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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte DANIEL JOZEF MARIA DIRECKS,
SJOERD NICOLAAS LAMBERTUS DONDEERS,
NICOLAAS RUDOLF KEMPER,
DANNY MARIA HUBERTUS PHILIPS,
MICHEL RIEPEN,
CLEMENS JOHANNES GERARDUS VAN DEN DUNGEN,
ADRIANES JOHANNES BAETEN,
and FABRIZIO EVANGELISTA

Appeal 2019-004688
Application 15/196,120
Technology Center 2800

Before JEFFREY T. SMITH, KAREN M. HASTINGS, and
JAMES C. HOUSEL, *Administrative Patent Judges*.

HOUSEL, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1, 9, 15, 16, and 20–35 under 35 U.S.C. § 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.²

CLAIMED SUBJECT MATTER

The claims are directed to a fluid handling structure system for a lithographic apparatus comprising first and second fluid handling structures. Appeal Br. 14, Claims App'x, Claim 1. Appellant discloses that the substrate on which a lithographic pattern is to be imprinted in a lithographic projection apparatus may be immersed in a liquid having a relatively high refractive index so as to fill a space between the projection system and the substrate. Spec. ¶¶ 3, 4. In such an immersion apparatus, the immersion fluid is handled by a fluid handling structure, including a fluid supply system and a fluid confinement or barrier system that provide immersion fluid to the localized space between the projection system and the substrate. *Id.* ¶¶ 6, 7. Appellant further discloses another type of fluid handling structure is a dryer

¹ We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as ASML Netherlands B.V. Appeal Brief (“Appeal Br.”) filed August 28, 2018, 2.

² This Decision also cites to the Specification (“Spec.”) filed June 29, 2016, the Final Office Action (“Final Act.”) dated March 15, 2018, the Examiner's Answer (“Ans.”) dated March 29, 2019, and the Reply Brief (“Reply Br.”) filed May 29, 2019.

for a drying station, wherein liquid is removed from a substrate or substrate table holding the substrate. *Id.* ¶ 142. The dryer may remove liquid from the substrate table either with or without the substrate present on the table, or the dryer may remove liquid from the surface of a sensor or target that may be located on the table. *Id.* ¶ 143.

Claim 1, reproduced below from the Claims Appendix to the Appeal Brief, is illustrative of the claimed subject matter. Limitations at issue are italicized.

1. A fluid handling structure system for a lithographic apparatus, the fluid handling structure system comprising:

a first fluid handling structure having a plurality of openings, the first fluid handling structure configured such that the openings are directed, in use, towards a facing surface, the facing surface being a substrate and/or a substrate table configured to support the substrate and the first fluid handling structure configured to supply liquid to a localized portion of the facing surface and to confine the liquid to the localized portion; and

a second fluid handling structure, *outward of* and separate from *the first fluid handling structure*, having one or more apertures directed, in use, towards the facing surface and the one or more apertures arranged in a curved layout in a plane parallel to the facing surface, *wherein the one or more apertures of the second fluid handling structure do not surround the plurality of openings of the first fluid handling structure and a side surface of the first fluid handling structure is spaced apart from a side surface of the second fluid handling structure by an open gap.*

OPINION

We review the appealed rejection for error based upon the issues Appellant identifies, and in light of the arguments and evidence produced

thereon. *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential) (cited with approval in *In re Jung*, 637 F.3d 1356, 1365 (Fed. Cir. 2011) (“[I]t has long been the Board’s practice to require an applicant to identify the alleged error in the examiner’s rejections.”). After considering the argued claims and each of Appellant’s arguments, we are not persuaded of reversible error in the appealed rejection. Accordingly, we affirm the rejection for the reasons set forth in the Final Office Action and the Examiner’s Answer, which we adopt as our own. We add the following primarily for emphasis.

The Examiner finds that the second fluid handling structure recitation in claim 1 lacks adequate written description support in the original disclosure. Final Act. 3–4. Appellant argues that Figures 23–25 and Specification paragraphs 39–41 and 144–154 provide written description support for the second fluid handling structure as recited in claim 1. Thus, the issue before us in this appeal is whether Appellant has identified reversible error in the Examiner’s rejection of claim 1 under 35 U.S.C. § 112 (pre-AIA), first paragraph, for failing to comply with the written description requirement.

The written description requirement provides that the specification must “convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention.” *Carnegie Mellon Univ. v. Hoffmann-La Roche Inc.*, 541 F.3d 1115, 1122 (Fed. Cir. 2008) (quoting *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563–64 (Fed. Cir. 1991)). “One shows that one is ‘in possession’ of the invention by describing the invention, with all its claimed limitations, not that which makes it obvious.” *Lockwood v. American Airlines Inc.*, 107 F.3d 1565,

1572 (Fed. Cir. 1997) (original emphasis not reproduced). “Although the exact terms need not be used *in haec verba* . . . the specification must contain an equivalent description of the claimed subject matter.” *Id.*

Similarly, “[t]he knowledge of ordinary artisans may be used to inform what is actually in the specification, but not to teach limitations that are not in the specification, even if those limitations would be rendered obvious by the disclosure in the specification.” *Rivera v. Int’l Trade Comm’n*, 857 F.3d 1315, 1322 (Fed. Cir. 2017) (internal citation omitted).

Appellant contends that the Specification recites two different liquid handling structures, one of which is depicted in Figures 6, 8, 20, and 21 and are embodiments of the first fluid handling structure of claim 1, the other of which is depicted in Figures 23–25 and are embodiments of the second fluid handling structure of claim 1. Appeal Br. 6–7. Appellant asserts that it is evident, from Figures 23–25 and Specification paragraphs 144–154, that fluid handling structure 101 is separate from fluid handling structure 12 because fluid handling structure 101 is used to remove liquid from a substrate table. *Id.* at 7. In this regard, Appellant notes that the fluid handling structure of Figures 6, 8, 20, and 21 is numbered differently from the fluid handling structure of Figures 23–25, none of Figures 23–25 shows fluid handling structure 101 being integrated into or connected side-by-side with fluid handling structure 12, and fluid handling structure 101 is described as being another type of fluid handling structure than fluid handling structure 12. *Id.*

Appellant further asserts that it is also evident from these disclosures “that a side surface of fluid handling structure 12 is spaced apart from a side surface of fluid handling structure 101 by an open gap.” *Id.* According to

Appellant, fluid handling structure 101 is described as “effectively a stand-alone structure that is separate from [fluid] handling structure 12 and accordingly, spaced from a side of [fluid] handling structure 12.” *Id.* at 8. Appellant asserts that Specification paragraphs 142–154 describe that fluid handling structure 101 is designed to remove liquid left behind by fluid handling structure 12. *Id.* Appellant also asserts that fluid handling structure 101 is disclosed as being outward from fluid handling structure 12, “at least because the fluid handling structure 101 acts to remove liquid remaining after processing by liquid handling structure 12.” *Id.* Appellant urges that fluid handling structure must be located outward of fluid handling structure 12 because “it is not apparent where else fluid handling structure 101 could be besides outward of liquid handling structure 12.” *Id.* As such, Appellant contends that fluid handling structure 101 “would necessarily have a side surface of fluid handling structure 12 that is spaced apart from a side surface of fluid handling structure 101 by an open gap.” *Id.*

Appellant’s arguments are not persuasive of reversible error because, while there is written description support for two different (and separate) fluid handling structures 12, 101, there is no written description support for any structural relationship, location, or orientation between these two fluid handling structures. Appellant fails to direct our attention to any written description in the Specification or drawings, as originally filed, showing or describing that a side surface of fluid handling structure 101 is outward of, or spaced apart by an open gap from, a side surface of fluid handling structure 12, nor do we find any. As Appellant notes, none of the Figures show any structural relationship between these two different fluid handling structures whatsoever; fluid handling structure 101 “is effectively a stand-

alone structure that is separate from [fluid] handling structure 12.” Appeal Br. 8. This fact does not lead to Appellant’s contentions that fluid handling structure 101 must necessarily be outward of fluid handling structure 12 or that these structures necessarily must be spaced from each other by an open gap. Nor does this fact necessarily lead to the conclusion that the apertures of fluid handling structure 101 do not surround the plurality of openings of fluid handling structure 12.

Because the Specification is silent to any structural relationship between these two different fluid handling structures, it is only through unwarranted speculation that one is able to arrive at the limitations within claim 1 reciting such a relationship. Indeed, there are many possibilities for how fluid handling structures 12, 101 could be provided so that the first fluid handling structure functions to immerse a substrate on a substrate table in liquid, whereas the second fluid handling structure functions to remove liquid from the substrate table. For example, the second fluid handling structure could be provided in a drying station separate from a lithographic projection station having the first fluid handling structure. *See Spec.* ¶ 142 (“Another type of fluid handling system in which an embodiment of the invention may be implemented is a dryer for a drying station.”).

Alternatively, the fluid handling structures could be carried on different rotating arms, permitting the structures to be rotated and lowered onto the substrate table, alternately as needed. Or the fluid handling structures could be combined together such that second fluid handling structure 101 is attached (or even integrated) to the outer perimeter of first fluid handling structure 12, wherein the substrate table is moved after patterning to permit second fluid handling structure 101 to remove fluid from the table. Thus, at

best, the recitation of the structural relationship between the first and second fluid handling structures in claim 1 is merely one of numerous possible relationships between these structures. Even in this instance, Appellant has not identified reversible error in the Examiner's rejection because that which would have been obvious is insufficient to demonstrate an inventor's possession of claimed subject matter. *Rivera*, 857 F.3d at 1322.

We find a preponderance of the evidence supports the Examiner's position that claim 1 fails to comply with the written description requirement as to the recitation of the structural relationship between the first and the second fluid handling structures. Further, by virtue of their dependency on claim 1, each of claims 9, 15, 16, and 20–35 also includes this recitation and fails to comply with the written description requirement.

Accordingly, we sustain the Examiner's rejection of claims 1, 9, 15, 16, and 20–35 under 35 U.S.C. § 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement.

CONCLUSION

Upon consideration of the record and for the reasons set forth above and in the Final Office Action and the Examiner's Answer, the Examiner's decision to reject claims 1, 9, 15, 16, and 20–35 under 35 U.S.C. § 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement is *affirmed*.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 9, 15, 16, 20–35	112, 1 st ¶	Written Description	1, 9, 15, 16, 20–35	

TIME PERIOD FOR RESPONSE

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