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EXAMINER

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* STERLING SCHMELTZ

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Appeal 2010-009474  
Application 11/559,828  
Technology Center 3700

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Before: PHILLIP J. KAUFFMAN, MICHAEL L. HOELTER, and  
HYUN J. JUNG, *Administrative Patent Judges*.

KAUFFMAN, *Administrative Patent Judge*.

DECISION ON APPEAL

### STATEMENT OF THE CASE

Appellant appeals under 35 U.S.C. § 134 from a rejection of claims 1-4, 6, 8, 9, 11, 19, 20, 22, and 23.<sup>1</sup> We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

#### *The Invention*

Appellant's claimed invention relates to "systems, apparatus and methods for using a Rankine cycle system in combination with a hydraulic accumulator system to drive a vehicle component." Spec. 1:5-6. Claims 1 and 19 are the independent claims on appeal. Claim 1, reproduced below, is illustrative of the claimed subject matter (emphasis added):

1. A method for driving front end accessory drive components, the method comprising:

generating fluid power from a Rankine cycle system coupled to an exhaust system of a vehicle to drive the front end accessory drive components and increase pressure in a hydraulic accumulator system during a steady-state engine operation state; and

*generating fluid power from the hydraulic accumulator system to drive the front end accessory drive components during a cold start condition.*

#### *The Rejections*

The following rejections are before us on appeal:

1. Claims 1-3, 6, 8, 19, 20, and 23 under 35 U.S.C. § 103(a) as unpatentable over Reis (US 5,549,174; iss. Aug. 27, 1996), Kumm

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<sup>1</sup> Appellant's Status of Claims mistakenly includes claims 12-18 as pending and rejected; however, claims 12-18 are cancelled. Ans. 2; App. Br., Claims App'x.

(US 4,083,188; iss. Apr. 11, 1978), and Hisanaga (US 2004/0211180 A1; pub. Oct. 28, 2004).

2. Claims 1-3, 6, 8, 19, 20, and 23 under 35 U.S.C. § 103(a) as unpatentable over Reis, Kumm, Hisanaga, and Hay (US 2002/0007636 A1; pub. Jan. 24, 2002).
3. Claim 4 under 35 U.S.C. § 103(a) as unpatentable over Reis, Kumm, Hisanaga, and Koeslin (US 4,179,884; iss. Dec. 25, 1979).
4. Claims 9, 11, and 22 under 35 U.S.C. § 103(a) as unpatentable over Reis, Kumm, and Hisanaga.

#### OPINION

##### *Claims 1-3, 6, 8, 19, 20, and 23 over Reis, Kumm, and Hisanaga*

Independent method claim 1 calls for the step of generating fluid power from the hydraulic accumulator system to drive the front end accessory drive components during a cold start condition. Similarly, independent claim 19 includes the step of “releasing the power output stored in the hydraulic accumulator system to drive the hydraulic motor operatively coupled to the front end accessory drive components during a cold start condition of the vehicle's engine.” Thus, claims 1 and 19 each require the front end accessory drive components to be driven by the system. Such interpretation is consistent with the Specification, which states that the front end accessory drive components are run by (driven by) the system. Spec. 2:22-23.

The Examiner's conclusion of obviousness is based in part on a finding that Reis's compressed air motor 12 “is disclosed to be able to be used to start the engine or for movement of the vehicle, and therefore, is

capable of driving the front end accessory drive components during cold start conditions (i.e. during start of the engine).” Ans. 4. For the reasons that follow, this finding is not adequately supported by the reference.

Reis’s compressed air circuit stores compressed air in storage vessel 11 that may be utilized as the motive fluid for compressed air motor 12, and compressed air motor 12, once so powered, may perform two operations: one, starting the internal combustion engine 1, and two, providing propulsion of the vehicle to replace the power provided by internal combustion engine 1. Reis, col. 3, ll. 53-67; col. 4, ll. 34-55; figs 1, 2.

In the first mode of operation (serving as a starter), air from storage vessel 11 drives compressed air motor 12 to produce rotation that is transmitted (via motor-shaft 22 to clutch 20, deviation gear box 18, clutch 19, and motor-shaft 23) to turn the internal combustion engine 1, eliminating the use of an electric starter motor. Reis, col. 4, ll. 32-44; fig. 1. In such operation, compressed air motor 12 is not driven by internal combustion engine 1; rather, compressed air motor 12 is driving the internal combustion engine 1. Therefore, compressed air motor 12, acting as a starter, is not itself a driven front end accessory drive component as claimed. *Contra*. Ans. 4, 11-15.

Alternatively, the Examiner finds that during this cold start operation, compressed air motor 12 drives internal combustion engine 1, which in turn drives front end accessory drive components. Ans. 11. Though Reis does not explicitly disclose any front end accessory drive component, the Examiner finds that Reis “would have to operate at minimum an AC Compressor and a Power Steering Pump or the vehicle would not be safe.”

*Id.* We interpret this as a finding that the presence of such components is inherent. We cannot agree.

Though perhaps such components are widely known to be driven by an internal combustion engine, it is not necessarily so, and for that reason is not inherent. *See In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999) (citations and internal quotation marks omitted) (“Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.”); *see also* Reply Br. 3-4. Further, the Examiner fails to address that even if present, such front end accessory drive components are not necessarily driven during engine start, as required by the independent claims.

In the second mode of operation, compressed motor 12 replaces internal combustion engine 1, and provides propulsion of the vehicle. *Reis*, col. 4, ll. 45-55; fig. 1. During such operation, clutch 19 disconnects compressed air motor 12 from propeller shaft 23 of internal combustion engine 1. *Id.* Therefore, when compressed air motor 12 is serving as propulsion for the vehicle, it is not driving internal combustion engine 1. For that reason, the Examiner’s alternative finding that compressed air motor 12 indirectly drives front end accessory components via engine 1 is incorrect because during such operation compressed air motor 12 is disconnected from, and therefore not turning, internal combustion engine 1.<sup>2</sup> *Contra.* Ans. 4; App. Br. 20.

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<sup>2</sup> Nor does *Reis* contain a disclosure that compressed air motor 12 directly drives a front end accessory drive component while providing propulsion for the vehicle. *Reis*, *passim*.

Because the Examiner's conclusion of obviousness is based upon an erroneous finding of fact, we cannot sustain the rejection of independent claims 1 and 19, and their respective dependent claims 2, 3, 6, 8, 20, and 23. *Claims 1-3, 6, 8, 19, 20, and 23 over Reis, Kumm, Hisanaga, and Hay*

As an alternative to relying upon Reis for the step of generating fluid power from the hydraulic accumulator system to drive the front end accessory drive components during a cold start condition, the Examiner relies upon Hay for such disclosure. Ans. 8. Specifically, the Examiner found that Hay's hydraulic motor (turbine unit 36) drives front end accessory drive components. Ans. 8 (citing Hays, para. [0029] and fig. 1); *see also* Hays, para. [0027].

Appellant argues, and we agree, that Hay's expander/turbine unit 36 is driven by high-pressure vapor, not hydraulic fluid as claimed. App. Br. 16-17; Hays, para. [0027]. Consequently, the Examiner's conclusion of obviousness is based upon an erroneous finding of fact, and we cannot sustain claims 1 and 19, and their respective dependent claims 2, 3, 6, 8, 20, and 23.

*Claim 4 under 35 U.S.C. § 103(a) over Reis, Kumm, Hisanaga, and Koeslin; Claims 9, 11, and 22 over Reis, Kumm, and Hisanaga*

Each of these rejections relies upon the same erroneous finding of fact regarding Reis discussed in the analysis of the first rejection, *supra*. *See* Ans. 9-11. Consequently, we also do not sustain the rejection of claims 4, 9, 11, and 22.

Appeal 2010-009474  
Application 11/559,828

DECISION

We reverse the Examiner's decision to reject claims 1-4, 6, 8, 9, 11,  
19, 20, 22, and 23.

REVERSED

JRG