

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte CORNELIS WILHELMUS ANTONIUS MARIE VAN
OVERVELD, PETER MARIA JOHANNES RONGEN,
and ARNOLD HOUWING

Appeal 2008-0626
Application 09/795,004
Technology Center 2100

Decided: May 29, 2008

Before HOWARD B. BLANKENSHIP, ST. JOHN COURTENAY III, and
STEPHEN C. SIU, *Administrative Patent Judges*.

COURTENAY, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of independent claims 1, 6, 11, and 12. Claims 2-5 and 7-10 have been allowed (App. Br. 5). We have jurisdiction under 35 U.S.C. § 6(b). We REVERSE. We also enter new grounds of rejection against

claims 1-12 under the provisions of 37 C.F.R. § 41.50(b).

THE INVENTION

The disclosed invention relates to a method and arrangement for embedding a watermark in an information signal. Appellants' invention is also directed to a method and arrangement for detecting an embedded watermark in an information signal (Spec. 1).

Independent claims 1 and 6 are illustrative:

1. A method of watermarking an information signal, comprising the steps of:
 - identifying salient regions of said information signal, each salient region comprising a plurality of contiguous signal samples having at least a given saliency;
 - defining a pattern of signal sample locations representing a watermark pattern; and
 - modifying the information signal such that a statistically significant percentage of the watermark pattern is covered by said salient regions.

6. A method of detecting a watermark embedded in an information signal, comprising the steps of:
 - identifying salient regions of said information signal, each region comprising a plurality of contiguous signal samples having at least a given saliency;
 - defining a pattern of signal sample locations representing a watermark to be detected; and

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determining whether a statistically significant percentage of the watermark pattern is covered by said salient regions.

THE REFERENCE

The Examiner relies upon the following reference as evidence in support of the rejection:

Moskowitz US 6,522,767 B1 Feb. 18, 2003
(filed Mar. 30, 1999)

THE REJECTION

Claims 1, 6, 11, and 12 stand rejected under 35 U.S.C. §102(e) as being anticipated by Moskowitz.

PRINCIPLES OF LAW

In rejecting claims under 35 U.S.C. § 102, “[a] single prior art reference that discloses, either expressly or inherently, each limitation of a claim invalidates that claim by anticipation.” *Perricone v. Medicis Pharm. Corp.*, 432 F.3d 1368, 1375-76 (Fed. Cir. 2005) (citation omitted).

ISSUE(S)

We have determined that the following issue is dispositive in this appeal:

Whether Appellants have shown that the Examiner erred in finding that Moskowitz discloses the following limitations:

modifying the information signal such that a statistically significant percentage of the

watermark pattern is covered by said salient regions.

(*see* independent claims 1 and 11).

determining whether a statistically significant percentage of the watermark pattern is covered by said salient regions.

(*see* independent claims 6 and 12).

ANALYSIS

After considering the evidence before us, and the respective arguments on both sides, we find the Moskowitz reference falls short of anticipating Appellants' claimed invention.

The Examiner relies on Moskowitz, column 16, lines 14-34, as purportedly disclosing the limitations we have reproduced above. For convenience, we reproduce this portion of Moskowitz below:

Uncorrected errors can be concealed in digital systems. Concealment offers a different dynamic to establish insertion parameters for the present invention. Error concealment techniques exist because it is generally more economical to hide some errors instead of requiring overly expensive encoders and decoders and huge information overheads in digitization systems. Muting, interpolation, and methods for signal restoration (removal of noise) relate to methods suggested by the present invention to *invert some percentage or number of watermarks so as to ensure that at least some or as many as half of the watermarks must still remain in the content signal to effectively eliminate the other half*. Given that a recording contains noise, whether due to watermarks or not, a restoration which "removes" such noise is likely to result in the changing of some bit of the watermark message. Therefore, by inverting every other watermark, it is possible to insure that the very act of such corrections inverts enough watermark bits to create an

inverse watermark. This inversion presupposes that the *optimized watermark insertion* is not truly optimal, given the will of a determined pirate to remove watermarks from particularly valuable content.
(Moskowitz, col. 16, ll. 14-34) (emphasis added).

Regarding independent claims 1 and 11, we find that Moskowitz inverts (i.e., modifies) some percentage or number of *watermarks* instead of modifying the *information signal* as claimed.

Regarding independent claims 6 and 12, we do not see how inverting a percentage of watermarks is equivalent to “determining whether a statistically significant percentage of the watermark pattern is *covered by said salient regions*” (claims 6 and 12, emphasis added). The Examiner argues that the aforementioned portion of Moskowitz discloses placing the watermark in an optimized envelope (i.e., salient region) (Ans. 5, ¶3). Thus, the Examiner appears to find that Moskowitz’s “optimized watermark insertion” is equivalent to placing the watermark in a “covered” (i.e., optimized) region. However, we find that the aforementioned portion of Moskowitz merely determines some percentage or number of *watermarks* to be inverted (i.e., modified), instead of “determining whether a statistically significant percentage of the watermark pattern is *covered by said salient regions*,” as claimed (claims 6 and 12, emphasis added). We note that “absence from the reference of any claimed element negates anticipation.” *Kloster Speedsteel AB v. Crucible, Inc.*, 793 F.2d 1565, 1571 (Fed. Cir. 1986).

Because we conclude that Appellants have met their burden of showing that the Examiner has failed to establish a prima facie case of anticipation, we reverse the Examiner’s rejection of independent claims 1, 6, 11, and 12 as being anticipated by Moskowitz.

NEW GROUNDS OF REJECTION

35 U.S.C. § 101

Using our authority under 37 C.F.R. § 41.50(b), we reject claims 1-12 under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

We conclude that claims 1, 6, 11, and 12 are not directed to eligible subject matter under 35 U.S.C. § 101 in view of *In re Comiskey*, 499 F.3d 1365 (Fed. Cir. 2007). In particular, we conclude that Appellants’ claimed “method” (claims 1 and 6) and “arrangement” of means for performing functions (claims 11 and 12) do not require integrating a machine (e.g., a computer), or constitute a process of manufacture, or altering a composition of matter. Moreover, our review of the Specification indicates that no computer or other machine is disclosed. While Appellants do disclose a salient point extraction unit 21, a matching unit 22, and a decision unit 23, we conclude that these functional “units” implement mathematical algorithms that may be embodied in software alone. Therefore, the nature of the subject matter claimed may reasonably be construed as a mental process since the language of claims 1, 6, 11, and 12 broadly encompasses non-tangible embodiments. It is our view that allowed claims 2-5 and 7-10 are also directed to non-statutory subject matter for the same reasons.

35 U.S.C. § 112, second paragraph

Using our authority under 37 C.F.R. § 41.50(b), we reject claims 11 and 12 under 35 U.S.C. § 112, second paragraph, as being indefinite.

Independent claims 11 and 12 invoke 35 U.S.C. § 112, sixth paragraph, because “means for” language is expressly recited in each claim.

“If there is no structure in the specification corresponding to the means-plus-function limitation in the claims, the claim will be found invalid as indefinite.” *Biomedino, LLC v. Waters Technologies Corp.*, 490 F.3d 946, 950 (Fed. Cir. 2007). The “clear linkage or association” in the specification of the structure to the function recited in the claim is determined based on the understanding of an artisan of ordinary skill. *See Allvoice Computing PLC v. Nuance Communications, Inc.*, 504 F.3d 1236, 1242 (Fed. Cir. 2007).

Here, Appellants have mapped the elements recited in claims 11 and 12 to Figures 2 and 3 and pages 5 through 7 of the Specification (App. Br. 8-10). However, our review of the Specification indicates that no computer or other machine is disclosed. We acknowledge that software may be considered structure, or part of a structure, when embodied in a tangible medium. *See Med. Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1210-20 (Fed. Cir. 2003) (claims indefinite because alleged corresponding structure in specification for claimed “means for converting” was a frame grabber, computer video processor, and software routines (not described) for performing the conversion). However, in the present case, no computer-readable tangible medium is disclosed or claimed.

Therefore, we conclude that Appellants' Specification fails to disclose definite structures that an artisan of ordinary skill would have corresponded to each of the recited means. Accordingly, we conclude that independent claims 11 and 12 are indefinite under 35 U.S.C. § 112, second paragraph.

CONCLUSION OF LAW

Based on the findings of facts and analysis above, we conclude Appellants have met their burden of showing that the Examiner erred in rejecting claims 1, 6, 11, and 12 under 35 U.S.C. § 102(e) for anticipation. However, claims 1 through 12 are not directed to statutory subject matter under § 101, and thus are not patentable. Claims 11 and 12 are also unpatentable under 35 U.S.C. § 112, second paragraph.

DECISION

We reverse the Examiner's decision rejecting claims 1, 6, 11, and 12. This decision contains a new ground of rejection pursuant to 37 C.F.R. § 41.50(b) (2007). 37 C.F.R. § 41.50(b) provides "[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review." 37 C.F.R. § 41.50(b) also provides that the Appellants, **WITHIN TWO MONTHS FROM THE DATE OF THE DECISION**, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

- (1) *Reopen prosecution.* Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the

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examiner, in which event the proceeding will be remanded to the examiner. . . .

(2) *Request rehearing.* Request that the proceeding be reheard under § 41.52 by the Board upon the same record. . . .

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).

REVERSED
37 C.F.R. § 41.50(b)

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