

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 19

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte STORRS HOEN and CARL TAUSSIG

Appeal No. 2001-2238
Application 09/387,204

ON BRIEF

Before KRASS, JERRY SMITH and FLEMING, 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 17-23, which constitute all the claims remaining in the application.

The disclosed invention pertains to a method of driving an electrostatic actuator.

Representative claim 17 is reproduced as follows:

17. A method of driving an electrostatic actuator, the method comprising:

providing a first member and a second member, each of the first member and the second member including an opposed surface;

providing a bending flexure;

using the bending flexure to support the opposed surface of the first member opposite the opposed surface of the second member with a spacing of d , and to allow one of the first member and the second member to move relative to the other in a direction parallel to the opposed surfaces;

establishing a spatially substantially alternating voltage pattern on the opposed surface of the first member, and a static, spatially substantially alternating voltage pattern on the opposed surface of the second member, each spatially substantially alternating voltage pattern defining a waveform having a primary spatial wavelength λ satisfying the spatial wavelength/spacing condition $\lambda/d < 16$; and

selectively imposing a variation on the spatially substantially alternating voltage pattern on the opposed surface of the first member to move the one of the first member and the second member relative to the other.

The examiner relies on the following references:

Okamoto et al. (Okamoto)	5,523,639	June 04, 1996
Higuchi et al. (Higuchi)	5,585,683	Dec. 17, 1996
Suzuki et al. (Suzuki)	JP 4-368479	Dec. 21, 1992

Claims 17-23 stand rejected under 35 U.S.C. § 103. As evidence of obviousness the examiner offers Okamoto in view of Suzuki with respect to claims 17-20, 22 and 23, and Higuchi is added with respect to claim 21.

Appeal No. 2001-2238
Application 09/387,204

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 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 and the level of skill in the particular art would not have suggested to one of ordinary skill in the art the obviousness of the invention as set forth in claims 17-23. Accordingly, we reverse.

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

Appeal No. 2001-2238
Application 09/387,204

determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). 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,

Appeal No. 2001-2238
Application 09/387,204

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 by appellants [see 37 CFR § 1.192(a)].

With respect to independent claim 17, the examiner has indicated how he finds the claimed invention to be obvious. Specifically, the examiner finds that Okamoto teaches every aspect of the claimed invention except for the wavelength/spacing condition $\lambda/d < 16$ and a bending flexure to support the moving member. The examiner cites Suzuki as teaching a bending flexure to support the moving member of an electrostatic actuator. The examiner asserts that it would have been obvious to the artisan to construct the actuator of Okamoto with the spatial wavelength/spacing condition $\lambda/d < 16$ since the discovery of an optimum or workable range involves only routine skill in the art and because the spacing of the electrodes is a result effective variable [answer, pages 3-4].

Appellants argue that the examiner has improperly applied a per se rule of unpatentability. Appellants argue that this rule does not apply in this case anyway because the prior art

Appeal No. 2001-2238
Application 09/387,204

does not teach that the spatial wavelength is a result effective variable and does not teach the optimization goal of the present invention. Appellants also argue that the applied prior art does not teach that there is any need to control movement of one of the surfaces in the z-direction. In other words, appellants argue that the prior art is only concerned with movement in the x-y plane. Appellants argue that the examiner has pointed to nothing in the applied prior which supports the finding of obviousness [brief, pages 6-15].

The examiner responds that the artisan would have understood that the spacing between the electrodes of Okamoto would affect the electric fields which drive the actuator. The examiner insists that appellants have merely optimized the spacing of the electrodes to obtain the most productive output of the motor. The examiner also points to teachings of Suematsu (JP 5-122948) and Sato (JP 2-211078)¹ [answer, pages 5-11].

We will not sustain the rejection of independent claim 17 because the examiner has failed to establish a prima facie case of obviousness. We essentially agree with all of the arguments

¹ We have not considered the teachings of Suematsu or Sato because neither of these references has been listed in the statement of the rejection.

made by appellants. Most importantly, we agree with appellants' argument that the claimed invention involves more than the mere optimization of a result effective variable. The applied prior art only teaches that the force acting in the x-y plane should be controlled. The applied prior art shows no interest in the forces which also act in the z-plane. It is only appellants' disclosure which teaches that the forces in the z-plane need to be controlled based on new applications of electrostatic actuators. Only appellants' disclosure teaches that there is a limit on the value of the wavelength/spacing condition which allows electrostatic actuators to be used for these new applications. The prior art tends to suggest that the wavelength/spacing condition can be increased to whatever extent desired. Only appellants' disclosure teaches that this condition has an upper limit of about 16. If this condition optimizes anything, then it only optimizes a variable that has been essentially irrelevant until now. Therefore, the examiner has failed to support his position that the claimed invention involves nothing more than the mere optimization of a result effective variable.

Since the remaining claims subject to this rejection depend from claim 17, we also do not sustain the rejection of

Appeal No. 2001-2238
Application 09/387,204

claims 18-20, 22 and 23. Although dependent claim 21 has been rejected using the additional teachings of Higuchi, Higuchi does not overcome the deficiencies in the rejection noted above. Therefore, we also do not sustain the rejection of claim 21.

In summary, we have not sustained either of the rejections made by the examiner. Therefore, the decision of the examiner rejecting claims 17-23 is reversed.

REVERSED

ERROL A. KRASS)	
Administrative Patent Judge)	
)	
)	
)	
JERRY SMITH)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
)	
)	
MICHAEL R. FLEMING)	
Administrative Patent Judge)	

JS/ki

Appeal No. 2001-2238
Application 09/387,204

Agilent Technologies, Inc.
Intellectual Property Administration,
Legal Department
P.O. Box 7599
M/S DL429
Loveland, CO 80537-0599