

11 May 2007

PATENTS ACT 1977

APPLICANT Swapstream Limited

ISSUE Whether patent application number GB
0304637.2 complies with section 1(2)(c)

HEARING OFFICER A C Howard

DECISION

Introduction

- 1 This decision concerns patent application GB0304637.2 (hereafter “the application”) in the name of Swapstream Limited (“the applicant”), which is entitled “Real time trading” and was filed on 28 February 2003 without claim to priority. The application was published on 1 September 2004 under serial number GB2398895.
- 2 In a combined search and examination report issued on 24 July 2003 the examiner raised the objection that the claims of the application were directed to a program for a computer and/or a method for doing business and were accordingly excluded from patentability under section 1(2)(c) of the Patents Act 1977 (“the Act”). Objections that certain of the claims were obvious and/or lacked novelty over three cited documents were also made.
- 3 In the course of the correspondence which followed, an alternative set of claims was filed, but it did not prove possible to persuade the examiner to drop his objections as to excluded subject-matter. A hearing was therefore offered.

Consideration of the questions of novelty, inventive step and other more minor objections was deferred pending determination of the excluded matter issue.

- 4 However, before the hearing could be appointed, on 27 October 2006, the Court of Appeal delivered its judgment in the matters of *Aerotel Ltd v Telco Holdings Ltd* and *Macrossan's Application* [2006] EWCA Civ 1371 (hereafter "*Aerotel/Macrossan*"), in which it reviewed the case law on the interpretation of section 1(2) and proposed a new four-step test (explained below) for the assessment of patentability. In a notice¹ published on 2 November 2006, the Patent Office stated that this test would be applied by examiners with immediate effect.
- 5 In the light of these events, a further examination report was issued on 22 November 2006 containing a fresh analysis of the invention in accordance with the test approved in *Aerotel/Macrossan*, and a hearing was subsequently appointed.
- 6 Shortly before the hearing was due to take place a skeleton argument was received, which included a request that the hearing be conducted on the basis of an attached single amended claim (the right being reserved to file a full claim set should this be found to be acceptable). The skeleton made a proposal for what the "contribution" of the invention should be regarded as, and advanced arguments in support of the patentability of the new claim with reference to *Aerotel/Macrossan*.
- 7 The examiner, in an e-mailed response timed at 17.21 on 22 March, accepted the applicant's proposed "contribution" with regard to the amended claim but argued that the objection of excluded matter had not been overcome. The examiner did however indicate that the amended claim gave rise to no objections as regards support or added matter.
- 8 The hearing took place before me by video link on 26 March 2007, on which occasion counsel for the applicant was Mr Richard Davis. Present for the instructing Patent Attorneys, Messrs Brookes Batchellor, were Mr Nigel Schindler and Mr Ian Russell, and the examiner was Mr Kalim Yaseen.

The application

¹ <http://www.patent.gov.uk/patent/p-decisionmaking/p-law/p-law-notice/p-law-notice-subjectmatter.htm>

- 9 According to the specification, the invention relates to a method of facilitating the operation of markets for financial instruments such as “SWAPS”. A key feature of markets such as this is that value attaches to participants’ individual price/order information and it is therefore important to control access to or distribution of such information. This is achieved in the invention by providing, in a system comprising a central host computer and a network of client computers, a central “cross-mapped permissions filter”, which uses permission data associated with each of the clients to filter data received from and transmitted to them. This means that, typically, each client will see a different market view depending on their associated permission sets.

The claim under consideration

- 10 The new claim filed just before the hearing reads as follows:

“1. A system for the real-time execution of transactions involving financial instruments comprising a central host computer and a network of client computers, wherein each client computer has an associated permission set defining what information it is permitted to see and who information entered on that client computer is permitted to be seen by;

wherein each of the client computers comprises:

means for entering orders / price information

means for routing said entered information from the client computer to the central host computer

and means for receiving information transmitted from the central host computer;

and wherein the central host computer comprises:

means for applying a cross-mapped permissions filter to the received data in accordance with the permission set associated with the client computer from which the data was received and the permission set associated with the client computer to which the data is to be retransmitted; and

means for re-transmitting the permission filtered data from the central host computer to the respective client computer.”

The law

- 11 The examiner has objected that the invention is excluded from patentability under section 1(2) of the Act, in particular that it relates to a program for a computer and/or a business method under section 1(2)(c). The relevant parts of this section read (emphasis added):

1(2) 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 purpose of this Act only to the extent that a patent or application for a patent relates to that thing as such.

- 12 These provisions are designated in section 130(7) as being so framed as to have, as nearly as practicable, the same effect as the corresponding provisions of the European Patent Convention (EPC), i.e. Article 52.

Interpretation

- 13 As mentioned above, the correct approach to assessing patentability under section 1(2) is set out in the judgment of the Court of Appeal in *Aerotel/Macrossan*. This comprises a four-step test as follows:

- (1) properly construe the claim
- (2) identify the actual contribution
- (3) ask whether it falls solely within the excluded subject matter
- (4) check whether the actual or alleged contribution is actually technical in nature.

- 14 In reaching its judgment, the Court fully considered all the precedent UK case law

in this area. Following the principles discussed in *Colchester Estates (Cardiff) v Carlton Industries* [1986] 1 Ch 80, [1984] 2 All ER 601 and [1984] 3 WLR 693, *Aerotel/Macrossan* must be treated as a definitive statement of how the law on patentable subject matter is now to be applied in the UK. It should not therefore be necessary to refer back to previous UK or EPO case law regarding this issue.

Application of the approach

- 15 The Court saw the first step, properly construing the claim, as something that always has to be done and involves deciding what the monopoly is before going on to the question of whether it is excluded.
- 16 The Court equated the second step to identifying what the inventor has really added to the stock of human knowledge. The Court re-affirmed that in identifying the contribution, it is the substance of the invention that is important rather than the form of the claim adopted.
- 17 What the applicant alleges has been contributed is not conclusive and ultimately it is the actual contribution that counts. However, the Court acknowledged that at the application stage, it is quite in order to consider the tests on the basis of the alleged contribution. Thus the results of the search carried out within the Office, as well as the prior art acknowledged by the applicant, will be relevant to this question.
- 18 The third step comprises deciding whether the contribution is solely unpatentable subject matter, that is to say the matter comprised in the list in the statute. The Court preferred to refer directly to the wording of Article 52(2) EPC which differs subtly from the respective provision in the Act, but they made clear that this makes no difference in practice to the effects of the provision. The Court saw “solely” as merely an expression of the “as such” qualification of Article 52(3). Thus if the contribution falls wholly within one or more of the listed categories, it is not a patentable invention. Otherwise, it passes the third step
- 19 Mr Davis spent some time and care on his submissions to me about the relationship between the third and fourth steps and the correct approach to the assessment of “technical”. He was particularly critical of the approach adopted by the Office whereby the fourth step seemed to have become regarded as optional if an invention failed at step three. He said that a consideration of “relevant technical effect” was mandatory in line with the precedent cases of *VICOM* (1986) T208/84, *Merrill Lynch* [1989] RPC 561 and *Fujitsu* [1997] RPC 608 which

had been followed by *Aerotel/Macrossan* and which remained good law. In the view of Mr Davis, the Office was in effect “squeezing” the questions of “technical” and excluded fields together into the third step.

- 20 I believe that this is a misinterpretation of the Office’s approach, and that moreover what the Office actually does is fully consistent with what the Court of Appeal said in *Aerotel/Macrossan*. To quote from that judgment:

[46] “The fourth step – check whether the contribution is “technical” – may not be necessary because the third step should have covered that. It is a necessary check however if one is to follow *Merrill Lynch* as we must.

[47]. “As we have said this test is a re-formulation of the approach adopted by this court in *Fujitsu*: **it asks the same questions but in a different order** [emphasis added]. *Fujitsu* asks first whether there is a technical contribution (which involves two questions: what is the contribution? is it technical?) and then added the rider that a contribution which consists solely of excluded matter will not count as a technical contribution.”

- 21 What I take from this is that at step three I should assess whether the invention is covered by one of the statutory exclusions, and only then proceed to the fourth step. While this is termed “a necessary check”, it will in most cases give the same answer. While it is conceivable that an invention could pass step three but still fail at step four (because the list of exclusions is not exhaustive), an invention which fails the third step can never be “redeemed” by passing the fourth step. This must be so, because the alternative would be to elevate step four to the status of the only important question, and thus negate any need for the third step. Such a conclusion would clearly be contradictory to *Aerotel/Macrossan*, which I must follow.

Construing the list of excluded matter

- 22 In paragraph 12 of *Aerotel/Macrossan*, Jacob LJ said that Article 52(2) is not a list of exceptions. Rather, it sets out positive categories of things which are not to be regarded as inventions. Accordingly, the general UK and European principle of statutory interpretation that exceptions should be construed narrowly does not apply to them.

Benefit of the doubt

23 In paragraph 5 of *Aerotel/Macrossan* it is made clear that whether the contribution of an invention falls within the excluded matter is a question of law which should be decided during prosecution of the patent application. It is not a question on which formally there can be any doubt of which applicants could be entitled to the benefit. On the other hand, giving benefit of reasonable doubt at the application stage is appropriate where debatable questions of fact arise.

Argument and analysis

24 Regarding step 1 of the *Aerotel/Macrossan* test, the construction of the claim presents no difficulty. It is a system suitable for carrying out the real-time execution of transactions as defined, comprising a central computer and a network of clients, and having the features set out therein.

25 Moving to the second step, as I indicated above, there is agreement between the examiner and applicant on how the contribution is to be summarised. This is expressed as “the application in a multiuser system of permission set cross-mapping at the server to facilitate and permit appropriate data communication between client terminals.” I shall accept this at face value for the moment.

26 At this point, I should turn to step three, is the contribution solely in an excluded area? According to the Court of Appeal, this should be a straightforward question.

27 The examiner was of the view that the contribution as expressed amounts to a conventional network programmed in a new way and is therefore excluded as a computer program and a business method. However Mr Davis suggested to me that this is not the correct way to apply the test. He referred to paragraph 88 of *Aerotel/Macrossan*, (which quotes with approval the EPO Technical Board decision in *IBM/Data Processing Network* (1988) T6/83) in support of the contention that “merely because it is known hardware and the only difference is software, that does not mean it fails step three”. Mr Davis urged me to consider not simply whether the contribution is embodied as a computer program, but what it is that it does over and above the ordinary running of computers.

28 With respect to the possible exclusion as a business method, Mr Davis suggested that, at a sufficient level of abstraction, virtually anything useful could be regarded as part of a business method. He illustrated this with the example of a bulldozer which could be regarded as a tool used by a construction company to make money. He contended that just as this line of reasoning is not appropriate for physical tools, neither is it in the case of the present invention, which he urged

me to regard as contributing a tool to be used in a business method, rather than the method itself.

29 While I do not dispute that Mr Davis should be free to raise such arguments, I consider them to be beside the point with regard to step three. In *Aerotel/Macrossan*, Jacob LJ said at paragraph 43:

“The second step – identify the contribution - is said to be more problematical. How do you assess the contribution? Mr Birss submits the test is workable – 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.”

30 This underlines to me the importance of getting the second step right. It is the very consideration of factors such as the problem solved by the invention and how it works which will inform the step of identifying the contribution. For example if an invention is concerned with improving the efficiency of a particular stage in a production process, the contribution would not be characterised as solely a business method even though an important result would be greater profit. Similarly, even if a method which is implemented on conventional computer hardware could be reduced to a set of abstract software components, one would only define the contribution in this way if it is appropriate to do so, taking into consideration the sort of factors mentioned above. Well-known examples of patentable inventions implemented in software can be found in many fields, such as anti-lock braking systems.

31 This then is the nub of the issue. If the contribution, once properly characterised, is no more than a set of software components in a conventional computer or network, this will point to the conclusion that the invention falls within the excluded field of a computer program. On the other hand, it may be more than a computer program, but still contribute nothing outside the field of a business method, in which case it will be excluded on that basis.

32 Thus, in order to give proper consideration to the arguments put to me by Mr Davis, I need to step back and check them out against the contribution.

33 In the view of the examiner, “the architecture of the invention is dictated by the underlying business method”. Mr Davis did not accept this interpretation, arguing

that the business method aspects can be disregarded while still leaving a network architecture which contributes something new having a technical character. As I remarked above, he likened it to a “tool” for use in business using the illustration of a bulldozer as an analogy. He said:

“... what we are really pinning our contribution on is computers running more efficiently. The cross-mapping allows each member of the system to specify their permission set. That is then cross-mapped. And following that, the entirety of the system can be serviced. That is a more efficient way of running known computers.”

34 In the context of a comparison with the previous, manual, system of brokers communicating by telephone he said:

“Now if all we did was [to] put that in electronic form, whereby at the input terminal there was filtering dependent upon, on a one-to-one basis, the sender and the receiver, and put that through the system, the examiner would be right: there would be nothing over and above the fact that you were doing it with a computer. But what is different here is that we don’t do it that way. We send everything to a central repository, plus to that repository we send a permissions set associated with the receiver, and that is then processed at the central repository. Now that is a different way of doing things, and it is a different way of doing things that has technical advantages. It is a lot more efficient, because once you have specified a permission set once, that’s fine, you can just send all the data and it can go to all the various recipients depending on their permissions set.”

35 I accept that the invention does something different to merely computerizing the old manual trading system. The question is, however, what is different and what bearing does this have on the contribution?

36 There is no indication that the particular combination of elements as described or claimed facilitates the operation of the network in general. What is said in the agreed definition of the contribution is that the system “facilitate[s] and permit[s] *appropriate* data communication” (emphasis added). What is “appropriate” is of course all-important. The only pointers in the specification as to what is meant by “appropriate” are concerned with the implementation of the business method. The trading system works in the way it is supposed to by controlling the market view that each client has. It is true that the filtering action restricts the transmission of certain data, but this is not for any technical reason, but rather in furtherance of

the business method. This is an important difference to an innovative “tool” such as an improved telephone or computer network which, although it can be used in business, and indeed may be so intended, is characterised by features which facilitate communications in general.

37 I should mention two cases to which Mr Davis referred me in which the alleged inventions were found to not be excluded on the basis of facts which seem superficially similar to those of the present application. These are *Aerotel* itself and *RIM v Inpro* [2006] EWHC 70 (Pat). However I do not consider either of them to be of assistance on this point. In *Aerotel*, the contribution was found to be a new system and it was clearly regarded as significant that a new physical combination of hardware was involved (see paragraph 53 of the Court of Appeal’s judgment). This is a major distinction from the present application. In *RIM*, the decision on excluded matter was made by Pumfrey J in the High Court without the benefit of the Court of Appeal’s judgment in *Aerotel/Macrossan*, but in any case I note that the contribution (in terms of computers running faster and transmitting information more efficiently) was clearly not linked to the business method in the same way as we have here.

38 Taking all the above into account, I conclude that the contribution of the candidate claim, as expressed in the statement proposed by Mr Davis and accepted by the examiner, falls wholly within the excluded area of a computer program, and that even if, taking account of the arguments advanced by Mr Davis, and with suitable reformulation with reference to the aspect of facilitating and permitting appropriate data communication, it could be regarded as extending beyond solely a computer program, it would still be no more than a method of doing business.

39 I do not believe I have to apply the fourth step for the reasons previously explained, but it is nevertheless clear to me that the contribution, however expressed, cannot be other than non-technical.

Conclusion

40 I have found that the candidate claim filed on 22 March 2007 makes a contribution which lies wholly within the subject-matter excluded from patentability under section 1(2)(c), and the claim is therefore not allowable.

41 I have read the specification and am of the opinion that no amendment is possible which would result in an allowable claim. I therefore refuse the

application under section 18(3).

Appeal

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

A C HOWARD

Deputy Director acting for the Comptroller