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NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			DINH, TIEN QUANG	
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte TIMOTHY AXFORD

Appeal 2014-009636
Application 13/297,581
Technology Center 3600

Before LYNNE H. BROWNE, MICHELLE R. OSINSKI, and
ERIC C. JESCHKE, *Administrative Patent Judges*.

OSINSKI, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Timothy Axford (Appellant)¹ appeals under 35 U.S.C. § 134 from the Examiner's final decision rejecting claims 1 and 3–16.² We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

¹ According to Appellant, the real party in interest is Airbus Operations Limited. Appeal Br. 4.

² Claim 2 is cancelled, and claims 17–20 are withdrawn from consideration. See Amendment (Sept. 9, 2013).

THE CLAIMED SUBJECT MATTER

Claim 1, the sole independent claim on appeal, is reproduced below and is representative of the claimed subject matter on appeal.

1. An aircraft structure comprising;
 - (i) a skin panel, having;
 - an outer surface forming an external face of the structure, and
 - an inner surface internal to the structure;
 - (ii) a plurality of stringers extending along a length of the inner surface of the skin panel, wherein each stringer is a discrete element of the structure; and
 - (iii) an inner panel spaced apart from the inner surface of the skin panel and being internal to the structure, so as to form an internal cavity adjacent to the skin panel, wherein the stringers are located within the cavity.

EVIDENCE

The Examiner relied on the following evidence in rejecting the claims on appeal:

Wagner	US 2,241,972	May 13, 1941
Wright	US 2,734,586	Feb. 14, 1956
Krohn	US 3,195,841	July 20, 1965
Evans	US 5,360,500	Nov. 1, 1994
Boeing	EP 2 008 807 A2	Dec. 31, 2008

REJECTIONS

- I. Claims 1, 3–5, 11–14, and 16 stand rejected under 35 U.S.C. § 102(b) as anticipated by Wagner. Final Act. 2–5.
- II. Claims 6 and 7 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Wagner and Wright. *Id.* at 5–6.
- III. Claims 8–10 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Wagner and Boeing. *Id.* at 7.

- IV. Claims 5 and 8–10 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Wagner and Evans. *Id.* at 8–9.
- V. Claim 15 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Wagner and Krohn. *Id.* at 9.

OPINION

Rejection I

The Examiner finds that Wagner discloses all of the limitations of independent claim 1, including “a plurality of stringers 14 extending along a length of the inner surface of the skin panel.” Final Act. 2. The Examiner also finds that “each stringer is a discrete element of the structure [as] is shown in . . . [F]igure 1.” *Id.* As to the plurality of stringers, the Examiner’s position is that “all of the stringers are formed with the sheet 14.” Ans. 11. The Examiner continues that “each of the stringers is used at different locations to provide support and strength as desired at those locations and hence the stringers as a whole cannot be interpreted as a mere single stringer because a sheet is used to form the stringers.” *Id.* at 11–12. Accordingly, we understand the Examiner’s position to be that the plurality of stringers are the plurality of corrugations of single corrugated metal sheet 14.³

Addressing this understanding of the Examiner’s rejection, we further understand the Examiner’s position to be premised on an interpretation of “discrete” as “apart, separate, or distinct,” with the stringers being “separate,

³ The Examiner suggests an alternative position, which we will later address herein, in which the plurality of stringers are two separate corrugated panels. Ans. 12 (citing annotated Figure 1 of Wagner, in which a “[t]op stringer” and “bottom stringer” are identified, and stating that “[a]s an aside, [A]ppellant failed to see that there are at least two ‘stringers’ shown in [F]igure 1”).

distinct, or apart from structural parts such as leading edge, trailing edge, strips etc.” Final Act. 10; *see also* Ans. 10–11 (“The claimed limitation merely state[s] that ‘each stringer is a discrete element of the (aircraft) structure.’ ‘Aircraft structure’ is broadly interpreted to mean any structure forming the aircraft. This could mean the leading and trailing edge, the bolts, strips, etc. of the wing shown in [F]igures 1–4. Plus, broadly interpreting this limitation, each of the stringer[s] can be a discrete element of the fuselage, door, etc. of the aircraft.”). The Examiner states that the claims are not so narrow as to require that the “stringer[s] are ‘self-contained’ parts that are not directly connected or integral to other stringers.” Final Act. 10; *see also* Ans. 10 (“‘Each stringer is a discrete element of the structure’ does not mean that each stringer is discrete from other stringer[s] as [Appellant] appear[s] to argue.”) (emphasis omitted).

Appellant responds that the claim requires the plurality of stringers to be distinct “with respect to both the aircraft structure and the other stringers (as the claim requires also a ‘plurality of stringers’ each of which is a discrete element of the structure).” Reply Br. 3. In other words, Appellant argues that “each stringer is [itself] part of the aircraft structure (see the claim preamble)” relative to which each stringer must be discrete. *Id.* at 4. We agree with Appellant that the Examiner’s interpretation of the claim—in which each of the plurality of stringers need only be discrete relative to a subset of the aircraft structure (i.e., the leading edge, trailing edge, bolts, strips, fuselage, door), as opposed to all the aircraft structure (i.e., including other stringers)—is erroneous.

Alternatively, the Examiner relies on a broader interpretation of “discrete” as “not being the same or not identical,” which does not require

an element of separation. Final Act. 10. Using this interpretation, the Examiner finds that because “each stringer is clearly shown to be NOT identical, the stringers are distinct or discrete” from each other. *Id.* The Patent and Trademark Office gives claims their broadest reasonable construction “in light of the [S]pecification as it would be interpreted by one of ordinary skill in the art.” *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). The Specification describes that “[h]aving the stringers as discrete elements means they can be manufactured separately and so can be more easily managed than for bigger components” and provides that “a single damaged stringer can be replaced, without needing all the stringers to be replaced.” Reply Br. 5 (quoting Spec. 5:29–6:5).

We determine that the Examiner’s interpretation of “discrete” that would extend to components making up a single, continuous structure, merely because the individual components of that structure are not identical, is not reasonable in the context of the Specification. Rather, the broadest reasonable interpretation of “discrete” consistent with the Specification requires an element of separation or detachment between the components. Therefore, we determine that the Examiner erred in finding that Wagner discloses an aircraft structure comprising a plurality of stringers, where each stringer is a discrete element of the structure under the broadest reasonable interpretation.

To the extent that the Examiner’s position is not that the plurality of stringers are the plurality of corrugations of corrugated metal sheet 14, but rather top and bottom corrugated metal sheets (Ans. 12 (discussing an annotated version of Wagner, Fig. 1)), we are not persuaded that the Examiner has adequately addressed how such a position comports with the

remainder of the claim limitations. For example, the Examiner has not explained, and we do not independently discern, how the top and bottom corrugated metal sheets of Figure 1 of Wagner are both located within a cavity formed between the inner surface of the skin panel and an inner panel spaced apart from the inner surface of the skin panel, as required by claim 1. *See* Appeal Br. 20 (Claims App.); *see also* Reply Br. 4–5.

For the foregoing reasons, we do not sustain the rejection of claim 1, nor claims 3–5, 11–14, and 16, which depend therefrom, as anticipated by Wagner.

Rejections II–V

The rejection of claims 5–10 and 15 rely on the Examiner’s erroneous finding that Wagner discloses an aircraft structure comprising a plurality of stringers, in which each stringer is a discrete element and is located within a cavity formed between an inner panel and an inner surface of the skin panel. Final Act. 5–9. The Examiner does not explain how Wright, Boeing, Evans, and/or Krohn cure this underlying deficiency. Accordingly, for the reasons discussed *supra*, we do not sustain the Examiner’s rejection, under 35 U.S.C. § 103(a), of: claims 6 and 7 as unpatentable over Wagner and Wright, claims 8–10 as unpatentable over Wagner and Boeing; claims 5 and 8–10 as unpatentable over Wagner and Evans; and claim 15 as unpatentable over Wagner and Krohn.

DECISION

The Examiner’s decision to reject claims 1 and 3–16 is reversed.

REVERSED