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14/646,158	05/20/2015	James R. Murdock	64079US02; 67097-2437PUS1	1092
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CARLSON, GASKEY & OLDS/PRATT & WHITNEY 400 West Maple Road Suite 350 Birmingham, MI 48009			FOUNTAIN, JASON 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* JAMES R. MURDOCK

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Appeal 2019-004231  
Application 14/646,158  
Technology Center 3700

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Before PHILLIP J. KAUFFMAN, TARA L. HUTCHINGS, and  
ALYSSA A. FINAMORE, *Administrative Patent Judges*.

HUTCHINGS, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant<sup>1</sup> appeals under 35 U.S.C. § 134(a) from the Examiner’s rejection of claims 1, 2, 6–8, 12, and 16–20. 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. Our decision references Appellant’s Specification (“Spec.,” filed May 20, 2015), Appeal Brief (“Appeal Br.,” filed Nov. 9, 2018) and Reply Brief (“Reply Br.,” filed May 7, 2019), and the Examiner’s Answer (“Ans.,” mailed Mar. 7, 2019) and Final Office Action (“Final Act.,” mailed May 25, 2018). Appellant identifies United Technologies Corporation as the real party in interest. Appeal Br. 1.

### CLAIMED INVENTION

Appellant's claimed invention relates to an underblade spacer with a hook removal feature. Spec. ¶ 3.

Claims 1, 12, and 20 are the independent claims on appeal. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A rotor for use in a gas turbine engine comprising:
  - a plurality of rotor slots, each of said rotor slots receiving a blade, said blades having an airfoil extending radially outwardly of a dovetail, with the dovetail received within the rotor slot;
  - a spacer positioned radially between a radially inner wall of said dovetail and a radially outer wall of said slot, with said spacer being formed with a removal slot;
  - wherein said removal slot has an axially extending portion extending from an outer surface of said spacer to a circumferentially extending ear spaced inwardly from said outer surface;
  - wherein said spacer extends axially for a first distance between between axial end surfaces, said axially extending portion extends axially for a second distance away from an outer one of said axial end surfaces, and a ratio of said first distance to said second distance being between 15 and 40; and
  - wherein said circumferentially extending ear extends circumferentially for a third distance from said axially extending portion and a ratio of said second distance to said third distance being between .4 and .8.

## REJECTIONS

Claims 1, 6, 8, 12, 16, 18, and 19 are rejected under 35 U.S.C. § 103(a) as unpatentable over Ward (US 8,616,850 B2, iss. Dec. 31, 2013).<sup>2</sup>

Claim 20 is rejected under 35 U.S.C. § 103(a) as unpatentable over Ward and Cooper (US 3,653,781, iss. Apr. 4, 1972).

Claims 2 and 7 are rejected under 35 U.S.C. § 103(a) as unpatentable over Ward and Belmonte (US 8,529,209 B2, iss. Sept. 10, 2013).

## ANALYSIS

Appellant argues the patentability of independent claims 1, 12, and 20 together, and does not separately argue any dependent claims. Appeal Br. 3–4. Accordingly, we will address only claim 1, with the remaining claims standing or falling with claim 1. *See* 37 C.F.R. § 41.37 (c)(1)(iv).

In rejecting claim 1 under 35 U.S.C. § 103(a), the Examiner finds that Ward describes a rotor satisfying each limitation of claim 1 except “a ratio of said first distance to said second distance being between 15 and 40” and “a ratio of said second distance to said third distance being between .4 and .8.” Final Act. 2–3. However, the Examiner determines that, without new and unexpected results, the claimed ratios require no more than “mere routine changes in size and proportions.” *Id.* at 3. Therefore, the Examiner concludes that the two claimed ratios would have been obvious design choices to one of ordinary skill in the art at the time of the invention. *Id.*

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<sup>2</sup> We treat the Examiner’s identification of claims 2, 17, and 20 in the rejection heading as inadvertent. These claims are rejected separately at pages 6–8 of the Final Office Action.

Appellant argues that “the case law on what is required to support a ‘design choice’ rejection does not differ markedly from that previously submitted with regard to an optimization rejection.” Appeal Br. 3 (citing *Plantronics, Inc. v. Aliph, Inc.*, 724 F.3d 1343, 1354 (Fed. Cir. 2013)). However, the case Appellant relies on for its understanding of design choice does not, in fact, involve optimization or design choice. *See Plantronics*, 724 F.3d at 1354 (discussing common sense).

Design choice applies when alternative elements or configurations in the prior art perform the same function as the claimed aspects with no unexpected results. *See In re Kuhle*, 526 F.2d 553, 555 (CCPA 1975) (finding that the use of the claimed feature “would be an obvious matter of design choice” when it “solves no stated problem” and “presents no novel or unexpected result” over the disclosed alternatives). In the context of a rejection based on design choice, the relevant issue is whether the alleged differences between the claimed invention and the prior art “result in a difference in function or give unexpected results.” *See In re Rice*, 341 F.2d 309, 314 (CCPA 1965). Here, there is no evidence of unexpected results or any difference in function by use of the claimed ratios. As a result, we are not persuaded of Examiner error in the rejection of claim 1 under 35 U.S.C. § 103(a).<sup>3</sup>

For the foregoing reasons, we sustain the rejection of claims 1. We also sustain the rejections of the remaining claims, which fall with claim 1.

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<sup>3</sup> In sustaining the rejection of claim 1, we do not rely on the Examiner’s findings on page 3, line 22, to page 4, line 19, of the Answer. Consequently, we need not address the citation of *In re Rijckaert*, 9 F.3d 1531, 1533 (Fed. Cir. 1993), in the Reply Brief.

In particular, we sustain the rejection of claims 6, 8, 12, and 16–19 under 35 U.S.C. § 103(a) as unpatentable over Ward; the rejection of claim 20 under 35 U.S.C. § 103(a) as unpatentable over Ward and Cooper; and the rejection of claims 2 and 7 under 35 U.S.C. § 103(a) as unpatentable over Ward and Belmonte.

### DECISION

In summary:

<b>Claim(s) Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
1, 6, 8, 12, 16–19	103(a)	Ward	1, 6, 8, 12, 16–19	
20	103(a)	Ward, Cooper	20	
2, 7	103(a)	Ward, Belmonte	2, 7	
<b>Overall Outcome</b>			1, 2, 6–8, 12, 16–20	

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