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14/921,324	10/23/2015	Gabriel L. Suci	78536US02; 67097-3093US1	8078
54549	7590	03/11/2020	EXAMINER	
CARLSON, GASKEY & OLDS/PRATT & WHITNEY 400 West Maple Road Suite 350 Birmingham, MI 48009			RIVERA, CARLOS 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* GABRIEL L. SUCIU, JAMES D. HILL,  
WILLIAM F. SCHNEIDER, and JONATHAN F. ZIMMITTI

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Appeal 2019-004133  
Application 14/921,324  
Technology Center 3700

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BEFORE WILLIAM A. CAPP, JEREMY M. PLENZLER, and  
RICHARD H. MARSCHALL, *Administrative Patent Judges*.

PLENZLER, *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 1–17.<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(a). Appellant identifies the real party in interest as United Technologies Corporation. Appeal Br. 1.

<sup>2</sup> Claims 18–20 are cancelled.

### CLAIMED SUBJECT MATTER

The claims are directed to a gas turbine engine. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A gas turbine engine comprising:
  - a lower pressure compressor and a higher pressure compressor; and
  - a single turbine driving both said lower pressure compressor and said higher pressure compressor, said single turbine driving said lower pressure compressor through a gear reduction, and said gear reduction including an actuator to achieve at least two available speeds by selecting one of at least two different compressor drive gears, such that said lower pressure compressor can selectively be operated at either of at least two speeds relative to said higher pressure compressor.

### REFERENCES

The prior art relied upon by the Examiner is:

Name	Reference	Date
Willis	US 6,332,313 B1	Dec. 25, 2001
Walsh	US 6,865,891 B2	Mar. 15, 2005
Daggett	US 7,966,830 B2	June 28, 2011
Waide	US 8,020,803 B2	Sept. 20, 2011
<a href="https://en.wikipedia.org/w/index.php?title=Actuator&amp;oldid=581715726">https://en.wikipedia.org/w/index.php?title=Actuator&amp;oldid=581715726</a> <sup>3</sup> (“Wikipedia”)		

### REJECTIONS<sup>4</sup>

1. Claims 1–6 and 9–16 are rejected under 35 U.S.C. § 103 as being unpatentable over Walsh and Waide.

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<sup>3</sup> There is no dispute from Appellant regarding this Wikipedia entry.

<sup>4</sup> The rejection of claims 18–20 are no longer pending because, as noted above, those claims have been cancelled.

2. Claim 7 is rejected under 35 U.S.C. § 103 as being unpatentable over Walsh, Waide, and Wikipedia.

3. Claim 8 is rejected under 35 U.S.C. § 103 as being unpatentable over Walsh, Waide, and Daggett.

4. Claim 17 is rejected under 35 U.S.C. § 103 as being unpatentable over Walsh, Waide, and Willis.

### OPINION

Appellant provides arguments only for the rejection of claim 1, and does not dispute any of the Examiner's findings regarding the teachings of Walsh or Waide in that rejection. *See* Appeal Br. 2<sup>5</sup>; Reply Br. 1–2. Rather, Appellant disputes the rationale for combining the teachings of Waide with those of Walsh.

Appellant contends that “Waide discloses two different speeds for driving rotors, which are propeller rotors,” while “Walsh does not include any such structure at all.” Appeal Br. 2. Appellant further contends that “Walsh’s compressor 48 would have no benefit of being rotated at two different speeds.” *Id.* Appellant contends that “Waide is providing what it alleges is an improvement to a specific device for rotating propeller blades” and “does not provide suggestion to modify ‘any’ gas turbine engine.” *Id.* Appellant acknowledges the Examiner’s rationale that “benefits for a combination might include engine efficiency,” for example, but contends

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<sup>5</sup> Although Appellant appears to dispute the Examiner’s findings regarding Walsh, this is no longer disputed in the Reply Brief. *See* Reply Br. 1 (“Appellant acknowledges the Examiner’s point with regard to the Walsh Figure 3 and its single turbine drive.”).

that “[t]here is no showing that Walsh would have any problem with any of those features.” *Id.* (internal quotations omitted).

The Examiner cites the teachings of Waide to support the rationale that one reason to modify Walsh’s teachings to include multiple speeds would have been “to provide different lower pressure compressor speeds for improve[d] efficiency.” Final Act. 8 (citing Waide 2:2–10). In its Reply Brief, Appellant acknowledges that Waide provides such a teaching, but contends that the Examiner has not established that it would have been well-known that increasing the number of available speeds available in propeller rotors and compressor rotors increases efficiency in both systems. Reply Br. 2. Appellant concludes that the basis for the Examiner’s rejection, therefore, must be hindsight.

The preponderance of the evidence supports the Examiner’s rejection. Waide explains that “[a]ircraft engines . . . provide more power and higher efficiency (in the form of lower fuel consumption) at higher engine rotational speed as opposed to lower engine rotational speed.” Waide 1:64–67. Waide explains that “[r]eduction of rotor rotational speed and maintaining engine rotational speed is possible through a transmission gear shift providing two or more gear ratios.” *Id.* at 2:2–4. Although Walsh includes a gearbox, it is silent as to that gearbox having more than one gear ratio. The Examiner has a reasonable basis to conclude that it would have been obvious for Walsh’s gearbox to include multiple gear ratios because Waide, as well as common sense, supports the general proposition that having more than one gear ratio available provides increased efficiency by accommodating different operating conditions more effectively. Appellant has no evidence to rebut the Examiner’s case of obviousness.

For at least the reasons set forth above, we are not apprised of Examiner error. Accordingly, we sustain the Examiner's decision to reject claims 1–17.

### CONCLUSION

The Examiner's rejections are affirmed.

### DECISION SUMMARY

In summary:

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
1–6, 9–16	103	Walsh, Waide	1–6, 9–16	
7	103	Walsh, Waide, Wikipedia	7	
8	103	Walsh, Waide, Daggett	8	
17	103	Walsh, Waide, Willis	17	
<b>Overall Outcome</b>			1–17	

### 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