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Datasheet for the decision of 12 February 2019

Case Number: T 1344/15 - 3.2.01

Application Number: 04787529.9

Publication Number: 1670668

IPC: B60T8/88, B60T8/96, G05B9/03, B60T13/68, B60T17/22

Language of the proceedings: EN

Title of invention:
CONTROL NETWORK FOR BRAKE SYSTEM

Patent Proprietor:
Haldex Brake Products AB

Opponent:
WABCO GmbH

Headword:

Relevant legal provisions:
EPÜ Art. 54(1), 56, 123(2), 114(2)

Keyword:
Novelty - (yes)
Inventive step - (yes)
Undisclosed subject-matter - (no)
Discretion of the Opposition Division - (not objectable)

Decisions cited:

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

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Case Number: T 1344/15 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 12 February 2019

Appellant: (Opponent)	WABCO GmbH Am Lindener Hafen 21 30453 Hannover (DE)
Representative:	Wasiljeff, Johannes M.B. Jabbusch Siekmann & Wasiljeff Patentanwälte Otto-Lilienthal-Strasse 25 28199 Bremen (DE)
Respondent: (Patent Proprietor)	Haldex Brake Products AB P.O. Box 501 261 24 Landskrona (SE)
Representative:	Ström & Gulliksson AB P O Box 4188 203 13 Malmö (SE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 12 May 2015 concerning maintenance of the European Patent No. 1670668 in amended form.**

Composition of the Board:

Chairman	G. Pricolo
Members:	H. Geuss
	O. Loizou

Summary of Facts and Submissions

I. The appeal is directed against the interlocutory decision of the Opposition Division of the European Patent Office posted on 12 May 2015 concerning maintenance of the European Patent No. 1670668 in amended form.

II. The opposition division held inter alia that the subject-matter of claim 1 according to the interlocutory decision is novel and based on inventive step, taking into account document

DE 197 17 686 A1 (**D8**).

III. Claim 1 as maintained reads as follows (structure of features in brackets introduced by the Board):

An electrically controlled braking system (10) comprising **[1]**:
at least one control unit (12),
controlling braking functions including antilock brake systems and electronic force distribution (EBV) systems, **[2*]**
said at least one control unit generating control signals for controlling a plurality of brake components **[2]**:

a first brake component (14) responsive to the control signals generated by said at least one control unit, said first brake component including a brake actuator (26) incorporating an electronic control unit (12) which electronic control unit causes said brake actuator to operate in response to control signals;**[3]**
a second brake component (16) responsive to the control signals generated by said at least one control unit,

said second brake component including a brake actuator incorporating an electronic control unit which electronic control unit causes said brake actuator to operate in response to control signals;**[4]**

a first control network (30) electrically connecting said at least one control unit and said first brake component, said first control network adapted to transmit the control signals from said at least one control unit to said first brake component; **[5]**
a second control network (32) electrically connecting said at least one control unit and said second brake component, said second control network adapted to transmit the control signals from said at least one control unit to said second brake component;**[6]**

wherein each of said first brake component and said second brake component is directly electrically connected to only one of said first control network and said second control network;**[7]**

and an auxiliary control link (34) activatable to electrically connect said first brake component and said second brake component,**[8]**
said auxiliary control link adapted to transmit the control signals, after the control signals have been received by one of said first brake component and said second brake component, from the one of said first brake component and said second brake component that received the control signals to the other one of said first brake component and said second brake component**[9]**

when a failure occurs in one of said first control network or said second control network,**[10]**
such that in the event of a failure of said first

control network such that signals are not transmissible over said first control network,**[11]**

control signals may be transmitted from said at least one control unit to said first brake component through said second control network and said second brake component via said auxiliary control link**[12]** and such that in the event of a failure of said second control net work, such that signals are not transmissible over said second control network, control signals may be transmitted from said at least one control unit to said second brake component through said first control net work and said first brake component via said auxiliary control link.**[13]**

IV. In a communication according Article 15 (1) RPBA the parties were informed of the provisional opinion of the Board according to which none of the appellant's lines of argument as provided in writing seemed to successfully challenge inventive step of claim 1 In particular the Board stated that *"the microcontrollers MP1 and MP2 in D8 seem to correspond to the electronic control unit (12) according to the patent in suit. The elements 3 and 4 in D8 are input circuits ("Eingangsdaten erfassende Schaltung…", cf. column 3 , lines 42 et seq.). Thus, the network connections are seen in the connection lines between the microcontrollers (MP1, MP2) and the respective actuator (5,6), cf. D8, column 4, lines 7 et seq."Signalwege oder Datenwege von den Mikroprozessoren …"). Thus the main difference between D8 and the contested invention is seen in the fact that in D8 the auxiliary control link is between the microcontrollers whereas in the invention the actuators (respectively their ECUs) are linked together by the auxiliary path.*

In the Board's view this difference leads to a substantial structural difference between the state of the art and the invention in suit. Further it may be questioned whether a network error (according to features 10 and 11 of claim 1) would be detected by a structure according to D8." The Board further stated that it seemed that feature 2* (which was introduced in claim 1 during the proceedings before the opposition division) had no impact on novelty and inventive step.

V. Oral proceedings were held on 12 February 2019.

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.

VI. The appellant's (opponent's) submissions as relevant to the present decision may be summarized as follows:

The subject-matter of claim 1 is not novel over document D8.
Since the function of the control unit is not defined in the disputed patent, the sensor input units 3 and 4 in D8 correspond to such a control unit. These input units are apt to process input data (Sensorsignalauswertung, cf. D8, dependent claim 9). In particular, they create an output signal which controls the brake. For a control unit according to claim 1 it is not necessary that all braking functions are implemented in the sensor input unit. It is sufficient that input signals are partly processed and that the result is necessary to control the brake.

Anyhow, this difference is not able to render the

subject-matter of claim 1 inventive. It is known to the skilled person to distribute braking functions over more than one control unit. Thus the person skilled in the art would be able to integrate antilock braking functions, or parts therefrom, in the input sensor unit according to D8 without any inventive activity.
As acknowledged by the appellant during the oral proceedings before the Board, this is the sole line of argument which takes into account that the sensor input unit does not correspond to a control unit according to the invention, all other lines of argument as submitted in writing assume that the sole differing feature over D8 is feature 2*.

Claim 1 in suit consists of claim 1 as granted and parts of claim 9 as granted. By failing to incorporate the whole claim 9 in present claim 1, the amendment results in an intermediate generalisation. Claim 9 as granted corresponds to claim 10 as originally filed, where it is defined that the control unit controls functions from the group consisting of an antilock brake system, an electronic force distribution system and a vehicle suspension system. Since the suspension system has not been included, the subject-matter of claim 1 goes beyond the disclosure of the application as originally filed.

Further, according to the appellant, the opposition division exercised its discretion to admit auxiliary request 1 (which is the present main request) in an inadequate way. This request was late filed and the opposition division did not take into account the requirements of fairness vis-à-vis the opponent. The case has not been changed at that time and the opponent was faced during the oral proceedings (at 13:28h) with a surprising new request including a claim 1, in which

features that payed no role before were incorporated. Additionally, this request does not overcome the novelty objections, thus the amendment is not allowable under Rule 80 EPC. In particular, feature 2* is not able to establish novelty.
Furthermore, the behaviour of the patent proprietor in this respect is contradictory. It was never mentioned before in the opposition proceedings that additional braking functions in the control unit were relevant for the invention (cf. Article 125 EPC).

VII. There is no need to summarize here the arguments of the patent proprietor (respondent), as the Board finds them convincing with respect to all decisive issues. They can thus be identified in the reasoning of this decision (see below).

Reasons for the Decision

1. The subject-matter of claim 1 according to the interlocutory decision of the opposition division is novel and based on inventive step, Articles 54(2) and 56 EPC.

1.1 The appellant/opponent argued that the sensor input unit 3 and 4 in D8 correspond to the at least one control unit according to feature [2] of the invention in suit. The first and second control networks correspond to the connection lines between the sensor input unit 3 and MP1 and sensor input unit 4 and MP2 respectively.

The Board is convinced that the signal input unit 3 (or 4) does not constitute a control unit in the sense of

the contested invention, but is likely to be seen as a circuit that receives input data or signals (“Eingangs-daten oder Eingangsinformationen aufnehmende und erfassende Schaltung”).

The skilled person would understand by "control unit" in this context a device which controls standard braking operations and generates signals for controlling brake components. This is also what the patent description explains (cf. paragraph [0034]) and what is defined in claim 1, feature [2]. In the Board´s view, a standard braking function must be understood in the context of the underlying technical field. That means that a standard braking function is a mathematical or logical operation based on a plurality of input (sensor) values to create (a plurality of) control signals. This means that a specific control value (output) may be dependent on more than one input value.

However, there is no such disclosure in D8 for the input units 3 and 4, but only for MP1 and MP2 (cf. col. 3, lines 44-54 and claim 1). Also the term “Sensor-signalauswertung” (cf. D8, dependent claim 9) which was cited by the appellant in this respect, represents merely a signal pre-processing and cannot be understood as including functions performing standard braking.

In this connection the Board disagrees with the appellant's argument according to which every input signal which is necessary to operate the brake is a control signal in the sense of the invention.

Thus, D8 does not show feature [2] of contested claim 1.

It is evident that this interpretation by the Board of the signal input unit of D8, leads to further distinguishing features between the contested claim 1 and D8. It is however not necessary to go into the details of all distinguishing features.

1.2 The appellant argued that – starting from D8 – it is obvious for those skilled in the art to integrate standard braking functions, such as antilock brake systems, into the input module 3 or 4. The skilled person would be aware of systems in this field in which functions are distributed over more than one control unit. Therefore the implementation of an ABS functionality in part 3 (or 4) of D8 cannot render the subject-matter of claim 1 inventive (cf. Facts and Submissions, above, point IV).

The Board does not follow this line of argument. As already pointed out in respect of novelty, the input unit 3 (or 4) only performs signal gathering and signal pre-processing functions. In D8, the ABS functionality is integrated in the microprocessor units MP1 and MP2.

Thus, there is no motivation for the skilled person to change this design and to add (standard braking functionality and) the ABS functionality in a signal input unit which is (in D8) obviously not provided with a high level data processing capability.

1.3 The lines of argument with respect to inventive step as submitted in writing by the appellant are based on the interpretation of the signal control unit (3, 4) in the sense of the decision of the opposition division. These lines of argument are all based on D8 (either as the starting point or as the second document to be taken into combination) and consider feature 2* as the sole

distinguishing feature over D8 in claim 1. They are no longer relevant in the underlying situation in which an inventive step is recognized based on feature [2] (see above).

2. The subject-matter of claim 1 does not go beyond the disclosure of the application as originally filed, Article 123 (2) EPC.

2.1 The fact that present claim 1 combines the features of granted claim 1 and only part of claim 9 as granted does not contravene Article 123 (2) EPC.

2.2 Claim 9 as granted (corresponding to claim 10 as originally filed) defines that the control unit further controls functions from the group consisting of an antilock brake system, an electronic force distribution system, a vehicle suspension system and combination of these.

From three items as listed only two are taken in feature 2*.
The Board cannot recognize how this could lead to a new, undisclosed technical information, insofar the items of the list are not necessarily linked to each other and the claim specifies a combination of (any of) these items.

3. Finally, the Board takes the view that the opposition division did not exercise its discretion to admit auxiliary request 1 according to wrong criteria or in an inadequate way.

3.1 Auxiliary request 1 (which corresponds to the present request) was filed during oral proceedings after the discussion with respect to novelty over D8. The

opposition division admitted this request into the proceedings.

3.2 The appellant objects that this request was late filed (Rule 116 EPC) and therefore should not have been admitted by the opposition division. The opponent's case – at that time - had not been changed. Further, this request contravened Rule 80 EPC since it did not overcome the objections concerning the lack of novelty. The added feature 2* was not able to establish novelty.

3.3 The Board does not follow this line of argument.

Firstly, the opposition division in its preliminary opinion gave a reasonable interpretation of the input units: they “cannot be seen as control units in a most general sense” and "MP1 and MP2 are the only possible disclosure of control units in the sense of claim 1", cf. communication of the opposition division dated 2 December 2014. It was only during the oral proceedings that the opposition division changed its opinion on the main request.
Hence, the filing of auxiliary request 1 is to be seen as a reaction to the change of opinion.

Also, for this reason, the Board does not see any conflicting behavior of the patent proprietor whatsoever, in any sense, irrespective of the reference made by the appellant to Article 125 EPC.
The Board considers the reference made by the appellant to Article 125 EPC to be out of place and therefore pointless.

Secondly, this reaction may be seen as an adequate attempt to overcome the ground for opposition of lack of novelty, since the amendment results in a limitation

of the claimed subject-matter, that is based on features taken from a granted claim (see above, point 2) and thus would not take the opponent by surprise during the oral proceedings.

Thirdly, Rule 80 EPC does not require that the amendment successfully overcomes a ground of opposition. It is sufficient that the amendment is occasioned by a ground for opposition.

As a result, the Board cannot identify an error in the exercise of the discretion of the opposition division and thus sees no reason to overturn the discretionary decision to admit auxiliary request 1 (i.e. the present request).

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

A. Vottner G. Pricolo

Decision electronically authenticated