the knowledge, or even with a suspicion, that it is of significance to the problems he has to deal with. It may be that it is written in such a way that, although he understands it, the skilled person will dismiss it as irrelevant to his work. The more distant a prior art document is from the field of technology covered by the patent, the greater the chance that an intelligent but uninventive person skilled in the art will fail to make the jump to the solution found by the patentee.”

42. Secondly, in *Actavis UK Ltd v Novartis AG* [2010] EWCA 82, [2010] F.S.R. 18, in a judgment with which the other members of the Court of Appeal agreed, Jacob LJ discussed the suggested difference in the approach to obviousness set out in the EPO’s Guidelines for Substantive Examination (“the Guidelines”), and referred to the so-called “could/would” point at [45]-[46]:

“The Guidelines say this:

“Could-would approach

In the third stage the question to be answered is whether there is any teaching in the prior art as a whole that *would* (not simply could, but would) have prompted the skilled person, faced with the objective technical problem, to modify or adapt the closest prior art while taking account of that teaching, thereby arriving at something falling within the terms of the claims, and thus achieving what the invention achieves (see IV, 11.4).

In other words, the point is not whether the skilled person could have arrived at the invention by adapting or modifying the closest prior art, but whether he *would have done* so because the prior art incited him to do so in the hope of solving the objective technical problem or in expectation of some improvement or advantage (see T 2/83, OJ 6/1984, 265). This must have been the case for the skilled person before the filing or priority date valid for the claim under examination.”

I do not read this as involving a requirement that the notional skilled person would actually physically implement the idea. What the passage is saying, sensibly enough, is that it is not enough the skilled man could have arrived at the invention from the prior art, it must be shown that he would have done. Whether he would actually press ahead and implement the idea depends on a host of other, commercial considerations.”

43. Against that background, I turn to consider the items of cited prior art alleged to render claim 1 of the Patent obvious.

(i) *Mondloch*

44. *Mondloch* is a paper proposal. As explained above, *Mondloch* is not a fire resistant luminaire at all. It is addressing a problem – the presence of ferrous materials in proximity to MRI equipment – that would be of no interest to the SP considering the design of fire-rated downlights. Indeed, it teaches the use of an aluminium housing, which is totally unsuitable for fire-rated downlights and which would raise no concern about the consequence of separating the PCB and LEDs from the heat sink by the housing since aluminium is known to be highly conductive.

45. Therefore, this is not a document that I think the SP would regard as relevant. Nor do I think that it would motivate the SP, who would not have the patented product in mind, to make the critical change of switching from an aluminium housing to a steel housing, as Ms Peck suggested. On any reading of *Mondloch*, without the benefit of hindsight, that is a major step change. Moreover, it should be emphasised that the SP

would not have perceived there to be a problem with the existing fire-rated LED downlighters that placed the heat sink inside the fire can or hood: see para 29 above. Thus he or she would not be reading Mondloch with any motivation to resolve a problem of poor thermal management.

46. That is sufficient to dispose of the allegation that the claim of the Patent was obvious in the light of Mondloch. But there is a further objection to the allegation. This relates again to the lack of clarity as to the design involved in Mondloch, as explained above. Although the SP clearly *could* have engaged in the minute textual analysis of the description coupled with close scrutiny of the drawing, and come up with the conclusion that the drawing had a couple of mistakes as urged by Ms Peck, I regard it as wholly unrealistic to suppose that she or he *would* have undertaken such an exercise. It is not clear whether the Mondloch design in fact involves a complete partition between the heat sink and the PCB or whether they are in part directly bonded together as Mr Glennly considered more likely; and without such a feature the design cannot provide a basis for creating a fire-rated downlight.

(ii) *Ryan*

47. The US patent specification for Ryan was published in June 2004. The title of the description is a “Peltier-Cooled LED Lighting Assembly.” The opening paragraph is as follows:

“The present invention relates to a high powered lighting assembly utilizing a solid state thermoelectric cooling system for primary use in theatrical or architectural lighting fixtures. More specifically, the present invention relates to a lighting assembly having a continuous sealable thermal barrier and an active closed-loop refrigeration system employing a Peltier-effect thermo-electric module(s)”

48. The Peltier-effect involves the inclusion of thermo-electric modules to pump heat from the LED array to the heat sink plate. This is explained as providing an improvement over the prior art that directly connects the LED array to a housing or heat spreading plate in a manner that allows thermal back flow to the lighting array by either conduction or convection.
49. As Mr Glennly pointed out, Ryan teaches a very high power LED lighting unit which makes use of the Peltier effect actively to cool the LED array and insulation to prevent backflow of heat to the array. This has nothing to do with the design of a fire resistant housing for an LED luminaire or the arrangement of a heat sink relative to that housing. It appears to be a complex system likely to be of value only for large and expensive theatrical or architectural lighting installations. Ryan is not a downlight and the patent makes no mention of fire resistance. Indeed, the heat sink in Ryan is not a separate component but is integral to the housing, so there is no question of adapting that housing to become a fire barrier with a distinct heat sink fitted to the rear.
50. Accordingly, I accept Mr Glennly’s view that Ryan is fundamentally different in both concept and design from the subject of the Patent. I consider that the SP interested in designing a fire-rated downlight would not even see Ryan as a useful starting point.

Still less do I consider that it would be obvious to the SP to make the very significant changes involved in moving from Ryan to the design of the Patent.

(iii) and (iv) *The Aurora products*

51. Mr Edenborough realistically did not pursue these with any vigour as independent bases for an obviousness challenge, and Aurora's closing submission accepted that they add "little if anything to the CGK." They can be dismissed very briefly. The first is simply a standard LED lamp with three emitters on a MCPCB screwed directly to a finned aluminium heat sink. It is designed to be fitted into standard downlights and does not disclose any housing at all. The second is a fire-rated downlight fixture that does not include any lamp. From its labelling, as Mr Glenny pointed out, it is designed for use with a low energy, compact fluorescent lamp. Such lamps are not solid state and do not need a heat sink. There is nothing in this disclosure that would lead the SP to design an integrated LED downlight with a fire resistant housing that separates the PCB from the heat sink. The contention in Ms Peck's expert report that the very significant development from either of these products to the subject of the Patent was obvious, only illustrates, I have to say, her lack of appreciation of what is involved in assessing the approach of the SP.

Conclusion on Validity

52. Accordingly, I reject the challenges to claim 1 of the Patent on the grounds of anticipation or lack of inventive step. In the light of that, I do not think it is necessary to consider in any detail claim 16, the only subsidiary claim still submitted to be independently valid. It is a pure method claim, expressing the invention as:

"A method for preventing fire from penetrating a hole formed in a partition, said method including installing a lighting unit according to any one of claims 1 to 14 to substantially plug and/or cover the aperture."

53. Mr Vanhegan submitted that you could accidentally create a product without the intention that by doing so you were creating a method for preventing the spread of fire. In theory that is no doubt correct, but as Mr Vanhegan accepted, if claim 1 is invalid, it would be wholly artificial to find that this claim 16 was valid. And as Aurora put it in their closing, "it is not inventive to install a downlight made to claim 1 in a ceiling". I agree.

Infringement

54. Two products fall for consideration under this head. First, the original Aurora I-9 range; and secondly, the redesign. Fundamental to both is the proper construction of claim 1 of the Patent.
55. The Patent is a purely domestic patent and the approach to determination of the invention protected is set out in sect 125 of the Patents Act 1977 ("the 1977 Act"). However, sect 125(1) effectively mirrors Art 69 of the European Patent Convention and sect 125(3) expressly adopts as applicable the Protocol to Art 69. This was discussed and explained by Lord Hoffmann in the House of Lords in *Kirin-Amgen Inc v Hoechst Marion Roussel Ltd* [2004] UKHL 46, [2005] RPC 9, where he emphasised

that the fundamental question is what the person skilled in the art would have understood the patentee to mean by the language of the claims. See also the summary list of principles set out by the Court of Appeal in *Virgin Atlantic Airways Ltd v Premium Aircraft Interiors UK Ltd* [2009] EWCA Civ 1062, [2010] RPC 8 at [5]:

“(i) The first overarching principle is that contained in Art.69 of the European Patent Convention;

(ii) Art.69 says that the extent of protection is determined by the claims. It goes on to say that the description and drawings shall be used to interpret the claims. In short the claims are to be construed in context.

(iii) It follows that the claims are to be construed purposively—the inventor's purpose being ascertained from the description and drawings.

(iv) It further follows that the claims must not be construed as if they stood alone—the drawings and description only being used to resolve any ambiguity. Purpose is vital to the construction of claims.

(v) When ascertaining the inventor's purpose, it must be remembered that he may have several purposes depending on the level of generality of his invention. Typically, for instance, an inventor may have one, generally more than one, specific embodiment as well as a generalised concept. But there is no presumption that the patentee necessarily intended the widest possible meaning consistent with his purpose be given to the words that he used: purpose and meaning are different.

(vi) Thus purpose is not the be-all and end-all. One is still at the end of the day concerned with the meaning of the language used. Hence the other extreme of the Protocol—a mere guideline—is also ruled out by Art.69 itself. It is the terms of the claims which delineate the patentee's territory.

(vii) It follows that if the patentee has included what is obviously a deliberate limitation in his claims, it must have a meaning. One cannot disregard obviously intentional elements.

(viii) It also follows that where a patentee has used a word or phrase which, acontextually, might have a particular meaning (narrow or wide) it does not necessarily have that meaning in context.

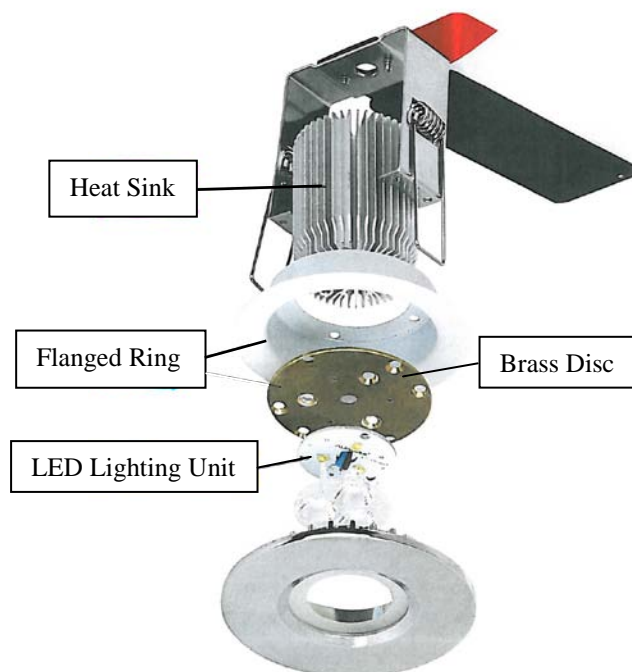
(ix) It further follows that there is no general “doctrine of equivalents.”

(x) On the other hand purposive construction can lead to the conclusion that a technically trivial or minor difference

between an element of a claim and the corresponding element of the alleged infringement nonetheless falls within the meaning of the element when read purposively. This is not because there is a doctrine of equivalents: it is because that is the fair way to read the claim in context.

(xi) Finally purposive construction leads one to eschew the kind of meticulous verbal analysis which lawyers are too often tempted by their training to indulge.”

56. The questions of infringement in this case come down to the elements or integers of the claim concerning the fire resistant housing. Claim 1 of the Patent (see at para 22 above) stipulates that the lighting unit includes a fire resistant housing that has a front side and a rear side, and includes walls made from sheet material. The lighting element, and thus the MCPCB, is mounted within the front side of the housing. It is clear from a reading of the Patent that the purpose of the housing is to plug the aperture in the partition (ceiling) in which the downlight is fitted so as to form a fire barrier, and to allow heat to be conducted from the MCPCB/LEDs through to the heat sink to the rear.
57. The Aurora I-9 is a fire-rated LED downlight designed to be recessed into a ceiling. The unit comprises an LED light source consisting of three high power LEDs mounted on a MCPCB, optics, a finned heat sink, power supply, a housing in two parts comprising a brass disc and an open flanged ring or cylinder of steel, a bezel and a mounting bearing a pair of spring clips. This product is shown in the illustration below:



58. The LED lighting unit (incorporating the MCPCB) is fixed to the downward facing side of the brass disc. The disc is fixed with screws to the inside of the open ring, which has an inwardly extending flange, and so closes the ring at its upward facing

end. The ring also has an outward facing flange at its opposite end, which is designed to extend beyond the aperture in the ceiling. When inserted in the aperture, the spring clips push against the top side of the ceiling with the outward flange of the ring creating a reaction force against the underside of the ceiling, thereby holding the unit in place. The heat sink is fitted to the rear of the brass disc.

59. It is common ground that the claim would be understood to mean that the housing component, on its own, should survive the fire resistance test from the Building Regulations. The fire barrier in the Aurora product is formed by the interconnected brass disc and flanged ring. The essential issue on infringement is whether the claim requires the housing to be in one part, as Aurora contends, or whether it covers a housing that is in two parts, as Collingwood contends.
60. There is no express limitation in the language of the claim to housing comprising only one component. Nothing in the wording that relates to the structure of the housing limits it to being one component only, as opposed to, for example, a housing where the walls made from sheet material are welded to a central component. Nor is there anything in the purpose of the fire resistant housing that leads to such a narrow construction. Ms Peck accepted in cross-examination that there is no technical reason why a fire resistant housing could not be as effective if it were made from two component parts, provided they were sufficiently well connected to provide the fire resistance.
61. Aurora sought to rely on the passage in the general description of the Patent which states that “[t]he fire resistant housing preferably comprises an open sided box having side walls and an end wall.” That is what is illustrated in figure 2: para 23 above. But this is only a preferred embodiment of the invention. A preferred embodiment is set out as an example, no doubt a recommended example, but it does not determine the scope of the claim: see per Floyd J in *Nokia GmbH v IPCOM GmbH & Co KG* [2009] EWHC 3482 (Pat) at [41]. I reject the submission advanced for Aurora that where the general specification describes only one “preferred embodiment” that should delimit the claim. That would be contrary to the language used and indeed to principle. It would mean that the patentee would effectively have to describe at least two embodiments to avoid the claim being read down.
62. The same objection applies to other passages in the general specification on which reliance was placed. Accordingly, I consider that there is no basis, either literally or purposively, to restrict claim 1 to a fire resistant housing comprising only one component.
63. An alternative ground advanced for Aurora was to contend that claim 1 required the fire resistant housing to be made of one material, so that the housing in the Aurora product that comprised brass and steel was outside the protection of the Patent. Aurora relied on various passages in the general specification that refer to the “the steel fire resistant housing” and “the material” for the fire resistant housing.
64. I have little doubt that the SP reading the Patent would think of steel as the most obvious material to use, and would see no need to make the housing from more than one material. But that is a different thing from determining that the scope of protection of claim 1 extends only to a unit with housing of that character. It would indeed be strange if the patentee did not intend the protection to cover a unit in which

the housing was made from more than one material but which operated in the same way. Moreover, not only does the language of claim 1, read both literally and purposively, provide no indication that only one material must be used, but in my view the matter is placed beyond doubt by the subsidiary claims 4 and 5. These are as follows (with emphasis added):

“4. A lighting unit according to any one of the preceding claims, wherein the fire resistant housing *includes a material* that melts at a temperature in excess of 1000°C.

5. A lighting unit according to any one of the preceding claims, wherein *a wall* of the fire resistant housing *includes steel.*”

65. Claims 4 and 5 are clearly intended as a narrowing of claim 1. The reference to “includes a material” in claim 4 is inconsistent with a requirement that the housing must comprise only one material. The requirement in claim 5 that “a wall” of the housing includes steel makes clear that the other part of the housing may use a different material.
66. Since those were in the end the only bases on which it was urged that the Aurora I-9 products do not infringe, I find that infringement is made out.

The redesign

67. The redesigned product follows exactly the form of the I-9 products with the addition that an insulating ring of silicone is interposed between the brass disc and the flanged steel ring. It was submitted that because in the redesign there was no thermal contact between the solid state element and the steel mounting ring, this took the product outside claim 1 which specified that “the solid state lighting element is mounted in thermal contact with the fire resistant housing.”
68. However, the claim does not say that the thermal contact (and the consequent transfer of heat by conduction) must be with the whole of the fire resistant housing. That objection applies on a literal reading, and more significantly, in my view, on any purposive construction there is no reason why the heat has to be conducted through the entirety of the housing. In the redesign, heat is still of course conducted from the brass disc to the heat sink, and the disc is part of the fire resistant housing. I consider that this is sufficient to dispose of this contention. If it were necessary, I find that if a literal approach were to be adopted, there is force in the point made in Mr Glenny’s report, on which he was not challenged in cross-examination, that there would in any event be some conduction of heat from the brass disc to the steel ring through the screws connecting these two components.
69. In the light of that conclusion it is unnecessary to consider Collingwood’s further argument that it was unclear on the evidence whether a silicone ring would in fact be an effective thermal insulator. Even if it were, it was not suggested that there was any reason for the addition of this element other than as an attempt to avoid infringement. If I had considered, contrary to the above, that inclusion of a silicone ring took the redesign outside the primary meaning of the claim, then I would regard it as an

immaterial variant that should, on a purposive reading, be covered: see the tenth guiding principle in *Virgin Atlantic Airways*, above.

70. Indeed, this is a case where it would be of assistance to apply the so-called Protocol questions formulated by Lord Hoffmann in *Improver Corp v Remington Products Ltd* [1990] FSR 181 at 189, and discussed further in his speech in *Kirin-Amgen* (with which all the other members of the House of Lords agreed). Addition of a silicone ring was a variant that had no material effect on the way the invention worked, as would have been obvious to a SP reading the patent. And that SP would not have considered that thermal conductivity through the whole of the fire resistant housing was an essential requirement of the invention. It may be that the tenth *Virgin Atlantic* principle should be regarded as a simplified encapsulation of the Protocol questions. But in any event, since I was not addressed specifically on this basis in argument, and in the light of my conclusions expressed above, it is unnecessary to adopt that approach in order to resolve this part of the case.
71. I therefore find that the redesign, as well as the original Aurora product, infringes the Patent.

Knowledge and Damages

72. Sect 62(1) of the 1977 Act provides, insofar as material:

“In proceedings for infringement of a patent damages shall not be awarded, and no order shall be made for an account of profits, against a defendant ... who proves that at the date of the infringement he was not aware, and had no reasonable grounds for supposing, that the patent existed; and a person shall not be taken to have been so aware to have had reasonable grounds for so supposing by reason only of the application to a product of the word “patent” or “patented”, or any word or words expressing or implying that a patent has been obtained for the product, unless the number of the patent accompanied the word or words in question.”

73. The burden is accordingly on the defendant to prove that it neither knew nor had “reasonable grounds for supposing” that the patent existed. It is established that the second limb of the test is objective. Moreover, if the defendant should have known that the Patent existed, it is immaterial that the defendant considered that the Patent was invalid or that its product would not infringe.
74. The FireLED was launched on the market about May 2009. Mr Comiskey said that Aurora produced its first prototype of the I-9 range towards the end of 2010. He did not actually know when the design work on the product started but agreed that it would have been some six months earlier, i.e. around June 2010. He said that it was a departure from Aurora’s previous range of products.
75. Mr Comiskey said that he personally became aware of the Patent in November 2011 and that before then he had no knowledge or awareness of the FireLED product at all. I accept that evidence as correct.

76. However, whether others in Aurora may have been aware of the FireLED product before then is a different matter. Mr Vanhegan produced in cross-examination extracts from the February 2010 issue of *Professional Electrician and Installer*. That is a magazine that was widely read by the electrical wholesalers to whom both Aurora and Collingwood sold their products. Mr Comiskey said that Aurora subscribes to that magazine and agreed that the technical directors and sales staff at Aurora would read it in detail. At that time, the technical director of Aurora was a Mr Peter Hart, who wrote an advertising editorial feature (or “advertorial”) in the magazine. Mr Comiskey accepted that Mr Hart would have been one of those who would probably have read the magazine with interest. An advertisement for another Collingwood lighting product appears adjacent to Mr Hart’s advertorial. On page 21 of this issue is a full page advertisement for the Collingwood FireLED, which highlighted the fact that it had been awarded “Innovative Product of the Year” at the 2009 Electrical Industry awards. Mr Comiskey could not say whether Mr Hart would have seen that advertisement.
77. Further, the July 2009 issue of another trade magazine, *ElectroFacts*, includes on pages 24-25 a double spread advertorial for Aurora that promotes, inter alia, a range of new low energy LED lighting products. Mr Comiskey explained that this feature would have been placed by Aurora’s marketing director and that Aurora’s sales staff would look at this magazine. I think it is reasonable to assume that, knowing that the magazine was read by their customers, Aurora sales staff would pay attention to a feature promoting Aurora’s products, and Mr Comiskey accepted that the marketing director would check the magazine to make sure that the feature had been properly placed. The preceding two pages, i.e. 22-23, of the same issue of *ElectroFacts* contained an advertorial feature and advertisement from Collingwood promoting the properties of the FireLED and referring to its “patented design” that ensures an exceptionally long life that is stated to be unachievable by the usual design of such lighting units. And Collingwood was regarded by Aurora as a competitor, although of course only one among many, in the market for LED products.
78. Mr Comiskey said that when he received the claim form he had asked the technical personnel at Aurora and in particular Mr Johnson and Mr Casey, and an area sales director Mr Richardson, whether they were previously aware of the FireLED and they all said that they were not. However, he had not asked the former technical director (Mr Hart), who had by then left the company, nor all the 25 sales staff; nor had anyone been asked by reference to the features in the trade magazines that I have described. Since Mr Comiskey was the only witness called from Aurora, counsel for Collingwood obviously could not put these documents to anyone else.
79. In this regard, it is appropriate to take account of Lord Bingham’s statement in *Fairchild v Glenhaven Funeral Services Ltd* [2002] UKHL 22, [2003] 1 AC 32, at [13]:
- “... I think it salutary to bear in mind Lord Mansfield’s aphorism in *Blatch v Archer* (1774) 1 Cowp 63 at 65, quoted with approval by the Supreme Court of Canada in *Snell v Farrell* (1990) 72 DLR (4th) 289:
- “It is certainly a maxim that all evidence is to be weighed according to the proof which it is in the power of one side to

have produced, and in the power of the other side to have contradicted”.”

Aurora chose to advance a case under sect 62(1) and bears the burden of sustaining it. This is expensive litigation and the absence of direct evidence from even one witness on this aspect is striking. I have to say that I consider it unlikely that neither the advertisement nor the feature about the FireLED passed unnoticed by anyone involved in either the design or sale of LED lighting at Aurora at the time when they appeared. On the balance of probabilities, I find that Aurora would have been aware of at least one of the advertisements/advertorials promoting the FireLED.

80. Neither feature nor advertisement identifies the Patent or refers to the patent application by number. But in a field where manufacturers do seek patents for luminaires involving innovative features – Aurora held 10 patents for downlight units – and the product is described as innovative, in my judgment this would be sufficient to put Aurora on notice that the FireLED might have patent protection.
81. In addition, Mr Comiskey accepted that Aurora would in mid-2010 have the current edition of the Collingwood catalogue, which included the FireLED product with its patent application number.
82. However, the matter does not rest there. As set out above, it emerged in Mr Comiskey’s evidence that the starting point for the design of the Aurora I-9 was the Halers H2 product which by mid-2010 was enjoying considerable commercial success. Mr Comiskey said that Aurora would have acquired the Halers H2 by the time it started on designing the I-9, i.e. by June 2010.
83. The Aurora Group regularly uses a particular patent attorney in the UK, Pure Ideas LLP. The individual there with whom they dealt was Dr Ian Coates. Mr Comiskey managed intellectual property matters at Aurora and was the person who dealt directly with Dr Coates.
84. Mr Comiskey said that the Halers H2 was an attractive product, in part because it had some novel functions, which is why Aurora used it as a starting point for its design. He accepted that it would possibly have occurred to someone at Aurora that the H2 was protected by a patent, and that when starting to design something inspired by another product one would wish to avoid infringing any patent protection. He also agreed, in answer to a question from the Court, that in starting design work for the I-9, the Aurora design team “should really” have checked to see if it was patented and get hold of the patent to see what it covered. Mr Comiskey was not asked to do that, and so did not instruct Dr Coates to conduct a patent search. But he agreed that if he had instructed the patent attorneys, they should have been asked to see if any similar patents were held on fire-rated LED downlights. Furthermore, the patent application for the Halers H2, which was published on 3 February 2010, named Collingwood as the applicant and Mr Maeers as the inventor.
85. In their written closing, Counsel for Aurora submitted that “the Patent was not available for anyone to find until 25 May 2011”. That is a reference to the date of reproduction by the UK Patent Office. However, the Patent derives from an international patent (PCT) application which was published on 20 May 2010. That is

clear from the face of the Patent. Accordingly, a search in June 2010 would have found the international patent application from which the Patent derives.

86. I accept that Mr Comiskey was not asked to instruct Aurora's patent attorneys to carry out a patent search while design work on what became the I-9 proceeded in late 2010. But I consider that Aurora had good grounds for supposing that a patent existed on Halers H2, and could have been expected to find out. That search would first have been conducted under the name "Halers", but Mr Comiskey accepted that since no patent was filed under that name, and since Aurora suspected that Halers and Collingwood were related companies, a search would have been made under "Collingwood". That would have revealed not only the Halers patent application but also that Collingwood had filed a separate application for the FireLED product. Indeed, I have in any event found that Aurora would have known about Collingwood's FireLED product before it even started work on designing the I-9.
87. In my judgment, since Aurora should reasonably have discovered that Collingwood had applied for a patent on the Halers H2, that should, at the very least, have led it to suppose that Collingwood may well also have applied for a patent on the FireLED, and therefore to discover that further application on the basis of a reasonable search. In all the circumstances, I do not consider that Aurora has discharged its burden of showing that it had no reasonable grounds for supposing that a patent existed on the FireLED.

Conclusion and Summary

88. For the reasons set out above, I therefore find that:
- i) Claim 1 of the Patent is not invalid for either lack of novelty or obviousness;
 - ii) If that were wrong, claim 16 of the Patent would not be independently valid;
 - iii) The Aurora I-9 products and the redesign both infringe claim 1;
 - iv) Aurora have failed to satisfy the conditions of sect 62(1) of the 1977 Act so as to preclude the recovery of damages against it for infringement.
89. I shall hear Counsel for the parties as to what orders should be made in the light of this judgment.