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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte KENNETH WARD and HANS ALBERTSEN[1]

Appeal 2015-004927
Application 12/765,643
Technology Center 1600

Before JEFFREY N. FREDMAN, RICHARD J. SMITH, and RACHEL H. TOWNSEND, *Administrative Patent Judges*.

TOWNSEND, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 involving claims to various methods regarding detecting an altered risk of endometriosis involving detecting at least one endometriosis associated genetic marker defining the minor allele of at least one specified genetic marker, which have been rejected as directed to non-statutory subject matter, for being indefinite, and as anticipated or obvious. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm the rejection of claim 1–25 and 32–50 as being direct to non-statutory subject matter and the rejection of claim 45 as being indefinite

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[1] Appellants identify the Real Party in Interest as Juneau Biosciences, LLC. (Appeal Br. 2.)

concerning the recitation of "said subject." We reverse all other rejections of the claims made by the Examiner.

STATEMENT OF THE CASE

"Endometriosis is most generally defined as the presence of endometrium (glands and stroma) at sites outside of the uterus (ectopic endometrial tissues rather than eutopic or within the uterus)." (Spec. ¶ 4.) It "is a genetically inherited disease." (Spec. ¶ 9.) "Specific genes with polymorphisms have been investigated for an association with endometriosis." (Spec. ¶ 7.) "Genetic variation in DNA sequences is often associated with heritable phenotypes, such as an individual's propensity towards complex disorders." (Spec. ¶ 9.) Appellants' "invention relates to endometriosis diagnosis and therapy" through detection of genetic markers associated with endometriosis. (Spec. ¶¶ 2, 10, 11.)

Claims 1–25 and 32–50 are on appeal. Claims 1, 36, and 45 are representative and read as follows:

> 1. A method for determining an altered risk of endometriosis in a human subject, said method comprising the steps of detecting in genetic material of said subject at least one endometriosis associated genetic marker defining the minor allele of at least one genetic marker of table 1, and correlating the detection of said minor allele with an altered risk of existence or predisposition of endometriosis in said subject.

(Appeal Br. 29.)

> 36. A method of treating a human subject having in genetic material of said subject an increased risk of endometriosis associated allele defining the minor allele of at least one genetic marker of table 1 associated with an increased risk of endometriosis, said method comprising the step of:

> administering to said human subject a therapeutic that at least partially compensates for endometriosis.

(Appeal Br. 33–34.)

> 45. A method of assigning an altered risk of endometriosis in a human subject, said method comprising the steps of evaluating and recording at least one endometriosis related clinical factor of said human subject of age at menarche, BMI, pelvic pain, and infertility, detecting in genetic material of said subject an altered risk of endometriosis allele defining the minor allele of at least one endometriosis associated genetic marker of table 1, assessing a presymptomatic altered risk of endometriosis in said subject based said at least one evaluated and recorded endometriosis related clinical factor, said detection of said minor allele, and the results of performing a logistic regression analysis, assigning an increased risk of endometriosis for said subject if the detected minor allele has an Odds Ratio of greater than 1.0 in table 1, and treating said human subject by administering to said human subject an appropriate therapeutic that at least partially compensates for endometriosis if said subject is assigned an increased risk of endometriosis.

(Appeal Br. 35.)

The following grounds of rejection by the Examiner are before us on review:

1. Claims 1–25 and 32–50 under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.
2. Claims 1–13, 19, and 45–50 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention.

3. Claims 1–4, 6, 9–10, 12, 14–17, 19, 24, 32, 34, 36, 39, 41, and 43 under 35 U.S.C. § 102(b) as being anticipated by Belouchi.[2]
4. Claims 5, 18, 21, 22, 33, 35, 37, 40, 42, and 44 under 35 U.S.C. § 103(a) as being unpatentable over Belouchi and Nishida.[3]

DISCUSSION

I.

Non-statutory subject matter

The Examiner finds that claims 1, 14, 32, 34, 36, 39, 41, 43, and 45 are directed to processes which focus on the use of a law of nature, i.e., naturally occurring genetic polymorphisms and the handiwork of nature regarding the association of these naturally occurring genetic polymorphisms with endometriosis, and the additional steps that integrate the natural principle into the claimed invention are insufficient to ensure that the claims amount to significantly more than the natural principle itself. (Final Action 7–10, 18–26; Ans. 3–4.) The Examiner acknowledges that while "human ingenuity and intervention may be been involved in 'discovering' the correlation between the minor allele of the SNP[s (single-nucleotide polymorphisms) provided in table 1] and endometriosis, it does not change the fact that the minor allele of the SNP occurs naturally in the

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[2] WO 2008/123901 A2, published Oct. 16, 2008.
[3] Nishida et al., *Evaluating the performance of Affymetrix SNP Array 6.0 platform with 400 Japanese individuals*, 9 (1) BMC Genomics 431 (2008), available at http://www.biomedcentral.com/1471-2164/9/431.

body, and any association with disease resulting from its presence in the body is the handiwork of nature, not of man." (Ans. 4.)

We agree with the Examiner's factual findings and conclusion that, consistent with controlling caselaw, claims 1, 14, 32, 34, 36, 39, 41, 43, and 45 are directed to non-statutory subject matter. We "note that the Supreme Court instructs that '[g]roundbreaking, innovative, or even brilliant discovery does not by itself satisfy the § 101 inquiry.'" *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015) (quoting *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2117 (2013)). "Phenomena of nature . . ., mental processes, and abstract intellectual concepts are not patentable." *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S.Ct. 1289, 1293 (2012).

The framework for distinguishing patents that claim laws of nature or natural phenomena from those that claim patent eligible applications of those concepts involves the following two steps:

1. determine whether the claims at issue are directed to a patent ineligible concept
2. if they are, consider the elements of each claim both individually and "as an ordered combination" to determine whether additional elements "transform the nature of the claim" into a patent eligible application, i.e., search for an element or combination of elements that is "sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself."

Ariosa, 788 F.3d at 1375–76 (Fed. Cir. 2015) (quoting *Mayo*, 132 S. Ct. at 1294, 1298). In other words, to transform such a nonpatentable phenomenon, process, or concept into a patent-eligible application, one must do more than simply state the phenomenon, process, or concept "while adding the words 'apply it.'" *Mayo*, 132 S. Ct. at 1294.

Claim 1 is directed to a method for determining an altered risk of endometriosis which comprises two steps, detecting a genetic marker and correlating the detection with an altered risk. (Claim 1.) Claims 14 and 45 take the method of claim 1 one step further in "assigning an altered risk of endometriosis" based on the correlation results. (Claims 14 and 45.) Claim 43 is a method of screening that, like claims 1 and 14, requires detecting a genetic marker and then "responding to the detection." (Claim 43.)

Claims 32 and 39 are directed to selecting or developing an appropriate therapeutic after detecting the genetic marker that is indicative of an increased risk of endometriosis (Claims 32 and 39), where claim 34 is concerned with selecting a recipient for a therapeutic after detecting the genetic marker that is indicative of an increased risk of endometriosis (Claim 34) and claim 41 is concerned with selecting a subject for clinical trials involving the use of a therapeutic after detecting the genetic marker that is indicative of an increased risk of endometriosis (Claim 41). Claim 36 is directed to a method of treating a subject that has a genetic marker that is indicative of an increased risk of endometriosis by administering a therapeutic to that individual. (Claim 36). Appellants argue that none of the foregoing claims are directed to a patent ineligible concept because the steps of the claim "analyzed as a whole" do not recite natural principles, but,

rather, recite concrete steps, i.e., "detecting a genetic marker," "assigning a risk of enodmetriosis," "administering a therapeutic," recited in claims 1, 14, and 36, the "detecting and selecting" steps of claims 32, 34, and 41, the "detecting and developing" steps of claim 39, the "obtain, inspecting, detecting, and responding" steps of claim 43, and the "evaluating and recording, detecting, assessing, assigning, and treating" steps of claim 45. (Appeal Br. 9–16.) Appellants also argue that rather than recite natural principles, these claims recite the use of knowledge. (*Id.*) The foregoing arguments are not persuasive.

It is undisputed that the existence of SNPs defining the minor allele of at least one genetic marker of table 1 is a natural phenomenon, as is the fact that an altered risk of existence or predisposition of endometriosis is a natural phenomenon. Appellants do not contend that they created or altered the genetic information in any way; instead they are detecting or correlating this genetic information to having a risk of or predisposition to endometriosis. Indeed, Appellants' Specification notes that genetic variation in DNA sequences, such as SNPs, "are often associated with heritable phenotypes, such as an individual's propensity towards complex disorders" and that detection of SNPs, "which are associated with endometriosis risk, may therefore be used to determine risk of endometriosis, the presence of endometriosis or the progression of endometriosis." (Spec. ¶ 9.) Appellants' Specification further explains that the invention relates to the identification of "naturally-occurring SNPs" in the human genome that are associated with endometriosis. (Spec. ¶¶ 14, 37, 38, 42.) Moreover, the Specification indicates that the analysis of genetic association between SNPs

and phenotypic traits for endometriosis diagnosis, predisposition screening, prognosis and treatment "and other uses described herein" relies on determination of a genetic association which involves genotyping and endometriosis status classification (Spec. ¶¶ 127–137) and then setting up a classification/prediction system to predict whether an individual is within or not within the classification which can then "be exploited" to justify various activities including treatment or monitoring (Spec. ¶¶ 138–140, 148–149). Thus, we agree with the Examiner (Ans. 4; Final Action 8, 17–18), that the method of claims 1, 14, 32, 34, 36, 39, 41, 43, and 45 each are focused "on the use of a natural principle, namely a correlation between the minor alleles of the SNPs listed in Table 1 and endometriosis." (Claim 1 ("correlating the detection of said minor allele with an altered risk of existence or predisposition of endometriosis in said subject"); Claim 14 ("correlating the detection of said minor allele with an altered risk of endometriosis in said subject, and assigning an increased risk of endometriosis if the detected minor allele has an Odds Ratio of greater than 1.0 in table 1, or assigning a decreased risk of endometriosis if the detected minor allele has an Odds Ratio of less than 1.0 in table 1"); Claim 45 ("assessing a presymptomatic altered risk of endometriosis in said subject based said at least one evaluated and recorded endometriosis related clinical factor, said detection of said minor allele, and the results of performing a logistic regression analysis, assigning an increased risk of endometriosis for said subject if the detected minor allele has an Odds Ratio of greater than 1.0 in table 1,"); Claim 43 ("detecting in said genetic material an altered risk of endometriosis allele . . . responding to the detection of said minor allele of said endometriosis

associated genetic marker"); Claim 32 ("detecting in genetic material of said subject an increased risk of endometriosis associated allele . . . selecting a therapeutic that at least partially compensates for endometriosis"); Claim 39 ("detecting in genetic material of said subject an increased risk of endometriosis associated allele . . . developing an appropriate therapeutic that at least partially compensates for endometriosis"); Claim 34 ("detecting in genetic material of a human subject an increased risk of endometriosis associated allele . . . selecting said human subject as a recipient of a therapeutic that at least partially compensates for endometriosis"); Claim 41 ("detecting in genetic material of a human subject an increased risk of endometriosis associated allele . . . selecting said human subject for a clinical trial involving the use of an appropriate therapeutic for treatment of endometriosis"); Claim 36 ("A method of treating a human subject having in genetic material of said subject an increased risk of endometriosis associated allele . . . administering to said human subject a therapeutic that at least partially compensates for endometriosis").)

And each of the uses requires detecting the presence of at least one such naturally-occurring SNP. (Claims 1, 14, and 45 ("detecting in genetic material of said subject at least one endometriosis associated genetic marker defining the minor allele of at least one genetic marker of table 1"); Claim 43 ("detecting in said genetic material an altered risk of endometriosis allele defining the minor allele of at least one endometriosis associated genetic marker of the genetic markers disclosed in table 1"); Claims 32 and 39 ("detecting in genetic material of said subject an increased risk of endometriosis associated allele defining the minor allele of at least one

genetic marker of table 1 associated with an increased risk of endometriosis"); Claim 34 ("detecting in genetic material of a human subject an increased risk of endometriosis associated allele defining the minor allele of at least one genetic marker of table 1 associated with an increased risk of endometriosis"); Claim 36 ("administering to said human subject . . . ," where *said human subject* is defined as "having in genetic material of said subject an increased risk of endometriosis associated allele defining the minor allele of at least one genetic marker of table 1 associated with an increased risk of endometriosis").)

Moreover, we agree with the Examiner that appending routine, conventional steps to this natural phenomenon, specified at a high level of generality, is not enough to supply an inventive concept. *Ariosa*, 788 F.3d at 1378. Notably, Appellants do not argue that any of the claimed steps are unconventional; rather, Appellants assert that the steps do not "define a judicial exception," but are instead "concrete steps performed by the hand of man that do not rely on a law of nature or a natural principle and are not a natural phenomena or a natural product." (Appeal Br. 9–16). In *Mayo*, the patent claims at issue also claimed concrete steps, i.e.,

> (a) administering a drug providing 6–thioguanine to a subject having said immune-mediated gastrointestinal disorder; and
>
> (b) determining the level of 6–thioguanine in said subject having said immune-mediated gastrointestinal disorder,

132 S.Ct. at 1295, and the respondent contended that the claimed method was a patent eligible application of a natural law that described the relationship between the concentration of certain metabolites and the

likelihood that the drug dosage will be harmful or ineffective. The Court, found, however, that methods for determining metabolite levels were already "well known in the art," and held the process at issue amounted to "nothing significantly more than an instruction to doctors to apply the applicable laws when treating their patients." *Id.* at 1298. Similarly, in *Ariosa*, the method claims at issue included concrete steps, i.e., "using methods like PCR to amplify and detect cffDNA," but these claims were also found patent ineligible for "amount[ing] to a general instruction to doctors to apply routine, conventional techniques when seeking to detect cffDNA." *Ariosa*, 788 F.3d at 1373–74, 1377–78. Here, in light of the Examiner's findings and Appellants' silence on the issue, we conclude that the concrete instructions set forth in Appellants' claims, as was the case in *Mayo* and *Ariosa*, "add nothing specific to the laws of nature other than what is well-understood, routine, conventional activity, previously engaged in by those in the field" *Mayo*, 132 S.Ct. at 1299,

In light of the foregoing, Appellants do not persuade us that the Examiner erred in rejecting claims 1, 14, 32, 34, 36, 39, 41, 43, and 45 as directed to non-statutory subject matter.[4]

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[4] Appellants argue that the Examiner has improperly examined the claims against a superseded procedure, and that they must be "analyzed anew" "against the current procedures." (Appeal Br. 7.) Irrespective of what procedures were in place under which the Examiner made her determination that the pending claims on appeal do not meet the subject matter eligibility requirements of 35 U.S.C. § 101, we find the Examiner's analysis is consistent with the appropriate case law. That is, she first determined whether the claims at issue were directed to a patent ineligible concept and, determining that they were, she considered whether the steps transformed

Claims 2–13, 15–25, 33, 35, 37, 38, 40, 42, 44, and 46–50 have not been argued separately and therefore fall with claims 1, 14, 32, 34, 36, 39, 41, 43, and 45. 37 C.F.R. § 41.37(c)(1)(iv).

II

Indefiniteness

Regarding claims 1–13, the Examiner finds that the claims "do not recite a clear nexus between the preamble and the last step of the method because 'determining an altered risk of endometriosis' is not equivalent to 'correlating the detection of said minor allele with an altered risk of existence or predisposition of endometriosis.'" (Final Action 31.) Thus, the Examiner contends that it is not clear "if applicant intends to cover only the active process steps recited in the method or if the method is intended to somehow require more to accomplish the goal set forth in the preamble." (*Id.*)

Regarding claims 6 and 19, the Examiner finds that the recitation "said endometriosis association" lacks sufficient antecedent basis. (*Id.*)

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the nature of the claim into a patent eligible application such that the claims did more than simply direct one to apply the patent ineligible concept. (*See, e.g.*, Final Action 18–26 (explaining that each of the steps of the independent claims are essentially grounded in the natural principle (e.g., correlating the minor allele with an altered risk), so general and non-specific in nature (e.g., administering a therapeutic that at least partially compensates for endometriosis), and/or are well known conventional activities (e.g., administering a therapeutic) that they do not transform the claims to significantly more than the natural principle itself).)

Regarding claim 8, the Examiner finds that the recitation "said evaluation step" lacks sufficient antecedent basis. (Final Action 32.)

Regarding claims 9 and 10, the Examiner finds that the recitation "said at least one detected endometriosis associated genetic marker" lacks sufficient antecedent basis. (*Id.*)

Regarding claims 45–50, the Examiner finds that "it does not make sense how one could assess a 'presymptomatic' risk based on symptoms such as pelvic pain and infertility" after first requiring "evaluating and recording at least one endometriosis related clinical factor such as . . . pelvic pain, and infertility." (*Id.*)

Also regarding claims 45–50, the Examiner finds that the recitations "said subject," "said at least one evaluated and recorded endometriosis related clinical factor," and "said detection of said minor allele" in claim 45 each lacks sufficient antecedent basis. (*Id.*)

We disagree with the Examiner's conclusion of indefiniteness of all claims except for claim 45's recitation of "said subject" lacking antecedent basis.

35 U.S.C. § 112, second paragraph, requires clarity that serves the public notice function, but it does not require absolute precision. *Nautilus, Inc. v Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129–30 (2014). As to claim 45's recitation of "said subject," we note that reference is made in claim 45 to a human subject, and then reference is made later in the claims to "said human subject," but in the claim there is also reference made to "said subject." Thus, although it might be inferred that "said subject" refers to "said human subject," it is not clear that such is the case, since when "said

human subject" was meant to be referenced, the term "said human subject" was in some cases specifically recited.

As to all the remaining claims, however, we agree with Appellants. For example, we agree with Appellants (Appeal Br. 17–18) that the claim 1 preamble recites an intended use, but the body of the claim is clear in reciting two steps: one of "detecting . . . at least one endometriosis associated genetic marker defining the minor allele of at least one genetic marker of table 1" and the second being "correlating the detection of said minor allele with an altered risk of existence or predisposition of endometriosis in said subject" (Claim 1). Regarding sufficient antecedent basis, for example in claim 6 for "said endometriosis association of said genetic marker defines an association having . . .," as Appellants point out (Appeal Br. 18), claim 1 refers to the fact that one is to detect "at least one endometriosis associated genetic marker defining the minor allele of at least one genetic marker of table 1." One of ordinary skill in the art would understand claim 6 to be further defining the endometriosis association of the endometriosis associated marker of claim 1. We find that claim 6 does not introduce an improper "zone of uncertainty" by its reference to "said endometriosis association of said genetic marker defines an association having . . ." despite the fact that claim 1 does not recite in *ipissimis verbis* "an endometriosis association of said genetic marker. *Id.* at 2130.

In light of the foregoing, we affirm the Examiner's rejection of claim 45 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the

applicant regards as the invention regarding the recitation of "said subject." However, we reverse the Examiner's rejection of claim 45 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention in all other respects. We also reverse the Examiner's rejection of claims 1–13, 19, and 46–50 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention.

III

Anticipation

The Examiner finds that "Belouchi teaches performing a genome wide association study to identify SNPs associated with endometriosis." (Final Action 34.) The study includes genotyping samples from 511 endometriosis cases and 511 controls using a prior art array (the Illumina HumanHap-300 array) that contains "numerous SNP listed in Table 1 of the instant application (i.e., rs11208013, rs1417888, rs6738683, rs708035, rs17183)." (*Id.*) The Examiner finds that Belouchi also teaches calculating the minor allele frequency for each SNP. (Final Action 34–35.) In addition, the Examiner finds that "Belouchi teaches using a computer program to calculate both allelic and genotype association for each single marker, one at a time using the genotype data" and determines "over two thousand SNPs that are indicative of endomtriosis disease or a predisposition to endometriosis disease." (*Id.*) The Examiner further finds that "Belouchi teaches diagnosing a predisposition to endometriosis by detecting the presence of at least one SNP." (*Id.*) Thus, the Examiner concludes that

Belouchi anticipates "the steps of claim 1 of detecting in genetic material of a subject the minor allele of at least one endometriosis associated genetic marker of Table 1 and correlating the detection of the minor allele with an altered risk of endometriosis." (*Id.*)

We disagree with the Examiner's finding that Belouchi anticipates claim 1. In particular, as Appellants point out (Appeal Br. 24–25), Belouchi does not provide a listing of the major/minor allele for any given SNP analyzed, [5] much less one asserted to have an association with endometriosis. While we agree with the Examiner that Belouchi teaches calculating the minor allele frequency for each SNP (Belouchi 92), it does not teach a method in which the endometriosis associated marker detected is necessarily the minor allele of at least one genetic marker of table 1. According to the cited portion of Belouchi, the determination of minor allele frequency is mentioned as a statistical calculation undertaken for subjecting the data to a cleaning step and markers and individuals not meeting criteria of minor allele frequency per marker being greater or equal to 4% were removed from the data set. (Belouchi 92 (¶294).) Thus, based on the record before us, Belouchi does not teach detecting "at least one endometriosis associated genetic marker *defining the minor allele of at least one genetic marker* of table 1" and correlating the detection of that minor allele with an

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[5] Appellants' raise this point in arguing that Belouchi is not enabled as prior art. While we do not address Appellants lack of enablement argument concerning Belouchi, we nevertheless are compelled to agree with the Examiner that "the examination of . . . other cases . . . is not relevant to this appeal. (Ans. 9.) "Each case is examined on its own merits." *In re Gyurik*, 596 F.2d 1012, 1017 n. 15 (CCPA 1979).

altered risk of existence or predisposition of enodmetriosis as required by claim 1 (and the remaining independent claims as discussed above in the section of this opinion concerning non-statutory subject matter). While the foregoing may have been obvious in light of the fact that Belouchi teaches detecting minor allele frequency for each SNP, the Examiner has not addressed that issue. The Patent Trial and Appeal Board is a review body, rather than a place of initial examination. We leave it to the Examiner to determine the appropriateness of a rejection under 35 U.S.C. § 103 over Belouchi.

In light of the foregoing, we reverse the rejection of claims 1–4, 6, 9–10, 12, 14–17, 19, 24, 32, 34, 36, 39, 41, and 43 under 35 U.S.C. § 102(b) as being anticipated by Belouchi.

Obviousness

Regarding the obviousness rejection made by the Examiner over dependent claims 5, 18, 21, 22, 33, 35, 37, 40, 42, and 44, we note that it relies on Belouchi allegedly teaching the at least one endometriosis associated marker detected is the minor allele of at least one genetic marker of table 1. That is, the additional reference, Nishida, is not relied upon by the Examiner for teaching or suggesting this claim limitation. Thus, for the reasons stated above concerning anticipation, we likewise reverse the obviousness rejection of claims 5, 18, 21, 22, 33, 35, 37, 40, 42, and 44 under 35 U.S.C. § 103(a) as being unpatentable over Belouchi and Nishida.

SUMMARY

We affirm the rejection of claims 1–25 and 32–50 under 35 U.S.C.

§ 101 because the claimed invention is directed to non-statutory subject matter.

We affirm the rejection of claim 45 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the appellants regard as the invention regarding the recitation of "said subject." However, we reverse the rejection of claim 45 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the appellants regard as the invention in all other respects.

We reverse the rejection claims 1–13, 19, and 46–50 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the appellants regards as the invention.

We reverse the rejection of claims 1–4, 6, 9–10, 12, 14–17, 19, 24, 32, 34, 36, 39, 41, and 43 under 35 U.S.C. § 102(b) as being anticipated by Belouchi.

We reverse the rejection of claims 5, 18, 21, 22, 33, 35, 37, 40, 42, and 44 under 35 U.S.C. § 103(a) as being unpatentable over Belouchi and Nishida.

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).

AFFIRMED