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EXAMINER	
MALHOTRA, SANJEEV	

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte GREGORY P. PRIOR, PAUL D. NETKOWSKI,
and MITCHELL S. ZAJAC

Appeal 2019-004690
Application 14/923,485
Technology Center 3600

Before LISA M. GUIJT, LEE L. STEPINA, and
RICHARD H. MARSCHALL, *Administrative Patent Judges*.

GUIJT, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant[1] seeks our review under 35 U.S.C. § 134(a) of the rejection of claims 1–19. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

[1] We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies FCA US LLC as the real party in interest. Appeal Br. 3.

THE INVENTION

Appellant's invention relates to "vehicles with active grille shutter and, more particularly, to control of active grille shutters for a vehicle during cold start." Spec. ¶ 1. Claims 1 and 11 are the independent claims on appeal. Claim 1, reproduced below, is illustrative of the subject matter on appeal.

> 1. A method of controlling an active grille shutter (AGS) system for a vehicle upon startup of an engine of the vehicle, the method comprising:
>
> determining if flaps of the AGS system are in a closed position upon cold-startup of the vehicle;
>
> moving the flaps of the AGS system to the closed position if the flaps are determined to not be in the closed position upon cold-startup of the vehicle; and
>
> maintaining the flaps of the AGS system in the closed position until an engine coolant temperature (ECT) reaches a predetermined initial overshoot temperature that initially overshoots a predetermined continuous ECT target associated with steady-state operation of the engine;
>
> wherein the initial overshoot of the ECT during cold-startup is configured to rapidly raise an engine oil temperature (EOT) to a predetermined continuous EOT target associated with the steady-state operation of the engine thereby reducing viscosity of the engine oil during cold-startup operation and increasing fuel efficiency of the vehicle.

THE REJECTIONS[2]

The Examiner relies upon the following as evidence in support of the rejections:

NAME	REFERENCE	DATE
Farmer	US 2013/0338870 A1	Dec. 19, 2013
Charnesky	US 2014/0039765 A1	Feb. 6, 2014
Manhire	US 2014/0094104 A1	Apr. 3, 2014
Cunningham	US 2015/0323138 A1	Nov. 12, 2015

The following rejections are before us for review:

I. Claims 1 and 11 stand rejected under 35 U.S.C. § 103 as unpatentable over Farmer and Manhire.

II. Claims 2, 3, 12, and 13 stand rejected under 35 U.S.C. § 103 as unpatentable over Farmer, Manhire, and Charnesky.

III. Claims 4, 6, 8, 14, 16, and 18 stand rejected under 35 U.S.C. § 103 as unpatentable over Farmer, Manhire, Charnesky, and Cunningham.

IV. Claims 5, 7, 9, 10, 15, 17, and 19 stand rejected under 35 U.S.C. § 103 as unpatentable over Farmer, Manhire, Charnesky, Cunningham, and Official Notice.

[2] We include claims 11–19 in the rejections as stated for claims 1–10, pursuant to the Examiner's statement that "[w]ith respect to Claims 11–19, these system claims are rejected based on the exemplary analysis for the rejection of method Claims 1–10." Non-Final Act. 22. Additionally, the Examiner indicates that any reference to Ruppert in the claim rejections (i.e., claims 1, 2, 4) is a typographical error, and therefore, we have not included Ruppert in our Decision. *See* Non-Final Act. 4, 10, 11, 15; Ans. 2–4.

OPINION

Rejection I

Regarding independent claim 1, the Examiner finds that Farmer discloses, *inter alia*, maintaining the flaps of the AGS system in the closed position until an engine coolant temperature (ECT) reaches *a predetermined initial overshoot temperature*, which we note is specifically defined in claim 1 as a temperature that "initially overshoots a predetermined continuous ECT target associated with steady-state operation of the engine." Non-Final Act. 8. In particular, the Examiner finds that Farmer discloses comparing an indicated temperature to a threshold, wherein if the indicated temperature is above (or reaches) the threshold, a diagnostic procedure is performed, and if the indicated temperature is below the threshold, the AGS system is deactivated, for example, until the indicated temperature signal exceeds the temperature threshold. *Id.* (citing Farmer ¶¶ 24, 29). The Examiner determines that

> Farmer's teachings of temperature threshold is the same as [the] claimed 'overshoot temperature', and furthermore, 'overshoot (temperature)' means 'to shoot or to go over a specified point or target (temperature)' per dicationary.com, without any special meaning assigned by the Appellant's [S]pecification, and which is the same as Farmer's teachings of above or below the temperature threshold (in either direction), when it is interpreted broadly.

Ans. 8 (emphasis omitted).

Appellant submits correctly, as noted *supra*, that claim 1 defines the predetermined initial overshoot temperature as a temperature that initially (i.e., upon cold start up) overshoots a predetermined continuous engine coolant temperature (ECT) target associated with steady-state operation of the engine, which is configured to rapidly raise an engine oil temperature

(EOT) to a predetermined continuous EOT target associated with the steady state operation of the engine. Reply Br. 3. Appellant argues that neither Farmer nor Manhire disclose maintaining the flaps of an AGS system in a closed position until the ECT at cold startup reaches *the claimed* predetermined initial overshoot temperature. Appeal Br. 7–8. In support, Appellant submits that Farmer merely discloses comparing a measured temperature to a threshold (*id.* at 8) and that Manhire describes opening the flaps in a fail-safe configuration. *Id.* (citing Manhire ¶ 20). Appellant further submits that because Manhire discloses opening the flaps once the engine reaches *optimal* operating temperatures during start-up, Manhire teaches away from the claimed method of *overshooting* the steady-state operation temperature. *Id.* at 8–9.

We are persuaded by Appellant's argument.

Farmer broadly discloses that it is well-known in the prior art to move flaps of an AGS system "based on one or more parameters," such as "a temperature of the engine . . . and a coolant temperature indicating a temperature of the coolant of the vehicle" (Farmer ¶ 14), and also deactivating the AGS system based on a comparison of a temperature parameter against a threshold temperature (*see, e.g.*, *id.* ¶ 24), wherein it may be understood that the AGS system may open the flaps pursuant to a deactivated state (*see, e.g.*, Manhire ¶ 4 ("[i]t is therefore desirable to develop a fail-safe arrangement or actuator that will move the vanes to their open position in the event of power loss or actuator failure of the primarily electrically drive active grille system actuator").

Manhire teaches that "[d]uring [an] initial start-up period, the engine is the least fuel efficient" and that "it is considered desirable to bring the

engine up to the optimal operating temperature very quickly," such that "[u]nder these conditions, it is not desirable to remove heat away from the engine." Manhire ¶ 2. Therefore, Manhire teaches that

> [d]uring engine start-up the vanes can be closed in order to prevent outside air from flowing into the engine compartment and cooling the components of the engine, at least until the engine has reached optimal operating temperatures. Then once the desired engine temperature has been reached, the vanes can be opened or adjusted to allow air to flow through the engine compartment and cool the engine in order to help prevent the engine from becoming too hot.

Id. ¶ 3.

Thus, although Farmer discloses the concept of comparing the ECT against a threshold and opening the flaps upon reaching the threshold, and Manhire discloses maintaining AGS system flaps closed in a cold-startup condition until an optimal engine temperature is reached, neither reference discloses a threshold based on an overshoot temperature, as claimed. Put another way, the prior art fails to teach an optimal engine temperature that meets the requirements of the claimed overshoot temperature, rather than the steady-state operation of the engine.

The Examiner's failure to make a finding, which is supported by a preponderance of the evidence, with respect to the disclosure of the very specific threshold recited in claim 1 (i.e., a predetermined initial overshoot temperature that initially overshoots a predetermined continuous engine coolant temperature target associated with steady-state operation of the engine), and alternatively, failure to reason, with adequate support, that it would have been obvious to one skilled in the art to select such a specific threshold, results in the Examiner reading the specifically claimed threshold *out* of claim 1.

Accordingly, we do not sustain the Examiner's rejection of independent claim 1. Similar to independent claim 1, independent claim 11 requires a control module to maintain flaps of an AGS system closed until an ECT reaches "a predetermined initial overshoot temperature that initially overshoots a predetermined continuous ACT target associated with steady-state operation of the engine," and the Examiner relies on the same findings and reasoning with respect to this claim limitation as relied upon in the rejection of claim 1 *supra*. Non-Final Act. 22. Thus, for essentially the same reasons as stated *supra*, we do not sustain the Examiner's rejection of independent claim 11.

Rejections II–IV

The deficiencies in the Examiner's findings with respect to independent claims 1 and 11, as discussed *supra*, is not cured by the Examiner's reliance on (i) Charnesky for disclosing "various temperatures settings," for example, engine coolant temperature (ECT) and engine operating temperature (EOC), and an engine thermostat, in Rejection II (Ans. 3–4; Non-Final Act. 22)[3]; (ii) Cunningham for disclosing an air

[3] We find that a preponderance of the evidence fails to support the Examiner's apparent alternative reliance on Charnesky for disclosing a predetermined initial overshoot temperature that initially overshoots a predetermined continuous engine coolant temperature (ECT) target associated with steady-state operation of the engine, as recited in claims 1 and 11. *See, e.g.*, Non-Final Act. 11 (wherein the Examiner finds that to the extent Farmer and Manhire "do not explicitly teach about 'predetermined initial overshoot temperature,' Charnesky teaches it" (citing Charnesky, Abwstract, ¶¶ 5–15, 21, 22, 28)). As with Farmer and Manhire, Charnesky discusses threshold temperature values for opening and closing the shutter of an AGS system, however, stops short of disclosing the specific threshold claimed. *See, e.g.*, Charnesky ¶ 28 (engine temperature); ¶ 29 ("the freezing point"), ¶ 29 ("a predetermined vehicle speed"); and specifically ¶ 28

conditioning pressure threshold, in Rejection III (Non-Final Act. 15); and (iii) Official Notice for establishing that the claimed temperature and pressures ranges are well-known, in Rejection IV (*id.* at 19–20).

Accordingly, we also do not sustain the Examiner's rejection of dependent claims 2–10 and 12–19.

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)	Affirmed	Reversed
1, 11	103	Farmer, Manhire		1, 11
2, 3, 12, 13	103	Farmer, Manhire, Charnesky		2, 3, 12, 13
4, 6, 8, 14, 16, 18	103	Farmer, Manhire, Charnesky, Cunningham		4, 6, 8, 14, 16, 18
5, 7, 9, 10, 15, 17, 19	103	Farmer, Manhire, Charnesky, Cunningham, Official Notice		5, 7, 9, 10, 15, 17, 19
Overall Outcome				1–19

REVERSED

("controller 50 is also configured to detect a start-up of the engine 14 as part of initialize operation of the shutter 30," wherein "[i]dentification that the shutter operation has been initialized may take place following the shutter 30 having achieved full travel from the fully-open position to the fully-closed position," and "[a]s part of the initializing operation of the shutter 30, a temperature of the engine 14 is detected via a coolant temperature sensor 52 . . . " and wherein "shutter 30 is then commanded to achieve the fully-open position when the temperature of the engine 14 is at or above a threshold value 53").