

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte STEVEN A. WEGMANN and LAURENCE S. GILLICK

Appeal No. 1999-2294
Application No. 08/807,430

HEARD: October 25, 2000

Before BARRETT, DIXON, and GROSS, **Administrative Patent Judges**.
DIXON, **Administrative Patent Judge**.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-24, which are all of the claims pending in this application.

We REVERSE.

BACKGROUND

Appellants' invention relates to a speech recognition system using nonparametric speech models. An understanding of the invention can be derived from a reading of exemplary claim 19, which is reproduced below.

19. A speech recognition system comprising:

an input device configured to receive a speech sample to be recognized;

a stored nonparametric vocabulary representing utterances from one or more human speakers, the vocabulary including discrete training observations, each of which represents a single utterance by a single speaker; and

a processor coupled to the input device and to the nonparametric vocabulary and configured to evaluate the speech sample against the nonparametric vocabulary.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Rabiner et al., A TWO-PASS PATTERN-RECOGNITION APPROACH TO ISOLATED WORD RECOGNITION, The Bell System Technical Journal (Journal), May-June 1981, Vol. 60, No. 5, pp. 739-766.

Scott, David W., MULTIVARIATE DENSITY ESTIMATION THEORY, PRACTICE, AND VISUALIZATION, (John Wiley & Sons, Inc. 1992), pp. 19, 154-157.¹

¹ We note that the examiner indicated in the references relied upon section of the answer that the Scott reference was the Proceedings of the 6th Annual Conf. and Expo: Computer Graphics, Vol. III, pp. 715-718, but the rejection cites to various pages and sections only found in the Scott book above. Therefore, we understand the rejection to be based on the book rather than the article. Appellants concurred in this understanding at the hearing.

Appeal No. 1999-2294
Application No. 08/807,430

Claims 1-5, 8-20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Journal. Claims 6, 7 and 21-24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Journal in view of Scott.

Rather than reiterate the conflicting viewpoints advanced by the examiner and appellants regarding the above-noted rejections, we make reference to the examiner's answer (Paper No. 17, mailed Jun. 14, 1999) for the examiner's reasoning in support of the rejections, and to appellants' brief (Paper No. 16, filed May 10, 1999) and reply brief (Paper No. 19, filed Aug. 13, 1999) for appellants' arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by appellants and the examiner. As a consequence of our review, we make the determinations which follow.

As pointed out by our reviewing court, we must first determine the scope of the claim. "[T]he name of the game is the claim." **In re Hiniker Co.**, 150 F.3d 1362, 1369, 47 USPQ2d 1523, 1529 (Fed. Cir. 1998). We find that the examiner has not provided a teaching or convincing line of reasoning why one skilled in the art would have desired to modify the teachings of Journal to achieve the invention as recited in claim 19. Similarly,

Appeal No. 1999-2294
Application No. 08/807,430

the examiner has not addressed the language of claims 1, 12, and 21. Therefore, the examiner has not provided a *prima facie* case of obviousness with respect to claims 1, 12, 19, and 21.

“To reject claims in an application under section 103, an examiner must show an un rebutted *prima facie* case of obviousness. **See In re Deuel**, 51 F.3d 1552, 1557, 34 USPQ2d 1210, 1214 (Fed. Cir. 1995). In the absence of a proper *prima facie* case of obviousness, an applicant who complies with the other statutory requirements is entitled to a patent. **See In re Oetiker**, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). On appeal to the Board, an applicant can overcome a rejection by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness.” **In re Rouffet**, 149 F.3d 1350, 1355, 47 USPQ2d 1453 (CAFC 1998). Here, we find that appellants have overcome the *prima facie* case of obviousness by the examiner by showing sufficient evidence of nonobviousness. Therefore, we will not sustain the rejection of independent claims 1, 12, 19, and 21.

We note that the language of all the independent claims, especially claims 19 and 21 are quite broad. In our view, claim 19 reads on all speech recognition software where a single user inputs a speech training sample and that nonparametric training sample is stored for comparison against spoken utterances by that same user in speech recognition.

But, the examiner has not applied art to this concept, and we are under no obligation to perform a comprehensive search of the prior art. Furthermore, with respect to claim 12, we note that the Scott article (not applied) discusses the use of a two-pass analysis of image data, not speech data, using both parametric and nonparametric models and the benefits thereof in crop recognition. With respect to claim 1, Higgins teaches speaker recognition using stored utterances of individual human speakers. We note that claim 1 does not even require speech recognition, but only assessing a degree of resemblance to observations which may not require content recognition.

With this said, we agree with appellants that the prior art taught in Journal does not teach the inventions as recited in independent claims 1, 12, 19 and 21². Nor does the combination with Scott remedy the deficiency in Journal alone. Appellants argue that the invention is directed to using nonparametric speech models (individual/single utterances by a single speaker) in speech recognition. (See brief at page 2.) Appellants argue that Journal does not teach or suggest assessing a degree to which a speech sample resembles a group of training observations (which are single utterances by a single speaker) by evaluating the speech sample relative to particular training observations in the group of training observations. (See answer at page 5.) We agree with appellants.

² We note that the examiner applies the combination of Journal and Scott to claim 21 with respect to nonparametric models, but does not apply the same combination to claim 19 which contains similar limitations.

Appeal No. 1999-2294
Application No. 08/807,430

Appellants argue that Journal teaches and suggests the use of a two-pass parametric analysis which uses two statistical models or templates rather than the individual utterances by single speakers or a nonparametric vocabulary. (See brief at page 6.) We agree with appellants. The templates taught by Journal are composites of multiple individual utterances rather than a single utterance by a single speaker as in a nonparametric vocabulary as required by the language of claims 1, 12, 19, and 21. Therefore, we will not sustain the rejection of claim 1 and its dependent claims 2-11.

Appellants argue that claim 12 requires a two-pass approach wherein the first pass compares the speech sample to a model to identify a portion of the model and then in a second pass compares the speech sample to the training observations in a subset of the identified portion of the model. (See brief at page 8.) We agree with appellants that Journal does not teach this identification of a portion and then using the training observations in a subset of the identified portion of the model as required by claim 12. Therefore, we will not sustain the rejection of claim 12 and its dependent claims 13-18.

With respect to claim 19, Journal does not teach or suggest the use of a nonparametric vocabulary as discussed above. Therefore, we will not sustain the rejection of claim 19 and its dependent claim 20.

With respect to claim 21, appellants argue that the claim requires a nonparametric speech model including discrete training observations which represent a single utterance by a single speaker as above with claim 19, and neither Journal nor Scott teaches or suggests the claimed invention. (See brief at page 9.) We agree with appellants. Furthermore, the examiner has not provided a convincing line of reasoning why it would have been obvious to one of ordinary skill in the art at the time of the invention to apply a nonparametric model as briefly mentioned in the Scott reference to the parametric model as taught and suggested by the Journal reference.

The examiner's only response to appellants' arguments is to address the single utterance by a single speaker. (See answer at page 7.) Clearly, the examiner's position is that the data at the time of acquisition are always single utterances by single speakers, but this does not address the use of individual utterances by individual speakers in the comparison rather than the use of a statistical model generated using the sampled utterances. The examiner argues that a nonparametric vocabulary is not in the claims. **Id.** We disagree with the examiner and agree with appellants that a nonparametric vocabulary is expressly set forth in claims 19 and 21 and implicitly claimed in the language of claims 1 and 12. Since appellants have rebutted the examiner's rejection, and the examiner has not responded to appellants' arguments, we accept appellants' rebuttal. Therefore, we cannot sustain the examiner's rejection of claims 1, 12, 19, and 21 and their dependent claims.

Appeal No. 1999-2294
Application No. 08/807,430

CONCLUSION

To summarize, the decision of the examiner to reject claims 1-24 under
35 U.S.C. § 103 is reversed.

REVERSED

LEE E. BARRETT)	
Administrative Patent Judge)	
)	
)	
)	
)	
)	BOARD OF PATENT
JOSEPH L. DIXON)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
)	
)	
ANITA PELLMAN GROSS)	
Administrative Patent Judge)	

jd/rwk

Appeal No. 1999-2294
Application No. 08/807,430

FISH & RICHARDSON P C
601 THIRTEENTH STRRET N W
WASHINGTON, DC 20005