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14/841,513	08/31/2015	Dennis George Thompson	50596 (CNHA:0370)	6615
71475	7590	12/27/2019	EXAMINER	
CNH Industrial America LLC Intellectual Property Law Department 700 STATE STREET RACINE, WI 53404			SCOTT, JACOB S	
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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* DENNIS GEORGE THOMPSON

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Appeal 2019-002619  
Application 14/841,513  
Technology Center 3600

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Before JENNIFER D. BAHR, JOHN C. KERINS, and  
CHARLES N. GREENHUT, *Administrative Patent Judges*.

GREENHUT, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant<sup>1</sup> appeals from the Examiner's decision to reject claims 1–10 and 16–25. *See* Final Act. 1. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM IN PART.

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<sup>1</sup> We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as CNH Industrial Canada, Ltd. Appeal Br. 2.

### CLAIMED SUBJECT MATTER

The claims are directed to “[a] flow control system for an agricultural metering system.” Spec. ¶ 1. Claim 1, reproduced below, with emphasis added, is illustrative of the claimed subject matter:

1. A flow control system for an agricultural metering system, comprising:

at least one clutch configured to alternately engage and disengage in response to a respective pulse-width modulation (PWM) signal, wherein the at least one clutch is configured to establish a rotatable connection between a respective drive input and a respective rotatable metering device while engaged and to interrupt the rotatable connection between the respective drive input and the respective rotatable metering device while disengaged; and

a control system communicatively coupled to the at least one clutch and configured to output the respective PWM signal, *wherein the PWM signal is configured to induce the at least one clutch to disengage while the PWM signal is at a first magnitude and to induce the at least one clutch to engage while the PWM signal is at a second magnitude*, different from the first magnitude, and the control system is configured to control a rotation rate of the respective rotatable metering device by adjusting a duty cycle of the respective PWM signal.

### REFERENCES

The prior art relied upon by the Examiner is:

<b>Name</b>	<b>Reference</b>	<b>Date</b>
Brome	US 2006/0178177 A1	Aug. 10, 2006
Leising	US 2008/0296117 A1	Dec. 4, 2008
Thompson	US 2012/0325131 A1	Dec. 27, 2012

### REJECTION

Claims 1–10 and 16–25 are rejected under 35 U.S.C. § 103 as being unpatentable over Thompson, Brome, and Leising. Final Act. 2.

OPINION

*Claims 1–10 and 16–20*

These claims are argued as a group for which claim 1 is representative under 37 C.F.R. § 41.37(c)(1)(iv).

The Examiner relies on Thompson for the basic system claimed albeit without a pulse-width modulation (PWM) control of the clutch. Final Act. 2–4. Appellant and the Examiner disagree as to whether Brome, when combined with Thompson in the manner proposed by the Examiner, would satisfy the limitation emphasized above. App. Br. 7–8; Final Act. 4–5; Ans. 19–20. Appellant’s position is that varying the *amount* of engagement does not equate to first and second magnitudes of the PWM signal that respectively engage and disengage the clutch. App. Br. 8; Reply. Br 2.

First, we note that the claim does not preclude variation of the amount of clutch engagement via the PWM signal. If anything, the last clause of the claim, “the control system is configured to control a rotation rate of the respective rotatable metering device by adjusting a duty cycle of the respective PWM signal” appears to actually require it. Second, as the Examiner correctly points out:

Brome teaches, to disengage the clutch, the “[c]ontroller 234 releases the clutch by reducing the duty cycle to zero and thereby interrupting all current to the clutch valve coil of clutch 220”, paragraph [0090]. Also, Brome teaches, to engage the clutch, the “controller 234 applies current to the control valve for clutch 220 at a 100% duty cycle. In other words, it completely engages clutch 220”, paragraph [0075].

Ans. 19–20 (quoting Brome). Thus, the “first magnitude” associated with clutch disengagement in Brome is zero, exactly like the exemplary first magnitude discussed in Appellant’s own Specification. Spec. para. 35 (“the

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PWM signal may alternate between a first magnitude (e.g., zero magnitude)"). The "second magnitude" is some non-zero magnitude in Brome associated with the 100% duty cycle. This is also consistent with Appellant's Specification. Spec. para. 35 ("a second magnitude (e.g., maximum magnitude)"). We are not apprised by Appellant as to why the express language of claim 1 would require anything more.

Appellant's reliance on the absence of the aforementioned teachings of Brome in Thompson and Leising (App. Br. 8-9; Reply. Br. 2-3) is inapposite. Non-obviousness cannot be shown by attacking references individually when the rejection is predicated upon the teachings of a combination of references. *See In re Merck & Co. Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) (citation omitted).

For the foregoing reasons we sustain the Examiner's rejection of claims 1-10 and 16-20.

#### *Claims 21-25*

Providing a "plurality of housings" and disposing "each clutch of the plurality of clutches and a corresponding clutch controller of the plurality of clutch controllers [] within a respective housing of the plurality of housings" as recited in claim 21 may seem like a fairly simple concept. Nonetheless, this does not excuse the Examiner from presenting adequate evidence and/or analysis to sufficiently account for this particular claim limitation. *See Final Act. 7*. All words in a claim must be considered in judging the obviousness of the claimed subject matter. *See In re Wilson*, 424 F.2d 1382, 1385.

The Examiner states:

Thompson teaches separate, selectively engaged and independently controllable metering sections which would all

have separate housings for the components so as to contain and protect the clutches and controllers. See paragraph [0032].

Ans. 15. However, we find nothing in paragraph 32 of Thompson relating to housings, and no reasoning of record to demonstrate why independent control of the metering sections necessarily requires separate clutch housings.

“[T]he precise language of 35 U.S.C. § 102 that ‘(a) person shall be entitled to a patent unless,’ concerning novelty and unobviousness, clearly places a burden of proof on the Patent Office which requires it to produce the factual basis for its rejection of an application under sections 102 and 103.” *In re Warner* 379 F.2d 1011, 1016 (CCPA 1967). The Patent Trial and Appeal Board is primarily a tribunal of review. *See Ex Parte Frye*, 94 USPQ2d 1072, 1075-1077 (BPAI 2010) (precedential). For that review to be meaningful it must be based on some concrete evidence in the record to support the Examiner’s factual findings and legal conclusions. *In re Zurko*, 258 F.3d 1379, 1386 (Fed. Cir. 2001). The key to supporting any prima facie conclusion of obviousness under 35 U.S.C. § 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Court in *KSR Int’l. v. Teleflex*, 550 U.S. 398, 418 (2007) noted that the analysis supporting a rejection under 35 U.S.C. § 103 should be made explicit. The Federal Circuit has stated that “rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006), cited with approval in *KSR Int’l. v. Teleflex*, 550 U.S. at 418.

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Appellant correctly argues the Examiner has not carried this burden with respect to claim 21. App. Br. 12–13; Reply. Br 3–4.

### CONCLUSION

The Examiner’s rejection is affirmed-in-part.

More specifically,

The Examiner’s rejection of claims 1–10 and 16–20 is affirmed.

The Examiner’s rejection of claims 21–25 is reversed.

### DECISION SUMMARY

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
1–10, 16–25	103	Thompson, Brome, Leising	1–10, 16–20	21–25

### TIME PERIOD FOR RESPONSE

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

AFFIRMED-IN-PART