

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

**UNITED STATES PATENT AND TRADEMARK OFFICE**

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Ex parte GEORGE MALLEBREIN

Appeal No. 2006-0109  
Application No. 10/350,187

HEARD: FEBRUARY 7, 2006

Before GARRIS, McQUADE and BAHR, Administrative Patent Judges.  
BAHR, Administrative Patent Judge.

**DECISION ON APPEAL**

This is a decision on appeal from the examiner's final rejection of claims 1-3, 6, 7 and 9-12. Claims 4, 5 and 8, the only other claims pending in this application, stand allowed.

**BACKGROUND**

The appellant's invention relates to a method for operating an internal combustion engine. Further understanding of appellant's invention may be obtained from a reading of claim 1, which is reproduced in the appendix to the appellant's brief.

## ***The Evidence of Anticipation and Obviousness***

The examiner relied upon the following prior art references of record in rejecting the appealed claims:

Kabasin 6,615,129 Sep. 2, 2003

Sondermann DE 4229186 Mar. 3, 1994  
(German patent document)

## *The Rejections*

The following rejections are before us for review.

Claims 1-3, 6 and 9-12 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Kabasin.

Claim 7 stands rejected under 35 U.S.C. § 103 as being unpatentable over Kabasin in view of Sondermann.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellant regarding the above-noted rejections, we make reference to the answer (mailed November 2, 2004) and supplemental answer (mailed February 17, 2005) for the examiner's complete reasoning in support of the rejections and to the brief (filed September 2, 2004), first reply brief (filed December 22, 2004) and second reply brief (filed April 15, 2005) for the appellant's arguments thereagainst.

## OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellant's specification and claims, to the applied prior art references, and to the

respective positions articulated by the appellant and the examiner. As a consequence of our review, we make the determinations which follow.

Each of appellant's claims on appeal recites a method, or a program for carrying out a method, comprising steps of adjusting a first continuously shiftable parameter so that at least one condition variable of the combustion of a combustion chamber assigned to said inlet valve does not change when later switching over a second parameter which can be switched in steps and then switching over said second parameter. In rejecting claims 1-3, 6 and 9-12 as being anticipated by Kabasin, the examiner reads the phasing of the intake cam relative to the engine crankshaft as the first, continuously shiftable, parameter and the position of the two-step switching device as the second parameter. With the two-step switching device in the first position, an associated engine valve is actuated, i.e., lifted, according to a high-lift cam. With the two-step switching device in the second position, the associated engine valve is actuated/lifted according to a low-lift cam of the camshaft.

It is apparent from the disclosure of Kabasin in columns 9 through 12 that the phasing will be switched before the two-step switching device in at least two situations. First, in the case where the load check 204 and high-lift position check 206 determine that the two-step switching device needs to be switched to the high-lift position, if the high-load hysteresis check 212 determines that the desired load is less than the predetermined high-load hysteresis threshold<sup>1</sup>, the electronic throttle control module

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<sup>1</sup> The predetermined high-load hysteresis threshold is slightly greater than the predetermined load

(ETC) command 210 is executed, followed by execution of the phaser command 216, a repeat of the load check 204 and high-load hysteresis check 212. At this point, if the desired load is equal to or exceeds the predetermined high-load hysteresis threshold, switching step 214 is executed. Second, in the case where the load check 204 and low-lift position check 208 determine that the two-step switching device needs to be switched to the low-lift position, if the low-load hysteresis check 226 determines that the desired load exceeds the predetermined low-load hysteresis threshold, ETC command 224 and phaser command 222 are sequentially executed. Following execution of phaser command 222, load check 204 and low-load hysteresis check 226 are repeated. If in low-load hysteresis check 226 the desired load is less than or equal to the predetermined low-load hysteresis threshold, two-step switching device 16 is switched to the low-lift position.

There is no express indication in Kabasin that the phasing is adjusted "so that at least one condition variable of the combustion of a combustion chamber assigned to said inlet valve does not change" as called for in each of the claims on appeal and

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threshold of the load check 204 to provide hysteresis in the switching of two-step switching device 16 and thereby provide for a smooth switch thereof and prevent the two-step switching device from oscillating between the high and low-lift modes.

Kabasin does not provide sufficient details of the algorithms for generating the phaser and ETC control signals to determine with any certainty whether any such condition variable of the combustion of the combustion chamber will remain unchanged. The examiner's contention (supplemental answer, page 3) that, in essence, Kabasin's teaching that the disclosed algorithm with a corresponding phaser adjustment and valve lift switching results in a smoother engine operation by eliminating sudden increase in torque mandates that one condition variable of the combustion of a combustion chamber does not change, is not well founded. Kabasin teaches in the last paragraph in column 8 that:

Under certain engine operating conditions, the switching of two-step switching device 16 could cause changes in engine operation which might be perceived by a driver as undesirable, such as, for example, a relatively sudden increase in torque. Further, when engine operating conditions are centered around a point corresponding to a switching point for two-step switching device 16 engine operation may be affected, such as, for example, by oscillation or multiple switching of two-step switching device 16 between the high-lift and low-lift positions. As is more particularly described hereinafter, switching control algorithm 200 controls the operation of two-step switching device 16,

intake cam phaser 18 and ETC 20 to ensure smooth engine operation.

Even assuming the examiner is correct that the Kabasin switching algorithm results in smooth engine operation without sudden increases in torque, it is essential to keep in mind that Kabasin achieves such results by controlling the operation of two-step switching device 16, intake cam phaser 18 and ETC 20, not just the two-step switching device and phaser. Consequently, without further details of the algorithm, it would be speculative to assume that any avoidance in sudden torque shifts results from ensuring that one condition variable of the combustion does not change rather than, for example, changes in two condition variables which offset one another in their effects on torque. It is well established that an anticipation rejection cannot be predicated on an ambiguous reference. Rather, disclosures in a reference relied on to prove anticipation must be so clear and explicit that those skilled in the art will have no difficulty in ascertaining their meaning. In re Turlay, 304 F.2d 893, 899, 134 USPQ 355, 360 (CCPA 1962).

For the foregoing reasons, we cannot sustain the examiner's rejection of claims 1-3, 6 and 9-12 as being anticipated by Kabasin. We see nothing in the examiner's application of Sondermann which makes up for the above-noted deficiency of Kabasin. Thus, we also cannot sustain the examiner's rejection of claim 7 as being unpatentable over Kabasin in view of Sondermann.

REMAND TO THE EXAMINER

This application is remanded to the examiner, pursuant to our authority under 37 CFR § 41.50(a)(1), for consideration of whether claim 9 is directed to patentable subject matter under 35 U.S.C. § 101. We note that claim 9 is directed simply to a computer program without any recitation of a computer-readable medium on which it is stored to realize its functionality. It thus appears to be the type of data structure discussed in ANNEX IV of the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility (1300 Off. Gaz. Pat. Office 142 (November 22, 2005)) as nonstatutory functional material. After reviewing the subject matter of claim 9 in light of these guidelines, the examiner should consider whether a rejection under 35 U.S.C. § 101 is appropriate.

CONCLUSION

To summarize, the decision of the examiner to reject claims 1-3, 6 and 9-12 under 35 U.S.C. § 102(e) and claim 7 under 35 U.S.C. § 103 is reversed and the application is remanded for the reason discussed above.

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

REVERSED AND REMANDED

BRADLEY R. GARRIS )  
Administrative Patent Judge )  
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JOHN P. McQUADE ) BOARD OF PATENT  
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