

PATENTS ACT 1977

BLO/105/95

IN THE MATTER OF

Patent Application No 9126545.4
in the name of Westinghouse
Electric Corporation.

DECISION

Patent Application No 9126545.4, filed on 13 December 1991 and claiming priority from an earlier US application, was published as GB2251310 on 1 July 1992. At substantive examination of the application the examiner issued a report dated 17 December 1993 objecting that the invention claimed was excluded from patentability under section 1(2)(c). This objection was contested by the applicant's agent Mr van Berlyn in a letter dated 16 June 1994 and he requested an interview to discuss the invention if the examiner did not accept his argument that "... the method steps set out in claim 1 did not simply represent the provision of computer procedures for carrying out steps normally carried out by the human mind and accordingly it is submitted that the claims do indeed define an invention which is patentable." The examiner was not convinced by this reasoning and attempted to arrange the interview. In a telephone conversation with the examiner on 13 July 1994 Mr van Berlyn said that he was in contact with an advisor for the applicants and would contact the examiner again in the week beginning Monday 18 July. On 15 August, in the absence of a response, the examiner telephoned Mr van Berlyn and a time limit for response of 29 August was agreed.

On 2 September 1994 new claims 1 - 3 were filed which, in the agent's submission, were free of the patentability objection. However these claims corresponded, in all essentials, to the original claims 7 - 9, to which objection had been made in the examiner's first report. Consequently in a letter dated 10 October setting a period for reply of 4 months, the examiner maintained his objection to patentability, again drawing the applicant's attention to the decision of the Patents Court in *Raytheon Co's Application* [1993] RPC 427 and also referring to the Court of Appeal decision in *Merrill Lynch's Application* [1989] RPC 561.

In a letter received in the Patent Office on 10 February 1995 Mr van Berlyn requested an informal meeting "to present further submissions with a view to establishing the allowable inventiveness of the subject of the present invention." He stated in his letter "The applicants take the view that there are differences such that the case of *Raytheon Co's Application* is not fully applicable in the present circumstances". Again the examiner attempted to arrange the meeting. He first telephoned Mr van Berlyn on 22 February and was told that an American colleague wished to attend the meeting. Since, at that time, Mr van Berlyn did not know when the colleague would be in the country he said that he would contact the examiner by 3 March. In the absence of a response the examiner telephoned Mr van Berlyn again on 10 March, by which time one month had elapsed since the response to the official letter of 10 October 1994 was due. Mr van Berlyn requested an extension until 14 March to make arrangements with his American colleague. This extension was allowed, with the proviso that, if within this time period a meeting had not been appointed, a hearing would be arranged to decide whether a satisfactory response had been received to the official letter of 10 October 1994. On 16 March, having not been contacted by Mr van Berlyn the examiner phoned Mr van Berlyn's office and stated that, in the absence of a response that day, a hearing would be arranged. Consequently the hearing was fixed for 11 May 1995.

Subsequently Mr van Berlyn notified the office that he would not be attending the hearing. He did however send a submission, dated 9 May 1995, "for consideration in lieu of being personally heard".

In his submission Mr van Berlyn argued that, if the claims filed with his letter of 30 August 1994 were allowable, then the question of whether or not the response to the letter of 10 October 1994 was satisfactory would be immaterial.

I find this submission very hard to accept. The amendments filed in response to the first examination report were filed after the extended period allowed for response had expired and consisted basically of replacing the originally filed claim 1 by the originally filed claim 7, notwithstanding the fact that all the claims had been objected to as not relating to a patentable invention. The examiner's report of 10 October 1994, which reiterated the objections to patentability, had been made under Section 18(3) which states :-

"If the examiner reports that any of those requirements [i.e. requirements of the Act and rules] are not complied with, the comptroller shall give the applicant an opportunity within a specified period to make observations on the report and to amend the application so as to comply with those requirements (subject, however, to section 76 below), and if the applicant fails to satisfy the comptroller that those requirements are complied with, or to amend the application so as to comply with them, the comptroller may refuse the application."

A response which merely states that "The applicants take the view that there are differences such that the case of *Raytheon Co's Application* is not fully applicable in the present instance" is not satisfactory in the absence of specific identification of the differences. Had the further discussions promised in the informal meeting been held, then it might have been arguable that an attempt to advance the case towards a final decision as to its allowability had been made. It is reprehensible that no arguments had been advanced in an attempt to refute the examiner's objections until the date of the hearing had been determined, which was three months after the expiry of the period specified for response to the official letter of 10 October 1994. Mr van Berlyn seems to be of the opinion that the requirements of section 18(3) may be met by arguing, at some subsequent time, that the examiner's report issued in error, since the submissions sent for consideration at the hearing address this point. This is not my understanding of the section, which, in my opinion, puts the onus on the applicant, within the time limit set, either to amend or to satisfy the Comptroller that the requirements of the Act and Rules are met.

Mr van Berlyn, in his submission, has asked me to consider whether or not the application was in order prior to the issue of the official letter of 10 October 1994.

The application in suit relates to a method for detecting man-made objects and natural features in sonar imaging and in particular for identifying targets within the image, a target typically consisting of highlights and shadows, highlights alone and/or shadows alone. The system comprises an image generator, control console, automatic target cuing and an image display. The image generator and control console are stated to be "standard devices used in most conventional sonar systems" and the image display is a CRT or paper. Each frame of the sonar image is divided into, preferably overlapping, windows which are analyzed in four

detection processes (highlight-shadow, statistical, neural network and combined cue) to effect the identification. This implementation is effected using, as stated, "individual VME bus boards from well known suppliers" and it does not appear to be in dispute that the hardware used to effect the claimed method is known.

The amended claim 1 which was filed with the agent's letter of 30 August 1994 reads :-

1. A method of detecting and classifying features in a sonar image comprised of a matrix of pixels, each pixel having a known greyness level comprising the steps of:
 - (a) defining a set of windows, each window comprised of a set of adjacent pixels such that each pixel of the image is included in at least one window; thereafter for each window performing the steps of:
 - (b) i) filtering each window;
 - (c) ii) performing a Fourier transform of each window;
 - (d) iii) scaling each window;
 - (e) iv) classifying each window which has been processed under steps i) to iii) as a highlight, shadow or background according to the greyness levels of the pixel in each window;
 - (f) selecting those windows which have been classified as highlight windows and shadow windows;
 - (g) recording a location for each selected window relative to the image; and
 - (e)(sic) classifying a set of windows as one of a highlight cluster, a shadow cluster, a highlight ridge, a shadow trough, an anomaly and background.

The examiner's objection to the application is :-

- 1 the apparatus used is acknowledged as known and the invention is carried into effect by programming a known computer to classify data to identify targets, and
- 2 the identification of targets is a mental act and, consequently, following *Raytheon*, the invention is excluded from being patentable under section 1(2)(c).

In his submission Mr van Berlyn referred to the passage in the Patents Court judgement in *Raytheon Co's Application* 1993 RPC 427 where it was stated that :-

"one must look to the substance of the invention and not merely to the form of the claim."

Mr van Berlyn maintained that this construction was consistent with the requirement set out in *Gale's Application* 1991 RPC 305, (quoting *Merrill Lynch's Application*), that :- :

"... it cannot be permissible to patent an item excluded by section 1(2) under the guise of an article which contains that item - that is to say, in the case of a computer program, the patenting of a conventional computer containing that program. Something further is necessary."

He took the view that the "something further" in the present case is the specific signal processing defined in claim 1.

He also referred to a further passage in *Gale* :-

"Although those instructions are not patentable as such, that is not the end of the matter. Computer instructions may represent, for instance, a technical process. What is recorded in the instructions may be the means for carrying out a technical process with the aid of a computer. In such a case the process is not barred from patentability by reason of the use of a computer as the medium by which it is carried out. In *VICOM/Computer-related inventions* (Decision T 208/84), [1987] 2 EPOR 74, the Technical Board of Appeal of the European Patent Office was concerned with an application relating, in claim 1, to a method of digitally processing images. The board rejected the argument that the implementation of the claimed methods for image processing by a program run on a computer could not, by reason of Article 52(2)(c) and (3), be regarded as an invention. The board said, in paragraph 12 of its reasons:

"The Board is of the opinion that a claim directed to a technical process is carried out under the control of a program (be this implemented in hardware or in software), cannot be regarded as relating to a computer program *as such* within the meaning of Article 52(3) EPC, as it is the application of the program for determining the sequence of steps in the process for which in effect protection is sought. Consequently, such a claim is allowable under Article 52(2)(c) and (3) EPC.

Generally speaking, an invention which would be patentable in accordance with conventional patentability criteria should not be excluded from protection

by the mere fact that for its implementation modern technical means in the form of a computer program are used. Decisive is what technical contribution the invention as defined in the claim when considered as a whole makes to known art." "

Mr van Berlyn argued in his submission that the combination of steps set out in claim 1 is new and the fact that the steps may be carried out using known computer equipment does not lessen the value of the invention which is not simply the computer performance of a mental act.

The examiner's objection is that the invention claimed is excluded from patentability since it is a method for performing a mental act. This objection arose from the decision of the Patents Court in *Raytheon* where claim 8, which read :

"A method of digitally measuring and comparing images, comprising the steps of:
storing digital data representative of a plurality of reference silhouettes,
forming a two dimensional input image of a three dimensional object and generating a signal representative of the input image;
forming in response to the said signal a digital data image representative of the said two dimensional input image;
forming from the digital data image a set of vertical vectors representing the outline of the silhouette of the two dimensional image, with the length of each vector depending upon the distance between the top and bottom of the silhouette at a respective orthogonal position;
forming a normalised representation of the silhouette of the two dimensional input image by normalising the width and area of the silhouette as represented by the said set of vertical vectors;
quantitatively comparing the said normalised representation with stored digital data representing each of the said plurality of reference silhouettes, and
generating in response to the quantitative comparison a signal indicative of that one of the said plurality of reference silhouettes having in accordance with a predetermined quantitative criterion least difference from the said normalised representation."

was held to be the recognition of an object by electronic means and was considered to be demonstrably a mental process and therefore not patentable.

In his submission Mr van Berlyn argued that the steps involved in the method were not capable of being performed by a person. However, in *Raytheon*, the reasoning in *Wang Laboratories Inc.'s Application* [1991] RPC 463 that :-

"... a method for performing a mental act ... would still be excluded if the method was performed by a computer, whether or not the computer program adopted steps that would not ordinarily be used by the human mind."

was followed.

In *Merrill Lynch* Fox LJ stated :-

"Now let it be supposed that Claim 1 can be regarded as producing a new result in the form of a technical contribution to the prior art. That result, whatever the technical advance may be, is simply the production of a trading system. It is a data processing system for doing a specific business, that is to say making a trading market in securities. The end result, therefore, is simply "a method ... of doing business", and is excluded by section 1(2)(c). The fact that the method of doing business may be an improvement on previous methods of doing business does not seem to me to be material. The prohibition in section 1(2)(c) is generic: qualitative considerations do not enter into the matter. ... A data processing system operating to produce a novel technical result would normally be patentable. But it cannot, it seems to me, be patentable if the result itself is a prohibited item under section 1(2)."

In my opinion looking "to the substance of the invention and not merely to the form of the claim", the end result of the method claimed in this application, regardless of whether or not the claim can be judged to produce a technical contribution to the prior art, is the recognition of a target. I consider this to be no more than a method of performing a mental act, albeit using a programmed computer, which, following the reasoning in *Merrill Lynch* and *Raytheon*, is excluded from patentability under the provisions of sections 1(1)(d) and 1(2)(c). Consequently I do not accept Mr van Berlyn's submission that the claims filed with his letter of 30 August 1994 were allowable.

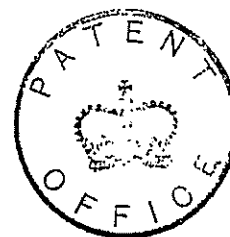
I find that the requirements of sections 1(1)(d) and 1(2)(c) are not complied with and that the applicant has not amended the application so as to comply with these requirements. I consider that, within the time limits allowed and within extensions allowed thereto, the applicant failed to provide a *bona fide* response to the examiner's report. Therefore I refuse the application.

Any appeal from this decision should be lodged within a period of six weeks from the date of the decision set out below. Extension of the prescribed period for complying with the requirements of the Act and rules is provided by section 20(2).

Dated the 3rd day of May 1995

J A WILSON

Principal Examiner, acting for the Comptroller.



THE PATENT OFFICE