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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte HANS-PAUL CARLSEN,
TOR-OYSTEIN CARLSEN, and OLAV INDERBERG

Appeal 2014-008344
Application 12/735,759
Technology Center 3600

Before JENNIFER D. BAHR, JOHN C. KERINS, and
SEAN P. O'HANLON, *Administrative Patent Judges*.

BAHR, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Hans-Paul Carlsen et al. (Appellants) appeal under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 13, 14, and 16 under 35 U.S.C. § 103(a) as unpatentable over Delamare (US 4,856,827, iss. Aug. 15, 1989) and Nolan (US 3,523,578, iss. Aug. 11, 1970).¹ We have jurisdiction under 35 U.S.C. § 6(b). We REVERSE.

¹ The Examiner withdrew the rejections of claims 1–5, 7, 8, 11, 12, and 18. Ans. 2. Claims 6, 9, 10, 15, 17, 19, and 20 have been withdrawn from consideration. Appeal Br. 21–23 (Claims App.).

THE CLAIMED SUBJECT MATTER

Claim 13, reproduced below, is illustrative of the claimed subject matter.

13. A method for reducing bending moments in a riser at a connection between the riser and a subsea installation, the riser being connected to a tension system at a floating vessel, the method comprising providing a riser joint between two parts of the riser which riser joint in a neutral position provides mainly equal forces around the circumference of the riser and which with a deviation from the neutral position will induce a force on the two parts which will act against the return of the two parts to the neutral position.

DISCUSSION

Appellants' independent claim 13 requires, in pertinent part, providing a riser joint between two parts of a riser which "with a deviation from the neutral position will induce a force on the two parts which will act *against the return of the two parts to the neutral position.*" Appeal Br. 21–22 (Claims App.) (emphasis added). Independent claim 16 recites "[a] riser joint for connecting a first part of a riser to a second part of a riser, the riser joint comprising," in pertinent part, "a force element which is connected between the first and second ends and which, when the first end moves relative to the second end, generates a force on the first end which acts *in the same direction as the direction of movement of the first end* relative to the second end." *Id.* at 22 (Claims App.) (emphasis added).

The Examiner finds that Delamare discloses a method substantially as claimed in claim 13. Final Act. 4. According to the Examiner, "the incompressible fluid in the element 20 would of course be resistant to the two parts of the riser returning to the neutral position, in as much as no

direction for the force is required in the claim.” *Id.* (italics omitted). The Examiner finds that Nolan’s tension springs (load cells 204) “would be resistant to the two parts returning to a neutral position” and determines that it would have been obvious “to configure the compression rings of [Delamare] as spring elements to obtain the predictable result of further controlling the amount of deflection in view of the disclosure of Nolan.” *Id.* (italics omitted).

With respect to claim 16, the Examiner finds that Delamare discloses a riser joint substantially as claimed, including “a force element 20 which is connected between the first and second ends and which, when the first end moves relative to the second end, generates a force on the first end.” *Id.* at 5. The Examiner finds, however, that Delamare fails “to explicitly disclose wherein the force acts in the same direction as the direction of movement of the first end relative to the second end.” *Id.* The Examiner finds that Nolan discloses a riser joint “wherein a force element [204] acts in the same direction as the direction of movement of the first end relative to the second end.” *Id.* (citing Nolan, Figs. 2, 3).

Appellants argue that when Delamare’s plate 21 deviates from the neutral position, “Delamare’s joint generates a force which tends to return the upper plate to the neutral position” and that, therefore, “contrary to the Examiner’s assertion, the cushion 20 does not generate a force on the riser parts which acts against the return of the riser parts to the neutral position.” Appeal Br. 14–15. Appellants also contest the Examiner’s finding that Nolan’s spring elements act in the same direction as the direction of movement of the first end relative to the second end. *Id.* at 15. Appellants point out that Nolan’s coil springs 208 within load cells 204, 206 “are

double-acting springs” and that, consequently, “when the riser parts deviate from the neutral position, one of the load cells will be compressed and the other load cell will be extended under tension to thereby generate a restorative force which acts in a direction to return the riser parts to the neutral position” and “in the opposite direction as the direction of movement of the first end relative to the second end.” *Id.* at 15, 16. Thus, according to Appellants, “even assuming *arguendo* that Delamare and Nolan could be combined in the manner suggested by the Examiner, such a combination would not result” in the method of claim 13 or the riser joint of claim 16. *Id.* at 16.

In response, the Examiner cites Delamare’s teaching that, when plate 21 is slanted with respect to plate 22, thus deforming cushions 20 and absorbing load, “the ‘uniform pressure of the fluid is exerted over a larger area on the side [of cushion 20] where its height increases and over a smaller area on the opposite side where it decreases.’” Ans. 2 (quoting Delamare, col. 6, ll. 5–8). According to the Examiner, Delamare’s cushion on the extended side, acting as a shock absorber, “would certainly exert a [damping] force which would act against the return of the two riser sections to the neutral position (or else the riser parts would return to the center position . . . too quickly, thus increasing the bending forces on the riser).” *Id.* (italics omitted). The Examiner makes a similar finding with respect to Nolan, stating that “the double acting springs . . . would induce a force that would resist the return of the risers to the neutral position, acting as [dampers] in this instance.” *Id.*

Appellants’ arguments are persuasive. The only force described by Delamare as being exerted by the cushions on the two parts of the riser (via

the two ends of the riser joint) is a restorative force, generated by pressurized gas resilience in, for example, an oleopneumatic accumulator or flexible, flattenable sleeves moving the fluid back to reform the cushion back to its neutral state. *See* Delamare, col. 3, l. 60–col. 4, l. 9; col. 4, ll. 20–54. This restorative force acts to assist the return of the two parts to the neutral position, rather than acting against the return of the parts to the neutral position, as required in claim 13. Similarly, this restorative force acts in a direction against the direction of movement of the first end of the riser joint relative to the second end of the riser joint, rather than acting in the same direction as the direction of movement of the first end relative to the second end, as required in claim 16.

Appellants are also correct that Nolan’s springs exert “a restorative force which acts in a direction to return the riser parts to the neutral position.” Reply Br. 5; *see* Nolan, col. 7, l. 69–col. 8, l. 7. Thus, the Examiner’s application of Nolan does not cure the deficiency in Delamare. Accordingly, we do not sustain the rejection of claims 13, 14, and 16 under 35 U.S.C. § 103(a) as unpatentable over Delamare and Nolan.

DECISION

The Examiner’s decision rejecting claims 13, 14, and 16 is reversed.

REVERSED