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D E C I S I O N
of 18 January 2001

Case Number: T 0120/99 - 3.5.1

Application Number: 93309474.0

Publication Number: 0605104

IPC: G01S 13/93

Language of the proceedings: EN

Title of invention:
Cruise control systems for motor vehicles

Applicant:
JAGUAR CARS LIMITED

Opponent:
-

Headword:
-

Relevant legal provisions:
EPC Art. 56, 113(1)

Keyword:
"Right to be heard"
"Inventive step"

Decisions cited:
T 0201/98

Catchword:
-

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Case Number: T 0120/99 3.5.1

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 18 January 2001

Appellant: JAGUAR CARS LIMITED
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted 27 July 1998 refusing European patent application No. 93 309 474.0 pursuant to Article 97(1) EPC.**

Composition of the Board:

Chairman: P. K. J. van den Berg
Members: R. S. Wibergh
H. Preglau

Summary of Facts and Submissions

I. This appeal is against the decision of the Examining Division to refuse European patent application No 93 309 474.0.

II. Claim 1 as initially filed reads as follows (omitting the reference signs):

A cruise control system for a motor vehicle comprising a forward looking distance sensor means, the distance sensor means being capable of sensing vehicles moving in the same path as the equipped vehicle and controlling the speed of the equipped vehicle in order to maintain a safe distance with the vehicles in front, characterised in that the sensor means also senses vehicles moving in paths adjacent to the path of the equipped vehicle; means being provided to process signals from the sensor means to provide information of the range, relative velocity and direction of movement of vehicles travelling in front of or in paths adjacent to the equipped vehicle; and means being provided to control braking and acceleration of the equipped vehicle in response to vehicles travelling in front of or on converging paths with the equipped vehicle, in order to maintain a safe distance between the equipped vehicle and vehicles in or entering its path.

III. The Examining Division held that the subject-matter of claim 1 was obvious having regard to the document

D1: DE-A-41 10 132.

Before taking the decision the Examining Division had issued a single official communication, to which the

appellant had replied.

IV. In the grounds of appeal the appellant argued that in D1 vehicles intervening into the path of the equipped vehicle were not tracked, ie their presence was only detected by range finders but their relative speed and direction of movement were not monitored. With the present invention, however, it was possible to track multiple vehicles near the equipped vehicle. This provided an advance warning of vehicles intervening in the path of the equipped vehicle.

The appellant expressed his willingness to amend claim 1 in a certain way.

It was furthermore stated that the Examining Division had been premature in issuing the decision to refuse the application after a single communication. Reference was made to the Guidelines C-VI 4.3.

V. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the application as filed. If the Board were to uphold the Examining Division's decision oral proceedings were requested.

Reasons for the Decision

1. *The invention*

The invention is a cruise control system for a motor vehicle. A sensor on the vehicle provides information about the range, relative velocity and direction of movement of vehicles travelling in front of or in paths

adjacent to the equipped vehicle. By continuously supervising not only the vehicle in front but also adjacent ones it is possible to predict at an early stage whether a neighbouring vehicle will pull in front of the equipped vehicle, and whether in such a case emergency braking is necessary.

2. *Prior art*

2.1 The closest prior art is described in D1. This document discloses a vehicle equipped with a cruise control system comprising a (main) forward range finder (Figures 1, reference sign 21) and two (supplementary) range finders (22) on each side of the vehicle for providing range information about vehicles entering the path of the equipped vehicle. These supplementary range finders, in the appellant's view, do not measure the (relative) speed and direction of intervening vehicles.

2.2 In the opinion of the Examining Division, the supplementary range finders determine the distance to an intervening vehicle at regular intervals, and therefore the velocity of that vehicle. Reference is made to a passage in D1 where it is said that the speed of the equipped vehicle is reduced if the distance to an intervening vehicle becomes too small having regard to the rate of change of this distance ("Wenn sich in diesem Falle jedoch herausstellt, daß der Abstand zwischen dem Fahrzeug des Fahrers und dem störenden Fahrzeug 23 im Hinblick auf die Abstandsänderungsrate zu klein wird..." - column 5, last line to columns 6, l.3). This would prove that the speed is indeed measured.

2.3 In the view of the Board, the controversial passage

quoted above does not clearly state that the supplementary range finders provide relative speed information. It is said that alarm is given when the range finders detect the presence of an intervening vehicle, and that then, if the distance becomes too small, the equipped vehicle reduces its speed. It seems that this information could be interpreted in at least the following three ways:

First, as the appellant has pointed out, the meaning might simply be that the distance decreases because the speed of the intervening vehicle is relatively low, but the supplementary range finders measure only the distance.

Second, if the speed is indeed measured, and considering that an intervening vehicle would very soon pass into the field of view of the forward range finder, the view could be taken that it is the forward range finder which performs the measurement. There is apparently a delay between the detection of the vehicle and such a measurement ("Wenn sich *herausstellt*...") which might correspond to the time it takes for the intervening vehicle to overtake completely the equipped vehicle. It should be noted that it is the express purpose of the forward range finder, but not of the supplementary range finders, to furnish information such that a constant distance can be kept to a vehicle in front.

Third, the meaning may be that the supplementary range finders measure the relative speed, as suggested by the Examining Division.

2.4 Thus the Examining Division's interpretation is not

unambiguously derivable from D1. The Board therefore concludes that D1 does not disclose the feature in claim 1 which states that the sensor means provides information about the relative velocity and direction of movement of vehicles travelling in paths adjacent to the equipped vehicle.

3. *Inventive step*

3.1 The technical problem as it can be derived from the description, columns 2, l.7 to 15 is to be able to predict the interception of the path of the equipped vehicle by vehicles on either side, and in such good time that emergency braking can be avoided.

3.2 D1 also addresses this problem and provides a solution consisting in supervising the blind spots on the sides of the equipped vehicle. The invention however goes one step further in determining the speed and direction of (all) neighbouring vehicles, and doing this even if no vehicle is about to pull in front of the equipped vehicle.

3.3 In the Board's view D1 does not suggest this feature. In D1 the forward range finder is directed at the vehicle in front, which is normally the closest one. If another vehicle intervenes it is detected by the supplementary range finders. The principle is thus that the closest (single) vehicle, ie the one representing the greatest danger to the equipped vehicle, is detected. The invention, on the other hand, tracks a *plurality* of neighbouring vehicles. The idea to supervise the movements of vehicles which represent a potential rather than an immediate danger thus appears to go beyond the concept underlying D1.

3.4 The Examining Division was of the opinion that the supplementary range finders are able to determine the speed of an intervening vehicle such that the control may send out a brake command. In the Board's view this possibility, although not expressly disclosed in D1, is indeed at least obvious. After all, it seems to be clear from D1 that some information about the relative speed of an intervening car needs to be known, and equally clear that the speed could be directly measured by the supplementary range finders. But even in that case the invention does not appear to follow in a straightforward manner. No matter how the speed of an intervening vehicle is measured, there is still no hint in D1 that the speed of *more than one* target at a time should be supervised.

3.5 Furthermore, according to claim 1 the "direction of movement" of other vehicles is determined. This feature taken in its context cannot reasonably be understood as covering only a movement along the line of sight between the equipped vehicle and another vehicle. The reason is that such movements would correspond to the relative velocity of the vehicles, but the determination of the relative velocity is set out separately in the claim. The feature must instead be interpreted as the determination of the direction of movement of other vehicles *in a plane*. Such measurements are possible according to the invention as described since the range *and bearing* of each vehicle are detected (columns 3, l.7 to 10). D1, however, is restricted to distance measurements in certain, fixed directions.

3.6 It follows that the invention is not suggested by D1.

3.7 The Examining Division has not argued that any other document or combination of documents might lead to the invention, and the Board agrees that this seems not to be the case. It follows that the invention as defined in claim 1 involves an inventive step.

4. Under these circumstances the appellant's suggestion for an amendment of claim 1 (see point IV above) need not be considered.

5. Noting in particular that the prior art known from D1 is not acknowledged in the description, the Board chooses to remit the case to the Examining Division for completion of the examination.

6. *The appellant's right to be heard*

6.1 Although the appellant has not formally stated that the Examining Division committed a substantial procedural violation by refusing the present application after a single communication, it is clear from the grounds of appeal that he was surprised by the refusal after having given arguments in the reply to the communication. The appellant has referred to the Guidelines for Examination. In part C-VI 4.3 of the Guidelines it is stated that "in most cases, the applicant will have made a bona fide attempt to deal with the examiner's objections". If in spite of such a bona fide response the examiner considers that there is little prospect of progress towards grant, "the examiner should not refuse immediately but should warn the applicant, e.g. by a telephone conversation or by a short further written action". Therefore, in the appellant's view, a warning should have been given before the decision to refuse was taken.

6.2 In the recent decision T 201/98 (not intended for publication) which deals with a similar case the board stated that

"it is... unfortunate that the Guidelines are worded in such a way as on the one hand to lead the applicant or his representative to expect a warning before rejection after a single communication and on the other hand to impute a moral culpability for rejection... however it is the established jurisprudence of the Boards of Appeal that an examining division does not exceed its discretionary power... by an immediate refusal, provided that the decision complies with Article 113(1) EPC, i.e. is based on grounds on which the appellant has had an opportunity to present comments".

Thus, the mere fact that an Examining Division has refused an application immediately after the response to the first and only official communication does not necessarily imply that a substantial procedural violation has been committed.

6.3 As to the requirements of Article 113(1) EPC the Board finds that the appellant was given sufficient opportunity to present comments on the objections raised by the Examining Division. It is true that point 7 of the contested decision contains arguments which had not been previously communicated to the appellant. These arguments, however, relate to the question whether D1 discloses that the velocity of a vehicle travelling in an adjacent path is measured. In the Board's view this question was not crucial for the decision since novelty was not at issue and the Examining Division's interpretation of D1 was in any case an obvious one (cf. point 3.4 above). Decisive was

instead whether the invention involved an inventive step over D1, assuming in particular the Examining Division's interpretation of this document. This was a matter of judgment. Therefore, the contested decision was not *based* on grounds on which the appellant had had no opportunity to present his comments.

7. Since the contested decision is not upheld there is no need to hold oral proceedings before the Board.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the first instance for further prosecution.

The Registrar: The Chairman:

M. Kiehl P. K. J. van den Berg