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Magleby Cataxinos & Greenwood 170 S. Main Street, Suite 1100 Salt Lake City, UT 84101			KAUFMAN, JOSEPH A	
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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* FLOWSERVE MANAGEMENT COMPANY  
Patent Owner

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Appeal 2019-005905  
Reexamination Control 90/014,065<sup>1</sup>  
Patent US 9,188,237 B2  
Technology Center 3900

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Before MARC S. HOFF, BRETT C. MARTIN, and JEREMY M.  
PLENZLER, *Administrative Patent Judges*.

HOFF, *Administrative Patent Judge*.

DECISION ON APPEAL  
STATEMENT OF THE CASE

Appellant appeals under 35 U.S.C. § 134(a) from the rejection of claims 1, 10, 11, 13, 14, and 16.<sup>2</sup> We have jurisdiction under 35 U.S.C. §§ 134(b) and 306.

We affirm.

The ‘237 patent issued to Dolenti on November 17, 2015. The ‘237 patent concerns a valve actuator that includes a solid-state motor controller

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<sup>1</sup> Appellant states that the real party in interest is Flowserve Corporation. App. Br. 2.

<sup>2</sup> Claims 2–4, 6–9, 15, and 17 are not subject to reexamination. Claims 5 and 12 have been cancelled.

capable of operating a motor at variable speeds and a gear set that provides inherent braking. Abstract. A universal power converter receives electrical input from a power supply and outputs an appropriate electrical supply to motor controller 20. The universal power converter would be able to take any commonly used voltage and current type and convert it into a form usable by the motor controller. Dolenti col. 5:40–42; col. 5:65–col. 6:2.

Claim 1 is exemplary of the claims on appeal:

1. A valve actuator comprising:  
a variable-speed motor;  
a solid-state motor controller operably connected to the variable-speed motor and configurable to operate the variable-speed motor in a manner providing a valve stroke with a continuously varying speed determined by a speed profile entered by a valve operator;  
a braking device operably connected to the variable-speed motor, the braking device comprised of a gear set locking the variable-speed motor against back-driving loads in the event of a power failure;  
a power converter configured to receive electrical information from a power supply and to output an electrical supply to the solid-state motor controller, wherein the power converter comprises a universal power converter configured to convert any commonly used voltage and current type into a form usable by the solid-state motor controller; and  
a housing, wherein the variable-speed motor, the solid-state motor controller, and the power converter are integrated within the housing.

The Examiner relies upon the following prior art in rejecting the claims on appeal:

Ackermann            US 6,137,280            Oct. 24, 2000

Hermann Altenburg, *Electric Actuator with Integrated Frequency Converter*, Industrial Instruments, 1998 (hereinafter “Altenburg”).

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Thomas Heindel, *Protecting Valves Via High-Tech Electrical Actuators*, Industrial Instruments, 2001 (hereinafter “Heindel”).

Gerda Noelp & Matthias Rebhan, *Advantages of Variable Speed Actuators*, Valve World, 2005 (hereinafter “Noelp”).

Throughout this Decision, we make reference to Appellant’s Brief (“App. Br.,” filed Feb. 28, 2019), the Reply Brief (“Reply Br.,” filed June 11, 2019) and the Examiner’s Answer (“Ans.,” mailed April 11, 2019) for their respective details.

### REJECTIONS

Claims 1, 10, 11, 13, 14, and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Noelp, Altenburg, and Ackermann.

Claims 1, 10, 11, 13, 14, and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Heindel, Altenburg, and Ackermann.

### ISSUES

Appellant’s arguments present us with the following issues:

1. Does the Examiner express a rationale having a rational underpinning for the person having ordinary skill in the art to combine Noelp with Altenburg and Ackermann?

2. Does the Examiner express a rationale having a rational underpinning for the person having ordinary skill in the art to combine Heindel with Altenburg and Ackermann?

### PRINCIPLES OF LAW

Section 103(a) forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’

*KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). *See also KSR*, 550 U.S. at 407, (“While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”)

The motivation for combining reference teachings is not limited to the problem the patentee was trying to solve: “any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” *In re Icon Health & Fitness Inc.*, 496 F.3d 1374, 1380 (Fed. Cir. 2007) (quoting *KSR*, 550 U.S. 398, 419–20 (2007)). *See also Leapfrog*, 485 F.3d 1157, 1162 (Fed. Cir. 2007) (holding it “obvious to combine the Bevan device with the SSR to update it using modern electronic components in order to gain the commonly understood benefits of such adaptation, such as decreased size, increased reliability, simplified operation, and reduced cost”); *Dystar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1368 (Fed. Cir. 2006) (“[A]n implicit motivation to combine exists not only when a suggestion may be gleaned from the prior art as a whole, but when the ‘improvement’ is technology-independent and the combination of references results in a product or process that is more desirable, for example

because it is stronger, cheaper, cleaner, faster, lighter, smaller, more durable, or more efficient.”).

Furthermore, a reference may be understood by the artisan to be suggesting a solution to a problem that the reference does not discuss. *See KSR*, 550 U.S. at 420 (“The second error of the Court of Appeals lay in its assumption that a person of ordinary skill attempting to solve a problem will be led only to those elements of prior art designed to solve the same problem. . . . Common sense teaches . . . that familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle. . . . A person of ordinary skill is also a person of ordinary creativity, not an automaton.”).

[T]he “motivation-suggestion-teaching” test asks not merely what the references disclose, but whether a person of ordinary skill in the art, possessed with the understandings and knowledge reflected in the prior art, and motivated by the general problem facing the inventor, would have been led to make the combination recited in the claims. From this it may be determined whether the overall disclosures, teachings, and suggestions of the prior art, and the level of skill in the art – *i.e.*, the understandings and knowledge of persons having ordinary skill in the art at the time of the invention-support the legal conclusion of obviousness. (internal citations omitted).

*In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006). To establish a prima facie case of obviousness, the references being combined do not need to explicitly suggest combining their teachings. *See id.* at 987–88 (“the teaching, motivation, or suggestion may be implicit from the prior art as a whole, rather than expressly stated in the references”). “The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill

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in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art.” *Id.* at 987–88 (quoting *In re Kotzab*, 217 F.3d 1365, 1370 (Fed. Cir. 2000)).

#### ANALYSIS

Independent claim 1 recites, in pertinent part, “a valve actuator comprising a power converter configured to receive electrical information from a power supply and to output an electrical supply to the solid-state motor controller, wherein the power converter comprises a universal power converter configured to convert any commonly used voltage and current type into a form usable by the solid-state motor controller.” Independent claims 10, 11, 13, 14, and 16 recite the same language describing the universal power converter.

#### § 103 REJECTION OVER NOELP, ALTENBURG, AND ACKERMANN

The Examiner finds that Noelp does not teach a universal power converter, and relies on Ackermann to supply that teaching. Final Act. 6. The Examiner concludes that it would have been obvious to modify Noelp in view of Ackermann “in order to be able to use any common power source to power the valve motor, therefore providing flexibility to where the variable speed actuator may be used. Further, the universal power converter provides for an even and steady flow of power which will improve performance of the actuator.” *Id.*; Ans. 5.

Appellant argues that the Examiner’s rejection is erroneous because “none of the asserted rationale to combine is supported by the cited art, and appears to the Patent Owner to be derived by the Examiner from the Patent Specification.” App. Br. 5. Appellant contends that Noelp is “entirely silent

as to all of the stated rationale,” pointing out that Noelp does not mention any of the specific advantages posited by the Examiner. Appellant’s position is that any implicit rationale to combine “must still be inherent in the cited art,” and no such rationale is found therein, because Noelp does not articulate any of them. App. Br. 6.

We are not persuaded by Appellant’s arguments. Motivation to combine references may be implicit from the prior art as a whole, rather than expressly stated in the references. *In re Kahn*, 441 F.3d at 987–88 (Fed. Cir. 2006). The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art. *Id.* We agree with the Examiner that “one of ordinary skill in the art would know that flexibility in power sources would allow for use of a device in a greater number of places, i.e. the device becomes more portable, can operate in different types of current etc.” Ans. 9.

We agree with the Examiner’s rationale that the knowledge of one of ordinary skill in the art would suggest the advantage of modifying the device of Noelp to be more adaptable to different power inputs and to be usable in more places. Ackermann suggests the advantage of a universal power converter is its “ability to accept variable input power . . . and providing a selectable near universal and constant output voltage which is compatible with a selected target device.” Ackermann col. 1:26–31.

We conclude that the Examiner stated a rationale for combining Noelp with Altenburg and Ackermann, having a rational underpinning, to support

the Examiner's legal conclusion of obviousness. We sustain the Examiner's § 103(a) rejection of claims 1, 10, 11, 13, 14, and 16.

§ 103 REJECTION OVER HEINDEL, ALTENBURG, AND ACKERMANN

Appellant's arguments concerning Heindel present the same issues regarding the Examiner's combination of Heindel with Altenburg and Ackermann as were presented concerning the combination of Noelp with Altenburg and Ackermann. App. Br. 7. The Examiner concluded in the Answer that it would have been obvious to modify Heindel to include Ackermann's universal power converter "in order to be able to use any common power source to power the valve motor, therefore providing flexibility to where the variable speed actuator may be used. Further, the universal power converter provides for an even and steady flow of power which will improve performance of the actuator." Ans. 7.

As we stated with respect to Noelp, we agree with the Examiner's rationale that the knowledge of one of ordinary skill in the art would suggest the advantage of modifying the device of Heindel to be more adaptable to different power inputs and to be usable in more places. Ackermann suggests the advantage of a universal power converter is its "ability to accept variable input power . . . and providing a selectable near universal and constant output voltage which is compatible with a selected target device." Ackermann col. 1:26-31.

We conclude that the Examiner stated a rationale for combining Heindel with Altenburg and Ackermann, having a rational underpinning, to support the Examiner's legal conclusion of obviousness. We sustain the Examiner's § 103(a) rejection of claims 1, 10, 11, 13, 14, and 16.

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### CONCLUSIONS

The Examiner expresses a rationale having a rational underpinning for the person having ordinary skill in the art to combine Noelp with Altenburg and Ackermann.

The Examiner expresses a rationale having a rational underpinning for the person having ordinary skill in the art to combine Heindel with Altenburg and Ackermann.

### ORDER

The Examiner's decision to reject claims 1, 10, 11, 13, 14, and 16 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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For Patent Owner:

Magleby Cataxinos & Greenwood  
170 S. Main Street, Suite 1100  
Salt Lake City, UT 84101

For Third Party Requester:

VOLPE AND KOENIG P.C. UNITED PLAZA  
30 SOUTH 17TH STREET, 18TH FLOOR  
PHILADELPHIA, 19103