

**IN THE HIGH COURT OF JUSTICE**  
**CHANCERY DIVISION**  
**PATENTS COURT**

Royal Courts of Justice  
Strand, London, WC2A 2LL

Date: 29 October 2009

Before :

**THE HON MR JUSTICE ARNOLD**

Between :

**BOEGLI-GRAVURES SA** **Claimant**  
- and -  
**(1) DARSAIL-ASP LTD** **Defendants**  
**(2) ANDREI IVANOVICH PYZHOV**

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**Michael Hicks** (instructed by **Redd Solicitors LLP**) for the **Claimant**  
**Thomas Moody-Stuart** (instructed by **Streathers Solicitors LLP**) for the **Defendants**

Hearing dates: 5-8 October 2009  
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**Judgment**

**MR JUSTICE ARNOLD :**

Introduction

1. Boegli-Gravures SA (“Boegli”) is the proprietor of European Patent (UK) No. 1 324 877 (“the Patent”). Boegli claims that the Patent has been infringed by Darsail-ASP Ltd (“Darsail”) and that Andrei Pyzhov, a director of and shareholder in Darsail, is jointly liable for such infringements. The Defendants deny that they have infringed the Patent. The Defendants also counterclaim for revocation of the Patent on the grounds that it lacks novelty, or is obvious, in the light of United Kingdom Letters Patent No. 1 312 359 (“Nielsen”).

The background to the Patent

2. It has been common for many years for various products to be packaged in packs that comprise thin metal foils or metallised paper foils produced by either laminating a metal layer with a paper layer or vapour-depositing a metal layer on a paper substrate. I shall refer to such foils in this judgment as “packaging foils”. Equally, it has been common for many years for packaging foils to be embossed by passing them through a pair of rolls or rollers (the terms are used interchangeably, but I shall use the term roller except when quoting from the Patent), one or both of which has a set of fine teeth on its surface. The effect of the embossing is to give the foil a “satinized” appearance and texture. An important use for embossed packaging foils is in cigarette packs, but they are also used for packaging foodstuffs and other types of products.

Since the 1950s it has been common for embossed packaging foils for use in cigarette packaging to bear words (e.g. “pull”) and/or logos produced by removing the teeth from the surface of the roller(s), thus leaving part of the surface of the foil unembossed. I shall refer to such words and logos as “signs”. It appears from the evidence that signs have also been placed on embossed packaging foils in this way for applications other than cigarette packaging, but my impression is that this is less common.

### The Patent

3. The specification of the Patent is in German. The Defendants have not challenged the accuracy of the English translation which Boegli filed with the UK Intellectual Property Office. Nevertheless, the translation suffers from two obvious defects. First, it is not idiomatic and is rather stilted in places. Secondly, it uses the terms “embossed” and “embossing” both in a conventional manner and in a different way to the manner in which they are used in the art. The second defect may, of course, derive from the original German. There is no challenge to the claimed priority date of 13 October 2000.

4. Somewhat unusually, the specification begins with a consistory clause. It then describes the background to the invention at page 1 lines 11-23 as follows:

“A device according to the preamble of claim 1 is e.g. known from US-A-5 007 271 or EP-B-925 911 to the applicant of the present invention. The device for satinizing a foil described therein comprises two embossing rolls that are arranged mutually displaceably such that a self-stabilizing effect results when the teeth of the embossing rolls interpenetrate, thereby achieving a high processing speed, on one hand, and a high precision, on the other hand. First of all, this provides a uniform satinizing, and when teeth are removed in a corresponding manner, a highly precise embossing of foils is obtained while the surface of the packaging foil remains untreated in those locations, however.”

5. After acknowledging another item of prior art, the specification identifies the object of the invention at page 1 line 32 – page 2 line 7 as follows:

“The advanced prior art according to US-A-5 007 271 or EP-B-925 911 with regard to the embossing and satinizing quality and the remaining prior art have resulted in the desire and the need and thus the object of the present invention to provide a device for producing embossed structures that allows embossing the packaging foil with signs including optical effects that are dependent on the viewing position and/or the light source, thereby also allowing to produce security features that are very difficult to copy.”

6. The specification then describes certain specific embodiments by reference to a number of figures. After introducing the figures, the specification states at p. 3 lines 8-31:

“As to the fundamental structure of a satinizing device, reference will be made to US-A-5 007 271 to the applicant of the present invention. A foil band is passed between two toothed satinizing rolls of hardened steel or another hard material of which one is fixedly supported and driven while the other one is freely rotatably journalled on an axle and is capable of being resiliently pressed against the driven roll with an adjustable pressure by spring force or by pneumatic or other means.

In the device according to EP-B-925 911, which also makes reference to US-A-5 007 271, both satinizing rolls are provided with a superficial toothing of the same kind which is schematically shown in Fig. 1 in a developed view. The latter is composed of pyramidal teeth that are arranged in rows extending in the circumferential direction, i.e. in the direction of rotation indicated by the arrow, and perpendicularly thereto in the axial direction. According to Fig. 2, the tips of the teeth are flattened, i.e. shortened in practice by at least 2%, preferably by up to 25% of the theoretical geometric tooth height. Furthermore, the edges of the pyramidal resp. frustropyramidal teeth are preferably chamfered. Instead of pyramidal teeth, it is also possible to use conical resp. frustroconical teeth.”

7. At page 4 lines 7-16 the specification introduces the invention as follows:

“ While these satinizing rolls of the prior art are provided with toothings of the same kind, it has been found that providing at least one roll with teeth of a different design, more particularly with respect to the tooth height and the tooth surface, allows producing embossed structures that may e.g. be designated as shadow embossings, where the intensity of the signs embossed within the satinized background varies according to the viewing angle of the observer and/or the direction and the kind of the lighting source, thereby producing a shadow-like effect.”

8. The specification explains this further at page 4 line 29 – page 5 line 20:

“In the embodiment of Fig. 4, two teeth T1 are shown which are designed as the teeth according to Figs. 1 to 3 and all of which have the same geometric dimensions and produce a normal satinizing, as well as the teeth T2 at the left of Fig. 4, having e.g. a smaller tooth height, or alternatively different tooth flanks or surfaces. In the embossing process of the prior art, the teeth are completely eroded in the locations where the signs are to appear on the foil.

In principle, the teeth T2 of different height, shape, or surface than T1 may be arranged in any way, but the teeth T2 are advantageously arranged in a specific manner to produce

patterns, letters, or other signs. Fig. 4 shows a simple arrangement forming e.g. the letter L. By arranging the teeth T2 in such a configuration, the letter is produced such that according to the viewing angle, a higher or lower contrast, resp. a higher or lower intensity is obtained while it is assumed here that the lighting source is constant and stationary. Alternatively, the position and/or the wavelength of the lighting source may be varied while the viewer is viewing the sign from the same angle, or both the viewing angle and the light source may change. Basically, the result always remains the same, i.e. the appearance of the sign changes as one or both or all parameters vary.”

9. At page 6 lines 13-14 the specification states:

“This procedure is very useful in the production of codes resp. security features... ”

10. At page 7 lines 4-18 the specification states:

“Such signs may be provided on packages for tobacco products, cigarettes, foods, chocolates, drugs or the like. Such packaging bands or foils are preponderantly composed of aluminium or of preponderantly easily foldable paper. ... Today, multilayered foils with a paper substrate and a metal layer, and foils provided with a thin vapour-deposited metallic layer are distinguished.”

11. At page 8 lines 17-26 the specification states:

“.. a respective tooth of one roll need not necessarily engage between four adjacent teeth of the other roll, as in Fig. 3, which illustrates the case of the so-called pinup-pinup configuration where the teeth of all rolls are directed outwards. On the contrary, in the embossing procedures of the invention, it may be useful to positively synchronise the embossing rolls, in which case it is also possible to use a so-called pinup-pindown configuration where the teeth of one roll are directed outwards and the teeth of a cooperating roll inwards.”

### The claims

12. It is common ground that it is only necessary for me to consider claims 1, 2, 3 and 8.

13. Broken down into integers, claim 1 is as follows:

“[a] Device for satinizing and simultaneously embossing packaging foils having a metallised surface or consisting of metal, comprising

[b] at least two embossing rolls that are

- [i] connected to a driving system and
  - [ii] capable of being driven individually or in common,
- [c] the rolls being adapted to be resiliently pressed against each other and
- [d] the interpenetrating pyramidal or conical teeth of the rolls having flattened tips,
- characterised in that
- [e] pyramidal or conical teeth (T2) of at least one roll have a different geometric shape and/or surface than the teeth (T1) that are intended for satinizing
  - [f] in order to produce embossed signs (L) that modify the metallised surface of the packaging foil and whose appearance changes according to the viewing angle of the observer (O) and/or the kind and/or the position of the lighting source (LS) in these locations
  - [g] during the passage of the packaging foil.”

14. Claim 2 reads:

“Device according to claim 1, characterised in that the different teeth (T2) have a smaller height than the remaining teeth (T1).”

15. Claim 3 reads:

“Device according to claim 1 or 2, characterised in that the different teeth (T2) have differently shaped flanks or edges than the remaining teeth (T1).”

16. Claim 8 is as follows:

“Packaging foil produced using a device according to one of the claims 1 to 7, which is satinized and provided on this satinized background with at least one sign (L) whose intensity changes according to the viewing angle (O) and/or the kind and/or the position of the lighting source (LS), characterised in that it comprises at least one group of signs (L) having the same appearance individually, in pairs or in groups.”

#### The earlier Boegli patents

17. As can be seen from extracts quoted above, the Patent refers in a number of places to two earlier Boegli patents, US Patent No. 5 007 271 (“Boegli 271”) and European Patent No. 0 925 911 (“Boegli 911”).

*Boegli 271*

18. Boegli 271 was published on 16 April 1991. It discloses a steel on steel system. The invention is conveniently and accurately summarised in the abstract as follows:

“For embossing a metal foil the same is positioned between two similarly toothed rollers positioned so that the teeth of each roller engages [sic] the teeth of the other. A high-quality embossing is obtained which may be kept practically constant over long periods of operation. The rollers are mutually synchronised such that only one of these rollers need be coupled with a driving mechanism. The other roller is free and may easily be removed, replaced or adjusted in order to vary the force by which it is pressed against the foil and the driven roller respectively.”

19. The teeth are described at column 3 line 2 as “pyramid shaped”. They are shown in Figs 3 and 4 as precise geometric pyramids each of which has a square base and four triangular sides meeting at an apex. The specification explains at column 3 lines 57-65 that one of the advantages of the invention is that the position of the rollers may be adjusted as the teeth wear, thereby enabling embossing quality to be maintained until the teeth become too worn. At column 4 lines 6-23 the specification states that “particularly accurate and clean machining of the toothed surfaces of the rollers is required” and suggests how this may be achieved.

*Boegli 911*

20. Boegli 911 was granted on 9 August 2000. It discloses an improvement to Boegli 271. As with the Patent, the specification is in German and there is no challenge to the accuracy of the English translation filed by Boegli with the UK IPO.

21. The specification states at page 4 line 9 – page 5 line 5:

“As to the fundamental structure of the embossing device, reference will be made to the above-mentioned US Patent No. 5 007 271. A foil band is passed between two toothed embossing rolls of which one is fixedly supported and driven while the other one is freely rotatably journaled on an axle and is capable of being pressed against the driven roll with adjustable pressure by spring force or by pneumatic or other means.

Both embossing rolls are provided with a superficial toothing of the same kind which is schematically shown in Fig. 1 in a developed view, and which comprises pyramidal teeth which are arranged in rows extending in the circumferential direction, i.e. in the direction of rotation indicated by the arrow, and perpendicularly thereto in the axial direction. As mentioned, Fig. 1 is a schematic representation, i.e. the pyramidal teeth are illustrated as if they had the precise geometric shape of a pyramid with an acute point, which was indeed the case in the mentioned embodiment of the prior art.

According to a novel feature, in Figs. 2 to 5, the points of the teeth are now flattened, i.e. the teeth are shortened by an amount  $\Delta A$  (Fig. 3) which in practice is equal to at least 2%, preferably 5 to 25% of the theoretical geometric tooth height. Furthermore, the edges of the pyramidal teeth resp. of the truncated pyramids are cut, which may e.g. be achieved by a generally erosive finishing treatment subsequent to the machining of the teeth, e.g. by etching or by galvanic erosion, which mainly affects the edges.”

22. The specification goes on at page 5 line 15 to page 8 line 23 to explain that the flattened teeth give rise to a “self-stabilising effect” when the two rolls are engaged.

23. At page 9 lines 14-24 the specification states:

“It is also possible to lock the mutual roll positions as soon as the stable position of engagement is obtained and thus to exclude any risk that the rolls might jump from a stable position to a different one. For example, as soon as the stable position is attained, the axial position of the idle roll might be locked by clamping the axially displaceable roll axle, and a previously uncoupled play-free gear could be connected between the two rolls. Ultimately, the rolls could also be mutually positioned by play-free gears or in such a disposition that a mutual engagement in the sense of the invention is predetermined from the start.”

24. Claim 1 includes the following wording:

“Device for embossing a foil, comprising a pair of rollers having toothings of the same kind and which are connected to a drive and capable of being driven individually or in common, the rollers being capable of being pressed against each other in a resilient manner, characterised in that the pyramidal teeth of tothing comprise flattened points and a rectangular ground plan ...”

#### The addressee

25. A patent specification is addressed to those likely to have a practical interest in the subject matter of the invention, and such persons are those with practical knowledge and experience of the kind of work in which the invention is intended to be used. The addressee comes to a reading of the specification with the common general knowledge of persons skilled in the relevant art, and he (or, once and for all, she) reads it knowing that its purpose is to describe and demarcate an invention. He is unimaginative and has no inventive capacity.

26. There is little dispute between the parties as to the addressee of the Patent. The Patent is addressed to a person skilled in the art of embossing packaging foils. The Patent is not limited to cigarette packaging foils, but it is clear from the specification, the prior

art referred to in the specification and the evidence that it is particularly addressed to those in that field.

### The expert witnesses

27. Boegli's expert witness was David Tarrant. He has over 45 years' experience in the cigarette packaging industry. From 1963 to 1970 he worked for Molins, a leading manufacturer of cigarette packaging machinery, in particular machines for hinged lid packs. From 1970 to 1982 he worked for Philip Morris Engineering Services, part of the well-known multinational cigarette manufacturer. From 1982 to 2006 he worked for his own business, Tekpak. While Mr Tarrant was very knowledgeable about cigarette packaging machinery, including the embossing heads of such machines, there were two limitations to his experience that are relevant to this case. First, he had no experience outside the cigarette packaging industry. Secondly, his experience was as a customer for packaging machines: he specified, installed, re-conditioned, modified and maintained such machines, he did not design them.
28. The Defendants' expert witness was John Monaghan. He has over 31 years' experience in the manufacture of embossing equipment. Since 1978 he has been Managing Director of Miller Shawcross, later re-named JSM Wallcovering Machinery, which makes machinery for the wallcovering industry. In addition, however, it also supplied embossing equipment for use in other fields, in particular food packaging. Since July 2001 Mr Monaghan has also been Managing Director of Embosco, an established supplier of embossed machines and rollers, in particular for the cigarette packaging market. As I understand it, Mr Monaghan did not have experience of the cigarette packaging market prior to that point. As a result, his experience of embossing packaging foils with signs on them as at the priority date was very limited.
29. I am satisfied that both experts did their best to assist the court. Counsel for the Defendants accused Mr Tarrant of having deliberately omitted to refer to the passage at page 4 lines 24-28 in Boegli 911 in his reports because it was adverse to Boegli's case. Mr Tarrant denied that accusation, and I accept his denial.

### Common general knowledge

30. The law as to what constitutes common general knowledge is set out in the decisions of the Court of Appeal in *General Tire & Rubber Co v Firestone Tyre & Rubber Co Ltd* [1972] RPC 457 at 482-483 and *Beloit Technologies Inc v Valmet Paper Machinery Inc* [1997] RPC 489 at 494-495.
31. There was not much dispute between the parties as to the common general knowledge of the addressee of the Patent. I find that it includes the background I have summarised in paragraph 2 above and the following matters.
32. A widely used cigarette packaging machine was the Molins HLP. This included an embossing head. The general features of the embossing head were common general knowledge, but not the precise details of its construction.
33. Three types of embossing rollers were common general knowledge. First, "steel on plastic" or "steel on backing bowl" or "pinup-pindown". In this system there is one



steel roller (the driven roller) and one roller with a thermoplastic sleeve (the pressure roller). The steel roller has teeth, which are typically pyramidal. Prior to embossing, the driven roller is heated and driven against the thermoplastic sleeve of the pressure roller, forming an impression of the teeth on its surface. The two rollers thus form a male/female fit. Where teeth are removed from the driven roller to produce a sign, the pressure roller remains flat. With this system, the two rollers must be geared together so they remain in synchronisation.

34. Secondly, “steel on rubber”. In this system the driven roller is a steel roller with teeth while the pressure roller is made of a resilient material such as rubber. The pressure roller does not need to be driven and runs freely.
35. Thirdly, “steel on steel” or “pinup-pinup”. In this system both rollers are steel rollers with teeth which are typically pyramid-shaped. The top of a tooth on one roller fits in the space between four teeth on the other roller. The meshing of the teeth means that the rotation of the driven roller will cause the pressure roller to rotate. The rollers are resiliently pushed together by springs or pneumatic cylinders. Where teeth are removed from the driven roller to produce a sign, the pressure roller retains its teeth.
36. In all three systems, the teeth were generally spaced at a pitch of between 0.25 and 0.4 mm, most commonly 0.3 mm.
37. Three methods of producing toothed steel rollers were common general knowledge, namely mill engraving, acid etching and machine cutting. It was also well known to remove teeth by spark erosion.

#### Construction

38. The task for the court when construing a patent claim is to determine what the person skilled in the art would have understood the patentee to have been using the language of the claim to mean: see *Kirin Amgen Inc v Hoechst Marion Roussel Ltd* [2004] UKHL 46, [2005] RPC 9 at [30]-[35]. In that case the list of principles to be found in the judgment of Jacob LJ in *Technip France SA’s Patent* [2004] EWCA Civ 381, [2004] RPC 46 at [41] was approved subject to one point.

#### *Interpretation of the preamble in two-part claims*

39. A specific point which arises in this case is the correct approach to the interpretation of the preamble in two-part claims. Rule 29(1) of the Implementing Regulations to the European Patent Convention (now replaced by rule 43(1) of the Implementing Regulations to the European Patent Convention 2000 which is in similar, but not quite identical, terms) provided:

“(1) The claims shall define the matter for which protection is sought in terms of the technical features of the invention. Wherever appropriate, claims shall contain:

- (a) a statement indicating the designation of the subject-matter of the invention and those technical features which are necessary for the definition of the claimed subject-matter but which, in combination, are part of the prior art;

- (b) a characterising portion – preceded by the expression ‘characterised in that’ or ‘characterised by’ - stating the technical features for which, in combination with the features stated in sub-paragraph (a), it is desired to protect.”
40. In accordance with rule 29(1), claim 1 of the Patent is in two-part form. The specification states at page 1 lines 11-13 that a device according to the preamble of claim 1 is known from Boegli 271 or Boegli 911. The question which arises is what effect, if any, this has on the interpretation of integers in the preamble of the claim.
41. In *Virgin Atlantic Airways Ltd v Premium Aircraft Interiors UK Ltd* [2009] EWCA Civ 1062 the Court of Appeal considered three matters bearing on claim construction, all of which involved the question how much of the law and practice of the patent system is the skilled reader supposed to know and thus take into account when he is trying to work out what, by the words of his claim, the patentee was intending to mean? The first matter was the use of identifying numerals in a patent claim, the second matter was the use of a two-part claim in accordance with rule 29(1) and the third was the practice of divisional applications. Jacob LJ delivering the judgment of the Court held at [11] that it followed from *Kirin-Amgen* that the notional skilled reader was to be taken as knowing about these matters and bringing them to bear when he considers the scope of the claim.
42. In relation to the two-part claim structure, Jacob LJ cited two decisions of the European Patent Office Boards of Appeal and held:
- “20. From this Mr Vanhegan invited us to conclude that the skilled reader would have no, or at the very least only a slight presumption, that the pre-characterising portion of a claim was describing what the patentee considered to be old. He particularly emphasised the Board’s statement that it is ‘primarily relevant to the patent grant procedure.’ Mr Meade on the other hand submitted that when the skilled man sees a pre-characterising clause he will strongly incline to the view that the skilled man saw that as being old. And that inclination will be reinforced (perhaps steepened is a better word) where the clause concerned is clearly said by the patentee to be based on prior art which he specifically acknowledges.
21. We accept Mr Meade’s contention. Even without a two-part claim structure, because the skilled reader knows that the patentee is trying to claim something which he, the patentee, considers to be new, he will be strongly averse to ascribe to the claim a meaning which covers that which the patentee acknowledges is old. And if the patentee not only acknowledges that a particular piece of prior art is old but then has a pre-characterising clause which is fairly obviously based on it, the skilled reader will be even more strongly inclined to read that clause as intended to describe that old art.”

43. Counsel for Boegli submitted that, where the specification expressly states that the preamble of the claim describes certain prior art, then a construction of the preamble which excludes that prior art should be avoided unless it is clear that is what the claim means. I accept that submission.
44. In the present case the specification states that a device according to the preamble to claim 1 is known from Boegli 271 or Boegli 911. For reasons that I shall explain, I consider that it is clear that the preamble is in fact based on Boegli 911 and not Boegli 271.

*[a] Device for satinizing and simultaneously embossing packaging foils*

45. The wording “for satinizing and simultaneously embossing” is somewhat odd. It is common ground, however, that this integer should be interpreted to mean a device which is suitable for both embossing packaging foils to produce a satinized effect and producing signs. It is not limited to a device which produces signs by complete removal of teeth.

*[b](i) connected to a driving system*

46. Boegli contends that this integer extends to a device in which the rollers are rotated purely by means of the foil being pulled through them. I disagree. In my judgment the words “connected to a driving system” require the presence of a system that positively drives the rollers round. A device in which the rollers are rotated purely means of the foil being pulled through them has no “driving system” at all. Moreover, Boegli’s interpretation of this integer is difficult to square with its interpretation of the next integer, or indeed any interpretation of it.

*[b](ii) capable of being driven individually or in common*

47. There are two disputes about the construction of this integer. The first is as to the meanings of “driven individually” and “driven ... in common”. The second is whether the “or” is disjunctive or conjunctive. Boegli contends that “driven individually” means that each roller is driven and refers to systems in which the drive system directly drives the driven roller and indirectly drives the pressure roller via gears; that “driven ... in common” means that both rollers are driven by a common drive, and refers to systems in which the driven roller is driven while the pressure roller is rotated by the meshing of the teeth on the two rolls; and that “or” is disjunctive, so that the device need only be capable of one of the two methods of driving. The Defendants contend that “driven individually” means that each roller is driven by a separate drive; that “driven ... in common” means that both motors are driven by the same drive, whether through gearing or meshing of the teeth; and that “or” is conjunctive, so that the device must be capable of both methods of driving.
48. *Driven individually, driven in common.* Read acontextually and without the benefit of the common general knowledge, at first blush these phrases would appear to mean what the Defendants say. Read in context and with the benefit of the common general knowledge, however, I consider that Boegli’s interpretations are to be preferred. My reasons are as follows.

49. First, neither Boegli 271 nor Boegli 911 discloses a device in which the rollers are “driven individually” in the sense contended for by the Defendants. For the reason given above, this integer should not be construed so as to exclude both Boegli 271 and Boegli 911 unless that is clearly what it means, but it is not.
50. Secondly, neither Mr Tarrant nor Mr Monaghan was aware of any embossing machine in which the rollers were “driven individually” in the sense contended for by the Defendants. It would be very odd indeed to construe the preamble, which is explicitly based on particular prior art, so as require the presence a feature which not merely is not disclosed by that prior art, but so far the evidence goes does not appear to have existed in the prior art at all.
51. Thirdly, Boegli 911 discloses both an embodiment which is “driven ... in common” in the sense contended for by Boegli (the preferred embodiment) and an embodiment which is “driven individually” in the sense contended for by Boegli (the embodiment described at page 9 lines 14-24). Thus Boegli’s construction is supported by the statement in the specification that such devices are known from that reference.
52. *Or.* In my judgment “or” is to be read disjunctively for the following reasons.
53. First, this is the more natural reading of the word in context.
54. Secondly, reading it conjunctively would have the effect of excluding the device of Boegli 271 and the preferred embodiment of Boegli 911 and of limiting the preamble to the alternative embodiment of Boegli 911. For the reason given above such a construction should be avoided. This point is reinforced by the fact that the same wording appears in claim 1 of Boegli 911 itself.
55. Thirdly, it is difficult to think of any rational reason why the patentee should wish to limit his claim to devices which can drive the rollers in either way. By contrast, it would make obvious sense to frame the claim so as to cover the two alternatives separately.
56. It is fair to say that the specification refers at page 1 line 11 to “a device” and not “devices”. In my view this is not sufficient to displace the reasons given above. That would be to indulge in meticulous verbal analysis.

*[c] the rolls being adapted to be resiliently pressed together*

57. It is common ground that this integer requires rollers which are suitable for being resiliently pressed together. It does not limit the claim to devices in which the rollers are actually resiliently pressed together.

*[d] pyramidal or conical teeth ... having flattened tips*

58. The Defendants contend that “pyramidal” should be construed as meaning shaped precisely like a regular geometric pyramid with a square base and four equal triangular sides meeting at an apex (or which would meet at an apex if the top were not flattened). Boegli contends that “pyramidal” should be construed as meaning roughly pyramid-shaped.

59. Counsel for the Defendants advanced three arguments in support of the Defendants' construction, and it is convenient to deal with them in turn.
60. First, he submitted that "pyramidal" was a term of art in the field of embossing packaging foil. In my judgment the evidence does not establish this. "Pyramidal" is an ordinary English word. The *Oxford English Dictionary* (2<sup>nd</sup> edition) defines it as follows:

"A. *adj.*

1. Of or relating to a pyramid or pyramids; sloping, as an edge or face of a pyramid.

2. a. Of the nature or shape of a pyramid; resembling a pyramid. Also *fig.* or in figurative context (cf. PYRAMID *n.* 8).

...

3. Specific technical senses.

a. *Anat.* and *Zool.* Designating structures of roughly pyramidal, conical, or triangular shape. Cf. PYRAMID *n.* 6, PYRAMIDALIS *n.*

b. *Bot.* Designating various plants or trees which are pyramid-shaped or have a pyramid-like or conical inflorescence or stem (usually translating the specific epithet *pyramidalis*).

...

d. *Ophthalmol.* Designating a cataract of conical or pyramidal form, *esp.* one of the anterior part of the lens, often protruding into the anterior chamber.

...

f. *Anat., Zool.,* and *Med.* Of, relating to, or connected with the pyramids of the medulla oblongata (*esp.* in *pyramidal tract n.* at Special uses 2); of or relating to the pyramidal tracts.

4. *Math.* Designating any of a series of numbers beginning with unity, whose *n*th term is the sum of the first *n* terms of a series of polygonal numbers, each of which can be represented by balls arranged according to a certain rule in the form of a pyramid on the corresponding polygonal base."

61. It is clear from these definitions that the word "pyramidal" is often used in a figurative sense. The same is true of the word "pyramid" itself, the definitions of which given in the same dictionary include:

"3. a. *Archit.* A structure or part of a building in the shape of a pyramid, as a spire, pinnacle, obelisk, etc.; Also: a gable, a pediment

b. In full *pyramid tent*. A tent shaped like a pyramid, typically with four triangular sides supported by a central pole.

4. a. Any object in the shape of a pyramid; (also) a number of things arranged or piled up in this shape.

**b. Hort.** A pyramidal or conical shape (widest at the base and tapering to the top) given to a tree or shrub by pruning or training (chiefly *attrib.*). Hence: a tree, esp. a fruit tree, pruned or trained in this fashion, now usually (more fully *dwarf pyramid*) on a dwarfing rootstock. Cf. *pyramid-trained* adj. at Compounds 2, *pyramid training* n. at Compounds 2.

**5. a.** A plane figure suggesting the profile of a pyramid; a triangular or wedge-shaped figure or formation, such as a triangular arrangement of players or pieces in sports and games.

...

**6. a. Anat.** Any of various structures of more or less pyramidal or conical form; *spec.* (a) each of the conical projections of renal medulla into the pelvis of the kidney (also called *Malpighian pyramid*); (b) the petrous part of the temporal bone; (c) (more fully *anterior pyramid*) each of two bundles of corticospinal nerve fibres located on each side of the median fissure of the ventral surface of the medulla oblongata.

...

## II. Extended uses.

**8. fig. or allusively,** chiefly with reference to shape or form; (now) *esp.* an organization or system that is structured with fewer people or things at each level as one approaches the top.”

62. Neither Mr Tarrant nor Mr Monaghan said that “pyramidal” was a term of art or that it had a special, restricted meaning in the field of embossing packaging foil. The furthest the evidence goes is that teeth of the kinds disclosed in Boegli 271 and Boegli 911 were well-known by 2000 and were commonly described as pyramidal. But the fact that a word with a range of possible meanings is accurately used in the paradigm sense of that word to describe a particular article does not establish that its meaning would be understood by the skilled person as being restricted to that paradigm sense.
63. Secondly, counsel for the Defendants submitted that the specification of the Patent, and the prior art referred to, showed that the word was being used in the sense contended for by the Defendants. In my judgment these show the opposite.
64. The skilled reader of the Patent would appreciate that the patentee had described teeth as “pyramid shaped” in Boegli 271. Even in the context of that patent, the skilled reader would appreciate that the teeth were unlikely to be required to be perfect pyramids in the Defendants’ sense for two reasons. First, even though Boegli 271 emphasises the need for accurate machining, manufacturing methods and tolerances would make it difficult to achieve perfect pyramids to begin with. Secondly, Boegli 271 describes continued use of the teeth when they are worn.
65. The skilled person would also appreciate that the patentee had first used the word “pyramidal” itself in Boegli 911. Moreover, he would appreciate that Boegli 911 taught the use of teeth which were explicitly distinguished from the teeth having “the precise geometric shape of a pyramid with an acute point” disclosed in Boegli 271. The teeth disclosed in Boegli 911 are described as “pyramidal” even though they are

flattened by between 2% and 25% of the theoretical geometric tooth height. Thus the skilled person would understand that the teeth were not pyramids in a precise geometric sense, in particular in that they lacked an apex. Furthermore, the skilled person would note that Boegli 911 also refers to the edges of the pyramidal teeth being cut by an erosive finishing treatment.

66. Turning to the Patent itself, the addressee would appreciate that, in the passage at page 3 lines 18-31 describing the teeth disclosed by Boegli 911, the patentee teaches him two things which are not explicitly disclosed in Boegli 911 itself. The first is that the edges of the teeth are preferably chamfered. This would explain to him, if he had not previously understood it, the reference in Boegli 911 to the edges of the teeth being cut by an erosive treatment. The second is that the teeth may be “conical” instead of “pyramidal”. In my view this is a clear indication that the precise geometric shape of the teeth is unimportant.
67. Counsel for the Defendants argued that this passage showed that the patentee was using these terms in their precise geometric senses, for two reasons. First, because a cone is the ultimate form of a pyramid, since in strict geometric usage a pyramid can have any number of sides. Secondly, because the passage uses geometric terms such as “frustopyramidal” and “frustoconical”.
68. The first point is self-defeating, since it means that on any view the patentee cannot be restricting “pyramidal” to pyramids with square bases. As for the second point, this is a classic example of verbal analysis which elevates language above function. True it is that the patentee uses geometric terms to identify the shapes, but at the same time the patentee makes it clear that the precise shape of the teeth is not critical. The skilled person who asked himself why the patentee was telling him that the teeth could be conical instead of pyramidal would appreciate that this is because the teeth have two functions. The primary function is to satinize the packaging foil. For this purpose the shape of the teeth is fairly unimportant. The secondary function is to “interpenetrate” with the teeth on the other roller. For this purpose the shape of the teeth is of more importance, but the addressee would appreciate that it does not require the teeth to be perfect geometric pyramids (or perfect geometric cones).
69. The addressee would also appreciate that the specification and integer (e) of claim 1 use the same wording – “pyramidal or conical” – to describe the T2 teeth, and that those teeth are not merely flattened, but have “a different geometric shape or surface”. Thus the patentee uses the word “pyramidal” to include a shape whose height has been further reduced or whose flanks or edges have been modified or whose surface has been altered.
70. In my judgment the skilled reader would conclude from these considerations that the word “pyramidal” was being used in its figurative or extended sense to denote something shaped roughly like a pyramid and not merely in the restricted sense of a geometric pyramid with a square base and an apex. He would also conclude that the criterion for what is sufficiently like a pyramid must be a functional one: can the teeth perform the required functions of satinizing and interpenetrating?
71. Counsel for the Defendants sought to draw a contrast between the present case and what was said by Jacob LJ in *Ancon Ltd v ACS Stainless Steel Fixings Ltd* [2009] EWCA Civ 498 at [25]:

“I would add this. The patentee here was faced with a familiar problem. He was trying, in the words of Lord Hoffmann at [34] ‘to describe something which, at any rate in his opinion, is new; which has not existed before and of which there may be no generally accepted definition.’ That is particularly hard when you are trying to describe a complicated shape. By and large you need to start from some point of reference to a known sort of shape (here ellipse and cone) to get going on such a task. That is what the patentee was obviously doing when he chose his composite phrase ‘generally elliptically shaped cone’. It would be wrong in those circumstances to suppose that he was taking anything like a strictly geometric approach. ”

72. Counsel submitted that in the present case the patentee has used a known term to denote a known shape. I disagree. The use of the term “pyramidal” derives from Boegli 911, where the patentee claimed that the shapes of the embossing teeth were novel and inventive. Furthermore, in the Patent the patentee claims that the shapes of the sign-producing teeth are novel and inventive. In both cases it has done exactly as Jacob LJ described, namely use a known shape as a point of reference. Just as in *Ancon* there is no reason to suppose that it was taking a strict geometric approach and every reason to suppose that it was not.
73. Counsel for the Defendants’ third argument was that, even if “pyramidal” did not mean a perfect geometric pyramid with a square base and an apex (or notional apex), in determining how far beyond that paradigm meaning the word extended, it was appropriate to ask the so-called Protocol (to Article 69 EPC) questions. These were originally formulated by Hoffmann J (as he then was) in *Improver Corp v Remington Consumer Products Ltd* [1990] FSR 181 at 189 on the basis of the speech of Lord Diplock in *Catnic Components Ltd v Hill & Smith Ltd* [1982] RPC 183 at 192:

“If the issue was whether a feature embodied in an alleged infringement which fell outside the primary, literal or acontextual meaning of a descriptive word or phrase in the claim (‘a variant’) was nevertheless within its language as properly interpreted, the court should ask itself the following three questions:

- (1) Does the variant have a material effect upon the way the invention works? If yes, the variant is outside the claim. If no—
- (2) Would this (i.e. that the variant had no material effect) have been obvious at the date of publication of the patent to a reader skilled in the art. If no, the variant is outside the claim. If yes—
- (3) Would the reader skilled in the art nevertheless have understood from the language of the claim that the patentee intended that strict compliance with the primary meaning was an essential requirement of the invention. If yes, the variant is outside the claim.

On the other hand, a negative answer to the last question would lead to the conclusion that the patentee was intending the word or phrase to have not a literal but a figurative meaning (the figure being a form of synecdoche or metonymy) denoting a class of things which included the variant and the literal meaning, the latter being perhaps the most perfect, best-known or striking example of the class.”



74. In my judgment it is neither necessary, nor particularly helpful, to resort to the Protocol questions in the present case. The issue is not whether, given that the feature falls “outside the primary, literal or acontextual meaning” of the word in question, “the patentee was intending the word or phrase to have not a literal but a figurative meaning”. Rather, the issue is which of the range of literal or acontextual meanings of the word “pyramidal” is appropriate in context. As I have explained, one of the ordinary meanings of the word is a figurative meaning. For the reasons given above, I consider that in the context of the Patent the skilled person would understand it to bear that figurative meaning rather than a more precise geometric meaning.
75. In case I am wrong about that, however, I shall answer the Protocol questions on the assumptions that (a) the “primary, literal or acontextual meaning” of “pyramidal” is a precise geometric pyramid with a square base and an apex (or which would have an apex if the top were not flattened) and (b) the “variant” is the shape of Darsail’s teeth. As described in more detail below, this shape is produced by cutting one set of grooves into the roller at 90° and the other set at 80°. The latter is cut more deeply than the former.
76. Counsel for the Defendants contended that the shape of Darsail’s teeth did have a material effect on the way in which the invention worked because, according to Mr Pyzhov’s unchallenged evidence, the shape of the teeth has the effect of locking the two rollers more tightly together when the teeth interpenetrate. I will assume that Mr Pyzhov is right about this, although neither expert was able to say whether this effect occurred or not. Even on that assumption, in my judgment this does not mean that the variant has a material effect on the way in which the invention works. At best it represents an improvement in the way in which the teeth of the two rollers interpenetrate so as to synchronise the rollers, that is to say, an improvement on Boegli 911. The Patent takes interpenetration as a given, as shown for example by the fact that integer [d] forms part of the preamble. The passage at page 8 lines 17-27 makes it clear that synchronisation by the teeth is not an essential element of the device the subject of claim 1. Even if it were, the invention is not concerned with that aspect of the embossing rollers, but with something completely different, namely the production of signs which exhibit the optical effect.
77. Turning to the second question, for the reasons I have just given, it would be obvious to the skilled person that the variant had no material effect on the way in which the invention worked.
78. As to the third question, I can see no reason why the skilled reader would understand from the language of the claim, or the specification more generally, that strict compliance with the assumed “primary, literal or acontextual meaning” of “pyramidal” was required.

*[e] pyramidal or conical teeth (T2) of at least one roll have a different geometric shape and/or surface than the teeth (T1) that are intended for satinizing*

79. The Defendants contend that this integer means that the T1 teeth for satinizing on one roller should have precisely the same shape as the T1 teeth for satinizing on the other roller. Boegli contends that there is no such requirement. I agree. The wording of this integer refers to “at least one roll”. Moreover, it is concerned with the difference between the T1 and the T2 teeth on that at least one roll. The Defendants’

construction reads in a requirement that is simply not there. Furthermore, from a technical point of view there is no need for the teeth on both rollers to have the same shape. Yet further, Boegli 911 states at page 8 line 25 that “The rolls may be provided with teeth of different heights”, making it clear that the teeth do not have to be the same.

*[f] ... whose appearance changes ...*

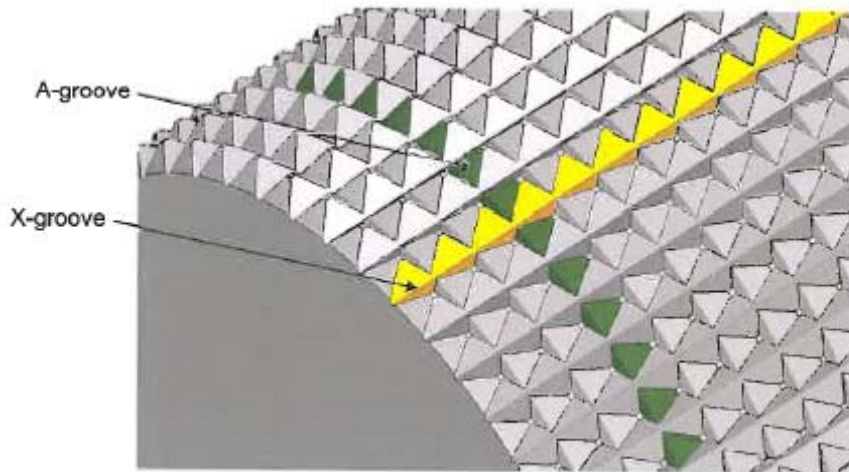
80. It is common ground that the change in appearance is to be assessed with the naked human eye. It is also common ground that a change in intensity is enough – it is not a requirement that the sign should disappear altogether when viewed from a certain angle or under a certain light, although it may do. I shall refer to this change in appearance as “the optical effect”.

### Infringement

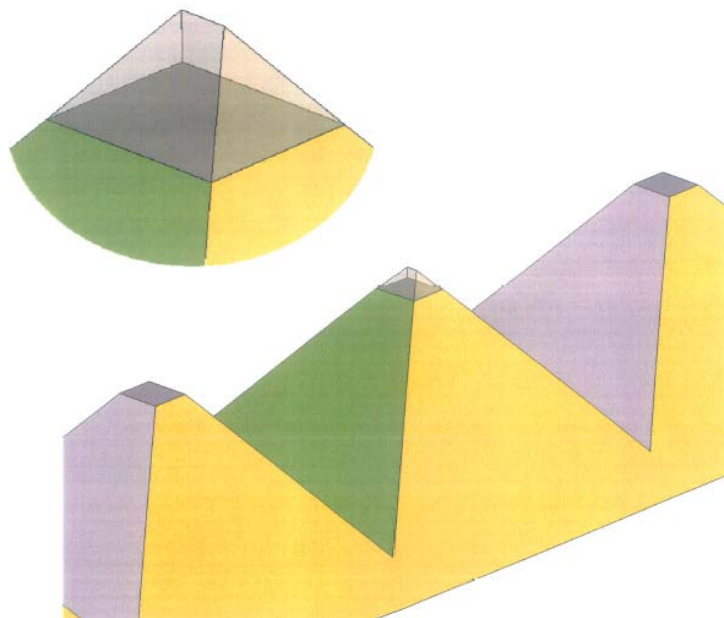
81. Boegli rely on a number of acts as amounting to infringements. Since these raise different issues, it is necessary to consider them separately. Before doing so, however, it is convenient to deal with some common points.

### *Darsail’s rollers*

82. Darsail was formed by Mr Pyzhov and two business partners in 2000. To begin with, Darsail manufactured standard spare parts for food processing and tobacco industry equipment. In 2002 Darsail started making embossing rollers to produce packaging foil for chocolate. In 2003 Darsail started making embossing rollers to produce packaging foil for the tobacco industry. At the time Darsail’s rollers were steel on rubber. In 2005 Darsail devised what it calls its “2D [for two direction] catching factor” embossing rollers. As stated above, these are steel on steel rollers with teeth cut with 80° and 90° grooves. Darsail believes that such rollers are novel, inventive and advantageous. I understand that Darsail has obtained a number of patents for such rollers.
83. In more detail, Darsail’s embossing rollers are produced by the following method. On one roller, the 90° grooves are cut circumferentially and the 80° grooves are cut axially. On the other roller, the 90° grooves are cut axially and the 80° grooves are cut circumferentially. In both cases the 80° grooves are cut approximately 19% more deeply into the roller than the 90° grooves. The result is teeth with the appearance shown in the following illustrations prepared by the Defendants (where A-grooves are 90° grooves and X-grooves are 80°):



**Fig. 1**



**Fig. 2**

84. As can be seen from the figures, the tops of the teeth are flat. If one notionally extends the sides of the teeth as shown in Fig. 2, they do not meet at an apex, but at a ridge 3.2 microns long. One might think that the result of Darsail's process would be that the teeth on one roller were the same shape as the teeth on the other roller, but rotated through 90°. In fact, because the rollers are circular, the teeth on one roller have slightly curved deeper sides, while the teeth on the other roller have slightly curved shorter sides.
85. It is common ground that Darsail has made embossing rollers which produce two optical effects of the kind required by integer [f] of claim 1. These are referred to by Darsail as the Hologram Effect or HE and the Different Level Effect or DLE. The HE is produced by partially removing the flanks of the relevant teeth. The DLE is produced by reducing the height of the relevant teeth by a specified percentage.

86. In the light of my construction of the claim, Darsail's HE and DLE rollers have all the features required by the integers of claim 1 that relate to the rollers. The teeth are pyramidal, since they are roughly pyramid-shaped and they perform the functions of satinizing and interpenetrating. Indeed, Darsail itself described the teeth as "semi-pyramidal", "pyramidal" and "pyramids" in a promotional DVD dating from 2006 which is in evidence. It is immaterial that the teeth do not have a notional apex or that one side is deeper than the other. It is also immaterial that the teeth on one roller are of a slightly different shape to the teeth on the other roller.
87. It is common ground that, if the rollers have the features required by claim 1, the DLE rollers have the additional feature of claim 2 and the HE rollers have the additional feature of claim 3.

*Supply of the Famous Flavor rollers to Mr Green*

88. Between 25 April 2006 and 5 July 2007 a private investigator working for British American Tobacco, a client of Boegli, acting on behalf of Boegli posed as a customer for Darsail's embossing rollers using the alias "Robert Green". On 25 April 2006 Mr Green sent Darsail an email which read as follows:

"Dear Mr Ivanovich/Vladimirovich/Aleksandrovich

Good afternoon Sirs

I wasn't exactly certain who to address my e-mail to and therefore I have included the three contact names shown on your website.

First of all let me introduce myself. My name is Robert Green and I'm a partner in R R & T Associates, ..., Chadwell Heath, Romford, Essex, ... , Tel 00 44 ... , fax 00 44 ... , mobile 00 44 .... We are a company who source on behalf of clients various products including tobacco machinery. We recently advertised in relation to spares which were available and as a result of which we received a call from our clients asking if we were able to source:-

One set of embossing rollers for an old MOLINS type of machine as follows:-

Molins Part No. 41591-200 to 249 with b 69.4 mm Molins Part No. 41591-250 to 259 with b 138.8 mm

the pitch must be of 0.3 mm with a pin-up/pin-up style with the monogram as per design No. 06803 'Famous Flavor' 25%.

We discovered your company as a result of research we conducted on the internet and also we note you have been exhibiting at various trade fairs.

This is an initial enquiry and please find attached the drawing re the Molins 41591-200-249 and the R R & T design number 060803.

If there is any difficulty with these drawings we can obviously fax them through to you.

Payment, if you are able to meet our requirements, will be made through the R R & T bank account.

Your earliest reply would be appreciated.”

89. Mr Pyzhov replied to this email on 27 April 2006 enclosing Darsail’s standard form of contract. In due course Mr Green purchased three sets of rollers from Darsail. The third set was sold by Darsail to Mr Green pursuant to a written agreement dated 26 May 2006 on the terms DDU (delivery duty unpaid) Romford. This set was delivered on 2 November 2006. There is no dispute that Darsail thereby supplied the rollers in the United Kingdom.
90. Boegli contends that the supply of these rollers, referred to in the proceedings as “the Famous Flavor rollers”, was an infringement under section 60(2) of the Patents Act 1977. This provides:

“Subject to the following provisions of this section, a person (other than the proprietor of the patent) also infringes a patent for an invention if, while the patent is in force and without the consent of the proprietor, he supplies or offers to supply in the United Kingdom a person other than a licensee or other person entitled to work the invention with any of the means, relating to an essential element of the invention, for putting the invention into effect when he knows, or it is obvious to a reasonable person in the circumstances, that those means are suitable for putting, and are intended to put, the invention into effect in the United Kingdom.”
91. The Defendants do not dispute, that, if integer [b](ii) of claim 1 is construed as I have construed it, then the Molins machine satisfied the elements of the claim relating to the machine. Nor do they dispute that, if the Famous Flavor rollers satisfy the other elements of the claim, as I have held that they do, then the rollers constitute “means, relating to an essential element of the invention, for putting the invention into effect”, those means were “suitable for putting, and ... intended to put, the invention into effect in the United Kingdom” and that was “obvious to a reasonable person in the circumstances”. The Defendants deny, however, that Mr Green was “a person other than a licensee or other person entitled to work the invention” since he was acting on behalf of Boegli. In this connection the Defendants rely on the fact that Boegli have not adduced any evidence from or about Mr Green save what is stated in the Particulars of Infringement (which is verified by a statement of truth) and the documentary evidence relating to the transaction.
92. Counsel for Boegli submitted that the law with regard to test purchases was established by two decisions of North J, *Kelly v Batchelar* (1893) 10 RPC 289 and

*Dunlop Pneumatic Tyre Co. v Neal* [1899] 1 Ch 807 but more fully reported at (1899) 16 RPC 247. The distinction, he submitted, was between acts where the claimant's agent has specified what is required and thereby led the defendant to commit an infringing act in circumstances where it otherwise would not have done, and acts which are part of the normal activity of the defendant which are merely prompted by the claimant's agent's order. The former is not an infringement because the claimant has specifically authorised the infringing act, but the latter is an infringement because the fact that the agent happens to be acting for the claimant makes no difference. Counsel for Boegli further submitted that the same approach should be applied to the requirement that the person supplied with essential means be "a person other than a licensee or other person entitled to work the invention".

93. Counsel for the Defendants did not take issue with counsel for Boegli's statement of the law with regard to test purchases, but he did take issue with its applicability to this requirement. He submitted that supply to "a person other than a licensee or other person entitled to work the invention" was an essential ingredient of the tort under section 60(2) and that Boegli had simply failed to prove that ingredient. In my judgment counsel for the Defendants is correct on this point.
94. Counsel for Boegli's fall-back position was to submit that the supply of the Famous Flavor rollers to Mr Green was evidence of a threat and intention on the part of Darsail to commit infringements under section 60(2), particularly having regard to Darsail's other acts relied on (as to which, see below). Counsel for the Defendants submitted that it was merely evidence of a threat and intention to repeat an act which had not been proved to be infringing. I disagree. Darsail had no idea whether Mr Green was entitled to work the invention or not, and made no enquiry. It would have supplied the rollers even if Mr Green had not been acting on behalf of Boegli. In my judgment that is sufficient to evidence a threat to infringe.
95. In any event, as counsel for the Defendants accepted, the parties' statements of case define an issue as to whether the supply of such rollers would infringe if the purchaser was a person other than licensee or other person entitled to work the invention, so as to entitle Boegli to declaratory relief.

*Darsail's website*

96. Boegli contends that Darsail's website located at [www.darsail.com](http://www.darsail.com) constitutes an offer to supply rollers to the United Kingdom, and hence an infringement pursuant to section 60(2). For this purpose Boegli relies on print-outs from the website dated 20 March and 25 April 2006.
97. Counsel for Boegli submitted that for this purpose it was not necessary for Boegli to show that the statements on the website constituted an offer capable of acceptance under English contract law, relying on the reasoning of Jacob J (as he then was) in relation to section 60(1) in *Gerber Garment Technology Inc v Lectra Systems Ltd* [1995] RPC 383 at 411-412. Counsel for the Defendants initially disputed this, on the basis that section 60(2) gives effect to Article 26 CPC while section 60(1) gives effect to Article 25 CPC, but in the course of argument accepted it.

98. I consider that the website does constitute an offer to supply DLE and HE rollers for installation *inter alia* on GD and Molins machines. Thus the 20 March 2006 print-out states:

“The main activity of our company is production of spare parts for tobacco equipment. Following the vast spectrum of spare parts that are used in cigarette production, we chose the following to be focused on:

\* Foil embossing rollers according to the pattern ‘metal-metal’

These spare parts fit and might be easily installed on any kind of machines in units manufactured by different well-known producers: ... , GD, ... , MOLINS, ... and others. ...

A moderate price and short time of delivery can also be added to the list of benefits of our products ...

Tobacco factories of both multinational companies (namely, IMPERIAL, GALLAHER, JTI and BAT) and local independent companies (such as DONSKOI TABAK, NEVO-TABAK) are among our customers. In 2004 we started to export our products to the countries of CAS and also to countries of Western Europe and Southwest Asia. ...

Our embossing rollers can be used in packaging machines by Molins, GD, ... We produce rollers with 0,16 mm – 1 mm embossing pitch for:

\* regular embossing without logo

\* embossing with logo and multilogo (like SOVEREIGN)

\* fragmentary embossing, when only the logo embosses (like SOBRANIE)

\* different level embossing, when both logo and background emboss but the embossing level of the logo is lower than the one of the background

\* NEW!!! Embossing with ‘PIRAMIDA’ alternating angle (hologram effect)

The standard time of a set of rollers making with our technology is two weeks.

How to work with us:

answer the technical questions - (see DOWNLOAD section)

e-mail to [www.darsail.ru](http://www.darsail.ru) the logo design ...

sign a spare parts supply contract (see DOWNLOAD section)

you can find an approximate price of embossing rollers set in our price-list (DOWNLOAD section).”

99. The Defendants dispute that the website constitutes an offer to supply rollers in the United Kingdom. The issue of whether a website was directed to the UK was considered by Kitchin J in the trade mark context in *Dearlove v Coombs* [2007] EWHC 375 (Ch), [2008] EMLR 2. After referring to *1-800 Flowers Inc v Phonenames Ltd* [2000] FSR 697; [2001] EWCA Civ 721, [2002] FSR 12 and *Euromarket Designs Inc v Peters* [2001] FSR 20 he said at [24]:

“I believe it is clear from these authorities that placing a mark on the Internet from a location outside the UK can constitute use of that mark in the UK. The Internet is now a powerful means of advertising and promoting goods and services within the UK even though the provider himself is based abroad. The fundamental question is whether or not the average consumer of the goods or services in issue within the UK would regard the advertisement and site as being aimed and directed at him. All material circumstances must be considered and these will include the nature of the goods or services, the appearance of the website, whether it is possible to buy goods or services from the website, whether or not the advertiser has in fact sold goods or services in the UK through the website or otherwise, and any other evidence of the advertiser’s intention.”

100. It was common ground between counsel that this was the correct approach and that it was applicable to the present context as well.
101. Counsel for the Defendants submitted that the website was an offer to supply the world at large and was not sufficiently targeted at the UK. Counsel for Boegli submitted that the website was plainly targeted at English-speaking customers, at customers within Western Europe and at customers such as Imperial and Gallaher, and that was enough.
102. In my judgment the website is not enough without more to constitute an offer to supply rollers in the UK. At most, it is an offer to supply customers who include customers in the UK. But the website does not itself, at least in the parts relied on before me, state Darsail’s delivery terms. For all one knows from reading the website, they could be ex works Moscow, in which case there would be no supply or offer to supply in the UK.

#### *Supply of foil samples*

103. During the course of the negotiations between Mr Green and Darsail, Darsail sent Mr Green a catalogue containing samples of both DLE and HE foils (“the Embossing Catalogue”). Boegli contends that the supply of these samples infringed claim 8 of the Patent. It is common ground that Darsail supplied the samples in the UK and that they display the optical effect. Mr Pyzhov’s evidence was that these samples were produced using an embossing head referred to as “the experimental machine”. This



head is not connected to a driving system. Rather, the foil is pulled through it by hand and that turns the rollers. Accordingly, on my construction of integer [b](i) of claim 1, the device does not fall within the claim, although it has all the other features of the claim 1. Accordingly, the foil samples in the Embossing Catalogue do not fall within claim 8.

104. In addition, Darsail supplied Mr Green with a sample of foil bearing the name MAYFAIR (“the Mayfair foil”). The Mayfair foil was produced either by another customer or by Darsail when visiting the customer’s premises using DLE rollers. It is common ground that the Mayfair foil was supplied in the UK and that it displays the optical effect. Mr Pyzhov’s evidence was that the Mayfair foil was produced using a GD embossing head. The Defendants contend that Boegli has not proven that this device falls within claim 1 because there is no evidence as to the driving system. Mr Pyzhov’s evidence, however, was that it was a conventional steel on steel embossing head. On the balance of probabilities, therefore, the pressure roller was driven by means of the teeth on the driven roller. As I have construed integer [b](ii) of claim 1, it falls within the claim. Accordingly, the Mayfair foil falls within claim 8.

### Nielsen

105. Nielsen was published on 4 April 1973. The application was filed on 7 August 1970 claiming priority from a Danish application filed on 13 August 1969. There is a substantial dispute between the parties and their respective experts as to what Nielsen discloses, and therefore it is necessary to consider the disclosure with some care. I do not propose to refer to all the evidence on this topic, but I have borne it in mind in arriving at the following analysis.

106. The specification begins at page 1 lines 11-17 by saying:

“This invention relates to a method of embossing sheet material by passing it through a nip between a pair of complementary rollers each having a plurality of projections projecting from its surface, in the nip each projection of each roller engaging between projections of the other roller.”

At this stage the specification is unspecific as to the nature of the “sheet material” to be embossed.

107. The specification then describes a prior art method at page 1 lines 18-35:

“A method of and apparatus for embossing is known wherein the projections on the rollers are generally hemispherical and wherein before the sheet material is passed to the nip it is caused to pass between a considerable number of co-operating pairs of rollers having peripheral ridges and grooves whereby the material becomes grooved and its width is reduced. In this known method and apparatus the material is clamped between the peak of each projection of each roller and the bottom of a corresponding depression between the projections on the other roller and bulges are formed on both sides of the material. In this process no stretching of the material takes place and there

is obtained a material which may be expanded in all directions.”

As can be seen, this passage describes a process which takes place before the sheet material is passed to the nip, that is to say, before the embossing step. Although the nature of the sheet material is not specified, the process described is one that was employed for the manufacture of crêpe paper, kitchen roll and similar materials. As I understand the evidence, it is not a process which was generally used for packaging foils.

108. The specification then states the objects of the invention at page 1 lines 36-47 as follows:

“An object of the present invention is to provide a method, of embossing sheet material, which is cheaper than heretofore and an apparatus, for embossing sheet material, which is cheaper to manufacture than known machines, and is simpler.

A further object of the invention is to provide a method of and apparatus for producing an embossed sheet material which has good strength and good impact absorption capacity at right angles to the plane of the material.”

The first paragraph describes objects that might apply to any material. The second paragraph describes an object which is particularly relevant to paper materials of the kind described above.

109. The specification then contains four consistory clauses directed respectively to the method, apparatus, sheet materials and machine disclosed. The first consistory clause at page 1 lines 48-60, which corresponds to claim 1 of the patent, is in the following terms:

“According to the invention there is provided a method of embossing sheet material comprising passing it through a nip between a pair of complimentary rollers, each roller having a plurality of projections, each of generally frusto-pyramidal configuration with a four-sided bases, extending outwardly therefrom and each projection of each roller engaging, in the nip, between projections of the other roller, and wherein each projection has one pair of opposite corners thereof aligned parallel to the axes of the rollers.”

110. The second consistory clause at page 1 lines 61-72, corresponding to claim 5, is expressed in almost identical language. Instead of referring to “one pair of opposite corners”, however, it refers to “two opposite corners”. In my judgment it is clear that both expressions are intended to refer to the same arrangement rather than referring to two different arrangements.
111. The third consistory clause at page 1 lines 73-75, corresponding to claim 14, is simply for “sheet material embossed by the above method and apparatus”. The fourth

consistory clause at page 1 lines 76-79, corresponding to claim 11, is to a machine comprising the apparatus and other components.

112. The specification then describes the method in more detail at page 1 line 80 to page 2 line 16:

“In the method of the invention of the sheet material is preferably gripped between the sides of adjacent co-operating projections, the material overlying the peak of the projections not being gripped and therefore being stretched. By means of the stretching there may, furthermore, be obtained such a distribution of the material of the sheet that the sheet becomes thinner in the vicinity of the peaks formed therein while it completely or essentially retains its original thickness between the peaks so that it has a relatively large strength and impact absorption capacity at right angles to its plane. The method and apparatus of the invention have the advantage that only a single pair of rollers are necessary and no preliminary treatment (for example wetting of paper) is necessary.

When the method and apparatus are used with paper or other fibrous material, there may be obtained a soft, textile-like texture.

To effect the said stretching the projections may be so shaped that the sheet material which overlies the peak of each projection is not touched by the other roller. Thus the material abutting the peaks may move and be stretched. When the method and apparatus are applied to paper or other fibrous material the stretched peaks projecting on both sides thereof will have good moisture absorption capacity so that the material will be well-suited for use as napkins or similar purposes.”

This passage is clearly discussing the application of the method of the invention to paper or other fibrous materials to produce napkins or similar products. Furthermore, much of what is said in this passage would be inapplicable to packaging foils. For example, good moisture absorption capacity is not generally a requirement for packaging foils and would be positively undesirable for cigarette packaging foils.

113. At page 2 lines 17-62 the specification describes the shape of the projections. At lines 17-18 it says that they have “preferably convexly curved sides”. At lines 43-51 it states:

“The sides of the projections may, at least over their upper portions, be shaped like a part of an involute curve. Thus the projections can co-operate in a manner similar to involute cogs of a pair of involute cogwheels. A gentle treatment of the material is hereby affected so that intensive embossing may be carried out without ripping the material.”

114. At page 2 lines 63-77 the specification describes how the projections may be formed by making parallel grooves in two directions intersecting each other. It states at lines 65-67 that “both directions are oblique disposed at the same angle to a generatrix of the roller”. It goes on lines 76-77 to say that “the angle may be in the range  $38^{\circ}$  to  $41^{\circ}$ , preferably  $38.5^{\circ}$ ”. At page 2 lines 78-93 the specification discusses the dimensions of the projections and rollers.
115. At page 2 line 94 – page 3 line 73 the specification describes specific embodiments of the invention by reference to six drawings. Figure 1 shows a machine which includes apparatus according to the invention. This is shown and described as having two rollers each of which is sub-divided longitudinally into five sections. It was common ground between the experts that the general impression given is of a fairly large machine, larger than a typical cigarette packaging foil embossing head. This is consistent with a number of other indications in the specification. Nevertheless, it was also common ground that Nielsen does not give any dimensions or otherwise place any lower limit on the size of the machine.
116. At page 2 line 129 – page 3 line 13 the specification says that the lower roller is “fixedly journaled” while the upper roller “may be adjusted in relation to” the lower roller by means of a handwheel which turns a spindle.
117. Figure 3 shows the surface of one of the rollers. This is shown and described as having a plurality of frusto-pyramidal projections formed by machining two sets of parallel grooves, each at an angle of  $38.5^{\circ}$ . As the drawing shows, the result is that the pyramidal projections are oriented as diamonds. No other orientation is shown or described. This confirms that the first and second consistory clauses are both referring to the diamond orientation.
118. The specification concludes with the following passage at page 3 lines 74-100:
- “The invention is not limited to the precise details of the foregoing embodiment and variations can be made thereto. For example in the shown embodiment all the projections are identical, but the height and shape of the projections may vary, for instance so as to obtain a particular patterned effect. For instance it will be possible to provide some of the projections with a larger peak surface, which may be of importance when the embossed material is to be glued to a flat sheet. The material may be paper, fibrous sheet material, metal foil or thermoplastic sheet material. The two sets of grooves are arranged at the same angle to generatrix (g)-(g). The embossed material may be used for packaging, either directly or after being glued to one or two plain sheets, for resilient supporting purposes or for many other purposes. When the material is of paper or other fibrous material a textile-like effect will be obtained, as the product is easily flexible in all directions. Preliminary treatment of the material is normally not necessary but the material can be subjected to such treatment, for instance moistening, before embossing.”

It is common ground that among the options disclosed by this passage are to use the machine for embossing metal foil and to use the embossed material for packaging.

### Novelty

119. As was explained in *Synthon BV v SmithKline Beecham plc* [2005] UKHL 59, [2006] RPC 10, in order for an item of prior art to deprive a patent claim of novelty, two requirements must be satisfied. First, the prior art must disclose subject matter which, if performed, would necessarily infringe that claim. As it was put by the Court of Appeal in *General Tire and Rubber Co v Firestone Tyre and Rubber Co Ltd* [1972] RPC 457 at 486, “[t]he prior inventor must be shown to have planted his flag at the precise destination before the patentee”. Secondly, the prior art must disclose that subject matter sufficiently to enable the skilled addressee to perform it. In the present case the dispute is over the first requirement rather than the second.
120. Boegli contends that Nielsen does not disclose a device having the features of integers [a], [c] or [f] of claim 1. I shall consider these in turn.
121. So far as integer [a] is concerned, I agree that Nielsen UK does not disclose a device which is intended for satinizing packaging foils. It does disclose that the machine may be used to emboss packaging foils. In my judgment the expert evidence establishes quite clearly that the machine would be suitable for satinizing such packaging foils.
122. As to integer [c], the rollers are not resiliently pressed against each other, but they are suitable for being resiliently pressed together.
123. The key issue, therefore, is integer [f]. It is common ground that Nielsen does not disclose the optical effect. The Defendants contend, however, that if the skilled reader were to follow the instruction that “the height and shape of the projections may vary, for instance so as to obtain a particular patterned effect” when embossing packaging foil, the inevitable result would be to produce foil which exhibited the optical effect. In my judgment the evidence is to the contrary. First, the passage does not direct the reader to reduce the height of the teeth. One could increase the height of the teeth on one roller and make a corresponding indentation in the other roller. Secondly, even if the reader were to decide to reduce the height of the teeth, he could reduce the height to zero so as to produce patterns in that way. Thirdly and most fundamentally, as Mr Monaghan accepted, even if the reader decided to reduce the height of the teeth by some percentage, whether this would produce the optical effect would depend on the percentage reduction chosen, the nature of the foil and the pressure applied by the rollers.

### Obviousness

124. A patent will be invalid for lack of inventive step if the invention claimed in it was obvious to a person skilled in the art having regard to the state of the art at the priority date. The familiar structured approach to the assessment of allegations of obviousness first articulated by the Court of Appeal in *Windsurfing International Inc v Tabur Marine (Great Britain) Ltd* [1985] RPC 59 was re-stated by Jacob LJ in *Pozzoli v BDMO SA* [2007] EWCA Civ 588, [2007] FSR 37 at [23] as follows:

“(1) (a) Identify the notional ‘person skilled in the art’;

(b) Identify the relevant common general knowledge of that person;

(2) Identify the inventive concept of the claim in question or if that cannot readily be done, construe it;

(3) Identify what, if any, differences exist between the matter cited as forming part of the 'state of the art' and the inventive concept of the claim or the claim as construed;

(4) Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?"

125. In both *H. Lundbeck A/S v Generics (UK) Ltd* [2008] EWCA Civ 311, [2008] RPC 19 at [24] and *Conor Medsystems Inc v Angiotech Pharmaceuticals Inc* [2008] UKHL 49, [2008] RPC 28 at [42] Lord Hoffmann approved without qualification the following statement of principle by Kitchin J at first instance in the former case:

"The question of obviousness must be considered on the facts of each case. The court must consider the weight to be attached to any particular factor in the light of all the relevant circumstances. These may include such matters as the motive to find a solution to the problem the patent addresses, the number and extent of the possible avenues of research, the effort involved in pursuing them and the expectation of success."

126. I have already identified the person skilled in the art and his common general knowledge above.

127. The inventive concept of claim 1 may be summarised as a device for satinizing packaging foils comprising two embossing rolls capable of being driven individually or in common with flattened pyramidal or conical teeth where at least one roll has teeth with a lower height or differently shaped edges in order to produce the optical effect.

128. I have already identified the difference between Nielsen and claim 1, namely that Nielsen does not disclose a device which produces the optical effect.

129. In considering the question of obviousness, the starting point is that the Defendants do not suggest that the invention was obvious over common general knowledge. To the contrary, those in the art had been embossing packaging foil and producing signs by complete removal of teeth for decades, yet no-one had come up with the idea of producing foils which exhibited the optical effect. Nor had they devised a method for producing such foils. Mr Tarrant gave unchallenged evidence that when he first saw such foils he did not know how the effect had been produced.

130. The next point is that Nielsen was itself over 27 years old by the priority date of the Patent. One has to ask, if the invention was obvious why was it not made before?

131. Finally, Nielsen does not contain the slightest suggestion that the machine described could be used to obtain the optical effect.
132. The Defendants' answer to these points is to argue that they are immaterial, because if Nielsen were to be implemented in an obvious way, the skilled person would be led to produce a device falling within claim 1. In a nutshell, the Defendants say that it would be obvious to a skilled reader who was interested in the aesthetic appearance of the foil to implement Nielsen's instruction to vary the height to produce a pattern by reducing the height of some of the teeth and thereby producing the optical effect.
133. In my judgment this is a classic hindsight argument. It is only through reading Nielsen with knowledge of the invention that one can see the potential relevance of the instruction to vary the height of the teeth. As I have already said, Nielsen is primarily directed to machines for embossing paper articles such as napkins. As Mr Monaghan accepted, it was known to raise the teeth to produce patterns on kitchen roll and the like. A skilled person reading Nielsen would interpret that instruction, like most of the rest of the document, as being directed to materials of that kind. The Defendants' argument depends on the skilled reader combining that optional suggestion with the optional suggestion of using the machine for embossing metal foil. Next, the skilled reader must decide not to follow the conventional route for producing signs of removing all the teeth. Next, the skilled reader must decide to reduce the height of the teeth rather than increase them. Finally, the skilled reader must select an appropriate combination of tooth height, foil and roller pressure to produce the optical effect without having any inkling that the right combination will produce a novel effect. In my judgment it would not be obvious to take that sequence of steps without knowledge of the invention.

#### Liability of Mr Pyzhov

134. In *MCA Records Inc v Charly Records Ltd* [2001] E5WCA Civ 1441, [2002] EMLR 1 Chadwick LJ reviewed the law with regard to the liability of directors for torts committed by their companies. He concluded that the authorities supported the following propositions:
  - “49. First, a director will not be treated as liable with the company as a joint tortfeasor if he does no more than carry out his constitutional role in the governance of the company—that is to say, by voting at board meetings. That, I think, is what policy requires if a proper recognition is to be given to the identity of the company as a separate legal person. Nor, as it seems to me, will it be right to hold a controlling shareholder liable as a joint tortfeasor if he does no more than exercise his power of control through the constitutional organs of the company—for example by voting at general meetings and by exercising the powers to appoint directors. Aldous L.J. suggested, in *Standard Chartered Bank v. Pakistan National Shipping Corp.* (No. 2) [2000] 1 Lloyd's Rep. 218 at 235—in a passage to which I have referred—that there are good reasons to conclude that the carrying out of the duties of a director would never be sufficient to make a director liable. For my part, I would hesitate to use the word ‘never’ in this field; but I would accept that, if all that a director is doing is carrying out the duties entrusted to him as such by the company under its constitution, the circumstances

in which it would be right to hold him liable as a joint tortfeasor with the company would be rare indeed. That is not to say, of course, that he might not be liable for his own separate tort, as Aldous L.J. recognised at paragraphs 16 and 17 of his judgment in the *Pakistan National Shipping* case.

50. Second, there is no reason why a person who happens to be a director or controlling shareholder of a company should not be liable with the company as a joint tortfeasor if he is not exercising control through the constitutional organs of the company and the circumstances are such that he would be so liable if he were not a director or controlling shareholder. In other words, if, in relation to the wrongful acts which are the subject of complaint, the liability of the individual as a joint tortfeasor with the company arises from his participation or involvement in ways which go beyond the exercise of constitutional control, then there is no reason why the individual should escape liability because he could have procured those same acts through the exercise of constitutional control. As I have said, it seems to me that this is the point made by Aldous J. (as he then was) in *PLG Research Ltd v. Ardon International Ltd* [1993] F.S.R. 197.
  51. Third, the question whether the individual is liable with the company as a joint tortfeasor—at least in the field of intellectual property—is to be determined under principles identified in *CBS Songs Ltd v. Amstrad Consumer Electronics plc* [1988] A.C. 1013 and *Unilever plc v. Gillette (U.K.) Ltd* [1989] R.P.C. 583. In particular, liability as a joint tortfeasor may arise where, in the words of Lord Templeman in *CBS Songs v. Amstrad* at page 1058E to which I have already referred, the individual ‘intends and procures and shares a common design that the infringement takes place’.
  52. Fourth, whether or not there is a separate tort of procuring an infringement of a statutory right, actionable at common law, an individual who does ‘intend, procure and share a common design’ that the infringement should take place may be liable as a joint tortfeasor. As Mustill L.J. pointed out in *Unilever v. Gillette*, procurement may lead to a common design and so give rise to liability under both heads.”
135. Boegli rely on a number of facts as establishing that Mr Pyzhov is jointly liable with Darsail. These can be divided in two categories, those amounting to background and those relating to his involvement with the infringement I have found proved (namely the supply of the Mayfair foil).
  136. The background facts include the facts that (i) Mr Pyzhov is one of three equal shareholders and directors of Darsail, (ii) Darsail is a small company which has had a total of 9-12 employees during the relevant period, (iii) Mr Pyzhov would know about anything important that happened within the company, (iv) Mr Pyzhov was the principal inventor of Darsail’s roller technology, (v) Mr Pyzhov personally registered the domain name darsail.com and controls the contents of the website and (vi) Mr



Pyzhov was one of three named contacts on the website. In my judgment these facts are not enough in themselves to make Mr Pyzhov jointly liable.

137. The facts relating to Mr Pyzhov's involvement with the infringement are that (i) he personally dealt with Mr Green virtually throughout the negotiations, (ii) he together with his two co-directors made the decision to supply the Famous Flavor rollers to Mr Green and (iii) he made the decision to supply the Mayfair foil to Mr Green. In both cases he gave, or was involved in giving, the instructions to Darsail's staff. In my judgment these facts are sufficient to make Mr Pyzhov jointly liable, since he was personally involved in committing the infringing act. He thus went beyond merely performing his constitutional role in the company.

### Conclusions

138. For the reasons given above, I conclude that:
- i) Darsail has threatened to infringe and has infringed the Patent;
  - ii) the Patent is valid over Nielsen;
  - iii) Mr Pyzhov is jointly liable for the infringement.