



PATENTS ACT 1977

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| APPLICANT | Borealis Technical Limited |
| ISSUE | Whether patent application GB1501816.1 complies with section 1(2)(c) of the Patents Act 1977 |
| HEARING OFFICER | Peter Mason |

DECISION

Introduction

- 1 Patent Application GB1501816.1 was filed on 4th February 2015 (with a priority date of 4th February 2014) and published as GB 2524158 A on 16th September 2015.
- 2 The examiner is of the view that the application relates to a method of doing business and is therefore excluded from patentability under section 1(2)(c) of the Patents Act 1977. The application has not been searched. The applicant has made a number of submissions rebutting the section 1(2)(c) objection, and has amended the claims repeatedly, but has failed to persuade the examiner of the patentability of the claims. The applicant requested that a Hearing Officer decide the issue based upon the papers available on file.

The invention

- 3 The application relates to a method of transferring passengers efficiently between an airport terminal and an aircraft interior through forward and aft passenger loading connections to forward and aft aircraft doors. The loading connections are described as being loading bridges or portable stairs but only the use of loading bridges is claimed. The aircraft has designated interior sections which are accessible through the forward and aft doors. The interior sections are for at least two defined classes of passengers. The aircraft is manoeuvred in and out of airport terminal parking locations using one or more direct drive wheel systems; the use of a drive wheel system allows the pilot to move into and out of a parking or gate location without the use of the aircraft main engines.
- 4 The most recent set of claims were filed on 2nd March 2021 and include a single independent claim 1 and six dependent claims, numbered 2 to 7. Claim 1 is reproduced below:

1. A method that efficiently transfers passengers between an airport terminal and an aircraft interior through multiple passenger loading bridge connections with multiple aircraft doors when aircraft are maneuvered without operating engines into and out of airport terminal parking locations with the multiple passenger loading bridges, comprising:

a. at each airport terminal parking location providing at least two passenger loading bridges extendible and retractable to form direct passenger transfer connections between the terminal and designated aircraft interior sections;

b. providing aircraft equipped with landing gear wheel-mounted pilot-controllable electric drive wheel drive systems operable to maneuver the equipped aircraft forward into and out of the terminal parking locations without operation of aircraft main engines, the equipped aircraft having at least forward and aft doors on a terminal-facing side of the equipped aircraft;

c. maneuvering the equipped aircraft with the electric drive wheel drive systems in a forward direction into a terminal parking location, turning to park the equipped aircraft in a parallel orientation with a longest axis of the aircraft parallel to the terminal, extending the passenger loading bridges, and forming the direct passenger transfer connections between the terminal and the designated aircraft interior sections through the at least forward and aft doors, the passenger loading bridges forming the direct passenger transfer connections with the at least forward and aft doors being oriented to extend perpendicularly from the terminal and parallel to each other to connect directly to forward or aft doors;

d. providing seating in the designated interior sections of the equipped aircraft accessible through the at least forward door and aft door for at least two defined classes of passengers, and, simultaneously or separately using the passenger loading bridge direct passenger transfer connections, transferring a first defined class of passengers through a forward door directly into a designated first interior section and transferring a second defined class of passengers through an aft door directly into a designated second interior section; and

e. upon completion of passenger transfer, retracting the passenger loading bridges and maneuvering the equipped aircraft with the electric drive wheel drive systems in a forward direction out of the parallel orientation and out of the terminal parking location.

The law

- 5 The relevant provision is section 1(2) of the Patents Act 1977, which says that certain things cannot be protected by a patent:

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;*
- (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.

- 6 The starting point for determining whether an invention falls within the exclusions of section 1(2) is the judgment of the Court of Appeal in *Aerotel/Macrossan*¹.
- 7 The interpretation of section 1(2) has been considered by the Court of Appeal in *Symbian*². *Symbian* arose under the computer program exclusion, but as with its previous decision in *Aerotel* the Court gave general guidance on section 1(2). Although the Court approached the question of excluded matter primarily on the basis of whether there was a technical contribution, it nevertheless (at paragraph 59) considered its conclusion in the light of the *Aerotel* approach. The Court was quite clear (see paragraphs 8-15) that the structured four-step approach to the question in *Aerotel* was never intended to be a new departure in domestic law; that it remained bound by its previous decisions, particularly *Merrill Lynch*³ which rested on whether the contribution was technical; and that any differences in the two approaches should affect neither the applicable principles nor the outcome in any particular case.
- 8 Subject to the clarification provided by *Symbian*, it is therefore appropriate to proceed on the basis of the four-step approach explained at paragraphs 40–48 of *Aerotel* namely:

- (1) Properly construe the claim.*
- (2) Identify the actual contribution (although at the application stage this might have to be the alleged contribution).*
- (3) Ask whether it falls solely within the excluded matter.*
- (4) If the third step has not covered it, check whether the actual or alleged contribution is actually technical.*

- 9 The fourth step of the test is to check whether the contribution is technical in nature. In paragraph 46 of *Aerotel* it is stated that applying this fourth step may not be

¹ *Aerotel Ltd v Telco Holdings Ltd and Macrossan's Application* [2006] EWCA Civ 1371; [2007] RPC 7

² *Symbian Ltd v Comptroller-General of Patents*, [2009] RPC 1

³ *Merrill Lynch's Appn.* [1989] RPC 561

necessary because the third step should have covered the question. I shall consider whether the contribution is excluded alongside the question of whether the contribution is technical in nature, meaning I will consider the third and fourth steps of *Aerotel* together.

Applying the Aerotel test

Step 1 - Properly construe the claim

- 10 The examiner has stated that there has been no difficulty in construing the claim in light of the description. Similarly, the applicant has offered no view as to construction beyond relying upon the claim as presented. For completeness and to avoid any ambiguity I will consider the construction of the Claim.
- 11 The claim includes some repeated features and some non-essential information and so I will simplify it. The claim relates to a method of transferring passengers between an airport terminal and an aircraft interior.
- 12 The method includes the use of aircraft with forward and aft passenger doors. The aircraft being manoeuvrable without operating main engines, achieved by “landing gear wheel-mounted pilot controllable electric wheel drive systems”. The method includes the use of extendable and retractable passenger loading bridges which connect to the airport terminal.
- 13 The method includes parking the aircraft in a terminal parking location parallel to the terminal, extending two passenger loading bridges perpendicular to the terminal and using the loading bridges to form the direct passenger transfer connections with the forward and aft doors of the aircraft.
- 14 The aircraft has a first interior section and a second interior section. A first class of passenger is transferred through a first loading bridge to the forward door of the aircraft and directly into the first interior section. A second class of passenger is transferred through a second loading bridge to the aft door of the aircraft and directly into the second interior section.
- 15 Once all passengers are transferred, the loading bridges are retracted and the aircraft is manoeuvred out of the terminal parking location, using the landing gear wheel-mounted, pilot controllable, electric wheel drive system.
- 16 I construe claim 1 as being:

A method of transferring passengers between an airport terminal and an aircraft interior using a forward and an aft passenger doors of the aircraft, the aircraft having a first interior section and a second interior section, the method including:

parking the aircraft in a terminal parking location parallel to the terminal using a directly driven landing gear wheel of the aircraft which is controlled by the pilot,

extending two passenger loading bridges perpendicular to the terminal and connecting with the forward and aft doors of the aircraft,

transferring a first class of passenger through a first loading bridge to the forward door of the aircraft and directly into the first interior section and transferring a

second class of passenger through a second loading bridge to the aft door of the aircraft and directly into the second interior section,

once all passengers are transferred, retracting the loading bridges and manoeuvring the aircraft out of the terminal parking location using the directly driven landing gear wheel.

Step 2 – Identify the actual contribution

- 17 No search of this application has been performed and so I will consider the alleged contribution.
- 18 Paragraph 43 of *Aerotel* suggests that the contribution can be assessed from the point of view of the problem to be solved, how the invention works and what the advantages are, stating “What has the inventor really added to human knowledge perhaps sums up the exercise”. Knowledge of the prior art plays a role in assessing the contribution, and as Lewison J noted⁴, the examiner should have some notion of the state of the art. This does not necessarily mean however that the contribution is defined by what is new and inventive in the claim.
- 19 The application does not specify any technical features of the aircraft doors, the directly driven landing gear wheel which is controlled by the pilot, the aircraft interior, the aircraft seating, the separation of the first and second interior sections of the aircraft, the terminal, the terminal parking location or the loading bridges. Further, there is no disclosure in the application as filed that the invention relates to technical advances in any physical equipment. It is clear that the method of the invention, is put into effect by standard equipment, which was well known in the art on the priority date of the application.
- 20 Problems to be solved by the invention are stated in the application:
- 21 “The system currently used by airlines to board passengers, moreover, create additional bottlenecks that may significantly increase the time between when a passenger first enters the aircraft door and when the last passenger is seated” page 2 lines 5-8. After a discussion of various prior art methods, the application states that “None of the passenger boarding systems proposed by the airline industry or the prior art completely addresses all of the challenges with boarding a large number of people and a large number of carry-on bags on an aircraft with limited passenger access and space for passenger movement or that eliminates, or at least reduces, the main passenger boarding bottlenecks that delay an aircraft's departure. With the exception of the Scruggs et al system, which presents the disadvantages discussed above, a flexible passenger boarding system that fully utilizes multiple passenger entry doors on an aircraft to optimize passenger boarding has not been suggested.” (The Scruggs system refers to US2013/0041855 in which seats in gate waiting area are arranged in rows that correspond to the numbers of seats in the aircraft)
- 22 The advantages of the invention are summarised in the summary of the invention on page 5: “It is a primary object of the present invention, therefore, to overcome the deficiencies of the prior art and to provide an aircraft passenger boarding system that fully utilizes multiple passenger entry doors on an aircraft to optimize passenger boarding. It is another object of the present invention to provide an aircraft passenger

⁴ AT&T Knowledge Venture/CVON Innovations v Comptroller General of Patents [2009] EWHC 343 (Pat), paragraph 8.

boarding system that takes advantage of improvements in aircraft ground travel and gate operations in aircraft equipped with non-engine drive means that enable parking an aircraft in orientations which permit direct connection of at least forward and aft aircraft doors on a terminal side of an aircraft to an interior terminal gate area for passenger access to the aircraft.”

- 23 In the latest examination report, dated 12th May 2021, the examiner identified the contribution as:

A method of boarding passengers onto an aircraft wherein first and second access means are provided respectively at a forward and an aft door of the aircraft. A first class of passengers (e.g. first class, priority boarders, assigned seating) access a forward interior section of the aircraft via the first access means/forward door and a second class of passengers (e.g. economy class, non-assigned seating) access an aft interior section of the aircraft via the second access means/aft door. The method may improve the efficiency of onboarding passengers and reduce aircraft turnaround time.

- 24 The applicant has not made any arguments relating to the contribution of the invention.

- 25 The courts have consistently found that that, where claims recite standard hardware, such conventional apparatus does not form a part of the contribution. Therefore, the well-known direct drive means to manoeuvre an aircraft into a terminal parking location, the well-known passenger loading bridges to connect to well-known aircraft doors, the well-known aircraft layout provided with forward and aft doors and a first interior section and a second interior section are not considered to form any part of the contribution.

- 26 Therefore, I consider that the contribution is:

A method of transferring passengers between an airport terminal and an aircraft interior using forward and aft passenger doors of the aircraft, the aircraft having a first interior section and a second interior section, the method including: transferring a first class of passenger through a first loading bridge to the forward door of the aircraft and directly into the first interior section and transferring a second class of passenger through a second loading bridge to the aft door of the aircraft and directly into the second interior section.

Steps 3 and 4 Ask whether it falls solely within the *excluded matter and check whether the actual or alleged contribution is actually technical.*

- 27 I will consider steps 3 and 4 together.

- 28 It is clear that the contribution relates only to the logistical or organisational task of transferring passengers into their allocated seating area on an aircraft through one of two access ways depending on their seating location and/or ticket option. This method is enabled by existing improvements in aircraft ground travel and possible parking orientations at the terminal gate (as acknowledge in the application on page 5 lines 24 and 25 “.to provide an aircraft passenger boarding system that takes advantage of improvements in aircraft ground travel and gate operations..”)

29 The Courts and the IPO have not restricted the expression “doing business” to just financial or commercial activities, but have considered that it also embraces administrative, organisational and managerial activities. Guidance provided in the IPO’s Manual of Patent Practice. That guidance refers for example to decisions such as *Aerotel/Macrossan* where the invention related to the idea of having three document trays - “in”, “out” and “too difficult” and *Wills’ Application* which related to the provision of cards to be held by a school and the parents or grandparents of a child so as to provide an immediate source of accurate, up-to-date information in the event that the child goes missing.

30 The business method exclusion is generic, as discussed at page 569 of Merrill Lynch's Application⁵ where Fox LJ rejected a claim to a computerised system for making a trading market:

“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. The section draws no distinction between the method by which the mode of doing business is achieved. If what is produced in the end is itself an item excluded from patentability by section 1(2), the matter can go no further.”

31 The logistical or organisational task of transferring passengers into their allocated seating area on an aircraft through one of two access ways depending on the passengers seating location and/or ticket option is likewise an administrative or organisational activity. Qualitative considerations of the efficiency of the method do not enter into the decision.

Conclusion

32 Having carefully considered all of the arguments on file, I am of the view that the problem addressed by the claimed invention is purely an organisational or logistical activity, with no technical content.

33 I therefore find that the invention claimed in GB1501816.1 falls solely within the business method exclusion of Section 1(2)(c) of The Patents Act 1977. I therefore refuse the application under s18(3)

34 For completeness, I have not been able to identify anything in the dependent claims or the application as filed which may provide a contribution beyond a method of doing business.

Appeal

35 Any appeal must be lodged within 28 days after the date of this decision.

⁵ Merrill Lynch's Application [1989] RPC 561

Dr Peter Mason

Deputy Director, acting for the Comptroller