

Commissioner=s Decision #1326
D cision du Commissaire #1326

TOPICS: 000, C00
SUJETS: 000, C00

Application No: 2,123,805
Demande no: 2,123,805

COMMISSIONER'S DECISION SUMMARY

C.D. 1326

App'n No. 2,123,805

The application relates to a method of reducing nitrogen oxide (NO_x) emissions from a diesel engine without incurring the known trade-offs of reduced combustion efficiency and increased emissions of carbon monoxide and unburned hydrocarbons. The method involves combining the retarding of engine timing to reduce NO_x emissions with the addition to the fuel of an organometallic platinum group metal composition.

Obviousness

The Commissioner found that the rejection of the application based on the obviousness of the claims, in view of two earlier published PCT applications by the applicant, was justified.

Subsection 137(3) of the *Patent Rules*

The Commissioner found that the information in relation to a document referred to in the description was not sufficient in order for it to be properly identified under subsection 137(3) of the

Rules.

The application was therefore refused.

IN THE CANADIAN PATENT OFFICE

DECISION OF THE COMMISSIONER OF PATENTS

Patent application number 2,123,805, having been rejected under subsection 30(3) of the *Patent Rules*, has consequently been reviewed in accordance with subsection 30(6) of the *Patent Rules* by the Patent Appeal Board and the Commissioner of Patents. The findings of the Board and the decision of the Commissioner are as follows:

Agent for the Applicant

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INTRODUCTION

- [1] This decision deals with a review by the Commissioner of Patents of patent application no. 2,123,805 entitled AMETHOD FOR REDUCING POLLUTION EMISSIONS FROM A DIESEL ENGINE WITH ORGANOMETALLIC PLATINUM GROUP METAL COORDINATION COMPOSITION. The Applicant is Clean Diesel Technologies, Inc. The inventors are Jeremy D. Peter-Hoblyn, James M. Valentine, W. Robert Epperly, Barry N. Sprague and Danny T. Kelso.
- [2] The invention relates to a method of reducing nitrogen oxide (NO_x) emissions from a diesel engine without incurring the trade-offs of reduced combustion efficiency and increased emissions of carbon monoxide and unburned hydrocarbons.
- [3] As discussed by the Applicant in the background portion of the description, past attempts at reducing nitrogen oxide emissions by retarding fuel injection timing led to the aforementioned undesired increases in fuel consumption rates and carbon monoxide and unburned hydrocarbon emissions. Attempts had been made as well to reduce NO_x and other emissions by improving combustion efficiency. These attempts involved the addition

to the fuel of organometallic compounds, such as platinum metal group compounds.

- [4] By the present application the Applicant proposes to combine the retarding of engine timing to reduce NO_x emissions with the addition to the fuel of an organometallic platinum group metal composition, to arrive at NO_x reduction without the aforementioned side effects.

PROSECUTION HISTORY

- [5] The application was filed on December 14, 1992 under the provisions of the Patent Cooperation Treaty. The application entered the National Phase in Canada on May 17, 1994. As such, it retains its international filing date as the Canadian filing date. The application claims priority from a US patent application filed December 16, 1991, this being the applicable claim date under section 28.3 of the *Patent Act*.
- [6] The Examiner rejected the application in a Final Action dated January 12, 2007. The application contains 7 claims, claim 1 being the independent claim and claims 2-7 being dependent claims, all of which were found to be obvious under section 28.3 of the *Patent Act* in view of either of earlier published PCT Application no. 90/07561 to Epperly et al. (Epperly [1]) or published PCT Application no. 91/01361 to Epperly et al. (Epperly [2]). The predecessor in title of the present application is the same as those of the published PCT applications. These documents are therefore subject to the specific provisions of paragraph 28.3(a) of the *Patent Act*,

which provide a one year grace period before the filing date within which disclosures made by the applicant are not admissible as prior art when assessing obviousness. In the present case both references were published more than one year before the Canadian filing date which makes them applicable under paragraph 28.3(a).

- [7] Claims 1 and 7 were also found to be indefinite under subsection 27(4) of the *Patent Act*, and a document referred to in the description was not considered to be fully identified, contrary to subsection 137(3) of the *Patent Rules*.
- [8] In a response to the Final Action dated July 12, 2007, the Applicant made amendments to claim 1 for clarity, and presented arguments in favour of claim 7, while maintaining that the claims were unobvious in view of the cited references. No comments were made on the allegedly improperly identified document.
- [9] The Examiner prepared a Summary of Reasons for the Patent Appeal Board, which was then forwarded to the Applicant on October 31, 2007. It explained that the indefiniteness defect had been overcome, but not the defects relating to obviousness and subsection 137(3) of the *Patent Rules*.
- [10] An oral hearing was set for May 20, 2009, but in correspondence dated January 30, 2009, the Applicant's patent agent informed the Board that it wished to postpone the hearing for a period of one year. On April 16, 2010, the Board offered the Applicant a further opportunity to be heard and at the same time offered

the Applicant the opportunity to make any submissions necessary in view of *Apotex Inc. v. Sanofi-Synthelabo Canada Inc.*, 2008 SCC 61, [2008] 3 SCR 265 (*Sanofi*) on the question of obviousness. On June 2, 2010, the Applicant requested that the review proceed without a hearing and advised that no further written submissions would be provided.

ISSUES

[11] The outstanding issues to be resolved are the following:

- Would claims 1-7 have been obvious to the person skilled in the art at the claim date in view of the teachings of either Epperly [1] or Epperly [2] and are they therefore non-compliant with section 28.3 of the *Patent Act*?
- Is the descriptive portion of the specification defective under subsection 137(3) of the *Patent Rules* for failing to fully identify a document referred to therein?

THE CLAIMS

[12] There are seven claims presently on file:

1. A method for improving the operation of a diesel engine by decreasing NO_x emissions without adversely affecting emissions of carbon monoxide or unburned hydrocarbons, comprising:
 - 1) preparing a diesel engine such that the injection timing thereof is set before top dead center at a level sufficient to obtain reductions in the nitrogen oxides emissions from the engine; and
 - 2) firing the diesel engine with a diesel fuel having admixed therein a fuel additive which comprises an organometallic platinum group metal composition, and
 - 3) capturing particulates in a diesel particulate trap which can be operated with less back pressure buildup than would occur in the absence of the fuel

additive.

2. The method of claim 1 wherein said composition has a breakdown temperature of at least 50EC.
3. The method of claim 2 wherein the partition ratio of said composition is at least 50EC.
4. The method of claim 1 wherein said additive further comprises a diesel fuel-soluble solvent for said composition.
5. The method of claim 2 wherein said additive further comprises octyl nitrate solvent.
6. The method of claim 1 wherein said additive is admixed with the diesel fuel in an amount such that the platinum group metal is present in an amount of from 0.01 to 1.0 parts per million of the diesel fuel.
7. The method of claim 1 wherein said composition is free of phosphorous, arsenic, antimony and halides.

[13] There are several terms in the claims that for the sake of clarity require interpretation.

[14] In claim 1 it is stated that the diesel engine injection timing is set at a level sufficient to obtain reduction in the nitrogen oxides emissions from the engine. Although it is not evident from this language what would be a sufficient level, the Applicant at page 5 of the application has provided some examples of what is considered sufficient to effect a reduction in NO_x emissions, an adjustment of 0.5E being the preferable minimum, but not the absolute minimum. As discussed in the background, it is common general knowledge that NO_x can be reduced by retarding injection timing, so we take a sufficient level as that level at which a reduction in NO_x emissions would have been detected using standard measuring techniques at the date of publication of the present application.

- [15] Step 2 of claim 1 specifies the admixing of an Aorganometallic platinum group metal composition@ to the fuel. This includes a range of known compositions from which the skilled person could have chosen based on their use as fuel additives, examples of which and the preparation thereof are set forth in the description at pages 9-16.
- [16] Step 3 of claim 1 specifies that a diesel trap is used and that it Acan be operated with less back pressure buildup than would occur in the absence of the fuel additive.@ The effects of using the additive specified in claim 1 are discussed on page 21 of the present application, particularly the advantageous effects of using a diesel trap for which back pressure buildup is not as significant. From this and the claim language itself, we take the quoted passage from claim 1 to be an inherent result achieved through the use of the fuel additive in combination with a diesel trap and not a separate claim limitation.
- [17] With respect to dependent claims 2-7 we would point out that in claim 3 there appears to be a typographical error in the specification of A50EC@. This should simply read A50@ in accordance with the fact that the additional feature of the claim relates to the partition ratio of the composition.

OBVIOUSNESS

Legal Principles

[18] Section 28.3 of the *Patent Act* sets out the requirement that a claim not be obvious:

28.3 The subject-matter defined by a claim in an application for a patent in Canada must be subject-matter that would not have been obvious on the claim date to a person skilled in the art or science to which it pertains, having regard to

(a) information disclosed more than one year before the filing date by the applicant, or by a person who obtained knowledge, directly or indirectly, from the applicant in such a manner that the information became available to the public in Canada or elsewhere; and

(b) information disclosed before the claim date by a person not mentioned in paragraph (a) in such a manner that the information became available to the public in Canada or elsewhere.

[19] In *Sanofi*, the Supreme Court set out a useful four-step approach to assessing obviousness:

- (1) (a) Identify the notional "person skilled in the art";
(b) Identify the relevant common general knowledge of that person;
- (2) Identify the inventive concept of the claim in question or if that cannot readily be done, construe it;
- (3) Identify what, if any, differences exist between the matter cited as forming part of the "state of the art" and the inventive concept of the claim or the claim as construed;
- (4) Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

[20] In *Sanofi*, the Court, at para. 65 equates obvious with Avery plain. @

Analysis under the *Sanofi* Four-step Approach

[21] In the present case, the prosecution before the Examiner terminated before the *Sanofi* decision was released and therefore the obviousness analysis was not presented to the Applicant in the explicit context of the *Sanofi* framework. However, as noted above, the Applicant was given the opportunity to make submissions on the effects of *Sanofi* on the Examiner's finding of obviousness, which they declined.

[22] Although it is useful to conduct an obviousness inquiry within the *Sanofi* framework, the Federal Court of Appeal has recently indicated that a failure to explicitly follow the structure does not, in and of itself, constitute an error of law (*Corlac Inc. v. Weatherford Canada Inc.*, 2011 FCA 228 at para. 68).

[23] In conducting the obviousness analysis, the Board has considered the same material and points raised in the prosecution between the Examiner and the Applicant, but has chosen to present it in the context of the *Sanofi* framework.

(1) (a) *The person skilled in the art*

[24] We characterize the skilled person as someone with significant knowledge of internal combustion engine design and operation, as well as the associated pollutant control technologies. The person would, in our view, be a mechanical engineer or an automotive engineer with the relevant knowledge noted above.

(1) (b) *The relevant common general knowledge*

[25] In the Final Action the Examiner contended that it was:

common knowledge in the art that the main source of carbon monoxide and unburned hydrocarbons is inefficient fuel combustion. The adjustment of engine timing to lower the amount of carbon monoxide and unburned hydrocarbons is also well known in the art.

[26] The Examiner also contended that Aparticle traps are commonly used in diesel engines.@

[27] In the response of July 12, 2007, the Applicant did not contest the specific points above, but pointed out that it was also well known that adjustments to lower the amount of carbon monoxide and unburned hydrocarbons would increase the production of NO_x. In their view the skilled person would therefore generally perceive a problem in accomplishing both the objective of reducing NO_x emissions and the objective of reducing carbon monoxide and unburned hydrocarbon emissions. In the Summary of Reasons submitted to the Board, the Examiner did not question this general perception, but maintained that the invention was obvious in view of Epperly [1] or Epperly [2].

[28] The Applicant, while not disputing that the use of particle traps in diesel engines is common, contended that their use in combination with the additive produced unobvious improvements, a point which we will address at step 3.

[29] In the background portion of the present application it is disclosed that the reduction of nitrogen oxide emissions from diesel engines can be achieved by retarding the injection timing

of the engine. However, this carries with it the disadvantages of increased fuel consumption rates and increased emissions of carbon monoxide and unburned hydrocarbons. The Applicant also discloses the desirability of improving combustion efficiency to, *inter alia*, reduce NO_x emissions, as one long recognized. In this respect, the Applicant points to specific disclosures relating to the use of catalyst metals in gasoline and diesel engines to improve combustion efficiency.

[30] Based on the above, the following form the relevant points of common general knowledge:

1. NO_x emissions can be reduced by retarding fuel injection timing.
2. Retarding fuel injection timing leads to higher fuel consumption rates and increased emissions of carbon monoxide and unburned hydrocarbons.
3. Adjusting engine timing to lower carbon monoxide and unburned hydrocarbon emissions (i.e., advancing the injection timing) leads to higher NO_x emissions (the opposite effect of the above points).
4. It was a known problem to achieve both objectives of lowering NO_x emissions and lowering carbon monoxide and unburned hydrocarbon emissions at the same time.
5. NO_x emissions may also be reduced by increasing engine combustion efficiency.
6. Particle traps were commonly used in diesel engines.

(2) *Identify the inventive concept or construe the claims*

[31] In the present case there were no submissions from either the Examiner or the Applicant as to the identification of an inventive concept. Given that in *Sanofi*, the alternative to identifying the inventive concept is to construe the claim, we will proceed on the basis of the claims as interpreted at paragraphs [14]-[17] above. There were no allegations in the present case that any of the features of the claims could be omitted because they were non-essential.

(3) Differences between the Astate of the art@ and the claims

[32] In the Summary of Reasons and the Final Action the Examiner identified the only difference between either of Epperly [1] and Epperly [2] and the Applicant=s claims 1-7 as:

that the applicant specifically claims that the engine timing is also adjusted with the addition of an organometallic platinum group metal composition.

[33] The Applicant did not address this assessment of the differences in their response to the Final Action. Given that the Applicant=s intentions in not addressing the Examiner=s conclusions are unclear (i.e., whether or not they agree), the Board has performed its own assessment to identify the differences.

[34] Epperly [1] discloses a method of reducing emissions from, or increasing the utilizable energy of, fuel used in internal combustion engines by admixing with the fuel a fuel-soluble, nonionic, organometallic platinum group metal composition

having certain properties. It also discloses methods of improving the operation of a diesel trap and methods of improving the operation of a catalytic converter by using the aforementioned additive, as well as methods for purifying a platinum group metal composition.

[35] Epperly [2] discloses much the same material as Epperly [1], with differences in the particular compositions claimed.

[36] Based on our review of Epperly [1] and Epperly [2] we find that both disclose the following:

- the use of a fuel soluble non-ionic organometallic platinum group metal composition as an additive to diesel, gasoline or gasohol fuels (Epperly [1] at page 7, Epperly [2] at pages 7-8)
- improved operating efficiency resulting in increased fuel economy and reduced emissions of particulates and noxious gases such as CO, unburned hydrocarbons, NO (Epperly [1] and [2] at page 15)
- the use of the additive at a concentration of 0.01-1.0 ppm (Epperly [1] and [2] at page 5)
- preferable use of the additive in combination with a solvent which is miscible in the fuel (Epperly [1] at page 8, Epperly [2] at page 9)
- the solvent can be octyl nitrate (Epperly [1] and [2] at page 18)
- the composition is temperature stable, with a breakdown temperature of at least 50EC (Epperly [1] at page 8, Epperly [2] at page 9)

- the composition should not have a substantial amount of phosphorous, arsenic, antimony or halides, preferably none (Epperly [1] at page 8, Epperly [2] at page 9)
- the partition ratio (i.e. relative solubility of the additive in the fuel and water present) should be sufficient to maintain a significant preferential solubility in the fuel (Epperly [1] and [2] at page 7) , preferably greater than 50 for diesel or gasoline (Epperly [1] at page 10, Epperly [2] at page 11)
- the additive compositions function to improve the performance of a diesel trap by providing or replenishing catalyst metals on the trap, the compositions facilitate Aburning off@ of trapped particulates (thereby reducing back pressure, as in the present application), so that the trap can self-regenerate (Epperly [1] and [2] at page 15)

[37] As is evident from the above points both Epperly [1] and [2] disclose features 1 and 3 of claim 1 in combination. In relation to the diesel trap, as we stated earlier in the section on the claims, the operation of the diesel trap with less back pressure is a result which, as per the present application, necessarily follows from the use of the additive in combination with the diesel trap. Therefore Epperly [1] and [2], by disclosing the use of the same additive in conjunction with the diesel trap, inherently disclose the results of that combination. The Applicant=s earlier-noted contention that the use of particle traps in combination with the additive produces unobvious improvements cannot therefore be sustained.

[38] From the above points one can also see the additional features

of the additive as claimed in dependent claims 2-7 (see para. [12] above).

[39] Therefore we agree that the only difference between claims 1-7 and either of Epperly [1] and [2] is the use of the additive while at the same time adjusting engine timing.

(4) Do the differences constitute steps that would have been obvious?

[40] The Examiner, in both the Final Action and Summary of Reasons, pointed to the paragraphs bridging pages 16 and 17 of both Epperly [1] and [2]. According to the Examiner, these passages explain that (referring to Epperly [1] in the Summary of Reasons):

said composition, when added to diesel fuel, influences the timing of fuel injection, such that the delay period after injection is reduced (page 16, lines 14-26). The effect of adding the composition is described as being similar to advancing the time of fuel injection before top dead centre (page 16, line 27 to page 17, line 7). Epperly et al [1] clearly teaches the relationship between delaying injection and improving fuel economy while meeting emissions standards (page 17, lines 2-7).

[41] The Examiner contends that based on the above AA person skilled in the art would see the obvious improvement of adjusting the injection timing in conjunction with the addition of an organometallic platinum group metal composition additive. @

[42] From the Applicant=s point of view:

There is a leap of logic required for one skilled in the art to go from the Epperly statement related primarily to fuel economy to using both the additive and the timing adjustment to do what had not been possible before

the present invention - reducing NO_x and unburned hydrocarbons and carbon monoxide at the same time.

[43] In the Applicant's view AIt would have been quite surprising to the skilled worker at the time of the invention that there was any way to achieve simultaneous reduction of these pollutants.@

[44] The first portion of the passage from both Epperly [1] and [2] to which the Examiner referred is reproduced below:

Timing of fuel injection during the compression stroke is an important consideration in a diesel engine. Timing is optimized to maximize fuel economy while meeting important emissions standards. As already pointed out, the inventive fuel additive reduces the delay time until fuel starts to burn and its effect is similar to advancing the time of fuel injection before top dead center.

[45] As the Examiner states, the passage describes the use of the fuel additive as having the same effect as advancing the timing of fuel injection in a diesel engine. One might suppose then, that the skilled person, reading such a passage, would realize that the fuel injection timing could be retarded by a certain amount, thereby reducing NO_x emissions, while still ending up with acceptable carbon monoxide and unburned hydrocarbon emissions. In essence, the Avirtual@ advancement of the fuel injection timing allows one to reduce NO_x emissions by actually retarding the fuel injection timing.

[46] While one might debate whether the skilled person would take such a step without any further impetus, we find it unnecessary to engage in such a debate in the present case, as the passage

pointed to by the Examiner in Epperly [1] (repeated in Epperly [2]) also states the following:

As a result, there is an opportunity to re-optimize fuel injection timing (i.e., delaying injection) when the additive is used in order to optimize the overall system (improve fuel economy while meeting emissions standards).

[47] Here we have a clear suggestion to take the step taken by the Applicant, namely to delay injection (i.e., retard injection) while using the fuel additive, thereby taking advantage of the inherent effects of the use of the additive (i.e., virtual advancement of injection timing).

[48] When we discussed the applicable common general knowledge earlier at step (1) (b), we pointed out that the person skilled in the art would have generally perceived a problem in simultaneously accomplishing both objectives of reducing NO_x emissions and reducing carbon monoxide and unburned hydrocarbon emissions, as contended by the Applicant. This same sentiment is expressed in the Applicant's response to the Final Action when it was stated that there is a general understanding in the art that there is a lack of technical feasibility which is now overcome or bypassed by the present invention.

[49] However the above perceptions are not a bar to a finding of obviousness. In considering obviousness, the question is what the skilled person, armed with the common general knowledge of the art, would conclude after considering the relevant prior art. Epperly [1] and [2] would certainly have been found in a reasonable and diligent search, given the similarity of the subject matter and the common inventors, and are clearly

admissible for the purposes of obviousness (see *Eurocopter v. Bell Helicopter Textron Canada Ltée*, 2012 FC 113 at para. 80). The question is whether, in view of the common general knowledge and the relevant prior art, the invention would have been obvious, or Avery plain@.

[50] Given that the person skilled in the art would have perceived such a problem, upon a reasonable and diligent search, the solution to that problem would have been provided by the suggestion put forward by Epperly [1] and [2], namely, delaying fuel injection timing while using the disclosed fuel additive. Both Epperly [1] and [2] are concerned with the same issues as the present application, namely reducing pollutant emissions from an internal combustion engine. As the Applicant acknowledged in the background, retarding injection timing reduces NO_x emissions but has inherent disadvantages. These disadvantages are offset by following the suggestion in Epperly [1] and [2] of retarding timing while using the additive, as claimed in the present application.

[51] Having come to the preliminary view that the claims would have been obvious in view of the documents applied by the Examiner, we assess below the points put forward by the Applicant in support of non-obviousness.

[52] As noted earlier, the Applicant contended that it was a leap of logic to go from the statements relating to fuel economy in Epperly [1] and [2] to the point where one would use the additive in conjunction with timing adjustments. However, both Epperly [1] and [2] at page 15 discuss the link between improved operating efficiency and improved fuel economy:

improved fuel economy resulting from improved operating efficiency (i.e., the more efficient the combustion process, the less fuel is needed for the same power output). The increased efficiency also results in lower emissions of particulates and noxious gases such as carbon monoxide, hydrocarbons and nitrogen monoxide.

[53] In the present application the goal is the same: reduce emissions and increase combustion efficiency. So Epperly [1] and [2], at the passage pointed to by the Examiner discussing fuel economy, have the same goals in mind: improve combustion efficiency (thereby increasing fuel economy) and reduce emissions.

[54] The Applicant provided a document in response to the Final Action entitled ABAE SYSTEMS Guide to Exhaust Emission Control Options. From the hyperlink at the bottom of the pages, it appears to be dated March 31, 2000. The Applicant submitted it as a more contemporary document to illustrate that the problem of balancing NO_x reduction with the reduction of other emissions was, even long after the filing of the present application, still thought to persist.

[55] Obviously the document post-dates the present case and is not applicable prior art. The document itself appears to be a draft since information fields such as the authors, its distribution, version history, etc. are blank. It is therefore not evident how widely distributed it would have been or how much it might reflect the general knowledge at the time of its publication.

[56] The document discusses methods of pollutant reduction, including injection timing retardation to reduce NO_x emissions and other methods such as changing fuel spray patterns and using cooler intake air. However, it does not discuss the use of a fuel additive such as the one specified in Applicant's claims. On the other hand, it is not evident why the authors of this document did not mention the use of fuel additives such as those known from Epperly [1] and [2], or the use of fuel additives in conjunction with the retardation of injection timing, as suggested in Epperly [1] and [2]. As there is no reference to the applicability of technologies such as those of the Epperly [1] and [2] references, and taking into account our other concerns noted above, we are unable to draw any conclusions from this document.

[57] In *Eli Lilly & Co. v. Apotex, Inc.*, 2009 FC 991, 80 C.P.R. (4th) 1, Justice Gauthier provided some helpful guidance on the applicability of post-dated art:

[423] The Court agrees that this may constitute admissible evidence if introduced by an expert, but one must be careful not to cross the line and treat such art on the same footing as prior art. For example, one cannot simply assume that because there is no mention of the invention under review in the article, its author was unaware of such developments. Once a patent application is filed, inventors will often more freely discuss their findings with colleagues and friends outside of their institution and not necessarily in the context of public conferences. Thus, it may be very difficult to ascertain if indeed the author of a post art publication really did his work without knowledge of the invention. This was obviously one of the main considerations for setting the date of the invention as the relevant date for the obviousness inquiry in the pre-1989 era.[153]

[424] Also, in the absence of evidence from or about the authors, how is the Court to know whether what they did was what a posita (objective test) would have done before the filing date? Were the authors super skilled? Were they inventive? Did they go beyond what would be routinely done by a posita? Did they have a special motivation to do the things they did? All this to say that the probative weight of this evidence will depend on the circumstances, particularly on the evidence of the expert using it and often on whether it is used simply to corroborate an opinion reached independently by an expert available for cross-examination by the other party.

[58] For the above reasons the information contained in the document is insufficient to displace our findings on what the skilled person would have done in light of the common general knowledge and the state of the art on the claim date.

[59] In the present case, based on the discussion above, we find that the method of claim 1 would have been obvious based on the applicable prior art of either Epperly [1] or Epperly [2] and the clear suggestion therein. Given that the further limitations on the fuel additive as specified in dependent claims 2-7 were known from either Epperly [1] or [2], we find that these claims would also have been obvious.

SUBSECTION 137(3) OF THE PATENT RULES

Legal Principles

[60] Subsection 137(3) of the *Patent Rules* specifies that:

(3) Any document referred to in the description shall be fully identified.

Analysis

[61] As the Examiner noted in the Final Action and Summary of Reasons, a document is referred to in the description at page 18 in the following manner:

In fact, the use of the additives described above can also have an advantageous impact on the operation of a diesel trap, entitled *A Method For Reducing The Particulate Emissions From A Diesel Engine*, filed in the names of Peter-Hoblyn, Valentine, Epperly, and Sprague on even date herewith.

[62] In a previous version of the description, the passage quoted above referred more clearly to the fact that this document was a:

copending and commonly assigned U.S. Patent Application having Attorney's Docket No. 1937-1003, entitled *A Method For Reducing The Particulate Emissions From A Diesel Engine*, filed in the names of Peter-Hoblyn, Valentine, Epperly, and Sprague on even date herewith.

[63] The Manual of Patent Office Practice (MOPOP) sets out the office practice concerning the identification of a document in the context of subsection 137(3) of the *Patent Rules*:

The Office considers a patent document to be properly identified when the country or office code is provided along with a number under which the published version of the document can be found. Thus, the number provided can be that given to a granted patent, or be either the application number or publication number of a published application.

.....

For non-patent documents, the requirement is that the document be sufficiently well identified to permit it to be obtained by an interested party.

[64] Given that the document referred to in the description is, or at least was, a co-pending patent application, the Applicant upon filing such a document would have had knowledge of the country or office code, and at least the application number which would have been assigned upon filing. It is therefore reasonable to require this basic information in order to

properly identify a patent document.

[65] We must therefore agree that the document has not been properly identified, in accordance with the criteria set out in para. [63] above, and that therefore the description is not compliant with subsection 137(3) of the *Patent Rules*. If the application were otherwise allowable we would recommend that the Applicant be required to correct this defect under paragraph 31(c) of the *Patent Rules*. However given our finding of obviousness above, this is unnecessary.

[66] We would add that even if we were to have taken the minimum requirement for proper identification to be that of a non-patent document, where the information must be such as to allow the document to be located by an interested party, the reference in the present application would still have been non-compliant with subsection 137(3) of the *Patent Rules* in light of the assessment below.

[67] Based on the information in the passage quoted above at para. [61], we attempted to locate the document using online patent databases such as Esp_cenet and TotalPatentJ, as well as general internet searches using the Google_ search engine. Taking the filing date to be the filing date of a copending US Patent Application and using keywords from the title and inventors, we were unable to locate a document which matched the criteria given in the passage. We were also unable to locate a matching document when we used the international filing date as the relevant date or when we searched using the US filing date as a priority date.

RECOMMENDATION OF THE BOARD

[68] In view of the above findings, the Board recommends that the application be refused on the basis that the subject matter of claims 1-7 was obvious on the claim date in view of either published PCT Application no. 90/07561 to Epperly et al. or published PCT Application no. 91/01361 to Epperly et al., and is therefore non-compliant with section 28.3 of the *Patent Act*.

Stephen MacNeil
Member

Paul Fitzner
Member

Ed MacLaurin
Member

DECISION OF THE COMMISSIONER

[69] I concur with the Patent Appeal Board's findings and their recommendation that the application be refused on the basis that the subject matter of claims 1-7 was obvious on the claim date in view of either published PCT Application no. 90/07561 to Epperly et al. or published PCT Application no. 91/01361 to Epperly et al., and is therefore non-compliant with section 28.3 of the *Patent Act*.

[70] Accordingly, I refuse to grant a patent on this application. Under Section 41 of the *Patent Act*, the applicant has six months within which to appeal my decision to the Federal Court of Canada.

Sylvain Laporte
Commissioner of Patents

Dated at Gatineau, Quebec,
this 14 day of May, 2012