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13/687,117	11/28/2012	Ming Xie	256718-2	4923
69742	7590	10/22/2019	EXAMINER	
GENERAL ELECTRIC COMPANY c/o Trego, Hines & Ladenheim, PLLC 10224 Hickorywood Hill Avenue Suite 202 Huntersville, NC 28078			KOEHLER, CHRISTOPHER M	
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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* MING XIE,  
MARK ERNEST VERMILYEA,  
BOWDEN KIRKPATRICK,  
MITCHELL HAROLD BOYER,  
ELLIOTT KELLER SCHULTE, and  
BENJAMIN FERRELL

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Appeal 2019-002123  
Application 13/687,117  
Technology Center 3700

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Before MICHAEL L. HOELTER, LISA M. GUIJT, and  
BRENT M. DOUGAL, *Administrative Patent Judges*.

HOELTER, *Administrative Patent Judge*.

## DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant<sup>1</sup> appeals from the Examiner’s decision to reject claims 1–13. Br. 5. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

## CLAIMED SUBJECT MATTER

The disclosed subject matter “generally relates to methods for fabricating composite structures. More specifically, this invention relates to a method of fabricating a composite article to have an integral composite secondary structure, for example, an integral flange of a composite casing for a turbomachine.” Spec. ¶ 2. Method claim 1 is the sole independent claim, is illustrative of the claims on appeal, and is reproduced below.

1. A method of forming a composite article to have a primary composite structure and an integral secondary composite structure that extends out of a plane defined by a continuous reinforcement material within the primary composite structure, the method comprising:

laying-up first plies consisting of individual non-woven fibers or fiber tows via an automated fiber placement machine to construct the primary composite structure, the first plies containing the continuous reinforcement material and extending from a first zone that will define the primary composite structure into a second zone that will define the secondary composite structure;

during laying-up of the first plies, interleaving additional plies consisting of individual nonwoven fibers or fiber tows via an automated fiber placement machine with the first plies

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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. Appellant identifies the real party in interest as “GENERAL ELECTRIC COMPANY.” Br. 3.

within the second zone but not the first zone so that the second zone contains both the first and additional plies, the additional plies originating within a build-up zone between the first and second zones and extending there from into the second zone, the first and additional plies both terminating in a manner that ends of the first and additional plies define an end surface; and then

deforming the build-up zone and the interleaved first and additional plies therein at the end surface to orient the second zone and form the secondary composite structure into a flange that extends out of the plane defined by the continuous reinforcement material of the first plies.

#### EVIDENCE

Iszczyszyn et al.	US 5,939,007	Aug. 17, 1999
Darrow et al.	US 2009/0176066 A1	July 9, 2009

#### REJECTIONS

Claims 1–11 and 13 are rejected under pre-AIA 35 U.S.C. § 102(b) as anticipated by Iszczyszyn.

Claim 12 is rejected under pre-AIA 35 U.S.C. § 103(a) as unpatentable over Iszczyszyn and Darrow.

#### ANALYSIS

*The rejection of claims 1–11 and 13  
as anticipated by Iszczyszyn*

Independent claim 1 (and hence dependent claims 2–11 and 13) recites “first and additional plies both terminating in a manner that ends of the first and additional plies define an end surface.” We have been instructed that any interpretation of claim 1 must be consistent with Appellant’s Specification, and thus we look to Appellant’s Specification for understanding and guidance. *See, e.g., Phillips v. AWH Corp.*, 415 F.3d

1303, 1312–13 (Fed. Cir. 2005) (en banc). In the matter before us, Appellant’s Specification states, “the ends of the plies 18 and 20 forming the secondary composite structure will define an end surface.” Spec. ¶ 22.

Consequently, we understand the recited “end surface” to at least include the ends of both first plies 18 and additional plies 20. *See* Spec. ¶¶ 9, 11; Fig. 1.

In rejecting claim 1, the Examiner correlated the recited “first plies” to Iszczyszyn’s laminates 60, the recited “additional plies” to Iszczyszyn’s laminates 70, and the recited “end surface” to Iszczyszyn’s subregion 52. Final Act. 3; *see also* Ans. 8. To assist, the Examiner also provided an annotation of Figure 5 of Iszczyszyn. *See* Final Act. 8, Ans. 10. Appellant contends, “the additional plies [70] do not extend into region 52 where the first plies [60] extend; thus, the first and additional plies (60, 70) do not both terminate in a manner that ends of the first and additional plies define an end surface.” Br. 14.

There is merit to Appellant’s contention. Iszczyszyn clearly teaches that the end portions of laminates 70 “extend into and gradually drop-off in the transition subregion **50**,” and hence do not reach subregion 52 (i.e., the corresponding “end surface”). Iszczyszyn 9:42–45; *see also* Fig. 5 (where subregion 52 illustrates a complete lack of any ends of laminates 70). The Examiner seeks to provide some clarification stating “the ends of the additional plies (70) terminate in the region of the end surface.” Ans. 8. However, being “in the region of the end surface” as depicted in Figure 5 of Iszczyszyn is not the same as having ends that form and define the “end surface” itself, as this limitation is interpreted.

In effect, according to Iszczyszyn, it is the lack of laminates 70 that define subregion 52. *See* Iszczyszyn 9:30–33 (“Full convergence of the

crossply laminates 60 occurs in the closure subregion 52, wherein the end portions **62e<sub>a</sub>**, **62e<sub>b</sub>** form a constant thickness of crossplies therein.”). This reliance by the Examiner on the absence of laminates 70 in subregion 52 is problematic because our reviewing court has instructed us that “it is not reasonable to read the claims more broadly than the description in the specification, thereby broadening the claims to read on the prior art over which the patentee asserts improvement.” *TF3 Limited v. Tre Milano*, 894 F.3d 1366, 1372–3 (Fed. Cir. 2018). In other words, a claim interpretation that requires the presence of ply ends 70 in the “end surface” (*see above*) is not taught by a disclosure lacking such presence.<sup>2</sup>

Accordingly, and based on the record presented, the Examiner has not established by a preponderance of the evidence that Iszczyszyn anticipates the claimed method. We reverse the Examiner’s rejection of claims 1–11 and 13 as being anticipated by Iszczyszyn.

*The rejection of claim 12  
as unpatentable over Iszczyszyn and Darrow*

Claim 12 depends directly from claim 1 and further recites “wherein the composite article is a fan casing of a gas turbine engine.” The Examiner relies on Darrow for such additional teaching. *See* Final Act. 6. To be clear, the Examiner does not rely on Darrow for curing the defect of Iszczyszyn

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<sup>2</sup> In addition to the above, the Examiner’s reliance on Iszczyszyn’s subregion 52 as correlating to the recited “end surface” (Final Act. 3, Ans. 8) is not entirely understood. It may be that the Examiner is referencing the outer exposed surface of aft conic region 47 (Iszczyszyn 7:17) as depicted in Figure 5. Or, perhaps, the Examiner is referencing the staggered end portions **62e<sub>a</sub>** of plies 60 depicted in Figure 3 of Iszczyszyn. Regardless, the Examiner has clearly identified subregion 52 as correlating to the recited “end surface,” and yet plies 70 do not extend into this subregion 52.

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noted above. Accordingly, we likewise reverse the Examiner's rejection of claim 12 as being unpatentable over Iszczyszyn and Darrow.

### CONCLUSION

In summary:

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
1-11,13	102(b)	Iszczyszyn		1-11, 13
12	103(a)	Iszczyszyn, Darrow		12
<b>Overall Outcome</b>				1-13

REVERSED