



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/394,489	03/31/2006	Ronald Scott Bunker	RD28324-1/YOD/SWA (GERD:0)	1808
6147	7590	03/11/2013	EXAMINER	
GENERAL ELECTRIC COMPANY GLOBAL RESEARCH ONE RESEARCH CIRCLE BLDG. K1-3A59 NISKAYUNA, NY 12309			VERDIER, CHRISTOPHER M	
			ART UNIT	PAPER NUMBER
			3745	
			NOTIFICATION DATE	DELIVERY MODE
			03/11/2013	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ldocket@crd.ge.com  
haeckl@ge.com  
gpo.mail@ge.com

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

*Ex parte* RONALD SCOTT BUNKER

---

Appeal 2010-000430  
Application 11/394,489  
Technology Center 3700

---

Before MICHAEL L. HOELTER, LYNNE H. BROWNE and  
MITCHELL G. WEATHERLY, *Administrative Patent Judges*.

HOELTER, *Administrative Patent Judge*.

DECISION ON APPEAL

### STATEMENT OF THE CASE

This is a decision on appeal, under 35 U.S.C. § 134(a), from a final rejection of claims 1-27. Br. 2. We have jurisdiction under 35 U.S.C. § 6(b). We AFFIRM.

### THE CLAIMED SUBJECT MATTER

The disclosed subject matter pertains to “a sealing system for an interface between rotating and stationary components.” Spec. para [0001]. Independent claim 1 is illustrative of the claims on appeal and is reproduced below:

1. A rotary machine, comprising:
  - a stationary member;
  - a rotary member disposed inside the stationary member, wherein the rotary member comprises at least one airfoil having an upstream side wall, a downstream side wall, and a tip portion disposed between the upstream and downstream side walls; and
  - a sealing system disposed on the tip portion, wherein the sealing system consists essentially of:
    - at least one seal strip disposed on the tip portion at an off-center position substantially between the downstream side wall and a central position between the upstream and downstream sidewalls.

### REFERENCES RELIED ON BY THE EXAMINER

North	US 4,424,001	Jan. 3, 1984
Bunker (Bunker '556)	US 6,179,556 B1	Jan. 30, 2001
Mayer	US 6,190,129 B1	Feb. 20, 2001
Bunker (Bunker '678)	US 6,494,678 B1	Dec. 17, 2002

### THE REJECTIONS ON APPEAL

1. Claims 1-4, 7-13, 15, 22-25 and 27 are rejected under 35 U.S.C. § 102(b) as being anticipated by Bunker '556. Ans. 4.
2. Claims 1, 2, 5, 7, 8, 15, 22, 23 and 27 are rejected under 35 U.S.C. § 102(b) as being anticipated by North. Ans. 5.
3. Claims 1-4, 6-8, 10, 11, 14, 15 and 22-27 are rejected under 35 U.S.C. § 102(b) as being anticipated by Mayer. Ans. 6.
4. Claims 1, 2, 7, 8, 15, 16, 21-23 and 27 are rejected under 35 U.S.C. § 102(b) as being anticipated by Bunker '678. Ans. 7.
5. Claims 17, 18, 20 and 24-26 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Bunker '678 and Mayer. Ans. 8.
6. Claims 17-19, 24 and 25 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Bunker '678 and Bunker '556. Ans. 9.

### ANALYSIS

*The rejection of claims 1-4, 7-13, 15, 22-25 and 27  
as being anticipated by Bunker '556*

Appellant argues these claims together as a group. Br. 6-8. We select claim 1 for review with claims 2-4, 7-13, 15, 22-25 and 27 standing or falling with claim 1. *See* 37 C.F.R. § 41.37(c)(1)(vii) (2011).

Claim 1 includes the limitation of “at least one seal strip disposed on the tip portion at an off-center position substantially between the downstream side wall and a central position between the upstream and downstream sidewalls.” *See also* Br. 7. This limitation is immediately preceded by the transitional phrase “consists essentially of.” Our reviewing court has provided instruction that the phrase “consisting essentially of” indicates that “the invention necessarily includes the listed ingredients,” but

also that the claim is “open to unlisted ingredients that do not materially affect the basic and novel properties of the invention.” *PPG Indus. v. Guardian Indus. Corp.*, 156 F.3d 1351, 1354 (Fed. Cir. 1998). “Thus, a ‘consisting essentially of’ claim is generally broader than a ‘consisting of’ claim.” *Yoon Ja Kim v. The Earthgrains Company*, 451 Fed. Appx. 922, 925 (Fed. Cir. 2011).

The Examiner identifies seal strip 50 in Bunker '556 which is disposed as claimed. Ans. 4. Appellant contends that inwardly offset item 50 “extends around the entire perimeter of the blade tip 30” which is not “at least ‘substantially or mostly between the central position 40 and the downstream side wall 24.’” Br. 7-8. We agree with the Examiner that “at least” and “mostly” “are not recited in the rejected claims” and that “limitations from the specification are not read into the claims.” Ans. 12. The limitation in question requires the seal strip to be disposed in an off-center position that is substantially between the downstream sidewall and a central position. The Examiner finds that since seal strip 50

does not pass through the imaginary central line of Bunker’s airfoil 18 (comparing this to Appellant’s central line 41 in figure 2 of the instant application, for example), it is evident that the seal strip of Bunker ‘556 is disposed on the tip portion at an off-center position substantially between the downstream side wall and a central position

as claimed. Ans. 12. Appellant does not persuade us that because item 50 extends along the blade perimeter, item 50 fails to extend in a position that is substantially between the downstream sidewall and a central position. Br. 8. Further, Appellant’s reference to benefits (i.e., less material) not claimed are not persuasive. Br. 8. We sustain the Examiner’s rejection of claims 1-4, 7-13, 15, 22-25 and 27.

*The rejection of claims 1, 2, 5, 7, 8, 15, 22, 23 and 27  
as being anticipated by North*

Appellant argues these claims together as a group. Br. 8-9. We select claim 1 for review with claims 2, 5, 7, 8, 15, 22, 23 and 27 standing or falling with claim 1. Here, Appellant argues the same limitation discussed *supra* contending that North's blade walls extend "mostly along the perimeter of the blade tip" and are not "at an off-center position" as claimed. Br. 9. The Examiner relies on a similar rationale as stated *supra*. Ans. 13. Further, the Examiner finds that North's seal strip has a thickness and this thickness "extends toward the inner central periphery of the airfoil" and hence it is disposed "at an off-center position substantially between" a blade sidewall and a central position as claimed. Ans. 13. Appellant does not persuade us of Examiner error. Accordingly, we sustain the rejection of claims 1, 2, 5, 7, 8, 15, 22, 23 and 27.

*The rejection of claims 1-4, 6-8, 10, 11, 14, 15 and 22-27  
as being anticipated by Mayer*

Appellant argues these claims together as a group. Br. 9-10. We select claim 1 for review with claims 2-4, 6-8, 10, 11, 14, 15 and 22-27 standing or falling with claim 1. Here, Appellant argues the same limitation discussed *supra* contending that "Mayer discloses two ribs laterally offset from the sidewalls" and that these ribs (50, 52) "are provided on either side[] of the central position of the blade tip." Br. 9-10. In view of this, Appellant contends that "Mayer does not disclose the foregoing features recited in the independent claims." Br. 10. The Examiner disagrees for similar reasons as previously stated, i.e., that since Mayer's items 50, 52 do not pass through the imaginary central line of Mayer's airfoil, "it is evident that the seal strip

of Mayer is disposed” as claimed. Ans. 14. Appellant does not persuade us that the Examiner’s findings are in error. We sustain the Examiner’s rejection of claims 1-4, 6-8, 10, 11, 14, 15 and 22-27.

*The rejection of claims 1, 2, 7, 8, 15, 16, 21-23 and 27  
as being anticipated by Bunker '678*

Appellant argues these claims together as a group. Br. 10-11. We select claim 1 for review with claims 2, 7, 8, 15, 16, 21-23 and 27 standing or falling with claim 1. Here, Appellant argues the same limitation discussed *supra*<sup>1</sup> contending that Bunker '678 discloses an end wall that “extends along the periphery of the tip” and does not disclose a seal strip “disposed on the tip portion at an off-center position” as claimed. Br. 11. The Examiner disagrees for similar reasons as previously stated, i.e., that since item 30 of Bunker '678 does not pass through the imaginary central line of the airfoil, “it is evident that the seal strip of Bunker '678 is disposed” as claimed. Ans. 15. The Examiner additionally finds that since item 30 of Bunker '678 “possesses a thickness and extends toward the inner central periphery of the airfoil, it is disposed on the tip portion at an off-center position” as claimed. Ans. 15-16. Appellant does not persuade us of Examiner error. Accordingly, we sustain the rejection of claims 1, 2, 7, 8, 15, 16, 21-23 and 27.

*The rejection of claims 17, 18, 20 and 24-26  
as being unpatentable over Bunker '678 and Mayer  
and  
The rejection of claims 17-19, 24 and 25  
as being unpatentable over Bunker '678 and Bunker '556*

---

<sup>1</sup> Appellant also references a method limitation found in claim 22. Br. 10.

Appeal 2010-000430  
Application 11/394,489

In each rejection, Appellant does not present a separate argument but instead contends that each of these dependent claims “are at least allowable by virtue of its dependency from” an allowable independent claim. Br. 11-12. As we have sustained the rejections of the independent claims, we sustain the rejections of these dependent claims.

#### DECISION

The Examiner’s rejections of claims 1-27 are 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).

AFFIRMED

mls