

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

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* GERHARD FISCHLE, ALEXANDER HOHNWALD, TANER KANDEMIR,  
THORSTEN KLEPSER, FRANK TIETZE, and PETER WOLL

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Appeal No. 2006-2476  
Application No. 10/269,089  
Technology Center 3600

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HEARD: November 15, 2006

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Before CRAWFORD, GROSS, and NAPPI, *Administrative Patent Judges*.  
GROSS, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1 through 14, which are all of the claims pending in this application.

Appellants' invention relates to a method for determining temperature of a wheel-braking device in a vehicle. Claim 1 is illustrative of the claimed invention, and it reads as follows:

1. A method for determining temperature of a wheel-braking device of a brake system in a vehicle, which braking device includes a brake disc and a brake caliper, said method comprising:

determining current disc temperature ( $T_{disc, current}$ ) of the brake disc as a function of a last-determined disc temperature ( $T_{disc, old}$ ), energy ( $E_{friction, disc}$ ) supplied to the brake disc since determination of the last-determined disc temperature, and energy ( $E_{disc, dis}$ )

discharged by the brake disc since determination of said last-determined disc temperature; and

determining current caliper temperature ( $T_{\text{caliper, current}}$ ) of the brake caliper of the wheel-braking device as a function of the current disc temperature ( $T_{\text{disc, current}}$ ) of the brake disc.

No prior art references of record were relied upon by the examiner in rejecting the appealed claims.

Claims 1 through 14 stand rejected under 35 U.S.C. § 112, first paragraph, as being based on a disclosure which is not enabling.

Reference is made to the Examiner's Answer (mailed January 26, 2006) for the examiner's complete reasoning in support of the rejection, and to appellants' Brief (filed November 3, 2005) and Reply Brief (filed March 27, 2006) for appellants' arguments thereagainst.

#### OPINION

We have carefully considered the claims, the applied prior art references, and the respective positions articulated by appellants and the examiner. As a consequence of our review, we will reverse the enablement rejection of claims 1 through 14.

The only issue in this appeal is whether or not the specification enables the skilled artisan to obtain the "last-determined disc temperature." See Answer, page 3. Appellants explain (Brief, pages 5 and 6) that "a person skilled in the art would easily understand that the phrase 'last-determined disk temperature' refers simply to the temperature determined in the immediately preceding iteration of the process," or, rather, "the beginning value for any particular calculation is nothing more than the ending value for the preceding calculation." Appellants recognize that (Brief, page 6) "[t]his leaves only the question of how the initial value for commencing the iterative process according to the invention is obtained, when the vehicle is started." Appellants (Reply Brief, page 1) direct our attention to Figure 3 and paragraphs [0029] through [0040] of the specification.

Figure 3 and the corresponding disclosure indicate that when the vehicle is first started, the switch-on temperature of the hydraulic assembly is measured and compared with the stored, measured switch-off temperature of the hydraulic assembly. If the

switch-on temperature is lower than the switch-off temperature, then the switch-on temperature is compared to a predetermined maximum. If the switch-on temperature is greater than or equal to the switch-off temperature, then the current disc-temperature is calculated to be a constant multiplied by the value of the disc-temperature stored at the time the ignition was turned off. The examiner (Answer, page 3) responds that appellants fail to disclose how one obtains the first initial value of temperature  $T_{HA,off}$  of the hydraulic assembly, or, rather, the value when the vehicle is switched on for the first time. Appellants reply (Reply Brief, page 3) that “the concept of storing initial values of all different kinds in control units during the production of a vehicle is an expedient which is widely used and extremely well known to those skilled in the art,” and “a person skilled in the art and familiar with the iterative processes of this type would immediately understand the simple expedient of providing an initial value for the operation of the system.”

We agree with appellants that the phrase last-determined disc temperature” is clearly the prior current disc temperature. We also agree that the only question then becomes what the initial value is for beginning the iterative process. Further, we agree with the examiner that the initial value of  $T_{HA,off}$  is not explicitly disclosed. However, the skilled artisan would understand that when the vehicle is started cold, the switch-on temperature of the hydraulic assembly will be ambient temperature, making the answer to steps 30 and 31 “yes,” and rendering the disc-on temperature ambient temperature. On the other hand, when the vehicle is started soon after switch-off, the temperature generally will be less than, but close to, the switch-off temperature. Thus, a hot start (or a start where the temperature of the hydraulic assembly is between a predetermined maximum and the running temperature, or switch-off temperature) will yield a negative answer in step 30 and a disc-on temperature of a fraction of the stored disc-off temperature. The purpose of the flowchart of Figure 3 is to render a disc-on temperature of ambient temperature whenever the vehicle has cooled below a certain maximum value, and a disc-on temperature of a percentage of the stored, last calculated disc temperature whenever the vehicle is still relatively hot. The skilled artisan would recognize that when the vehicle first leaves the factory, the vehicle is at ambient temperature, so the disc-on

temperature should also be ambient temperature. To reach that decision in the flowchart, the initial switch-off temperature of the hydraulic assembly must be greater than or equal to the predetermined maximum switch-on temperature of step 31. As indicated by appellants (Reply Brief, page 3), it is known to artisans skilled in the art to provide initial values for the operation of the system. Clearly, it would have been within the level of the skilled artisan to store along with the predetermined maximum for step 31 an initial value for the hydraulic system switch-off temperature which is at or above that predetermined maximum. Therefore, we find the claims are enabled by the disclosure. Accordingly, we will reverse the enablement rejection of claims 1 through 14.

#### CONCLUSION

The decision of the examiner rejecting claims 1 through 14 under 35 U.S.C. § 112, first paragraph, is reversed.

REVERSED

MURRIEL E. CRAWFORD	)	
Administrative Patent Judge	)	
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	)	BOARD OF PATENT
ANITA PELLMAN GROSS	)	APPEALS
Administrative Patent Judge	)	AND
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ROBERT E. NAPPI	)	
Administrative Patent Judge	)	

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