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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JEAN BUYTAERT
and EUGENE EDWARD MILLER

Appeal 2010-011250
Application 11/739,284
Technology Center 3600

Before JAMES P. CALVE, JILL D. HILL, and TIMOTHY J. O'HEARN,
Administrative Patent Judges.

CALVE, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134 from the rejection of claims 1-13 under 35 U.S.C. § 103(a) as unpatentable over Harrison (US 4,545,436; iss. Oct. 8, 1985) and Lanham (US 4,411,552; iss. Oct. 25, 1983). App. Br. 3. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM-IN-PART.

CLAIMED SUBJECT MATTER

Claims 1 and 9 are independent. Claim 1 is reproduced below:

1. A method of manufacturing a casing centralizer, comprising:
 - forming a plurality of bow-springs, each having a first end and a second end; and each having a foot at each end;
 - forming a first collar and a second collar, each having a plurality of circumferentially spaced bow-spring aligning slots, each bow-spring aligning slot configured for receiving a foot on the end of a bow-spring;
 - forming at least one extruded through-hole in each collar and adjacent to each aligning slot by positioning each collar on a supporting back-up member having an opening aligned with a punch, and by driving the punch through the collar wall and into the opening, wherein the diameter of the punch is less than about 80% of a diameter of the opening on the supporting member; and
 - tapping each extruded through-hole to threadedly receive a fastener.

ANALYSIS

Appellants argue claims 1-3, 5-7, 9, 11, and 12 as a group and present separate arguments for the patentability of claims 4, 8, 10, and 13. App. Br. 7-20. We select claim 1 as representative (*see* 37 C.F.R. § 41.37(c)(1)(vii) (2011)) and address Appellants' arguments for the patentability of claims 4, 8, 10, and 13. The Examiner found that Harrison discloses a method of making a casing centralizer comprising forming a plurality of bow strings 12, 13, 14, forming a first and second collar 10, 11, and forming at least one extruded through-hole 26 in each collar adjacent to each aligning slot, but does not disclose positioning each collar on a supporting back-up member when extruding through-holes. Ans. 3. The Examiner found that Lanham discloses forming extruded through holes 16 and tapping each through-hole

to threadedly receive a fastener 24 and determined that it would have been obvious to replace the holes and rivets of Harrison with the extruded hole 16 of Lanham to threadedly receive a fastener of Lanham to minimize the skills and facilities to assemble a centralizer at the job site. Ans. 4.

Appellants argue that the Examiner has not established a *prima facie* case of obviousness because Harrison does not disclose an extruded through-hole as claimed. App. Br. 11-12. This argument is not persuasive because the Examiner relied on Lanham to disclose extruding a through-hole 16 and tapping the through-hole to receive a fastener. Ans. 4, 7; *see* App. Br. 12.

Appellants argue that the substitution of Lanham's extruded hole 16 in Harrison would render Harrison's centralizer unsatisfactory for its intended purpose. App. Br. 12. Appellants argue that replacing Harrison's hole 27 with Lanham's extruded hole 16 would cause hole 27 to have a flange that extends outwardly in a way that would prevent the spring member portion 14d from lying against the collar portion 10e or inwardly of the flange in a way that would increase the distance that the head of the rivet 28 extends toward the casing. App. Br. 13-14. These arguments are not persuasive because the test for obviousness is what the combined teachings of the references would suggest to a skilled artisan and not whether features of a secondary reference may be combined physically with features of a primary reference. This argument also is not persuasive because the Examiner proposes to modify the rivet hole 26 on the collar 10, 11 of Harrison to be an extruded, threaded hole as taught by Lanham and as claimed. Ans. 8. Appellants have not explained how such modification renders Harrison's centralizer unsuitable for its intended purpose. *See* Ans. 8-9.

Appellants also argue that the opening 27 of Harrison is preferably slotted to allow the spring member to move axially so that the flange 14c of the spring member can move within the slot 24 of the collar and so that there is no shear or stress on the rivet shaft, and that the proposed modification would change this principle of operation if the hole 27 was replaced with a threaded extruded through-hole and the rivet was replaced with a threaded fastener. App. Br. 15-16. This argument is not persuasive for the reasons discussed *supra* because the Examiner proposes to modify the hole 26 of the collar 10 of Harrison with the extruded, threaded hole 16 of Lanham. Ans. 8. We are not persuaded that providing a threaded fastener and extruded, threaded hole on Harrison's collar would alter the principle of operation of Harrison's centralizer. We sustain the rejection of claims 1-3, 5-7, 9, 11, and 12.

Claims 4 and 10

Claims 4 and 10 depend from claims 1 and 9 respectively and call for securing each bow-spring to a radially outwardly disposed surface of each collar. The Examiner found that "Figure 1 of Harrison depicts each collar 10, 11 is radially outwardly formed thus the inner surface and outer surface of collars can be considered radially outwardly disposed surface. Hence, securing bow spring 12, 14 to radially outwardly disposed inner surface of collars 11, 12 satisfy the claim limitation since the claim does not require outer surface of each collar." Ans. 9. Appellants argue that Harrison "clearly shows that Harrison's bow springs are secured to an *inside* or *radially inwardly disposed* surface of each collar, as confirmed by reference to the inside views of the upper collar in Figures 3 and 6, and the cross-

sectional view in Figure 7.” App. Br. 16-17. We agree. The Examiner’s interpretation of “radially outwardly disposed surface” to cover inner and outer surfaces that are disposed in opposing radial directions is unreasonably broad and inconsistent with the plain meaning of these terms interpreted in light of Appellants’ Specification, which discloses a centralizer with collars 12, 14 having a radially inwardly disposed surface and a radially outwardly disposed exterior wall 25 to which bow springs 18 are secured. *See* Spec. 8, para. [0032]; Fig. 2. In contrast, Harrison’s bow springs are secured to a radially inwardly disposed surface of collars 10, 11. Harrison, col. 3, ll. 64-67; col. 4, ll. 15-17; figs. 1, 6. The Examiner’s interpretation effectively reads the term “radially outwardly” out of the claims by treating surfaces that are disposed in radially opposing directions as both being radially outwardly disposed. As such, we cannot sustain the rejection of claims 4 and 10.

Claims 8 and 13

Claims 8 and 13 depend from claims 1 and 9 respectively and call for forming the feet of each bow-spring by inwardly bending the ends of the bow-springs. The Examiner found that Harrison’s bow springs include inwardly bending feet 14c as shown in Figure 13.¹ Ans. 6, 9-10. We agree with Appellants that Harrison’s bow springs are secured to the inside surface of collars 10, 11 and include feet (flange 14c) that bend outwardly and away from the inside surface as shown in Figure 3. App. Br. 20. As such, we cannot sustain the rejection of claims 8 and 13.

¹ Harrison does not have a Figure 13. Harrison, col. 3, l. 64 to col. 4, l. 25.

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DECISION

We AFFIRM the rejection of claims 1-3, 5-7, 9, 11, and 12 and REVERSE the rejection of claims 4, 8, 10, and 13.

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

AFFIRM-IN-PART

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