

bundles of leaflets or the like. The application explains that existing systems for automatically determining the correct postage rate for a package involve weighing the printed document and calculating the appropriate charge (which can then be printed on the item). By way of contrast, the present invention uses pre-stored print characteristics such as the weight of various paper types, covers, staples and the like to allow the weight of an item to be calculated without it having to be printed first. The characteristics of the printed item can then be modified before it is printed out to produce a printed item with an optimised postage weight. This optimisation can be to reduce the weight of an item to below the upper threshold for a particular rate of postage or to ensure that maximum content is included for a particular postage rate.

6 The claims before me were filed on 5 March 2012. There are 11 claims in total of which claim 1 is the only independent claim. It reads:

1. A method comprising:

receiving an electronic file defining a print item to be printed;

computing postage weight of the print item as a function of certain print characteristics of the print item when printed;

prior to printing, adjusting the electronic file in dependence on the computed postage weight to change the content of the print item whereby the changed content of the print item produces an optimised postage weight when printed; and,

causing printing of the print item having the changed content.

7 Discussion at the hearing was focussed on that claim and there is no suggestion that any of the dependent claims would be patentable should claim 1 be found to be excluded. I will therefore focus my attention on claim 1. The Applicants have though filed an alternate claim set which I agreed to consider should I find the claims as currently on file to be excluded.

The Law

8 Section 1(2) of the Patents Act 1977 sets out various things are not considered to be inventions for the purposes of the Act. It reads:

"It is hereby declared that the following (among other things) are not inventions for the purposes of this Act, that is to say, anything which consists of –

a) a discovery, scientific theory or mathematical method;

b) a literary, dramatic, musical or artistic work or any other aesthetic creation whatsoever;

c) a scheme, rule or method for performing a mental act, playing a game or doing business, or a program for a computer;

d) the presentation of information;

but the foregoing provision shall prevent anything from being treated as an invention for the purposes of this Act only to the extent that a patent or application for a patent relates to that thing as such.”

9 These provisions are designated in Section 130(7) as being so framed as to have, as nearly as practicable, the same effect as Article 52 of the European Patent Convention, to which they correspond. I must therefore also have regard to the decisions of the European Boards of Appeal that have been issued under this Article in deciding whether the present invention is patentable.

10 The approach to be adopted when deciding whether an invention relates to excluded matter has been considered by the UK courts on numerous occasions. In its judgment in *Aerotel*¹ the Court of Appeal reviewed the case law on the interpretation of section 1(2) and approved a four-step test for the assessment of excluded matter, as follows:

Step one: properly construe the claim

Step two: identify the actual contribution (although at the application stage this might have to be the alleged contribution)

Step three: ask whether it falls solely within the excluded matter

Step four: check whether the actual or alleged contribution is actually technical in nature.

11 In its subsequent judgment in *Symbian*², the Court made clear that the *Aerotel* test is not intended to provide a departure from the requirement set out in the previous case law that the invention must provide a “technical contribution” if it is not to fall within excluded matter.

12 From that I take it that I should apply the *Aerotel* test but that in doing that I must ask the question “is the contribution technical?”. Mr Exell accepted that to be the approach I should follow and indeed was at pains to impress upon me that the key issue to decide is whether the invention provides a technical contribution.

Applying the Aerotel test

13 The only issue of construction which arises in relation to claim 1 concerns the scope of the “content” which is changed prior to printing. More particularly it is not immediately clear how or indeed whether the scope of “content” might differ from print “characteristics” used elsewhere in claim 1. From paragraph 7 of the description, the characteristics used to calculate the postage weight are things like type of paper, type of cover, number of sheets, type of binding, lamination and the like. The scope of “content” is however a little harder to determine. Paragraphs 33 and 34 of the description suggest “content” encompasses physical attributes of the item akin to the characteristics mentioned above including paper type and number of pages. But they also suggest changing content encompasses things like reformatting the printed material. Other parts of the description suggest that

¹ *Aerotel Ltd v Telco Holdings Ltd & Ors* Rev 1 [2006] EWCA Civ 1371 (27 October 2006)

² *Symbian Ltd v Comptroller General of Patents* [2008] EWCA Civ 1066 (08 October 2008)

changing the content could involve including additional material such as advertising flyers.

- 14 At the hearing Mr Exell said he thought the broader interpretation was correct and envisaged changing content as encompassing anything that could be changed in the electronic file and which would have an effect on the print volume and hence weight of the printed document. Thus he envisaged “changing content” as encompassing things like variations in line spacing, font size or margins. I agree that the description points towards this interpretation and I will therefore assess whether the invention is excluded on the basis of that broad interpretation of “content”. It is not ultimately something on which this decision turns.
- 15 The second step in the *Aerotel* test is to identify the actual contribution made by the invention. At paragraph 43 of its judgment in *Aerotel* the Court of Appeal provided some guidance on what this step involves when it confirmed:

“it is an exercise in judgment probably involving the problem said to be solved, how the invention works, what its advantages are. What has the inventor really added to human knowledge perhaps best sums up the exercise. The formulation involves looking at substance not form – which is surely what the legislator intended.”
- 16 Mr Exell impressed upon me the importance of taking account of all aspects of the claim when identifying the contribution made by the invention. He said that the step of printing resulted in the creation of a tangible, physical entity and thus was a crucial element that could not be discounted from the contribution. Indeed without the actual step of printing (ie the creation of the item to be posted) the concept of “weight” was meaningless.
- 17 This he said distinguished the present invention from a number of other inventions found to be excluded by Patent Office hearing officers³ and indeed by the High Court when it considered *Macrossan’s application*⁴ where Mann J. indicated that including the step of printing documents would have no affect on the correct determination of the contribution.
- 18 Whilst I agree entirely that I should take account of the whole claim in identifying the contribution, as the above paragraph from *Aerotel* makes clear I need also to take care not to elevate the form of the claim above its substance. This invention does not make a contribution to the art of printing in the way that an improvement to the print head or paper transport mechanism would. Indeed, there is no suggestion in the application that the printing process per se is anything other than conventional. In my view what the inventor has really added to human knowledge is a particular way of determining the content of an item to be printed so that the weight of the printed item is optimised according to postal charge criteria. In short it is concerned with what is printed, not how it is printed. To give any more weight to the fact that as drafted the claim involves the printing out of items would be to elevate form over substance.

³ Heidelberger Druckmaschinen AG BL O/244/08 & Hewlett-Packard Development Company L.P BL O/422/10

⁴ Neal William Macrossan vs Comptroller General of Patents [2006]EWHC 705 (Ch)

- 19 In applying step 3 of the test I must determine whether that contribution relates solely to excluded matter or, conversely, whether that contribution is technical.
- 20 It is clear from the description that the method defined in claim 1 is implemented via a computer program. Indeed it is clear that it can form part of a desktop publishing program. That of course is not the end of the matter - it is well established that the fact that an invention is implemented via a computer program does not mean it is excluded from receiving patent protection. A program which makes a technical contribution is not excluded.
- 21 Mr Exell put it to me that the decision of the EPO Board of Appeal in *Vicom*⁵ pointed to the present invention making a technical contribution and being patentable. In particular he drew my attention to paragraph 5 of the Board's decision. That paragraph describes a patentable scenario (that is in contrast to an unpatentable mathematical method) in the following terms :
- “... if a mathematical method is used in a technical process, that process is carried out on a physical entity (which may be a material object but equally an image stored as an electric signal) by some technical means implementing the method and provides as its result a certain change in that entity.”
- 22 Mr Exell said that the Board's comments were not limited to the field of image processing but were of much wider applicability. He put it to me that that the present method results in the transformation of actual items or put another way results in a change to the physical properties of items – namely the weight of items that are to be printed. That, he said was exactly the sort of transformation that *Vicom* indicates provides a technical contribution and is patentable.
- 23 He also drew my attention to paragraph 38 of the judgment in *Halliburton* where HHJ Birss QC considered the inter relationship of the various excluded categories and said:
- “What if the task performed by the program represents something specific and external to the computer and does not fall within one of the excluded areas? Although it is clear that that is not the end of the enquiry, in my judgment that circumstance is likely to indicate that the invention is patentable. Put in other language, when the task carried out by the computer program is not itself something within the excluded categories, then it is likely that the technical contribution has been revealed and thus the invention is patentable”.
- 24 Mr Exell said that since none of the other categories of exclusion applied in the present case, *Halliburton* also supported the view that the present invention was not excluded as a program for a computer. In support of that he argued both at the hearing and in his later submissions that the invention was not excluded as a method for doing business. In particular he put it to me that it did not matter that the invention was driven by commercial or financial motivations, namely to optimise postage costs. As he quite rightly stated, there is a financial driver underlying most inventions.

⁵ *Vicom System Inc T 0208/04 O.J.EPO 14 [1987]*

- 25 As regards the interaction of the various exclusions, in its entirety paragraph 38 of *Halliburton* continues in the following terms:
- “I emphasise the word “likely” rather than “necessarily” because there are no doubt cases in which the task carried out is not within the excluded areas but nevertheless there is no technical contribution at all”.
- 26 Thus whilst the *Halliburton* judgment suggests that an invention that is not excluded under any of the other categories is unlikely to be excluded as a computer program, it clearly does not rule it out.
- 27 So is the contribution made by the present invention a technical one? In my opinion it is not.
- 28 *Vicom* of course provides the origin of the technical contribution test and has been heavily endorsed by the UK Courts. However, whilst I agree entirely with Mr Exell that the *Vicom* decision does not apply solely to image processing, the context in which the Board’s comments on “transformation” must be borne in mind when interpreting them. The transformation that the Board was considering was the more efficient filtering of an image. That it seems to me is an altogether more technical process than determining what content is to be included in an item to be printed out. Whilst the printed items produced as a result of performing the present invention may well be different from items produced by other methods, that difference results solely from changing the content of a print file (where “content” encompasses such things as the formatting of the document and any additional material such as advertising flyers).
- 29 In my opinion a program for determining the content to include in a printed item so as to change the item’s weight and thus make optimal use of postage charges does not provide a technical contribution and is not patentable. The invention of present claim 1 is in my view excluded as a program for a computer as such.
- 30 Moreover in my view the invention is also excluded as a method for doing business. Mr Exell put it to me that rather than relating to a method of doing business as such, the present invention provides a tool for use in business which is patentable in the same way that a method for transmitting faxes, or an improved chemical processing method producing less waste or a higher yield would be patentable. I do not agree. Whilst the claims are drafted in terms of a method of printing items, in my view the contribution made by the invention (as identified in paragraph 18 above) is a method of managing postal charges. That is achieved by varying the content of the printed material so as to make optimum use of associated postal charges, for example by including additional advertising flyers if that is cost effective. That contribution it seems to me falls entirely within the business method exclusion rather than being a technical contribution.
- 31 At paragraph 46 of the judgment in *Aerotel* the Court of Appeal made it clear that the fourth step – check whether the contribution is technical – may not be necessary because the third step should have covered it. I have specifically addressed the issue of whether the invention makes a technical contribution in step 3, but for the avoidance of any doubt I do not consider that the contribution is technical in nature. The contribution resides in a computer program for modifying a print file to optimise

postal weight. There is nothing technical in that beyond the involvement of the computer and there is abundant case law to show that that is not sufficient of itself. Whilst the invention results in items having different physical characteristics being produced, this is solely a result of what the printer is instructed to print. The contribution is not to my mind technical in nature.

The Dependent Claims and Alternative Claim Set

- 32 As I have indicated above there is nothing in any of the dependent claims which would lead me to reach a different conclusion as to their allowability compared to claim 1.
- 33 The Applicants have also filed an alternative claim set which I agreed to consider if I found the claims as presently on file to be excluded. That alternate claim set again includes a single independent claim which reads as follows:

1. A method comprising:

receiving an electronic file defining a print item to be printed;

computing postage weight of the print item as a function of certain print characteristics of the print item when printed;

prior to printing, determining a change in the content of the document print item to maximise document length with respect to a predetermined target postage weight category whereby the changed content of the document print item produces a maximised postage weight when printed which is less than or equal to a maximum weight of the predetermined target postage weight category; and and,

causing a printing system to print the print item having the changed content.

- 34 At the hearing I said I thought the differences between this claim and that considered above would have no material effect on the decision as to whether it was excluded or not. Having considered them further I still consider that to be the case. Merely specifying that the content change is maximising the length of the printed document and that the printing of the document is effected through a printing system does not affect the substance of the invention. In my opinion this formulation of the invention still does not provide a technical contribution and would also be excluded as would any of the claims that are dependent on it.

Decision

- 35 I have found that the invention defined in claim 1 as presently on file is excluded as both a program for a computer and a method for doing business. I have not been able to identify any saving amendment that could form the basis of a valid claim, either in the alternate claim set I was asked to consider or in the specification as a whole. I therefore refuse the application under section 18(3) for failure to comply with section 1(2)(c).

Other matters

- 36 At the hearing the examiner indicated that in not pursuing novelty and inventive step objections against claim 1 as amended she had given "content" a narrower

interpretation than I have afforded it. If my decision to refuse this application were to be overturned on appeal, the issue of whether claim 1 is indeed distinguished over the prior art would need to be re-visited.

Appeal

- 37 Under the Practice Direction to Part 52 of the Civil Procedure Rules, any appeal must be lodged within 28 days.

A BARTLETT

Deputy Director acting for the Comptroller