

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 14

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte WILLIAM C. PFEFFERLE

Appeal No. 1998-1493
Application No. 08/377,861

ON BRIEF

Before STONER, Chief Administrative Patent Judge, ABRAMS, and MCQUADE, Administrative Patent Judges.

ABRAMS, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the decision of the examiner finally rejecting claims 1-10, which constitute all of the claims of record in the application.

The appellant's invention is directed to an emissions control system for a rich-burn, small internal combustion

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engine (claims 1-7) and to a method of controlling carbon monoxide emissions from such an engine (claims 8-10). The claims on appeal have been reproduced in an appendix to the Brief.

THE REFERENCES

The references relied upon by the examiner to support the final rejection are:

Aronsohn 1969	3,460,916	Aug. 12,
Sabet 1973	3,776,201	Dec. 4,
Japanese publication 1977	52-70222	Jun. 11,
Samejima (Japanese reference) ¹		

THE REJECTIONS

Claims 1-10 stand rejected under 35 U.S.C. § 112, first paragraph, as being drawn to a specification which fails to provide an adequate disclosure.

¹Our understanding of this reference was obtained from a PTO translation, a copy of which is enclosed.

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Claims 1-10 also stand rejected under 35 U.S.C. § 103 as being unpatentable over Samejima in view of Aronsohn and Sabet.

Rather than attempt to reiterate the examiner's full commentary with regard to the above-noted rejections and the conflicting viewpoints advanced by the examiner and the appellant, we make reference to the Examiner's Answer (Paper No. 9) and to the Appellant's Briefs (Papers No. 8 and 10).

OPINION

In reaching our decision on the issues raised in this appeal, we have carefully assessed the claims, the prior art applied against the claims and the respective views of the examiner and the appellant as set forth in the Answer and the Briefs, and have applied to the various issues the guidance provided by our reviewing court.

The Rejection Under 35 U.S.C. § 112, First Paragraph

According to the examiner (Answer, page 3):

It is not clear how swirler 9 (figures 1 or 2) can create a low-pressure zone in the device. The structure of the swirler is not clear.

We begin our analysis of this issue by noting that on page 7 of the specification the appellant discloses that the engine exhaust gases may contact a swirler as they enter the muffler, to promote mixing and reaction, and that the swirler "may also be employed to create a low pressure region near the muffler inlet and thus inhibit backflow of gases." He then goes on to describe that the swirler utilizes the energy of the entering gases to induce a rolling motion within the gases. The swirler is shown diagrammatically in Figure 1, and is depicted in Figure 2 as comprising a plurality of blades which are

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explained in the text as being "a spiral arrangement." In the
Brief, the appellant

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directs attention to four patents of record in which swirlers are disclosed, and provides three pages from a publication which he urges support his contention that swirlers create areas of low pressure.

As stated in In re Marzocchi, 439 F.2d 220, 224, 169 USPQ 367, 370 (CCPA 1971), with regard to the issue of the support provided in the disclosure, it is incumbent upon the Patent Office, whenever a rejection on this basis is made, to explain why it doubts the truth or accuracy of any statement in a supporting disclosure and to back up assertions of its own with acceptable evidence or reasoning which is inconsistent with the contested statement. Otherwise, there would be no need for the applicant to go to the trouble and expense of supporting his presumptively accurate disclosure.

The appellant has shown and described the swirler in the disclosure and, in response to the examiner's rejection, has supplemented this by evidence supporting his position that swirlers were known in the art and would function in the manner stated in his specification and claims. The dispositive issue is whether the appellant's disclosure, considering the level of ordinary skill in the art as of the

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date of the appellant's application, would have enabled a person of such skill in the art to make and use the appellant's invention without undue experimentation.

From our perspective, the responses by the appellant shifted the burden to the examiner to disprove the appellant's assertions. This the examiner has not done, for he has failed to comment upon the appellant's evidentiary offering, except to agree that swirlers were known in the art, or to his arguments, and has not advanced acceptable reasoning and/or evidence to rebut the appellant's position. Therefore, the examiner has not met his burden and the appellant's stand essentially is uncontroverted on the record. This being the case, we will not sustain the rejection of claims 1-10 under 35 U.S.C. § 112, first paragraph.

The Rejection Under 35 U.S.C. § 103

A prima facie case of obviousness is established when the teachings of the prior art itself would appear to have suggested the claimed subject matter to one of ordinary skill in the art (see In re Bell, 991 F.2d 781, 782, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993)). This is not to say, however, that the claimed invention must expressly be suggested in any one or

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all of the references, rather, the test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art (see Cable Elec. Prods. v. Genmark, Inc., 770 F.2d 1015, 1027, 226 USPQ 881, 888 (Fed. Cir. 1985)), considering that a conclusion of obviousness may be made from

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common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference (see In re Bozek, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969)), with skill being presumed on the part of the artisan, rather than the lack thereof (see In re Sovish, 769 F.2d 738, 742, 226 USPQ 771, 774 (Fed. Cir. 1985)). Insofar as the references themselves are concerned, we are bound to consider the disclosure of each for what it fairly teaches one of ordinary skill in the art, including not only the specific teachings, but also the inferences which one of ordinary skill in the art would reasonably have been expected to draw therefrom (see In re Boe, 355 F.2d 961, 965, 148 USPQ 507, 510 (CCPA 1966) and In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968)).

According to the examiner, all of the subject matter recited in claim 1 is disclosed by Samejima except for the swirler. However, it is the examiner's position that the use of such a device is taught by Aronsohn, and it would have been obvious to one of ordinary skill in the art to add a swirler to the treatment device of the primary reference because of

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Aronsohn's "showing of the desirability of doing so in a similar environment" (Answer, pages 3 and 4). We do not agree.

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Samejima is directed to an exhaust gas purifier. In this system, an air ejector (3) entrains air into the exhaust gas flow as it leaves the combustion chamber. The gas then enters a purifier (5), where at least a portion flows into a catalyst chamber (9), there to be recombusted before flowing into a thermal reactor chamber (10), from whence it is discharged to the atmosphere. The portion of the gas that does not flow through the catalyst chamber (a large amount at high engine speeds) passes directly to the thermal reactor chamber, where it in turn is recombusted by the high temperature recombusted gas exiting the catalyst chamber.

The exhaust gas treatment muffler disclosed by Aronsohn comprises a passive outside air intake (12) where air is added to the exhaust gas, a combustion chamber having an ignitor (14) and a turbulator (15) that receives the gas/air mix and creates "turbulence or vortex action" therein (column 2, lines 15-16), and an afterburning zone. There is no teaching in Aronsohn that the action of the turbulator creates a low pressure region near the muffler inlet and, since the ignitor and a sustaining catalyst bed are located at the intake side

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of the turbulator, it would appear that the combustion occurring in this region would cause high pressure to be developed there.

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The appellant's independent claim 1 requires that there
be

means within the reaction chamber for inducing
effective recirculation of the exhaust flowing
through said reaction chamber, and creating a low
pressure region in the reaction chamber proximal the
chamber inlet (emphasis added).

In the Samejima apparatus, a point "proximal the chamber
inlet" would be located at or near the outlet of pipe 6,
immediately above catalyst chamber 9. If a means for inducing
effective recirculation and for creating a low pressure area
were to be placed there, it seems to us that the Samejima
invention would be rendered inoperable, for the required flow
of at least some of the exhaust gas into the catalyst chamber,
which is vital to the operation of the Samejima system, would
be at the very least severely compromised, and perhaps even
destroyed. This, from our perspective, would be a
disincentive to the artisan to make the modification proposed
by the examiner.

Moreover, even if the proposed modification were made,
the resulting structure would not meet the terms of claim 1.
The Aronsohn turbulator would appear to meet the first "means"
requirement of inducing effective recirculation of the

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exhaust. However, it appears not to meet the second "means" requirement of creating a low pressure area proximal the chamber inlet, for there is no explicit teaching to this effect in the patent, and there seems to be no reason to assume that this would inherently be the case in view of the fact that Aronsohn teaches that combustion takes place at the upstream end of the turbulator.

Further consideration of the teachings of Sabet, which was cited for its disclosure of using platinum as a catalyst in an exhaust gas stream, does not alleviate the problems elucidated in the several preceding paragraphs with regard to the other two references.

For the reasons set forth above, we conclude that the combined teachings of the three references applied by the examiner fail to establish a prima facie case of obviousness with respect to the subject matter recited in independent claim 1. This being the case, we will not sustain the rejection of claim 1 or, it follows, of claims 2-7, which depend therefrom.

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We reach the opposite result, however, with regard to method claims 8-10. At the outset, we take note of the fact that the examiner and the appellant have grouped these claims with apparatus claims 1-7, and the appellant has failed to separately argue with any reasonable specificity their patentability over the applied prior art.

Independent claim 8 is directed to a "method of controlling carbon monoxide and hydrocarbon emissions from a rich-burn small internal combustion engine." With regard to this language, it is our view that all three of the references applied against claim 8

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disclose "rich-burn" engines in that all are directed to disposing of combustibles that remain in the exhaust gases after the fuel is burned in the engines, which indicates that the mixture burned in the engine is "rich." As to the designation of "small," which the appellant has defined in the specification as meaning "a displacement of about 800 cc, preferably between 100 and 600 cc" (page 5), while none of the references explicitly state that the engines with which the disclosed exhaust emission control devices are utilized fall into the size range defined by the appellant, neither do they state that they do not. Thus from our perspective and in the absence of evidence to the contrary, one of ordinary skill in the art would have recognized that the methods for controlling emissions disclosed therein would be applicable to engines of the appellant's size range.

It is our opinion that Aronsohn discloses all of the steps recited in claim 8. In the Aronsohn arrangement, the exhaust gas pulses are passed through a nozzle to provide a gas jet

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(step a), and this jet is passed into the end of a flow duct to induct air into the exhaust gas (step b). At this point, as explained in column 2 at lines 17-19, the inducted air and the exhaust gas are mixed homogeneously by the turbulator (step c). Inherent in the turbulator evolution would be the final step of claim 8 (step d), reacting the carbon monoxide and hydrocarbons with oxygen, which would produce carbon dioxide and water. In this regard, we note that Aronsohn also teaches using catalysts to line portions of his device to promote the desired exhaust gas cleaning reactions.

We therefore conclude that the teachings of the applied prior art establish a prima facie case of obviousness with regard to the method recited in claim 8, and the rejection of claim 8 is sustained.² In view of the appellant's election to group all of the claims together (Brief, page 3), claims 9 and 10 fall with claim 8, from which they depend.

SUMMARY

²With regard to our reliance on Aronsohn alone, anticipation is the epitome of obviousness. See In re Fracalossi, 681 F.2d 792, 794, 215 USPQ 569, 571 (1982).

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The rejection of claims 1-10 under 35 U.S.C. § 112, first paragraph, is not sustained.

The rejection of claims 1-7 under 35 U.S.C. § 103 is not sustained,

The rejection of claims 8-10 under 35 U.S.C. § 103 is sustained.

The decision of the examiner is affirmed-in-part.

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No period for taking any subsequent action in connection
with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

BRUCE H. STONER, JR.)	
Chief Administrative Patent Judge)	
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NEAL E. ABRAMS)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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JOHN P. MCQUADE)	
Administrative Patent Judge)	

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