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Case No: IP-2015-000205

IN THE HIGH COURT OF JUSTICE
CHANCERY DIVISION
INTELLECTUAL PROPERTY ENTERPRISE COURT

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

Date: 24/05/2017

Before :

HIS HONOUR JUDGE HACON

Between :

CURT G. JOA, INC
- and -
FAMECCANICA DATA SpA

Claimant

Defendant

Andrew Norris (instructed by **Potter Clarkson LLP**) for the **Claimant**
Thomas St Quintin (instructed by **Clyde & Co LLP**) for the **Defendant**

Hearing dates: 11-12 April 2017

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.

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HIS HONOUR JUDGE HACON

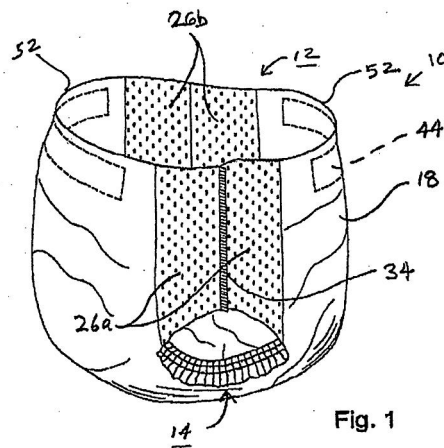
Judge Hacon :

Introduction

1. In this action the Claimant (“Joa”) seeks to revoke European Patent (UK) No. 1 355 604 (“the Patent”). The Patent is owned by the Defendant (“FDS”) and has as its title “Disposable Absorbent Garment such as a Diaper or Training Pants and a Process of Making the Same”.
2. In its Grounds of Invalidity Joa alleged that the Patent lacked both novelty and inventive step over three items of prior art.
3. Without formally admitting that the Patent is invalid, FDS has nonetheless made an unconditional application to amend the Patent and thus no longer seeks to defend the Patent’s validity by reference to the claims as granted. FDS also advanced a further and conditional application to amend. FDS’s position is that the claims in both sets of amendments mean the same thing; those put forward in the conditional amendment were said more clearly to express, but in no way to alter, what is claimed. It was therefore convenient at trial to focus on the claims of the conditional amendment. It was common ground that both whether the amendments should be allowed and the validity of the Patent stood or fell by reference to those claims. Hereafter reference to the amended claims should be taken to be those proposed claims which are the subject of the conditional application to amend.
4. Joa objected to the proposed amendment. It alleged that the claims lacked novelty and inventive step for the same reasons as did the granted claims. Joa also alleged that the proposed amendments resulted in the specification disclosing additional matter, contrary to s.76(3)(a) of the Patents Act 1977 (“the Act”) and that the proposed claims lacked clarity, contrary to s.14(5)(b) of the Act.
5. Andrew Norris appeared for Joa; Thomas St Quintin for FDS.

The Patent

6. The Patent is concerned with disposable absorbent garments. These include nappies – or diapers, to give them their correct name – together with other disposable pull-on garments such as adult incontinence garments which are also covered by the invention claimed. For the most part the Patent describes the invention by reference to diapers.
7. The invention relates to side panels, or ‘ear regions’ in the diaper, shown as features 26a and 26b in Figure 1:



8. The invention disclosed is a disposable garment with more comfortable side panels than those formerly available, being made of a 'breathable, stretchable layer assembly'.
9. Claims 1 and 9 of the application to amend were the only two in issue. Claim 1 is a product claim, claim 9 a method claim. They are as follows (omitting reference numerals):

"1. A disposable absorbent garment, comprising:
a topsheet;
a backsheet; and
an absorbent core disposed between said topsheet and said backsheet, wherein said topsheet, said backsheet, and said core together form a front region, a back region, and a crotch region disposed between said front region and said back region, and wherein a vertical longitudinal plane extends centrally through said front, back, and crotch regions;
wherein each of said front and back regions includes a pair of ear portions extending in opposite lateral directions with respect to said longitudinal plane, each of said ear portions being a breathable, stretchable layer assembly, wherein said stretchable layer assembly of each said ear portion includes a plurality of vent sites, and wherein said stretchable layer assembly includes an inner material layer, an outer material layer and a stretchable material layer disposed therebetween,
characterized in that
said outer material layer and said inner material layer are non-woven materials and in that at each said vent site:
said outer material layer and said inner material layer are bonded by ultrasonic bonding through the stretchable material layer;
whereby an aperture larger than the respective bond site is formed through the stretchable material, thereby forming a breathable passage through said stretchable material layer; and
whereby with no apertures being formed in said outer material layer or in said inner material layer said outer material layer and said inner material layer bond with each other through the aperture in the stretchable material.

9. *A method of forming a breathable, stretchable section of a disposable absorbent garment, said method comprising the steps of:*
selecting a first material for a first material layer and a second material for a second material layer, wherein said first and second material layers are bondable by an ultrasonic bonding process;
selecting an elastic material for a stretchable material layer;
positioning the stretchable material layer between the first and second material layers to form a layer assembly;
targeting one or more bond sites on the layer assembly for bonding one or more of the material layers together; and
securing the first, second and stretchable layers together,
characterized in that:
the step of selecting the first and second material includes selecting a first non-woven material and a second non-woven material, respectively;
the selecting and positioning steps include selecting and positioning the first, second, and stretchable material layers so as to form a stretchable side waist region of the garment after the securing step; and
said securing is by ultrasonically bonding the first material layer with the second material layer through the stretchable material layer at the one or more sites whereby an aperture larger than the respective bond site is formed through the stretchable material providing a breathable passage therethrough and whereby with no apertures being formed in said first material layer or in said second material layer the first material layer and the second material layer bond with each other through the aperture in the stretchable material.

The issues

10. By the close of the trial Mr Norris had narrowed Joa's attack. Joa relied on only one of the cited items of prior art: European Patent Application No. 0685586 ("Coslett"). Coslett was alleged to deprive amended claims 1 and 9 of inventive step and amended claim 9 (but not amended claim 1) of novelty.
11. The issues remaining were:
- (1) Whether the proposed amended specification resulted in the disclosure of added matter.
 - (2) Whether amended claims 1 and 9 lacked clarity.
 - (3) Whether amended claim 9 lacked novelty over Coslett.
 - (4) Whether amended claims 1 and 9 lacked inventive step over Coslett.

The skilled person

12. It was common ground that the skilled person had experience working in the design, development and manufacture of disposable absorbent garments. There was a dispute about the skilled person's familiarity with ultrasonic bonding. Ultrasonic bonding is a technique by which materials can be welded together without the use of heat; instead, vibratory energy is applied at ultrasonic frequencies, i.e. above the usual upper limit of human hearing.

13. Mr St Quintin conceded that it would have occurred to the skilled person that ultrasonic bonding was one of the available means to bind materials in the course of manufacturing disposable absorbent garments. He also submitted, however, that at the priority date the skilled person would have thought that ultrasonic bonding was not suitable for such garments and therefore would have rejected it as a tool. Alternatively, if the skilled person *had* contemplated the use of ultrasonic bonding and consulted an expert in the technique, the expert would not have devised the means of creating vents in the side panels disclosed in the characterizing part of the amended claims.
14. The Patent itself states that ultrasonic welding was a procedure well known to those skilled in the art (at [26]). Gail Becke, who gave expert evidence for Joa, agreed with this. Brent Brinkley, FDS's expert, confirmed that it was a technique well known in the disposable garment industry at the priority date, although some companies used it more than others. He also said in cross-examination that if the skilled person wanted to use ultrasonic bonding to make a hole the materials used to make a disposable garment, he would know how to do that.
15. I think that at the priority date the skilled person would have considered ultrasonic bonding as one of the methods available to him for bonding the sort of materials that make up disposable garments such as nappies. The means of use were well known. Assuming he also wished to make holes in those materials as well as bonding them, he would have known that this could be done by ultrasonic bonding.

The claimed invention in more detail

16. As appears from that part of claim 1 just before the characterising portion, the side panel consists of (i) an inner material layer, (ii) an outer material layer and (iii) a stretchable material layer in between. The side panel includes a plurality of vent sites. The specification uses the terms 'vent site' and 'bond site' interchangeably. In fact, the specification is full of interchangeable terms which, to the extent necessary, I will identify.
17. The side panels can be extensions of the front and back regions of the diaper. Those front and back regions also consist of three layers, described in the specification as the topsheet, the backsheet and an absorbent layer disposed between them. The topsheet is on the inside of the garment when worn, i.e. contacting the wearer, with the backsheet on the outside. The inner layer of the side panels is of the same material as and can be an extension of the topsheet. Likewise the outer layer of the side panels is the same as and can be an extension of the backsheet. Frequently in the specification, including in the context of the side panels, 'topsheet' is used to mean the inner layer and 'backsheet' to mean the outer layer.
18. The side panels are distinctive in that between the two layers there is the stretchable member, sometimes also referred to as the stretchable layer, stretchable material layer, elastic member, elastic layer and possibly other names.
19. Moving on to the characterising portion of claim 1, at each vent site the outer and inner layers are joined by ultrasonic bonding through the stretchable layer between them. This is described at paragraph 12 of the Patent:

“[0012] ... At the vent sites, an outer material layer of the ear portion (e.g., an extension of the backsheet) is bonded with an inner material layer of the ear portion (e.g., an extension of the topsheet). As a result of a bonding process ... vent sites are created which include a hole(s) or aperture(s) through the stretchable material layer and through which air is passable.”

20. The ultrasonic bonding joins the inner and outer layers and also creates holes, at the sites of bonding, so that air can pass from one side of the panel to the other.

Construction

21. There are two other passages in the specification in which the ultrasonic bonding and its result are mentioned. One is paragraph 55:

“[0055] In any of the above bonding processes, the topsheet 16 is mechanically bonded to the backsheet 18 at localized bond sites or bond points 100, at which the topsheet 16 and backsheet 18 are joined together through the stretchable member 46 (see FIGS. 6 and 7). An ultrasonic bonding process is employed to bond the topsheet 16 and the backsheet 18, through the stretchable member 46. Employment of this bonding process, creates holes or apertures at the bond sites 100 and through the stretchable member 46. These holes or apertures at the bond sites 100 provide breathability or air permeability to the ear regions 26a, 26b (see also FIG. 6). More particularly, the holes at the bond sites 100 are created as a result of the selection of materials for the topsheet 16, backsheet 18 and stretchable member 46, and use of the ultrasonic bonding process. In this process, the non-woven materials (i.e., topsheet 16 and backsheet 18) requires substantially more energy to bond than the material selected for the elastic member 46 (i.e., a polymeric material). Accordingly, the level of ultrasonic bonding that is sufficient to bond the non-woven materials also causes the material for the elastic member 46 to fracture and/or disintegrate. As a result, the two non-woven layers bond together, but trap the polymeric material of the elastic member 46 therewith. Further, the hole that is blown or created through the elastic member 46 is larger than the bond site, and the two non-woven layers bond with each other through the center of the hole.”

22. There is also paragraph 67, although it does not add much:

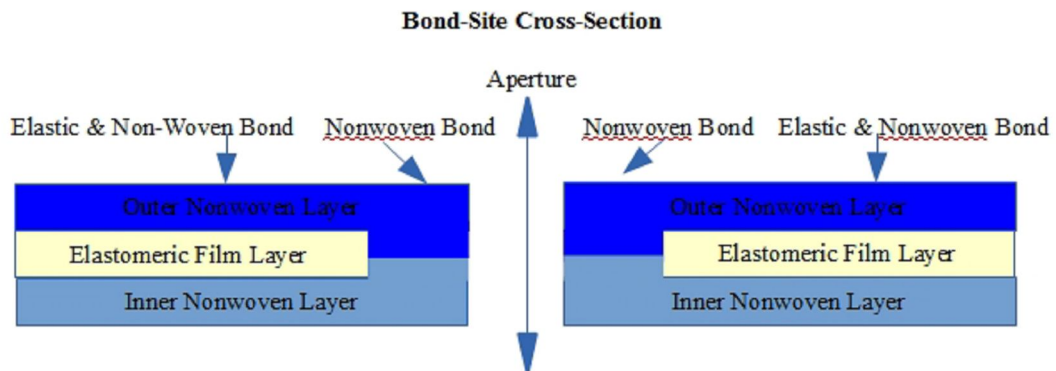
“[0067] ... As described previously, energy from the preferred bonding process creates a hole in the stretchable member and allows for the topsheet material and the backsheet material to bond therethrough. This also creates a vent at the bond site through which air may pass.”

The parties' arguments

23. Mr Norris submitted that paragraphs 12, 55 and 67 would lead the skilled person to understand that the ultrasonic bonding would cause the polymeric stretchable member to disintegrate and then the non-woven outer and inner layers to fuse together through the now disintegrated stretchable member. At each point of bonding a vent site must be created, through which air can pass from one side of the side panel to the other. In this regard Mr Norris pointed to two sentences in particular: paragraph 55 states that

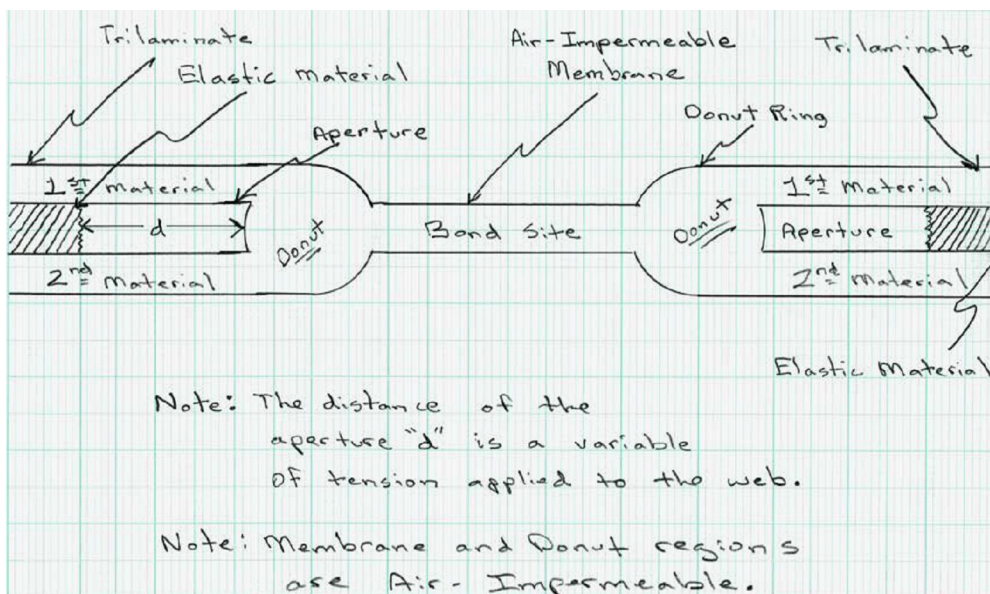
the process “creates holes or apertures at the bond sites *and* through the stretchable member” (emphasis added). Also, the two non-woven layers bond with each other “*through* the centre of the hole” in the stretchable layer. These, he said, imply that holes are also created in the inner and outer layers. It means that when fused those layers take the form of something like a grommet (although this is my term) around the vent.

24. Ms Becke produced a diagram of a bond site as taught by one of the cited items of prior art, as she contended that teaching to be. It serves equally well to illustrate the bond sites disclosed in the Patent as I have been trying to describe them:



The elastomeric film layer is the stretchable layer of the claims.

25. Mr St Quintin submitted that this was not correct. He said that Mr Brinkley had accurately identified the structure of the bond sites, as the skilled person would understand them to be, in a sketch in his expert’s report:



26. Instead of the outer and inner layers fusing to form a grommet, they fuse into a thin single layer at the centre, impermeable to air, where the stretchable layer had disintegrated. Peripheral to the central single layer there is a thicker single fused layer, a ‘donut’. Mr St Quintin said that notwithstanding Mr Brinkley’s notation, in

fact the fused layers of the central portion and the doughnut together form the bond site. Then further out there are separated inner and outer layers, but with an aperture between them where the stretchable layer has disintegrated. Beyond that the three layers exist in their original form, unaffected by the ultrasonic bonding.

27. Because the materials used for the inner and outer layers are chosen to be permeable to air in their unfused form, there is an air-permeable ring surrounding the bond site. This is the vent.
28. This diagram by Mr Brinkley appeared in a section of his report dealing with thermobonding, not ultrasonic bonding. Its initial function was as a diagram to illustrate Mr Brinkley's interpretation of photographs supplied to him by FDS's solicitors. He had been told by the solicitors that the photographs were taken from samples of a product made by a company called Ontex and that the Ontex product had been made in accordance with the Patent.
29. In the Order at the case management conference of 20 June 2016 the parties were given permission to give notice to the other of reliance on any photograph on which they intended to rely. I understand that FDS did give Joa notice of these photographs and they were included in the trial bundles. Unfortunately it seems that there was a belief on FDS's side that there was no need to do anything further in order to have the photographs, and Mr Brinkley's interpretation of them, accepted at face value. In this they were wrong. Joa did not attend the taking of the photographs. No evidence was given by whoever took them, there was no evidence regarding what was done, the precise details of the product photographed, from where it was obtained and how it was treated in order to create the photographs. Looking at them in an uninformed way, the photographs showed interesting patterns (not obviously like Mr Brinkley's sketch) which told me nothing. Mr St Quintin, understandably, did not place any great reliance on them.
30. That did not mean that Mr Brinkley's drawing, on which Mr St Quintin placed a great deal of reliance, was irrelevant. By the time of the trial it represented FDS's case regarding the construction of a bond site on a correct interpretation of proposed claims 1 and 9. In that role it served a very useful purpose.
31. Mr St Quintin made several points in support of FDS's interpretation of the bond site, supported he said by the description of the invention in the Patent specification, which I believe can fairly be summarised as follows:
 - (1) Mr St Quintin responded to Mr Norris's submission regarding the sentences in paragraph 55. One states that the bonding process creates holes or apertures at the bond sites *and* through the stretchable member. Mr St Quintin said it meant only that the ultrasonic bonding created holes located at the bond sites and that these holes were formed through the stretchable member. With regard to the requirement that the two non-woven layers bond with each other *through* the centre of the hole in the stretchable layer, this was consistent with FDS's construction.
 - (2) Whereas the specification expressly states that holes will be formed in the stretchable layer, there is no statement that holes will also be formed in the inner and outer layers. Rather, the Patent discloses that those layers are to be

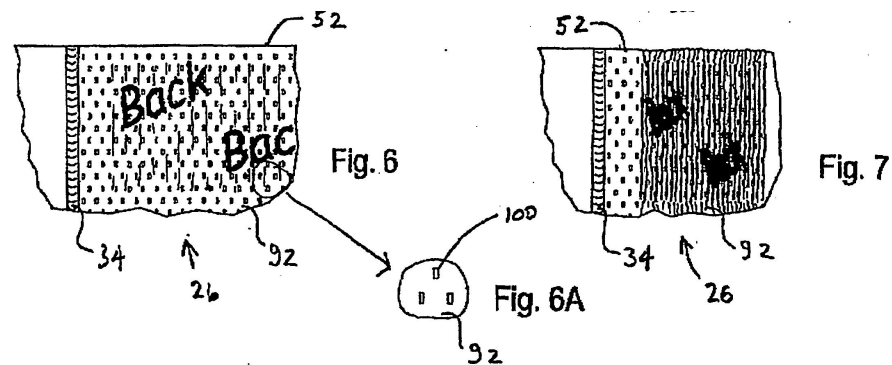
joined together at the bond sites through the elastic member, i.e. bonding where the elastic member used to be and in the process trapping the disintegrated elastic layer.

- (3) Paragraph 55 states that the hole created in the elastic member is larger than the bond site. This tells the skilled person that the hole extends outwardly beyond the bond site, as shown by Mr Brinkley's diagram, and it is this which makes the annular vents. The hole in the elastic member is therefore larger than the bond site. By contrast, on Joa's construction, the bond site and the hole are the same size, contrary to what the Patent discloses.
- (4) Paragraph 55 also states:

“More particularly, the holes at the bond sites are created as a result of the selection of materials for the topsheet, backsheet and stretchable member and use of the ultrasonic bonding process.”

On Joa's construction the holes are not a result of taking any care in the selection of materials for the three layers. The skilled person need only apply ultrasonic bonding to any materials until he has made a hole in all three.

- (5) Paragraphs 50 and 51 of the specification describe the extended or stretched configuration of the side panels. The backsheet (the outer layer) described as displaying a smooth, continuous outer surface. This is irreconcilable with Joa's construction which has holes in both inner and outer layers. A surface with holes cannot be smooth and continuous.
- (6) Figure 6 of the Patent also illustrates a surface which can accommodate unbroken printing, which would not be the case if the outer layer had holes. Fig. 6 illustrates a portion of the side panel in its stretched form, as opposed to its relaxed, wrinkled form which is shown in Fig. 7:



- (7) Mr Brinkley's evidence was that at the priority date the skilled person would have thought that creating holes in layers of material being bonded by an ultrasonic bonding process would have been regarded as a process failure. The result would not be aesthetically pleasing and it would be prone to tearing when stretched. This cannot therefore be a result which the skilled person would infer from reading the Patent.

Discussion

32. In my view the natural meaning of the words used in paragraph 55, particularly the use of ‘and’ in the third sentence, would lead the skilled reader to the construction proposed by Joa: the ultrasonic bonding creates holes in all three layers of the side panels and thus the vents which makes the panels breathable.
33. I do not believe that the points advanced by Mr St Quintin would drive the skilled person towards FDS’s alternative construction. Before I consider those points, there is an initial difficulty presented by the specification, namely what precisely is meant by a ‘bond site’ or ‘vent site’ in the body of the specification and the claims.
34. Mr Norris submitted that the two terms were used interchangeably in both the specification and the claims. By way of support he pointed out that they were given the same reference number, ‘100’, in the figures.
35. Mr St Quintin referred me to *Jarden Consumer Solutions (Europe) Ltd. v SEB SA* [2014] EWCA Civ 1629; [2015] RPC 29 and the ruling by the Court of Appeal on the use – or misuse – of reference numerals in the construction of a patent claim. The starting point here is the judgment of Jacob LJ in *Virgin Atlantic Airways Ltd v Premium Aircraft Interiors UK Ltd* [2009] EWCA Civ 1062; [2010] RPC 8, in which Jacob LJ (who gave the judgment of the Court) said:
- “[17] ... we do not think that numerals should influence the construction of the claim at all – they do not illustrate whether the inventor intended a wide or narrow meaning. The patentee is told by the rule that if he puts numerals into his claim they will not be used to limit it. If the court subsequently pays attention to the numbers to limit the claim that is simply not fair. And patentees would wisely refrain from inserting numbers in case they were used against them. That is not to say that numbers are pointless. They help a real reader orient himself at the stage when he is trying to get the general notion of what the patent is about. He can see where in the specific embodiment a particular claim element is, but no more. Once one comes to construe the claim, it must be construed as if the numbers were not part of it. To give an analogy, the numbers help you get the map the right way up, they do not help you to read it to find out exactly where you are.”
36. This was applied in *Jarden*. That case concerned reference numerals used in one of the figures of the patent: ‘2’ was used for the main body of a food fryer, ‘2A’ for the base, ‘2B’ for the side flank and ‘2C’ for the lid. At first instance the judge relied on this usage in support of his conclusion that on a correct construction of the claims the lid was part of the main body. The Court of Appeal ruled that it had been an impermissible use of reference numerals to construe the claims.
37. The Court of Appeal also explained a little further the distinction that had been drawn by Jacob LJ at the end of paragraph 17 of his judgment (quoted above) between using reference numbers to identify where an element of the claim is as against using them to construe the claim. Vos LJ (with whom Burnett LJ and Sir Timothy Lloyd agreed) said (at [32]):

“The judge was not simply using the reference numerals to identify which parts in Figure 2 were being referred to in the claims or the specification, but was relying on the use of the particular identifiers ... to conclude that the lid was to be regarded on a proper construction of the claims as part of the main body.”

38. Applying this to the present case, since a reader of the Patent is permitted to look at the figures to see which illustrated feature is marked ‘100’ in order to find out where the ‘bond site’ is to be found, and does the same thing by reference to ‘100’ to find out what the ‘vent site’ is, then inevitably the reader will infer, as a starting point anyway, that the bond site and the vent site are interchangeable terms for the same illustrated feature, subject to the rest of specification indicating otherwise. That could be broadly described as part of the construction of the claims. Nonetheless, I think it is a permissible use of reference numerals following what was said by the Court of Appeal in *Virgin Atlantic and Jarden*.
39. In any event, ignoring the common use of the reference number ‘100’ it seems to me that the two terms are plainly and repeatedly used interchangeably in both the body of the specification and in the claims of the Patent and I must treat them accordingly.
40. The equivalence of the two terms does not make it easier to be sure what they both mean. Taking first Joa’s construction, the most likely meaning of ‘bond/vent site’ is the region of bonding between the upper and lower layers, i.e. excluding the hole in the middle. This fits more comfortably with the term ‘bond site’ than ‘vent site’, but satisfies the requirement that an aperture larger than the bond site is formed through the elastic layer. It also defines the shape of the vent, so making ‘vent site’ at least a tenable name for the bonded region.
41. Turning to Mr Brinkley’s drawing, he marked the bond site as the region where the top and bottom layers fused, excluding the ‘donut’. Mr St Quintin amended this to include the donut. Again, the requirement that the aperture in the elastic layer should be larger than the bond or vent site is satisfied, but now the vent itself is peripheral to, and is of a size and shape which is not defined by the bond site. To my mind, this makes FDS’s construction of the ‘bond’ or ‘vent’ site less likely.
42. I now return to Mr St Quintin’s specific arguments in support of the FDS construction.
 - (1) As I have already indicated, to my mind Mr Norris’s interpretation of the third sentence in paragraph 55 is the more natural construction of those words.
 - (2) It is true that the specification nowhere spells out that the ultrasonic bonding will lead to holes in the inner and outer layers, but of itself that is neutral. The specification nowhere states that there will be no holes in those layers either. The reader must draw an inference from the whole of what is said.
 - (3) The skilled person is told in paragraph 55 of the Patent, and it is now a requirement of the amended claims, that the aperture in the stretchable layer is larger than the bond site. On FDS’s construction the aperture is certainly larger than what either Mr St Quintin or Mr Brinkley called the bond site.

However, as discussed above, Joa's construction is also consistent with the same requirement.

- (4) I do not agree that the selection of materials for the three layers of the panel would be irrelevant to Joa's construction. The skilled person is told – not as clearly as he might be, but in my view told nonetheless – that the energy required for the inner and outer layers to bond should be greater than that required to fracture the stretchable layer. Thus the stretchable layer will have disintegrated by the time the inner and outer layers fuse, allowing them to bond. The skilled person must therefore select his materials for the layers accordingly.
 - (5) The vents have nothing to do with the contrast being drawn in paragraphs 50 and 51. In my view the use of 'smooth and continuous' would not be taken by the skilled person as providing any information about the construction of the vents.
 - (6) Figure 6 of the Patent and the corresponding description of the side panels in the specification refer to the panels in their stretched configuration, as opposed to their contracted condition. The outer layer is smooth and continuous when stretched as opposed to being wrinkled when the panel is in relaxed form, see Fig.7. In this sense undoubtedly the panel displays a relatively smooth, continuous outer surface in the former state. As I have said, this has nothing to do with the vents.
 - (7) Mr Brinkley's view of what would amount to a process failure in the general context of ultrasonic bonding seems to me to be beside the point. A process failure would matter to the skilled person only if it interfered technically with the goal for which the Patent is aiming. The skilled person is told that there should be vents to make the side panels breathable. The skilled person would take that to mean that the vent should take the form of holes in the outer, inner and stretchable layers of the panel. The goal of breathability is thereby achieved. If, as Mr Brinkley implies, that will lead to side panels which are vulnerable to tearing, that is a commercial matter not a feature with which the claims are concerned. If Mr Brinkley were right, it would imply at most that the parties to this litigation are in contention over a commercially valueless invention.
43. Mr Norris had a further argument in support of Joa's construction of the bond sites. He drew my attention to paragraph 29 of the Patent. This states that the backsheet *may* be breathable, implying that it need not be. If it is not, there must be holes in the backsheet where it is used for the side panels, otherwise the side panels could not be breathable.
44. Mr St Quintin referred me to paragraph 28 which defines 'backsheet' as covering at least the core of the diaper, shown as 36 in Fig. 2, although preferably further. He argued that it need not extend to the side panels and so Mr Norris's argument fell away. Moreover, the function of the backsheet is to stop leaks, so one would not expect it to contain holes.

45. I do not agree. Paragraph 31 of the Patent makes it clear that whatever the definition in paragraph 28, the backsheet forms at least part of the side panels and may provide the outer layer of the side panels as a whole. Where it does, and where the backsheet is not of a material which is of itself breathable, there must be holes in it to make the side panels breathable. The prevention of leakage is not a primary consideration for the side panels, so holes will not be a concern on that score. The upshot is that the skilled person reading paragraphs 28, 29 and 31 would understand them to be consistent with Joa's construction of the bond sites. They are not consistent with FDS's construction because in certain instances the side panels would not be breathable.
46. I take the view that FDS's construction of the bond sites (in both senses), apparently devised by Mr Brinkley on the basis of photographs of uncertain provenance, is a clever solution but not the form of bond site that the skilled person would understand to be disclosed by the Patent. In my view Joa's construction is correct.

Added matter

IPO Report

47. Upon FDS filing its two successive proposed amendments in these proceedings pursuant to s.75 of the Act with the Intellectual Property Office ("IPO"), in the usual way the IPO issued a report containing its views on whether the amendments are allowable. In a letter dated 8 November 2016 the IPO dealt with claims 1 and 9 of the proposed amendment in issue here. The IPO said that the proposed amendments would introduce two requirements, each of which would result in the specification disclosing additional matter. Both objections were endorsed by Joa.

The law

48. Section 76(3)(a) of the Act provides:
- “(3) *No amendment of the specification of a patent shall be allowed under section 27(1), 73 or 75 if it –*
(a) results in the specification disclosing additional matter”
49. Despite the wording of s.76(3)(a), the prohibition imposed by that subsection is against an amendment which results in the disclosure of matter additional to that disclosed in the application for the patent as filed, not that disclosed in the specification of the patent being amended, see *Triumph Actuation Systems LLC v Aeroquip-Vickers Ltd* [2007] EWHC 1367 (Pat) [36]-[41], a judgment of Pumfrey J which he referred to and endorsed in *Monsanto Technology LLC v Cargill International SA* [2007] EWHC 2257 (Pat); [2008] FSR 7, at [156].
50. There was no dispute about the law on added matter. It was reviewed fairly recently by Floyd LJ (with whom Longmore and Lewison LJJ agreed) in *AP Racing Ltd v Alcon Components Ltd* [2014] EWCA Civ 40; [2014] RPC 27.

Aperture larger than the bond site is formed through the stretchable material

51. The feature of the claims that ultrasonic bonding should blow a hole in the stretchable layer (or elastic member) which is larger than the bond site is referred to only in paragraph 55 of both the application as filed and the Patent itself. The difference between the two paragraphs is that in the application as filed the second sentence begins with the word ‘preferably’. Paragraph 55 of the Patent is quoted above.
52. The letter from the IPO stated that whereas paragraph 55 discloses that the selection of a suitable stretchable material for the middle layer is essential to the formation of an aperture that is larger than the respective bond site, there is no such limitation in the proposed amended claims 1 and 9. As I understand the point being made by the IPO, the proposed amended claims would result in the additional disclosure that creating an aperture in the elastic layer which is larger than its respective bond site can be done by means other than the selection of a suitable stretchable material.
53. I am not clear how this objection can apply to proposed claim 9 which includes “selecting and positioning the first, second and stretchable material layers”.
54. Turning back to claim 1, as I read paragraph 55, the process of selecting materials for the outer layer (part of the backsheet), the inner layer (part of the topsheet) and for the intermediate elastic layer amounts to ensuring that the first two are non-woven materials and that the elastic layer is a polymeric material:
- “In this process, the non-woven materials (i.e. topsheet and backsheet) requires [sic] substantially more energy to bond than the material selected for the elastic member (i.e., a polymeric material).”
55. Mr Brinkley said in his witness statement that he was not aware of any elastically stretchable film materials known in the disposable hygiene garment sector as at the priority date which were not polymeric. This was not challenged. I take this to mean that the skilled person reading claim 1 would automatically assume that the stretchable material layer is polymeric. The claim expressly requires that the inner and outer layers are non-woven. On that basis no additional information is disclosed in claim 1.

No apertures being formed in the outer and inner layers

56. Much more attention was given at the trial to this objection of added matter. I have already found that the invention disclosed and claimed in the Patent as granted comprises bond sites with holes in the inner and outer layers, as well as in the elastic layer. By contrast, the inventions claimed in the proposed amended claims 1 and 9 expressly require bond sites without holes in the inner and outer layers. So there is plainly a disclosure of additional matter relative to the Patent as granted. The question is whether the application as filed disclosed bond sites without holes in the inner and outer layers.
57. Paragraph 12 of the application as filed undoubtedly disclosed bond sites *with* holes in the inner and outer layers. It included this:

“As a result of a bonding process, such as ultrasonic bonding, vent sites are created with include a hole(s) or aperture(s) through the stretchable material

layer (*and through the inner material layer and the outer material layer*) and through which air is passable.”

58. The words in italics were deleted during the course of prosecution in the European Patent Office. There were two further deletions from paragraph 12, both consisting of the word ‘preferably’, once at the start of the paragraph as a whole and once at the start of the third sentence.
59. The wording of paragraph 12 is not by itself decisive. The embodiment of the invention disclosed in paragraphs 11 and 12 of the application was just one among other alternatives. Different embodiments are disclosed in subsequent paragraphs. Mr St Quintin put his argument this way: the paragraph 13 embodiment differed from that in paragraphs 11 and 12 only in relation to the vent site. There is no mention of holes in the inner and outer layers in paragraph 13 so the difference over the paragraph 11/12 embodiment must be that there is a hole only in the elastic layer.
60. Mr St Quintin went on to submit that the further embodiments of the invention disclosed in paragraphs 18, 55 and 67 are not stated to have a vent site with holes in all three layers. They must therefore have a hole only in the elastic layer.
61. Mr St Quintin said that the deletion of the words in italics in paragraph 12 during prosecution removed from the specification one possible embodiment: that with holes in all three layers of the side panel to make a vent. What remained in the specification was the disclosure of the alternative form of vent site: that with a hole only in the elastic layer. The important point was that the application as filed disclosed both types of vent site.
62. In my view Mr St Quintin’s argument begins with a false assumption. The difference between the embodiment of the invention disclosed in paragraph 13 of the application as filed and that disclosed in paragraphs 11 and 12 is that the outer material layer is an extension of the backsheet, while the inner material layer is an extension of the topsheet. This allows the ear portion to be seamless. The skilled reader of the application is not told that the vent site is any different in the paragraph 13 embodiment as compared to the paragraph 11/12 embodiment and has no reason to think that it is.
63. The same is true of the vent sites in the further alternative embodiments disclosed in paragraphs 14 to 17.
64. Paragraph 18 turns to the method invention. It includes this:
- “Accordingly, an aperture is formed through the stretchable material and the first material layer and the second material layer bond through the aperture, such that the aperture provides a breathable passage therethrough.”

Although a little ambiguous, I think the skilled person would interpret the first and second layers bonding *through* the aperture *such that* the aperture provides a breathable passage to mean that they fuse, join and in each of them a hole is formed so that the vent is created. This would be reinforced by the very clear disclosure of holes in all three layers given in paragraph 12 of the application.

65. Thereafter, there is nothing in the application to disturb this view of how the vents are created, particularly not in paragraphs 55 and 67 which for all material purposes are the same as those in the Patent as granted.
66. There remains the puzzle of the deletion of the words in paragraph 12 of the application which I italicised above. The short answer, I think, is that whatever the intended purpose of that deletion, it made no difference.
67. In my view, therefore, the application as filed, including the claims, discloses the invention comprising side panels with vent sites having holes in all three layers of the side panel. There is no disclosure of bond/vent sites with no holes in the inner and outer layers.
68. It follows that the proposed amended claims 1 and 9 would result in the specification disclosing additional matter, contrary to section 76(1)(a) of the Act.

Clarity

69. The IPO raised two objections to the clarity of the proposed amended claims, endorsed by Joa.

Outer and inner layers bond through the aperture in the stretchable material

70. The first objection was that it would not be clear to the skilled person how the outer and inner layers would bond with each other through the aperture in the stretchable material and at the same time permit the formation of a vent unless there was also a hole in the inner and outer layers.
71. FDS's answer is Mr Brinkley's solution, illustrated in his manuscript diagram reproduced above. This was apparently not a solution that occurred to the IPO. I am not surprised. The only foundation for this construction in the specification was the last sentence of paragraph 55. I do not believe that such a construction of the bond sites would occur to the skilled person any more than it did to the IPO. No alternative construction that might make sense to the skilled person was suggested. In consequence, the proposed claims would lack clarity to the skilled person.

Aperture larger than the respective bond site is formed through the stretchable material

72. The IPO's letter of 8 November 2016 stated that by requiring an aperture larger than the respective bond site to be formed through the stretchable material, both proposed claims 1 and 9 thereby defined the claimed product and process in terms of the result to be achieved rather than by defining the means for achieving it. This was not an argument pursued by Mr Norris.
73. Leaving aside the previous objection to clarity, it seems to me that the requirement that the aperture in the stretchable material must be larger than its respective bond site is clear enough. The skilled person would adopt Joa's construction, in which case he would understand that the hole in the stretchable material must be wide enough for the inner and outer layers to bond through it while leaving a gap. The bond site is then smaller than the aperture in the elastic layer. Even if the skilled person had arrived at FDS's construction, that too would require the hole in the stretchable material to be

wide enough to allow for a vent at its periphery and a narrower bond site in the middle.

Size of the vents

74. Mr Norris added a further objection. He said that even if the skilled person was clever enough to work out Mr Brinkley's construction of the bond sites, he would not know how big the vents should be. I think the answer to that is: big enough to make the side panels breathable.

Novelty and inventive step

75. The only construction of the amended claims on offer was that advanced by FDS and illustrated by Mr Brinkley's diagram. Joa did not propose an alternative – indeed it was central to Joa's case that the skilled person could make no sense of the amended claims, an argument on clarity which I have accepted.
76. Mr St Quintin helpfully was able to narrow the issues on novelty and inventive step further: he said that the key concept disclosed in the Patent and which now also formed part of the claims as amended, the concept that would not have occurred to the skilled person at the priority date, was the idea that the aperture in the elastic layer must be larger than the bond site (as Mr St Quintin defined it), giving rise to the annular vent.

Novelty of amended claim 9 in relation to Coslett

77. Coslett disclosed and claimed an elastomeric trilaminar fabric for use in the waist band or leg cuff of disposable diapers and similar products. The laminate was stretchable when tension was applied to it but returned to an unstretched state when the tension was removed.
78. Mr St Quintin argued that one of the elements of amended claim 9 absent from the disclosure in Coslett was the formation of a breathable passage through the fabric with no apertures being formed in the inner and outer layers. Mr Norris relied on his cross-examination of Mr Brinkley. However, although Mr Brinkley agreed that the skilled person would understand that use of ultrasonic bonding in Coslett would lead to an aperture being created in the elastic layer and the non-woven outer layers bonding across that aperture, he emphasised that there was no disclosure of a hole in each of the inner and outer layers. Nor was there any disclosure of an annular vent.
79. Amended claim 9 would not lack novelty over Coslett.

Inventive step of amended claims 1 and 9 over Coslett

80. It was accepted by FDS that Coslett disclosed a three-layered fabric of the sort used for the invention in the Patent to make the side panels and the use of ultrasonic bonding to join the layers. Mr St Quintin submitted that even if, as Mr Brinkley had accepted, the ultrasonic bonding would have led to an aperture in the elastic layer and bonding of the inner and outer layers, there was nothing in Coslett to lead the skilled person towards the idea of creating a breathable fabric by means of annular vents around the zone of bonding.

81. Ms Becke accepted that Coslett did not say that the fabric it disclosed was breathable. Therefore the skilled person could only by inference understand Coslett to disclose any kind of vent. She drew that inference, but on the vague basis that this was how ultrasonic bonding works. Ms Becke did not suggest that the skilled person, having read Coslett, would think of creating annular vents.
82. Mr Brinkley, as I have mentioned above, agreed that the non-woven outer layers of the fabric disclosed in Coslett would bind across the aperture in the elastic layer created by ultrasonic bonding. He did not concede that the skilled person would expect holes to be formed in the inner and outer layers. He was not asked about annular vents.
83. In my view it would not occur to the skilled person reading Coslett that bond sites could or would be formed in the form envisaged by Mr Brinkley, with annular vents.
84. Amended claims 1 and 9 would not lack inventive step.

Conclusion

85. Neither the conditional nor unconditional applications to amend the specification and claims of the Patent are allowable since the amendments would result in the specification disclosing additional matter within the meaning of s.76(3(a) of the Act and the amended claims would lack clarity contrary to s.14(5)(b). Had the amendments been lawful, the amended claims would have been novel and would have contained an inventive step.
86. The applications to amend the Patent are dismissed. The Patent stands to be revoked.