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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte WILHELM KRAEUTLER and EUGEN SCHOBESBERGER

Appeal 2018-005491
Application 13/480,088
Technology Center 3600

Before MICHAEL C. ASTORINO, KENNETH G. SCHOPFER, and BRADLEY B. BAYAT, *Administrative Patent Judges*.

BAYAT, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant[1] appeals under 35 U.S.C. § 134(a) from the decision to reject claims 1–12, 14–17, 19, and 20, which constitute all the claims pending in the application. We have jurisdiction under 35 U.S.C. § 6(b). A hearing was held on September 11, 2020.

We AFFIRM.

[1] We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42(a). Appellant identifies "Liebherr-Werk Nenzing GmbH" as the real party in interest. Appeal Br. 3 (filed May 5, 2016).

STATEMENT OF THE CASE

> The present disclosure relates to a crane, in particular an offshore crane, having a slewing gear and a hydraulic slewing gear drive, wherein the slewing gear is held in its position via a holding torque applied by the hydraulic slewing gear drive, and wherein an overload safety device is provided having at least one detection means for detecting the outreach and/or the position of the crane hook and having at least one pressure relief valve, with the system pressure applied to the hydraulic slewing gear drive via at least one pressure relief valve can be regulated in dependence on the outreach and/or on the position of the crane hook.

Spec., Abstract.

Claimed Subject Matter

Claims 1 and 12, which are the only independent claims on appeal, are reproduced below. *See* Appeal Br., Claims App.

> 1. A crane, comprising:
>
> a slewing gear;
>
> a hydraulic slewing gear drive, wherein the slewing gear is held in position via a holding torque applied by the hydraulic slewing gear drive;
>
> a crane hook; and
>
> an overload safety device having at least one detection device for detecting an outreach and/or a position of the crane hook and having at least one pressure relief valve, the overload safety device further comprising a control unit including a processor and non-transitory memory with instructions stored therein for detecting the outreach and/or the position of the crane hook with the at least one detection device and adjusting a system pressure applied to the hydraulic slewing gear drive via the at least one pressure relief valve in proportion to the detected outreach and/or the detected position of the crane hook.

12. A crane, comprising:

a slewing gear;

a hydraulic slewing gear drive, wherein the slewing gear is held in position via a holding torque applied by the hydraulic slewing gear drive;

a crane hook; and

an overload safety device having at least one detection device for detecting an outreach and/or a position of the crane hook; at least one pressure relief valve, the at least one pressure relief valve comprising at least one pressure cartridge valve, and at least one pressure limiting valve, the overload safety device further comprising a control unit including a processor and non-transitory memory with instructions stored therein for detecting the outreach and/or the position of the crane hook with the at least one detection device, adjusting a system pressure applied to the hydraulic slewing gear drive via the at least one pressure relief valve in proportion to the detected outreach and/or the detected position of the crane hook, switching an outlet pressure of the at least one pressure limiting valve as a control pressure to the at least one pressure relief valve.

Rejections[2]

I. Claims 1–12, 14–17, 19, and 20 are rejected under 35 U.S.C. § 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement.

II. Claims 1–12, 14–17, 19, and 20 are rejected under 35 U.S.C. § 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter the Appellant regards as the invention.

[2] The separate rejections of claims 4, 7, 14, 17, and 20 under § 112, first and second paragraphs, are withdrawn. *See* Ans. 3.

III. Claims 1–12, 14–17, 19, and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Dixon (US 3,690,387, iss. Sept. 12, 1972), Miller (US 3,814,265, iss. June 4, 1974), and Official Notice.

OPINION

Rejection I

In rejecting independent claims 1 and 12 as failing to comply with the written description requirement, the Examiner finds the claim limitation "a control unit including a processor and non-transitory memory with instructions [stored therein] for detecting the outreach and/or the position of the crane hook with the at least one detection device" constitutes new matter because "[t]he specification does not disclose 1) non-transitory memory and 2) the processor and non-transitory memory doing the underlined function." Non-Final Act. 3.

With regard to the recitation of "non-transitory memory," Appellant argues support for this feature is found in original claim 12, which recites in part, "the overload safety device further including instructions stored in non-transitory memory." Appeal Br. 8.

We agree with Appellant that the recitation of "non-transitory memory" in original claim 12 provides written description support. The Specification, at paragraph 30, supplements this support by disclosing that overload safety device 95 includes a control unit 97 comprising a processor and memory. Appellant's disclosure as originally filed, which includes original claim 12, conveys with reasonable clarity to those skilled in the art that the claimed overload safety device comprises a control unit including non-transitory memory.

As for the recitation of "a control unit including a processor and non-transitory memory with instructions stored therein for detecting the outreach and/or the position of the crane hook with the at least one detection device," Appellant argues that this feature is described in paragraph 30 of the Specification. We agree.

Paragraph 30 discloses that the overload safety device includes a control unit, which

> may include a processor and memory, including instructions for carrying out the various control actions described herein . . . one example method carried out by the system of the present disclosure includes, as the ship 90 is moved laterally, thus increasing load on the crane, *the control unit can detect this lateral movement at the hook*

(Emphasis added). Paragraph 9 of the Specification also discloses that an overload safety device "has at least one sensor or other detection device for detecting the outreach and/or position of the crane hook." Thus, Appellant's disclosure, as originally filed, conveys to those skilled in the art that a control unit and a detection device of an overload safety device may detect the outreach and/or the position of the crane hook.

In response to Appellant's arguments, the Examiner states that "there is no disclosed link between the sensors (i.e. detection devices) and instructions because the instructions and sensors are disclosed separately." Ans. 4. We agree that the sensors and instructions are disclosed separately, but we find at least one portion of the Specification that describes a direct link between a sensor and the control unit of the overload safety device. The Specification discloses that "*the overload safety device includes an outreach sensor which detects the outreach of the crane 10*, i.e. the horizontal distance of the hoist rope 50 running off the tip of the boom 40 from the vertical axis

of rotation A of the crane 10 *and communicates it to the control unit of the overload safety device*." Spec. ¶ 28 (emphasis added). Because the sensor detects the outreach of the crane and communicates that detection to the control unit of the overload safety device, there is a disclosed link between the detection device and the instructions, which are included as part of the control unit.

For these reasons, the Examiner's findings of facts do not support a lack of written description as to the limitation "a control unit including a processor and non-transitory memory with instructions stored therein for detecting the outreach and/or the position of the crane hook with the at least one detection device," as recited in independent claims 1 and 12.

Accordingly, we do not sustain the Examiner's rejection as failing to comply with the written description requirement.

Rejection II

Independent claims 1 and 12

Claim 1 recites, in part,

> an overload safety device having at least one *detection device for detecting an outreach and/or a position of the crane hook . . .* the overload safety device further comprising *a control unit including a processor and non-transitory memory with instructions stored therein for detecting the outreach and/or the position of the crane hook with the at least one detection device*.

Appeal Br., Claims App. (emphasis added). Claim 12 recites a similar limitation.

The Examiner determines, and we agree, that claims 1 and 12 are rendered indefinite because the claims are "unclear as to whether the detection device detects an outreach and/or a position of the crane hook, the

processor and non-transitory memory detects an outreach and/or a position of the crane hook, or both structures detect[] an outreach and/or a position of the crane hook." Non-Final Act. 5.

Section 112 requires "claims particularly pointing out and distinctly claiming subject matter which the inventor or joint inventor regards as the invention." In determining whether a claim is definite under 35 U.S.C. § 112, in examining an application, the Examiner "is obliged to test the claims for reasonable precision." *In re Packard*, 751 F.3d 1307, 1313 (Fed. Cir. 2014). "[A] claim is indefinite when it contains words or phrases whose meaning is unclear." *Id.* at 1322; *Ex Parte McAward*, No. 2015-006416, 11 (PTAB Aug. 25, 2017) (precedential) (quoting *In re Packard*, 751 F.3d at 1314). Section 112 places the burden of precise claim drafting on applicants. *See Packard*, 751 F.3d at 1313.

As the Examiner correctly observes, the claims require the detection device and the control unit of the overload safety device to perform the same claimed function of *detecting the outreach and/or the position of the crane hook*. Moreover, the control unit is further recited as detecting . . . *with the at least one detection device*, which introduces further ambiguity in the claims. As discussed in the written description section, Appellant's Specification discloses that "the overload safety device includes an outreach sensor which detects the outreach of the crane 10 . . . and *communicates it* to the control unit of the overload safety device." Spec. ¶ 28 (emphasis added). Therefore, the Specification makes clear that the detection device (e.g., outreach sensor) functions to detect an outreach and/or a position of the crane hook, and the control unit including a processor and non-transitory memory with instructions stored therein functions to receive the detected

outreach and/or the position of the crane hook from the at least one detection device.

After the filing of the Notice of Appeal, Appellant filed an amendment "to clarify the relationship between the claimed detection device, processor, non-transitory memory, and the detection performed." Appeal Br. 14. However, that amendment has not been entered into the record, and is not before us for review.

Accordingly, we sustain the rejection of independent claims 1 and 12 as indefinite, including dependent claims 2–11, 14–17, 19, and 20, as to the "detecting" limitations.

Independent claim 12

Claim 12 recites, in part, "at least one pressure relief valve, the at least one pressure relief valve comprising at least one pressure cartridge valve, and at least one pressure limiting valve." Appeal Br., Claims App.

The Examiner determines, and we agree, that this recitation of the claim is unclear and renders the claim indefinite. Non-Final Act. 5. As the Examiner observes, it "is unclear as to how a valve (such as a pressure relief valve) can comprise two valves (the at least one pressure cartridge valve and the at least one pressure limiting valve" (*id.*) because the Specification discloses that a "pressure relief valve can be designed as a valve cartridge or as a so-called cartridge valve" (Spec. ¶ 19).

> As Figure 2 further shows, the lead side 120 of the control pressure line of the hydraulic motor 110 is connected to a pressure relief valve 130 which is a so-called pressure cartridge valve in the embodiment shown and is connected at the inlet side to the feed pressure line 120' of the hydraulic motor 110.

Id. ¶ 32; *see also id.* ¶ 33. In other words, the recited limitation is unclear and not supported by the disclosure.

Similarly here, Appellant filed an amendment to clarify these claim features "by replac[ing] all instances of 'at least one pressure relief valve' with 'at least one pressure cartridge valve'" (Appeal Br. 15 (filed Nov. 30, 2016)), but the amendment is not entered into the record, and is not before us.

Accordingly, we sustain the rejection of independent claim 12 as indefinite, including dependent claims 14–17, 19, and 20, as to the "pressure relief valve" limitation.

Rejection III

Before a proper review of the rejection under § 103(a) can be made, the subject matter encompassed by the claims on appeal must be reasonably understood without resort to speculation. Because the claims fail to satisfy the requirements under 35 U.S.C. § 112, we are constrained to reverse, *pro forma*, the Examiner's rejection under 35 U.S.C. § 103(a). *See In re Steele*, 305 F.2d 859, 862 (CCPA 1962) (A prior art rejection cannot be sustained if the hypothetical person of ordinary skill in the art would have to make speculative assumptions concerning the meaning of claim language).

It should be understood that our decision to reverse the rejection under 35 U.S.C. § 103(a) is based solely on the indefiniteness of the claims, and does not reflect on the merits of the underlying rejection.

CONCLUSION

Rejection I under 35 U.S.C. § 112, first paragraph, is reversed.

Rejection II under 35 U.S.C. § 112, second paragraph, is affirmed.

Rejection III under 35 U.S.C. § 103(a) is reversed *pro forma*.

Decision Summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–12, 14–17, 19, 20	112, ¶ 1	Written Description		1–12, 14–17, 19, 20
1–12, 14–17, 19, 20	112, ¶ 2	Indefiniteness	1–12, 14–17, 19, 20	
1–12, 14–17, 19, 20	103(a)	Dixon, Miller, Official Notice		1–12, 14–17, 19, 20
Overall Outcome			**1–12, 14–17, 19, 20**	

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).

AFFIRMED