

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(2) is not binding precedent of the Board.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. 20

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte FUMITO UEMURA

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Appeal No. 95-0181  
Application 08/012,401<sup>1</sup>

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HEARD: July 15, 1997

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Before THOMAS, HAIRSTON, and FLEMING, Administrative Patent Judges.

HAIRSTON, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of  
claims 1 through 3.

The disclosed invention relates to a pressure sensor  
for sensing a pressure within a cylinder of an internal  
combustion engine. According to the appellant, cracks and breaks

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<sup>1</sup> Application for patent filed February 2, 1993.

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in the flexible diaphragm portion of the sensor are avoided by use of a diaphragm that has a resonance frequency above the oscillation frequency range of the pressure to be detected in the cylinder of the engine.

Claim 1 is the only independent claim on appeal, and it reads as follows:

1. A pressure sensor for sensing a pressure within a cylinder of an internal combustion engine, comprising:

a hollow main body defining a bore extending therethrough and adapted to be mounted to an engine cylinder;

a pressure sensing assembly disposed within said bore of said main body and dividing said bore into a detection cavity for transmitting therethrough the pressure to be detected at a pressure receiving end thereof disposed in communication with an interior of the cylinder and an output cavity through which an output signal from said pressure sensing assembly is to be supplied;

a flexible metal diaphragm attached to said main body at said pressure receiving end of said detection cavity for sealing said detection cavity;

a pressure transmitting medium filled within said detection cavity; and

means for preventing resonant vibrations of the flexible metal diaphragm due to oscillations of the pressure being detected, said preventing means comprising

said flexible metal diaphragm being configured and dimensioned to have a resonance frequency above an oscillation frequency range of the pressure to be detected.

The reference relied on by the examiner is:

Kodama et al. (Kodama)

5,161,415

Nov. 10, 1992

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Claims 1 through 3 stand rejected under 35 U.S.C. § 103 as being unpatentable over Kodama.<sup>2</sup>

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<sup>2</sup> In the grounds of the rejection (Answer, page 3), the examiner indicated that the "rejection is set forth in the prior Office action paper number 8." A review of paper number 8 (final rejection, page 3), reveals that two additional Kodama patents as well as pages 1 through 3 of the BACKGROUND OF THE INVENTION, and Figure 2 are listed as "suitable references." In view of the vagueness of this latter phrase, and the failure of the examiner to discuss the additional Kodama references in the Answer, we do not consider the two additional references to Kodama as prior art properly applied against the claims on appeal. A reference should be positively included in the listed prior art of record and the grounds of rejection to put the appellant on notice as to what references are being applied against the claims. See footnote 3 in In re Hoch, 428 F.2d 1341, 1342, 166 USPQ 406, 407 (CCPA 1970). With respect to the disclosure in the BACKGROUND OF THE INVENTION, it is well settled that during the examination of a patent application, admissions by an applicant may be considered as prior art for any purpose, including use as evidence of obviousness under 35 U.S.C. § 103. See In re Nomiya, 509 F.2d 566, 570-71, 184 USPQ 607, 611 (CCPA 1975). Unlike the additional references to Kodama, appellant is on notice as to the contents of the specification. A declaration (paper number 9) under 37 CFR § 1.132 was submitted by appellant to retract the admission in the specification. The declaration indicated that the pressure sensor of Figure 2 was "'in-house' knowledge," and that "[t]he description of Fig. 2 as being 'known' or 'conventional' was not intended to mean that it was known by or conventional to the general public, or to represent its availability or qualification as citeable prior art against this application under any of the sub-paragraphs of 35 U.S.C. § 102." The examiner correctly decided (final rejection, page 2) that the declaration "cannot repeal the statement" because a mere statement in a declaration that Figure 2 should not have been described as known or conventional in the art will not support a retraction of that which has been acknowledged in the specification as known in the art. The factual basis underlying the erroneous description of Figure 2 as known or conventional is completely absent from the declaration. Thus, the acknowledged prior art is available as prior art under 35 U.S.C. § 102(a).

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Reference is made to the brief and the answer for the respective positions of the appellant and the examiner.

OPINION

We have carefully considered the entire record before us, and we will reverse the obviousness rejection of claims 1 through 3.

According to the examiner (final rejection, page 3), "[i]t is common engineering practice to change a dimension of a component to change its resonance frequency," and "[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to size the diaphragm to raise its resonance frequency to safe levels."

We agree with appellant's argument (Brief, page 4) that:

[T]here is no mention or recognition whatsoever in Kodama of the problem of preventing resonant sympathetic vibrations due to oscillations of a pressure being detected, or of solving the problem by configuring and dimensioning a flexible metal diaphragm to have a resonance frequency above the oscillation frequency range of the pressure to be detected. This is the problem which is addressed and solved by the present invention and the problem which Kodama fails to even mention (emphasis in original).

Appellant is correct when he argues (Brief, pages 4 and 5) that

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[t]he Examiner has failed to cite any reference which would suggest preventing resonant sympathetic vibrations and has failed to cite any reference which would suggest dimensioning the diaphragm to have a resonance frequency above the oscillation frequency range of the pressure to be detected . . .

and that

. . . the Kodama reference cited by the Examiner does not even mention the source of trouble resolved by the claimed invention let alone provide the remedy of the claimed invention.

The examiner's line of reasoning does not contain any discussion of whether the skilled artisan would have appreciated the diaphragm problem caused by the oscillation frequency of the pressure to be detected, and would have solved that problem in the manner disclosed and claimed by appellant. The obviousness rejection is, therefore, reversed because "a patentable invention may lie in the discovery of the source of a problem even though the remedy may be obvious once the source of the problem is identified." See In re Sponnoble, 405 F.2d 578, 585, 160 USPQ 237, 243 (CCPA 1969).

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DECISION

The decision of the examiner rejecting claims 1 through  
3 under 35 U.S.C. § 103 is reversed.

REVERSED

JAMES D. THOMAS	)	
Administrative Patent Judge	)	
	)	
	)	
	)	BOARD OF PATENT
KENNETH W. HAIRSTON	)	
Administrative Patent Judge	)	APPEALS AND
	)	
	)	INTERFERENCES
	)	
MICHAEL R. FLEMING	)	
Administrative Patent Judge	)	

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