

**OPINION UNDER SECTION 74A**

Patent	GB 2480275 B
Proprietor(s)	Touch Guard Ltd
Exclusive Licensee	
Requester	Sun Chemical Corporation
Observer(s)	WP Thompson
Date Opinion issued	22 April 2016

**The request**

1. The comptroller has been requested by Sun Chemical Ltd (“the requester”) to issue an opinion as to whether the matter of claim 1 of GB 2480275 B (“the patent”) extends beyond what was disclosed in GB 1007853.3 (“the application”) as filed and further whether claim 1 of the patent is a novel patentable invention in light of the common general knowledge in the art or in light of the following documents:

D1: Applicant’s letter of 24 February 2012 to the IPO.

D2: Extracts from “The Printing Manual”, 4<sup>th</sup> edition, 1988, R.H.Leach

D3: US 2004/084163 A1 (KULKARNI et al.)

D4: GB 2324801 A (VARN PRODUCTS COMPANY INC.)

D5: PrintWeek, May 2009

D6: Extract from the Manroland Benelux website

D7: English translation of the extract from the Manroland Benelux website

D8: Advertisement for a used Roland R 505 OB LV printing press

D9: JP H09-39369 A (DAINIPPON PRINTING CO. LTD.)

D10: English translation of JP H09-39369 A

D11: Marketing literature for the Lithrone S26/S29

D12: Komori press release from 2006

D13: EP 0749848 A1 (INAMURA PRINTING CO. LTD.)

## **Observations**

2. Observations have been received from WP Thompson (“the observer”) detailing how the matter of claim 1 of the patent does not extend beyond what was disclosed in the application as originally filed and further that claim 1 of the patent is a novel patentable invention with regard to the alleged prior art filed by the requester.

## **Observation in reply**

3. The requester has provided observations in reply to counter what has been said in the observations. The requester has also supplied a copy of D5 obtained from the British Library to counter argument put forward by the observer that D5 was not in the public domain prior to the filing date of the patent.

## **Allowance of the request**

4. The observer has argued that the request for an opinion should be refused in part under section 74A(3)(b) of the Act as the question of whether the matter of claim 1 of the patent extends beyond what was disclosed in the application as originally filed has already been considered in detail before grant of the patent.
5. The requester disagrees and argues that the Patent Rules were amended in October 2014 to expressly include extension of subject matter as a matter on which an opinion can be requested as set out in rule 93(6)(d). It was thus the intention of the legislator to expand the scope of opinions to the question of whether amendments introduced during examination result in an extension of subject matter beyond the application as filed.
6. The requester further argues that normal pre-grant examination of applications at the IPO does not constitute a relevant proceeding under rule 92 and thus not unallowable under rule 94(1)(b). The requester also draws attention to section 3.3 of the Opinions manual<sup>1</sup> in support of their argument.
7. I agree with the requester on both of the above points. I have no evidence before me to suggest that the question of added matter as outlined in the request was raised by the examiner in an argument pre-grant. Some element of added matter/support may have been raised by the examiner however I do not consider the opinion request on this question to be merely repeating arguments already considered pre-grant.
8. The examiner would have considered whether any of the amendments filed added matter beyond what was contained in the application as filed during the normal pre-grant examination. Therefore, as argued by the observer, the question of added

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<sup>1</sup> <https://www.gov.uk/government/publications/opinions-manual/opinions-manual>

matter would appear to have been sufficiently considered prior to grant of the patent. Rule 94(1)(b) states that the opinion request can be refused if the question upon which the opinion is sought appears to have been sufficiently considered in any "relevant proceedings". However section 3.3 of the Opinions manual states that "normal pre-grant examination of applications at the IPO or EPO does not constitute a relevant proceeding under Rule 92". Therefore I do not consider the examiner's consideration of added matter during the normal pre-grant examination stage to be a relevant proceeding under rule 92 and as such I cannot refuse the opinion request under rule 94(1)(b).

9. I consider the request for an opinion on the question of whether the matter of claim 1 of the patent extends beyond what was disclosed in the application as originally filed to be allowable.

## **The Patent**

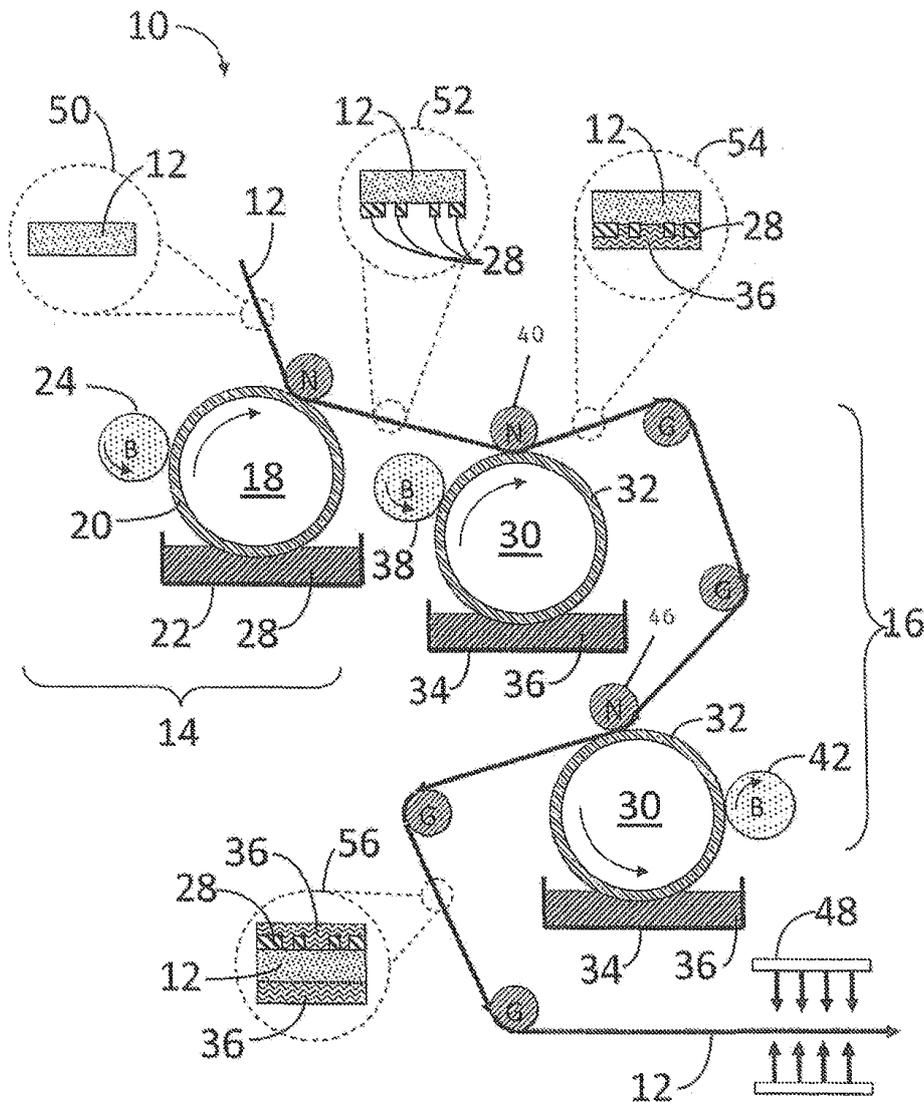
10. The patent, GB 2480275 B, is titled "Printed matter with antibacterial coating". It was filed on 11<sup>th</sup> May 2010, published on 16<sup>th</sup> November 2011 and granted on 17<sup>th</sup> October 2012. The patent remains in force.
11. The patent relates to printed matter, for example, documents, bank notes, books and magazines, advertising material and so on, which is intended to be held and manipulated by hand. As the printed matter is often handled by more than one person germs and bacteria can be transferred from one person to the next via the printed matter. The transfer of germs and bacteria, or cross-infection, is generally considered to be undesirable as it can be detrimental to health.
12. The patent discusses prior art methods of addressing this problem which include the use of antibacterial impregnated papers and/or inks. These solutions have not met with overwhelming commercial success for economic and efficacy reasons.
13. Antibacterial impregnated papers may require expensive new tooling in their manufacture and since only the surface of the paper comes into contact with the user, the relatively expensive antibacterial agents within the bulk of the material are largely ineffective. To impregnate the bulk of the paper, when only the surface of it comes into contact with users is therefore uneconomic and wasteful. On the other hand, antibacterial impregnated inks have also been shown to be largely ineffective since only a portion of the paper's surface is covered therewith, thereby leaving a larger proportion of the paper unprotected.
14. The invention disclosed in the patent is aimed at overcoming the above mentioned problems with the prior art by providing a more effective means of reducing cross-infection as a result of document and packaging handling. This is achieved by providing the printed matter with a substantially continuous outer layer over the entire area of the printed matter, wherein the outer layer comprises an antibacterial additive. The continuous outer layer overlies any print located on the printed matter. The antibacterial additive gives the printed matter antibacterial properties.
15. The invention therefore differs from the antibacterial impregnated papers and inks inasmuch as the antibacterial protection is derived from the use of a continuous

outer layer. As only the outer layer contains the antibacterial additive the problem of impregnated papers being uneconomic and wasteful due to antibacterial agents being located within the bulk of the material is overcome.

16. The use of a continuous outer layer also means that the entire surface of the printed matter (i.e. the un-printed regions between the print, and the print itself) is overlaid with an antibacterial layer. It therefore becomes difficult, if not impossible, to touch any unprotected part of the printed matter, thereby significantly reducing the risk of cross-infection.
17. The patent only includes a single embodiment describing a method of printing on a substrate with reference to a single figure 1.

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24 02 12



**FIGURE 1**

18. In Figure 1, a lithographic printing press 10 comprises a series of rollers arranged to guide and print onto a continuous web of paper 12. The paper web 12 generally travels from top left to bottom right in the diagram, contacting various rollers in turn. Rollers designated N are nip rollers, those designated G are guide rollers and those designated B are blanket rollers. The printing process comprises two main stages, namely a printing stage 14 and a finishing stage 16.
19. The printing portion 14 of the press 10 comprises a cylindrical print roller 18, which is arranged to rotate about its longitudinal axis. A printing plate 20, comprising non-printing (negative), hydrophilic (lipophobic) areas and printing (positive), hydrophobic (lipophilic) areas, is wrapped around, and bonded to, the cylindrical print roller 18.
20. During rotation of the print roller 18, the surface of the printing plate 20 passes through a bath 22 of liquid printing composition 28. The liquid printing composition 28 comprises oil-based ink and a water phase and selectively coats the printing plate 20: the oil-based printing ink 28 adhering to the positive printing areas of the printing plate; and the negative, non-printing areas of the printing plate being protected from ink 28 by the water phase.
21. As the print roller 18 rotates, it contacts a first blanket roller 24 which squeezes off water on the non-printing, negative area of the printing plate 20. This step prevents the water from wetting the paper 12.
22. A web of plain, unprinted paper 12, as shown in cross-section in inset 50, is fed into the press 10 from a roll (not shown) of stock and passes between the surface of the print roller 18 and a nip roller N. In this step, an impression of the ink 28 on the print roller 18 is thus transferred onto one side of the paper web 12, as shown in inset 52. The paper web 12 then progresses through the press 10 into the finishing stage 16.
23. The finishing stage 16 operates in a similar manner to the printing stage 14. A take up roller 30 having a hydrophobic surface 32, which passes through a bath 34 of oil-based finishing composition 36. The finishing composition 36 comprises an oil-based carrier and a suspension 0.1% suspension of silver ions, which coats the entire surface 30 of the take up roller 30. Excess finishing composition 36 is removed by a second blanket roller 38.
24. Meanwhile, the web of paper 12 is directed between the take up roller 30 and a second nip roller 40 thereby transferring a layer the finishing composition 36 over the entire surface of the paper web 12, and overlying the previously-deposited ink 28, as shown in inset 54.
25. The paper web 12 is then passed through a second finishing stage, which coats the opposite side of the web 12. The second finishing stage also comprises a take up roller 30 having a hydrophobic surface 32, which passes through a bath 34 of oil-based finishing composition 36. Again, the finishing composition 36 comprises an oil-based carrier and a suspension 0.1% suspension of silver ions, which coats the entire surface 30 of the take up roller 30. Excess finishing composition 36 is removed by a third blanket roller 42. The web of paper 12 is directed between the second take up roller 30 and a further nip roller 46 thereby transferring a layer the finishing composition 36 over the entire surface of the opposite side of the paper web 12, as shown in inset 56.

26. Finally, the paper web 12 is passed through a dryer 48 to cure/dry the ink and finishing composition. The drying step 48 may comprise the application of any one or a combination of heat and/or infra red radiation and/or ultra violet radiation. Depending on the type of ink used, the drying process initiates and drives reactive curing of the ink, and/or accelerates absorption and drying.
27. The patent has thirteen claims including a single independent claim and an omnibus claim. Independent claim 1 reads as follows:
- 1. A method of printing on a substrate of paper or paper board, the method comprising the following steps, carried out in a single pass of the substrate through a printing press: a printing step wherein one or more layers of print is/are deposited on at least one side of a substrate; and a finishing step wherein a liquid finishing composition is applied from a takeup roller to the entire surface of one or both sides of the substrate, and is cured or dried to form a continuous outer protective layer upon the substrate, the finishing composition comprising an antibacterial additive which gives the printed article antibacterial properties.*
28. I have not been asked to provide an opinion with regard to the novelty and/or inventive step of the dependent claims and therefore I will not consider them in this opinion.

## **Claim construction**

29. Before considering the documents put forward in the request I will need to construe the claims of the patent following the well known authority on claim construction which is *Kirin-Amgen and others v Hoechst Marion Roussel Limited and others* [2005] RPC 9. This requires that I put a purposive construction on the claims, interpret it in the light of the description and drawings as instructed by Section 125(1) and take account of the Protocol to Article 69 of the EPC. Simply put, I must decide what a person skilled in the art would have understood the patentee to have used the language of the claim to mean.
30. Section 125(1) of the Act states that:
- For the purposes of this Act an invention for a patent for which an application has been made or for which a patent has been granted shall, unless the context otherwise requires, be taken to be that specified in a claim of the specification of the application or patent, as the case may be, as interpreted by the description and any drawings contained in that specification, and the extent of the protection conferred by a patent or application for a patent shall be determined accordingly.*
31. And the Protocol on the Interpretation of Article 69 of the EPC (which corresponds to section 125(1) ) states that:
- Article 69 should not be interpreted in the sense that the extent of the protection conferred by a European patent is to be understood as that defined by the strict, literal meaning of the wording used in the claims, the*

*description and drawings being employed only for the purpose of resolving an ambiguity found in the claims. Neither should it be interpreted in the sense that the claims serve only as a guideline and that the actual protection conferred may extend to what, from a consideration of the description and drawings by a person skilled in the art, the patentee has contemplated. On the contrary, it is to be interpreted as defining a position between these extremes which combines a fair protection for the patentee with a reasonable degree of certainty for third parties.*

32. The claim is generally clear and the terminology used would be clear to a person skilled in the art. However there are a couple of parts that require a little discussion. Firstly the printing method is defined as being carried out in a “single pass” of the substrate through the printing press. Single pass printing is well known in the art of printing and a person skilled in the art would understand this to mean the substrate (whether a continuous web or not) passes through the parts of each printing and finishing apparatus only once.
33. The only other area I consider to need clarification is that the printed matter has a continuous “outer” protective layer which includes the antibacterial additive. The claim is clear in its wording that the protective layer is the outer layer. This is clearly what is intended and from reading the patent as a whole is the feature which overcomes the perceived problems with the prior art as discussed above in paragraphs 11-16. If the protective layer is not the outer layer then cross contamination cannot be avoided. I construe the claim to be limited in this way.

### **Does the matter of claim 1 extend beyond what was disclosed in the application as filed?**

34. Section 76(2) of the Act disallows amendment of an application which results in it disclosing matter extending beyond that which it disclosed when filed. When considering in *Bonzel and Schneider (Europe) AG v Intervention Ltd* [1991] RPC 553 whether an amendment to the description had the result that a patent as granted disclosed matter which extended beyond that disclosed in the application, Aldous J described his task as –

*(1) to ascertain through the eyes of the skilled addressee what is disclosed, both explicitly and implicitly in the application;*  
*(2) to do the same in respect of the patent as granted;*  
*(3) to compare the two disclosures and decide whether any subject matter relevant to the invention has been added whether by deletion or addition. The comparison is strict in the sense that subject matter will be added unless such matter is clearly and unambiguously disclosed in the application either explicitly or implicitly.*

35. As summarised by Jacob J. in *Richardson-Vicks Inc.’s Patent* [1995] RPC 568, “the test of added matter is whether a skilled man would, upon looking at the amended specification, learn anything about the invention which he could not learn from the unamended specification.”
36. The requester has argued that the test for extension of subject matter is whether the

subject matter now claimed is directly and unambiguously disclosed from the application as filed i.e. would the skilled person reading the specification have understood the particular combination of features present in the claims to have been described. The requester further states that this should not be confused with the test for obviousness. I have no issue with this line of argument.

37. The observer has argued that the skilled person reading the original specification will not take an overly literal approach but rather will consider the whole specification with a mind willing to understand. Again I have no issue with this argument however I would add that matter which is not disclosed, but which the skilled reader would find it obvious to add is not regarded as having been implicitly disclosed (see s.76.12 MoPP2). In Flexible Direction Indicators Ltd's Application [1994] RPC 207 Aldous, J observed that s.76 "is concerned with what is disclosed, not with that which the skilled reader might think could be substituted or what had been omitted".
38. The requester has highlighted six features in granted claim 1 which they consider to constitute added matter not disclosed in the application as filed:
1. Specifying that the finishing composition is applied to one side of the substrate;
  2. Deleting the requirement that the composition overlays the print;
  3. Specifying that the finishing composition is applied from a take up roller;
  4. Specifying that the method is carried out in a single pass of the substrate through a printing press;
  5. Specifying that the substrate is a paper or paper board substrate; and
  6. Addition of a curing or drying step.

I will consider each of these six features in turn.

### **1. Finishing composition is applied to one side of the substrate**

39. The requester has highlighted many areas in the specification as filed which describes the finishing composition as being applied to both sides of the substrate and has argued that this was clearly an essential feature of the invention as originally disclosed. It is argued that there is no disclosure of the protective layer being applied to only one side of the substrate.
40. The observer has not directed me to any specific passages in the specification as filed that would support the finishing composition as being applied to only one side of the substrate as opposed to both, but rather argues that as the specification discusses applying the finishing composition to items such as packaging and not just documents, the skilled person would understand the important thing is to prevent transfer by touch infection in respect of whichever surface is accessible, and this need not be both sides of a substrate (packaging for example would typically only be

touched on its outside).

41. I do not agree with the observer on this point. Packaging may primarily only be touched on its outside surface, however during the packing and unpacking process any inside surfaces may also be contacted.
42. Independent claims 1 and 17 of the application as filed contained the feature of “a substantially continuous outer layer overlying the print and the entire area of both sides of the substrate, the outer layer comprising an antibacterial additive.” The corresponding statements of invention also contain this wording. Furthermore the only described embodiment as illustrated in figure 1 also describes both sides of the substrate as being coated with the outer protective layer.
43. The description on page 7 of the application as filed discusses a number of alternative embodiments for the application of the protective outer layer and again describes the layer as being applied to both sides of the substrate.
44. In my opinion the skilled reader would have considered it an essential feature of the invention as described in the original specification as filed that the protective outer layer is applied to both sides of the substrate. I do not consider the example of the layer being applied to “packaging” as providing support for the layer only being applied to one side. In order to overcome the perceived problems with the prior art the skilled reader would understand the application as filed to be teaching the application of an outer protective layer on all surfaces of the substrate in order to prevent cross-contamination.
45. I therefore consider this feature to extend the matter of granted claim 1 beyond what was disclosed in the original specification as filed.

## **2. Deleting the requirement that the composition overlays the print**

46. The requester has again highlighted many areas in the specification as filed which describes the finishing composition as overlying the print and has argued that this was clearly an essential feature of the invention as originally disclosed.
47. The observer has provided little argument to counter this point and has not directed me to any specific passages in the specification as filed that would support the finishing composition not overlying the print. The observer merely states that it does not make any sense to conclude from the original specification that the finishing composition must always overlay the print.
48. Again I disagree with the observer. The feature of the substantially continuous outer layer overlying the print was again contained in both independent claims 1 and 17 of the application as filed. The corresponding statements of invention also contain this wording. Furthermore the only described embodiment as illustrated in figure 1 also describes the outer protective layer overlying the print.
49. Page 3, lines 1-7 of the description as filed reads:

*“The invention therefore differs from the antibacterial impregnated papers and inks inasmuch as the antibacterial protection is derived from the use of a continuous outer layer. The use of a continuous outer layer also means that*

*the entire surface of the printed matter (i.e. the un-printed regions between the print, and the print itself) is overlaid with an antibacterial layer. It therefore becomes difficult, if not impossible, to touch any unprotected part of the printed matter, thereby significantly reducing the risk of cross-infection.”*

The skilled reader upon reading this passage along with the fact that independent claims 1 and 17 as filed contained this feature would not consider overlying the print with the protective layer as anything other than an essential feature of the invention.

50. I also consider this feature to extend the matter of granted claim 1 beyond what was disclosed in the original specification as filed.

### **3. Specifying that the finishing composition is applied from a take up roller**

51. The requester argues that whilst the use of a take up roller is disclosed in the application as filed, it is only disclosed when describing the embodiment in relation to figure 1 and thus is only disclosed in the context of a lithographic printing press. Therefore the use of a take up roller in any other type of press is not disclosed.
52. The requester also argues that the use of a take up roller is only disclosed in applying an oil-based composition and there is no disclosure of a take up roller applying a water-based composition.
53. Again the observer has provided little argument to counter these two points. The observer merely states as before that it does not make any sense to conclude from the original specification that the take up roller feature cannot be applied generally.
54. As discussed in *Nokia Corporation v IPCOM GMBH & Co KG* (No. 3) [2013] R.P.C. 5 it is not permissible to introduce into a claim a feature taken from a specific embodiment unless the skilled person would understand that the other features of the embodiment are not necessary to carry out the claimed invention.
55. The feature of a take-up roller applying the finishing composition to the entire surface of the substrate has been taken from the embodiment described in relation to figure 1. As argued by the requester a take-up roller is only described in the context of a lithographic printing press applying an oil-based protective layer. However a person skilled in the art would understand that the other features of the embodiment are not necessary to carry out the claimed invention. This is borne out by the alternative printing methods disclosed in the application as filed that could be used to apply the protective outer coating e.g. web offset process, an analox process, a Heidelberg process or a Tresu process. Therefore the skilled person would consider the feature of a take-up roller applying the finishing composition to be generally applicable to the claimed invention absent the other features of the embodiment.
56. I do not consider this feature to extend the matter of granted claim 1 beyond what was disclosed in the original specification as filed.

#### **4. Method is carried out in a single pass of the substrate through a printing press;**

57. Similar to the argument above for feature 3 the requester has argued that the only disclosure of single pass printing is the context of the preferred embodiment which is directed to a lithographic printing press printing on a web of paper. The observer has countered with the same argument as for features 2 and 3 above.
58. Following my opinion on feature 3 above I do not agree with the requester on this point. Single pass printing is only disclosed in the context of the described embodiment of a lithographic printing press. Again however a person skilled in the art would understand that the other features of the embodiment are not necessary to carry out the claimed invention. Therefore the skilled person would consider the feature of single pass printing to be generally applicable to the claimed invention absent the other features of the embodiment.
59. I do not consider this feature to extend the matter of granted claim 1 beyond what was disclosed in the original specification as filed.

#### **5. Specifying that the substrate is a paper or paper board substrate**

60. The application as filed contains disclosure of the substrate to be printed as being paper or paper board. This disclosure is described in general terms and not in the context of the preferred embodiment. Therefore I do not consider defining the substrate as paper or paper board as extending the matter of granted claim 1 beyond what was disclosed in the original specification as filed.

#### **6. Addition of a curing or drying step**

61. Whilst the only explicit disclosure of a curing or drying step is described in relation to the embodiment and figure 1, on page 8, lines 1-2 the protective layer is described as comprising a curable/solidifiable liquid (oil or water based). This passage appears after the description of a number of embodiments for applying the protective i.e. lithographic press, web offset press and a doctor blade and chamber system. In my opinion, when reading the description as filed the skilled person would understand the passage on page 8 to be teaching that any type of protective coating, whether oil or water based, is curable/solidifiable and that any of method of applying the coating would include a curing/drying step. Therefore I do not consider this feature as extending the matter of granted claim 1 beyond what was disclosed in the original specification as filed.

#### **Combination of features**

62. The requester has also argued that a combination of a number of features disclosed in claim 1 and the dependent claims is not disclosed in the application as filed and thus extend the matter of the granted claims beyond what was disclosed in the original specification as filed.
63. This would appear to be the case however as the request asked for an opinion in relation to the matter of granted claim 1 extending beyond what was disclosed in the original specification as filed and as I have found that the matter of granted claim 1

does extend beyond what was disclosed in the original specification as filed, I will not consider the combination of any other features in this opinion.

## **Novelty**

64. I will now look at whether granted claim 1 is a novel patentable invention in light of common general knowledge and also in light of the alleged prior art filed listed above in paragraph 1.

### **Common general knowledge**

65. The requester has asked me to consider whether claim 1 is novel in light of the common general knowledge of a person skilled in the art. I do not fully understand this argument as it is more akin to a question of inventive step than one of novelty. However I will provide my opinion on the matter.
66. Before I can decide whether the invention defined by granted claim 1 is not novel in light of the common general knowledge of a person skilled in the art, I will consider what actually constitutes the common general knowledge of a person skilled in the art?
67. In *Raychem Corp's Patents* [1998] RPC 31 Laddie J explained common general knowledge as follows:

*"The common general knowledge is the technical background of the notional man in the art against which the prior art must be considered. This is not limited to material he has memorized and has at the front of his mind. It includes all that material in the field he is working in which he knows exists, which he would refer to as a matter of course if he cannot remember it and which he understands is generally regarded as sufficiently reliable to use as a foundation for further work or to help understand the pleaded prior art. This does not mean that everything on the shelf which is capable of being referred to without difficulty is common general knowledge nor does it mean that every word in a common text book is either. In the case of standard textbooks, it is likely that all or most of the main text will be common general knowledge. In many cases common general knowledge will include or be reflected in readily available trade literature which a man in the art would be expected to have at his elbow and regard as basic reliable information."*

68. I also consider the comments of Luxmoore J. in *British Acoustic Films* (53 RPC 221 at 250) to be of relevance in light of the reliance of the requester on D5:

*"In my judgment it is not sufficient to prove common general knowledge that a particular disclosure is made in an article, or series of articles, in a scientific journal, no matter how wide the circulation of that journal may be, in the absence of any evidence that the disclosure is accepted generally by those who are engaged in the art to which the disclosure relates. A piece of particular knowledge as disclosed in a scientific paper does not become common general knowledge merely because it is widely read, and still less because it is widely circulated. Such a piece of knowledge only becomes*

*general knowledge when it is generally known and accepted without question by the bulk of those who are engaged in the particular art; in other words, when it becomes part of their common stock of knowledge relating to the art.”*

69. Having considered the arguments of the requester and observer I consider that the method of granted claim 1 could be carried out using a conventional printing press. This position is further supported by the parts of D1 highlighted by the requester in their arguments and also by the disclosure on page 7 of the specification as filed that the outer layer could be applied using a known Heidelberg press.
70. I consider such known conventional machines to include in-line printing stations, overcoating stations and curing/drying stations that could carry out the method of claim 1 in a single pass. Documents D2, D5, D6, D7, D8, D11 and D12 provide evidence of this.
71. Despite the fact that the method of granted claim 1 could be carried out on a conventional printing machine, the inventive concept of granted claim 1 lies in providing a continuous outer protective layer comprising an antibacterial additive. It is this continuous outer protective layer that overcomes the perceived problems with the prior art impregnated papers and/or inks.
72. The requester relies upon D5 as evidence that it is common general knowledge that antibacterial agents can be added to known overprint varnishes to provide them with antibacterial functionality. D5 includes the following question and answer:

*“Can you do special coatings?*

*Yes. We have a wide choice of specialist coatings, including antimicrobial coating to prevent cross contamination in hospitals and public places.”*

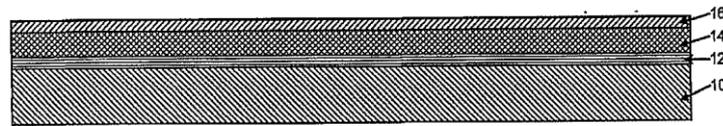
Is this disclosure that an overcoat varnish may include an antibacterial additive and to use such a varnish to provide a continuous outer protective layer on a substrate?  
I'm not convinced.

73. Even if I did consider D5 to disclose that an overcoat varnish may include an antibacterial additive and to use such a varnish to provide a continuous outer protective layer on a substrate is this evidence of it forming part of the common general knowledge of a person skilled in art? The requester states that PrintWeek is a fortnightly publication for the printing industry providing general news and insight concerning printing equipment and the printing business. It is alleged therefore to reflect the common general knowledge in the art. Considering the passages above from Laddie J and Luxmoore J I do not consider a single quote in an article sufficient to prove that it forms part of the common general knowledge in the art.
74. Therefore I do not consider granted claim 1 to be anticipated by the common general knowledge in the art.

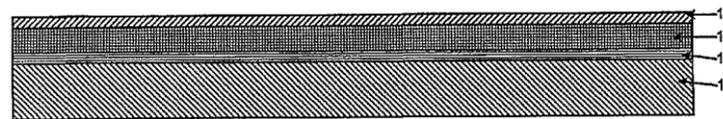
### **D3: US 2004/084163 A1**

75. D3 discloses a web 10 (preferably paper or paperboard) having a holdout layer 12 and a print receptive layer 14, 18, or 20. The print receptive layer 14, 18, or 20 will

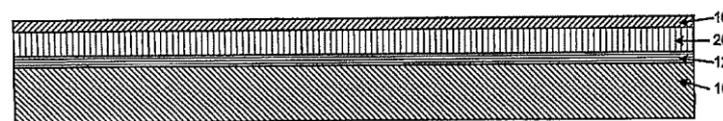
be described in more detail below. Layer 16 is preferably a printed image layer which is applied directly to or adjacent to the print receptive layer 14, 18, or 20 preferably by a printing process selected from a flexographic printer, a lithographic printer, a rotogravure printer, and the like. The layer 14 may include a biocidal agent.



**Fig. 1**



**Fig. 2**



**Fig. 3**

76. The requester argues that D3 anticipates granted claim 1 however the observer disagrees as the layer containing the biocidal agent, layer 14, is not an outer layer it does not.
77. The requester states that there is no requirement in claim 1 that the finishing layer may not itself be receptive to print or that the product may not be printed in further steps. I disagree with the requester on this point as granted claim 1 clearly requires the protective layer to be a “continuous outer layer”. This is the crux of the invention that allegedly overcomes the problems with the prior art as discussed above.
78. D3 does not disclose a finishing step that provides a continuous outer protective layer and hence does not anticipate granted claim 1.

**D4: GB 2324801 A**

79. D4 discloses a method having all of the features of granted claim 1 as set out in the requester’s initial submission. The coating composition includes a biocide which retards microbial growth. The argument centres around whether the biocide gives the printed article antibacterial properties as required by granted claim 1 or not.
80. The observer disagrees with the requester’s interpretation of D4 and argues that the biocide contained in the coating composition does not impart any antibacterial properties on the substrate but rather the biocide is used to inhibit microbial growth within the coating composition during storage.
81. The requester counters that granted claim 1 does not require a particular level of antibacterial activity but merely that the antibacterial additive functions to give the printed article antibacterial properties to some degree. I agree with the requester on this point.
82. D4 discloses all of the features of granted claim 1 and includes the required feature

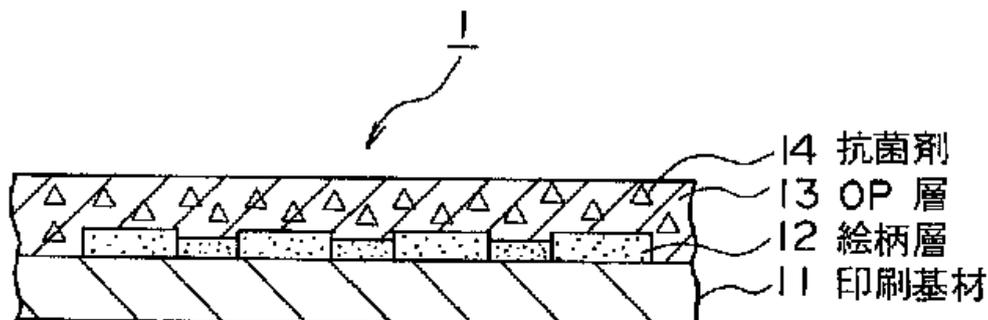
of a coating having an antibacterial additive which gives the printed article antibacterial properties immaterial to what degree and for what purpose. Therefore granted claim 1 is not considered to be novel in light of the disclosure of D4.

### D5: PrintWeek

83. Firstly there was argument over whether the PrintWeek article was in the public domain prior to the filing date of the patent. I consider the requester to have clearly shown that the article was first published on 29 May 2009, which is before the filing date of the patent.
84. In their initial submission the requester argues that the article in D5 discloses all of the features of granted claim 1. The observer disagrees and argues that D5 does not include the specific combination of features required in the method of claim 1.
85. The apparatus referred to in D5 i.e. the Manroland 505 LV printing press has all of the features necessary to enable it to perform the method of claim 1. The article also discloses antimicrobial specialist coatings have been applied using the press. However as discussed above in paragraph 74, does D5 disclose a method of printing including a finishing step wherein a finishing composition comprising an antibacterial additive is applied to a substrate to form a continuous outer protective layer? I would say it does not.
86. D5 does not disclose a method of printing including a finishing step that provides a continuous outer protective layer comprising an antibacterial additive and hence does not anticipate granted claim 1.

### D9: JP H09-39369 A

87. D9 discloses an antibacterial offset printed matter 1 including a printing backing 11, a printing layer 12, an OP (overprinted) layer 13 and an antibacterial agent 14. The antibacterial agent 14 is contained in the OP layer 13 which is applied over the top of the printing layer 12 and over the entire surface. The printing backing 11 may be a paper substrate. The object of the invention is to provide a thin film layer with antibacterial properties on the paper substrate in order to provide a product with antibacterial properties for use in hospitals or other areas requiring a sanitary environment to prevent infections. The printed matter is formed using an offset printing method.

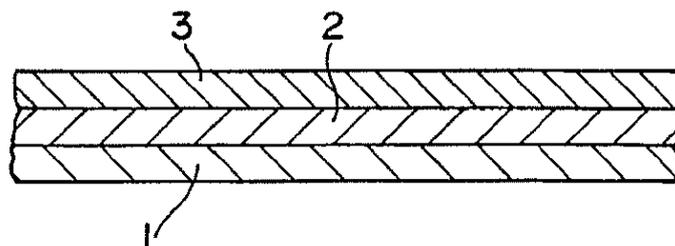


88. As discussed by the requester in their initial submission, paragraph [0019] discloses a practical example in which a paper substrate is printed using a Komori Lithrone 26 four-colour offset printing press. The requester has supplied D11 and D12 to show the features of the Komori Lithrone 26 printing press. The Lithrone 26 applies inks via rollers (see pages 10-11 of D11) and gives the option to lay down an overprint varnish in a one-pass inline production system (D11, page 13, middle paragraph).
89. The observer argues that D9 does not disclose the feature of “single pass” printing as required by claim 1. Furthermore even though D11 does refer to inline production systems being possible, this does not mean that such a feature would be used in D9.
90. The requester disagrees as the practical examples describe laying down the 3 colour printing pattern and then a fourth colour as OP varnish which contains an antibacterial agent. It is argued that the only feature of claim 1 not explicitly disclosed in D9 is the use of a take up roller to apply the OP varnish. However, this feature is implicit from the disclosure of the use of a four-colour offset press and the naming of the Lithrone 26 press.
91. I agree with the requester and consider D9 to disclose all of the features of granted claim 1. The skilled reader would understand that the examples are disclosing use of a four-colour Komori Lithrone 26 four-colour offset printing press. The skilled reader would consider the examples to be printing the 3 colours followed by the ink containing the antibacterial agent to be carried out in a single pass. Therefore granted claim 1 is not considered to be novel in light of the disclosure of D9.

**D13: EP 0749848 A1**

92. D13 relates to printed matter, such as a notebook cover, which is repeatedly touched with hands and might be contaminated by bacterium such as Escherichia coli, etc., which is sanitarly unfavourable. It is desirable to conduct an antimicrobial treatment to keep the printed matter clean. Therefore there is provided a method for antimicrobially treating printed matter in which a layer of an antimicrobial agent is formed on an outermost surface of paper material. Using a printing ink a design 2 is printed on a surface of cardboard 1 used as a notebook cover. Subsequently an OP varnish was coated by offset printing thoroughly on the printed layer 2 thus obtained so as to form an antimicrobial layer 3.

**FIG. 1**



93. The antimicrobial layer 3 on the outermost surface of the paper material 1 may be formed either by coating a paint containing a powdered antimicrobial agent therein or an aqueous solution or an aqueous suspension of the antimicrobial agent on the

paper after printing of the paper is conventionally conducted in advance.

94. The observer argues that D13 does not disclose all of the features of claim 1 as it does not disclose a printing step and a finishing step being carried out in a single pass of the substrate through a printing press.
95. The requester disagrees and considers the observer to have put undue limitation on the feature of single pass of the substrate through a printing press. It is argued that the phrase “single pass of the substrate through a printing press” implies that the substrate goes through a press once during which it is printed and coated. A “press” is any machinery that performs printing operations and will be a collection of modules that include print stations, coating stations, drying/curing stations and so on. D9 discloses that the design is printed on the paper in advance of coating with the paint containing the antimicrobial agent. There is no suggestion that the paper substrate goes through the machinery used to print and coat the substrate multiple times.
96. Whilst D13 does not disclose the printing and coating of a continuous web as described in the preferred embodiment and illustrated in figure 1 of the patent, I agree with the requester that the substrate in D13 is printed with design 2 and then subsequently passes through a coating station to be coated with antimicrobial layer 3. Therefore D13 does anticipate the wording of granted claim 1.

### **Inventive step**

97. Whilst I have not received any direct submissions from either party with regard to the inventiveness of claim 1, I have commented on inventive step above when considering whether claim 1 is not novel in light of common general knowledge in the art. However, as the opinion request sought an opinion on whether the invention of granted claim 1 of the patent is a novel patentable invention and as I have found claim 1 not to be novel I will not consider inventive step any further in this opinion.

### **Conclusion**

98. I am therefore of the opinion that the matter of granted claim 1 of the patent extends beyond what was disclosed in the application as filed and also that granted claim 1 is not novel in light of D4, D9 and D13.

### **Application for review**

99. Under section 74B and rule 98, the proprietor may, within three months of the date of issue of this opinion, apply to the comptroller for a review of the opinion.

Marc Collins  
Examiner

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**NOTE**

*This opinion is not based on the outcome of fully litigated proceedings. Rather, it is based on whatever material the persons requesting the opinion and filing observations have chosen to put before the Office.*