



# 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.
14/597,692	01/15/2015	Michael A. Weisse	74593US02 (U420839US2)	4524
135291	7590	12/19/2019	EXAMINER	
Cantor Colburn LLP - Pratt & Whitney 20 Church Street 22 Floor Hartford, CT 06103			EASTMAN, AARON ROBERT	
			ART UNIT	PAPER NUMBER
			3745	
			NOTIFICATION DATE	DELIVERY MODE
			12/19/2019	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):

usptopatentmail@cantorcolburn.com

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

*Ex parte* MICHAEL A. WEISSE,  
KWAN HUI, and  
LARRY FOSTER

---

Appeal 2019-003078  
Application 14/597,692  
Technology Center 3700

---

Before MICHAEL L. HOELTER, JAMES P. CALVE, and  
LEE L. STEPINA, *Administrative Patent Judges*.

HOELTER, *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, 3–9, 19–21, and 23–26, which

---

<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 “United  
Technologies Corporation.” Appeal Br. 2.

constitute all the claims pending in this application. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

### CLAIMED SUBJECT MATTER

The disclosed subject matter relates to “fan blades for turbofan gas turbine engines.” Spec. ¶ 1. Apparatus claim 1 and method claim 20 are independent. Claim 1 is illustrative of the claims on appeal and, is reproduced below.

1. A fan blade comprising:

a body having a pressure side, a suction side adjoining the pressure side along a fan blade leading edge and a fan blade trailing edge, the suction side defining an opening having a perimeter;

a cover configured to fit over the opening and comprising a cover leading edge, a cover trailing edge and a cover top edge; wherein the cover further comprises multiple plies, in which some of the plies have sizes and perimeters different than those of other plies; and

at least one hollow cavity located within the opening between the cover and a pressure side of the fan blade, wherein the multiple plies comprise at least one inner ply interposed between one outermost top ply and one innermost bottom ply and wherein at least one of the outermost top ply and the innermost bottom ply have perimeters that are co-extensive with a perimeter of the opening.

### EVIDENCE

Name	Reference	Date
Evans et al. (“Evans”)	US 5,375,978	Dec. 27, 1994
Deal et al. (“Deal”)	US 2011/0211965 A1	Sept. 1, 2011
Viens et al. (“Viens”)	US 2013/0039774 A1	Feb. 14, 2013

## REJECTIONS<sup>2</sup>

Claims 1, 3–9, 19, 20, and 23–26 are rejected under 35 U.S.C. § 103 as unpatentable over Deal and Evans.

Claim 21 is rejected under 35 U.S.C. § 103 as unpatentable over Deal, Evans, and Viens.

## ANALYSIS

*The rejection of claims 1, 3–9, 19, 20, and 23–26  
as unpatentable over Deal and Evans*

### INDEPENDENT CLAIMS 1 and 20

Appellant presents arguments regarding claim 1 (*see* Appeal Br. 5–7) and presents similar arguments regarding claim 20 (*see* Appeal Br. 9–11). We select claim 1 for review, with claim 20 standing or falling with claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv).

The Examiner primarily relies on the teachings on Deal for disclosing the limitations of claim 1, including the disclosure of “opening (52),” “cover (50),” and “cavity (54).”<sup>3</sup> Final Act. 4. However, the Examiner acknowledges that Deal “does not disclose wherein the cover further comprises multiple plies” and wherein “the plies have sizes and perimeters different than those of other plies.” Final Act. 4. The Examiner relies on Evans for disclosing “a blade having a cover comprising multiple plies” in

---

<sup>2</sup> The Examiner withdraws “[t]he 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph rejections of claims 8, 21 and 26 as being indefinite.” Ans. 9.

<sup>3</sup> Regarding the recited “co-extensive” language of claim 1, Deal teaches that “[c]avity cover **50** engages with socket [i.e., “opening”] **52**, covering an opening and completing a continuous first surface of blade **30**.” Deal ¶ 22; *see also id.* at ¶¶ 23, 24, 26.

accordance with the limitations of claim 1. Final Act. 4 (citing Evans, Figs. 1, 2). The Examiner concludes that it would have been obvious “to modify the apparatus of Deal et al. by forming the cover so that it further comprises multiple plies” of different sizes and perimeters “as taught in Evans et al for the purpose of making the composite blade highly resistant to delamination and failure caused by bending and impact.” Final Act. 4–5. We understand the Examiner to propose modifying Deal’s cover and constructing it of multiple plies in accordance with Evans. *See* Final Act. 4. This is consistent with Appellant’s contentions that Evans does not disclose a corresponding “cover.” *See* Appeal Br. 6 (“Evans does not even teach or disclose a cover for a blade”); Reply Br. 2 (“No cover is taught by Evans.”), 6.

Regarding Deal’s cover, Appellant contends that one skilled in the art “would not be motivated to replace the cover 50 of Deal with a cover formed from multiple plies.” Appeal Br. 7. However, the Examiner does not propose replacing Deal’s cover 50; instead, the Examiner stated that it would have been obvious “to modify” Deal’s cover 50 so as to “form[] the cover” of multiple plies “as taught in Evans.” Final Act. 4–5. In other words, Appellant’s focus on Evan’s cover (“the teachings of Evans at best would be to make the outermost plies the smallest” (Appeal Br. 7; *see also* Reply Br. 6)), while ignoring the Examiner’s modification of Deal’s cover by employing Evans’ laminate method of manufacture, is not persuasive of Examiner error. To be clear, the Examiner is referencing Figures 1 and 2 of Evans (*see* Final Act. 4, Ans. 9) whereas Appellant is addressing Figure 4 of Evans (*see* Appeal Br. 6). As the Examiner points out, “Appellant has misconstrued what Evans is showing in Fig. 4” because Figure 4 of Evans discloses how the different plies are arranged prior to assembly in order to

construct the blade from the inside out, i.e., “starting at the centerplane 24 and working outwards to the convex (26) and concave (28) sides of the blade.” Ans. 11; *see also* Evans 6:4–16. Appellant re-focuses on Figure 2 of Evans arguing that the outermost plies shown therein are the plies for root 20. *See* Reply Br. 3. However, the Examiner is not addressing how the root of Evan’s blade 10 is constructed, but instead how composite airfoil 12 is constructed. *See* Final Act. 4, Ans. 9; *see also* Evans 4:43–54 (“Composite airfoil **12** is made up of filament reinforced laminations **30** formed from a composite material lay-up generally indicated at **36**, in **FIG. 2**.”).

Accordingly, and based on the record presented, Appellant is not persuasive that claims 1 and 20 are patentable over Deal and Evans. We sustain the Examiner’s rejection of these claims as expressed above.

DEPENDENT CLAIMS 3, 5, 9, 24, 25

For each of these dependent claims, Appellant contends that they are “allowable for at least the same reasons” as discussed above. Appeal Br. 8, 9, 12. Appellant’s contentions are not persuasive. We sustain the Examiner’s rejection of claims 3, 5, 9, 24, and 25.

DEPENDENT CLAIMS 4, 6–8, 19, 23, 26

For each of these dependent claims, Appellant recites the limitation in question and states, “[t]his feature is simply not found in Evans.” Appeal Br. 8, 9, 12, 13. We have been instructed that general allegations of error, fail to meet the requirements of 37 C.F.R. § 41.37(c)(1)(vii) and is thus unpersuasive. *See In re Lovin*, 652 F.3d 1349, 1357 (Fed. Cir. 2011) (“[W]e hold that the Board reasonably interpreted Rule 41.37 to require more substantive arguments in an appeal brief than a mere recitation of the claim elements and a naked assertion that the corresponding elements were not

found in the prior art.”). Accordingly, we sustain the Examiner’s rejection of claims 4, 6–8, 19, 23, and 26.

*The rejection of claim 21  
as unpatentable over Deal, Evans, and Viens*

Appellant does not argue this rejection, but instead contends that this claim is “allowable for at least the same reasons” as above. Appeal Br. 12. Appellant’s contention is not persuasive of Examiner error. We sustain the Examiner’s rejection of claim 21 as being unpatentable over Deal, Evans, and Viens.

CONCLUSION

In summary:

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
1, 3–9, 19, 20, 23–26	103	Deal, Evans	1, 3–9, 19, 20, 23–26	
21	103	Deal, Evans, Viens	21	
<b>Overall Outcome</b>			1, 3–9, 19–21, 23–26	

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

AFFIRMED