

20th November
2008

PATENTS ACT 1977

APPLICANT January Patents Limited

ISSUE Whether patent application number GB
0414654.4 complies with section 1

HEARING OFFICER Mrs S E Chalmers

DECISION

Introduction

- 1 The application entitled “Electronic point of sale apparatus for mobile telephone credit purchase” was filed on 30 June 2004 claiming a priority date of 23 January 2004 from an Irish application. It was published on 27 July 2005 as GB 2410364. The compliance period has been extended twice and the compliance date is now 23 November 2008.
- 2 Despite amendment of the claims during substantive examination, the applicant has been unable to persuade the examiner that the invention is patentable and involves an inventive step as required by Sections 1(2)(c) and 1(1)(b) of the Act. A hearing was held before me on 29 September 2008 to resolve these issues. The applicants were represented by Mr Denis McCarthy assisted by Mr Jonathan White of the patent attorneys Ansons. The inventors Mr Gerard Concannon (Director of January Patents), Mr Michael Cattigan and Mr Dominic Feeney and the examiner, Mr Ian Blackmore, also attended.

The invention

- 3 The invention concerns an electronic point of sale (EPOS) apparatus for the purchase of mobile telephone credits for use in a retail environment. As the specification explains, the purchase of mobile telephone credits or “top ups” is normally processed by a specifically dedicated terminal unit. When a customer wishes to buy credit, the operator must move from their main point of sale terminal, operate the dedicated terminal unit to obtain the required amount of “top up” in the form of a voucher and then return to the main point of sale terminal to process the payment by the customer for the “top up”. This is time-consuming for both operator and customer as well as taking up work space as it requires multiple apparatus to carry out the transactions as well as the duplication of

ancillary equipment and functions (such as printers, paper, phone lines and maintenance). The invention provides a combined EPOS machine which not only prints the mobile phone credit “top-up” voucher but also prints a receipt for the “top up” voucher together with any other retail purchases.

- 4 The claims I was asked to consider at the hearing were filed on 25 September 2008 along with a skeleton argument. There are four claims comprising one independent claim. Claim 1 reads (amendments underlined):

An electronic point of sale (EPOS) apparatus for mobile telephone credit purchase, the EPOS apparatus comprising a central processing unit and associated memory, a printer, a user input device and a display unit connected to the central processing unit; the EPOS apparatus being linked to a plurality of software control modules for facilitating different retail functions, with one software control module being operable to provide mobile telephone credit for a customer and invoice the purchase of the credit on the EPOS apparatus;

the module for telephone credit comprising means for selecting a top-up function for mobile telephone credit; means for displaying a menu of available mobile telephone networks; means for selecting a telephone network; means for selecting a denomination of credit for the selected telephone network; means for verifying the credit denomination selected; and means for adding the value of the purchase to a customer’s transaction;

the apparatus being operable to print a “top-up voucher” having the selected credit denomination, the “top-up voucher” having a unique identifier to enable a customer to input credit into their telephone account, and

the apparatus being operable to print the value of the “top-up voucher” onto a customer’s receipt, so that the completed transaction can be conducted by a user through the EPOS apparatus as a single transaction or as part of multiple transactions involving the retail of a plurality of products in addition to the “top-up voucher” and

whereby the hardware arrangement of the apparatus of a single central processing unit, printer, user input device and display unit provides a combined apparatus for retailing and printing a “top-up voucher” and printing a receipt for a single retail transaction consisting of the “top-up voucher” or multiple retail transactions comprising the “top-up voucher” and one or more other products.

- 5 At the hearing, Mr McCarthy argued the issues of patentability and inventive step separately. I will do the same in my decision. I also had the benefit of a demonstration of the apparatus by the inventors which has greatly helped my understanding of the invention and how it works. In particular, I was able to view the printing of a “top-up voucher” and the printing of an itemised receipt listing the top-up voucher together with other retail items purchased and I have placed examples of these on the official file.

Patentability

The law and its interpretation

- 6 The examiner has reported that the application is excluded from patentability under section 1(2) of the Act, as relating to a computer program and a method for doing business as such. The relevant parts of section 1(2) read:

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) ...

(b) ...

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

(d) ...

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.

7 As regards the interpretation of section 1(2), my approach will be governed by the judgment of the Court of Appeal in *Aerotel/Macrossan*¹ (“*Aerotel*”) and the Practice Notice issued by the Patent Office on 2 November 2006² as amended³. In *Aerotel* the court reviewed the case law on the interpretation of section 1(2) and approved a new four-step test for the assessment of patentability, namely:

1) Properly construe the claim

2) Identify the actual contribution

3) Ask whether it falls solely within the excluded matter

4) Check whether the actual contribution is technical in nature

8 The operation of the test is explained at paragraphs 40-48 of the judgment. Paragraph 43 confirms that identification of the contribution is essentially a matter of determining what it is the inventor has really added to human knowledge, and involves looking at substance, not form. Paragraphs 46-47 explain that the fourth step of checking whether the contribution is technical may not be necessary because the third step should have covered the point.

Arguments and analysis

Step 1: Construe the claims

9 The first step of the *Aerotel* test requires me to construe the claims and I do not think this presents any difficulty.

Step 2: Identify the contribution

10 The second step is to identify the contribution. This was the subject of discussion at the hearing and the source of the difference of opinion that exists between Mr McCarthy and the examiner.

11 In paragraph 43 of *Aerotel*, it is made clear that identifying the contribution is probably best summed up as determining what the inventor has really added to human knowledge, and this involves looking at the substance and not the form of the claims.

¹ *Aerotel Ltd vs Telco Holdings Ltd & Macrossan's Patent Application* [2007] RPC 7

² Patents Act 1977: Patentable subject matter [2007] RPC 8

³ <http://www.ipo.gov.uk/patent/p-decisionmaking/p-law/p-law-notice/p-law-notice-subjectmatter-20080207.htm>

- 12 In the examiner's view, the EPOS apparatus is entirely conventional and the contribution lies in the provision of a software control module for an existing EPOS apparatus to provide mobile telephone credit for a customer and invoice the credit purchase on the EPOS apparatus. Mr McCarthy disagrees. In his view, the contribution lies in providing an EPOS apparatus for mobile telephone credit purchase having means for printing a top-up voucher on the printer of the EPOS apparatus and means for printing with the printer the value of the top-up voucher onto a customer's receipt so that the hardware arrangement of the EPOS apparatus provides a combined apparatus for printing a top-up voucher and a receipt for a single or multiple retail transactions. In his view, such a contribution is not limited to a computer program nor to a method for doing business, since it involves a new physical arrangement of hardware.
- 13 As Mr McCarthy explained, before the priority date of the invention, apparatus for dispensing credit top-up vouchers for mobile telephones were separate dedicated machines. This resulted in multiple apparatuses on the counter top or at a checkout in a retail outlet. Typically such prior art arrangements consisted of two keyboards, two printers, two or more displays and multiple processors in order to carry out a transaction involving the purchase of retail products and mobile telephone top-up vouchers. To reduce expense a retailer with eight or ten checkouts would normally only have one or two of the prior art separate dedicated top-up machines and this required that six or eight checkout operators had to go to another location in the retail outlet in order to manufacture the top-up voucher product for a customer and then return to the checkout to invoice the voucher and generate a receipt. The operator thus had to carry out two separate procedures leading to delays.
- 14 The invention thus provides the means by which an EPOS apparatus is adapted to switch functions between a telephone top-up voucher product apparatus and an EPOS apparatus for carrying out retail type transactions. The apparatus is adapted to manufacture and print the top-up vouchers instantly and on demand, and in a secure and predictable environment. Mr McCarthy argued that the contribution lay in providing a new combined EPOS apparatus that carries out the required retail functions and also produces the extra top-up vouchers rather than having a separate independent system operating in parallel with the EPOS apparatus for generating these top-up products. Because these functions were now brought together in the one apparatus, it also made for easier reconciliation for the retailer and increased the efficiency of customers going through a retail premises.
- 15 I agree with Mr McCarthy that the contribution goes beyond the mere programming of an existing EPOS apparatus to provide mobile telephone credit for a customer and invoice the credit purchase. In my view, the contribution lies in providing a better EPOS apparatus capable of handling mobile telephone credit purchases and other retail transactions comprising, in combination, a software control module operable to provide mobile telephone credit for a customer and invoice the purchase of the credit; means for printing a top-up voucher on the printer of the EPOS apparatus; and means for printing with the printer the value of the top-up voucher onto a customer's receipt as part of a single or multiple retail transaction.

Step 3: Does the contribution fall solely within excluded subject matter?

- 16 It seems to me that if the contribution made by the invention, considered as a matter of substance rather than the form of claim (see paragraph 43 of *Aerotel*), consists solely of a method for doing business and/or of a program for a computer, then the invention will be excluded under section 1(2) and will not be saved by reference to a possible technical effect. I should not now give the applicant benefit of any doubt as to whether the invention arguably covers patentable subject-matter, as paragraph 5 of the judgment makes clear. Nevertheless, it bears emphasising that the exclusion of section 1(2) applies only where the invention relates to excluded matter as such. I am conscious of the warning given in paragraph 22 of *Aerotel* that just because an invention involves the use of a computer program does not necessarily mean it is excluded from patentability. I must therefore be satisfied that the contribution lies solely in a computer program before finding against the applicant. Paragraphs 68 and 69 of *Aerotel* also make clear that the business method exclusion is not limited to abstract matters nor to a completed transaction.
- 17 So, does the contribution fall solely within the excluded subject matter? I do not think the contribution of the invention as it is now proposed to be claimed can be regarded as simply a matter of programming or a decision to provide a particular type of service. In my view, what the applicant has invented is a better EPOS machine. I therefore find that the contribution does not lie solely within the computer program and business method excluded areas, or indeed any other of the excluded areas. In fairness to the examiner, his original objection was made in respect of much wider claims that did not bring out the features now relied on to characterise the invention.

Step 4: Check whether the contribution is technical in nature

- 18 I consider that the contribution that I have identified to be technical in nature.

Inventive step

The law and its interpretation

- 19 The examiner has also argued that the invention lacks an inventive step. The relevant sections of the Patents Act are:

Section 1-(1) A patent may be granted only for an invention in respect of which the following conditions are satisfied, that is to say -

.....
(b) it involves an inventive step;

Section 3. An invention shall be taken to involve an inventive step if it is not obvious to a person skilled in the art, having regard to any matter which forms part of the state of the art by virtue only of section 2(2) above (and disregarding section 2(3) above).

- 20 What constitutes an inventive step was considered by Lord Hoffmann in *Biogen Inc v Medeva plc* [1997] RPC 1, and is quoted at paragraph 3.03 of the Office's "Manual of Patent Practice":

“Whenever anything inventive is done for the first time it is the result of the addition of a new idea to the existing stock of knowledge. Sometimes it is the idea of using established techniques to do something which no one had previously thought of doing. In that case the inventive idea will be doing the new thing. Sometimes it is finding a way of doing something which people had wanted to do but could not think how. The inventive idea would be the way of achieving the goal. In yet other cases, many people may have a general idea of how they might achieve a goal but not know how to solve a particular problem which stands in their way. If someone devises a way of solving the problem, his inventive step will be that solution, but not the goal itself or the general method of achieving it.”

- 21 Inventive step is assessed on the basis of the well-known *Windsurfing*⁴ test as reformulated by Jacob LJ in *Pozzoli*⁵ (see paragraph 23 of the Court of Appeal's judgment). The four steps of the test are now:
- 1) (a) Identify the notional person skilled in the art, and
(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 invention as claimed, do these differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

- 22 It is unfortunate that neither the agent nor the examiner followed this approach explicitly in correspondence. Had they done so, it is possible that the arguments on both sides might have been much better focussed.

Background to the invention

- 23 As Mr McCarthy explained, before the priority date of the invention, apparatus for dispensing credit top-up vouchers for mobile telephones and EPOS apparatus for invoicing the purchase were separate dedicated machines. As a result of the invention, only one apparatus is required on the counter or the checkout which is capable of manufacturing a telephone top-up voucher product without having to utilise a separate dedicated terminal. Use of the present invention provides that telephone top-up voucher can be sold in conjunction with sales of other products whereby different types of telephone top-up voucher product (eg from different telephone network providers) can be manufactured at the same time.
- 24 The prior art arrangement of having separate device printers (that is, one associated with the EPOS apparatus and one for the separate dedicated top-up machine) required that there were two different types of paper required, one for each of the two different printers. A serious problem experienced with the prior art arrangement occurred when paper ran out of the printer associated with the separate dedicated top-up machine, and this resulted in the telephone top-up

⁴ *Windsurfing International Inc v Tabur Marine (Great Britain) Ltd*

⁵ *Pozzoli SpA v BDMO SA* [2007] EWCA Civ 588

voucher product being irretrievably lost since the processing power of the separate dedicated top-up machine was simply ineffective to facilitate buffering of the voucher for later recall. With the invention, if the receipt paper runs out in the printer, there is no loss of telephone top-up products since the functionality for mobile telephone credit purchase is adapted to piggyback on the processing power of the combined EPOS apparatus. Furthermore the combined EPOS apparatus requires only one telephone line.

- 25 Further problems with the prior art arrangement of having separate dedicated top-up machines resulted from the need for nightly reconciliation of the sales of the various types telephone top-up voucher products and also reconciling those sales with other products such as groceries being sold. The time taken for such reconciliation was of the order of one to one and a half hours per night. A retailer relying on the prior art arrangement also required more than one phone line facilitate the operation of the separate EPOS apparatus and separate dedicated top-up machines. The prior art arrangement also required two different maintenance providers, one to service the EPOS apparatus and one to service the separate dedicated top-up machine.
- 26 Mr McCarthy contended that none of the cited prior art disclosed or suggested a system having an arrangement of hardware for manufacturing an actual product (ie printing a top-up voucher for crediting a mobile telephone) and for then registering the sale of products, including the top-up voucher and other retail products, and printing a receipt. He explained that, in practice, the claimed invention was first implemented at a pilot site in a retail store in Cork, Republic of Ireland in April 2004, that is, after the priority date of the patent application. He provided a spreadsheet that, he said, detailed monthly sales within Ireland of telephone top-up vouchers from the apparatus of the invention from April 2004 to August 2008. During that time, sales had risen from €16310 in April 2004 to around €8 million per month in 2008 which, he said, indicated the success of the invention and demonstrated that the invention had satisfied a long-felt want in the retail industry. Subsequent to the hearing, Mr McCarthy filed a statutory declaration from the Applicants attesting to the authenticity of these figures.
- 27 Having set out the background to the invention, I shall now move on to apply the *Windsurfing/Pozzoli* test as set out above.

Step 1(a): Who is the person skilled in the art?

- 28 At the hearing, the examiner was of the view that the person skilled in the art was a user of EPOS apparatus. Such a person would be fully aware of the operations required to control the EPOS apparatus when a retail transaction was necessary. Mr McCarthy disagreed and considered that the skilled person was a worker who was technically qualified, had knowledge of EPOS apparatus and had experience in designing them. In practice, he said, the invention was brought about by a multi-skilled team including a software engineer, a hardware engineer, a systems analyst and an electrical engineer. I agree with Mr McCarthy.

Step 1(b): What is the common general knowledge?

- 29 In the examiner's view, the common general knowledge of the person skilled in

the art would encompass knowledge of a variety of EPOS apparatus used in a retail environment. This common general knowledge includes standalone apparatus to allow a user to purchase mobile telephone top-up credit either as a voucher or added to a card. Such devices were widely known and in operation before the priority date of the invention as disclosed in a number of patent documents previously cited in the correspondence and as acknowledged on page 1 of the application. Mr McCarthy did not dispute this view. Indeed, such a standalone device for generating a top-up credit voucher was demonstrated to me by the inventors at the hearing. Although not mentioned at the hearing, it also seems to me that the common general knowledge also extends to the electronic checkout apparatus (as used for example in supermarkets) which includes a display, printer, bar code reader and a machine for payment by credit/debit card.

Step 2: What is the inventive concept of the claim?

- 30 In the examiner's view, the inventive concept of the amended claim is a software control module to allow mobile telephone credit to be purchased and added to a transaction that may involve other goods. This is carried out on a single EPOS apparatus. Mr McCarthy disagrees and considers the inventive concept lies in providing a new combined EPOS apparatus for mobile telephone credit purchase and for retail transactions having means for printing a top-up voucher on the printer of the EPOS apparatus and means for printing with the printer the value of the top-up voucher onto a customer's receipt as part of a single or multiple retail transaction.
- 31 Although the presence of the software control module is needed for the apparatus to function, to regard it as the inventive concept is, I think, too narrow a view. Paring down claim 1, the inventive concept is, in my view, a combined EPOS apparatus capable of processing both mobile telephone credit purchases and retail transactions comprising a software control module operable to provide mobile telephone credit for a customer and invoice the purchase of the credit; means for printing a top-up voucher on the printer of the EPOS apparatus; and means for printing with the printer the value of the top-up voucher onto a customer's receipt as part of a single or multiple retail transaction. In fairness to the examiner, his original objection was made in respect of much wider claims that did not bring out the features now relied on to characterise the invention.

Step 3: What are the differences between the state of the art and the inventive concept?

- 32 The closest prior art cited by the examiner appears to be GB 2339635 (*Cotter*) and WO 2002/027629 (*Euronet*). *Cotter* describes a system comprising an EPOS device adapted to enable the prepayment of credit into a mobile phone account using a store loyalty card. To do this, an infrastructure is provided that interacts with the retail EPOS device and can integrate with the mobile phone network's internal pre-payment systems. In practice, the customer when paying a checkout bill asks to buy airtime. The operator swipes the card and enters the required value of the airtime into the system and receives payment from the customer following authorization of the request. The customer's mobile phone account is updated and the receipt for the airtime printed by the EPOS device is

said to be similar to that printed for a credit card customer. The difference between the citation and the claimed invention is that there is no disclosure of a means for printing a top-up voucher and printing with the printer the value of the top-up voucher onto a customer's receipt as part of a single or multiple retail transaction.

- 33 *Euronet* describes a system for purchasing pre-paid vouchers for goods or services from a menu of options and the voucher may be dispensed as a physical printout through a receipt printer or as a code. The passage at page 29 line 12 to page 30 line 18 discloses a point of sale terminal connected to a financial network (such as an ATM) which displays a menu of options from which the user can choose to buy a voucher to redeem for mobile phone credit or other goods and services such as beverages. In use, the user initiates the purchase by providing identification such as a credit or debit card to access the menu of options and the voucher is produced following authorisation of the purchase. As far as I can see, the difference between the citation and the claimed invention is that there is no reference to the printing of a voucher and a receipt as separate products. I can also find no reference to printing the value of the top-up voucher onto a customer's receipt as part of a single or multiple retail transaction.

Step 4: Are these differences obvious?

- 34 I am conscious that, when considering the question of whether or not an invention is obvious, I must avoid hindsight. It can be very easy to be misled by a line of reasoning that involves working forward from the stated problem in a succession of easy steps when one knows the desired solution. In particular one must avoid looking at a prior publication under the influence of the patent or patent application in question, and one should attempt to place oneself in the shoes of the skilled person faced with the problem at hand. This is necessarily an artificial position, since the application presents both the solution (the invention) as well as the problem (or a pointer to the problem).
- 35 To answer the question posed by step 4, in my view, the differences identified above are not obvious. I can find nothing that would encourage the skilled man at the priority date of the application to modify the apparatus disclosed in *Cotter* or *Euronet* to arrive at the invention as claimed. In particular, there is no indication that invoicing and printing the value of the top-up voucher onto a customer's receipt as part of a single or multiple retail transaction is part of the common general knowledge. Even if it were, it seems to me that the disclosures of *Cotter* and *Euronet* teach away from the invention: *Cotter* is concerned with updating a customer's mobile phone account rather than the sale of vouchers and *Euronet* relates to an apparatus connected to a financial network selling vouchers that can be redeemed for goods and services rather than having the functionality for facilitating different retail functions as required by the claims in the present application. In coming to this conclusion, I consider the figures provided for the sales of telephone top-up vouchers through the applicant's apparatus are persuasive in indicating the take-up of the invention by the market. I therefore find the invention as set out in the amended claims involves an inventive step.

Conclusions and next steps

- 36 On the basis of the prior art before me, I therefore conclude that the invention of the amended claim passes the *Aerotel* test and is not excluded under section 1(2). I also find that the invention involves an inventive step as required by sections 1(1)(b) and 3. I therefore remit the application to the examiner to complete the search under section 2(3) and for further examination.
- 37 I note that the compliance date of the application (as extended) is the 23 November 2008. The applicant will therefore need to file a further request under Rule 108(3) by 23 January 2009 if he wishes to continue with the application.

Appeal

- 38 Although it is an academic point, for completeness I observe that under the Practice Direction to Part 52 of the Civil Procedure Rules, any appeal must be lodged within 28 days of the date of this decision.

MRS S E CHALMERS

Deputy Director acting for the Comptroller