

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex Parte PHILIP J. ENTINGH, ROGER LEIGHTON and PETER J. NYSTROM

Appeal No. 2006-2396  
Application No. 10/293,133

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ON BRIEF

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Before KRASS, JERRY SMITH and BARRY, Administrative Patent Judges.

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 1-10, 13, 14, and 16-23, which constitute all the claims pending in this application.

The disclosed invention pertains to an ink printing acoustic print head and a method for making such a print head.

Representative claim 1 is reproduced as follows:

1. An ink printing acoustic print head adapted to print ink on a print medium, the ink printing acoustic print head comprising:

a fluid distribution manifold;

a fluid distribution stack in fluid communication with the fluid distribution manifold;

a front membrane having a print work area, the front membrane sealed to the fluid distribution stack; and

an acoustic array connected to the fluid distribution stack, the acoustic array being controllably positioned by the fluid distribution stack to form a predetermined gap with the front membrane;

wherein, ink is transferred from the fluid distribution manifold through the fluid distribution stack to the predetermined gap for the acoustic array to generate droplets of ink emitted from the print work area.

The examiner relies on the following references:

Roy et al. (Roy)	6,199,970	Mar. 13, 2001
Smith	6,276,779	Aug. 21, 2001

Claims 1-5, 8-10, 14, and 16-23<sup>1</sup> stand rejected under 35 U.S.C. § 102(b) as being anticipated by the disclosure of Roy. Claim 13 stands rejected under 35 U.S.C. § 102(b) as being anticipated by the disclosure of Smith. Claims 6 and 7 stand rejected under 35 U.S.C. § 103(a). As evidence of obviousness, the examiner offers Roy in view of Smith.

Rather than repeat the arguments of appellants or the examiner, we make reference to the briefs and the answer for the respective details thereof.

#### OPINION

We have carefully considered the subject matter on appeal, the rejections advanced by the examiner and the evidence of anticipation and obviousness relied upon by the examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellants' arguments set forth in the briefs along with the examiner's rationale in support of the rejections and arguments in rebuttal set forth in the examiner's answer.

It is our view, after consideration of the record before us, that the evidence relied upon supports each of the examiner's rejections of the claims on appeal. Accordingly, we affirm.

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<sup>1</sup> Although claim 16 is not listed in the statement of the rejection, it is clear that claim 16 must be part of this rejection since it is the parent claim to claim 17 which is listed in the statement of the rejection.

We consider first the rejection of claims 1-5, 8-10, 14, and 16-23 as being anticipated by Roy. Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention as well as disclosing structure which is capable of performing the recited functional limitations. RCA Corp. v. Applied Digital Data Systems, Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984); W.L. Gore and Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983).

The examiner has indicated how the invention of these claims is deemed to be fully met by the disclosure of Roy [answer, pages 3-5]. With respect to claims 1, 9, and 10, which are argued together by appellants, appellants argue that Roy fails to disclose the claim limitation of the acoustic array being controllably positioned by the fluid distribution stack to form a predetermined gap with the front membrane. Specifically, appellants argue that Roy fails to disclose the ability to control positioning of the fluid distribution stack. Appellants also argue that the support surface of the protrusion in Roy is different than a datum surface [brief, pages 5-7]. The examiner responds that the datum surface disclosed by appellants that controllably positions the acoustic array in appellants' invention is no different from the protrusion 94 disclosed by Roy. Thus, the examiner asserts that Roy controllably positions the acoustic array in the same manner as disclosed for appellants' invention. The examiner also notes that appellants' argument with respect to a datum surface is not persuasive because this limitation is not provided in the claims [answer, pages 6-7]. Appellants respond that the support surface 94 of the protrusion in Roy is not controllably positioning the acoustic array as called for in claim 1 [reply brief, page 2].

We will sustain the examiner's rejection of claims 1, 9, and 10 for essentially the reasons argued by the examiner in the answer. We agree with the examiner that the acoustic array of appellants' disclosed invention is no more "controllable" than the acoustic array disclosed by Roy. Appellants have pointed to Figure 8A of the application, but we find nothing in this figure that supports a concept of being "controllable" that differs from the positioning taught by Roy. With respect to the argument regarding a datum surface, we again agree with the examiner that this argument

is not commensurate with the invention of claim 1. Therefore, neither of appellants' arguments persuades us of error in the examiner's findings of anticipation.

With respect to claim 2, appellants argue that there is no disclosure in Roy of a spacer in addition to the fluid distribution stack as claimed. Appellants assert that the protrusion in Roy is different from having both a spacer and a fluid distribution stack as claimed [brief, pages 7-8]. The examiner responds that claim 2 does not require that the spacer be separate from the fluid distribution stack. The examiner finds that the protrusion 94 in Roy is used to achieve a precise spacing between substrate 42 and the liquid level control plate 56, and that this meets the claimed invention.

We will sustain the examiner's rejection of claim 2 for the reasons argued by the examiner in the answer. We agree with the examiner that there is no requirement in claim 2 that the spacer be separate from the fluid distribution stack.

With respect to claim 3, appellants argue that Roy fails to disclose that the spacer has a plurality of fingers [brief, page 8]. The examiner responds that Roy teaches two spacer fingers 94 are provided [answer, page 8].

We will sustain the examiner's rejection of claim 3 for the reasons argued by the examiner in the answer. Appellants have failed to address the examiner's findings regarding the spacer fingers 94 in Roy.

With respect to claims 4 and 8 which are argued together, appellants argue that Roy fails to disclose any tooling feature on any plate that is capable of locating any plates relative to each other as claimed. Appellants note that Roy requires a separate fixture to perform this locating feature, and the fourth plate in Roy has no hole or tooling feature for locating other plates as required [brief, pages 8-9]. The examiner responds that the cutouts of plates 92A-C must align together to properly align the head components. The examiner also notes that the fourth plate of Roy is unnecessary to meet the three plates of claim 4 [answer, pages 8-9].

We will sustain the examiner's rejection of claims 4 and 8 for the reasons argued by the examiner in the answer. We agree with the examiner that the various holes and notches placed in the plates of Roy constitute tooling features within the broadest reasonable interpretation of that term.

With respect to claim 5, appellants argue that merely having a seating surface for the control plate in Roy does not mean that plate 92B has a datum surface to locate the front membrane relative to the head as claimed. Appellants argue that the examiner's findings with respect to Roy are incorrect [brief, pages 10-11]. The examiner responds that there is no difference between the datum surface 40F of appellants' disclosed invention and protrusion 94 of Roy. The examiner notes that protrusion 94 of Roy clearly provides the gap between the substrate 42 and the liquid level control plate 56 [answer, page 9].

We will sustain the examiner's rejection of claim 5 for the reasons argued by the examiner in the answer. We agree with the examiner that appellants have failed to explain how the disclosure of the claimed invention, which provides support for the claimed invention, differs from the teachings of Roy.

With respect to claims 14, 16, and 17 which are argued together, appellants make essentially the same arguments that we considered above with respect to claim 4. Since we found these arguments unpersuasive for reasons discussed above, we will sustain the examiner's rejection of claims 14, 16, and 17 for the reasons discussed above.

With respect to claims 18 and 20-23 which are argued together, appellants argue that Roy fails to disclose that the distribution stack has tooling control features (both vertical and lateral) and that the acoustic array is controllably located relative to the front membrane with this tooling control feature. With respect to claim 19, appellants make the same spacer arguments that we considered above with respect to claim 2 [brief, pages 12-13]. The examiner responds that there is no difference between the datum surface 40F of the disclosed invention and protrusion 94 of Roy. The examiner also argues that the argued vertical and lateral control is not persuasive because this feature is not recited in the claimed invention [answer, pages 9-10].

We will sustain the examiner rejection of claims 18-23 for the reasons argued by the examiner in the answer. Although appellants argue generally that the claimed invention is not fully met by the disclosure of Roy, they never fully address the manner in which the examiner has read the claimed invention on the disclosure of Roy. Therefore, we are unpersuaded by appellants' arguments that Roy fails to anticipate the claimed invention.

We now consider the rejection of claim 13 as being anticipated by the disclosure of Smith. The examiner has indicated how the invention of claim 13 is deemed to be fully met by the disclosure of Smith [answer, page 5]. Appellants argue that Smith fails to disclose the claimed spacer having a plurality of fingers. They assert that the corrugations of spacer plates 170 in Smith are different from fingers [brief, pages 13-14]. The examiner responds that Smith clearly teaches a spacer having two fingers 170 coupled to the acoustic array when the term “fingers” is given its broadest reasonable interpretation [answer, page 10].

We will sustain the examiner rejection of claim 13 for the reasons argued by the examiner in the answer. Although appellants argue generally that the claimed invention is not fully met by the disclosure of Smith, they never fully address the manner in which the examiner has read the claimed invention on the disclosure of Roy. Therefore, we are unpersuaded by appellants’ arguments that Smith fails to anticipate the claimed invention.

We now consider the rejections of claims 6 and 7 under 35 U.S.C. § 103. In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966). The examiner must articulate reasons for the examiner’s decision. In re Lee, 277 F.3d 1338, 1342, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002). In particular, the examiner must show that there is a teaching, motivation, or suggestion of a motivation to combine references relied on as evidence of obviousness. Id. at 1343, 61 USPQ2d at 1433-34. The examiner cannot simply reach conclusions based on the examiner’s own understanding or experience - or on his or her assessment of what would be basic knowledge or common sense. Rather, the examiner must point to some concrete evidence in the record in support of these findings. In re Zurko, 258 F.3d 1379, 1386, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001). Thus, the examiner must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the examiner’s

conclusion. However, a suggestion, teaching, or motivation to combine the relevant prior art teachings does not have to be found explicitly in the prior art, as the teaching, motivation, or suggestion may be implicit from the prior art as a whole, rather than expressly stated in the references. The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art. In re Kahn, 441 F.3d 977, 987-88, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006) (citing In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1316-17 (Fed. Cir. 2000)). See also In re Thrift, 298 F.3d 1357, 1363, 63 USPQ2d 2002, 2008 (Fed. Cir. 2002). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). Only those arguments actually made by appellants have been considered in this decision. Arguments which appellants could have made but chose not to make in the brief have not been considered and are deemed to be waived [see 37 CFR § 41.37(c)(1)(vii)(2004)].

The examiner has indicated how the invention of claims 6 and 7 is deemed to be rendered obvious over the collective teachings of Roy and Smith [answer, page 6]. With respect to claim 6, appellants argue that neither Roy nor Smith teaches that the tooling feature comprises a formed tab as claimed. They assert that the tabs 154 of Smith are used to maintain glass substrate 150 in position and there is no suggestion of using these tabs to locate plates relative to each other [brief, pages 14-15]. The examiner responds that Roy teaches that the plates must be aligned with respect to each other, and Smith teaches that components can be joined together through the use of tabs that are suitably positioned [answer, pages 10-11].

We will sustain the examiner's rejection of claim 6 for the reasons argued by the examiner in the answer. Although appellants have pointed out individual deficiencies in Roy and Smith, appellants have not persuasively addressed the examiner's position that it would have been obvious to the artisan to use tabs as taught by Smith to achieve the alignment of the plates as required in Roy.

With respect to claim 7, appellants argue that neither Roy nor Smith teaches the ultrasonic deformation as claimed [brief, pages 15-16]. The examiner responds that the limitation of ultrasonic deformation is directed to a method of manufacture and does not limit the structure of the claimed apparatus [answer, page 11].

We will sustain the examiner's rejection of claim 7 for the reasons argued by the examiner in the answer. Although appellants have pointed out individual deficiencies in Roy and Smith, appellants have not persuasively addressed the examiner's position that the claimed ultrasonic deformation does not relate to a structural difference in the claimed apparatus.

In summary, we have sustained each of the examiner's rejections of the claims on appeal. Therefore, the decision of the examiner rejecting claims 1-10, 13, 14, and 16-23 is affirmed.

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

AFFIRMED

ERROL KRASS  
Administrative Patent Judge

JERRY SMITH  
Administrative Patent Judge

LANCE LEONARD BARRY  
Administrative Patent Judge

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