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EXAMINER
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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* MATTHEW EARLEY

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Appeal 2019-000815  
Application 12/925,235  
Technology Center 2800

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Before ROMULO H. DELMENDO, RAE LYNN P. GUEST, and  
MERRELL C. CASHION, JR., *Administrative Patent Judges*.

DELMENDO, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), the Appellant<sup>1</sup> appeals from the Primary Examiner's final decision to reject claims 26–29.<sup>2</sup> We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

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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. The Inventor, Matthew Earley, is the Applicant and also the real party in interest (Appeal Brief filed February 8, 2018 (“Appeal Br.”) at 3).

<sup>2</sup> *See* Appeal Br. 4–11; Reply Brief filed November 5, 2018 (“Reply Br.”) at 1–12; Final Office Action entered January 6, 2017 (“Final Act.”) at 8–10; Examiner's Answer entered October 3, 2018 (“Ans.”) at 3–17.

## I. BACKGROUND

The subject matter on appeal relates to a fixed pitch wind turbine with centrifugal weight control (CWC) (original Specification filed October 18, 2010 (“Spec.”) at 1, l. 6). The Specification explains that, in the prior art, the operating speed for wind turbines is typically up to 25 m/s but the rated power is typically reached at 14 or 15 m/s (*id.* at 1, ll. 18–19). Thus, “[c]urrent technology captures and transforms less than half of the energy content available” (*id.* at 1, ll. 16–17). According to the Specification, “fixed pitch rotor and centrifugal weight control will permit the generation of increasing amounts of energy for the full distribution of operating speeds in both wind and water scenarios” (*id.* at 1, ll. 14–16).

Figure 1, which illustrates an exemplary embodiment of a fixed pitch wind turbine with CWC (Spec. 1, l. 27), is reproduced from the Drawings filed October 18, 2010, as follows:

Figure # 1

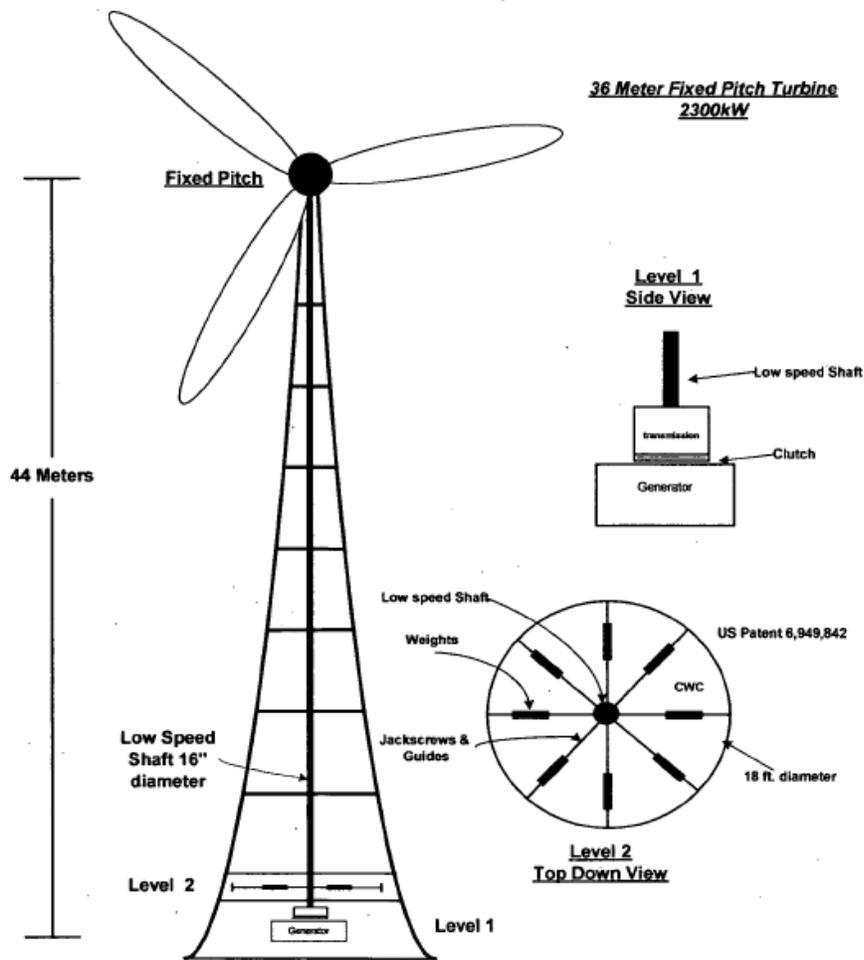


Figure 1 above depicts a fixed wind turbine, which uses a CWC as disclosed in the Appellant's earlier patent, Earley,<sup>3</sup> the principal prior art reference applied in the rejection on appeal (*id.* at 2, ll. 2-3). In addition to permitting the generation of increasing amounts of energy for the full distribution of operating speeds when used with a fixed pitch rotor, as we discussed above, the Specification states that "[e]mploying CWC (in lieu of pitch or stall solutions) in conjunction with induction generator torque, enables on

<sup>3</sup> US 6,949,842 B2, issued September 27, 2005.

demand control of necessary amounts of opposing torque to manage rotor speed in gusty and increasing wind speeds through cut-out . . . typically 25 meters per second” (*id.* at 2, ll. 24–27).

Representative claim 26 is reproduced from the Claims Appendix to the Appeal Brief, as follows:

26. A wind turbine ***for the production of increasing amounts of energy in increasing wind speeds up to cut-out at 25 m/s*** [c]omprising:

a supporting framework including: an elevated platform for the swiveling movement about a vertical axis; a supporting tower;

a rotor with fixed pitch blades;

a horizontal low speed shaft that couples to said rotor for rotation with said rotor;

a right angle gearbox that journals said horizontal shaft to input of said right angle gearbox;

an extended vertical shaft that journals to output side of said right angle gearbox;

a centrifugal weight control apparatus that drivingly connects to said extended vertical shaft at base of tower;

a multi-gear transmission having a low speed input connected to said extended vertical shaft;

a high speed output of said multi-gear transmission;

a clutch that journals to said high speed output and;

an induction generator that operatively connects to said clutch for rotation at desired speeds.

(Appeal Br. 12 (emphases and indentations added)).

## II. REJECTION ON APPEAL

Claims 26–29 stand rejected under pre-AIA 35 U.S.C. § 103(a) as unpatentable over Earley, Carter,<sup>4</sup> and Simon<sup>5</sup> (Ans. 3–17; Final Act. 8–12).<sup>6</sup>

## III. DISCUSSION

### 1. *Grouping of Claims*

Unless separately argued within the meaning of 37 C.F.R. § 41.37(c)(1)(iv), the rejected claims stand or fall with claim 26, which we select as representative pursuant to the rule.

### 2. *The Examiner's Position*

The Examiner finds that Earley describes an apparatus having most of the structural limitations recited in claim 26 but acknowledges several differences between the prior art and the claimed subject matter (Final Act. 8–9). Specifically, the Examiner finds that Earley does not disclose: (1) an extended vertical shaft; (2) a gearbox with a multi-gear transmission; and (3) an induction-type generator (*id.* at 9). Relying on Carter and Simon, however, the Examiner concludes that these differences would have been obvious to a person having ordinary skill in the art (*id.* at 9–10). Regarding difference (1), the Examiner concludes that “[i]t would have been obvious to one skilled in the art at the time the invention was made to use the extended vertical shaft disclosed by Carter on the supporting tower disclosed by

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<sup>4</sup> US 3,942,026, issued March 2, 1976.

<sup>5</sup> US 2010/0207396 A1, published August 19, 2010.

<sup>6</sup> All other rejections as set forth in the Final Action have been withdrawn (Ans. 3; Final Act. 5–7).

Earley for the purpose of providing mechanical power to a generator located at the base of a tower” (*id.* at 10). Regarding differences (2) and (3), the Examiner concludes:

It would have also been obvious to one skilled in the art at the time the invention was made to use the multi-speed transmission (in lieu of the multi-gear transmission disclosed by Earley) and an induction generator (in lieu of the generator disclosed by Earley or the generator disclosed by Carter) disclosed by Simon on the wind turbine disclosed by Earley for the purpose of providing multiple high-speed outputs instead of a single high-speed output from the transmission and providing “*a cost-effective machine for converting the rotational energy to electricity*” (see paragraph [0026] of Simon).

(*Id.*)

Regarding claim 26’s preamble limitation, the Examiner finds that the recitation “*for the production of increasing amounts of energy in increasing wind speeds up to cut-out at 25 m/s*” merely recites an ‘intended use’ of a wind turbine within a range of naturally occurring wind speeds with the listed structural elements, elements which are found in the applied prior art” (Ans. 5). The Examiner explains that the functional limitation recited in the preamble has not been shown to result in a structural difference that distinguishes the claimed wind turbine over the wind turbine suggested by the prior art references (*id.* at 6–7). Relying on extrinsic documentary evidence, the Examiner further states that “worldwide mean wind speeds do not even reach 10 m/s, regardless of location” (*id.* at 8).

### 3. *The Appellant’s Contentions*

The Appellant contends that claim 26’s preamble recites a functional limitation that distinguishes the claimed invention over the prior art (Appeal Br. 4). According to the Appellant, “[c]urrent technology generates

increasing amounts of energy from start up to 15 m/s and continues operation at rated power up to a cut-out speed of 25 m/s” but “[t]he energy production curves for all HAWT’s (horizontal axis wind turbine) go perfectly flat in the range from 15 m/s through 24 m/s and cut-out occurs at 25 m/s” (*id.* at 5). The Appellant argues that, by contrast, “[t]he claimed invention generates increasing amounts of energy from start up through 24 m/s and also cuts out at 25 m/s” and that “[t]he examiner errors [sic] when he does not accept the fact that increasing amounts of energy can be generated in the range of 15 to 24 m/s by the claimed invention” (*id.* at 6). Furthermore, the Appellant argues that the Examiner articulates an assembly of the claimed invention from elements found in the prior art references without providing any suggestion or motivation to do so (*id.* at 7). The Appellant also alleges that the claimed invention provides unexpected results (*id.* at 8).

Regarding dependent claim 29, the Appellant argues that an Examiner’s statement that Earley discloses excitation of an induction generator “is completely false” (Appeal Br. 9–10).

#### 4. *Opinion*

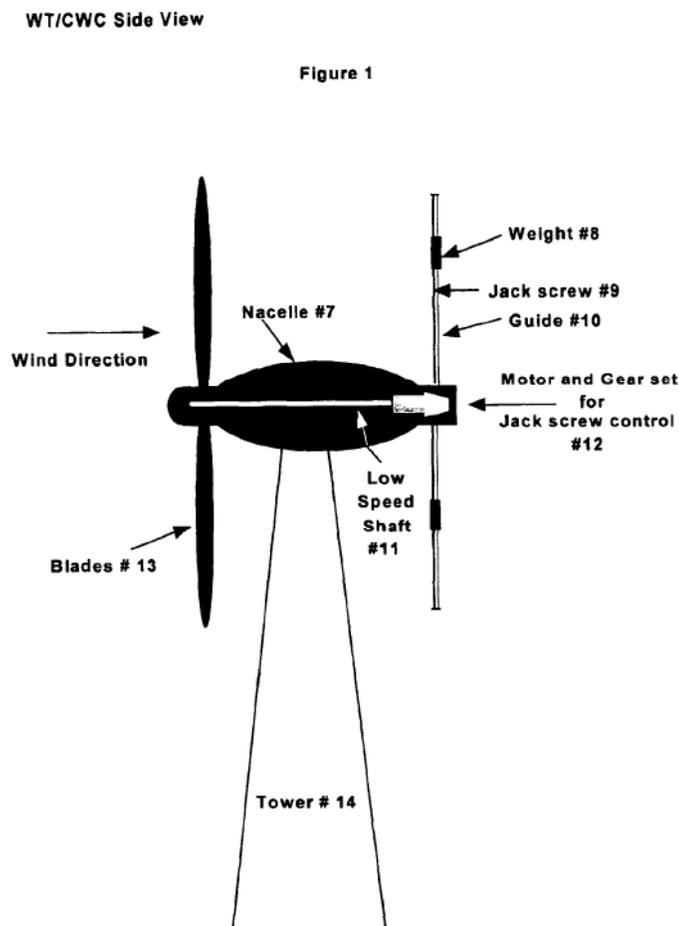
The Appellant’s arguments fail to identify reversible error in the Examiner’s rejection. *In re Jung*, 637 F.3d 1356, 1365 (Fed. Cir. 2011).

##### A. *Preamble Limitation Issue*

It is well-settled that a prior art reference’s silence with respect to a function recited in a claim does not necessarily defeat a rejection over that prior art reference. *Cf. In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997). “A patent applicant is free to recite features of an apparatus either structurally or functionally. . . . Yet, choosing to define an element

functionally, *i.e.*, by what it does, carries with it a risk.” *Id.* at 1478. Where the PTO has reason to believe that a functional limitation asserted to be critical for establishing patentability in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require an applicant to prove that the subject matter shown in the prior art does not possess the specified characteristic. *Id.*

Earley’s Figure 1 is reproduced as follows:



Earley’s Figure 1 above depicts a wind turbine with CWC, which “permits the capture and transformation of energy in an increasing flow (wind or water) while maintaining a desired operating speed” and “permits capture

and transformation of additional offered kinetic energy” (Earley, col. 1, ll. 31–49). As the Appellant concedes, Earley’s wind turbine includes a fixed pitch rotor and a CWC falling within claim 26’s scope (Appeal Br. 7).

Because Earley’s wind turbine includes the same structural elements that the Appellant discloses are responsible for the functional limitations recited in claim 26’s preamble (Spec. 1, ll. 14–16), the burden was on the Appellant to show that Earley’s wind turbine as modified by the suggestions in the other prior art references would not inherently perform the same function recited in claim 26. The Appellant does not direct us to any objective evidence in satisfaction of meeting that burden. *See In re Best*, 562 F.2d 1252, 1255 (CCPA 1997) (“Whether the rejection is based on ‘inherency’ under 35 U.S.C. § 102, on ‘prima facie obviousness’ under 35 U.S.C. § 103, jointly or alternatively,<sup>1</sup> the burden of proof is the same, and its fairness is evidenced by the PTO’s inability to manufacture products or to obtain and compare prior art products.”).

*B. Articulated Reason for Combining References*

The Appellant argues that the Examiner fails to articulate a sufficient reason for combining the references in the manner claimed (Appeal Br. 7). That is incorrect. The Examiner’s explanation of the rejection articulates specific reasons in support of combining the references in the manner claimed by the Appellant (Final Act. 9–10).

Specifically, the Examiner relies on Carter for its disclosure of “an extended vertical [drive] shaft **80** connecting a right angle gearbox (gears **86** and **98**) to a multi-gear transmission (gears **94** and **96**) having a low speed input (first bevel gear **94**) and a high speed output (second bevel gear **96**) of said multi-gear transmission” with the high speed output being connected

to a first generator **100** (Final Act. 9 (bolding added); Carter, Fig. 1; col. 3, l. 41–col. 4, l. 13). Based on this finding, the Examiner concludes that “[i]t would have been obvious to one skilled in the art . . . to use the extended vertical [drive] shaft disclosed by Carter on the supporting tower disclosed by Earley for the purpose of providing mechanical power to a generator located at the base of a tower” (Final Act. 10).

The Examiner further relies on Simon for its disclosure of an induction generator, which provides a cost-effective machine for converting rotational energy to electricity (Final Act. 9; Simon ¶ 26). Based on this disclosure, the Examiner concludes that a person having ordinary skill in the art would have implemented an induction generator in Earley for the purpose of providing, *inter alia*, a cost-effective machine for converting the rotational energy to electricity (Final Act. 10).

The Appellant, on the other hand, does not identify the specific error(s) in the Examiner’s articulated reasoning that warrants reversal. *Jung*, 637 F.3d at 1365–66 (“‘reversible error’ means that the applicant must identify to the Board what the examiner did wrong”).

### C. *Unexpected Results*

Although the Appellant argues that unexpected results are achieved, the Appellant does not direct us to objective, experimental data comparing the claimed invention against the closest prior art. Indeed, as we found above, Earley explicitly teaches that the disclosed wind turbine with CWC “permits the capture and transformation of energy in an increasing flow (wind or water) while maintaining a desired operating speed” and “permits capture and transformation of additional offered kinetic energy” (Earley, col. 1, ll. 31–49). Therefore, the Appellant’s unsupported argument is

unpersuasive. *In re Baxter Travenol Labs.*, 952 F.2d 388, 392 (Fed. Cir. 1991) (“[W]hen unexpected results are used as evidence of nonobviousness, the results must be shown to be unexpected compared with the closest prior art. . . . Mere recognition of latent properties in the prior art does not render nonobvious an otherwise known invention.”).

For these reasons, we uphold the Examiner’s rejection as maintained against claim 26.

*D. Claim 29*

Regarding claim 29, the Appellant argues that Earley does not disclose an induction generator or excitation and that the Examiner’s findings to the contrary are “completely false” (Appeal Br. 9–10). As the Examiner points out (Ans. 17) and as we discussed above, the rejection relies on Simon for the induction generator limitation.

Therefore, we also maintain the rejection as maintained against claim 29.

IV. CONCLUSION

In summary:

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
26–29	103(a)	Earley, Carter, Simon	26–29	

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

AFFIRMED