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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte THOMAS J. ROBERTSON JR., SREENIVASA R. VOLETI,
MARK W. COSTA, and STEVEN CLARKSON

Appeal 2019-002005
Application 14/432,356
Technology Center 3700

Before MICHAEL L. HOELTER, LISA M. GUIJT, and
FREDERICK C. LANEY, *Administrative Patent Judges*.

GUIJT, *Administrative Patent Judge*.

DECISION ON APPEAL
STATEMENT OF THE CASE

Appellant¹ appeals under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1, 5–11, 13–15, 19–23.² We have jurisdiction under 35 U.S.C. § 6(b).

¹ United Technologies Corporation, the applicant as provided for under 37 C.F.R. § 1.46, is also identified as the real party in interest. Appeal Br. 2.

² Appeal is taken from the Final Office Action dated Dec. 28, 2017, as supplemented by the Advisory Action dated April 17, 2018 (“Advisory Action”). Claims 2–4, 12, and 16–18 have been cancelled by an Amendment dated September 28, 2017. Although Appellant maintains that claims 10, 11, 13–15, and 19–23 also have been cancelled by an After-Final Amendment dated February 28, 2018, the Advisory Action does not indicate that the February 28, 2018 Amendment was entered; rather, the Advisory

We AFFIRM.

CLAIMED SUBJECT MATTER

Claims 1 and 10 are the independent claims on appeal.³ Claim 1, reproduced below, is exemplary of the subject matter on appeal, with disputed limitations italicized for emphasis.

1. A blade containment system comprising:
a plurality of circumferentially-arranged rotatable blades, each blade having a blade compliance; and
an annular containment structure radially outward from the rotatable blades, the annular containment structure including a liner having a liner compliance, the blade compliance and the liner compliance being configured such that a strain induced on a respective one of the rotatable blades upon impact with the liner is less than a threshold critical strain beyond which the rotatable blades fracture, wherein the liner includes an inner and outer liner, *a hollow cavity located radially between the inner and outer liner, and a vent configured to selectively ventilate a gas from the hollow cavity.*

THE REJECTIONS

- I. Claims 1, 5–11, 13–15, and 21–23 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Czachor (US 6,619,913 B2; issued Sept. 16, 2003), Penda (US 5,482,429; issued Jan. 9, 1996), Lilly (US 2010/0030365 A1; published Feb. 4, 2010), and Beckford (US 7,946,827 B2; issued May 24, 2011).

Action indicates that claim 1, 5–11, 13–15, and 19–23 stand rejected. Therefore, claims 1, 5–11, 13–15, and 19–23 are the claims subject to this appeal.

³ We refer to the claims presented in the Amendment dated September 28, 2017.

II. Claims 10, 19, and 20 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Shuttleworth (US 4,293,053; issued Oct. 6, 1981) and Beckford.

ANALYSIS

Rejection I

Appellant argues claims 1 and 5–9 as a group. Appeal Br. 3–5. We select claim 1 as representative. *See* 37 C.F.R. § 41.37(c)(1)(iv) (2015).

Regarding independent claim 1, the Examiner finds that Czachor discloses, *inter alia*, a hollow cavity (i.e., cavity 138) located radially between an inner liner (i.e., inner shell 114) and an outer liner (i.e., outer shell 132), and a vent (i.e., holes 17), configured to selectively ventilate a gas from the hollow cavity. Final Act. 3–4 (citing Czachor, Fig. 2). In the Examiner’s Answer, the Examiner construes the claim term “hollow cavity” to mean ““a hole or space within something,”” which is “unfilled,” and the Examiner specifically finds that Czachor’s cavity 138 includes “open cells” (i.e., cells 66), which correspond to a hollow cavity. Ans. 2–3. The Examiner determines that cells 66 are “ventilated due to the blades rotation that pumps air into and out of the containment structure through [holes 17].” *Id.* at 3.

We determine that the claim term “hollow” means “an unfilled space within anything : CAVITY, HOLE” (WEBSTER’S THIRD NEW INT’L DICTIONARY 1080 (1993)) and the claim term “cavity” means “a space within a mass” (*id.* at 357), such that the term “hollow cavity” means an unfilled space within a *mass*. However, the Specification discloses, with reference to Figures 2 and 3, that annular containment structure 60 includes

inner liner 62 made of multiple layers provided as a replaceable cartridge, and outer liner 64 made of relatively stiff material (i.e., a composite or metallic case) (*see* Spec. ¶¶ 40–42), and that “[t]he outer layer 64 and the inner liner 62 are arranged such that there is a hollow cavity 72 radially therebetween” (*id.* ¶ 43). Thus, in view of the Specification, the cavity is not within a single mass, but rather, defined by structures, such as liners. Therefore, we construe the claim term “hollow cavity,” in view of the Specification, to mean an unfilled space within a structure.

Appellant correctly argues that, with reference to Czachor’s Figure 2, holes 17 are not configured to selectively ventilate gas from the upper section of cavity 138, which does not contain the acoustic absorber (i.e., a 1-DOF resonator) (Appeal Br. 3), because Czachor discloses that “*non-perforated* septum **144** may be used if needed to define the height of the cellular layer **140**, that is, if the required height of the cells for acoustic purposes is less than the radial height of the cavity **138**” (Czachor 4:13–17 (emphasis added)), and non-perforated septum 144 therefore obstructs passage of gas from holes 17 to the upper section of cavity 138 as depicted in Figure 2.

Regarding the Examiner’s finding that cells 66 within the acoustic absorber 39 disposed within cavity 38 define a hollow cavity located radially between inner shell 114 and outer shell 132, such that holes 17 are configured to selectively ventilate a gas from the hollow cavity formed by cells 66, Appellant argues that “[t]he portion of the cavity in Czachor in which the cellular material resides is not hollow.” Appeal Br. 4. However, Appellant’s argument does not address the Examiner’s reliance on Czachor for disclosing that each cell 66 is a hollow cavity located radially between

the inner and outer liners (or shells 114, 132), and that holes 17 are configured to selectively ventilate gas from (at least one of) the cells, as claimed.

Appellant also argues that “the hollow cavity and the vent are separate,” according to claim 1, and thus, the cells (i.e., cells 66) cannot be both the claimed hollow cavity and the vents. *Id.* However, Appellant’s argument fails to apprise us of error in the Examiner’s finding, as set forth *supra*. See, e.g., Ans. 5 (“the cellular material is not the vent”).

In sum, Appellant fails to apprise us of error in the Examiner’s finding that each cell 66 is a hollow cavity (i.e., an unfilled space defined by the structure of the walls of cell 66) located radially between the inner and outer liners (or shells 114, 132), and that holes 17 are configured to selectively ventilate gas from (at least one of) the cells, as claimed.

Accordingly, we sustain the Examiner’s rejection of independent claim 1, and claims fall therewith 5–9. The Examiner relies on the same findings with respect to Czachor and the recitation in independent claim 10 of “a hollow cavity . . . between the outer liner and the inner liner, . . . [and] a vent . . . configured to selectively ventilate a gas from the hollow cavity.” Final Act. 6–7. Thus, for essentially the same reasons stated *supra* with respect to claim 1, we also sustain that Examiner’s rejection of independent claim 10 and claims 11, 13–15, and 21–23 depending therefrom in view of Appellant’s failure to argue separately these claims independent of the arguments made for claim 1. See Appeal Br. 2.

Rejection II

As indicated above, Appellant chose not to present arguments directed to the Examiner’s redundant rejection of claim 10, as well as the Examiner’s

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rejection of claims 19 and 20, under 35 U.S.C. § 103(a) as unpatentable over Shuttleworth and Beckford, because Appellant considers claims 10, 11, 13–15, and 19–23 cancelled. Appeal Br. 2. However, there is no entry of the February 28, 2018 After-Final Amendment. *See* n.3 *supra*. Thus, we summarily affirm the Examiner’s rejection. MPEP § 1205.02, 9th ed., Rev. Nov. 2015 (“If a ground of rejection stated by the examiner is not addressed in the appellant’s brief, appellant has waived any challenge to that ground of rejection and the Board may summarily sustain it, unless the examiner subsequently withdrew the rejection in the examiner’s answer.”).

DECISION

The Examiner’s rejection of claims 1, 5–11, 13–15, and 21–23 under 35 U.S.C. § 103(a) as unpatentable over Czachor, Penda, Lilly, and Beckford is AFFIRMED.

The Examiner’s rejection of claims 10, 19, and 20 under 35 U.S.C. § 103(a) as unpatentable over Shuttleworth and Beckford is 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). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED