

Neutral Citation Number: [2018] EWHC 173 (Pat)

Case No: HC-2016-003018

IN THE HIGH COURT OF JUSTICE
BUSINESS & PROPERTY COURT
PATENTS COURT
SHORTER TRIAL SCHEME

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

Date: 05/02/2018

Before :

MR. JUSTICE HENRY CARR

Between :

(1) L'ORÉAL SOCIÉTÉ ANONYME

Claimants

(2) L'ORÉAL (UK) LIMITED

- and -

RN VENTURES LIMITED

Defendant

MR. TOM MOODY-STUART Q.C. (instructed by **Baker & McKenzie LLP**) for the
Claimants

MR. RICHARD DAVIS (instructed by **Irwin Mitchell LLP**) for the **Defendant**

Hearing dates: 7, 8 and 13 December 2017

Judgment Approved

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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MR JUSTICE HENRY CARR

Mr Justice Henry Carr :

Introduction

1. The Claimants (“L’Oréal”) have brought claims for infringement of patent and Community Registered Designs against the Defendant (“RN Ventures”). The First Claimant is the registered proprietor and the Second Claimant is the exclusive licensee of these rights in the United Kingdom. The products in issue comprise certain of RN Ventures’ range of “Magnitone” electronic facial skin care devices. The Magnitone devices are intended to be used on the face to deep cleanse pores. They each use an oscillating circular head with rings of bristles arranged in concentric circles. Not all of the Magnitone range is alleged to infringe, and I will call those which are complained of “the Magnitone Products”.
2. L’Oréal alleges that the Magnitone Products are infringements of European Patent (UK) 1 722 699 B1 (“the Patent”). The Patent was filed on 25 February 2004 and does not claim an earlier priority date. RN Ventures does not challenge the validity of the Patent and its primary case is non-infringement. However, it contends that if the Patent is infringed, then it is anticipated by, or is obvious in the light of United States Patent Application 2002/0156401 (“Woog”). It also relies on a *Gillette* defence, claiming various squeezes between infringement and sufficiency.
3. L’Oréal has made an unconditional application to amend the Patent. RN Ventures claims that the amendment should be refused for lack of clarity and added subject matter. L’Oréal has applied to the UK Intellectual Property Office to correct what is said to be an obvious error in claim 8 of the Patent. That application has been stayed pending the outcome of the trial, and I am not required to rule on it.
4. The Magnitone Products have, from time to time, been offered with a range of different brush heads. Not all of the heads, when fitted to the Magnitone Products, are alleged to infringe the Patent. The heads complained of are “Active Clean” (old and new versions), “Silk Bliss”, “Pore Perfection”, “Soft+Sensitive”, “Get Beached” and “Hydro Pro”.
5. At the start of the trial, L’Oréal relied upon infringement of claims 1 and 8. Claim 8 is dependent, via claim 7, on claim 1. Claim 8 added nothing to L’Oréal’s case and it was not pursued by L’Oréal in closing.
6. L’Oréal also contends that the Magnitone Products are infringements of Registered Community Design Nos. 000407747-001 (“the 747 Design”) and 001175046-001 (“the 046 Design”) (collectively “the RCDs”). RN Ventures does not challenge the validity of the RCDs but alleges that their scope of protection is narrow in the light of the design corpus and limitations on design freedom.

The Shorter Trial Scheme

7. This case was heard under the Shorter Trial pilot scheme. Although L’Oréal relied upon experiments in support of its case of infringement of the Patent, which were the subject of significant cross-examination, the timetable was adhered to and the issues

were fully debated. It was a positive advantage that Counsel were only required to put the principal issues in cross-examination.

8. Unfortunately, a good part of the first morning of the trial was spent in resolving procedural disputes between the parties. One dispute arose from RN Ventures' skeleton argument and could not have been raised before. Other disputes concerned the admissibility of evidence. This used up some of the time available to discuss the substantive issues. In the context of a Shorter Trial, all effort should be made to resolve such disputes. Otherwise, then if at all possible they should be decided before the trial starts.

The expert witnesses

9. The scope for admissible expert evidence in this case is narrow. The parties each relied upon expert evidence in relation to infringement of the Patent and validity squeezes, and in relation to the design corpus and design freedom. The expert witnesses for L'Oréal were Professor Stephen Franklin and Mr Philip Phelan. RN Ventures relied on the evidence of a single expert, Mr Kevin Herbert.

Professor Franklin

10. Professor Franklin is a Royal Academy of Engineering Visiting Professor at the University of Sheffield. He specialises in tribology and, since about 2000, primarily in tribology of the human body. Tribology is the science of friction, lubrication and wear. The design of skin-contacting devices requires consideration and measurement of friction, or the forces, deformation and stresses involved in the relative slipping motion of such devices over the skin. Professor Franklin's research interests include the tribology of human tissue, including the skin and eyes, which is known as "bio-tribology".
11. Professor Franklin is employed by Philips Research, a division of Koninklijke Philips NV. He leads research on the interaction of products with the human body, including products that interact with the skin, for example shaving products. In 2016 and early 2017 he was involved, as a skin and bio-tribology specialist, in specifying and developing experimental protocols for testing the efficacy of Philips' VisaPure product, which is a mechanical facial cleansing brush.
12. Professor Franklin was criticised in trenchant terms in RN Ventures' opening skeleton, where he was described as a "hired gun". Generally, it is advisable to comment on expert witnesses after they have been cross-examined. After he had given evidence, Mr Davis accepted, sensibly, that Professor Franklin gave frank evidence which was of assistance to the court. Nonetheless, he claimed that Professor Franklin's written evidence was careless, that much of his reports were written for him and were not checked by him. I do not accept this. Professor Franklin asked for certain figures in his report to be prepared for him, which he was entitled to do. Insofar as Professor Franklin corrected material parts of his expert reports, I shall consider their significance in relation to the substantive issues.
13. It was also submitted that as Professor Franklin had not designed a mechanical skin brush before the priority date, he could not give evidence about the attitudes of a person skilled in that field. I reject this submission. Professor Franklin had extensive

experience, both academic and practical, in relation to bio-tribology and the design of skin-contacting devices, and was well qualified to give relevant expert evidence. In my view, Professor Franklin was an impressive and knowledgeable witness, who was objective and thorough.

Mr Phelan

14. Mr Phelan is a design consultant. He provides consultancy services through Phelan Associates, which he founded in 2001. He has been involved with the industrial design of consumer electronics since 1991 and has worked on a range of domestic appliances, handheld consumer electronics and personal care products. Mr Phelan was criticised for failing to investigate the design corpus beyond the designs identified by Mr Herbert. It was said that he ought to have referred to the Second Claimant's Clarisonic range of facial care brushes when considering the design corpus for the 046 Design. Mr Phelan was only permitted to give evidence in response to Mr Herbert's report, which also made no reference to the Clarisonic range. I do not consider that this criticism is justified. It was also suggested that he only considered absolute technical constraints on design freedom. I disagree, and I found that his evidence about design freedom was helpful.

Mr Herbert

15. Mr Herbert has a BSC in Physics and Medical Physics from the University of Wales. He completed an Open University law course in 2007 and obtained a postgraduate certificate in intellectual property from Bournemouth University in 2013. He is the managing director of Certainty IP Ltd, which he formed in 2015. His LinkedIn page explains that he opened an intellectual property consultancy to help SMEs and start-up companies avoid IP issues while identifying and protecting their existing IP in an effective and affordable way. Between 1998 and 2004 he worked as a project engineer for IXA Medical Products LLP. His CV states that he designed and developed professional and consumer medical devices for UK and global markets. Between June 2004 and December 2005, he joined the Dezak Group Limited as senior project engineer. His CV states that he designed and developed lifestyle consumer devices for UK and global markets. From December 2005, he became a legal manager for the Dezak Group Limited in relation to its intellectual property portfolio and between December 2013 and October 2015 he was EMEA intellectual property coordinator for Zimmer Biomet.
16. During cross-examination, Mr Herbert stated that he had worked on a skin brush shortly after the priority date. This was not referred to in his written evidence and no detail was provided as to what role he had taken.
17. At paragraph [9] of his first report he stated that "*it has been emphasised to me that my evidence is to be confined to my knowledge of the technical field and should try to avoid straying into legal matters.*" I accept that he tried to follow that direction. However, particularly in his supplementary report, he tended to argue RN Ventures' case, rather than confine himself to expert opinion.
18. In his first report, Mr Herbert copied passages which he had found on the Internet, without referring to the sources from which he had taken the material. His report contains footnotes, but not in respect of the copied material. On several occasions, Mr

Herbert copied material which had been published subsequent to the priority date, without acknowledging that he was using such material or identifying its date of publication. He also, on occasion, made significant alterations to passages which he had copied, without acknowledging that he had done so. For example, he copied a passage from a Dupont leaflet published in 2014 which concerned the tendency of certain nylon filaments to abrade when rubbed against sandpaper. In his report, the text was altered to a discussion about face brushes when used against skin. That was misleading, as it changed entirely the context of the source material.

19. Mr Herbert should not have done this, and was in difficulty when this was raised with him during his oral evidence. He apologised for what he had done and stated that he had not knowingly behaved unfairly. I am confident that, having been cross-examined at length on this issue, he will not do it again. The reason why he copied the sources, without acknowledging what he had done, was, as he said, to bring him “up to speed”. He did not have the expertise in the field to prepare his expert evidence from his own knowledge, using his own words.
20. It is important to keep these criticisms in perspective. Having heard his evidence I do not consider that Mr Herbert was untruthful, nor that he was deliberately trying to mislead the court. He is intelligent and enthusiastic, but he did not have anything like the practical or academic expertise of Professor Franklin, and I shall have regard to this when considering areas of dispute between them.

THE PATENT

The person skilled in the art

21. The Patent is concerned with a mechanical device suitable for the treatment of acne through the removal of sebum plugs from skin pores. The person skilled in the art would be interested in the development of such a device, and would have a mechanical engineering background and an interest in dermatology. He (or other team members) would have an understanding of the basic properties of the skin, or know where to find this information in standard textbooks.

The common general knowledge

22. There were limited disputes, of peripheral relevance, about common general knowledge. Mr Herbert considered that electric toothbrushes and pedicure brushes would form part of the common general knowledge. Professor Franklin stated in his reply report that a skilled addressee or team designing a product for the treatment of acne would not have had detailed knowledge, beyond that of the lay person, in relation to products for unconnected disciplines such as oral care and dental hygiene or pedicure technology; technical considerations were quite different in these different fields and the modes of action of these various products were not the same. I accept Professor Franklin’s evidence.
23. Mr Herbert considered that the skilled addressee would have a detailed knowledge of dermatology and the causes of acne. Professor Franklin disagreed. I consider that the skilled addressee would have known where to find basic information about skin properties and acne in standard textbooks, which were part of common general

knowledge. The skilled addressee would also have been aware of, or readily able to discover, well-known treatments of acne at the priority date.

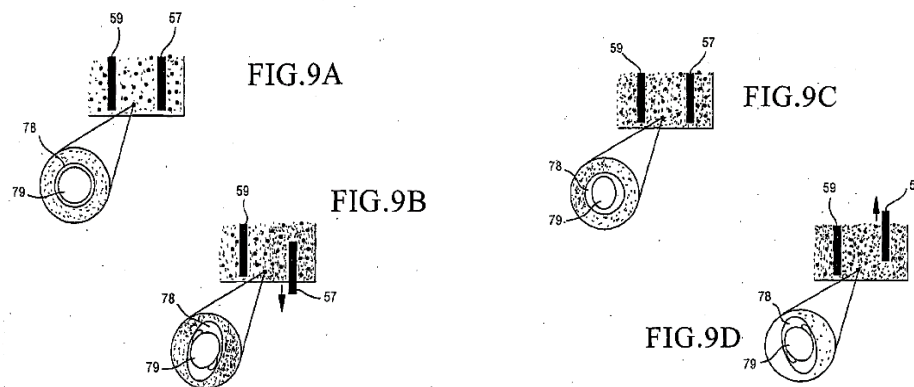
24. At paragraphs 27 to 32 of his first report Mr Herbert referred to various powered skin brushes and various patents which he claimed were common general knowledge at the priority date. Professor Franklin had not heard of any of these, and I do not accept that they were common general knowledge.

The disclosure of the Patent

25. At [0002] – [0004] the Patent explains the importance of the prompt and appropriate treatment of acne, particularly in its early stages. It states that the earliest evidence of acne is the formation of a sebaceous plug which is formed in individual skin pores when a combination of corneocytes and sebum block the pore opening. Colonies of bacteria within the skin pore expand in numbers, material may aggregate in the pore and the pore may widen. This may result in further accumulation of sebum and other cellular material, the rupture of the follicular wall and an inflammatory response followed by the formation of inflamed papules and pustules. The Patent acknowledges existing systemic treatments of acne, including oral antibiotics, retinoids and hormonal treatments but points out that each of these treatments has its own significant side-effects and disadvantages.
26. At [0005] – [0010] the Patent acknowledges certain prior art, which it classifies generally as “mechanical” or “chemical”. Mechanical methods include vacuum devices, mechanised scrub brushes and manual loop-like instruments which the Patent asserts are difficult to use. It also refers to methods that use heat generated by electrical resistance or ultrasound, and methods which claim to be able to kill target microorganisms using selected frequencies of electrical current. It refers to the use of micro-abrasion as a popular treatment for rejuvenating skin. This technique may remove skin layers which can cause intense irritation. It lists chemical methods for the treatment of acne including topical and systemic treatments and their possible side effects.
27. The Patent claims that with the apparatus of the invention, early stage acne is effectively treated by maintaining or restoring the pore openings to an open state, to allow continuing exudation from the sebaceous gland, to encourage the maintenance of an aerobic state within the pore, and to prevent the development of more severe acne conditions, without the inconvenience, side-effects or other limitations present in existing treatments.
28. The invention is said to be a mechanical device that supplies energy to the skin in order to loosen and remove sebum plugs from the skin and to maintain the pores in an open state. Under the heading “Best Mode for Carrying out the Invention” devices for achieving these advantageous results are described. Paragraph [0018] sets out the basic approach of the invention, which is to re-open the individual pores that may have been blocked by sebum plugs. It is said that the invention:
- “... is based on the discovery that application of differential motion locally to the pore opening will open a blocked pore. The opening of the pore is due to the fact that the blocking materials within the follicles have different physical properties

than the wall of the infundibulum and the surrounding skin. With the present invention, the skin area is deformed slightly and then released to a relaxed position and then deformed slightly in the opposite direction and then again released to a relaxed position, at a specified frequency, which resulted in the plugs being loosened from their position in the skin pores. The loosened plugs can then be readily removed, such as by wiping or washing, permitting thereafter normal skin secretion of lipids, and consequently avoiding the consequences of more fully developed acne.”

29. [0019] – [0021] describe Figure 4, which identifies the region of the skin’s elastic modulus within which the stress applied by products made in accordance with the invention should fall. The aim is that “*the desired differential motion applied to the skin should be of high enough amplitude to create pore opening forces, but low enough to minimise stretching of collagen fibres in the skin.*”
30. A first aspect of the invention is described at [0022] – [0033] where the mode of action is characterised as “shear”. Figure 9 illustrates the shear arrangement, which is reproduced below. The pore is shown at 78 and the sebum plug at 79. 59 and 57 are skin-contacting elements, the former of which is stationary whilst the latter oscillates, moving up and down the page.



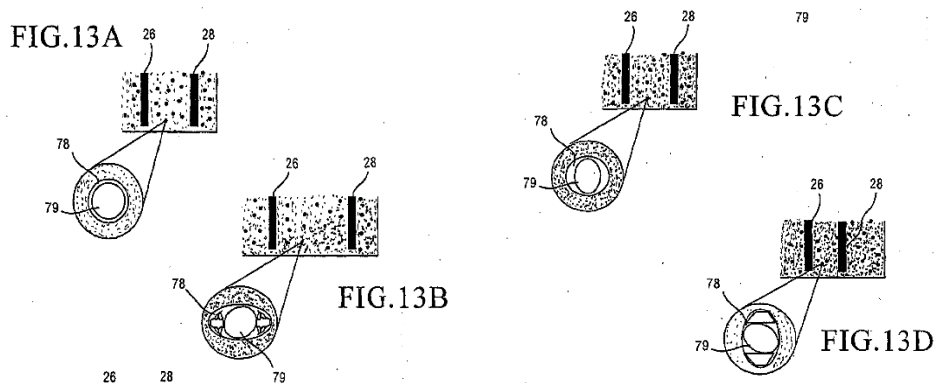
31. [0033] describes the “shear aspect” of Figure 9:

“[0033] Figures 9A-9D show the action on the skin and a sebaceous plug with the shear aspect of Figures 6-8. Figure 9A shows a pore 78 blocked by a sebaceous plug 79 therein. The contact elements are in a neutral position. The movable contact element will then be moved in one direction, in parallel with the fixed contact element, which distorts the sebaceous plug (Figure 9B). The movable contact element and mounting plate combination is then reversed and returns to the neutral position. This is shown in Figure 9C. The movable contact element continues in the opposite direction, which deforms the sebaceous plug in the opposite direction (Figure 9D).”

32. At [0034] – [0046] an alternative mechanical arrangement is described which the Patent characterises as “*the tension/compression arrangement*”. The description contrasts the tension/compression arrangement with the shear arrangement, and states that the shear action is generally preferred;

“[0034] An alternative mechanical arrangement is shown in Figures 10-12. It includes two fixed skin contact elements 24 and 26 and an intermediate oscillating contact element 28. The configuration of the elements in the tension/compression arrangement is similar to that of the elements of the aspect of Figures 6-8, although the “shear” action of the aspect of Figures 6-8 is generally preferred. In both aspects, the differential strain on the skin produced by the mechanical action is sufficient to result in a breaking away of the plug from the skin, due to the difference in elasticity between the plug material and the skin.

33. The tension/compression arrangement, in use on the skin, is shown in Figure 13, reproduced below.



34. This is described in [0046]. In summary:
- Figure 13A shows a pore 78 blocked by a sebaceous plug 79. The contact elements are in a neutral position.
 - The movable contact element is then moved in one direction, perpendicularly away from the fixed element, which deforms the sebaceous plug and causes deformation of the pore in one direction (Figure 13B).
 - The motion is then reversed and returns to the neutral position, relaxing the force between the sebaceous plug and the infundibulum, as shown in Figure 13C.
 - The movable contact element is then moved in the opposite direction, perpendicularly away from the fixed element, which also deforms the sebaceous plug in the opposite direction (Figure 13D).
 - Continued action dislodges or releases the sebaceous plug from the pore walls.
35. At [0047] – [0062] further configurations are described, which employ bristle tufts rather than the pad-like contact elements shown in the previous Figures. The

configurations which employ bristle tufts are shown in Figures 15 – 22. [0047] discloses that:

“These configurations operate on substantially the same principles as the devices described above, but have contact elements composed of bristle tufts. In these embodiments, the base portions holding the bristle tufts are analogous to the mounting plates described above. Instead of rigid or compliant solid contact elements, a plurality of bristle tufts are employed.”

36. [0050] describes Figures 15 - 18 which show an embodiment using linear motion of the bristle rows. [0051] describes another embodiment shown in Figures 19 - 22, where the rows of bristle tufts are circular and moving in an arcuate manner with the axis of rotation perpendicular to the surface of the skin. The bristle tufts can be arranged so that, of the two sets of tufts, one or both move. [0052] states that:

“The adjacent rows of bristle tufts for the devices shown in Figures 15 to 22 move relative to each other as an amplitude sufficient to deform the skin in region I and slightly into region II of Figure 4 as shown to produce the cleansing action.”

37. Paragraph [0059] discloses that it is possible to combine the advantages of shear and tension and compression modes:

“[0059] It is also possible to combine the advantages of the differential shear mode and tension/compression modes described above into a compound motion, for example, elliptical.”

38. At [0060] – [0062] an alternative embodiment is described where a single set of contact elements move in unison and rely upon the skin's inertia / elasticity to produce shear force. Paragraph [0060] states that:

“[0060] It is also possible to apply bi-directional motion to the skin via a single set of contact elements for cleaning or clearing the infundibular opening. Unlike the case above in which there is a differential reciprocating motion between adjacent contact elements, the use of a single set of elements relies on inertia of the skin to affect a differential force on the pore openings. The single set of moving contact elements, such as a row of bristles, forces the skin immediately adjacent to it to move. This movement is coupled to skin regions somewhat distant through the skin's elasticity. However, skin also has inertia which resists motion, thereby producing a shear force in the direction of movement. This shear force decreases at greater distances from the moving contact elements.”

39. However, paragraph [0061] makes clear that this use of a single set of contact elements is less effective than the shear and tension/compression arrangements:

“[0061] Applying bidirectional reciprocating movement via a single set of contact elements is generally not as effective as using adjacent contacting elements arranged to apply tension/compression or shear between them.”

40. Paragraphs [0077] - [0078] distinguish between the two modes of differential movement disclosed in the Patent, namely the shear and tension/compression modes:

“[0077] There are two basic modes of differential movement that can be applied: shear and tension/compression. The shear mode device applies a linear differential motion via narrow elements which contact the skin, and which move in the direction of their length with respect to each other. The device typically applies a sinusoidal oscillation to adjacent contact elements. The arrangement includes two contact element assemblies. The device moves the contact elements in parallel to each other along their long axis. Sufficient frictional forces between the surface of the contact elements and the skin surface will transfer this motion to the skin, creating a shear action on the skin between them as shown in Figures 9A-9D.

“[0078] The tension/compression mode device, in contrast to shear mode, moves the contact elements toward and away from each other. The oscillations are perpendicular to the long axis of the contact elements (i.e. one element moving toward one neighbor and away from its other neighbor), thus creating alternating tension and compression stress in the tissue surrounding the infundibulum. Sufficient frictional forces between the surface of the contact elements and the skin surface will transfer this motion to the skin as shown in Figures 13A-13D.”

41. The description concludes at paragraph [0086] and summarises the invention the following terms

“[0086] Thus, the present invention provides either mechanical energy in a shear mode or tension/compression mode or a combination (elliptical) in order to loosen the adhesion between the sebaceous plug and the walls of the pore. Said motion can be produced by contact elements moving either reciprocally linearly, reciprocally arcuately or a combination thereof.”

Claim 1 of the Patent

42. The parties divided claim 1 into integers, and integer F contains the proposed amendment. The dispute on infringement concerned integer D, as it was admitted that the Magnitone Products possessed the remaining features of claim 1:

“[A] An apparatus for treatment of acne, comprising:

[B] at least two contacting elements having end faces, wherein at least one contacting element is a moving contacting element;

a mounting assembly for holding the contacting elements substantially adjacent to each other; and

an assembly for reciprocally moving said at least one moving contacting surface;

characterised in that

[C] all of the end faces are in the same plane and the end faces of the moving contacting element move in a single plane

[D] and said assembly reciprocally moves said at least one moving contacting element bi-directionally through a neutral position relative to at least one adjacent contacting element to produce alternating tension and compression of the skin

[E] wherein when the apparatus is positioned so that the end faces of the contacting element contact the skin, an action on the skin in the plane of a skin area to be treated for acne is produced to remove sebum plugs from skin pores, permitting ready removal thereof from the skin

[F] wherein the frequency of movement of the moving contacting element is within the range of 80-200 Hz.”

Interpretation

Legal principles

43. I shall apply the principles concerning normal interpretation and equivalents set out by the Supreme Court in *Actavis v Eli Lilly* [2017] UKSC 48, [2018] 1 All ER 171 and by the Patents Court in *Mylan v Yeda* [2017] EWHC 2629 (Pat) at [134] - [139], [2017] All ER (D) 30 (Nov); *Fisher & Paykel v Resmed* [2017] EWHC 2748 (Pat) at [82] – [86], [2017] All ER (D) 168 (Nov); and *Illumina v Premaitha* [2017] EWHC 2930 (Pat) at [200] – [202], [2017] All ER (D) 185 (Nov).

Issues of interpretation - relative movement (first issue)

44. The claim requires the assembly to move (reciprocally) at least one moving contact element (bidirectionally) through a neutral position relative to at least one adjacent contact element. This gave rise to disputes as to the normal interpretation of relative movement and neutral position.

The parties' submissions in outline

45. L'Oréal alleged that the common feature of all types of movement referred to in the Patent is that they have the effect of applying a differential motion locally to the pore openings so as to loosen the sebaceous plug. To apply differential motion there must

be differential relative movement between the contact elements and the skin. The production of such an effect on the skin is the purpose of the invention.

46. L'Oréal submitted that the phrase "neutral position" refers to the neutral or relaxed state of the skin and pores between the two contact elements. It relied on the description of Figures 9 A - D at [0033] and 13 A - D at [0046] and suggested that neutral position is defined by the pore being in a relaxed state. It then is reciprocally distorted and relaxed by movement of the contact element.
47. This was disputed by RN Ventures. It argued that the claim requires movement of one skin-contacting element relative to at least one other contacting element. If both elements are stationary relative to each other, then such an arrangement falls outside integer D of claim 1 of the Patent. Movement of A relative to B means that B (for example) will perceive that A is moving. If B does not perceive that A is moving, then there is no movement of A relative to B, even though a third party observer may perceive that A and B are both moving, and are both moving differently.
48. Mr Davis illustrated his proposition by an analogy of two children on a roundabout. As the roundabout rotates, assuming that they remain seated, child A does not move relative to child B. Child B does not perceive that child A is moving. It does not matter that to someone not on the roundabout, the children may appear to move at different speeds (if one is closer to the centre than the other) and in different directions (if they are on different sides of the centre).
49. Furthermore, RN Ventures contended that the phrase "neutral position" in claim 1 is not referring to the neutral or relaxed state of the skin, but rather to the starting or rest position of the movable contact element.

Discussion

50. L'Oréal's case derives support from [0060] – [0062] of the Patent, where, in contrast to the other embodiments, there is no differential reciprocating motion between adjacent contact elements and a single set of elements, such as a row of bristles, is used to affect a differential force on the pore opening, relying upon inertia of the skin. L'Oréal contended that this is an embodiment of the invention, which, on RN Ventures' interpretation, falls outside the scope of claim 1.
51. Not everything disclosed in the specification of a patent necessarily falls within the scope of its claims, which may have been amended during prosecution. Claim 1 specifies that at least one contacting element moves relative to at least one adjacent contacting element. Paragraphs [0060] – [0062] make no reference to relative movement and contrast such an arrangement "*in which there is a differential reciprocating motion between adjacent contact elements*", with its alternative proposal in which "*the use of a single set of elements relies on inertia of the skin to affect a differential force on the pore openings*". The arrangement disclosed in [0060] – [0062] falls outside the scope of the claim. This is explicable, since the Patent discloses at [0061] that "*[a]pplying bidirectional reciprocating movement via a single set of contact elements is generally not as effective as using adjacent contacting elements arranged to apply tension/compression or shear between them*".

52. I accept RN Ventures' submissions on this issue. In my judgment, claim 1 is not satisfied by an arrangement where there is no relative movement between contact elements, but only relative movement between contact elements and the skin. Furthermore, "neutral position" in integer D is not referring to the skin, but to the movable contact element. Paragraphs [0033] and [0046] disclose that the contact elements are in a neutral position when the movable contact element is in the rest position.
53. Purposive interpretation does not allow the language of the claim to be disregarded. The Patentee's purpose in choosing this language is, as indicated in the Patent, to exclude an arrangement which is generally not as effective as that which is claimed.

Relative movement (second issue)

54. RN Ventures acknowledged that the Patent discloses that the skin-contacting elements may be rigid or compliant, bristles with tufts, or made of flexible material such as elastomer or closed cell foam. However, RN Ventures contended that relative movement must be at the base of the contact elements, and not at the skin-contacting end. It submitted that Integer D relates to what the mounting assembly end does: i.e. how the assembly drives the element(s). It is not concerned with movement at the skin-contacting end. The Patent does not disclose arrangements in which brush tufts are differently compliant or flexible, so that the relative movement between the assembly-contacting end and the skin-contacting end on adjacent tufts is different. Moreover neither deformable elements nor differently deformable elements are required by the claim.
55. I do not accept this interpretation of claim 1. Integer D relates to the movement of the contact elements "*so as to produce alternating tension and compression of the skin*". It does not specify that the movement has to be at the base, and the language of the claim does not exclude movement at the skin-contacting end. The tips of the contact elements, which touch the skin, are the "business end" of the claimed device. Where there is a difference in the behaviour of the base and the tip of the contacting elements, it would not be consistent with the Patentee's purpose, nor fair to the Patentee, to disregard movement of adjacent contact elements which produces the claimed effect.

Tension/compression

56. Integer D requires the claimed movement to produce "*alternating tension and compression of the skin*". RN Ventures contends that this language excludes the shear mode disclosed in the specification, which is clearly differentiated from the tension/compression mode, and limits the scope of the monopoly to the tension/compression mode. Conversely, L'Oréal contend that RN Ventures' interpretation confuses two separate requirements of Integer D of claim 1: namely movement "*said assembly reciprocally moves said at least one moving contacting element bidirectionally through a neutral position relative to at least one adjacent contacting element*"; and the effect of such movement "*to produce alternating tension and compression of the skin*". RN Ventures wrongly treats tension and compression as being a characteristic of the mechanical movement rather than an effect produced on the skin.

57. Mr Herbert gave evidence about the technical meaning of “tension and compression” and “shear”. He suggested that tension and compression refers to things moving towards and away from each other on a common axis, whereas shear refers to things moving towards and away from each other on different axes. At [99] of his first report he set out a definition, which he argued at [100] was consistent with the distinction made between shear forces and tension and compression forces in the Patent:

“In mechanics, compression is the application of **aligned** inward (“pushing”) forces to different points on a material or structure, that is, forces with no net sum or torque directed so as to reduce its size in one or more directions. Tension is the opposite action of compression. In contrast, shearing forces are **unaligned** forces pushing one part of a body in one direction, and another part of the body in the opposite direction.”

58. It emerged during cross-examination that this definition appeared on Wikipedia. However, in contrast to other instances where he admitted having copied from on-line articles, Mr Herbert thought that he had taken this definition from his undergraduate physics notes, which may be the case. The definition does not appear in the Patent and the question is how the language, as used in that document, would have been understood by the skilled addressee, having regard to the inventor’s purpose.
59. Professor Franklin explained that a pore between the moving elements in “shear mode” is, and would be understood to be, subject to alternating tension and compression. He illustrated this by a diagram in which the skin in front of the moving contact element forms a wave in front of it, thereby compressing the skin, whilst the skin behind it is under tension. This effect is continuous as the element moves over the skin. He maintained that this effect would occur when he was cross-examined, and confirmed this during re-examination, by reference to the moving element 57 in Figure 9:

“... as I drew on the board, there are stress fields in front and behind of the element, that are causing the pore to be deformed and they are causing the pore to be deformed either in compression and in tension depending on the exact position of the element 57 with respect to the pore at that particular time.”

60. RN Ventures submitted that this effect would apply to a single contact element moving along the skin, as there would be a wave of compression in front and a wave of tension behind, and to two such contacting elements on different axes. However, a skin element in between two contact elements, whilst subject to such waves, will experience shear forces. I do not accept this submission, which is refuted by the passage of evidence which I have quoted above. Professor Franklin explained, and I accept, that the pore in Figure 9, between the two contact elements, is deformed either in tension or compression.
61. My understanding of Mr Herbert’s evidence is that he agreed with the technical effect described by Professor Franklin by reference to Figure 9, but was unwilling to characterise this effect as tension and compression, because he adhered to the definition quoted in his report (see [T2/295₁₅ to 296₃]).

“Q. Taking your terminology, to say it is a shear force, there is an X and Y component that may be tension or compression, or two tension forces in different directions?”

A. The shear force you can break down into two components, yes.

Q. It would be wrong, you say, as a matter of physics, to refer to that state of a pore between two shearing contact elements. It would be wrong, as a matter of physics, to refer to that pore being put under tension or compression. That is your evidence?

A. It would be wrong to my understanding and definition of "compression" and "tension".

Q. As a matter of physics and engineering?

A. Through my experience, yes, and my degree in physics.”

62. Mr Moody-Stuart suggested that Mr Herbert was applying an “*overly precise understanding of the terms, derived from his degree rather than coloured by the experience of the skilled addressee at the time*”. I agree with this submission. Mr Herbert exhibited an article to his report concerning skin friction and blisters, which states that: “*The injurious effects of shear forces on skin and the underlying tissues may rupture the epidermis and occlude blood and interstitial fluid flow by stretching and compressing the skin.*” This corroborates Professor Franklin’s evidence that it may be technically accurate to say that the application of shear forces to the skin may result in tension and compression of the skin.
63. Professor Franklin is correct, in my judgment, that the shear mode described in the Patent will produce forces of tension and compression on the skin which will deform the pore. The question remains, nonetheless, as to whether the Patent has excluded the shear mode from the scope of its claims.
64. In favour of RN Ventures’ case, the Patent carefully differentiates between tension and compression and shear modes, and only refers to tension and compression in the claims. Furthermore, paragraph [0077], when describing the shear mode, refers to “*a shear action on the skin*” between the contact elements. This is contrasted with the tension and compression mode in [0078], which is said to create “*alternating tension and compression stress in the tissue surrounding the infundibulum.*”
65. On the other hand, at [0041] the Patent describes a shear mode embodiment, where the device is moved at a slow rate across the skin surface, as would be the case in use. It states that “*With this action, shear forces of tension and compression are applied to the skin, with sufficient amplitude to slightly force open the pores...*”. This is exactly the effect described by Professor Franklin, of which the Patentee was clearly aware.
66. In my judgment, L’Oréal is correct on this issue and I accept its submissions. The shear mode is expressly stated to be generally preferred to the tension and compression arrangement at [0034] of the Patent. I accept that not everything in the specification necessarily falls within the claims, and I have applied this principle to

the arrangement in [0060] – [0062], which the Patent states is “*generally not as effective.*” However, this does not mean that the Patentee’s preferred arrangement should be excluded from the claims, which would be the result of RN Ventures’ interpretation. The document must be read as a whole and exclusion of all of the preferred embodiments would not be a sensible reading. Nor would it accord with the inventor’s purpose. It would neither be fair to the Patentee, nor provide reasonable certainty to the public.

67. Mr Davis submitted that the shear mode is described as “an aspect”, and in EPO practice, the use of the word “aspect” indicates that what follows is outside the scope of the invention. However, he was unable to point to any authority or guideline which supported this. He sought to refer to the prosecution history of the Patent, which is not admissible in this context (see below). Nor could the approach taken by one examiner establish any general practice.
68. I do not accept RN Ventures’ submission. Where an aspect is outside the scope of the invention, the description of the Patent makes this clear. Paragraph [0013] refers to “*another aspect which is not part of the invention.*” Conversely paragraphs [0033] - [0034] *et seq* make clear that both the shear and tension and compression arrangements are part of the invention, and that the former is preferred.
69. Furthermore, I agree with L’Oréal that RN Ventures’ interpretation confuses two separate requirements of Integer D of claim 1: namely movement and the effect of such movement. I have accepted Professor Franklin’s evidence that the shear mode described in the Patent will produce forces of tension and compression on the skin which will deform the pore. In the shear mode “*said assembly reciprocally moves said at least one moving contacting element bidirectionally through a neutral position relative to at least one adjacent contacting element*”, thereby satisfying the movement requirement; and the effect of such movement in the shear mode is “*to produce alternating tension and compression of the skin.*”
70. Finally, I consider that the inventive concept of the Patent is not confined to the tension and compression mode. [0086] states that “*the present invention provides either mechanical energy in a shear mode or tension/compression mode or a combination (elliptical) in order to loosen the adhesion between the sebaceous plug and the walls of the pore.*” Whilst it is not appropriate to substitute this language for the words of the claim, this summary indicates that an interpretation which excludes shear mode from the scope of the claims would be unduly narrow.

Prosecution History

71. RN Ventures submitted that during prosecution the Patentee had limited claim 1 to the tension/compression embodiment in order to support inventive step, requesting that amendments to the description be deferred until later. When agreeing to grant the Patent, the Examiner noted the distinction in the Patent description between shear and tension / compression and made limitations to the description and required that certain subsidiary claims claiming shear be deleted. The Patentee approved these amendments.
72. In particular, RN Ventures relied upon the following:

- i) By a letter dated 5 May 2011 the requirement of “alternating tension and compression” was inserted, citing original claim 21 as its basis. This letter relied upon this feature both in support of novelty and inventive step over the cited art.
 - ii) By a letter of 20 November 2012, it was stated on behalf of L'Oréal, in relation to inventive step, that:

“The solution provided by the present invention is to cause alternating tension and compression of the skin in the plane of the skin using one or more contacting elements. ... None of the prior art documents disclose bi-directional movement through a neutral position as described and claimed in the present case.”
 - iii) In the notice of intention to grant (communication under r71(3) EPC) the Examiner stated “*Description in accordance with the claims (the embodiment disclosed in figures 6-9D has been deleted since it is not covered any longer by the new claim 1)*”.
 - iv) In the accompanying *druikexempler* the Examiner made the following amendments:
 - a) He expressed the Fig 6 ‘embodiment’ as an ‘aspect’ in the list of figures.
 - b) He made the same change where it is introduced later in the text and in other places.
 - c) He deleted claim 4, which was specifically directed to shear: “*wherein the movement of the contacting element places the skin in alternating shear which assists in loosening the sebaceous plugs from the skin pores in which they are located*”.
 - v) The text with those amendments was approved by L'Oréal on 9 September 2013.
73. Why does any of this matter? Lord Neuberger said in *Actavis v Eli Lilly* that the approach of the UK Courts to the prosecution history is “*sceptical but not absolutist*”. He stated at paragraph [88] that:

“While it would be arrogant to exclude the existence of any other circumstances, my current view is that reference to the file would only be appropriate where (i) the point at issue is truly unclear if one confines oneself to the specification and claims of the patent, and the contents of the file unambiguously resolve the point, or (ii) it would be contrary to the public interest for the contents of the file to be ignored. The first type of circumstance is, I hope, self-explanatory; the second would be exemplified by a case where the patentee had made it clear to the EPO that he was not seeking to contend that his patent, if granted, would extend its scope to the sort of variant which he now claims infringes.”

74. I do not consider that the first circumstance contemplated by Lord Neuberger applies in the present case. I did not find the points at issue to be truly unclear in the light of the specification and claims of the Patent. Nor did I consider that the file unambiguously resolved any issue. There was no statement by L'Oréal which amounted to a clear disclaimer of the shear mode, and the amendments did not have that effect, as they are concerned with the effect of the application of energy to the skin, rather than its mode of application. Furthermore, I am not satisfied that all claims relating to shear mode were deleted, as claims 40 to 42 (claims 42 to 45 as unamended) were not deleted, and they appear to be directed to the shear mode apparatus.
75. Mr Davis contended that the second circumstance applied, and that it would be contrary to the public interest for the contents of the file to be ignored. He submitted that the Examiner had gained the impression that L'Oréal was choosing to exclude the shear mode from the claims, and L'Oréal should have explained to him that this was not the case, rather than electing to approve the text.
76. L'Oréal was satisfied with the text, and its interpretation is a matter for the national courts, not the Examiner. I do not consider that L'Oréal was under a duty to correct any misunderstanding about the scope of the claims on the part of the Examiner. In my view, the prosecution history is inadmissible and, in any event, is of no assistance.
77. It should be emphasised that reference to the prosecution history is the exception, and not the rule. I understand why it was relied upon in the present case, although I have not accepted RN Ventures' submissions about it. Parties should think carefully in future before incurring additional costs in arguing about the prosecution history.

Squeeze with the common general knowledge

78. RN Ventures submitted that that Patent should not be interpreted so as to render it invalid in the light of common general knowledge, which would be unfair to the Patentee. It contended that if L'Oréal was correct on construction, then the Patent would be anticipated by the common general knowledge: Any brush (or at least any bristle brush) exhibiting oscillating rotational movement would (regardless of the type of contacting elements) exhibit the relative movement of the claim; and any brush exhibiting such movement would inevitably cause tension and compression (which on L'Oréal's construction includes shear) of the skin.
79. I have not accepted L'Oréal's construction of relative movement, and I have accepted RN Ventures' "roundabout point". Therefore, I am not sure that the squeeze is pursued. If it is, then I reject it. Although Mr Herbert claimed in his written evidence that oscillating skincare brushes were common general knowledge at the priority date he did not identify a single instance when any such brush was sold before February 2004 and accepted in cross-examination that this was a mistake on his part.

Issues of infringement

L'Oréal's experiments

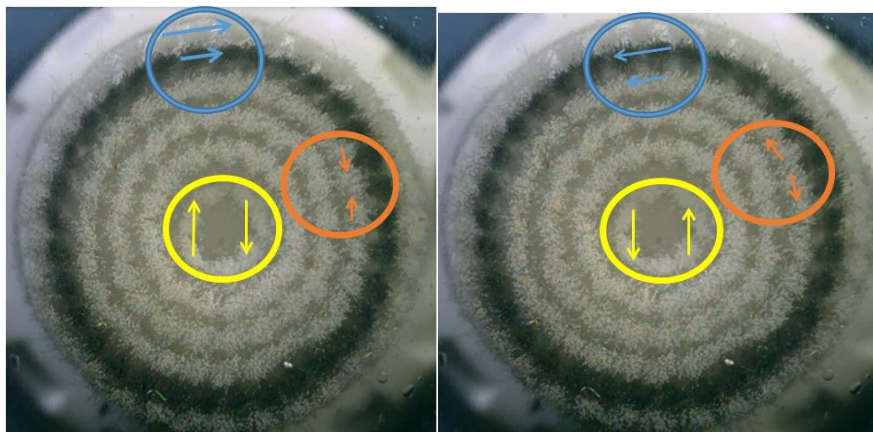
80. L'Oréal relied upon several slow-motion videos taken of the various heads of the Magnitone Products, shown when activated in air and against a transparent skin

model. The videos were the subject of a Notice of Experiments by L'Oréal. No repeat of the experiments was requested and no reply experiments were performed on behalf of RN Ventures. Nonetheless there are substantial disputes about the reliability of the experiments and what they show.

81. Before turning to the detail, it is necessary to set out the limits of the dispute. RN Ventures has admitted that the Magnitone Products satisfy the integers of claim 1, other than integer D. On the first day of the trial, and in the light of objections to certain points taken in RN Ventures' opening skeleton, I held that it was not open to RN Ventures to dispute that the Magnitone Products satisfied integer E. As this was admitted, L'Oréal's experiments were not directed to integer E and were not designed to prove its claimed effect.
82. Also, RN Ventures has admitted "*that the movements of [the Magnitone] products which are shown in the videos provided with [L'Oréal's] Notice of Experiments are representative of the movements of our client's products in air and against the skin model shown in the videos, as applicable*". This limits any criticism that movements are due to experimental error.

The movements identified by Professor Franklin

83. Professor Franklin identified in his reports four types of movement which he considered to be exhibited by the bristle tufts of the Magnitone Products in air and against the transparent skin model. They are much easier to see on the videos than to describe in words. The Professor showed some stills in his report from the videos to illustrate the movement types and one example of the Full Monty with Active Clean brush head against a surface is shown below:



84. The four movements are:
- i) Outer Ring Movement: This is shown in blue in the stills. It can be seen when looking at tufts on rings that are further out from the centre compared to those closer to the centre of the brush head. The tufts further out move over a greater distance because the circumference of the circle is greater. Because the frequency of movement is the same, the outer tufts therefore also move at a greater speed compared to the inner tufts. Professor Franklin explained that the rows of contacting elements will move in parallel to each other, producing a

shearing action on the skin that will result in alternating tension and compression of the skin.

- ii) Inner Ring Movement: This is shown in yellow in the stills, and refers to the movement of contacting elements opposite to each other in the inner ring on the brush head. Professor Franklin explained that each of the contacting elements will move in opposite directions from each other in a shearing movement that will result in alternating tension and compression on the skin.
- iii) Swoosh: This is also shown in blue in the stills. The outside ring has a higher velocity compared to the adjacent ring further towards the centre. This results in the bristles having greater momentum and thus bending further at the ends of the oscillation than those closer to the centre of rotation. This causes an effect whereby, at the ends of the oscillation cycle, the outer bristle tufts sweep past the inner bristle tufts as the device changes direction.
- iv) Squeeze: This is shown in orange on the stills, and describes a movement in which adjacent tufts have a "squeezing" movement between them, as they get closer and move further apart, during the course of the oscillation. This effect is caused by the bristles not keeping up with the movement of the base; there is a delay in some of them changing direction, leading to their motion becoming out of phase with the motion of other bristles. Professor Franklin explained that although the squeezing movement is particularly apparent in Pore Perfection heads due to the different thickness (and so stiffness) of the bristles within the tufts, the effect is also seen in heads with bristles of uniform thickness.

RN Ventures' criticisms of the experiments

85. Relying upon the evidence of Mr Herbert, RN Ventures submitted that nothing reliable can be deduced from the experiments about the behaviour of the Magnitone Products on the skin. Mr Herbert's opinion was that:
- i) The videos of the Magnitone Products in air do not accurately reflect what occurs when the products are in contact with the skin, because the frictional contact with the skin will cause the flexible tufts to behave differently;
 - ii) the skin model videos are unreliable because tufts at the same radius around the centre of rotation of the brush head behave differently to each other, which should not be the case if the model is an accurate representation of skin behaviour and all of the tufts are contacting the skin; and
 - iii) the swooshing movement occurs when a bristle is not transferring all of its force to, or not making contact with, the skin. The tufts are behaving anomalously and one cannot tell from the videos the cause of differences in swooshing behaviour.
86. Obviously the movement in air will differ from the movement on the skin because of friction, but Professor Franklin said that he could make deductions as to the movement on the skin from observing the movement in air. In the light of his extensive experience of bio-tribology, I accept his evidence.

87. Professor Franklin was less confident about the skin model experiments, as he made clear in his first report and during cross-examination. He pointed out that because skin varies to such an extent, no skin model will ever be truly representative. In my judgment, the skin model experiments are helpful to a limited extent, as they corroborate Professor Franklin's views which are primarily based on the in-air experiments. Had skin model experiments not been performed, this would have been the subject of criticism by RN Ventures.
88. I do not accept Mr Herbert's reservations about the swooshing movement which is observable in the air and skin model videos. Professor Franklin's evidence was that this effect is caused by the swoosh of the ends of the bristle tufts at the ends of the oscillation cycle, giving rise to an elliptical mode between inner and outer tufts which comprises a combination of the shear and tension/compression mode of mechanical action referred to at [0059] of the Patent. He explained how that action leads to alternating tension and compression of the skin as a result of the differential relative movement. I accept his evidence that the experiments can be relied upon to demonstrate that this movement will occur when the Magnitone Products are applied to the skin.
89. Mr Herbert had detailed criticisms of the experiments in his second report. First, Mr Herbert was concerned that the coefficient of friction of the skin model (T) against a brush was greater than that of human skin. Professor Franklin did not agree, and I consider that his evidence is to be preferred on this issue. In any event, if Mr Herbert is right, then the degree of motion of the bristles against T would be an underestimate of the degree of motion against the skin. Insofar as it is relevant, this would support L'Oréal's case, as a greater degree of motion would be likely to occur on the skin.
90. Secondly, Mr Herbert suggested that the force used in the experiments, being a weight of 80g, was not representative of the products in use. However, Mr Herbert was unable to suggest what an appropriate force would be. Professor Franklin considered that 80g was a typical force representing a light touch on the skin, and the instructions for use of the Magnitone Products specify that a light touch should be used. I accept Professor Franklin's evidence.
91. Thirdly, Mr Herbert criticised the skin model because it was not anisotropic and it was free at the edges. However, facial skin is bounded to a different degree in different regions, for example the forehead and the cheek, and I did not consider that this devalues the skin model experiments.
92. Fourthly, it was suggested to Professor Franklin that the experiments had been carried out with the brush not placed flat against the skin model. I consider that there is substance to this point, as there was some inconsistency in tuft movements in the skin model videos. However, it needs to be kept in perspective. In use, it is most unlikely that the Magnitone Products would be placed flat against the skin at all times, as Mr Herbert accepted. Also, as Professor Franklin said, the skin itself is not flat and so the same would be likely to be observed if the brush were applied to human skin.
93. Fifthly, Mr Herbert pointed out that in the current Active Clean brush-head which is the subject of video A2, the bristles of the inner ring of bristles are of a shorter length (8mm) than those in the other rings (10mm), to assist with fluid management. He said that it was unlikely that, when in normal use, they would be in contact with the skin

unless excessive force was applied by the user, and if they were in contact with the skin, such contact would be minimal. He considered that the prospect of them causing any force on the pores was remote.

94. If Mr Herbert's evidence is accepted on this issue, then the shorter central bristles (middle elements) of this brush-head would be excluded from the scope of claim 1 and so the argument based upon Inner Ring Movement would not succeed in respect of this brush-head. However, I do not accept that excessive force would need to be applied by the user to cause shear force on the pores. During cross-examination, Professor Franklin gave evidence that the force needed to bend the longer tufts so as to allow the central tufts to be in contact with the face was about 50g, based on an informal test that he had performed in the Netherlands. Since the question was asked, the evidence was admissible, and I accept it. This is a very light force for a user to apply, and video A2 appears to show that these middle elements are in contact with the skin model, at the typical light force of 80g.
95. Sixthly, it was suggested to Professor Franklin, and he agreed, that certain diagrams which had been prepared at his request and included in his first report, which compared the various movements that he had identified with Figures 9 and 13 of the Patent, were inaccurate as they took no account of centripetal force nor of the effect of adjacent tufts. This is a fair point. However, I do not consider that the purpose of the diagrams was to present a precise picture of all of the forces and effects on the skin during movement; the Figures in the Patent are themselves only illustrative. The diagrams in Professor Franklin's report illustrate a general similarity in shear, tension/compression and elliptical movements between embodiments in the Patent and movements in the Magnitone Products. Professor Franklin accepted the criticisms of the diagrams but did not consider that they detracted from the point that he was seeking to make, and I agree.
96. Seventhly, RN Ventures submitted that the phrase "to produce alternating tension and compression" in integer D required a minimum threshold, sufficient to open the pores, and that Professor Franklin was unable to say from the experiments whether the differential force was sufficient to open the pores. The experiments were not designed to measure whether the differential force was sufficient to open the pores (there were no pores in the skin model). This was because integer E was admitted by RN Ventures, who actively opposed any experiment that did not relate to integer D.
97. Integer D requires that the movement produces tension and compression. Professor Franklin explained that the experiments show this and I accept his evidence. The movement is not *de minimis*, as can be seen from the videos themselves, and from Professor Franklin's evidence. The result of the movement is specified in integer E which requires that "*an action on the skin in the plane of a skin area to be treated for acne is produced to remove sebum plugs from skin pores*". Sufficient differential force will be required to achieve this result. However, since this has been admitted by RN Ventures, it is not open to it to complain that L'Oréal has failed to provide experimental proof of this effect.
98. In conclusion, I consider that the "in-air" experiments enabled Professor Franklin to make reliable deductions as to the likely behaviour of the Magnitone Product's brushes when applied to the skin. I have more reservations about the skin model experiments, as no skin model can represent wide variations in skin. However, they

were of some use in that they provided corroboration for Professor Franklin's views. It is also significant that RN Ventures did not present any positive case, based on any reply experiments. I reject RN Ventures' case that the experiments were unreliable as a model of how the Magnitone Products would work against human facial skin in use.

Infringement by the four movements

The Outer and Inner Ring Movements

99. I have accepted RN Ventures first point on relative movement - the "roundabout point". L'Oréal accepted that on this interpretation, the Outer Ring movement falls outside the scope of claim 1.
100. L'Oréal contended that nonetheless, the Inner Ring movement falls within the scope of claim 1. I disagree. The middle tufts do not move relative to each other. They move in unison with each other, as is apparent from the diagram at pages 46 – 47 of Professor Franklin's First Report.
101. Relying on the evidence of Professor Franklin at paragraphs [8.16] – [8.20] of his first report, L'Oréal contended that if there is no relative movement, the Outer and Inner Ring movements are equivalents, and nonetheless infringe. I disagree. The Patent recognises that arrangements in which there is a single set of contact elements which move in unison is generally not as effective as having two contact elements with relative movement between them. Since expert evidence may be relevant to equivalence, I note that Professor Franklin accepted this during his cross-examination, when he was asked about paragraph [0061] of the Patent.

“Q. Paraphrasing that, what the skilled addressee would take away from that is that this arrangement can achieve the same thing, loosening pore opening and loosening of sebum plugs, but it is doing it slightly differently and it is not as good.

A. Yes. It is just saying that it is not as effective as the line tension compression.”

102. In the circumstances, I do not consider that the 'variant' produces substantially the same result in the same way. It produces a different, less effective result in a different way. As it is less effective, it makes sense that the Patentee would have wished to exclude the variant from the scope of the claims.

The Swoosh and Squeeze Movements

103. In the swoosh and squeeze movements the tufts move relative to each other through a neutral position (as I have interpreted this requirement), as shown in the diagrams in Professor Franklin's first report. This movement can also be seen on the videos which I have observed. In the light of L'Oréal's experiments, my assessment of the evidence, and my interpretation of claim 1, I consider that these movements fall within claim 1 of the Patent.
104. The evidence and argument focused upon two videos (A2 and D2), which enabled the points of principle to be argued. RN Ventures argued, contrary to the evidence of

Professor Franklin, that squeezing only occurred with the Pore Perfection brush heads as shown in video D2. Professor Franklin said that the effect is particularly apparent in video D2 as the black bristles are thicker than the white bristles leading to a more pronounced 'squeezing' movement. However, he added that the same effect is, also apparent in video A2 where the bristles are all the same thickness and length. I accept his evidence, which accords with my own observations of the videos. RN Ventures did not suggest that swooshing was confined to any particular brush head. In my view, the Magnitone Products in issue are infringements of claim 1 of the Patent, as they all exhibit swoosh and/or squeeze movements.

105. I have concluded that the requirement of tension and compression is satisfied by the Magnitone Products, as on a normal interpretation, the shear mode falls within the scope of the claims. In case I am wrong about this, I shall briefly state my conclusion on L’Oréal’s alternative argument of equivalents. I would have concluded that the “shear variant” produced substantially the same result in the same way, and obviously so, as the Patent makes clear that this is its preferred arrangement. However, on this hypothesis, having discussed the shear variant at great length in the specification, the Patentee nonetheless chose to exclude it from the claims. The skilled addressee would have assumed that he intended to do so, possibly in the light of prior art cited during the course of prosecution. Therefore, I would have concluded that the variant was not an equivalent, in the light of the third *Actavis* question.
106. In this regard, RN Ventures relied upon the principle, established by German cases, that as a rule there is no patent infringement by equivalence if the description discloses several possibilities as to how a technical effect can be achieved, but only one of those possibilities is included within the claims of the Patent; German Federal Court of Justice, judgment of 10 May 2011 – X ZR 16/09 *Okklusionsvorrichtung*; German Federal Court of Justice, judgment of 14 June 2016 – X ZR 29/15 *Eli Lilly & Co v Actavis Group PTC ehf*.
107. L’Oréal submitted that this approach was not adopted by the Supreme Court in *Actavis v Eli Lilly*. Lord Neuberger’s judgment makes clear the Supreme Court disagreed with the reasoning of the Court of Appeal that, because the specification referred to “anti-folates” and “anti-folate drugs”, the fact that the claims were limited to pemetrexed disodium meant that the drafter of the Patent would have been understood to intend that the other pemetrexed compounds would not infringe. At [73] he said:

“Further, contrary to the Court of Appeal’s reasoning, I would have thought that if the specification had not referred to anti-folates but had only referred to pemetrexed disodium, that would have been a more powerful indication that the patentee was intending to limit himself to pemetrexed disodium. The very fact that the specification teaches that there are other anti-folate drugs which have a similar effect to pemetrexed disodium (coupled with the fact that it was generally known that cations other than sodium could be successfully used with anti-folates) highlights a point similar to that made by Lord Diplock in *Catnic* [1982] RPC 183, 244, namely “No plausible reason has been advanced why any rational patentee should want to place so narrow a limitation on his invention” as to

limit the scope of protection afforded by the Patent to pemetrexed disodium - a telling but not always conclusive point. Additionally, there is no teaching in the specification which relates to the relevance or importance of the sodium cation.”

108. I note that the Federal Court of Justice in Germany reached the same conclusion as the UK Supreme Court, albeit by a different process of reasoning. It is unnecessary for me to decide whether the German doctrine of “deliberate selection” should be applied generally to equivalents in the UK, and undesirable that I should do so, since in the present case I have concluded that there is infringement on a normal interpretation. My conclusion on equivalents is based upon a consideration of the specification of the Patent in this case, and does not establish any wider proposition.

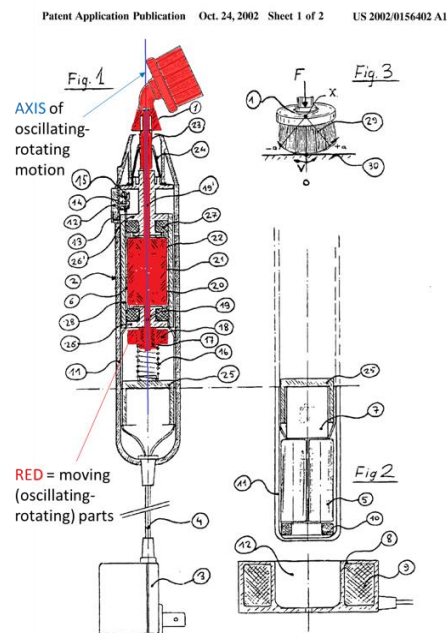
Sufficiency

109. RN Ventures contended that on the interpretation of claim 1 which I have reached, the claim is excessively broad. It pointed out that embodiments in which the differential force on the skin is caused by swoosh and/or squeezing are not disclosed in the Patent, and there are no instructions as to how to manufacture contacting elements that would exhibit any swoosh or squeezing.
110. RN Ventures referred to paragraph [0021] of the Patent, which discloses that there is a sweet spot at which “*the desired differential motion applied to the skin should be of high enough amplitude to create pore opening forces, but low enough to minimize stretching of collagen fibers in the skin*”. It pointed out that there is nothing in the Patent which explains what is required to create the differential pore opening forces via the swooshing or squeezing movement of contacting elements.
111. I shall apply the legal principles summarised by Arnold J in *Sandvik v Kennametal* [2012] RPC 23 at [106] - [124]. In my view, the Patent claims a principle of general application, which is claimed in general terms, by reference to “contacting elements”. Its technical contribution is the combination of claimed integers, and in particular the reciprocal relative movement of contacting elements to produce alternating tension and compression on the skin. The evidence of Professor Franklin was that the skilled addressee would be able to make a product falling within the claims of the Patent using common general knowledge and the information in the Patent. This was not disputed by Mr Herbert and I accept that evidence. Professor Franklin considered that it would be common sense for the skilled addressee to implement the general teaching of the Patent by using bristle tufts of different stiffness to achieve the necessary differential force, which could then be tested on the skin. I accept his evidence and I do not consider that the breadth of the claims in the Patent extends beyond its technical contribution.

Novelty/obviousness in the light of Woog

112. RN Ventures contended that if, as I have found, the Magnitone Products infringe claim 1 of the Patent, then the Patent is anticipated by or lacks inventive step in the light of Woog.

113. Woog describes a sonic therapeutic massaging cleaning and make-up application device which is said to be designed to achieve a number of objectives, which include skin cleansing by removing grease, make up and pore clogging dirt while eliminating dried surface cells (paragraph [0007]).
114. Depending on the desired use, different interchangeable attachments can be used (paragraphs [0073] to [0087] and Figures 4A to 4F of Woog) in combination with three switchable energy levels (paragraph [0034]). One of the possible attachments is a soft brush, shown in Figure 4F and discussed in paragraphs [0073], [0077] and [0078].
115. Paragraph [0067] states that the "attachments should be slanted and not aligned or parallel to the main axis of the device so that the application by the attachment onto the skin is at an angle." This is said to be to reduce the risk of swelling from the liberation of "histamine like" substances if the attachments are aligned. In addition "the amplitude of attachment application should not exceed 2-3 mm otherwise swelling could occur". Professor Franklin explained, correctly, that Woog is trying to avoid constant contact with high frequency movement, because of a concern that such movement can cause too much heating and friction, inducing swelling.
116. The device described by Woog relies upon a "sweeping" motion from the head of the device. This sweeping motion is illustrated in Figure 1 of Woog, which Professor Franklin modified to show, in red, the moving parts of the device:



117. The device has a slanted head attachment that oscillates about an axis which runs down the centre of the handle of the device depicted in Figure 1. The head does not rotate or oscillate in the plane of the tips of the attachment. Instead it "sweeps" back and forth though an arc around the axis of rotation parallel to the device handle, with the angled head sweeping against the skin. It was common ground that this motion does not involve the tip oscillating in the same plane as the plane of the bristles and therefore does not disclose Integer C of Claim 1 of the Patent.

118. However, RN Ventures relied upon paragraph [0045] of Woog as disclosing a number of different modes of movement of the tip. Paragraph [0045] states that its invention also contemplates, amongst other things “*the back-and-forth or pendulum movement of the embodiments of US Patent No 5,378,153*” (“Giuliani”). Woog further discloses that “*any other periodic back-and-forth reciprocal or oscillating movement, provided the parameters of attachment tip velocity, acoustic pressure and shear stress of the invention are maintained*” is contemplated by its invention.
119. RN Ventures submitted that in the pendulum, or metronome, arrangement of Giuliani, which is incorporated by reference in Woog, tufts at different radii will move relative to each other (on the Claimants’ interpretation of the term), will cause alternating tension and compression of the skin (again on the Claimants’ interpretation of the term) and will remove sebum plugs from skin pores because cleansing of pore clogging dirt is a stated aim of Woog. Thus, it is the same as an arcuate version of the arrangement described at [0060] – [0062] of the Patent (although RN Ventures’ primary case was that this is outside the claims). RN Ventures further contended that, even without Giuliani, Woog works as a squeeze because it discloses a face brush with a round brush-head which uses “*any other periodic back and forth reciprocal or oscillating movement*”.
120. Relying upon the cross-examination of Professor Franklin, RN Ventures submitted that if the swooshing and squeezing movements identified by L’Oréal in the Magnitone Products were held to infringe, then this would lead to anticipation as the same movements would be present in the pendulum embodiment of Woog; [T1/178/10-23]:

Q. Right. In that movement, the bristles further away from the pivot will be moving faster linearly than the bristles closer to the pivot.

A. In the pendulum movement, yes. That is correct, yes.

Q. Yes. So, if we assume that swoosh is a substantive effect, it would be a substantive effect caused by the different movement in that sort of -- sorry, I will start again. If we assume that swoosh is a substantive effect caused by different linear velocity of bristles, that will occur in the movement we have just described?

A. Yes. I think it is quite similar in that respect.

Q. And the same point on squeezing?

A. (Pause) What do you mean by squeezing here?

Q. The squeezing effect you described that occurs in, for example, the Pore Perfection?

A. Due to the bristles moving closer together to each other?

Q. Yes.

A. Yes, that is correct.

Does Woog anticipate the Patent?

121. Since I have accepted RN Ventures case on “the roundabout point” and held that the arrangement in paragraphs [0060] – [0062] of the Patent falls outside the scope of the claims, I am not sure whether the anticipation case is still pursued. However, in the light of the cross-examination concerning the swoosh and squeeze movements, I will assume that it is. In answer to anticipation, L’Oréal focussed in its closing on Integer C of Claim 1. The issue is whether this is clearly and unambiguously disclosed in Woog, when read in the light of common general knowledge.
122. Woog discloses that the pendulum movement of Giuliani may be applied to a shaft with the angled head of Woog. Mr Herbert agreed in cross-examination that applying the pendulum movement of Guiliani to the slanted head of Woog gave rise to a brush in which the bristles of the slanted head did not all move in the same plane:
- “In respect of all of the bristles here, there is an angle here and it is moving free. There is obviously a row of bristles here that will be moving in the same plane; but yes, where it is angled, they are moving like this. So, on a different plane.”
123. The case of anticipation based upon the generalised statement in paragraph [45] of Woog that any sort of oscillating motion could be used, fails for the same reason. This generalised statement does not alter the safety requirement of Woog that the attachment head must be kept at an angle to the skin and not aligned or in parallel to the main axis of the device to ensure application onto the skin at an angle. If this is not done, Woog contemplates at [67] that there may be swelling and harm to the skin.
124. Therefore, in my judgment, neither of these arrangements disclosed in Woog satisfy integer C of claim 1 and I reject the case of anticipation of claim 1.
125. Nor do I consider that Woog anticipates any other claim of the Patent. I am not sure if anticipation was pursued in relation to claim 8. If so, Woog does not anticipate claim 8, which is dependent on claim 1. In addition, Woog does not disclose the diameter, length, or flexural modulus values of claim 8.

Inventive Step

126. The allegation that the Patent lacks inventive step over Woog was referred to but not developed in RN Ventures’ written Closing. Insofar as it continues to be advanced, I reject it. Professor Franklin gave evidence at paragraphs [6.18] – [6.24] of his First Report that if the skilled addressee wished to develop Woog further, he would use an angled head and would adjust parameters such as frequency, power, amplitude and stiffness of the bristles to achieve an effective and comfortable device. I accept this evidence. A right angled head, according to Woog, might induce swelling of the skin. Therefore, it would not be obvious to use such a head, which would be contrary to the teaching of Woog.

Amendment

Clarity

127. RN Ventures submitted, correctly, that a proposed amendment must satisfy the requirement of clarity under section 14 of the Patents Act 1977. Otherwise the amendment must be refused. It argued that the proposed amendment to claim 1 was unclear because there is no proper antecedent basis for: "*wherein the frequency of movement of the moving contact element is within the range of 80 - 200 Hz*". Contacts are previously defined as "*at least one moving contacting element*". Hence it is unclear whether every element that moves must exhibit this effect or only at least one of those elements that move or something else.
128. In a report dated 24 January 2017 the Comptroller reported that, in the view of the Intellectual Property Office, the proposed wording was not sufficiently clear. I agree. In common with the Comptroller I consider that the most sensible interpretation of the amendment is that if there are two or more contact elements, they must each exhibit the frequency of movement range. However, it is not sufficiently clear whether the frequency range refers to one or all of the moving contacts where there are more than one of them.
129. L'Oréal stated that it was prepared to alter its proposed amendment to replace "the moving contact element is within 80-200Hz" by "the at least one moving contact element is within 80-200Hz". In my view, that form of amendment makes clear that each contact element must be within the frequency range and I shall allow the amendment in that form.

Added Matter

130. RN Ventures contended that claim 7 of the Patent as proposed to be amended, and all claims dependent thereon, add subject matter. It was argued that in the application as filed, the frequency ranges were only disclosed in relation to embodiments comprising rigid/compliant solid contact elements, and not rows bristle tufts, which are a feature of claim 7.
131. At page 10 lines 11 - 23 of the application as filed (WO 2005/091748) a drive assembly is disclosed wherein the oscillating contact element "*has a frequency within the range of 20 Hz to 1Kz, with a preferred value range of 80 to 200Hz*". In that embodiment the contact elements are said to be made from stainless steel. However, the disclosure states that: "*the contact elements could also be coated with a compliant material or be composed entirely of compliant material ...or the contact elements could be replaced by bristle brush tufts or the like*."
132. RN Ventures pleaded in its Grounds of Objection that this passage does not disclose rows of bristle tufts, although it did not indicate what else would be understood by the skilled addressee. The application as filed must be read as a whole. Page 16, lines 3 – 6 discloses that: "*A further alternate mechanical configuration is shown in Figures 15-22. These configurations operate on substantially the same principles as the devices described above, but have contact elements composed of bristle tufts*." Figures 15-22 show rows of bristle tufts.

133. Similarly at page 22 lines 21 – 22 there is a general disclosure that: "*The present invention is intended to operate in a frequency range of 20 -1,000Hz. A preferred range is 80-200Hz.*" That general disclosure applies to all embodiments of the invention, including those where the contact elements are made up of rows of bristle tufts. This would make technical sense to the skilled addressee. Professor Franklin explained, and I accept, that the skilled addressee would know the frequency considerations will apply irrespective of the material of the contact elements.
134. I reject the objection of added subject matter and I conclude that in the application as filed the frequency ranges are disclosed in relation to bristle tufts as well as in relation to rigid/compliant solid contact elements.

Submissions on the draft judgment – the Barrell jurisdiction

135. After the draft judgment was sent to the parties, I received a request from Mr Davis to consider whether my conclusion that the Patent was infringed should be corrected prior to hand-down, on the basis that there was an internal inconsistency in the draft judgment which could not be reconciled. It is within the power of a judge to alter his or her judgment before it is handed down; *Re Barrell Enterprises* [1973] 1 WLR 19 CA. In *In Re L (Children) (Preliminary Finding: Power to Reverse)* [2013] UKSC 8; [2013] 1 WLR 634 SC, the Supreme Court confirmed that, in giving judgment, a judge has jurisdiction to change his or her mind until the order carrying the judgment into effect is drawn up and perfected, and held that the exercise of the power is not restricted to exceptional circumstances. Relevant considerations include a plain mistake by the court; the failure of the parties to draw the judge's attention to a plainly relevant fact or point of law; the discovery of new facts after judgment was given; whether any party has acted upon the judgment his detriment (especially where this would be expected), but a carefully considered change of mind can be sufficient.
136. It is the duty of Counsel to draw the attention of the Court to, for example, a plain mistake on the face of the judgment. On the other hand, there is a temptation to raise fresh arguments or further observations on receipt of the draft judgment. This temptation is inevitable in commercially important cases, but it needs to be resisted. In *Heron Bros Ltd v Central Bedfordshire Council (No 2)* [2015] EWHC 1009 Edwards-Stuart J referred to a list of examples where it might be appropriate to exercise the jurisdiction, given by Neuberger J (as he then was) in *In Re Blenheim (Restaurants) Ltd*, *The Times*, 9 November 1999 and referred to by the Supreme Court in *In Re L*. He said at [17] – [18]:

“17 Whilst I accept that this is not to be treated as a closed list of categories, I consider that they are all examples of situations where either something has obviously gone wrong or relevant material was overlooked through no fault of the parties. In my view they do not sit easily with the situation where a party knows the relevant facts (or, where appropriate, the relevant law) but simply fails to appreciate a potential legal consequence of the matters of which it is aware.

18 It therefore seems to me that in principle there has to be something more than a post-judgment second thought based on material that was already in play. If it were otherwise, any fresh

point that occurred to a party following the handing down of a judgment would entitle the party to require the court to hear further submissions with a view to revisiting the judgment. That would then become the rule rather than the exception. It seems to me that this would accord neither with the interests of finality of judgments nor with the overriding objective to deal with cases justly and at proportionate cost, particularly in the sense of ensuring that parties are on an equal footing, avoiding unnecessary expense and dealing with cases expeditiously. However, at the end of the day the court has a discretion which must be exercised judicially and not capricious.”

137. Mr Davis submitted that throughout the case it was understood to be common ground between the parties that the Magnitone Products were made exactly in accordance with arrangement described in paragraph [0060] – [0062] of the Patent (“the [0060] Arrangement”) and that infringement or non-infringement would therefore follow the ruling of whether such devices were or were not within the claim. He relied on the finding at paragraph [51] of the draft judgment that the [0060] Arrangement fell outside the scope of Claim 1. On this basis, he said that I should have found that the Magnitone Products did not infringe. Furthermore, at paragraph [51] I found that the [0060] arrangement relied on inertia of the skin to affect a differential force on the pore openings, and not on differential reciprocating motion between adjacent contact elements. The same, it was submitted, should have been found in relation to the Magnitone products, so that the action in integer E was not caused by the movement of integer D.
138. Mr Moody-Stuart submitted that it was not common ground that the Magnitone products were the same as the [0060] Arrangement. I accept this as my attention was not drawn to any admission to this effect, nor to evidence which was said to establish that this was the case.
139. The basis of the finding at paragraph [51] of the draft judgment was that the [0060] Arrangement fell outside claim 1 of the Patent because there was no relative movement between adjacent contacting elements. I found paragraph [103] that the Magnitone Products exhibit swoosh and squeeze movements, which satisfy this requirement of Claim 1. I do not consider that it has been established that products made in accordance with the [0060] Arrangement would also exhibit such swoosh and squeeze movements. The finding at paragraph [51] concerns the relative movement of the base of the contact elements. The finding of infringement is based upon the relative movement of bristle tufts in the Magnitone Products, fixed to a single base, which results from their different flexibilities. The former finding concerns an embodiment which is disclosed and illustrated figuratively in the Patent. The latter finding is based on my assessment of the evidence about the operation of the Magnitone Products, in a manner which is not disclosed in relation to the [0060] Arrangement.
140. I expressly dealt with RN Ventures’ submissions concerning integers D and E at paragraphs [96] - [97] of the judgment and in doing so, I took into account the evidence of Professor Franklin concerning the effect of swoosh and squeeze movements at pages 47 – 50 of his first report, and during his cross-examination. In relation to swoosh movement, I accepted at paragraph [88] Professor Franklin’s

evidence that this leads to alternating tension and compression of the skin as a result of differential relative movement. I also ruled at the start of the trial that it was too late for RN Ventures to resile from its admission concerning integer E.

141. The case now sought to be advanced by RN Ventures is that when applied to the skin, the Magnitone Products produce the action of integer E not as a result of differential relative movement, but rather as a result of a single set of contacting elements moving in unison, relying on the skin's inertia/elasticity. This was not suggested during the trial, although it could have been pursued by RN Ventures. Mr Herbert advanced a theory that the Patent would not work to achieve pore opening and that any cleansing effect would be achieved by exfoliation. I do not accept that evidence, which was disputed by Professor Franklin. Mr Herbert suggested in his oral evidence that exfoliation might be the cause any cleansing effect on the skin of the Magnitone Products. I do not accept that either, and I note that a quite different explanation is now advanced by RN Ventures.
142. The dispute at trial concerned integer D. If, having admitted integer E, RN Ventures wished to say that this action was caused by something other than integer D (and that its products therefore operated in a manner which, according to the Patent, is inferior to the embodiments which I have held fall within the claims) then it needed to establish this by evidence. It did not attempt to do so.
143. In conclusion, whilst I consider that Mr Davis was right to draw my attention to this issue, and I have carefully considered it, it does not cause me to change my conclusion that the Patent is infringed.

THE REGISTERED COMMUNITY DESIGNS

Legal principles

Legislative Framework

144. The following provisions of Regulation 6/2002/EC ("the CDR") are of relevance to the present case:
 - i) Recital 14 which refers to the design corpus:

"The assessment as to whether a design has individual character should be based on whether the overall impression produced on an informed user viewing the design clearly differs from that produced on him by the existing design corpus, taking into consideration the nature of the product to which the design is applied or in which it is incorporated, and in particular the industrial sector to which it belongs and the degree of freedom of the designer in developing the design."
 - ii) Article 3(1)(a) which defines "design":

"... "design" means the appearance of the whole or a part of a product resulting from the features of, in particular, the lines, contours, colours, shape, texture and/or materials of the product itself or its ornamentation."

- iii) Article 4(1) which concerns protection requirements:
“A design shall be protected by a Community design to the extent that it is new and has individual character”

- iv) Article 5 which concerns novelty:
“1. A design shall be considered to be new if no identical design has been made available to the public:

...

(b) in the case of a registered Community design, before the date of filing of the application for registration of the design for which protection is claimed, or, if priority is claimed, the date of priority.

2. Designs shall be deemed to be identical if their features differ only in immaterial details.”

- v) Article 6 which defines “individual character”:
“1. A design shall be considered to have individual character if the overall impression it produces on the informed user differs from the overall impression produced on such a user by any design which has been made available to the public:

...

b) in the case of a registered Community design, before the date of filing the application for registration or, if a priority is claimed, the date of priority.

2. In assessing individual character, the degree of freedom of the designer in developing the design shall be taken into consideration.”

- vi) Article 7, which concerns disclosure:
“1. For the purpose of applying Articles 5 and 6, a design shall be deemed to have been made available to the public if it has been published following registration or otherwise, or exhibited, used in trade or otherwise disclosed, before the date referred to in Articles 5(1)(a) and 6(1)(a) or in Articles 5(1)(b) and 6(1)(b), as the case may be, except where these events could not reasonably have become known in the normal course of business to the circles specialised in the sector concerned, operating within the Community.”

- vii) Article 10, which concerns scope of protection:
“1. The scope of the protection conferred by a Community design shall include any design which does not produce on the informed user a different overall impression.

2. In assessing the scope of protection, the degree of freedom of the designer in developing his design shall be taken into consideration.”

The informed user

145. The identity and attributes of the informed user were set out by His Honour Judge Birss QC (as he then was) sitting as a High Court Judge in *Samsung Electronics (UK) Ltd v Apple Inc* [2012] EWHC 1882 (Pat), [2013] ECDR 1 at [33] – [35], in a passage which was affirmed by the Court of Appeal: [2012] EWCA Civ 1339, [2013] FSR 9:

“33. The designs are assessed from the perspective of the informed user. The identity and attributes of the informed user have been discussed by the Court of Justice of the European Union in *PepsiCo Inc v Grupo Promer Mon-Graphic SA* (C-281/10 P) [2012] F.S.R. 5 at paragraphs 53 to 59 and also in *Grupo Promer v OHIM* (T-9/07) [2010] ECDR 7 , (in the General Court from which PepsiCo was an appeal) and in *Shenzhen Taiden v OHIM* (T-153/08), judgment of 22 June 2010.

34. Samsung submitted that the following summary characterises the informed user. I accept it and have added cross-references to the cases mentioned:

i) He (or she) is a user of the product in which the design is intended to be incorporated, not a designer, technical expert, manufacturer or seller (*PepsiCo* paragraph 54 referring to *Grupo Promer* paragraph 62; *Shenzhen* paragraph 46).

ii) However, unlike the average consumer of trade mark law, he is particularly observant (*PepsiCo* paragraph 53);

iii) He has knowledge of the design corpus and of the design features normally included in the designs existing in the sector concerned (*PepsiCo* paragraph 59 and also paragraph 54 referring to *Grupo Promer* paragraph 62);

iv) He is interested in the products concerned and shows a relatively high degree of attention when he uses them (*PepsiCo* paragraph 59);

v) He conducts a direct comparison of the designs in issue unless there are specific circumstances or the devices have certain characteristics which make it impractical or uncommon to do so (*PepsiCo* paragraph 55).

35. I would add that the informed user neither (a) merely perceives the designs as a whole and does not analyse details, nor (b) observes in detail minimal differences which may exist (*PepsiCo* paragraph 59).”

The existing design corpus

146. The relevance of the design corpus was explained by Arnold J in *Whitby Specialist Vehicles v Yorkshire Specialist Vehicles* [2014] EWHC 4242 (Pat), [2014] All ER (D) 233 at [22] – [23]:

"Recital (13) of the Designs Directive makes it clear makes it clear that the overall impression produced on the informed user depends on "the existing design corpus", taking into consideration the nature of the product to which the design is applied, and the industrial sector to which it belongs.

23. In *Grupo Promer* the Community design was registered for "promotional items for games". The General Court held at [62] that the informed user "has *some* awareness of the state of the prior art, that is to say the previous designs relating to the product in question that had been disclosed on the date of filing of the contested design, or, as the case may be, on the date of priority claimed" (emphasis added). In *PepsiCo* the CJEU appears to have approved this statement at [54]. The CJEU went on at [59] to say that the informed user "knows the various designs which exist in the sector concerned, possesses a *certain* degree of knowledge with regard to the features which those designs *normally* include" (emphasis added)."

147. In the present case, L'Oréal contended that prior art relied on by RN Ventures, although not so obscure as to be excluded by the exception to Article 7, should not be considered as part of the design corpus, or if such prior art was included, it should be given little weight, as it would not impact on the informed user's awareness of "*the design features normally included in designs existing in the sector concerned*". It submitted that RN Ventures was required to prove that the prior designs had been marketed to an extent that the informed user would be aware of them, and it had failed to do this.
148. This is a point of some significance as it applies generally to identification of the design corpus in registered Community design cases. L'Oréal's submission gains some support from the CJEU's statement in *Pepsico* that "*the informed user possesses a certain degree of knowledge with regard to the features which those designs normally include*". It is further supported by a passage in the judgment of Arnold J in *Magmatic Limited v PMS International Limited* [2013] EWHC 1925 (Pat) at [46]:

"PMS contends that the design corpus includes all designs which qualify as prior art under Article 7(1) of the Regulation and are not excluded by either the obscure designs exception or the confidential disclosures exception. Magmatic disputes this, and contends that the design corpus consists of the designs with which the informed user is likely to be familiar. Thus there may be designs which are not quite obscure enough to be excluded by the obscure designs exception, and thus can be relied upon as prior art for the purposes of Articles 5 and 6 , but nevertheless do not form part of the design corpus when

assessing the overall impression created by other designs for the purposes of Article 10 . In support of this contention counsel for Magmatic relied upon the passages from *Grupo Promer* and *PepsiCo* that I have just cited. He also relied on passages in the judgment of His Honour Judge Birss QC in *Gimex International Groupe Important Export v Chill Bag Co Ltd* [2012] EWPCC 31, [2012] ECDR 25 at [44]-[47] and [65], but those were addressed to a slightly different issue to the one presently under consideration. Nevertheless, I agree that *Grupo Promer* and *PepsiCo* support Magmatic's contention. For reasons that will appear, however, I consider that it makes no difference who is right about this in the present case.”

149. Arnold J did not decide the point as it made no difference to the case before him, although he considered that the case-law available at the time supported Magmatic's argument. However, the argument presented to Arnold J in *Magmatic* is criticised in *European Union Design Law: A Practitioner's Guide*; David Stone (2nd Ed. 2016) (“Stone on EU Design Law”) at [10.76] as “*ingenious but misconceived*”. The author's view is that:

“There is nothing in a purposive construction of the Regulation, or indeed in the *PepsiCo* decision, that supports such a contention. In order to assess the validity of an RCD it is necessary to compare it against each prior design. If any one of those prior designs creates the same overall impression on the informed user as the RCD, that RCD is invalid. But it cannot be that an RCD that survives such an invalidity attack is then protected from the ‘kindred prior art’ that may be obscure-ish but not obscure. For the invalidity test to be the flipside of the infringement test the design corpus must include all prior designs. As a practical matter the legislature cannot have intended that the tribunal should have to apply an additional filter once a prior design is found not to be too obscure....”

150. Prior art which is said to invalidate a registered Community design may be excluded by the exception to Article 7 on the basis that it would not “*reasonably have become known in the normal course of business to the circles specialised in the sector concerned*” i.e it is obscure. If it is not excluded for this reason, then a defendant is not required to prove that the informed user would have known of it. This was made clear by His Honour Judge Birss (as he then was) in *Gimex v Chill Bag* [2012] EWPCC 31 at [74]:

“Once the notional informed user is defined, the question of overall impression can be resolved. From the point of view of assessing individual character (validity), the informed user must be presented with any given item of cited prior art whether or not it is a design for the product in question. Whether the cited prior art is or is not within the user's design awareness is not the issue. If the cited prior art is not a design for a product of the kind the informed user has gained experience using then it will not be part of their design

awareness, but it still must be considered for the purposes of novelty and individual character. The design is only protected to the extent that it has novelty and individual character.”

151. That has now been confirmed by the CJEU in Cases C-361/15P and C-405/15 *Easy Sanitary* (21 September 2017). The Court of Justice overturned a decision of the General Court, which held that for the purposes of assessing individual character within the meaning of Article 7(1) it was necessary that the informed user of the contested design should know of the product in which the earlier design was incorporated or to which it was applied. The Court of Justice held as follows at [130] – [134]:

“130. However, the concept of an informed user cannot be interpreted as meaning that it is only if that user knows the earlier design that the earlier design could prevent recognition of the individual character of a subsequent design. Such an interpretation runs counter to Article 7 of Regulation No 6/2002.

....

131. The General Court’s finding, set out in paragraph 132 of the judgment under appeal, amounts to saying that, for the purposes of examining the individual character of a design, within the meaning of Article 6(1) of Regulation No 6/2002, the earlier design, whose disclosure to the public has been proved, within the meaning of Article 7(1) of that regulation, must be known to the informed user of the contested design.

132. However, nothing in Article 7(1) permits the conclusion that it is necessary for an informed user of the product in which the contested design is incorporated or to which it is applied to know the earlier design when it is incorporated in a product in an industry sector that differs from the relevant sector for the contested design, or is applied to such a product.

133. If the General Court’s finding, set out in paragraph 132 of the judgment under appeal, were to be followed, an applicant for a declaration of invalidity in respect of the contested design would have to prove not only that the earlier design had been made available to the public, within the meaning of Article 7(1) of Regulation No 6/2002, but also that the informed public of the design whose validity is contested knew that earlier design.

134. That would be tantamount to requiring an applicant for a declaration of invalidity to provide evidence of two disclosures: a first disclosure to those in ‘circles specialised in the sector concerned’ and a second disclosure to users of the type of product relevant to the contested design. Such a requirement, besides being incompatible with the interpretation of the phrase ‘sector concerned’ referred to in paragraph 129 of this

judgment, would add a condition that neither the letter nor the spirit of Article 7(1) of Regulation No 6/2002 provides and would be irreconcilable with the principle arising from Article 10(1) of that regulation, according to which the protection granted by the Community design extends to ‘any design’ that fails to produce on the informed user a different overall impression.”

152. In the light of the decision of the CJEU in *Easy Sanitary*, it is not necessary, in my view, for it to be established that the informed user would know of an item of prior art for it to be considered as part of the design corpus. To introduce such a requirement, which is not contained in the Regulation, would apply a different test to overall impression for the purposes of validity and scope of protection, and would add unnecessary complications to registered design claims, which should require very little evidence to determine. It would give rise to satellite disputes about the extent of sales of third-party products, and would enable the owner of a design registration potentially to exclude prior art which is closest to his registration. I agree with the passage which I have cited from Stone on EU Designs. Although it was written before the judgment of the Court of Justice in *Easy Sanitary*, it is strongly supported by that decision.

Effect of the design corpus and design freedom

153. In *Procter & Gamble Co v Reckitt Benckiser (UK) Ltd* [2007] EWCA Civ 936, [2008] FSR 8 Jacob LJ considered the effect of the design corpus at [35(ii)]:

“... if a new design is markedly different from anything that has gone before, it is likely to have a greater overall visual impact than if it is ‘surrounded by kindred prior art’ (H.H. Judge Fysh's pithy phrase in *Woodhouse* at [58]). It follows that the ‘overall impression’ created by such a design will be more significant and the room for differences which do not create a substantially different overall impression is greater. So protection for a striking novel product will be correspondingly greater than for a product which is incrementally different from the prior art, though different enough to have its own individual character and thus be validity registered.”

154. The impact of limitations on design freedom was considered by the General Court in *Kwang Yang Motor v OHIM* (T-10/08) [2011] E.C.R. II-265 at [32] to [33]:

“32. As the Court has recognised in its decisions, the designer’s degree of freedom in developing his design is established, inter alia, by the constraints of the features imposed by the technical function of the product or an element thereof, or by statutory requirements applicable to the product. Those constraints result in a standardisation of certain features, which will thus be common to the designs applied to the product concerned (Representation of a Circular Promotional Item, paragraph 67).

33, Therefore, the greater the designer's freedom in developing the challenged design, the less likely it is that minor differences between the designs at issue will be sufficient to produce a different overall impression on an informed user. Conversely, the more the designer's freedom in developing the challenged design is restricted, the more likely minor differences between the designs at issue will be sufficient to produce a different overall impression on an informed user. Therefore, if the designer enjoys a high degree of freedom in developing a design, that reinforces the conclusion that the designs which do not have significant differences produce the same overall impression on an informed user."

155. In summary, if the differences between the registered design and the pre-existing design corpus are small, then small differences may avoid infringement. If the differences are great, then the scope of the protection is likely to be wider, and small differences may not avoid infringement. The same logic applies to design freedom. The greater the designer's freedom, the wider the scope of the monopoly; conversely, the more limitations on design freedom, the narrower the scope of the monopoly.

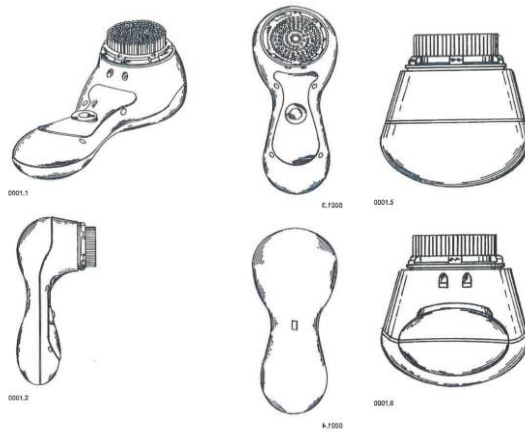
Overall impression

156. Arnold J summarised the correct approach to assessment of overall impression, having regard to the design corpus and design freedom in *Whitby* at [30]:

"Although it is proper to consider both similarities and differences between the respective designs, what matters is the overall impression produced on the informed user by each design having regard to the design corpus and the degree of freedom of the designer. As Jacob LJ has emphasised repeatedly, the most important thing about each of (i) the registered design, (ii) the accused design and (iii) the prior art is what they look like: see *Procter & Gamble* [2008] F.S.R. 8 at [3], *Dyson v Vax* [2010] F.S.R. 39 at [8] and *Samsung v Apple* [2013] F.S.R. 9 at [28]."

The Representation of the 747 Design

157. Views from the 747 Design are reproduced below.



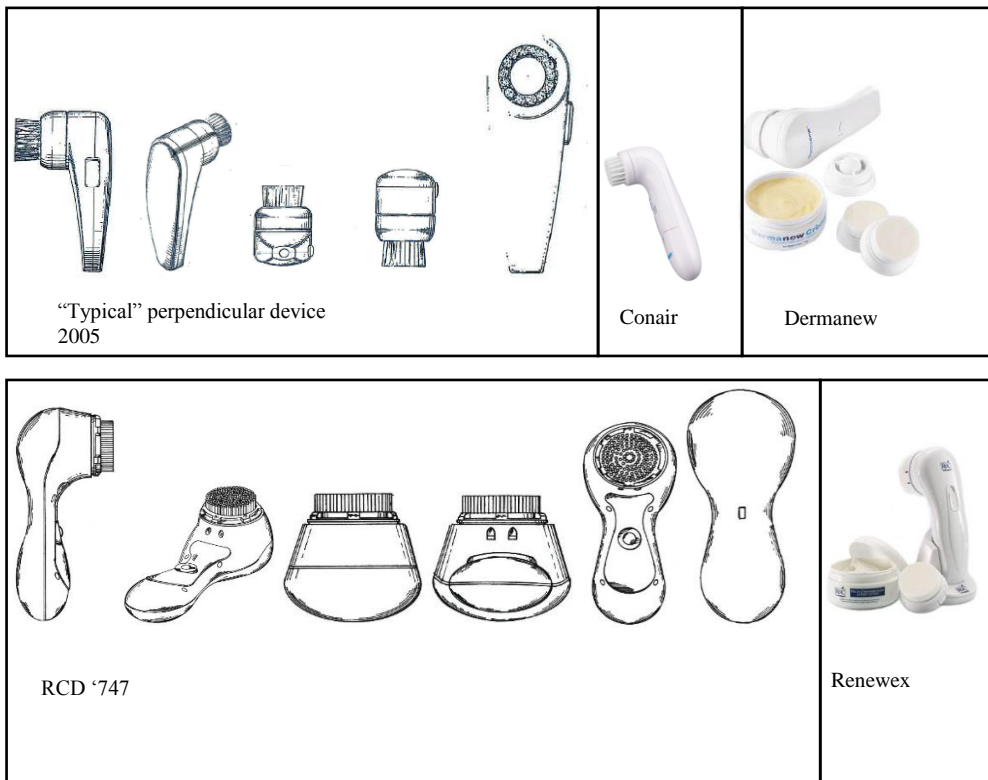
The Informed User in the present case

158. In my view, the informed user is the observant user of powered skin brushes.

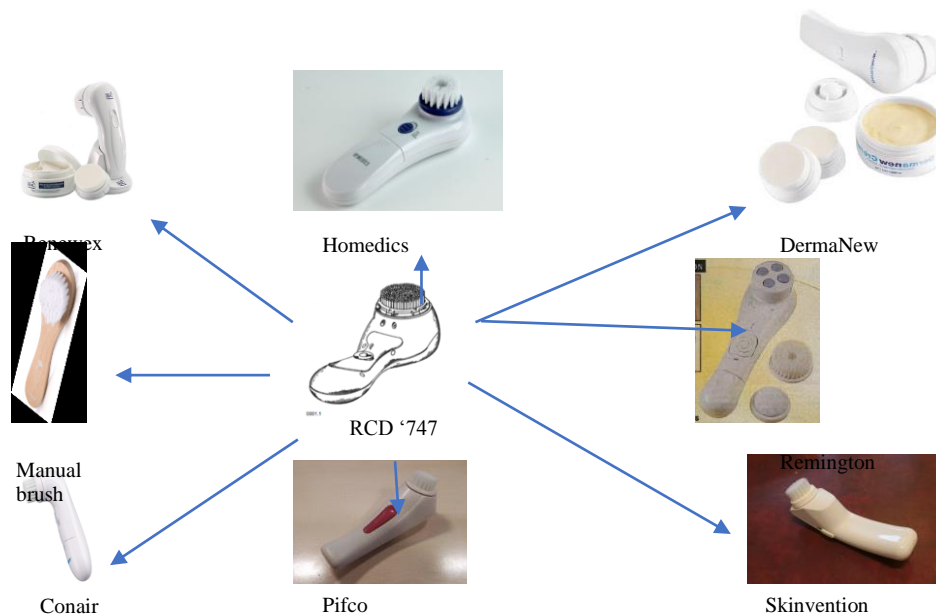
Comparison of the 747 Design with the design corpus

159. L’Oréal and RN Ventures have presented single sheets on which they have shown images of products which are said fairly to reflect the design corpus, which is then compared with images from the 747 Design.

L’Oréal’s design corpus comparison:



RN Venture's design corpus comparison:



160. I accept that these prior art items are part of the design corpus, apart from the manual scrubbing brush included in RN Venture's selection, which was undated. Even if I included this manual brush, it would make no difference to my conclusions.
161. As well as examining these images, I have been provided with various physical examples of the design corpus which I have compared with the 747 Design. The design corpus shows a variety of shapes of powered skin brushes. At a high level of generality, they are cylindrical or wedge-shaped devices, with a single brush head, with elongated handles with straight or slightly waisted sides, with some form of attachment area for the brush head.
162. The design corpus is to be compared with representation of the 747 Design. The 747 Design is of a sculpted shape which narrows in the middle into an hourglass with a very distinctive bulbous head with curved sides and castellations around the brush. The issue is one of overall impression, and in my judgment, the 747 Design looks very different to the design corpus and represents a significant departure from the design corpus.

Design Freedom

163. Mr Herbert suggested that there were several limitations on design freedom and much of his evidence was disputed by Mr Phelan.
164. Mr Herbert's view was that the design must incorporate a brush head of about 3 – 5 cm diameter. He considered that too large a head size would result in difficulty

controlling the brush, while too small a head size would result in a device that is frustratingly slow to use. Mr Phelan pointed out that there was no constraint on the desirable face brush which required the use of one brush head with a diameter of 3 to 5 cm. He pointed out that a number of different head configurations could have been used and the designer is free to use any number of heads, which could be independently mounted and angled to more easily follow the contour of the face. He illustrated his point by reference to the design of the well-known Philishave three-headed shaver which was included in RN Ventures' design corpus annexed to its pleadings. Although the Philishave is not a powered skin brush, nonetheless, it illustrates the point.

165. Although I agree with Mr Phelan that in theory, more than one brush head could be used, in practice the design corpus uses single brush heads. Whether or not this is as a result of limitation on design freedom, such single brush heads were unremarkable.
166. Mr Herbert considered that the design must incorporate the brush head so that it can be used against the face by a consumer using one hand. He suggested that this meant that the designer was limited to one of two options, namely to mount the brush parallel to the axis of the device, similar to the design of a microphone, or to mount the brush perpendicular to the axis of the device, similar to the design of a hairdryer. Mr Phelan disagreed and pointed out that there was no reason why a designer could not mount the brush at an angle or have the brush mounted at a variable angle which could be altered for different areas of the face, for example the chin or the cheek. I agree with Mr Phelan that the requirement of one-handed use is not a significant limitation on design freedom.
167. Mr Herbert suggested that a designer would want the device to be as compact as possible, with a centre of gravity towards the centre of the product and having a shape ergonomic to the user's hands so that it was comfortable in use. He also said that sculpting the handle creates an ergonomic grip. At a high level of generality, I accept this. However, as Mr Phelan pointed out, realisation of this general aim still allows a considerable amount of design freedom. A designer who is concerned to produce a compact device is free to dispense with a handle. A mouse or puck-shaped design would be more compact and potentially more ergonomic. The user will be unlikely to use a handheld facial brush for a prolonged period of time and so it is unlikely that a design would have to consider significant issues relating to the centre of gravity of the product. Furthermore, there are many ways in which a handle can be sculpted and the design corpus shows different handle designs which provide an ergonomic grip.
168. Mr Herbert suggested that the design must incorporate a driving assembly, electronics and battery, and use as many off-the-shelf parts as possible, from an economic perspective. I agree with this, although I do not consider that it places significant limitations on design freedom. Mr Phelan pointed out, and I accept, that with off-the-shelf parts it would still be possible to configure the device in a number of different ways. As the parts required are not necessarily statically connected to each other but may be flexibly connected, the power circuit board could be placed anywhere in the unit and the battery connected to it using any length of wire. The need for off-the-shelf components and driving assembly, electronics and battery place very little restriction on the shape, proportion or external design features of the product.

169. Mr Herbert pointed out that the brush head should be removable to allow for replacement and cleaning. This means that the device must incorporate a fixing nest mechanism and a means for the user releasing that mechanism. That is true but, as pointed out by Mr Phelan the product designer would still have considerable design freedom in the design of the release mechanism. It could be a sliding switch on the back of the product, a release button, or a double-headed mechanism on the other side which would release the brush when squeezed, or the brush head could simply be pulled out.
170. Mr Herbert suggested that there is a need to incorporate a means by which the device can be controlled conveniently when in use. It is true that there must be a means for turning the design on and off, although obviously, the switch does not have to be a button. It could be a sliding switch and there is a wide degree of design freedom in respect of placement of the switch. The switch may not be on the front face, and could be on the back or side of the device, as pointed out by Mr Phelan. I do not regard this as a significant limitation on design freedom.
171. Mr Herbert stated that the product must pass the necessary testing for a consumer product and that it must be robust and safe. This is true, but, as pointed out by Mr Phelan a variety of configurations would be capable of surviving “a drop test” and other consumer testing if designed by a competent designer.
172. Finally, Mr Herbert considered that the design must be economical to mass produce from commonly available plastics using commonly available techniques. He considered that the casing would have to be injection moulded from suitable plastic in two parts. Whilst I accept that the design would have to be manufactured economically with commonly available techniques, it is not the case that injection moulding in two parts is a limitation on design freedom. Mr Phelan pointed out, and I accept, that there is no reason why the casing should be made in two parts rather than in three or four parts. Indeed, electric toothbrushes are made from a casing in one part with a motor fitting in a second part. Mr Phelan stated, and I accept, that each of these configurations is no less economical than using a two-part moulding process, and in some cases may be more economical to produce, as additional pieces allow easier fitting of components or permit range differentiation through customisation.
173. I prefer the evidence of Mr Phelan to that of Mr Herbert in respect of design freedom. Mr Phelan’s evidence confirms that which is fairly obvious. In relation to the 747 Designer, there is a wide degree of design freedom.

Comparison of the 747 design and the Magnitone Products

174. RN Ventures prepared images showing views from the 747 Design in comparison with the Magnitone Products and the Homedics FAC-50C device, which it considered to be the closest prior art. One page of these images is reproduced below.



They show RN Ventures' case in its most favourable light, as the relevant comparison is between the physical articles and the representation of the 747 Design. In my view, when that comparison is made, the Magnitone Products are very similar to the 747 Design, and the Homedics device is not.

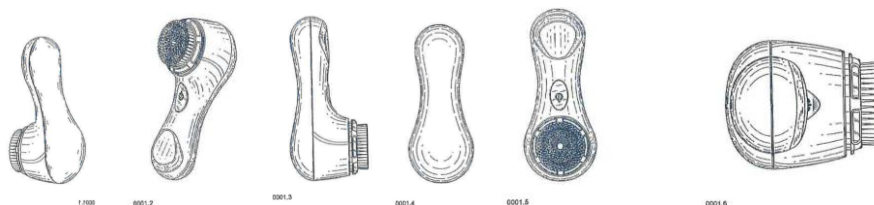
175. RN Ventures sought to divide up the 747 Design into distinctive and non-distinctive features. It identified the following as non-distinctive features which were common in the design corpus:
- i) A general lozenge shape.
 - ii) A switch on the front.
 - iii) A single round brush head.
 - iv) An enlarged/tapering brush head supporting region.
 - v) A circumferential groove.
176. RN Ventures alleged that the following features were distinctive:
- i) Exaggerated hourglass overall shape (both in plan and side view).
 - ii) Size and design of switch cowling.
 - iii) Switch detail.
 - iv) Fixing/construction details.
 - v) 360° waistline.
 - vi) Castellations.
177. Focusing solely upon the elements which it had identified as distinctive, RN Ventures then made a comparison with the Magnitone Barefaced product, which it submitted created a different overall impression. In particular, it argued that:
- i) The Magnitone product did not have an exaggerated hourglass overall shape and was striking in being asymmetric.

- ii) A separate switch cowling was not reproduced in the Magnitone product. It had an enlarged switch with a distinctive asymmetric teardrop shape, which mimicked the overall asymmetric shape of the product.
 - iii) The dual rings switch detail was not present in the Magnitone product.
 - iv) Fixing and construction details were different, in that the small circle surrounding the switch cowling on the front face was absent and there was no small rectangle in the middle of the back.
 - v) The 360° waistline was absent and there were differences in side view.
 - vi) Castellations were present on the Magnitone product, but there were twelve small ones rather than six large ones.
178. RN Ventures submitted that there were insufficient similarities between the 747 Design and the Magnitone Barefaced product for them to create the same overall impression, particularly when the Homedics FAC-50 C device was considered.
179. Finally, it alleged that the other Magnitone Products were even further away. In particular, the Magnitone Full Monty/Pulsar devices have longer handles and are further away from the hourglass shape of the 747 Design.
180. Although the case was attractively argued by Mr Davis, I do not accept his analysis, which artificially divides up the 747 Design, thereby excluding consideration of its features in combination. For example, the exclusion of the enlarged, bulbous, brush head supporting region has removed from consideration a very important part of the design which, in combination with the hourglass shape, is very distinctive.
181. L'Oréal characterised the overall impression of the 747 Design as follows:
- i) A sculpted shape (not cylindrical or wedge shaped) which narrows in the middle with a pronounced waist feature, where the control buttons can be found in a defined panel feature on the front of the device.
 - ii) The brush end is not perpendicular sided but is curved, as is the distal end of the handle.
 - iii) The distal end from the brush broadens to form a rounded end shape when viewed from above.
 - iv) The back of the brush end is rounded and the front, bearing the brush, forms a protruding feature which tapers into a circular platform for the brush.
 - v) The distance from the back of the product to the platform for the brush is approximately twice that of the distance from the front to the back of the distal end of the handle.
 - vi) From the side, a line can be seen which runs along from distal end towards the brush, and sweeps upwards towards the brush at the brush end.

- vii) The brush and distal end are higher than the narrowed waist section, with the brush end being approximately twice as high as the distal end.
 - viii) Screw holes can be seen at the brush end around the switch panel, but the informed user would pay less attention to such features than the general aesthetics of the shape.
 - ix) The base of the brush has castellated features topped by a concentric circular arrangement of bristle tufts.
 - x) From the brush end looking down the body of the design, the user sees a broad rounded back leading to generally straight sides tapering up to the castellated base of the brush.
 - xi) From the back, the user sees a waisted shape with a broader brush end and narrower distal end, each with rounded edges and a narrowed middle portion separating them.
182. Words can never adequately convey what the eye sees, but I accept this as a fair summary of the overall impression of the 747 Design.
183. I agree with RN Ventures that there are differences in detail between the Magnitone Products and the 747 Design, which the informed user would notice, and I have taken account of them. However, the question is one of overall impression. The 747 Design is significantly different from the design corpus, and there is significant design freedom. I have reached the conclusion that each of the Magnitone Products creates the same overall impression as the 747 Design. Each such product therefore infringes the 747 Design.

The 046 Design

184. Views from the 046 Design are shown below.



185. After initial resistance, L'Oréal accepted on the first day of the trial that the 747 Design registration forms part of the design corpus of the 046 Design. The 046 Design is extremely similar to the 747 Design and has a narrow scope. The only difference which could be regarded as significant is in the detail of the "chin" in the 046 Design. However, this is not present in any of the Magnitone Products. Hence, none of the Magnitone Products create the same overall impression as the 046 Design.

Overall Conclusions

186. For the reasons set out above, I conclude that the Magnitone Products with the brush heads complained of by L'Oréal infringe claim 1 of the Patent. I reject the various squeezes between infringement and validity advanced by RN Ventures. L'Oréal will have permission to amend the Patent in the form indicated in this Judgment. The Magnitone Products which are the subject of the Registered Design claim infringe the 747 Design but do not infringe the 046 Design.