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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte CARLOS J. STEVENS, MARK HELLER,
and STEPHEN EDWARD FISKE

Appeal 2014-009331
Application 12/862,329¹
Technology Center 3600

Before JENNIFER D. BAHR, LEE L. STEPINA, and
FREDERICK C. LANEY, *Administrative Patent Judges*.

LANEY, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Carlos J. Stevens et al. (Appellants) appeal under 35 U.S.C. § 134(a) from the Examiner's Final decision rejecting claims 1–3, 5–13, and 15–17.² We have jurisdiction over this appeal under 35 U.S.C. § 6(b).

We REVERSE.

¹ According to Appellants, the real party in interest is Honeywell International Incorporated. Appeal Br. 1 (filed May 29, 2014).

² Claims 4 and 14 have been canceled and claims 18–20 have been withdrawn. Appeal Br. 9 and 11–12 (Claims App.).

INVENTION

Appellants' invention relates "to a control moment gyroscope, and more particularly relates to a shell rotor assembly for use in a control moment gyroscope." Spec. ¶ 1.

Claims 1 and 8 are independent claims. Claim 1 is representative of the claimed invention and reads as follows:

1. A shell rotor assembly for use in a control moment gyroscope, the shell rotor assembly comprising:
 - a first shell member having a first wall portion and a first rim portion formed integrally with one another;
 - a second shell member having a second wall portion and a second rim portion formed integrally with one another; and
 - a shaft assembly that extends between the first shell member and the second shell member and that is configured to connect to the control moment gyroscope,wherein the first rim portion and the second rim portion are welded to one another.

REJECTIONS

- I. The Examiner rejected claims 1–3, 5, 6, 8–13, 15, and 16 under 35 U.S.C. § 103(a) as unpatentable over Holmes (US 3,822,602, iss. July 9, 1974) and Fiske (US 2003/0140479 A1, pub. July 31, 2003).
- II. The Examiner rejected claims 7 and 17 under 35 U.S.C. § 103(a) as unpatentable over Holmes, Fiske, and Hemphill (US 5,087,415, iss. Feb. 11, 1992).

ANALYSIS

Rejection I

Independent claims 1 and 8 require, *inter alia*, first/second shell members with integrally formed first/second rim portions that are welded together. Appeal Br. 9–10 (Claims App.). The Examiner finds Holmes discloses the limitations of claims 1 and 8, but fails to disclose welding the first/second rim portions together. Final Act. 3–4. The Examiner concludes that “[i]t would have been obvious to one having ordinary skill in the art at the time of the invention was made to use electron beam welding for attaching Holmes’ first and second rim portions together as taught or suggested by Fiske.” Final Act. 3. The Examiner further determines “[t]he use of electron beam welding for attaching Holmes’ first and second rim portions would not have been uniquely challenging to a person of ordinary skill in the art because it is no more than ‘the simple substitution of one known element for another or *the mere application of a known technique to a piece of prior art ready for the improvement.*’” *Id.* at 3–4 (quoting *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007)). Appellants argue persuasively the Examiner’s conclusion of prima facie obviousness was reached in error. Appeal Br. 6–7; Reply Br. 3.

Holmes teaches an object of the disclosed device is “to provide a gyro rotor the axial configuration of which may be simply and accurately adjusted.” Holmes, 1:34–36. Holmes teaches accomplishing this by having,

a gyro-rotor comprising two axially spaced hub portions each carrying a bearing arranged to support the rotor for rotation about a shaft, and an annular rim having two end portions each rigidly connected to a separate one of the hub portions and a portion resilient in an axial direction, *and a screw means interconnecting the two end portions of the rim whereby the resilient portion of*

the rim may be distorted and the axial configuration of the rotor adjusted.

Id. 1:39–46. “These screws are arranged so that they pull the outer-most parts of the rim 16 and 17 towards one another.” *Id.* 2:17–19 (boldface omitted). “The effect of tightening screws 23 is to distort the grooves 19 and 22 [in the rim portion], thus compressing the rim and developing a force attempting to move the central portions of the rotor axially inwards.” *Id.* 2:28–31 (boldface omitted). As such, Holmes teaches having resilient rim portions that are attached together using screws to enable the axial configuration to be simply and accurately adjusted.

Fiske teaches a rotor 10 that “comprises a primary, single-piece sub assembly 10A comprising a rim 24 and a radially extending web 26 between the rim and the hub 22.” Fiske ¶ 8 (boldface omitted). The “web 28 preferably is electron beam welded at weld points 28A and 28B, giving the rotor 10 a discus shape in cross section.” *Id.* (boldface omitted). As Appellants point out, unlike claims 1 and 8, which require welding the first rim portion and the second rim portion to one another (Appeal Br. 9–10 (Claims App.)), Fiske discloses a single unitary rim 214 to which a web is welded. Reply Br. 2 (citing Fiske ¶ 8, Fig. 1). Appellants also note properly that, “[n]owhere does Fiske disclose, teach, or suggest welding the first rim portion to a second rim portion, where the first rim portion is of a first shell member and the second rim portion is of a second shell member.” Appeal Br. 7. Nor does the Examiner identify any beneficial results welding together Holmes’s rim halves would have caused, which a skilled artisan would have perceived at the time of the invention. Therefore, one of ordinary skill in the art would not have been prompted, in view of Holmes

and Fiske, to weld the rim portions of Holmes together using the electron beam weld of Fiske.

We do not agree with the Examiner's assertion that a skilled artisan would have seen welding and screws as equivalent means of attaching the first/second rim portions together. Indeed, if the Holmes apparatus had the first/second rim portions welded together, versus screwing them together, it would be inoperable for its intended purpose of providing a simple and accurate way to adjust the axial configuration. In effect, Holmes teaches away from the Examiner's proposed modification. *Id.* Accordingly, we agree with Appellants that the Examiner's reason for using welds to attach Holmes's first/second rim portions together lacks rational underpinnings. *See* Appeal Br. 3–7. Nor does the Examiner provide a reason with a rational underpinning explaining why a skilled artisan would have modified the Holmes device to have first/second rim portions that are *both* screwed and welded together. *See* Ans. 5.

In conclusion, for the foregoing reasons, we do not sustain the rejection under 35 U.S.C. § 103(a) of claims 1–3, 5, 6, 8–13, 15, and 16 as unpatentable over Holmes and Fiske.

Rejection II

The Examiner's use of the teachings of Hemphill do not cure the deficiencies in Rejection I, as discussed *supra*. *See* Final Act. 5–6.

Therefore, for the same reasons as discussed above, we also do not sustain the rejections under 35 U.S.C. § 103(a) of claims 7 and 17 as unpatentable over Holmes, Fiske, and Hemphill.

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DECISION

The Examiner's rejections of claims 1–3, 5–13, and 15–17 are reversed.

REVERSED