

APPELLEE'S BRIEF

ORIGINAL

BRIEF AND ADDENDUM FOR APPELLEE
COMMISSIONER OF PATENTS AND TRADEMARKS

FILED
U.S. COURT OF APPEALS FOR
THE FEDERAL CIRCUIT

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UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

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92-1381

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In re KURIAPPAN P. ALAPPAT,
EDWARD E. AVERILL and JAMES G. LARSEN

U.S. COURT OF APPEALS
FEDERAL CIRCUIT

On appeal from a decision of the
Board of Patent Appeals and Interferences
in Serial No. 07/149,792 dated April 22, 1992

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RULE 47.5 RELATED CASES STATEMENT

No other appeal from the Board of Patent Appeals and Interferences in connection with the patent application on appeal has been previously before this or any other court.

In our opinion, In re Donaldson Company, Inc., No. 91-1386, is a related case because it also presents the issue of the proper interpretation of means-plus-function limitations under 35 U.S.C. § 112 ¶ 6 for ex parte patentability determinations in the Patent and Trademark Office.

RULE 47.6 JURISDICTIONAL STATEMENT

(a) The Board of Patent Appeals and Interferences had jurisdiction under 35 U.S.C. § 134.

(b) This Court has jurisdiction under 35 U.S.C. § 141 and 28 U.S.C. § 1295(a)(4)(A). The Court has asked the parties to address whether it has jurisdiction. We respond to the Court's invitation in Section C of our Argument.

(c) A final decision of the Board of Patent Appeals and Interferences was entered on April 22, 1992. The time for appeal is two months from entry of the Board's decision. 35 U.S.C. § 142 and 37 CFR § 1.304(a). The notice of appeal was timely filed on May 20, 1992.

BRIEF FOR APPELLEE
COMMISSIONER OF PATENTS AND TRADEMARKS

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

92-1381

In re KURIAPPAN P. ALAPPAT,
EDWARD E. AVERILL and JAMES G. LARSEN

On appeal from a decision of the
Board of Patent Appeals and Interferences
in Serial No. 07/149,792 dated April 22, 1992

STATEMENT OF THE ISSUES

A. Whether 35 U.S.C. § 112 ¶ 6 requires the Patent and Trademark Office (PTO) to interpret the "means" in a means-plus-function limitation as limited to the "structure, material, or acts described in the specification and equivalents thereof" for patentability determinations.

B. Whether claim 15 recites statutory subject matter under 35 U.S.C. § 101.

C. Responding to the Court's order entered December 3, 1992, whether the Court has jurisdiction, specifically:

1. When a three-member panel of the Board has rendered its decision, does the Commissioner have the authority to constitute a new panel for purposes of reconsideration of the first decision?

2. If the Commissioner lacks such authority, is the decision of such a new panel a decision of the Board for purposes of 28 U.S.C. § 1295(a)(4)(A)? If not, does this court have jurisdiction to reach the merits of the appealed decision?

3. What is the relationship, if any, between the "reconsideration" action taken in this case and "rehearings" by the Board provided for in 35 U.S.C. § 7(b)?

STATEMENT OF THE CASE

A. Notation for briefs of appellants and amicus curiae

The brief of appellants Alappat, Averill and Larsen (Alappat) will be referred to as "Br." The brief of amicus curiae American Intellectual Property Law Association (AIPLA) will be referred to as "AIPLA Br." The brief of amicus curiae Seagate Technologies, Inc. (Seagate) will be referred to as "Seagate Br." The brief of amicus curiae Federal Circuit Bar Association (FCBA) will be referred to as "FCBA Br."

B. Nature of the case, course of the proceeding and disposition in the PTO

This appeal is from a decision on reconsideration of the Board of Patent Appeals and Interferences (Board).

Claims 15-19 of Alappat's patent application were rejected under 35 U.S.C. § 101 as being directed to nonstatutory subject matter as a mathematical algorithm. Alappat appealed the decision to the Board under 35 U.S.C. § 134. A three-member panel of the Board reversed (A239-48). The examiner requested reconsideration by an expanded panel, citing conflict with PTO

policy (A249-56). An expanded eight-member panel, which included the original three members, granted the request for reconsideration. Five members voted to affirm the examiner's rejection under § 101 (A1-24), while the original three members dissented on the merits (A25-37).

C. Statement of the facts

Alappat's "Summary of the Invention" (Br. 6-7) is believed to unduly de-emphasize the mathematical algorithm issue by focusing on the hardware described in the specification. Therefore, we present our own description of the disclosed invention. The scope of the claimed invention is in dispute and, therefore, is addressed in the argument section.

Graphic display devices (e.g., computer monitors and digital display oscilloscopes) display images by selectively controlling the illumination intensity (brightness) of discrete small areas on the screen called picture elements or "pixels." The pixels are arranged in an array or "raster" of horizontal rows and vertical columns. A portion of the overall raster display area is shown in Alappat's figure 5A, reproduced opposite, where each square represents a pixel. The image is represented by a "bit map," a stored data array in memory indicating the illumination intensity of each pixel. The image is generated by a row-by-row scan of the display screen, modulating the brightness of each pixel in a row according to the data stored in the bit map; this is known as a "raster scan." The hardware or software which generates the array of individual pixel data for the bit map is called a "rasterizer."

Due to the discrete size of the pixels, straight lines or curves at an angle to the horizontal or vertical cannot be drawn smoothly, but have a jagged staircase or sawtooth appearance. Ripples may also appear to run along the line as the position of the line changes on the display. These effects are particularly apparent on lines and curves close to the horizontal and vertical axes. The noticeability and appearance of these effects is known as "aliasing." "Anti-aliasing" techniques are used to blur or smooth the rough edges of a line to improve the quality of the appearance. Anti-aliasing line drawing techniques are based on algorithms which determine which pixels to turn on, and how brightly, in drawing the line.

In some display devices, the pixels are either "off" or "on," which value can be stored as a single "bit" (binary digit), 0 or 1, in the bit map. However, many graphic display devices allow the illumination intensity of the pixels to be selected from a range of discrete gray scale levels. Each pixel in figure 5A can display 1 of 16 gray scale intensity levels, stored in the bit map as a 4-bit binary number. The binary numbers are 0000 (=0), representing "off," and 15 intensity levels numbered in increasing order from 0001 (=1) to 1111 (=15) (A47-48). The "off" and 15 intensity levels constitute the 16 possible gray scale intensity levels. The 16 binary numbers can also be represented in "hexadecimal" notation. Hexadecimal notation has 16 characters, 0 to 9 (ten digits corresponding to 0 to 9) plus six letters represented by A (=10), B (=11), C (=12), D (=13), E (=14) and F (=15). Thus,

in figure 5A, the character "F" represents the maximum intensity, "D" represents 2 levels below maximum intensity, etc. The different intensity levels allow shading of the pixels near a line to present a smoother appearance ("anti-aliasing"). The intensity levels are calculated from a set of mathematical equations.

Alappat discloses an anti-aliasing technique in connection with a digital oscilloscope. An analog (i.e., continuous) input signal to the oscilloscope is sampled and digitized (converted to binary 1's and 0's) to form a sequence of binary data values. These data values are sent to a hardware rasterizer which computes the pixel illumination intensity data. The pixel illumination intensity data is output from the rasterizer to be stored in a bit map in a "frame buffer" memory from where it is read out and displayed on a screen as the illumination intensity of the pixels.

SUMMARY OF THE ARGUMENT

A.

Both prior to and after the 1952 Patent Act, the PTO interpreted means-plus-function limitations to include all means for performing a recited function. During prosecution before the PTO, limitations of disclosed structure and equivalents are not read into "means" terms to define over the prior art. The "construed to cover" provision of § 112 ¶ 6 is a statutory codification of the reverse doctrine of equivalents for elements in means-plus-function language, which is

applicable only in post-issuance infringement and validity cases. The PTO's long-standing interpretation of the "construed to cover" provision of § 112 ¶ 6 is consistent with commentary published in 1954 by PTO Examiner-in-Chief Federico, who assisted Congress with the 1952 Act. The PTO's views were judicially approved by the CCPA.

It was not until after the creation of the Federal Circuit that individuals began to question the PTO's view that the "construed to cover" provision of § 112 ¶ 6 does not apply to narrow the scope of claims during examination. Given the PTO's long-standing practice, which was judicially approved by the CCPA, twice approved by Congress when it amended § 112 without changing the last paragraph, and under which some 2,500,000 patents have been issued, it is our view that if a change is to be made in the interpretation of § 112 ¶ 6 the change should be made by Congress.

B.

Alappat's means-plus-function limitations in claim 15, which is presently in the examination phase, should be interpreted as including all means for performing the recited function. Limitations of disclosed structure and equivalents thereof should not be read into "means" terms.

Alappat's claim 15 is so broad that it encompasses any and every apparatus for performing the recited functions. Claim 15 is not limited to specific apparatus. Accordingly, claim 15 should be treated as a process claim for the purpose of the mathematical algorithm-statutory subject matter determination

under § 101 under applicable CCPA cases which so treat similar means claims.

Claim 15, when considered as a process, falls within the mathematical algorithm exception to statutory subject matter under § 101. Claim 15 indirectly recites a sequence of mathematical operations which are part of a mathematical algorithm, and the steps of claim 15 are not claimed as applied to any otherwise statutory process.

C.

The Commissioner's authority to designate the members of any Board panel is plenary. The Commissioner has authority to designate an expanded panel of the Board for purposes of reconsideration of a decision of a three-member panel.

The decision of the expanded panel on reconsideration is a decision by a validly constituted Board, and is a decision of the Board for purposes of 28 U.S.C. § 1295(a)(4)(A).

The "reconsideration" action in this case is a "rehearing."

ARGUMENT

- A. 35 U.S.C. § 112 ¶ 6 does not require the PTO to interpret means-plus-function limitations as limited to disclosed structure and its equivalents for patentability determinations

1. PTO's interpretation of § 112 ¶ 6 is in accordance with established rules of ex parte claim interpretation

A fundamental principle of patent law is that the claims measure the invention. United Carbon Co. v. Binney & Smith Co., 317 U.S. 228, 232 (1942); 1 Deller, Patent Claims, ii-vi (2d ed. 1971) (Deller). The duty of the PTO is to issue valid

claims upon whose language the public can rely. See Keystone Bridge Co. v. Phoenix Iron Co., 95 U.S. 274, 278 (1877) ("[In the Patent Office, applicant's] claim is, or is supposed to be, examined, scrutinized, limited, and made to conform to what he is entitled to."); Burns v. Meyer, 100 U.S. 671, 672 (1880).

During prosecution before the PTO, when the claims may be amended, claim language is given its broadest reasonable interpretation, and limitations appearing in the specification are not to be read into the claims. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969). On the other hand, in patent infringement litigation, where a patentee cannot amend the claims and where claims are entitled to a statutory presumption of validity, a court may construe a claim more narrowly so as to sustain its validity if possible. Id. at 1404 n.30, 162 USPQ at 550 n.30. The broadest reasonable interpretation is a judicially sanctioned mechanism for maximizing the possibility that the PTO will issue patent claims which are valid. See id.; In re Etter, 756 F.2d 852, 858-59, 225 USPQ 1, 5-6 (Fed. Cir.) (in banc), cert. denied, 474 U.S. 828 (1985); Harmon, Patents and the Federal Circuit (2d ed. 1991), pages 152-154. See also In re Carr, 297 F. 542, 543-44, 54 App. D.C. 283, 284-85 (D.C. Cir. 1924) (predecessor reviewing court to the CCPA).

The policies for the "broadest reasonable interpretation" are explained in In re Zletz, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989):

During patent examination the pending claims must be interpreted as broadly as their terms

reasonably allow. When the applicant states the meaning that the claim terms are intended to have, the claims are examined with that meaning, in order to achieve a complete exploration of the applicant's invention and its relation to the prior art. See In re Prater, 415 F.2d 1393, 1404-05, 56 CCPA 1381, 162 USPQ 541, 550-51 (1969) (before the application is granted, there is no reason to read into the claim the limitations of the specification). The reason is simply that during patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed. Burlington Industries, Inc. v. Quigg, 822 F.2d 1581, 1583, 3 USPQ2d 1436, 1438 (Fed. Cir. 1987); In re Yamamoto, 740 F.2d 1569, 1571, 222 USPQ 934, 936 (Fed. Cir. 1984). The issued claims are the measure of the protected right. United Carbon Co. v. Binney & Smith Co., 317 U.S. 228, 232, 63 S.Ct. 165, 167, 87 L.Ed. 232, 55 USPQ 381, 383-84 (1942) (citing General Electric Co. v. Wabash Appliance Corp., 304 U.S. 364, 369, 58 S.Ct. 899, 901-02, 82 L.Ed. 1402, 37 USPQ 466, 468-69 (1938)). An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process.

It is reasonable to presume that applicants intend to claim broadly. See Miller v. Brass Co., 104 U.S. 350, 354 (1882) ("The patentee seeks the broadest claim he can get."); Deller, § 64 ("Not being omniscient and lacking adequate means for learning precisely what prior workers have done before him, the inventor frequently has good reason to think that he has contributed much more than is actually the case."). Thus, the broadest reasonable interpretation is also consistent with the intent of the applicant. As stated in Podlesak v. McInnerney, 1906 Dec. Comm'r Pat. 265, 268 (Comm'r Pat. 1906):

No better method of construing claims is perceived than to give them in each case the broadest interpretation which they will support without straining the language in which they are couched. This method would seemingly give more uniform and satisfactory results than are obtained by methods

largely in vogue The method suggested also seems to have the advantage of according in its results with the probable intentions of the inventor at the time when the claim is drawn. In presenting claims to the Office the object constantly sought is breadth. Where a limited meaning is intended when a claim is drawn, what possible objection can there be to imposing that meaning unmistakably upon the claim by its express terms? That a claim which does not carry its true meaning upon its face misleads those affected by the patent instead of guiding them as to its true scope is alone sufficient reason why the Patent Office should refuse to recognize proposed limitations of claims which have not been clearly expressed therein.

The broadest reasonable interpretation serves the public interest by reducing the possibility that issued patent claims will be given broader scope than is justified. Prater, 415 F.2d at 1404-05, 162 USPQ at 550. Applicants' interests are not impaired since they are not foreclosed from obtaining coverage for their invention with express claim language. Id. at 1405 n.31, 162 USPQ at 550 n.31.

It is proper to read a claim in light of the specification to interpret what is meant by an express word or phrase in the claim, but it is improper to narrow the scope of the claim by implicitly reading in disclosed limitations from the specification which have no express basis in the claims. Prater, 415 F.2d at 1404, 162 USPQ at 550; In re Priest, 582 F.2d 33, 37, 199 USPQ 11, 15 (CCPA 1978) (inferential limitations are not to be read into the claims); In re Self, 671 F.2d 1344, 1348, 213 USPQ 1, 5 (CCPA 1982) ("Many of appellant's arguments fail from the outset because . . . they are not based on limitations appearing in the claims.").

While claims are pending and can be amended, claim meaning should be delimited by express terms, without implied limitations read into the claims by applicant's argument or by interpretation. As Judge Learned Hand stated in Catalin Corp. of America v. Catalazuli Mfg. Co., 79 F.2d 593, 594, 27 USPQ 371, 373 (2d Cir. 1935):

In each aspect they [the claims] should be self-contained; that is the very purpose of their embodiment in a formal grant, which is all that is accessible to the public without much trouble and vastly more uncertainty. If the doctrine of the "integration" of a written instrument has any basis at all, surely it should apply to such a document, for if a patent can be construed only by threading one's way through all the verbal ingenuities which casuistical solicitors develop to circumvent the objections of examiners, a labyrinth results, from which there is no escape.

See also Deller, § 70 ("While an application is pending in the Patent Office, undue breadth of a claim must be cured by amendment, not by interpretation.").

Interpreting means-plus-function limitations is one phase of claim interpretation. The PTO interprets means-plus-function limitations as reading on all means for performing the exact function. Thus, a means-plus-function limitation is considered to be met by any prior art means which performs the identical function, without regard to whether the prior art means is an "equivalent." This interpretation accords with

- (1) the principle that the claims measure the invention;
- (2) the broadest reasonable interpretation philosophy; and
- (3) the rule that limitations are not read into the claims.

See 2 Patent Law Perspectives, § 2.9[5], pp. 2-1171 through 2-1172.8 (2d ed. 1992).

The PTO's interpretation of means-plus-function clauses is, of course, subject to the restrictions that (1) the prior must, in fact, perform the identical claimed function, either expressly or inherently; (2) other claim limitations must be met; (3) the interpretation must be reasonable, not absurd; and (4) where the rejection involves nonobviousness under § 103, instead of anticipation under § 102, it is proper to consider whether the prior art is analogous. This analysis assumes that these conditions are satisfied.

Means-plus-function limitations, read literally, encompass any means for performing the recited function. Johnston v. IVAC Corp., 885 F.2d 1574, 1580, 12 USPQ2d 1382, 1386-87 (Fed. Cir. 1989). Therefore, the PTO's interpretation of means-plus-function limitations as having the same scope as the literal language is inherently consistent with the broadest reasonable interpretation philosophy.

Section 112 ¶ 6 limits the types of means which literally satisfy a means-plus-function term and, therefore, imposes a construction narrower than the literal scope of the language. Section 112 ¶ 6 is a statutory codification of the reverse doctrine of equivalents for elements in means-plus-function language, which is applicable only in infringement cases to protect future developers, not to define the scope of the claim for applying the statutory conditions of patentability. The CCPA expressly held that § 112, last paragraph, does not permit limitations to be read into "means" terms to distinguish over the prior art. See In re Lundberg, 244 F.2d 543, 113 USPQ 530

(CCPA 1957); In re Henatsch, 298 F.2d 954, 132 USPQ 445 (CCPA 1962). Therefore, § 112 ¶ 6 does not apply to narrow the literal scope of claims during prosecution.

The function of claims is to point out what the invention is in such a way as to distinguish it from the prior art, and to define the scope of protection afforded by the patent. United Carbon, 317 U.S. at 236; In re Vamco Machine & Tool, Inc., 752 F.2d 1564, 1577 n.5, 224 USPQ 617, 625 n.5 (Fed. Cir. 1985). Manifestly, a means-plus-function limitation which literally reads on a known prior art means for performing the exact function, whether or not such prior art means is technically an "equivalent" as that term is applied during infringement litigation, does not patentably define the invention as required by § 102 or § 103. Implied limitations of structure and equivalents should not be read into the "means" terms to distinguish the claims over the prior art.

The PTO can presume that the claims represent the subject matter applicant wishes to have protected by the patent grant. In re Miller, 441 F.2d 689, 692, 169 USPQ 597, 599 (CCPA 1971). If a means-plus-function limitation literally reads on a known prior art means which performs the identical function which applicant regards as "non-equivalent" or as somehow only an "accidental" anticipation of the claim language, applicant cannot argue that the claim particularly points out and distinctly claims the "subject matter which the applicant regards as his invention" under § 112 ¶ 2. Applicant can amend the claims to define his actual invention by express language.

Applicants are not required to disclose all possible equivalents of the disclosed structure or even to know of their existence. See D.M.I., Inc. v. Deere & Co., 755 F.2d 1570, 1574, 225 USPQ 236, 238 (Fed. Cir. 1985) ("There is and can be no requirement that applicants describe or predict every possible means of accomplishing that function."); S.R.I. Int'l v. Matsushita Elec. Corp., 775 F.2d 1107, 1121, 227 USPQ 577, 586 (Fed. Cir. 1985) (in banc) (plurality) ("The law does not require the impossible. Hence, it does not require that an applicant describe in his specification every conceivable and possible future embodiment of his invention."). Therefore, it is reasonable to presume that applicants intend means-plus-function limitations to cover all prior art means for performing the function known to those skilled in the art. It is unlikely that applicants want the PTO to limit the scope of their claims during examination by making express findings of equivalents and non-equivalents unless it is in connection with prior art. Determinations of equivalents and non-equivalents in the abstract is, at best, problematic. Yet, once a prior art means is found which performs the identical function, there is no good reason to inquire into equivalence because the means-plus-function limitation does not literally distinguish over that prior art. Moreover, the fact that prior art means which performs the function is found indicates that it is "equivalent" in the sense that it would have been recognized as a proper substitute for the disclosed means.

2. PTO's interpretation is in accordance with
the history and intent of § 112 ¶ 6

The PTO has long given means-plus-function limitations their literal scope for the purposes of determining patentability. PTO's practice antedates 1952. See Ex parte Jones, 1928 Dec. Comm'r Pat. 36, 37 (Comm'r Pat. 1927) ("Of course every element defined in the form means for performing a function does, and is intended to, cover every means for performing the function stated for the element.");

1 Stringham, Patent Claims: A Drafter's Manual, § 5264 (1939) ("The office treats 'means' limitations as meaning broadly what they say."); Ellis, Patent Claims, § 267 (1949).

Section 112, last paragraph, was enacted in 1952 to legislatively overrule Halliburton Oil Well Cementing Co. v. Walker, 329 U.S. 1 (1946). See P.J. Federico, Commentary on the New Patent Act, 35 U.S.C.A. 1, 25 (1954) (Commentary):

It is unquestionable that some measure of greater liberality in the use of functional expressions in combination claims is authorized than had been permitted by some court decisions, and that decisions such as that in Halliburton Oil Well Cementing Co. v. Walker, 67 S.Ct. 6, 329 U.S. 1, 91 L.Ed. 3 (1946[]), are modified or rendered obsolete

See also In re Fuetterer, 319 F.2d 259, 264 n.11, 138 USPQ 217, 222 n.11 (CCPA 1963).

In Halliburton, the Supreme Court held a combination claim invalid under Rev. Stat. § 4888, 35 U.S.C. § 33 (now 35 U.S.C. § 112 ¶ 2), in an infringement context. The first reason was that the claim described the crucial element at the exact point of novelty in terms of a means-plus-function limitation "rather than in terms of its own physical characteristics or its

arrangement in the new combination apparatus." Halliburton, 329 U.S. at 9. The second reason was that the means-plus-function limitation was not limited to covering an "actual equivalent" of the means disclosed, id. at 12, but would give "broad rights to bar the use of all devices now or hereafter known which could [perform the function]," id. at 13. The Supreme Court feared that such broad functional claims would frighten subsequent inventive genius from the course of experimentation, id. at 12.

The Supreme Court's analysis of the second problem of "undue breadth" under the predecessor of § 112 ¶ 2 was common at the time. See Blaustein, Functional Claims Under the Patent Act of 1952, 26 Geo. Wash L. Rev. 613, 614 (1958) (Blaustein); Harris, Some Aspects of the Underlying Legislative Intent of the Patent Act of 1952, 23 Geo. Wash. L. Rev. 658, 683 (June 1955) (Harris). However, the problem and statutory basis is, more accurately, based on the enabling disclosure requirement of § 112 ¶ 1. That is, the enabling disclosure of the specification is not commensurate with the broad scope of the claims. See In re Hyatt, 708 F.2d 712, 714, 218 USPQ 195, 197 (Fed. Cir. 1983), (citing In re Borkowski, 422 F.2d 904, 909, 164 USPQ 642, 645-46 (CCPA 1970)).

Section 112, last paragraph, overcame the two problems in Halliburton in specific ways. The first clause sanctioned means-plus-function limitations "without the recital of structure, material, or acts in support thereof." Therefore, "[i]t would appear that Congress clearly intended that

paragraph 3 would 'permit combination claims to be expressed functionally at the exact point of novelty.'" Blaustein, 26 Geo. Wash L. Rev. at 618. The specific sanction of means-plus-function limitations, without regard to the point of novelty, is part of the "measure of greater liberality" referred to in Federico's Commentary.

The second clause of § 112, last paragraph, provides a statutory construction of means-plus-function limitations used in combination claims which is narrow enough to avoid the problem of undue breadth as forbidden by § 112 ¶ 1. Hyatt, 708 F.2d at 714, 218 USPQ at 197. This was the construction imposed by courts in infringement prior to Halliburton. See Fuetterer, 319 F.2d at 264 n.11, 138 USPQ at 222 n.11:

We feel, however, that a considerable body of case law, if not the preponderance thereof, before the Halliburton case interpreted broad statements of structure, e.g., "means," plus a statement of function in the manner now sanctioned by the statute. See, e.g., Westinghouse v. Boyden Power Brake Co., 170 U.S. 537, 558, 18 S.Ct. 707, 42 L.Ed. 1136.

As stated in Ford Motor Co. v. Gordon Form Lathe Co., 87 F.2d 390, 392, 32 USPQ 409, 411 (6th Cir. 1937):

An inventor cannot by the mere use of the word "means" appropriate any and all kinds of mechanism or devices which may perform the specified function, or any other mechanism or device than that which is described in the patent or which is its mechanical equivalent. [Citations omitted.]

See also Harris, 23 Geo. Wash. L. Rev. at 687-688. Thus, § 112 ¶ 6 is recognized to operate like the reverse doctrine of

equivalents.¹ Johnston, 885 F.2d at 1580, 12 USPQ2d at 1386-87. That § 112, last paragraph, permits means-plus-function expressions even though they are broader than the scope of the enabling disclosure is the other part of the greater liberality referred to in Federico's Commentary.

Section 112 § 6 has several effects in examination. The PTO accepts the more convenient means-plus-function form, regardless of whether it is at the point of novelty, and regardless of whether such means-plus-function limitation is broader than the enabling disclosure. The PTO relies on the reverse doctrine of equivalents effect of § 112 § 6 to protect

¹ Our Supplemental Brief filed January 1, 1993, in the related case of In re Donaldson, No. 91-1386, says at page 3:

Thus, § 112's "equivalents" is the doctrine of equivalents. This court's statement, that the two are not the same, should not be adhered to.

Our statement is too broad. Prior to 1952, the term "doctrine of equivalents" meant two distinct things: (1) the "doctrine of equivalents" (involving subject matter outside the literal scope of a claim) and (2) the "reverse doctrine of equivalents" (involving subject matter literally within the scope of the claim). Our statement should have been limited solely to the "reverse doctrine of equivalents."

future innovators. Cf. In re Hogan, 559 F.2d 595, 607,
194 USPQ 527, 538 (CCPA 1977):

The business of the PTO is patentability, not infringement. Like the judicially-developed doctrine of equivalents, designed to protect the patentee with respect to later-developed variations of the claimed invention, the judicially-developed "reverse doctrine of equivalents," requiring interpretation of claims in light of the specification, may be safely relied upon to preclude improper enforcement against later developers. The courts have consistently considered subsequently existing states of the art as raising questions of infringement, but never of validity.
[Footnotes omitted.]

However, § 112 ¶ 6 was not intended to change the requirements respecting patentability. Ex parte determinations of novelty and nonobviousness under §§ 102 and 103 must still be determined with respect to the literal language of the claims.

The language "construed to cover" and "equivalents" in § 112 ¶ 6, to the extent it imposes a narrower claim scope than the literal language, refers to post-issuance claim "construction" by a court, not to claim "interpretation" by the PTO. Applicability of the last paragraph of 35 U.S.C. § 112 to patentability determinations before the Patent and Trademark Office, 1134 Off. Gaz. Pat. Office 631, 633-34 (Jan. 7, 1992) (NOTICE). Of course, since issued claims will be construed to cover equivalents, PTO must give claims an interpretation at least broad enough to include equivalents. See In re Spina, 975 F.2d 854, 858, 24 USPQ2d 1142, 1145 (Fed. Cir. 1992).

The starting point in construction of a statute is the language itself. Greyhound Corp. v. Mt. Hood Stages, Inc., 437 U.S. 322, 330 (1978). At the time of the 1952 Patent Act and before, patent claims were "construed to cover" by courts,

not the PTO. See 2 Deller, Walker on Patents § 240 (1937) ("To construe letters patent is to determine precisely what inventions they cover and secure."); Fulton Co. v. Power Regulator Co., 263 F. 578, 580 (2d Cir. 1920) ("[Patentee's] grant of privilege is construed to cover only that which is both described and claimed, no matter how broad the claim-language may be."). Claim "construction" rules are litigation-related rules for dealing with patent claims. Compare Deller, § 21 (rules of "construction" for the interpretation of patent claims by courts) with id. at §§ 22, 23 (claim of application or count in interference in PTO is given broadest reasonable "interpretation").

The word "equivalents" in § 112 ¶ 6 also compels a conclusion that the "shall be construed to cover" language of § 112 ¶ 6 applies only in an infringement context. NOTICE at 634. Section 112 ¶ 6 is recognized to operate like the reverse doctrine of equivalents. Johnston, 885 F.2d at 1580, 12 USPQ2d at 1386-87. The doctrine of equivalents and reverse doctrine of equivalents are limited to infringement where they serve an equitable function in protecting the rights of patentees and later developers, respectively. Cf. Hogan, supra. Section 112 ¶ 6 codifies the reverse doctrine of equivalents for elements recited in means-plus-function elements as it existed prior to Halliburton in infringement cases. See also Address by Representative Bryson to Philadelphia Patent Law Association, reprinted in American Patent Law Association Bulletin 40, 46 (Feb. 1952) (proposed § 112, last paragraph, "gives recognition

to the existence of the doctrine of equivalents," which we take to mean reverse doctrine of equivalents).

Equivalents were not used to limit the scope of claims during examination. Until In re Bond, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990), there was no known case reversing the PTO on the basis that a prior art means was "non-equivalent" to structure disclosed in the specification.

Legislative history with respect to § 112 ¶ 6 is sparse. A committee report states only that "A new paragraph relating to functional claims is added." Revision Notes, S. Rep. No. 1979, 82d Cong., 2d Sess. (1952). There is little other legislative history. See Smith, Functional Claims and the Patent Act of 1952, 48 J. Pat. Off. Soc'y 426, 434-35 (1966).

Federico was the chief draftsman of the 1952 Act. Paulik v. Rizkalla, 760 F.2d 1270, 1277, 226 USPQ 224, 229 (Fed. Cir. 1985) (Rich, J., concurring). Federico's Commentary, published in 1954, states, 35 U.S.C.A. at 26:

[The phrase "construed to cover . . ."] relates primarily to the construction of such claims for the purpose of determining when the claim is infringed (note the use of the word "cover"), and would not appear to have much, if any, applicability in determining the patentability of such claims over the prior art, that is, the Patent Office is not authorized to allow a claim which "reads on" the prior art.

The commentary supports the PTO's position that § 112, last paragraph, was not intended to change the requirement that the claims patentably define over prior art by literal language.

Statutes must be construed as a whole. "Thus it is not proper to confine interpretation to the one section to be

construed" (footnote omitted). 2A Sutherland Statutory Construction, § 46.05 (4th ed. 1973). This principle is overlooked by Alappat and the AIPLA who argue for a "plain meaning" approach to construing § 112 ¶ 6. The CCPA recognized that § 112, last paragraph, had to be interpreted as part of the overall statutory scheme.

In 1957, in Lundberg, the CCPA squarely addressed the issue of whether § 112 ¶ 6 (then ¶ 3) allowed limitations from the disclosure to be read into means limitations to distinguish the claimed invention from the prior art, 244 F.2d at 547, 113 USPQ at 533:

[T]he structural and the functional limitations in each of the above mentioned claims, in the broad language in which they are couched, are either directly set forth or reasonably suggested by the prior art of record. Therefore, unless the above recited clause in the third paragraph of section 112 is to be construed to mean that, though the claims as drawn read on the prior art, both as to function and structure, the claims may, through the medium of a "means" clause, be held to include the limitations which comprise said means and which are set forth in the disclosure, we must reject appellant's contentions as to the effect of section 112 on the claims in this case. That such a construction is untenable will be seen from the following brief analysis of section 112.

The CCPA held that § 112, last paragraph, was not intended to diminish the requirement of § 112 ¶ 2 that the claim define the invention, without limitations imported from the specification to impart patentability, id. at 547-48, 113 USPQ at 534:

Congress did not intend, by incorporating the third [now sixth] paragraph into section 112, to destroy certain basic precepts of patent law. Thus, though appellants' arguments would necessarily lead to the opposite conclusion, it is still true that "the claim is the measure of the invention." The requirement in the second paragraph of section 112 that "the

specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention" has not been at all diminished by the addition of the third [now sixth] paragraph; the latter paragraph must be read in the light of the first and second paragraphs and given an interpretation consistent with their clear meaning. In re Arbeit, supra [206 F.2d 927, 99 USPQ 123 (CCPA 1953)].

. . . . [N]otwithstanding the third [now sixth] paragraph of section 112, it is the language itself of the claims which must particularly point out and distinctly claim the subject matter which the applicant regards as his invention, without limitations imported from the specification, whether such language is couched in terms of means plus function or consists of a detailed recitation of the inventive matter. Limitations in the specification not included in the claim may not be relied upon to impart patentability to an otherwise unpatentable claim.

That holding was central to the CCPA's judgment affirming the PTO's rejection of claim 54 as unpatentable over the prior art, id. at 550, 113 USPQ at 536. See also NOTICE at 631-32.

The CCPA's construction of § 112, last paragraph, in Lundberg, occurring close in time to the 1952 Act and to Federico's Commentary, is entitled to deference, particularly since the CCPA's construction and Federico's interpretation are identical to the interpretation of the PTO at the time the act was passed. Cf. Chemical Manufacturers Ass'n v. Natural Resources Defense Council, Inc., 470 U.S. 116, 126 (1985) (court should defer to agency's interpretation of statute "unless the legislative history or the purpose and structure of the statute clearly reveal a contrary intent on the part of Congress"); Federal Election Comm'n v. Democratic Senatorial Campaign Committee, 454 U.S. 27 (1981) (an interpretation of a

statute made by an agency charged with administering it is entitled to deference).

The position in Lundberg that § 112, last paragraph, was subordinate to the requirement that the claims must define the invention so as to distinguish it from the prior art, was reiterated in Henatsch, 298 F.2d at 957-58, 132 USPQ at 448:

While the last paragraph of 35 U.S.C. § 112 is intended to permit an applicant to express an element in a claim for a combination as a means for performing a specified function without the recital of structure in support thereof, it does not permit an applicant to avoid the requirement imposed by the second paragraph thereof, that the claims shall particularly point out and distinctly claim the subject matter which applicant regards as his invention. While the last paragraph of this section [35 U.S.C. § 112] is intended to allow a greater liberality in the form of claims, "The requirement in the second paragraph of section 112 * * * has not been at all diminished by the addition of the third [now sixth] paragraph; the latter paragraph must be read in the light of the first and second paragraphs and given an interpretation consistent with their clear meaning * * *." In re Lundberg, 44 CCPA 909, 244 F.2d 543, 547. [Footnote omitted.]

. . . . [W]e find them [the means-plus-function claims] to read equally well on the prior art and on applicant's disclosed structure. We repeat, this objection is not based on the form of these claims. We think paragraph 3 of section 112 should at all times be liberally construed to permit applicants the widest possible choice of claim form. But this requires that great care and skill be exercised to be certain that such claims particularly point out and distinctly claim the subject matter which the applicant regards as his invention so as to distinguish it from the prior art.

Thus, it was firmly established that limitations are not read into means-plus-function expressions.

In 1968, the CCPA noted in deciding In re Sweet, 393 F.2d 837, 841-42, 157 USPQ 495, 499 (CCPA 1968) that:

However, a recitation of "means" for performing a function is interpreted broadly to cover all means capable of performing the stated function and is not limited to the particular structure which the application may disclose.

The statement in Sweet is an accurate statement as applied to prosecution before the PTO. The CCPA affirmed as to those claims where the claimed function was obvious from the prior art, without inquiring into equivalents, but reversed where the function was not disclosed or otherwise made obvious (i.e., claim 17). Id. at 842-3, 157 USPQ at 500.

Following Lundberg, there were Congressional reenactments of § 112 ¶ 6. Congress can be presumed to be aware of an administrative or judicial interpretation of a statute and to adopt that interpretation when it re-enacts a statute without change. Lorillard v. Pons, 434 U.S. 575, 580 (1978).

In 1965, subsequent to Lundberg and Henatsch, Congress reenacted § 112, last paragraph. Pub. L. No. 89-83, § 9, 79 Stat. 261 (1965) (adding second sentence on dependent claims to ¶ 2). In 1975, subsequent to Sweet, Congress again reenacted § 112, last paragraph. Pub. L. No. 94-131, § 7, 89 Stat. 690-91 (1975) (changing second sentence of ¶ 2 added in 1965 to three paragraphs, ¶¶ 3-5, including multiple dependent claims; ¶ 3 means-plus-function became present ¶ 6). It must be presumed that Congress was aware of and approved the judicial pronouncements in Lundberg, Henatsch and Sweet, when it reenacted § 112 without changing the substance of the last

paragraph. See Lindahl v. OPM, 470 U.S. 768, 782 (1985), reversing Lindahl v. OPM, 718 F.2d 391 (Fed. Cir. 1983) (in banc). Thus, this Court is not free to simply overrule the CCPA's decisions in Lundberg, Henatsch and Sweet.

Until the creation of the Federal Circuit, the CCPA's and PTO's interpretation was unchallenged. See, e.g., Blaustein, 26 Geo. Wash. L. Rev. at 631 (1958):

However, the specification may not be used to limit a claim by incorporating the corresponding, but unclaimed structure into the means clause. The rule that a means clause recited to cover an element is met by any structure, not limited to equivalents, which performs that function, is preserved.
[Footnote omitted.]

As stated with respect to means-plus-function limitations in Pigott, Equivalents in Reverse, 48 J. Pat. Off. Soc'y 291, 337-38 (1966):

On the other hand, a different situation is presented where claims are still fluid and are being prosecuted before the Patent Office. Whatever view one may take on the propriety of a court reading limitations into a patent claim to save it from invalidity, it cannot be denied that a claim which appears to read on the prior art produces some uncertainty as to its true scope, and no reason appears why a patentee, while his application is pending, should not be required to present claims which taken literally do not read on the prior art cited by the Patent Office. Thus, it is well established that while a patent application is pending in the Patent Office, the claims will be given the broadest interpretation they will reasonably support, and features disclosed in the specification but not set forth in the claims will not be read into the claims to save them from anticipation. [Citations, including Lundberg, omitted.]

The foregoing rule of claim interpretation as to claims pending in the Patent Office has long been applied with great uniformity by the Court of Customs and Patent Appeals, and no change has been recognized nor was one intended by the enactment of the third paragraph of 35 U.S.C. 112.

As stated in Manzo, "Means" Claims in Patent Infringement Litigation, 68 J. Pat. & Tm. Off. Soc'y 97, 111 (1986):

When the Patent and Trademark Office examines a "means" claim, the supporting material from the specification is not regarded as part of the claim. The cases show that when a claim is examined for novelty and nonobviousness, the "means" element is treated as covering every means capable of performing the stated function.

Thus, in In re Lundberg, Chief Judge Johnson declared for the Court of Custom and Patent Appeals (C.C.P.A.) that Section 112 does not cause "means" clauses to incorporate limitations set forth in the specification. . . .

Thus, from the point of view of examining a claim having means plus function elements for novelty and nonobviousness, each means element is regarded as being directed to every apparatus which will perform the stated function.

[Footnote omitted.]

Although arguing that the PTO's interpretation is incorrect, the consistency of the PTO's position is admitted by Moy, The Interpretation of Means Expressions During Prosecution, 68 J. Pat. & Tm. Off. Soc'y 246 (1986) (Moy). Lastly, see 2 Patent Law Perspectives, § 2.9[5], supra, which agrees with the PTO's interpretation of § 112 ¶ 6.

3. Alappat's and AIPLA's arguments are unpersuasive

The most frequent argument against the PTO's interpretation is that the plain meaning of § 112 ¶ 6 does not distinguish between infringement and ex parte prosecution. See Br. 20; AIPLA Br. 4; Moy, at 266. The argument does not directly address our point that "construed to cover" coupled with "equivalents" renders the applicable portion of § 112 ¶ 6 limited to infringement. Nor does it analyze § 112 ¶ 6 in terms of the statute as a whole, as did Lundberg and Henatsch.

Nor does it consider that § 112 ¶ 6 was enacted to implement the reverse doctrine of equivalents as a solution to the problem of undue breadth in Halliburton, rather than to define the invention over the prior art. Nor does it address the historical fact that Federico, Lundberg, Henatsch and Sweet are all consistent with PTO's interpretation of § 112 ¶ 6.

AIPLA argues that the 1953 case of Ex parte Ball, 99 USPQ 146 (Bd. App. 1953), decided by an expanded panel on reconsideration which included Examiner-in-Chief Federico, controverts Federico's 1954 Commentary statement (AIPLA Br. 11-12). The CCPA specifically addressed Ball in Lundberg, 244 F.2d at 548, 113 USPQ at 534, stating:

In this regard, it is worthy of note that the Ball & Hair case, *supra*, on which appellants so heavily rely, is not inconsistent with our analysis of section 112, despite appellants' interpretation of language used by the board therein, for the means clause there relied upon to distinguish certain claims over the prior art, taken together with the other elements associated with said clause, properly and adequately defined the claimed invention without recourse to structure disclosed in the specification. [Emphasis added.]

Thus, Ball is consistent with Federico's Commentary that during prosecution disclosed structure is not read into a means clause to distinguish over the prior art.

Alappat argues that language in the later CCPA case of In re Knowlton, 481 F.2d 1357, 178 USPQ 486 (CCPA 1973), sub silentio overrules Lundberg (Br. 18, Br. 20). See also Moy at 270-72. The language relied upon in Knowlton (Br. 18) states that § 112 ¶ 6 (then ¶ 3) does not impose any additional disclosure requirements to that in § 112 ¶ 1. The result in

Knowlton is consistent with the intent of § 112 ¶ 6 to allow claiming in means-plus-function format that exceeds the scope of the enabling disclosure. Knowlton did not hold that § 112 ¶ 6 permits disclosed structure and equivalents to be read into a means clause to distinguish over the prior art, and is not inconsistent with Lundberg. No overruling of Lundberg should be implied since Congress' 1965 reenactment of § 112 had already embodied Lundberg in the statute. See Lindahl.

The AIPLA argues (AIPLA Br. 5):

Admittedly, it is the claims that define an invention, and limitations not in the claims should not be read into them. However, it is also well established that claims are to be read in light of the specification. [Citation omitted.] The same rule should apply to the construction of "means-plus-function" language. By their § 112 ¶ 6 wording (and thus by statute), "means-plus-function" limitations are limited to what is disclosed in the specification and equivalents thereof. Thus, reading "means" to cover all means, regardless of the physical structure disclosed in the specification, is not only contrary to the clear language of the statute but is also inconsistent with the Office's own approach to claim interpretation generally. [Footnote omitted.]

The CCPA recognized that limiting a means clause under § 112 ¶ 6 by disclosed structure would be reading limitations into the claim, not interpreting the limitations in light of the specification. Lundberg, 244 F.2d at 547, 113 USPQ at 533.

Another argument is that the public is being deprived of rights. For example, AIPLA argues (AIPLA Br. 6):

The Office's present construction of claims containing "means-plus-function" limitations is contrary to the fundamental policy underlying the United States' patent system. . . . By interpreting such claims to cover subject matter they are prohibited from covering by statute (§ 112 ¶ 6), the Office is denying protection of subject matter the patent laws were designed to protect.

Applicants' interests are not impaired since they are "not foreclosed from obtaining the proper coverage by express claim language." Prater, 415 F.2d at 1405 n.31, 162 USPQ at 550 n.31. If a claim literally reads on subject matter which the applicant does not regard as his invention, what objection can there be to amending the claims? The purpose of examination is to remove uncertainties of claim scope.

AIPLA argues that Congressional approval cannot be implied absent a showing that Congress was aware of the CCPA's interpretation (AIPLA Br. 10). However, the authority cited deals with Congressional awareness of agency interpretations, not awareness of judicial interpretations. Under the Supreme Court's Lindahl decision, Congress must be presumed to have been aware of the judicial interpretations in Lundberg, Henatsch and Sweet.

The PTO's interpretation of § 112 ¶ 6 was not questioned until after the creation of the Federal Circuit. Bond and dicta in In re Iwahashi, 888 F.2d 1370, 12 USPQ2d 1908 (Fed. Cir. 1989), changed what we view as the status quo. The PTO has declined to follow Iwahashi and Bond because it believes these cases represent a departure from settled law and binding precedent of this Court. What happened after Federico, Lundberg, Henatsch and Sweet to cause the change which is seemingly called for by Iwahashi and Bond? Congress certainly did nothing to call for the change. We know that there are those who, after formation of the Federal Circuit, have contended that Federico and Lundberg were wrong. See, e.g., Moy.

The Supreme Court has recognized that:

[T]he doctrine of stare decisis is of fundamental importance to the rule of law. Although we have cautioned that stare decisis is a principle of policy and not a mechanical formula of adherence to the latest decision, it is indisputable that stare decisis is a basic self-governing principle within the Judicial Branch, which is entrusted with the sensitive and difficult task of fashioning and preserving a jurisprudential system that is not based upon an arbitrary discretion. See also Vasquez v. Hillery, 474 U.S. 254, 265 (1986) (stare decisis ensures that "the law will not merely change erratically" and "permits society to presume that bedrock principles are founded on law rather than the proclivities of individuals").

Our precedents are not sacrosanct, for we have overruled prior decisions where the necessity and propriety of doing so has been established. Nonetheless, we have held that any departure from the doctrine of stare decisis demands special justification. We have said also that the burden borne by a party advocating the abandonment of an established precedent is greater where the Court is asked to overrule a point of statutory construction. Considerations of stare decisis have special force in the area of statutory interpretation, for here, unlike in the context of constitutional interpretation, the legislative power is implicated, and Congress remains free to alter what we have done.

Patterson v. McLean Credit Union, 491 U.S. 164, 172-73 (1989) (other citations and quotation marks omitted) (emphasis added). See also Payne v. Tennessee, 111 S. Ct. 2597, 2610 (1991) ("Considerations in favor of stare decisis are at their acme in cases involving property and contract rights, where reliance interests are involved").

In view of two Congressional reenactments of § 112 ¶ 6 and the PTO's issuance of approximately 2,500,000 patents while relying on the Federico, Lundberg, Henatsch, and Sweet "rule," this Court should adhere to the principles of stare decisis and leave any change in the basic "rule" to Congress.

There are policy issues for Congress to consider in determining whether a change is appropriate. It can be argued as a policy matter that a change in interpreting § 112 ¶ 6 will decrease claim clarity, certainty, and predictability for both the PTO and inventors. For example, under the Bond case, it would be possible for the PTO to issue two "non"-interfering patents containing identically worded claims to patentably different inventions. Can it be said that Congress intended such a result? A change will also impose an increased workload on the PTO and inventors appearing before PTO, especially the latter who will now have to prove that the means in the reference is not "equivalent" to the means in the specification. See In re Mulder, 716 F.2d 1542, 1549, 219 USPQ 189, 196 (Fed. Cir. 1983). The Court should refrain from now re-interpreting a statute contrary to a long-standing interpretation by the CCPA and the PTO that has been followed by the PTO in issuing over 2,500,000 patents. Any change should be made by Congress.

B. Claim 15 fails the CCPA's two-part mathematical algorithm-statutory subject matter test and therefore is unpatentable as nonstatutory subject matter under 35 U.S.C. § 101

1. CCPA's treatment of "means for" claims as process claims

Mathematical algorithms per se have been held to be nonstatutory subject matter because they do not fall within the 35 U.S.C. § 101 statutory class of a "process." Gottschalk v. Benson, 409 U.S. 63, 65 (1972). Claims truly directed to apparatus as a "machine" or "manufacture" under § 101 are statutory subject matter because the calculation method remains free for use by anyone not employing the specific apparatus. In re Bernhart, 417 F.2d 1395, 1399, 163 USPQ 611, 616 (CCPA 1969) ("[A] member of the public would have to do much more than use the equations to infringe any of these [apparatus] claims."); In re Freeman, 573 F.2d 1237, 1247 n.11, 197 USPQ 464, 472 n.11 (CCPA 1978).

It was recognized by the CCPA that the subject matter of a claim, though drafted in means-plus-function "apparatus" terms, may be indistinguishable from a process. Therefore, although claim 15 is nominally to a "rasterizer," that apparatus title is not determinative. As stated in In re Maucorps, 609 F.2d 481, 485, 203 USPQ 812, 815-16 (CCPA 1979):

Labels are not determinative in § 101 inquiries. "Benson applies equally whether an invention is claimed as an apparatus or process, because the form of the claim is often an exercise in drafting." In re Johnson, 589 F.2d 1070, 1077, 200 USPQ 199, 206 ([CCPA] 1978). "Though a claim expressed in 'means for' (functional) terms [under 35 U.S.C. § 112 ¶ 6] is said to be an apparatus claim, the subject matter as a whole of that claim may be indistinguishable from that of a method claim drawn to the steps

performed by the 'means.'" In re Freeman, 573 F.2d at 1247, 197 USPQ at 472. Moreover, that the claimed computing system may be a "machine" within "the ordinary sense of the word," as appellant argues, is irrelevant. The holding in Benson "forecloses a purely literal reading of § 101." [Citations omitted.]

The position in Freeman was adopted based on a line of dissenting opinions by Judge Rich and Judge Lane (A5-6).

With regard to "means" limitations under § 112 ¶ 6, Maucorps states, 609 F.2d at 486, 203 USPQ at 816:

As admitted by appellant at oral argument, method claims drawn to the steps performed by appellant's "means" would be non-statutory and an attempt to claim appellant's algorithms in their application to a model of a sales organization. . . . That 35 U.S.C. § 112 authorizes the claiming of "means for" performing a function cannot rescue appellant's claims from the requirements of § 101, because § 112 does not authorize the claiming of apparatus entirely in terms of "means for" performing a non-statutory method.

When a means claim differs from a method claim only in "means for" terms before the steps, PTO follows Maucorps' approach of treating the claim as indistinguishable from a method claim. The claim form of Maucorps recites no specific structure or interconnections that would define a specific apparatus. The disclosed "means" for performing the functions of claim 1 in Maucorps was a program permanently built into a computer.

The treatment of "means for" apparatus claims was further considered with regard to "system" claims in In re Walter, 618 F.2d 758, 768, 205 USPQ 397, 407-8 (CCPA 1980):

Both the examiner and the board refused to separately consider appellant's apparatus claims because the method and apparatus claims were deemed indistinguishable. This problem arises in computer-arts inventions when the structure in apparatus claims is defined only as "means for" performing

specified functions as sanctioned by 35 U.S.C. 112, sixth paragraph. If the functionally-defined disclosed means and their equivalents are so broad that they encompass any and every means for performing the recited functions, the apparatus claim is an attempt to exalt form over substance since the claim is really to the method or series of functions itself. In computer-related inventions, the recited means often perform the function of "number crunching" (solving mathematical algorithms and making calculations). In such cases the burden must be placed on the applicant to demonstrate that the claims are truly drawn to specific apparatus distinct from other apparatus capable of performing the identical functions.

If this burden has not been discharged, the apparatus claim will be treated as if it were drawn to the method or process which encompasses all of the claimed "means." See In re Maucorps, 609 F.2d at 485, 203 USPQ at 815-16; In re Johnson, 589 F.2d at 1077, 200 USPQ at 206, In re Freeman, 573 F.2d at 1247, 197 USPQ at 472. The statutory nature of the claim under § 101 will then depend on whether the corresponding method is statutory.

We agree with the PTO that all of appellant's claims should be treated as method claims. The apparatus claims differ from the method claims only in that the term "means for" has been inserted before each process step to convert the step into the "means" for performing it, wherefore they do not have separate meaning as apparatus claims.

The first paragraph above mentions "functionally-defined disclosed means and their equivalents." However, the "test" focuses on whether "the claims are truly drawn to specific apparatus distinct from other apparatus capable of performing the identical functions" (emphasis added).

In addition to Maucorps and Walter, claims in "means for" terms have been treated as method claims in In re Meyer, 688 F.2d 789, 795 n.3, 215 USPQ 193, 198 n.3 (CCPA 1982); In re Pardo, 684 F.2d 912, 916 n.6, 214 USPQ 673, 677 n.6 (CCPA 1982); and In re Abele, 684 F.2d 902, 909, 214 USPQ 682, 688 (CCPA 1982). Meyer mentions § 112 ¶ 6 in connection with

§ 101 determinations, 688 F.2d at 796, 215 USPQ at 198-99:

In answering the decisive question, the claims are to be given their broadest reasonable interpretation consistent with the specification. In re Prater, 56 CCPA 1381, 1395-96, 415 F.2d 1393, 1404 05, 162 USPQ 541, 550-51 (1969). On this basis, we conclude that appellants' independent claims are to a mathematical algorithm representing a mental process that has not been applied to physical elements or process steps and is, therefore, not limited to any otherwise statutory process, machine, manufacture, or composition of matter.

This court is aware of its directive in In re Bernhart, 57 CCPA 737 at 742, 417 F.2d 1395 at 1399, 163 USPQ 611 at 615, that, in accordance with 35 U.S.C. § 112, paragraph 6, claims under 35 U.S.C. § 101 drafted in means plus function format are to be examined in light of the "corresponding structure, material, or acts described in the specification and equivalents thereof."⁶ We have done so here.

⁶ Before the PTO, in the examination of claims in view of prior art, the claims are not limited by reference to the specification. See In re Reuter, 651 F.2d 751, 210 USPQ 249 ([CCPA] 1981).

Nevertheless, Meyer treated a means-plus-function claim as a process claim. Meyer, 688 F.2d at 795 n.3, 215 USPQ at 198 n.3. The claims in Meyer involved a mental process that a neurologist might follow in making a diagnosis. The reference to § 112 ¶ 6 in Meyer is based on a holding of Prater and Bernhart, that claims are not nonstatutory because means-plus-function limitations are capable of being carried out by nonstatutory methods, such as by a human being, where apparatus is disclosed. That is not the rationale relied on for treating a claim in means-plus-function terms as a process claim.

In determining whether the claims are drawn to specific apparatus, the PTO does not read limitations of disclosed structure and equivalents into the claims. Means-plus-function

limitations should be interpreted the same way for statutory subject matter determinations under § 101 as for prior art patentability determinations under § 102 and § 103. We make it clear that the objection is not based on the all means format itself. Claims consisting entirely of means-plus-function limitations whose sole function is to perform mathematical calculations are allowed all the time where the claimed functions and interconnections limit the claim to specific apparatus.

None of the cases of Maucorps, Walter, Pardo, Abele, or Meyer presented a wholly precise test for treating means claims as process claims. The Walter test of whether "the claims are truly drawn to specific apparatus distinct from other apparatus capable of performing identical functions" is the main test. The public is entitled to know what specific apparatus the claims are limited to so it knows how it can practice the mathematical algorithm without infringing. Additionally, there are certain common factors among the five cases. One factor is that all claims were in the simple form of a series of "means for" performing steps. Another factor is that we are unaware of any case where the PTO was reversed on the basis that the CCPA read disclosed structure or equivalents into the means terms. Yet another factor is that part of the disclosed apparatus in each specifications was apparently a known general purpose digital computer operating on a stored program. That the claims read on old apparatus performing programmed method steps was an indication that applicant was really trying to patent the process embodied in the program, rather than some specific new and

nonobvious apparatus. It is not clear from the facts of the cases what other structures were disclosed; however, there was no indication that the specifications did not disclose structures to support the recited means.

The PTO tries to follow established precedent regarding the treatment of claims in means-plus-function format. Naturally, it would be administratively simpler to have a per se rule that claims in means-plus-function format are statutory subject matter. But, the PTO is not writing on a clean slate as the AIPLA's arguments suggest. The decision in Iwahashi failed to address the treatment of "all means" claims in Maucorps, Walter, Pardo, Abele, or Meyer, and has created uncertainty in the law which we look to the Court to clarify.

Seagate argues that it was unnecessary to rely on § 112 ¶ 6 to conclude that claim 15 covers all means for performing the recited functions. Seagate argues that "[s]oftware means and hardware means for performing mathematical operations are, as a general matter, universal equivalents" (Seagate Br. 6) and that "a software implementation would necessarily be the equivalent of that hardware [disclosed in Alappat's specification]" (Seagate Br. 7). Since "hardware and software means . . . exhaust the entire field of practical means for doing numerical calculations" (Seagate Br. 7), Seagate argues that claim 15 preempts all means for doing the mathematical calculations (Seagate Br. 8). We are not aware of any legal authority for Seagate's hardware/software analysis and do not rely on its arguments.

Seagate argues that is unnecessary to "deem" a claim in means-plus-function format to be a process claim for purposes of the mathematical algorithm-statutory subject matter determination (Seagate Br. 10-12). We believe the Board's analysis is the one called for by the case law. Seagate does not address the case law analysis applied by the Board.

The AIPLA argues that claim 15 should be construed to cover patent-eligible subject matter because the public will not be foreclosed from using the mathematical algorithm without the corresponding structure described in the specification and equivalents thereof (AIPLA Br. 16). AIPLA's argument that there will be no preemption of all devices for implementing the mathematical algorithm presumes that there must be "non-equivalent" structure in the prior art, and that this subject matter is known by the public. However, the term "non-equivalent" as applied to the prior art implies something which is not known to be a proper substitute and, therefore, suggests a category of prior art which is inherently unknowable. As stated by the Board, "[W]e are not required to presume that a 'means' limitation, without more, under § 112 ¶ 6 is directed to specific apparatus" (A8).

The specification and drawings of the application on appeal disclose a specific "rasterizer" apparatus for performing the recited mathematical functions of claim 15. Dependent claims 16-19 have not been argued separately and stand or fall with independent claim 15 (A3). There is no question that the disclosed rasterizer, if properly claimed,

would constitute statutory subject matter. Our position is that claim 15 is not directed to a specific rasterizer apparatus under the Walter test, but is so broad that it encompasses all apparatus for performing the recited functions and should be treated as indistinguishable from a process claim pursuant to Maucorps, Walter, Pardo, Abele and Meyer. Because the "construed to cover" provision of § 112 ¶ 6 does not apply during examination, limitations of structure and equivalents should not be read into a claim for the purpose of determining whether the claim defines a specific apparatus.

Alappat does not disagree that claim 15 is broad enough to read on a known computer (Br. 47), as well as on the disclosed specific structure and its equivalents. Since claim 15 is capable of reading on two such diverse apparatus as a known computer and the disclosed special apparatus, it cannot be said that claim 15 is truly directed to a specific apparatus. Alappat did not advise the PTO during prosecution as to what apparatus would not be encompassed by claim 15. Accordingly, claim 15 should be treated as a process claim. Alappat can narrow the claims by express terms, including other means-plus-function limitations, to more particularly define the specific apparatus disclosed in the specification if that is what he regards as his invention.

The disclosed structure, shown in figure 3 (A39), comprises arithmetic logic units (ALU's) 74 and 80, which perform the steps of "determining" in paragraphs (a) and (b) of claim 15, respectively; a pair of barrel shifters 84 and 88 for

"normalizing" as stated in paragraph (c); and read only memories (ROM's) 92 and 100 which output data as stated in paragraph (d). Claim 15 does not recite any of these specific pieces of apparatus which would narrow the scope of the claim.

Claim 15 differs from the claim in Iwahashi which recited specific apparatus, i.e., a ROM. The ROM in Iwahashi is more than a "minor difference," as argued by Alappat (Br. 15). The Court in Iwahashi stated that a ROM is a term "well understood by those skilled in the art," 888 F.2d at 1372, 12 USPQ2d at 1909, and relied on the fact that the claimed ROM "is not in means-plus-function form," id. at 1373, 12 USPQ2d at 1909, but "is a specific piece of apparatus," id. at 1375, 12 USPQ2d at 1912. Iwahashi is not controlling. We disagree with Alappat's argument that claim 15 is somehow directed to a specific apparatus because one means falling within the claim is disclosed as a ROM having a similar table look-up function like the ROM in Iwahashi (Br. 15-16); this argument requires reading structure into the claim. We also disagree with Alappat's interpretation of Iwahashi as somehow incorporating into the claims "specific identifiable hardware elements in the specification" (Br. 16).

Claim 15 does not claim the disclosed interrelationship among the means. Claim 15 does not recite that the means in paragraphs (a) and (b) are necessarily separate means; or that the means in paragraph (c) is a pair of means; or that the means in paragraph (d) is a pair of means; or that the outputs of the separate means of paragraphs (a) and (b) are connected

to the pair of means of paragraph (c) which is connected to the means of paragraph (d) in the manner shown in the figures. Alappat argues that the interconnection is expressed in claim 15 (Br. 29-30). We can agree that the claim "is consistent with the circuit diagram of FIG. 3" (Br. 30) in the sense that claim 15 reads on figure 3. The trouble is that, as noted by the Board (A14), claim 15 is "consistent with" (reads on) all apparatus for performing the functions, not just the disclosed apparatus; it is so broad that neither the PTO nor the public can determine what apparatus is not within the claim. That claim 15 is admitted to read on two such diverse apparatus as a known computer and the disclosed special apparatus (Br. 47), is evidence that claim 15 is not limited to specific apparatus. Alappat did not tell the PTO what apparatus would not fall within the broad language of claim 15. PTO should not presume that prior art apparatus exists outside the scope of claim 15. Nor can it be assumed that the interrelationship must be claimed because claim 15 was not rejected as indefinite (Br. 29). Claim 15 is not indefinite, it is just broad.

Claim 15 differs from the expressly recited interconnections among the means claimed in Iwahashi, 888 F.2d at 1375, 12 USPQ2d at 1911:

Appellants emphasize that they specify a ROM in clause [d] to which is fed an input from an adder specified in clause [c]. The Solicitor states that [c] and [d] are connected together by a signal path. Next are means in the form of disclosed electronic circuitry which take from the ROM its output in the form of squares of numbers supplied as ROM input and feed them to a calculating circuit [h]. The claim as a whole certainly defines apparatus in the form of a combination of interrelated means and we cannot

discern any logical reason why it should not be deemed statutory subject matter as either a machine or a manufacture as specified in § 101.

It would be improper claim interpretation to read the disclosed structures and connection interrelationships into claim 15 during prosecution while Alappat has the chance to amend.

Alappat's arguments rely on reading limitations into the "means" of claim 15. For example, Alappat argues that claim 15 distinguishes from the means claims treated as process claims in Maucorps, Walter, Pardo, Abele and Meyer because claim 15 is based on a bona fide hardware disclosure (Br. 10-11, Br. 21-27). But, Alappat has not claimed that specific hardware, and Alappat cannot rely on "means" limitations to have his disclosed circuit elements and interconnections read into claim 15. Lundberg. Claim 15 must define specific apparatus by its express terms. Nothing prevents Alappat from refiling a continuation application with amended claims that more particularly define the structure.

Alappat relies on In re Noll, 545 F.2d 141, 191 USPQ 721 (CCPA 1976), cert. denied, 434 U.S. 875 (1977), as having a claim similar to one in issue (Br. 44-45). Noll predates the adoption of the form versus substance view of Freeman in 1978. Furthermore, the claims in Noll are distinguished by specific apparatus such as N-bit storage devices with N-bit storage locations and address signals to access the storage locations. Thus, the claim in Noll is not "virtually identical in form to Appellants' claim 15" (Br. 45).

2. The two-part test for mathematical algorithm-statutory subject matter

Since claim 15 may be treated as a process claim, then it fails to define statutory subject matter under § 101 under the mathematical algorithm exception.

The accepted legal analysis of mathematical algorithm-statutory subject matter cases is the two-part test of Freeman, as modified by Walter and Abele. The test is summarized in Arrhythmia Research Technology, Inc. v. Corazonix Corp., 958 F.2d 1053, 1058, 22 USPQ2d 1033, 1037 (Fed. Cir. 1992):

It is first determined whether a mathematical algorithm is recited directly or indirectly in the claim. If so, it is next determined whether the claimed invention as a whole is no more than the algorithm itself; that is, whether the claim is directed to a mathematical algorithm that is not applied to or limited by physical elements or process steps.

a. Step 1 - claim 15 recites a mathematical algorithm

A mathematical algorithm is defined as a "procedure for solving a given type of mathematical problem." Gottschalk v. Benson, 409 U.S. at 65. A mathematical algorithm in the Benson sense refers to "methods of calculation, mathematical formulas, and mathematical procedures generally." Walter, 618 F.2d at 764-65 n.4, 205 USPQ at 405 n.4. Mathematical algorithms are described in In re Sarkar, 588 F.2d 1330, 1333, 200 USPQ 132, 137 (CCPA 1978):

Mathematical exercises, or methods of calculation, are within the myriad of mental processes of which the human mind is capable. Though they may be represented by written formulae, symbols, equations, or "algorithms," mathematical exercises remain disembodied. They may not, therefore, cross the threshold of § 101.

Mathematical equations can be recited directly or indirectly in a claim. Whether a claim indirectly recites a mathematical algorithm "requires careful interpretation of each claim in the light of its supporting disclosure."

In re Johnson, 589 F.2d 1070, 1079, 200 USPQ 199, 208 (CCPA 1978). The mathematical equations in claim 15 are indirectly recited, that is, the limitations of the claim are to be performed with mathematical formulas disclosed in the specification. As stated in In re Grams, 888 F.2d 835, 837 n.1, 12 USPQ2d 1824, 1826 n.1 (Fed. Cir. 1989):

It is of no moment that the algorithm is not expressed in terms of a mathematical formula. Words used in a claim operating on data to solve a problem can serve the same purpose as a formula. See, e.g., In re Freeman, 573 F.2d 1237, 1246, 197 USPQ 464, 471 (CCPA 1978).

The claim in Grams indirectly recited a mathematical algorithm. Other examples of indirect recitation of a mathematical algorithm are Johnson, 589 F.2d at 1078-79, 200 USPQ at 208 ("[T]he flow diagrams which form part of the specification disclose explicit mathematical equations which are to be used in conjunction with each of these [claimed] steps [of 'determining' or 'correlating']."); Meyer; In re Sherwood, 613 F.2d 809, 818, 204 USPQ 537, 545 (CCPA 1980), cert. denied, 450 U.S. 994 (1981) ("Each of the claims recites 're-indexing and storing' in accordance with the 'seismic velocity function.' An examination of the specification does indicate that certain mathematical equations are used in conjunction with such steps. The claims must be said to include the indirect recitation of a mathematical equation.").

Every paragraph in claim 15 indirectly recites a mathematical equation or operation as part of an overall algorithm or procedure to calculate illumination intensity data values. In claim 15, paragraph (a), "determining a vertical distance between the endpoints of each of the vectors in the data list" is described as a mathematical operation at A53, line 21, through A54, line 4, which is represented symbolically by the equation at A54, line 1:

$$\Delta y_i = |y_i - y_{i+1}|$$

where y_i and y_{i+1} represent the data values of the endpoints. This step determines the absolute value of the difference between two numbers, i.e., the difference expressed as a positive value.

In claim 15, paragraph (b), "determining an elevation of a row of pixels that is spanned by the vector" is described as a mathematical step at A54, line 23, through A55, line 2, and is represented symbolically by the equation at A54, line 29:

$$\Delta y_{ij} = |y_i - s_j|$$

where s_j is a point between y_i and y_{i+1} where the pixel intensity value is to be computed. Thus, Δy_{ij} is the distance between y_i and s_j .

In claim 15, paragraph (c), "normalizing the vertical distance and elevation" is described at A55, lines 3-20, as shifting the distance and elevation information to the left in barrel shifters 84 and 88, which is recognized as a

mathematical step of multiplying by 2 for each shift. Cf. Gottschalk v. Benson, 409 U.S. at 73-74 (Claim 8, steps (2), (5) and (7) which shift data left or right in a "reentrant shift register"). Normalizing simply shifts the decimal point to increase the values of Δy_{ij} and Δy_i , a common step before division. Alappat argues that the Board did not identify a mathematical equation for paragraph (c) (Br. 39-40), but carefully avoids stating that normalizing is not mathematical. Shifting bits in a binary register is a well-known computer method of multiplying (or dividing) by 2, just as moving the decimal point in the ordinary decimal system is a well-known method of multiplying (or dividing) by 10. Claim 15 is not limited to operation on binary numbers or to operations in shift registers.

In claim 15, paragraph (d), the "outputting illumination intensity data as a predetermined function of the normalized vertical distance and elevation" is described at A55, line 27, through A57, line 16, as mathematical operations performed on the data from step (c). Again, Alappat argues that the Board did not identify the mathematical operation (Br. 40), but again carefully avoids stating that one does not exist. The specification discloses two quantities, $I'(i,j)$ (A56, line 18) and $I^*(i,j)$ (A56, line 27), which are mathematical functions of Δy_i and Δy_{ij} calculated in steps (a)-(c):

$$I'(i,j) = [1 - (\Delta y_{ij} \div \Delta y_i)]^F$$

$$I^*(i,j) = [F - I'(i,j)]$$

The letter "F" in both equations is the hexadecimal letter for the decimal value 15. In figure 5A, the values in the left column are computed using the equation $I'(i,j)$ and the values in the right column are the complement $I^*(i,j)$, i.e., the sum of $I'(i,j)$ and $I^*(i,j)$ equals F. For example, for pixel 55, $\Delta y_i = 7$ (the vertical distance between 52 and 54), $\Delta y_{ij} = 2$ (the vertical difference between the midpoint of 55 and 54), so $I'(i,j) = [1-(2\div7)]F = 10.71 \approx 11 = B$ (11 = B in hexadecimal). The intensity value of the pixel adjacent to 55 in the right column is $I^*(i,j) = F-B = 15-11 = 4$. Thus, the intensity values $I'(i,j)$ and $I^*(i,j)$ are linearly proportional to the distance from the ends of the line or vector 48. The mathematical functions are more complicated when the slope of the line is less than one, as shown in Figure 5D (A41).

Alappat argues that it is improper to impute the equations from the specification to claim 15 for the purpose of finding a mathematical algorithm, but not read in the structure of the disclosure for the purpose telling whether the claim is limited to specific structure (Br. 39-41). It has already been explained that limitations of structure are not read into the claim to narrow it to a specific apparatus, because the claim language itself must define the invention. However, it is proper to examine the terms of the claims in light of the specification to see whether the terms indirectly recite mathematical algorithms. See Grams, Johnson, Meyer and Sherwood. Alappat argues that there might be other equivalent, undisclosed, ways of obtaining the recited quantities in claim

15 without using a mathematical computation, such as by being "measured spatially or by timing" (Br. 39). Be that as it may, Alappat does not deny that claim 15 protects the underlying disclosed mathematical equations.

- b. Step 2 - the steps of claim 15 are not applied to an otherwise statutory process

Claim 15 also fails the second part of the two-part test. Claim 15 defines mathematical operations which convert numbers from one form, numerical vectors in a data list, into another form, numerical illumination intensity data. Manipulation of abstract data is not statutory subject matter. See In re Gelnovatch, 595 F.2d 32, 42, 201 USPQ 136, 145 (CCPA 1979):

[W]here, as here, the claims solely recite a method whereby a set of numbers is computed from a different set of numbers by merely performing a series of mathematical computations, the claims do not set forth a statutory process.

The mathematical equations are not "applied in any manner to physical elements or process steps" under Walter. When claim 15 is viewed without the steps of the mathematical algorithm identified, supra, no underlying physical process is found. The preamble states that the vector list input data represents sample magnitudes of an input waveform; however, this data is abstract from any real physical process or signals. See Walter, 618 F.2d at 770, 205 USPQ at 409 ("The 'signals' processed by the inventions of claims 10-12 may represent either physical quantities or abstract quantities; the claims do not require one or the other."). At best, the preamble limitation is a mere "data-gathering step" for the mathematical algorithm in the claim body which is insufficient

to change a nonstatutory method of calculation into a statutory process. See Grams, 888 F.2d at 840, 12 USPQ2d at 1828; In re Richman, 563 F.2d 1026, 1030, 195 USPQ 340, 343 (CCPA 1977); Sarkar, 588 F.2d at 1335, 200 USPQ at 139. By comparison, the process or apparatus in Arrhythmia operated on physical signals representing a patient's heart function, which signals were expressly claimed in the body of the claim.

Claim 15 does not contain any so-called "post-solution activity" using the computed values which might be considered part of a statutory process. The Board correctly found that the outputting of illumination intensity data does not involve the display of data (A21-22). Claim 15 is directed to the mathematical algorithm itself, rather than an application of the mathematical algorithm to an otherwise statutory process.

Alappat could easily have claimed a statutory process. The overall process is described in the abstract (A68):

An analog input signal to a digital oscilloscope is sampled and digitized to form a representative waveform data sequence. A waveform is then displayed on a screen of the oscilloscope to represent the magnitude of the waveform as a function of time as indicated by the waveform data sequence.

Instead of claiming the mathematical operations as applied to this overall statutory process of measuring and displaying the value of an analog input signal, Alappat chose to claim abstractly only the bare data manipulation part of the process.

Alappat argues that the Board did not answer the question "What did the appellants invent?" Alappat argues (Br. 41):

Reading the specification, it should be clear that what the Appellants invented is a new and improved "rasterizer" 40 (Fig. 3) which is part of a display

processor circuit 18 (Fig. 2) used to reproduce a digitally sampled input waveform on a display screen 20 of a test instrument (Fig. 1).

However, the invention in issue is defined in claim 15, not the invention described on page 41 of Alappat's brief. Claim 15 does not contain any of the structural details relied on by Alappat. The PTO has to determine what appellants intend to claim by the objective words of the claims. Miller, supra. Alappat may believe that the real invention is in the disclosed mathematical algorithm, which development must necessarily precede the hardware implementation. Perhaps this is why claim 15 has been drawn so broadly.

Alappat cites Abele, Johnson and In re Taner, 681 F.2d 787, 214 USPQ 678 (CCPA 1982), in support of the argument that (Br. 43):

The claimed invention transforms an electrical signal in the form of digitized data samples into a visual view on a display in terms of pixel intensity values.

We disagree with Alappat's characterization of claim 15. As previously noted, claim 15 operates on data abstract from the physical signal; it does not claim physical signals as part of the overall process or that the "pixel intensity values" are necessarily displayed. There is nothing necessarily physical about the data as claimed.

C. The Board's April 22, 1992, decision is a decision of the Board of Patent Appeals and Interferences and therefore the Court has jurisdiction

1. When a three-member panel of the Board has rendered its decision, does the Commissioner have the authority to constitute a new panel for purposes of reconsideration of the first decision?
 - a. Yes. The Commissioner has the authority to expand the Board for purposes of reconsideration

We interpret the term "new panel," consistent with the facts of this case, to mean an "expanded panel consisting of the original three panel members and additional Board members designated by the Commissioner." The question of whether the Commissioner may designate a different three-member panel for purposes of rehearing is not presented.

That the answer to the first question is "yes" is manifest from the statute itself. The starting point in every case involving construction of a statute is the language itself. Greyhound, 437 U.S. at 330. Section 7(b) of Title 35 specifies the duties and authority of the Board:

The Board of Patent Appeals and Interferences shall, on written appeal of an applicant, review adverse decisions of examiners upon applications for patents and shall determine priority and patentability of invention in interferences declared under section 135(a) of this title. Each appeal and interference shall be heard by at least three members of the Board of Patent Appeals and Interferences, who shall be designated by the Commissioner. Only the Board of Patent Appeals and Interferences has authority to grant rehearings. [Emphasis added.]

The Commissioner has interpreted his authority under this section as permitting the appointment of an augmented panel on rehearing.

With respect to judicial review of an agency's construction of its statute, the Supreme Court has instructed:

When a court reviews an agency's construction of the statute which it administers, it is confronted with two questions. First, always, is the question whether Congress has directly spoken to the precise question at issue. If the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress. If, however, the court determines Congress has not directly addressed the precise question at issue, the court does not simply impose its own construction on the statute, as would be necessary in the absence of an administrative interpretation. Rather, if the statute is silent or ambiguous with respect to the specific issue, the question for the court is whether the agency's answer is based on a permissible construction of the statute. [Footnotes omitted.]

Chevron U.S.A. Inc. v. Natural Resources Defense Council,
467 U.S. 837, 842-43 (1984).

Congressional intent is clear from the statute itself. Congress gave the Commissioner broad supervisory authority over superintending affairs of the PTO. Section 6(a) of Title 35 provides:

The Commissioner, under the direction of the Secretary of Commerce, shall superintend or perform all duties required by law respecting the granting and issuing of patents.

Numerous other powers, duties and responsibilities are placed by statute on the Commissioner. For example, the Commissioner is a member of the Board (§ 7(a)). The Commissioner may, with the approval of the Secretary of Commerce, establish regulations not inconsistent with law (§ 6(a)). The Commissioner also causes an examination to be made of applications (§ 131), declares interferences (§ 135) and issues patents when authorized by law (§§ 131, 151 and 153).

With respect to appeals, the Commissioner not only is a member of the Board, but has express authority to designate which members of the board will hear an appeal (§ 7(b)). Other than requiring at least three members, the statute puts no limitations on the manner in which the Commissioner is to exercise authority to designate members. As long as an appeal is pending before the Board, whether it be awaiting an original decision or a decision on reconsideration, the Commissioner has supervisory authority to change or expand the members of the panel. Nothing in the statute says otherwise.

The Commissioner's authority to designate the members who will decide does not conflict with the Board's authority to grant rehearings. The "Board" which will decide whether to grant a rehearing (last sentence of § 7(b)) refers to a validly designated panel of the Board and is no way limited by the statute to the original panel. While for reasons of administrative efficiency the Commissioner will ordinarily designate the members of the original panel for rehearing, nothing in the statute precludes the Commissioner from designating an expanded Board panel. The ultimate membership of any panel to render a decision on reconsideration is a matter within the sole discretion of the Commissioner. Any limitation on that authority is inconsistent not only with the specific grant of authority in § 7(b), but the general grant of supervisory authority in § 6(a).

To the extent the scope of the Commissioner's authority to designate panels for rehearing is unclear, the Commissioner's

action is a reasonable interpretation of the statute and entitled to deference. Where Congress has left the statute ambiguous or has delegated broad authority, it is necessary for the agency to work out the details within that broad authority. As stated in Chevron, 467 U.S. at 843:

"The power of an administrative agency to administer a congressionally created . . . program necessarily requires the formulation of policy and the making of rules to fill any gap left, implicitly or explicitly, by Congress." [Citations and footnotes omitted.]

The Court went on to state, id. at 844-45:

We have long recognized that considerable weight should be accorded to an executive department's construction of a statutory scheme it is entrusted to administer, and the principle of deference to administrative interpretations

"has been consistently followed by this Court whenever decision as to the meaning or reach of a statute has involved reconciling conflicting policies, and a full understanding of the force of the statutory policy in the given situation has depended upon more than ordinary knowledge respecting the matters subjected to agency regulations.

". . . If this choice represents a reasonable accommodation of conflicting policies that were committed to the agency's care by statute, we should not disturb it unless it appears from the statute or its legislative history that the accommodation is not one that Congress would have sanctioned." [Citation and footnotes omitted.]

In Pauley v. Bethenergy Mines, Inc., 111 S.Ct. 2524, 2534

(1991), the Court further discussed the deference due to agency interpretations of its statute:

Judicial deference to an agency's interpretation of ambiguous provisions of the statutes it is authorized to implement reflects a sensitivity to the proper roles of the political and judicial branches. See Chevron U.S.A. Inc. v. Natural Resources Defense

Council, 467 U.S. 837, 866 . . . (1984) ("[F]ederal judges—who have no constituency—have a duty to respect legitimate policy choices made by those who do"). As Chevron itself illustrates, the resolution of ambiguity in a statutory text is often more a question of policy than of law. When Congress, through express delegation or the introduction of an interpretive gap in the statutory structure, has delegated policymaking authority to an administrative agency, the extent of judicial review of the agency's policy determinations is limited. [Citations omitted.]

In determining if the Commissioner's interpretation is reasonable, it is not necessary that the Commissioner's interpretation be the only reasonable one or the interpretation that the Court would have reached if the issue had initially risen in a judicial proceeding. Federal Election Comm'n, 454 U.S. at 39.

As stated above, nothing in the statute expressly limits the authority of the Commissioner to designate an expanded panel when such action is deemed appropriate. The Commissioner's authority is consistent with his broad authority to supervise the PTO with respect to matters relating to the granting or issuing of patents.

Nothing in the legislative history is inconsistent with the Commissioner's interpretation of the authority delegated under 35 U.S.C. § 7 and its predecessors. Prior to 1861, the Commissioner (and sometimes an Assistant Commissioner by designation from the Commissioner) decided all appeals within the Patent Office from those dissatisfied with ex parte rejections and inter partes decisions entered in interferences. In 1861, a board of three examiners in chief was formally established to secure "greater uniformity of action in the grant

and refusal of letters-patent," and to assist the Commissioner with appellate work involved with ex parte appeals and with interferences. Act of March 12, 1861, ch. 88, § 2, 12 Stat. 246. An appeal could be taken from a decision of the examiners in chief to "the Commissioner of Patents in person." Id.

The appeal procedure remained essentially unchanged until 1927. Ultimately, the increase in the number of ex parte appeals made it difficult for the Commissioner to consider all appeals and still effectively superintend the affairs of the Office. The two levels of appeal within the Patent Office was thought to be an antiquated procedure. H.R. Rep. No. 1889, 69th Cong., 2d Sess. 1-2 (1927) (House Report); S. Rep. No. 1313, 69th Cong., 2d Sess. 3 (1927) (Senate Report). The two appeals were consolidated in a single appeal to a combined Board of Appeals consisting of the Commissioner, two Assistant Commissioners and five examiners in chief. Act of March 2, 1927, ch. 273, § 3, 44 Stat. 1335, 1335-36. "Rehearings" by formal appeal to the Commissioner in person were eliminated by the provision that "[t]he board of appeals shall have the sole power to grant rehearings," id., which corresponds to the present provision that "[o]nly the Board of Patent Appeals and Interferences has the authority to grant rehearings," 35 U.S.C. § 7(b). The Act also provided that "[e]ach appeal shall be heard by at least three members of the board of appeals, the members hearing such appeal to be designated by the Commissioner," 1927 Act, § 3, corresponding to the current provision that each appeal "shall be heard by at

least three members of the Board of Patent Appeals and Interferences, who shall be designated by the Commissioner," 35 U.S.C. § 7(b).

The legislative history indicates that the "Board" in the last sentence of § 7(b) can be any panel of the Board. The 1927 House hearing discussed the normal operation of rehearings. Procedure in the Patent Office: Hearing Before the House Comm. on Patents, 69th Cong., 2d Sess. 19, 25-28 (1926) (House Hearing). The debate was whether the "Board" to grant rehearings had to be the entire Board of eight members or whether it could be the original three-member panel. Our reading of the testimony is that it was generally agreed that the last sentence does not require the entire Board to consider an application for rehearing, but permits the application to be made to the Board as an entity which would be referred to the original panel and its decision would become the decision of the Board. See, e.g., statement of Mr. Barnett, president, American Patent Law Association, House Hearing at 28. However, while the original panel is a proper Board to grant rehearings, and while such panel is normally the practical choice because it is most familiar with the record, this does not mean that it must be the exclusive Board to grant rehearings. Section 7(b) does not limit the Board that can grant rehearings.

The possibility of an expanded Board on rehearing seems to have been contemplated during the Senate hearing that took place on the day following the House hearing. The following discussion took place on the subject of rehearings, Procedure

in the Patent Office: Hearing Before the Senate Comm. on
Patents, 69th Cong., 2d Sess. 22-23 (1926) (Senate Hearing):

MR. PAUL [chairman of the legislation committee, patent section, American Bar Association]. . . . [The originally proposed bill] provided that there should be no appeal from the examiners in chief to the commissioner, but it provided that anybody might file a petition with the commissioner asking him to take up the case, as the Supreme Court would grant a writ of certiorari. Now, that was thought to be objectionable So we put this [last sentence of § 3] in for the purpose of having the petition passed on by the board of appeal. A man wants his appeal; he wants the commissioner to review his case, and the rehearing will have to be granted by the board, and so the commissioner gets rid of these things that would be a burden to him, and a nuisance to the practitioner, because he would have to do it whether he thought it was a good thing or not. I think it [the last sentence of § 3] should stay in.

Do you want to say something, Mr. Rogers?

MR. ROGERS [chairman of the patent and trademark association, American Bar Association]. I wanted to point out what you have already said, that if there was a provision for a petition for certiorari, this would be always availed of. This, it seems to me, is the only way to relieve the commissioner of intolerable conditions.

Senator STEWART. And it does not exclude him. If there is an exceptionally important case you can have what we call in our judicial system an en banc board, and he can sit.

MR. PAUL. Yes; the bill does not say it shall be only three, but not less than three, and he can have the whole nine, if he sees fit.

MR. ROGERS. In short, what we want to do is have something that is flexible.

[Emphasis added.]

The composition of the Board on rehearing is not mentioned in the House Report or the Senate Report. There is no basis to assume that Congress intended to limit the Commissioner's discretion to designate the panel to consider a rehearing. Since the Commissioner's construction is not inconsistent with the legislative history, it is not an unreasonable interpretation and should be given deference.

The next question is whether the Commissioner's statutory authority to designate who shall hear the appeal is limited to designating who shall hear the case originally. The Commissioner's express authority to designate who hears the appeal inherently includes the authority to designate who shall hear the application for rehearing. The Commissioner designates the members of the Board.

During the House hearing, the possibility was raised that the bill could be amended "so as to give the commissioner discretionary power to assign that case for [re]hearing before another board." House Hearing at 24. However, the discussion went off on another track without discussing whether this authority was or was not inherent. Further, the comment seems directed towards substitution of a different, same-sized panel rather than, as here, expanding the panel while retaining the original members.

The outcome of testimony by Karl Fenning, former Assistant Commissioner of Patents, at the 1926 House and Senate hearings is instructive on the issue of the Commissioner's authority. Fenning was concerned that the last sentence of what is now § 7(b) might prevent the Commissioner from exercising his supervisory authority to correct an erroneous Board decision, in particular, in the case where the Board reversed the examiner. The Committee on Patents concluded, Senate Report at 4:

One lawyer [remarks of Fenning, chairman of the committee on laws and rules of the American Patent Law Association, at Senate Hearing at 19, 21-22] has expressed the fear that in providing in lines 16-17, page 2 (sec. 482), that the board of appeals shall have the sole power to grant "rehearings," the bill

may lessen the present supervisory power of the commissioner, but it was agreed by the other lawyers at the hearing [e.g., statements of Mr. Paul, Senate Hearing at 20, 22], and the Committee on Patents concurs in this view, that the supervisory power of the commissioner, as it has existed for a number of decades, remains unchanged by the bill.

The Commissioner's supervisory authority at the time of the 1927 Act was described in Moore v. United States ex rel. Chott, 40 App. D.C. 591, 596 (D.C. Cir. 1913). The decision of a Primary Examiner was reversed by the Board of Examiners in Chief. The Commissioner thought the patent should not issue. The applicant challenged the Commissioner's authority to withhold the patent. In construing the Commissioner's supervisory authority under Section 481 of the Revised Statutes (a predecessor to 35 U.S.C. § 7(b)) the Court stated, quoting In re Drawbaugh, 9 App. D.C. 219, 240 (D.C. Cir. 1896):

It is the duty of the Commissioner of Patents, representing the public, and also the private rights of the inventor involved in the pending application, as well as all other inventors having the sanction of the Patent Office, to see that entire justice be done to all concerned. The law has provided certain official agencies to aid and advance the work of the Patent Office, such as the Primary Examiners, the Examiners of Interferences, and the Examiners-in-Chief; but they are all subordinate, and subject to the official direction of the Commissioner of Patents, except in the free exercise of their judgments in the matters submitted for their examination and determination. The Commissioner is the head of the bureau, and he is responsible for the general issue of that bureau. If, therefore, there be any substantial, reasonable ground within the knowledge or cognizance of the Commissioner why the patent should not issue, whether the specific objection be raised and acted upon by the Examiners or not, it is his duty to refuse the patent.

Robinson, The Law of Patents § 583 (1890), also described the Commissioner's authority:

The allowance of an application by the examiner, or by the examiners-in-chief upon appeal, does not oblige the Commissioner to grant the patent for which it prays. The law empowers him to withhold a patent whenever in his judgment the invention is not patentable, or the issue of the patent is forbidden by the statutes, or the patent if granted would probably be held invalid by the courts.

The statutory bases of this power are the requirements that the Commissioner "shall superintend or perform all duties required by law respecting the granting and issuing of patents," § 6(a), and that the Commissioner can issue a patent only if it appears that applicants are entitled to a patent under the law, §§ 131, 145, 151. The Commissioner's designation of an expanded panel for purposes of rehearing is consistent with the Commissioner's even broader powers of supervisory authority.

Since the Commissioner's construction of the statute is not inconsistent with the legislative history, the construction is reasonable and this Court should give deference to the Commissioner's interpretation of § 7.

Consistency in interpretation also favors according deference to the agency's action. Federal Election Comm'n, 454 U.S. at 37. The Commissioner has consistently interpreted the authority to designate the constituency of the Board as allowing changing or augmenting an originally designated panel. For example, in Ex parte Johnson, Appeal No. 91-0143 (Bd. Pat. App. & Inter. 1991), the original panel of three examiners-in-chief reversed an examiner. On a request for reconsideration by the examiner, an augmented panel of seven examiners-in-chief

granted the request and voted four to three to affirm the examiner. Expurgated copies of the relevant portions of the Johnson opinions appear in an addendum to this brief. See also Ex parte Wiegand, 61 USPQ 97, 99 (Bd. App. 1944) (rehearing by a different three-member panel); Ex parte Sowers, 69 USPQ 187, 189 (Bd. App. 1946) (rehearing by a different three-member panel); Ball, supra (reconsideration granted to allow further consideration by an augmented panel, including the Commissioner); Ex parte Scherer, 103 USPQ 107 (Bd. App. 1954) (rehearing by an augmented panel because of probable importance of the issues); Ex parte Holt, 214 USPQ 381, 382 (Bd. App. 1982), reh'g granted, 218 USPQ 747 (Bd. App. 1982) (rehearing by an augmented board on request for reconsideration by the Group Director); Ex parte Kumagai, 9 USPQ2d 1642 (Bd. Pat. App. & Inter. 1988) (panel augmented after oral hearing before three-member panel); Ex parte Remark, 15 USPQ2d 1498 (Bd. Pat. App. & Inter. 1990) (panel augmented after oral hearing before three-member panel); Ex parte Lyell, 17 USPQ2d 1549 (Bd. Pat. App. & Inter. 1990) (panel augmented after oral hearing before three-member panel); Larson v. Johenning, 17 USPQ2d 1610 (Bd. Pat. App. & Inter. 1991) (panel augmented after oral hearing before three-member panel); Ex parte Kuklo, 25 USPQ2d 1387, 1388 (Bd. Pat. App. & Inter. 1992) (panel augmented after oral hearing before three-member panel). The long-standing and consistent interpretation of the Commissioner's authority to designate panels supports the reasonableness and correctness of the interpretation of § 7.

- b. FCBA's statement of facts is argumentative and its arguments are unpersuasive

We cannot agree with the statement of facts presented by FCBA (FCBA Br. 2-5). None of the documents cited in FCBA's statement of facts are from the application file; none involve legal precedent or legal authority; none seem to directly refer to or involve the facts of this case; and many contain hearsay statements which, if they could be cross-examined, would be shown to be inaccurate.

For example, FCBA, without citation to the record or any of its documents, speculates that the letter of April 24, 1992, by 33 examiners-in-chief (EICs) to the Commissioner was "apparently prompted" (FCBA Br. 2), in part, by this case. Overlooked by FCBA's counsel is the fact that the April 24th letter mentions the facts of only one case, now known to be Ex parte Akamatsu, 22 USPQ2d 1915 (Bd. Pat. App. & Inter. 1992). Since the EICs themselves do not mention the case on appeal, and since it could have been mentioned because the decision was entered on April 22, 1992, we find it curious that FCBA finds it necessary to refer to the April 24th letter in overstating its case. Nor were the facts of this case addressed in the Commissioner's response to the Board on April 29, 1992 (FCBA Br. 3). Former Commissioner Manbeck's comments during a debate with John F. Witherspoon (FCBA Br. 4) were clearly made in connection with Akamatsu. The comments made by Senator DiConcini (FCBA Br. 4-5) also appear to be directed to the facts of Akamatsu. Lastly, in the argument section of FCBA's brief, the Statement of Jerry Shaw, General

Council for the Senior Executives Association Before the Subcommittee on Patents, Copyrights and Trademarks of the Committee on the Judiciary (May 12, 1992) (FCBA Br. 17), and the accompanying survey of EICs conducted by the Senior Executives Association (May 11, 1992) (FCBA Br. 17), are nothing more than uncross-examined policy statements about the management of the Board. FCBA's complaint seems to be with the Commissioner's general management of the Board, not with the particular circumstances of this case. The management of the Board has nothing to do with the issue of whether this Court has jurisdiction. The sole issue is whether the decision is a "decision" of the Board within the meaning of 35 U.S.C. § 141. If it is, the discussion ends. If it is not, there is no decision to appeal.

FCBA asserts, without reference to any document in the record, that "[i]n this case, the Commissioner, not the Board, clearly granted the rehearing" (FCBA Br. 5). The Board's decision shows that a properly constituted panel of the Board granted rehearing, not the Commissioner in person. (A2). The Commissioner's designation of an expanded panel is not the same as a grant of rehearing. While the FCBA appears to dislike the fact that Congress gave the Commissioner express authority to designate the members of a Board panel, it has not shown that the Commissioner is prohibited from designating members who he thinks may share his views, or that designation of a panel constitutes a grant of rehearing.

FCBA engages in a series of conjectures about events in this case. Alappat in no way joins in FCBA's conjectures, none of which are relevant to the outcome of the case. For example, FCBA states that (FCBA Br. 6):

The original panel obviously did not review the request and agree to rehear the case, since all three dissented from the new decision.

What is the basis for FCBA's speculation? The decision evidences only that the original panel members dissented on the merits, not that they dissented on the grant of rehearing. FCBA further asserts (FCBA Br. 6):

Moreover, the subsequent remarks by the members of the Board of Appeals and the Commissioner leave no doubt that the Commissioner himself directed that his delegate, the examiner, request reconsideration and an expanded panel.

FCBA points to no evidence in the record for this assertion.

FCBA continues (FCBA Br. 6):

that the Commissioner himself decided to grant reconsideration, and that the Commissioner appointed himself and four other management officials to a 'packed' panel to assure a predetermined outcome.

FCBA's "wish" is not "fact" because there is simply no evidence that the designated members of the Board did not perform their statutory duty to review the adverse decision of the examiner as required by 35 U.S.C. § 7(b). Moreover, none of FCBA's speculative assertions go to the merits of the Commissioner's authority to set an expanded panel for purposes of rehearing.

FCBA argues that rehearings are limited to rehearings by the original panel or the entire Board (FCBA Br. 6):

Although there is some question from the legislative history whether the authority to grant rehearings rests with the original panel or the

entire Board, including all forty-three EICs, unquestionably neither the Commissioner nor any other group of Board members has such authority. [Emphasis added.]

And, in discussing the House hearing (FCBA Br. 9):

The debate continued between those asserting that only three and those asserting that all eight would have the authority to grant rehearings, but all agreed that it must be one or the other and not something in between. [Emphasis added.]

The possibility that the Commissioner might designate an expanded panel on rehearing in special cases was not discussed in the House hearing, which is not surprising since the issue was the ordinary operation of rehearings under the proposed law. Therefore, we disagree with FCBA's overstated conclusions that the House hearing "unquestionably" shows that only the original panel or the full Board has authority to grant rehearings, and that "all agreed that it must be one or the other and not something in between." As previously noted, it appears that the Senate hearing anticipated that the Commissioner could sit on an expanded Board for purposes of rehearing. Senate Hearing at 23. In addition, the provision of § 7(b) that the appeal shall be heard by "at least three members" indicates that three is only a minimum number for any panel. Cf. 28 U.S.C. § 46(c) (cases in Courts of Appeal, with the exception of the Court of Appeals for the Federal Circuit, shall be heard by a "panel of not more than three judges").

In any event, in consolidating the two appeals within the Patent Office in 1927, Congress did not intend to create a Board of Appeals independent of oversight by the Commissioner. Instead, Congress expressly determined that the Commissioner

would be a member of the Board and, most importantly, expressly authorized "the members hearing such appeal to be designated by the commissioner," 1927 Act, § 3, which corresponds to the present provision that "[the members hearing the appeal] shall be designated by the Commissioner," 35 U.S.C. § 7(b). Moreover, as discussed above, Congress did not intend the provision that only the Board could grant rehearing to eliminate the Commissioner's supervisory authority over Board decisions.

FCBA argues that the legislative history of 35 U.S.C. § 7 demonstrates the Congressional intent that the Board be independent (FCBA Br. 12-14), citing Judge Smith's dissenting opinion in In re Wiechert, 370 F.2d 927, 960-61, 152 USPQ 247, 273 (CCPA 1967). Judge Smith's dissenting opinion is not binding precedent. More importantly, it does not address the issues in this case. The issue in Wiechert was whether § 7 at that time permitted the Commissioner to designate two acting Examiners-in-Chief to a panel. Judge Smith felt that there was no independent review unless a majority of members were presidential appointees as provided in § 7. Judge Smith's position was not reached by the majority. Nor is his position the only interpretation. Cf. Lindberg v. Brenner, 399 F.2d 990, 993 n.4, 158 USPQ 380, 381 n.4 (D.C. Cir. 1968) ("Congress may have provided for presidential nomination and Senate confirmation of examiners-in-chief in order to ensure their high caliber and competence rather than their independence of the Commissioner of Patents."). Here there is no question that all eight members on the rehearing decision

were proper Board members and, therefore, "independent" in the sense discussed by Judge Smith.

FCBA also argues that "Congress intended the elimination of Presidential appointment [of EICs] to increase, not decrease, the Board's independence" (FCBA Br. 13). It may be that Congress desired to make the EICs more independent of outside political pressures. But, that is different from independence from the supervision of the Commissioner. In any case, these arguments relate to the independence of the individual members, not to whether the decision of a three-member panel is "independent" of rehearing by an enlarged panel designated by the Commissioner.

FCBA, abandoning its status as amicus by raising new issues for the first time on appeal, argues that the Commissioner's action in designating an expanded panel violates due process (FCBA Br. 14-16). The argument is not FCBA's argument to make; it has no standing. Broadrick v. Oklahoma, 413 U.S. 601, 610 (1973) ("constitutional rights are personal and may not be asserted vicariously"); United Parcel Service, Inc. v. Mitchell, 451 U.S. 56, 60 n.2 (1981) (amicus may not rely on new argument not presented below); General Engineering Corp. v. Virgin Islands Water and Power Authority, 805 F.2d 88, 92, n.5 (3d Cir. 1986) (new arguments cannot be made by amicus). There is no case or controversy before this Court with respect to any alleged violation of due process. Alappat expressly waives any due process argument regarding the composition of the expanded panel (Supp. Br. 9).

Utica Packing Co. v. Block, 781 F.2d 71 (6th Cir. 1986), relied on by FCBA, is distinguishable from this case. In Utica, the delegation of one Judicial Officer was revoked and another Judicial Officer substituted to improve the chances of the USDA on reconsideration. The plaintiffs-appellants in Utica challenged the substitution on due process grounds, whereas here Alappat has expressly waived such objection. Also, here the original Board was retained and other members were added. The designation of an expanded panel for purposes of rehearing is analogous to, but not the same as, rehearing in banc. While FCBA conjectures that it might somehow be unfair that the Commissioner has the authority to designate the members of the panel without any kind of random selection process, this is the scheme authorized through legislation by Congress. The Board is an administrative body, not a judicial one. Congress has left the decision of how to designate panels to the Commissioner.

FCBA argues that policy reasons condemn the Commissioner's actions in this case (FCBA Br. 16-17). The policy reasons seem to be based on rumors of interference and on anonymous, unsworn and uncross-examined comments about management of the Board in a survey of the EICs conducted by the Senior Executive Service (to be contained in the supplemental appendix of the FCBA). These allegations cannot be accepted as facts, nor should they be considered relevant to this case. The only issue is whether the actions in this case were lawful--not whether the actions were wise policy.

Sound policy reasons support the Commissioner's construction of his authority under the statute. If the Board reverses the examiner, the examiner may request reconsideration. In re Schmidt, 377 F.2d 639, 641-42, 153 USPQ 640, 642 (CCPA 1967). Otherwise, the Board has no means to correct errors in the applicant's favor. As can be seen from the numerous expanded panel Board decisions mentioned above, the considerations for designating an enlarged Board panel on hearing or rehearing are similar to those for setting an in banc panel in this Court: (1) to secure or maintain uniformity of decisions; or (2) when the proceeding involves a question of exceptional importance. Cf. Fed. R. App. P. 35(a). These matters are particularly within the ken of the Commissioner. Fundamentally, there is no reason why an incorrect decision by a three-member panel should evade rehearing by an expanded panel. Because the Board is large, 49 members, the Commissioner does not designate the entire Board for enlarged panels. Cf. Pub. L. No. 95-486, § 6, Oct. 20, 1978, 92 Stat. 1633, classified as a reviser's note to 28 U.S.C. § 41 (Court of Appeals having more than 15 active judges may perform its in banc function by such number of members as provided by rule); 32 Am. Jur. 2d Federal Practice and Procedure § 468 (Supp. 1992) (discussing Ninth Circuit rule). The designation of any particular panel is within the Commissioner's sole authority. The Commissioner acts in the public interest in designating an expanded panel to consider a rehearing when such a request for reconsideration comes to his attention, and he is of the opinion that the original Board erred. If an expanded panel

errs, the remedy is to seek judicial review on the merits--which is precisely what Alappat has done.

The FCBA's argument demonstrates that its real concern appears to be a disagreement with the wisdom of a policy choice made by the Commissioner pursuant to delegated authority.

However, as stated in Chevron, 467 U.S. at 866:

The responsibilities for assessing the wisdom of such policy choices and resolving the struggle between competing views of the public interest are not judicial ones: "Our Constitution vests such responsibilities in the political branches." TVA v. Hill, 437 U.S. 153, 195 (1978).

2. If the Commissioner lacks such authority, is the decision of such a new panel a decision of the Board for purposes of 28 U.S.C. § 1295(a)(4)(A)? If not, does this court have jurisdiction to reach the merits of the appealed decision?

If the Commissioner lacks authority to designate an expanded panel then this Court lacks authority to reach the merits of this appeal.

This Court has subject matter jurisdiction of appeals from "decisions" of the Board with respect to patent applications and interferences. 28 U.S.C. § 1295(a)(4)(A). The right to appeal to this court is provided in 35 U.S.C. § 141. That section provides for an appeal when an applicant is "dissatisfied with the decision in an appeal to the Board of Patent Appeals and Interferences under section 134" However, if the Commissioner lacked authority to designate the expanded panel to consider the rehearing, then the decision on appeal is not an action under § 134 and is not a decision under

§ 141. This Court would, therefore, lack jurisdiction and could not reach the merits.

However, the Commissioner has authority to designate an expanded panel for purposes of rehearing. The expanded panel is a validly constituted Board, and its decision is a decision of the Board for purposes of 35 U.S.C. §§ 134 and 141 and 28 U.S.C. § 1295(a)(4)(A). We note that Alappat concurs in this conclusion (Supp. Br. 9-10).

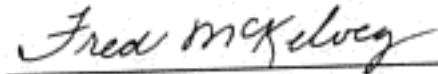
3. What is the relationship, if any, between the "reconsideration" action taken in this case and "rehearings" by the Board provided for in 35 U.S.C. § 7(b)?

The "reconsideration" action in this case is a "rehearing." The use of the term "reconsideration" in the Board's decision is due to custom and practice, and the fact that rule 37 CFR § 1.197(b) discusses requests for reconsideration. While there may be slight differences in meanings between the two words in some other context, the PTO has used them interchangeably. See McCrady, Patent Office Practice, § 235 (3d ed. 1950).

CONCLUSION

For the reasons given herein, the Court has jurisdiction to hear the appeal. The decision of the Board was correct and should be affirmed.

Respectfully submitted,



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