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**D E C I S I O N**  
**of 25 April 1995**

**Case Number:** T 0986/93 - 3.2.1

**Application Number:** 88305884.4

**Publication Number:** 0297837

**IPC:** B60C 23/00

**Language of the proceedings:** EN

**Title of invention:**  
Central tire inflation system

**Patentee:**  
Eaton Corporation

**Opponent:**  
WABCO Standard GmbH

**Headword:**  
-

**Relevant legal provisions:**  
EPC Art. 56, 100(c), 111(1), 114(2)

**Keyword:**  
"Late submitted ground of opposition - considered"  
"Opposition grounds - extension of subject-matter (yes)"  
"Inventive step (yes)"

**Decisions cited:**  
G 0010/91, T 0122/84, T 0931/91

**Headnote:**  
A Board of Appeal is not barred from considering a belatedly submitted ground of opposition which had been disregarded by the Opposition Division pursuant to Article 114(2) EPC if the

Board is of the opinion that the Opposition Division exercised its discretion in this respect wrongly, see points 2.1 to 2.5 of the reasons.

**Case Number:** T 0986/93 - 3.2.1

**D E C I S I O N**  
**of the Technical Board of Appeal 3.2.1**  
**of 25 April 1995**

**Appellant:** WABCO Standard GmbH  
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**Representative:** Schrödter, Manfred  
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**Respondent:** Eaton Corporation  
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**Representative:** Wright, Peter David John  
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**Decision under appeal:** Decision of the Opposition Division of the European Patent Office given on 22 September 1993 and issued in writing on 26 October 1993 rejecting the opposition filed against European patent No. 0 297 837 pursuant to Article 102(2) EPC.

**Composition of the Board:**

**Chairman:** F. Gumbel  
**Members:** S. Crane  
B. Schachenmann

## Summary of Facts and Submissions

- I. European patent No. 0 297 837 was granted on 16 October 1991 on the basis of European patent application No. 88 305 884.4.

Claim 1 as granted reads as follows:

"A central tire inflation system (10) for sensing and maintaining selected air pressures in tire chambers (74) of tire assemblies (12 or 14) mounted for rotation at opposite ends of at least one axle assembly supporting a chassis of a vehicle controlled by an operator; the system comprising:

an air source (138) for providing pressurized air at pressure at least equal to normally maximum tire chamber air pressure;

selected means (222) including means (226, 228, 230) selectively activatable by the operator for preselecting one of several desired tire chamber air pressures;

a control circuit including means (237) automatically operative several times per hour to activate a pressure check mode to compare tire pressure signal from a sensing means (186) with the preselected tire pressure, and automatically operative to activate inflation and steady-state modes respectively in response to the sensed tire pressure being less than or within predetermined limits of the preselected tire pressure;

an air circuit for connecting the air source (138) to each tire chamber (74), the air circuit including rotary seal means (28, 30) for fluidly connecting non-rotatably mounted parts of the air

circuit with rotatably mounted parts of the air circuit;

a control valve (58) secured to each tire assembly, each control valve having a first port (66) connected to one of the rotatably mounted parts of the air circuit, a second port (72) connected to the tire chamber (74) of the associated tire assembly, and valving means (90) movable to a position blocking air communication between the ports (66, 72) in response to the air circuit being vented to atmosphere and movable to a position unblocking the air communication between the ports (66, 72) in response to pressurization of the air circuit;

valve means (174, 154) operative in response to the automatic activation of the steady-state mode by the control circuit means (237) to vent the air circuit to atmosphere for moving the valving means (90) of the control valves (58) to the blocking positions, the valve means (174, 154) operative in response to activation of the check mode to momentarily connect the air source (138) to the air circuit to pressurize the air circuit and move the valving means (90) of the control valves (58) to the unblocking positions for establishing air pressure in the air circuit at the sensing means (186) representative of the tire pressure, and the valve means (174, 154) operative in response to automatic activation of the inflation mode by the control circuit means (237) to again connect the air source to the air circuit for increasing the tire pressure; characterized by:

switch means (234) selectively and manually activated by the operator during vehicle operation

in hazard zones for automatically increasing the frequency of activating the check modes by the control circuit means (237), for automatically more quickly detecting low tire pressure conditions, and for automatically more quickly activating the inflation modes to prevent flat tire conditions within the air capacity of the air supply."

Dependent Claim 2 relates to a preferred embodiment of the system according to Claim 1.

II. The patent was opposed by the Appellants. The grounds of opposition, according to the statement under Rule 55(c) EPC, were that the subject-matter of the patent lacked novelty or inventive step with respect to the state of the art (Article 100(a) EPC) and that the invention was insufficiently disclosed (Article 100(b) EPC).

As state of the art the Appellants referred to

DE-A-3 308 080 (D2).

III. At oral proceedings held before the Opposition Division on 22 September 1993 the Appellants no longer pursued the objections of lack of novelty and insufficiency of disclosure. They introduced however the new ground of opposition that the subject-matter of the patent extended beyond the original disclosure (Article 100(c) EPC). After hearing the parties for some time on the matter the Opposition Division ruled, cf. point 5 of the minutes, that according to Article 114(2) EPC it

intended to disregard the submissions of the Appellants with respect to the new ground of opposition.

With regard to the question of inventive step the Appellants relied essentially on the state of the art according to US-A-4 640 331 (D1) which is referred to in the description of the patent as constituting the most relevant state of the art.

At the end of the oral proceedings the Opposition Division announced its decision to reject the opposition. The decision was issued in writing on 26 October 1993.

- IV. An appeal against this decision was filed on 20 November 1993, with the appeal fee being paid at the same time. The Statement of Grounds of Appeal was filed on 28 January 1994.

The Appellants requested that the contested decision be set aside and the patent revoked in its entirety.

- V. With a letter received on 27 March 1995 the Respondents (Proprietors of the patent) filed amended claims corresponding to conditional submissions 1 to 5.

- VI. Oral proceedings before the Board were held on 25 April 1995.

At the oral proceedings the Respondents made a main request for dismissal of the appeal and an auxiliary request for maintenance of the patent in amended form on the basis of the claims corresponding to conditional

submission 2 filed on 27 March 1995 and the description and drawings as granted.

Claim 1 according to the auxiliary request corresponds to granted Claim 1 with the addition of the following feature at the end of its preamble:

"and;

means (122, 124, 136) for sensing that the pressure in a tire has fallen below a minimum value and in response thereto causing that tire to be isolated;"

Claim 2 corresponds to granted Claim 2.

VII. The arguments presented by the Appellants were substantially as follows:

The Opposition Division had erred in deciding to disregard the ground of opposition under Article 100(c) EPC.

Granted Claim 1 omitted two features contained in the original Claim 1 concerning the isolation of a badly damaged tire and the enhanced frequency of activating the check mode in a hazard zone which were clearly essential to the solution of the technical problem as presented. There was no disclosure of a system without these features in the originally filed application. This discrepancy was plainly evident from a comparison of the application and the granted patent. There were therefore, **prima facie** good reasons for believing that the ground of opposition could prejudice the maintenance of the patent unamended.

As for inventive step the only distinction between the subject-matter of Claim 1 according to either the main or auxiliary request and the system known from document D1 was the provision of means which enabled the tire pressure to be checked more frequently in a hazard zone. It was self-evident that the more often the tires were checked the more quickly a damaged tire could be detected and steps be taken to supply air to it. To have a higher frequency check in operation at all times would lead to excessive wear of the components of the system, so that it was obvious only to activate the enhanced check mode when it was necessary.

VIII. In reply the Respondents made essentially the following submissions:

The allegation of extension of subject-matter was a fresh ground of opposition which according to Opinion G 10/91 of the Enlarged Board of Appeal (OJ EPO 1993, 420) could not be considered by the Board. Within the context of that decision a "fresh" ground was one that had not been mentioned in the Notice of Opposition. Even if that assumption were not correct and grounds of opposition belatedly submitted in the opposition proceedings were not necessarily to be considered as "fresh" grounds as far as the appeal proceedings were concerned then that could only apply to a ground of opposition which had been fully argued before the Opposition Division and not one which the Opposition Division had disregarded under Article 114(2) EPC. Once the Opposition Division had used its discretion to disregard the new ground the Board of Appeal was not empowered to consider the issue. To proceed otherwise

would effectively enfeeble the intended purpose of Article 114(2) EPC and moreover deprive the Respondents of the possibility to argue their case fully before two instances.

The objection under Article 100(c) EPC was in any case without merit. The two features identified by the Appellants were in no way essential to the performance of the invention and this would have been evident to the skilled person on reading the application as originally filed. More specifically, isolation of a badly damaged tire was a feature known from document D1 and had nothing to do with the present inventive idea which was concerned with what happened before isolation took place. Furthermore, it was evident that the advantages of the invention obtained by having an enhanced checking frequency were not dependent on that frequency being of the particular value stated in the originally filed Claim 1.

The arguments of the Appellants with respect to inventive step were based solely on hindsight knowledge of the invention. There was nothing in document D1 which could suggest to the skilled person that it could be advantageous to adopt the measures proposed by the claimed invention.

### **Reasons for the Decision**

1. The appeal complies with the requirements of Articles 106 to 108 and Rules 1(1) and 64 EPC. It is therefore admissible.

2. *Objection under Article 100(c) EPC*

2.1 The objection under Article 100(c) EPC was raised first in the oral proceedings before the Opposition Division, which making use of the discretion given to it by Article 114(2) EPC decided to disregard that objection.

The question therefore arises whether, as argued by the Respondents, the Board having regard to what has been established in G 10/91 (*supra*) is barred from considering this ground of opposition without the approval of the patentee.

2.2 According to point 3 of the Opinion of the the Enlarged Board of Appeal in case G 10/91 fresh grounds for opposition may be considered in appeal proceedings only with the approval of the patentee.

2.3 The first contention of the Appellants is that the "fresh" grounds referred to in point 3 of G 10/91 comprise any ground of opposition not covered by the statement under Rule 55(c) EPC.

However, in point 18 of the reasons, which contains the legal arguments justifying point 3 of the opinion, it is stated that

"In particular with regard to fresh grounds for opposition ... the Enlarged Board considers that such grounds may in principle not be introduced at the appeal stage."

From that statement it seems clear that the Enlarged Board did not intend that the term "fresh ground" as

used in point 3 of its Opinion to be given the wide meaning contended by the Respondent but was concerned instead with a ground of opposition relied upon for the first time during the appeal proceedings.

That view is confirmed by the first sentence of point 18 of the reasons in case G 10/91 where it is stated that

"The purpose of the appeal procedure **inter partes** is mainly to give the losing party a possibility to challenge the decision of the Opposition Division on its merits."

Thus on that basis a patentee can challenge the merits of a decision to revoke his patent on the basis of a ground of opposition which was belatedly introduced into the opposition proceedings but cannot, which would be the paradoxical effect if the Respondents' contention were correct, have that decision set aside simply by the expedient of filing an appeal and then denying the Board's competence to consider that "fresh" ground of opposition.

A similar view on the obligation of a Board of Appeal to consider a ground of opposition belatedly introduced into the opposition proceedings was reached in decision T 931/91 of 20 April 1993, see point 2.1 of the reasons (decision not published in OJ EPO).

- 2.4 In the alternative to their broad first contention dealt with above the Respondents argue that "fresh" grounds of opposition within the meaning of point 3 of the opinion of the Enlarged Board would include a

ground which although referred to by an opponent in the opposition proceedings had been disregarded by the Opposition Division pursuant to Article 114(2) EPC so that if the Board of Appeal were to consider that ground it would effectively be introducing it at the appeal stage.

Again, the Board can find no basis for that second, more limited, contention of the Respondents in the reasoning contained in G 10/91. Firstly, if an Opposition Division chooses to disregard the belated submissions concerning a new ground of opposition, that cannot detract from the fact that the ground was relied upon, i.e. introduced, during the opposition proceedings. Secondly, the procedural decision of an Opposition Division to disregard submissions forms an essential element of its decision making process and as such belongs to one of the issues subject to review when the final decision of the Opposition Division is challenged on its merits.

- 2.5 Although a Board of Appeal will reluctantly interfere with a discretionary decision of an Opposition Division pursuant to Article 114(2) EPC, it will do so where necessary and appropriate, see for example decision T 122/84, point 13 of the reasons (OJ EPO 1987, 177).

According to point 16 of the reasons given in opinion G 10/91 the Enlarged Board emphasised that the consideration of grounds not properly covered by the statement pursuant to Rule 55(c) EPC should only take place before the Opposition Division in cases where, **prima facie**, there are clear reasons to believe that such grounds are relevant and would in whole or in part

prejudice the maintenance of the European patent. A Board of Appeal in considering whether an Opposition Division exercised its discretion properly with respect to disregarding such a ground is limited in the extent of its investigations in the same way as the Opposition Division, as follows from Article 111(1) EPC. The concern expressed by the Appellants that the eventual consideration of such a ground in the appeal proceedings would mean that an opponent would be at liberty to make belated submissions in the opposition proceedings in the safe knowledge that even if the Opposition Division chose to disregard them they would in any case be taken into account by the Board of Appeal is accordingly not justified.

- 2.6 In the present case it is readily apparent from a comparison of Claim 1 as granted and as originally filed that in the former the features relating to the isolation of a badly damaged tire and the enhanced frequency of activating the check mode in a hazard zone had been omitted. Such an omission does not of course in itself constitute an inadmissible extension of subject-matter. However, when account is taken of the introductory description of the patent, which is identical with that of the original application, it can readily be seen that here the invention is presented as being a modification of the system known from document D1, which included means for isolating a badly damaged tire, and was intended, see column 2, lines 32 to 39, to enable by frequent sensing the quick identification of such a tire so that it could be supplied with sufficient air to delay or avoid the tire from being isolated. Thus it does indeed appear to the Board that there are strong **prima facie** reasons for

believing that the features mentioned above which had been omitted from granted Claim 1 were essential features of the invention as originally disclosed so that the granted claim could well effectively disclose matter extending beyond the content of the original application. Thus the Board comes to the conclusion that the Opposition Division erred in deciding to disregard, under Article 114(2) EPC, the ground of opposition according to Article 100(c) EPC.

In these circumstances it is necessary to consider whether the **prima facie** reasons identified above are indeed supported by a detailed investigation of the original disclosure.

According to Claim 1 as originally filed it is stated that the run flat mode selector causes monitoring of tire pressure "at least several times a minute". In granted Claim 1 on the other hand it is stated that in normal operation the tire pressure is checked "several times per hour" and that in a combat zone the frequency of checking is selectively increased "for automatically more quickly detecting low tire pressure conditions, and for automatically more quickly activating the inflation modes to prevent flat tire conditions". In the opinion of the Board that functional statement in granted Claim 1, particularly when read in conjunction with the description from which it is clear that very rapid detection of a damaged tire is required, implies a checking frequency in the enhanced mode which is significantly higher than that in normal operation. In the context of the original application the reference to a frequency of several times a minute, which term is in any case of rather imprecise ambit, can be seen as

being exemplary of such a higher frequency and not definitive. Thus the Board comes to the conclusion that the omission of this feature does not constitute an objectionable addition of subject-matter.

The situation with respect to the means for isolating a badly damaged tire is however different. From a reading of the original application as a whole it is apparent that these means are consistently presented throughout as an essential component of the system as originally disclosed. There is nothing there which could suggest to the skilled person that these means could be omitted or that a system without such means would be properly functional. Thus granted Claim 1 includes subject-matter extending beyond the content of the application as filed and the ground of opposition under Article 100(c) EPC holds good.

In coming to that conclusion the Board cannot accept that it has unwarrentedly curtailed the possibility of the Respondents to argue their case before two levels of jurisdiction. As is clear from point 3 of the minutes of the oral proceedings before the Opposition Division the Respondents indeed had the opportunity there to argue the matter at least to the extent necessary to convince the Opposition Division of the rightness of their case.

The main request of the Respondents must therefore be refused.

With regard to their auxiliary request it is to be noted that the feature relating to the isolation means included in Claim 1 is in somewhat more general terms

than that included in Claim 1 as originally filed. That generalisation is however admissible having regard to what is said in column 5, lines 3 to 13, of the description. Thus the amendment made is sufficient to dispose of the objection under Article 100(c) EPC.

3. *Novelty*

The novelty of the subject-matter of Claim 1 according to the auxiliary request of the Respondents is not in dispute. It is distinguished from the closest state of the art according to document D1 by the features specified in the characterising clause of the claim.

4. *Inventive step*

Central tire inflation systems wherein the tire pressures of a vehicle are monitored and the tires are inflated from a central air supply or deflated as and when the need arises are well-known. The system disclosed in document D1 is primarily designed to allow the operator of the vehicle to choose tire pressures best adapted to running of the vehicle on a highway, cross-country or in sand and mud. It is also indicated that the system can supply air to a damaged tire to keep it at least partially inflated and thus maintain vehicle manoeuvrability for as long as possible. This is particularly important in the context of a military vehicle under enemy attack. Document D1 proposes a system in which the tire pressures are checked at regular intervals with the air supply lines to the tires normally being exhausted so that the rotary seal members in the line are not subjected to a differential pressure in steady state operation of the system

thereby reducing wear of these components. The frequency of the checks is not specifically mentioned in the document itself but the Respondents, who are also proprietors of document D1, stated that the checks were performed at 15 minute intervals. In the case of a badly damaged tire the tire is automatically isolated from the system as soon as its pressure falls below a pre-set minimum value.

The present invention is concerned with maintaining manoeuvrability of the vehicle for as long as possible in the event of a tire being badly damaged in a hazardous operating zone for the vehicle, for example when a military vehicle is operating in a combat zone. To this end the operator of the vehicle can in such a zone select a special higher frequency check mode in which the tire pressures are checked for example several times a minute. Thus in this mode the possibility of severe damage to a tire being recognised before the pressure in that tire falls to the value that initiates isolation of the tire to the system is greatly increased and air can then be supplied more or less immediately to the tire in order to maintain it partially inflated at least for a short period of time. Although that period of time may indeed be short it is evident that the improved manoeuvrability obtained can be of significant advantage when the vehicle is say under fire or is to be brought into a firing position.

The insight underlying the present invention lies in the recognition that even if the tire is badly damaged and the full capacity of the inflation system can only prevent total deflation for a short time, then there could nevertheless be an advantage in activating the

inflation mode. There is nothing in document D1 which can suggest this to the skilled person since that document teaches him that the way to deal with a badly damaged tire is to isolate it automatically from the inflation system so as to prevent unnecessary loss of air and ensure that the system can still operate with respect to the other tires. The other state of the art originally relied upon by the Appellants, document D2, is concerned with a central tire inflation system in which tire pressure is automatically adjusted as a function of vehicle velocity and can also give no lead to the skilled person in the direction of the claimed invention.

Thus the argument of the Appellants that it was a self-evident measure to check the tire pressures more frequently when the vehicle is operating in a hazard zone can only be seen as being based on hindsight knowledge of the invention and it need not be considered if, once the basic idea of the invention had been conceived, the means specified in Claim 1 for putting it into effect, i.e. in particular the use of a further switch means for selecting a mode in which the frequency of pressure checking is automatically increased, are inventive in themselves.

The Board therefore comes to the conclusion that the subject-matter of Claim 1 according to the auxiliary request cannot be derived in an obvious manner from the state of the art and involves an inventive step (Article 56 EPC). Thus this claim together with its dependent Claim 2 and the description and drawings as granted constitute a suitable basis for maintenance of the patent in amended form.

**Order**

**For these reasons it is decided that:**

1. The decision under appeal is set aside.
2. The main request of the Respondent is rejected.
3. The case is remitted to the first instance with the order to maintain the patent on the basis of Claims 1 and 2 according to conditional submission 2 filed on 27 March 1995 together with the description and drawings as granted.

The Registrar:

The Chairman:

S. Fabiani

F. Gumbel