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STATEMENT OF THE CASE

This is an appeal under 35 U.S.C. § 134(a) from the Examiner’s final rejection of claims 1, 2, 9, 16 and 17, which constitute all the claims pending in this application. We have jurisdiction under 35 U.S.C. § 6(b).

1 In the Appeal Brief, Appellants appeal the final rejection of claims 1–11 and 13–19. App. Br. 4. On that same page, Appellants acknowledge that the Examiner withdrew claims 3–8, 10, 11, 13–15, 18, and 19 from consideration as directed to non-elected inventions. We also note that Appellants indicate that claim 12 was cancelled. App. Br. 22 (Claims Appendix). Therefore, we limit consideration of the appeal to claims 1, 2, 9, 16 and 17, the claims the Examiner’s rejections address. Final Act. 3–5.
We AFFIRM.

The invention is directed to a printhead circuit and a fluid ejection device comprising a printhead circuit. Claim 1 illustrates the invention:

1. A printhead circuit comprising:
   a substrate including a slot having a first, a second, and a third dimension in the substrate to supply fluid from a fluid supply to a number of fluid ejection elements;
   circuitry disposed on a first side surface and a second side surface of the slot; and
   a number of linear conductor traces disposed between the first side surface and the second side surface across the slot and disposed along substantially a same geometrical plane as the circuitry on the first side surface and the second side surface of the slot, wherein the traces overlap the slot in the third dimension and provide electrical connection from the first side surface of the slot to the number of fluid ejection elements on the second side surface of the slot.

Independent claim 9 is essentially directed to a fluid ejection device comprising the printhead circuit of claim 1.

Appellants² (see generally App. Br.) request review of the following rejections from the Examiner’s Final Office Action:³

² The real party in interest is identified as Hewlett-Packard Development Company, L.P., a Texas limited partnership wholly-owned affiliate of HP Inc. App. Br. 2. The general or managing partner of Hewlett-Packard Development Company, L.P. is identified as HPQ Holdings, LLC. Id.

³ Although it appears the Examiner inadvertently cited to “35 U.S.C. [§] 102(a)(1)” (Final Act. 3), which is an AIA provision, we cite to the pre-AIA versions of 35 U.S.C. because the effective filing date of May 31, 2012 for the application from which this appeal is taken, based on a Domestic Benefit/National Stage Information from Application PCT/US2012/040161, is before the effective date of the AIA legislation of March 16, 2013. Application Data Sheet dated October 22, 2014.
I. Claims 1, 2 and 9 are rejected under pre-AIA 35 U.S.C. § 102(b) as anticipated by Chen (US 2012/0019597 A1, published January 26, 2012).

II. Claims 16 and 17 rejected under 35 U.S.C. § 103(a) as unpatentable over Chen and Chang (US 6,382,773 B1, issued May 7, 2002).

OPINION

Rejection I

Appellants rely on the same line of arguments in addressing independent claims 1 and 9. See generally App. Br. Appellants do not present separate arguments for dependent claim 2. Id. Accordingly, we select claim 1 as representative of the subject matter claimed for Rejection I, and claims 2 and 9 stand or fall with this claim.

After review of Appellants’ and the Examiner’s respective positions, we affirm the Examiner’s rejections of claims 1, 2, and 9 under 35 U.S.C. § 102(b) for the reasons the Examiner presents. We add the following for emphasis.

Claim 1

Claim 1 is directed to a printhead circuit having a number of linear conductor traces disposed between the first side surface and the second side surface across the slot, and disposed along substantially a same geometrical plane as the circuitry on the first side surface and the second side surface of the slot.

The Examiner finds Chen teaches a printhead circuit that anticipates the claimed invention. Final Act. 3–4 (citing Chen Figure 1). The Examiner particularly finds Chen describes a number of linear conductor traces 102
disposed between a first side surface and a second side surface and across slot 104, where the traces are disposed along substantially the same geometrical plane as circuitry 102, 110, 116 on the first side surface and the second side surface of the slot. *Id.* (citing Chen Figure 1).

Appellants contend that Chen’s Figs. 1, 3, 7, and 8 show that conductor traces 102 are not disposed on an *even* substantially same geometrical plane as, for example, Chen’s ink ejection element[s] 116 (e.g., resistive heater element, piezoelectric material actuator). App. Br. 10 (citing Chen ¶ 19). According to Appellants, Chen’s conductor traces 102 significantly and intentionally deviate from the horizontal plane of the ink ejection elements 116 by passing through vias 118 provided through SU8 orifice layer 108. *Id.* (citing Chen ¶ 20). In other words, Appellants argue that Chen’s circuitry spans over multiple geometrical planes.

In order to anticipate, a reference must identify something falling within the claimed subject matter with sufficient specificity to constitute a description thereof within the purview of § 102. *In re Schaumann*, 572 F.2d 312, 317 (CCPA 1978). It is well established that specific examples of the claimed subject matter are not necessary to establish anticipation. Rather, to anticipate, one skilled in the art must be able to “at once envisage” the claimed subject matter in the prior art disclosure. *In re Petering*, 301 F.2d 676, 681 (CCPA 1962). Further, in determining whether a reference anticipates the subject matter recited in a claim, “it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom.” *In re Preda*, 401 F.2d 825, 826 (CCPA 1968).
Appellants’ arguments do not persuade us of error in the Examiner’s rejection for the reasons the Examiner provides. As the Examiner notes, and we agree, the claim does not require the entirety of each trace to be located in a single, even geometrical plan that is substantially the same as the circuitry. Ans. 3. That is, the claim does not exclude a circuitry spanning multiple geometrical planes, as Chen teaches. Further, the language of the claim only requires that the linear conductive traces disposed between the first and second side surfaces and across the slot be disposed along
substantially a same geometrical plane as the circuitry on the first side surface and the second side surface of the slot. Under the broadest reasonable interpretation consistent with the Specification description, we agree with the Examiner’s finding that Chen’s traces 102 disposed across slot 104 are disposed in a geometrical plane of Chen’s circuitry as claimed. Final Act. 3–4.

Appellants argue that the plain meaning of “disposed along substantially a same geometrical plane” as recited in claim 1 is disposed along substantially a same geometrical plane for the entire length of the traces. Reply Br. 6. However, Appellants do not direct us to any portion of the Specification or other evidence that supports adequately this argument. On the contrary, Appellants disclose the use of the term “substantially” to define “approximations that may vary depending upon the properties sought.” Spec. ¶ 12. This definition would lead one skilled in the art to

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4 In re ICON Health & Fitness, Inc., 496 F.3d 1374, 1379 (Fed. Cir. 2007) ("[W]e look to the specification to see if it provides a definition for claim terms, but otherwise apply a broad interpretation.").
understand, contrary to Appellants’ arguments, that Appellants’ invention contemplates a geometrical plane that is not even.

Accordingly, we affirm the Examiner’s prior art rejection of claims 1, 2, and 9 under 35 U.S.C. § 102(b) for the reasons the Examiner provides and those given above.

**Rejection II**


Accordingly, we select claim 16 as representative of the subject matter claimed for Rejection II. Claim 17 stands or falls with claim 16.

Claim 16 requires that at least one of the linear conductor traces extends across at least two slots.

The Examiner finds that Chen’s Figures 1 and 2 suggest that the conductor traces 102 would each span several slots because the traces do not simply end after spanning the slots but get cut off by the diagrams. Final Act. 5. Chen also acknowledges that “[a] typical printhead substrate has multiple elongated ink slots, and the conductive traces are routed along the ink slots to the ends of the substrate to make interconnections with a controller.” Chen ¶ 2. The Examiner further finds that Chang discloses a printhead arrangement with several parallel slots. Final Act. 5 (citing Chang Figure 1 (slots 107)). The Examiner determines that it would have been obvious to one of ordinary skill in the art to apply the trace routing technique Chen discloses to Chang’s general head/nozzle arrangement because doing so would amount to combining prior art elements according to known techniques to yield predictable results. *Id.*

Appellants argue that Chen’s paragraph 21 explicitly indicates that the edges of the diagrams in each figure are, in fact, the “edges 200 of the
printhead 100,” and do not extend in perpetuity or any further than depicted as the Final Action relies upon. App. Br. 15.

We have considered Appellants’ argument, but find it unavailing. First, Chen’s paragraph 21 describes several embodiments, one of which is the embodiment that Appellants are relying upon to address the Examiner’s assertions. It is well settled that a reference may be relied upon for all that it discloses and not merely the preferred embodiments as Appellants suggest. See Merck & Co. v. Biocraft Labs., Inc., 874 F.2d 804, 807 (Fed. Cir. 1989) (“[A]ll disclosures of the prior art, including unpreferred embodiments, must be considered.” (quoting In re Lamberti, 545 F.2d 747, 750 (CCPA 1976))); In re Fracalossi, 681 F.2d 792, 794 n.1 (CCPA 1982) (explaining that a prior art reference’s disclosure is not limited to its examples). Appellants do not explain adequately why the Chen embodiment they rely upon limits Chen’s broader disclosure.

Moreover, Chen, like Chang, acknowledges that printhead substrates having multiple elongated ink slots are known that have traces “routed along the ink slots to the ends of the substrate to make interconnections with a controller.” Chen ¶ 2, 13. Given that Chen is directed to overcoming disadvantages of the prior art, such as printhead size, by using conductor traces that cross over the ink slot in an inkjet printhead substrate (Chen ¶¶ 12, 15), we agree with the Examiner’s determination that it would have been obvious to one of ordinary skill in the art to apply the trace routing technique Chen discloses to a printhead comprising multiple ink slots. Final Act. 5.

Accordingly, we also affirm this rejection for the reasons the Examiner presents and given above.
DECISION

The Examiner’s prior art rejections under 35 U.S.C. §§ 102(b) and 103(a) of claims 1, 2, 9, 16, and 17 are affirmed.

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