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**Datasheet for the decision
of 24 May 2024**

Case Number: T 1335/22 - 3.2.01

Application Number: 13165377.6

Publication Number: 2660152

IPC: B64F1/305, B64D45/00, B64F1/00,
G08G5/00, G08G5/06

Language of the proceedings: EN

Title of invention:

Method for identifying an airplane in connection with parking
of the airplane at a stand

Patent Proprietor:

TK Airport Solutions, S.A.

Opponent:

ADB Safegate Sweden AB

Headword:

Relevant legal provisions:

EPC Art. 56

Keyword:

inventive step (main request, auxiliary requests 1-4: no)

Decisions cited:

Catchword:



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Case Number: T 1335/22 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 24 May 2024

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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 6 April 2022
rejecting the opposition filed against European
patent No. 2660152 pursuant to Article 101(2)
EPC.**

Composition of the Board:

Chairman G. Pricolo
Members: C. Narcisi
A. Jimenez

Summary of Facts and Submissions

I. The opposition was rejected and European patent No. 2 660 152 was maintained as granted by the decision of the Opposition Division posted on 6 April 2022. Against this decision an appeal was lodged by the Opponent in due form and in due time pursuant to Article 108 EPC.

II. The following documents are cited in this decision:

EP-A (designating the published patent application of the contested patent);

EP-B (designating the publication of the contested patent);

D1 (US 2009/0217468 A1);

E1 (Commission Implementing Regulation (EU) No 1207/2011 of 22 November 2011);

D16 (ED 102-A, Minimum operational performance standards for 1090 MHz Extended squitter Automatic Dependent Surveillance-Broadcast (ADS-B) and Traffic Information Services-Broadcast (TIS-B), published by EUROCAE December 2009).

III. Oral proceedings were held on 24 May 2024. The Appellant (Opponent) requested that the decision under appeal be set aside and that the patent be revoked. The Respondent (Patent proprietor) requested that the appeal be dismissed and that the patent be maintained as granted (main request) or, in the alternative, according to one of auxiliary requests 1 to 4, filed on 28 December 2022 with the reply to the statement of grounds of appeal.

IV. Granted claim 1 (main request) reads as follows:

"Method for identifying an airplane in connection to parking of the airplane at a gate or a stand, for possible connection of a passenger bridge (1) or a loading bridge to a door of an airplane, where the airplane is positioned and stopped at a predetermined position using a touchless measurement of the distance between the airplane and a fixed point, where the distance is indicated on a display (6) mounted in front of the pilot of the airplane on for instance an airport building (7), which display (6) is caused to show to the pilot the position of the airplane (5) in relation to a stop point for the airplane and to show the current airplane type, where the said distance measurement and display are caused to be activated by a computer system (20) belonging to the airport or manually, and wherein an antenna (16) is caused to receive information (17) transmitted by an airplane (5),

characterized in that

at least the identification number of the airplane and the longitudinal and latitudinal coordinates of the airplane are extracted from said information (17), from one and the same information signal received from the airplane (5), in that information regarding the airplane type and version in question for a certain identification number is obtained from a database in which the identification numbers of airplanes are stored, which information is transferred to a control system (18) for the said display (6), in that the control system (18) is caused to control the said display (6) at the stand at which an airplane is to park and, on the display, indicate airplane type and version, and in that, when an airplane (5) is detected in front of the said display (6), the longitudinal and latitudinal coordinate information received from the said antenna is compared to the coordinates which are

valid within the said stand, and in that when they are in agreement, the said control system (18) is caused to allow that the airplane is brought to the stop point."

Claim 1 of auxiliary request 1 differs from claim 1 of the main request in that the wording "and wherein an antenna (16) is caused to receive information (17) transmitted by an airplane (5)" is replaced by "and wherein an antenna (16) is caused to receive information (17) transmitted by an airplane (5) at even intervals or upon request in the form of a request signal transmitted from an airport or airport control".

Claim 1 of auxiliary request 2 differs from claim 1 of the main request in that the wording "and wherein an antenna (16) is caused to receive information (17) transmitted by an airplane (5)" is replaced by "and wherein an antenna (16) is caused to receive information (17) transmitted by an airplane (5) according to the ADS-B (Automatic Dependent Surveillance Broadcast) system".

Claim 1 of auxiliary request 3 differs from claim 1 of auxiliary request 2 in that the wording "according to the ADS-B (Automatic Dependent Surveillance Broadcast) system" is replaced by the wording "according to the ADS-B (Automatic Dependent Surveillance Broadcast) system at even intervals or upon request in the form of a request signal transmitted from an airport or airport control".

Claim 1 of auxiliary request 4 differs from claim 1 of the main request in that the wording "at least the identification number of the airplane and the

longitudinal and latitudinal coordinates of the airplane are extracted from said information (17)" is replaced by "at least the identification number of the airplane, the current flight number and the longitudinal and latitudinal coordinates of the airplane are extracted from said information (17)".

V. The Appellant's (Opponent) arguments may be summarized as follows:

The subject-matter of claim 1 is not inventive over D1 in conjunction with common general knowledge and/or E1, since features 1.5 ("and the longitudinal and latitudinal coordinates of the airplane are extracted from said information (17)"), 1.6 ("from one and the same information signal received from the airplane (5)") and 1.11 ("the longitudinal and latitudinal coordinate information received from the said antenna is compared to the coordinates which are valid within the said stand, and in that when they are in agreement"), distinguishing the claimed subject-matter from D1, do not contribute to inventive step.

Starting from D1 the skilled person would face the technical problem of making the attribution of the correct aircraft type and version to the aircraft detected by the system more secure, and particularly confirming that the detected airplane type and version is associated with the detected airplane.

The skilled person knows that ADS-B transponder technology or ADS-B communication system (Automatic Dependent Surveillance Broadcast) has been mandatorily standardized (at the effective date of claim 1) by EU law (see e.g. E1, D16), implying that the airplane transmits the information in a non-directional manner on the frequency 1090 MHz, the antenna at the airport

receiving information signals from all airplanes at the airport on said common frequency of 1090 Hz.

The ADS-B communication system specifically requires that the following data be made available to the ADS-B transponder and be transmitted by the transponder, i.e. the 24-bit ICAO aircraft address, the aircraft identification number and the geodetic horizontal position (in accordance with the world geodetic system revision 1984 (WGS84)) latitude and longitude (see E1, Annex II, part B3), both while airborne or on the ground.

The traditional passive transponder 19 already (according to D1) reflects and modulates a query signal from the reader 20 with the information signal including however only the airplane identification number (linked to the airplane type and version in the data base of the all-inclusive data system 17), not the airplane's position, which is inferred or determined by means of secondary surveillance radars and radar signal processing.

The skilled person would realize that the mentioned positioning/identification problems could not be solved by using radar signal processing (as known from the traditional passive transponder system in D1), but instead could be more easily solved using the position information provided in the ADS-B signal.

Indeed, the skilled person would recognize that from the ADS-B signal the airplane identification number should be extracted and used for (retrieving and extracting the airplane type and version from the all-inclusive data system 17 and) activating the display 6 and distance meter (IR laser system) 13 in the control system of D1, and that the position latitude and

longitude similarly extracted from said ADS-B signal should be used to verify the position of the airplane at the stand as measured by distance meter 13.

In this manner it is confirmed that the airplane detected in front of the display was also the airplane that transmitted the identification number in order to solve the objective technical problem of determining that said retrieved airplane type and version is correctly associated with the detected airplane.

Hence the skilled person would arrive in an obvious manner at the missing features 1.5, 1.6 and 1.11.

The subject-matter of claim 1 of auxiliary requests 1 to 4 is rendered obvious in view of D1 in conjunction with E1 (or D16) and common general knowledge.

VI. The Respondent's (Patentee) arguments may be summarized as follows:

The subject-matter of claim 1 involves an inventive step over D1, given that the skilled person would have no incentive and no motivation to modify the apparatus of D1 such as to arrive at the claimed subject-matter.

It is noted that D1 does not disclose features 1.1 ("method for identifying an airplane in connection to parking of the airplane at a gate or a stand "), 1.2 ("for possible connection of a passenger bridge (1) or a loading bridge to a door of an airplane"), 1.3 ("where the airplane is positioned and stopped at a predetermined position using a touchless measurement of the distance between the airplane and a fixed point, where the distance is indicated on a display (6) mounted in front of the pilot of the airplane on for

instance an airport building (7), which display (6) is caused to show to the pilot the position of the airplane (5) in relation to a stop point for the airplane and to show the current airplane type, where the said distance measurement and display are caused to be activated by a computer system (20) belonging to the airport or manually") (this feature being not disclosed in its entirety in D1), 1.5, 1.6, 1.7 ("in that information regarding the airplane type and version in question for a certain identification number is obtained from a database in which the identification numbers of airplanes are stored"), 1.8 ("which information is transferred to a control system (18) for the said display (6)"), 1.9 ("in that the control system (18) is caused to control the said display (6) at the stand at which an airplane is to park and, on the display, indicate airplane type and version"), 1.10 ("and in that, when an airplane (5) is detected in front of the said display (6)"), 1.11 ("the longitudinal and latitudinal coordinate information received from the said antenna is compared to the coordinates which are valid within the said stand, and in that when they are in agreement"), 1.12 ("the said control system (18) is caused to allow that the airplane is brought to the stop point"), given that in particular several of the aforementioned features cannot be considered in isolation but must be considered in conjunction with other claimed features.

D1 does not disclose a "method for identifying an airplane in connection to parking of the airplane at a gate or a stand" according feature 1.1 but merely a method of "docking automatically a passenger bridge or a goods handling bridge to a door of an airplane" (D1, claim 1). Accordingly, already for this reason it is doubtful that the skilled person would consider D1 at

all, since no motivation or incentive to install an ADS-B system in the system of D1 would arise or result merely from it being known that said ADS-B transponder system is capable of transmitting airplane identification number and position coordinates as well.

In addition, the system of D1 does not include radar signal processing for determining the aircraft's position (contrary to the Appellant's view), for according to D1 the aircraft's position is determined when the airplane has reached or is approaching the stand, and in particular verifying the aircraft's type and version and position (before the start signal being given for the airplane's docking process causing the passenger bridge to be moved) is performed by a person or operator (see D1, paragraph [0011], [0029]; claim 1).

Further, the airplane being located already at or nearby the stand, no signals emitted by other airplanes could be erroneously received and processed.

It ensues that there is no positioning/identification problem inherently posed by the system and method of D1 and that the skilled person would not have any reason or incentive to modify the known system according to D1 by implementing said technical measures as mentioned in claim 1, particularly according to feature 1.11.

Claim 1 of auxiliary requests 1 to 4 further specifies and details the features included in claim 1 of the main request, thus additionally contributing to inventive step.

Reasons for the Decision

1. The appeal is admissible.
2. The subject-matter of granted claim 1 is rendered obvious in view of D1 and the skilled person's common general knowledge as derivable for instance from E1 and D16 (Article 56 EPC), for the following reasons.

The Board considers that features 1.1 ("method for identifying an airplane in connection to parking of the airplane at a gate or a stand "), 1.2 ("for possible connection of a passenger bridge (1) or a loading bridge to a door of an airplane"), 1.3 ("where the airplane is positioned and stopped at a predetermined position using a touchless measurement of the distance between the airplane and a fixed point, where the distance is indicated on a display (6) mounted in front of the pilot of the airplane on for instance an airport building (7), which display (6) is caused to show to the pilot the position of the airplane (5) in relation to a stop point for the airplane and to show the current airplane type, where the said distance measurement and display are caused to be activated by a computer system (20) belonging to the airport or manually") are known from D1 (see e.g. claim 1, paragraph [0011]).

In particular D1 discloses a method for identifying an airplane in connection to parking, since various and multiple identification steps are described e.g. in claim 1 (see "wherein the display (6) is caused to show to the pilot the position of the airplane (5) relative to an airplane stop point, and to show the type of airplane concerned"; "subsequent to having established

that the correct type of airplane and the correct version of the airplane type has been set to enable the control computer (14) to cause the passenger bridge (1; 2) to be moved for docking with an airplane (5)"), further details being given in paragraphs [0031], [0035] of the description of D1, these steps being disclosed in connection with parking of the airplane (see e.g. claim 1, "in which the airplane (5) is brought to a predetermined position and stopped in said position by contact less measuring of the distance between the airplane and a fixed point").

The above cited passages of D1 also disclose features 1.2 and 1.3 (see D1, claim 1; paragraphs [0031], [0035], [0036]), the manual activation of the display and distance measurement being included merely as an alternative in feature 1.3.

It is further considered that features F1.7 ("in that information regarding the airplane type and version in question for a certain identification number is obtained from a database in which the identification numbers of airplanes are stored"), F1.8 ("which information is transferred to a control system (18) for the said display (6)"), F1.9 ("in that the control system (18) is caused to control the said display (6) at the stand at which an airplane has to park and, on the display, indicate airplane type and version") are known from D1 (see D1, paragraphs [0035], [0031]). Specifically, D1 discloses that the airplane type and version is fetched from the all-inclusive data system 17 (D1, paragraph [0033]), that this information is transferred to control computer 14 having access to the positions of the doors of different types and versions of airplanes (D1, paragraph [0036]), and that the display 6 is caused to show to the pilot the type and

version of the airplane concerned (D1, paragraph [0031]; claim 1).

Finally, features 1.10 ("and in that, when an airplane (5) is detected in front of the said display (6)") and 1.12 ("the said control system (18) is caused to allow that the airplane is brought to the stop point") are likewise known from D1, D1 disclosing that (at the latest) when the process for measuring the airplane's distance from a fixed stop point is activated (see D1, e.g. paragraph [0019], [0016]-[0018]) obviously an airplane is necessarily detected and that subsequent to having established the correct type and correct version of the airplane (see D1, paragraph [0011], claim 1) and subsequent to the pilot accepting the correct type and version of the airplane (see D1, paragraph [0031]) the airplane is allowed to be brought to the stop point.

In view of the above conclusions, features 1.5 ("and the longitudinal and latitudinal coordinates of the airplane are extracted from said information (17)"), 1.6 ("from one and the same information signal received from the airplane (5)") and 1.11 ("the longitudinal and latitudinal coordinate information received from the said antenna is compared to the coordinates which are valid within the said stand, and in that when they are in agreement") are to be regarded as the sole features distinguishing the subject-matter of claim 1 over D1.

However, features 1.5 and 1.6 cannot contribute to inventive step, given that (see E1) the EU Commission Implementing Regulation No 1207/2011 (passed and published on 23.11.2011 before the priority date of contested claim 1) made the ADS-B communication system and ADS-B transponders mandatory for all new commercial passenger airplanes starting from 8 January 2015 (see

Article 5(4)(a)(b)(c)) and for all other commercial passenger airplanes starting from 7 December 2017 (see Article 5(5)(a)(b)(c)), said ADS-B communication system providing that the following data shall inter alia be made available to the ADS-B transponder: 24-bit ICAO aircraft address, aircraft identification, geodetic horizontal position in accordance with the world geodetic system revision 1984 (WGS84) latitude and longitude, both while airborne or on the ground.

Hence it would be obvious for the skilled person in view of E1 to use said information signal (from the ADS-B transponder), including aircraft identification number as well as longitudinal and latitudinal coordinates, for confirming the position of the detected aircraft. The skilled person would be also incentivized by the positioning/identification problem derivable from D1 (contrary to the Respondent's view).

In effect, D1 undoubtedly discloses that aircraft type and version (see paragraph [0031]: "when the pilot accepts the type of airplane and the version of the airplane shown on the display, the pilot is caused to move the airplane forward to the stopping point") and its position (see D1, claim 1: "provided that the airplane has stopped within a given predetermined position range, the distance measuring device is caused to send a signal to said control computer") are verified in the parking process before final docking.

Nevertheless D1 does not clearly and unambiguously disclose how and when the link between the detected airplane and its position is established, subsequently to the information signal transmitted by the aircraft's transponder being received and processed in order to infer the aircraft identification number and to

activate the distance meter and the display (see D1, paragraphs [0034], [0035]). Therefore, the assumption has to be made that either said position is derived (and associated with the aircraft identification number) by using a secondary surveillance radar at the airport (as contended by the Appellant) or by an operator/person seated in the airport ground control system having access to monitors connected to cameras placed at respective gates (see e.g. D1, paragraph [0029]) (as contended by the Respondent).

The skilled person would recognize that either way of establishing said link (between aircraft identification number of the detected airplane and position) would in principle not exclude possible errors (during surveillance radar signal processing or human monitoring/supervising, due e.g. to the presence of other aircrafts), such that it would be possible in principle that an error is incurred under given circumstances, e.g. if two airplanes (with obviously different airplane identification numbers) of the same type and version are approaching the gates.

Therefore the skilled person would in an obvious manner realize that said ADS-B transponder signal provides a position information directly and unequivocally related to the aircraft's identification number and in order to improve security the skilled person would in an obvious manner use this information to verify and confirm that the detected airplane is indeed the airplane of given type and version approaching the stand and would verify whether the position information extracted from said ADS-B transponder signal coincides with the measured distance inferred from said distance meter 13 at the stand. Thus the skilled person would arrive in an obvious manner at features 1.5, 1.6 and 1.11.

3. The subject-matter of claim 1 of auxiliary requests 1 to 4 does not involve an inventive step (Article 56 EPC) in view of D1 in conjunction with E1, D16 representing common general knowledge.

In particular, it is known from E1 that (as discussed above) an ADS-B communication system has to be mandatorily implemented on the aircraft, said system implying transmitting signals at given rates per second (see e.g. D16, Table 2-79, page 140) and implying likewise the capability of transmitting the flight number (see D16, section 2.2.3.2.5.3, pages 84-85). Thus, the further features specified in claim 1 of auxiliary requests 1 to 4 are well known to the skilled person and would be implemented in the system of D1 if need or necessity arises. Hence no contribution to inventive step is involved by said features.

Order

For these reasons it is decided that:

The decision under appeal is set aside.

The patent is revoked.

The Registrar:

The Chairman:



H. Jenney

G. Pricolo

Decision electronically authenticated