Drafting and Enforcing "Means-Plus-Function" Claims

Robert H. Fischer*
Partner
Fitzpatrick, Cella, Harper & Scinto
New York, New York

As we all know, the statutory basis for means plus function claims is 35 U.S.C. § 112(6), which states that an element in a claim can be expressed as a means or step for performing a function "without the recital of structure, material or acts in support thereof", and that such a claim element will be construed to cover the "corresponding structure, material or acts described in the specification and equivalents thereof".

This statute was prompted by the Supreme Court case of Halliburton Oil Well Cementing Co. v. Walker, 329 U.S. 1 (1946). The patent in suit concerned an apparatus for measuring the depth to the fluid surface in an oil well, and included a "mechanical acoustical resonator," which made measuring the depth easier than was the case with an apparatus disclosed in a prior art patent, the Lehr and Wyatt patent. The acoustical resonator however, was not claimed as such; rather, the claim recited, "means associated with said pressure responsive device for tuning said receiving means to the frequency of echoes from the tubing collars of said tubing sections to clearly distinguish the echoes from said

couplings from each other." Halliburton's accused device employed an electric filter, not an acoustical resonator.

The Supreme Court held that this claim structure was invalid under the predecessor statute to 35 U.S.C. § 112, Rev. Stat. 4888, 35 U.S.C. § 33. Although not entirely clear, the specific basis of the decision apparently was that the claims were of insufficient clarity; that they did not "particularly point out and distinctly claim" the invention, as Rev. Stat. 4888 then required, and as 35 U.S.C. § 112 still requires. See 329 U.S. at 3, 9, 11. In so holding, the Court expressed concern with a claim limitation that purported to cover all devices that could perform the recited function:

> What he [the patentee Walker] claimed in the court below and what he claims here is that his patent bars anyone from using in an oil well any device heretofore or hereafter invented which combined with the Lehr and Wyatt machine performs the function of clearly and distinctly catching and recording echoes from tubing joints with regularity. Just how many different devices there are of various kinds and characters which would serve to emphasize these echoes, we do not know.
> . . . Yet if Walker's blanket claims be valid, no device to clarify echo waves, now known or hereafter invented, whether the device be an actual equivalent of Walker's ingredient or not, could be used in a combination such as this, during the life of Walker's patent.

(329 U.S. at 12).

Section 112 of Title 35 came into force on January 1, 1953. The related Commentary stated that the portion of the statute authorizing means plus function claims was intended to confer "some measure of greater liberality in the use of functional expressions" than cases such as Halliburton allowed, but that the "exact limits of that enlargement remain to be determined." See 75 JPOS 161, 186 (1993). Yet to a significant degree, many practitioners continued to read means plus function claim limitations in the same way as they were in Halliburton: that they covered all means for performing the recited function.

Any basis for such an interpretation ended with the 1987 decision of Pennwalt Corp. v. Durand-Wayland, Inc., 833 F.2d 931 (Fed. Cir. 1987) (in banc). That case, in essence, held that the statute means just what it says: not only must the accused device contain a component that performs the function recited in the claim, but that component must be the same as the structure described in the patent, or an "equivalent" structure. See id. at 934.

This holding has profoundly changed patent law, with perhaps the most critical change being in claim scope. Prior to Pennwalt, it was common for plaintiff's charging patent infringement to assert that a means plus function claim covered virtually any means that performed the recited function -- indeed, some still do. Yet that is not the law,

and the Federal Circuit has admonished that means plus function claims cover far less than all means for performing the recited function. See Biodex Corp. v. Loredan Biomedicals, 946 F.2d 850, 863 (Fed. Cir. 1991). Putting aside whether that generalization holds true in every case, courts have found no infringement because the means in the patent was different from the alleged counterpart component in the accused device. See, e.g., Micro Chem., Inc. v. Great Plains Chem. Co., 103 F.3d 1538, 1547 (Fed. Cir. 1997); Alpex Computer Corp. v. Nintendo Co., 102 F.3d 1214, 1221-22 (Fed. Cir. 1996); Valmont Industries, Inc. v. Reinke Mfg. Co., 983 F.2d 1039, 1044 (Fed. Cir. 1993).

But claim scope was not the only impact of Pennwalt. In fact, some of the ramifications are still unfolding. Here are some of the questions that can arise in evaluating a means plus function limitation.

1. When Do You Have A Means Plus Function Limitation?

Since claim scope may critically depend on whether a claim limitation is construed as a means plus function claim within the meaning of 35 U.S.C. § 112(6), there have been a number of relatively recent cases concerning whether a claim limitation was, or was not, to be so construed.

One example is Greenberg v. Ethicon Endo-Surgery, Inc., 91 F.3d 1580 (Fed. Cir. 1996), involving a surgical

instrument in which the instrument's shafts could be rotated, while the handles of the instrument remained fixed in the surgeon's hands. To prevent the shafts from freely rotating while the instrument was in the surgeon's hands, the shafts had a wheel, and a spring-loaded ball was urged into one of a number of recesses placed around the periphery of the wheel. This "detent mechanism" was defined in claim 1 of the patent as follows:

not a means clause

> a radially enlarged wheel on said sleeve and said wheel and said one handle having a cooperating detent mechanism defining the conjoint rotation of said shafts in predetermined intervals . . . .

Greenberg filed suit against Ethicon, contending that three categories of Ethicon devices -- none of which was precisely the same as the detent mechanism described in the patent specification -- infringed the patent. The Federal Circuit held that Greenberg's claimed detent mechanism was not a means plus function element, despite the mechanism being defined in "functional terms". "What is important is not simply that a 'detent' or 'detent mechanism' is defined in terms of what it does, but that the term, as the name for structure, has a reasonably well understood meaning in the art". 91 F.3d at 1583.

While Greenberg involved a patentee who did not want a claim element interpreted as a means plus function

limitation subject to 35 U.S.C. § 112(6), the case of Cole v. Kimberly-Clark Corp., 102 F.3d 524 (Fed. Cir. 1996), involved a patentee who did. In Cole, the claimed "disposable training brief" included "perforation means . . . for tearing the outer impermeable layer means for removing the training brief in case of an accident by the user . . . ." The patent specification disclosed other means for tearing in addition to perforations. The accused training brief used ultrasonically welded seams, not perforations. The Federal Circuit held that the "perforation means . . . . for tearing" was not a means-plus-function element under 35 U.S.C. § 112(6). The court stated that a claim element must not recite a definite structure that performs the described function in order to fall within 35 U.S.C. § 112(6). Here, the claim element referred to structure -- perforations -- and as a result the element "cannot meet the requirements of the statute."

2. What Portion of the Claim Is Included In The Means Plus Function Limitation?

In O.I. Corp. v. Tekmar Co., 115 F.3d 1576 (Fed. Cir. 1997), the claim called for "means for passing the analyte slug through a passage . . . ." As for the "passage", the patent described basically a right-angle tube fitting with internal threads in one branch. The accused device used smooth-walled tubing, without internal threads. The patentee asserted that the "passage" in the claim was not part of the

means. The accused infringer contended that it was part of the means, that the specification only disclosed non-smooth tubing, that this distinguished over the smooth-walled prior art, and that therefore the means was not an equivalent, under § 112(6), to the accused infringer's smooth-walled tube. The Federal Circuit held that the "passage" was indeed not part of the means*, yet still held for the accused infringer by construing the term "passage" to exclude smooth-walled structures.

* The "means" was a pump on the tube,

but why? don't "passage" a good generic term?

3. What Is The Corresponding Structure?

It is the rare patent that will expressly define what is the structure that corresponds to a means plus function claim limitation. Thus in a computer patent claim reciting "means for inputting data", the patent specification may describe a remote personal computer communicating over the telephone lines to another computer, both of which use modems. Does all of this correspond to the means? Or some part? Or suppose no structure is mentioned in the patent specification; it merely says that "data can be input in the conventional manner." What is the corresponding structure?

"defined in the specification", let alone what is the equivalent of that structure

4. What Is An Equivalent Of The Corresponding Structure?

To determine the equivalents of the structure recited in the patent, resort is had to the claim language, the patent specification, the prosecution history, the other

claims, and expert testimony. E.g., Texas Instruments, Inc. v. USITC, 805 F.2d 1558, 1568 (Fed. Cir. 1986).

But an attorney certainly would look to these same factors in determining claim scope under the doctrine of equivalents. Does this mean that equivalents under 35 U.S.C. § 112(6) is the same as the doctrine of equivalents? The Federal Circuit has said that equivalency under § 112(6) "differs from the doctrine of equivalents", Valmont Industries Inc. v. Reinke Mfg. Co., 983 F.2d 1039, 1042 (Fed. Cir. 1993); and it has admonished that the two doctrines have different origins and purposes, and "'should not be confused'", id. at 1043 (quoting D.M.I., Inc. v. Deere & Co., 755 F.2d 1570, 1575 (Fed. Cir. 1985)); accord, Alpex Computer Corp. v. Nintendo Co., 102 F.3d 1214, 1222 (Fed. Cir. 1996) The Supreme Court, however, has suggested otherwise. In Warner-Jenkinson Co. v. Hilton Davis Chemical Co., 117 S. Ct. 1040, 1048 (1997), the court explained that § 112(6), in limiting the scope of means claims to only those means "equivalent" to the actual means shown in the specification, "is an application of the doctrine of equivalents in a restrictive role, narrowing the application of broad literal claim elements".

If however, the two tests are different, then what is this different test for determining equivalents under 35 U.S.C. § 112(6)? In addition, since equivalents under 35

U.S.C. § 112(6) differs from the doctrine of equivalents, suppose that an accused device performs the function, yet contains a non-equivalent structure under 35 U.S.C. § 112(6). Can there still be infringement under the doctrine of equivalents?

5. Does Disclosing Less Yield A Broader Patent Claim?

Prob. not! See 3. above.

Suppose a patent discloses two embodiments, A and B, that correspond to a claimed means plus function limitation. The limitation therefore embraces A, B, and their equivalents. Now suppose the patent discloses only embodiment A. Depending on the actual facts, the means plus function claim limitation may now be narrower in scope, since only equivalents of A are included, not both A and B.

But now suppose that no specific structure is disclosed ("data can be input in any of the variety of ways known to those of ordinary skill in the art"). Assuming the art knows a number of ways to implement the invention, A, B, C, D, E, ..., the result may be a claim of far broader scope than would have been the case had the patentee disclosed specific structure.

But why not disclose A, B and many other of the varieties of ways ...

Is such a result possible? One obstacle to this outcome could be the other provisions of 35 U.S.C. § 112. For example, as stated in In re Donaldson, 16 F.3d 1189, 1195 (Fed. Cir. 1994):

> [I]f one employs means-plus-function language in a claim, one must set forth in the specification an adequate disclosure showing what is meant by that language. If an applicant fails to set forth an adequate disclosure, the applicant has in effect failed to particularly point out and distinctly claim the invention as required by the second paragraph of section 112.

And maybe failed "best mode" requirement also.

See also D.M.I., Inc. v. Deere & Co., 755 F.2d 1570, 1574 (Fed. Cir. 1985)("Patentees are required to disclose in the specification some enabling means for accomplishing the function set forth in the 'means plus function' limitation"). These rulings may be suggesting that a patent must describe some specific structure in the specification that corresponds to the means; otherwise, the patent fails to "particularly point out and distinctly claim" the invention.

Summary

In interpreting the statutory provision found at 35 U.S.C. § 112(6), the courts are in the process of creating perhaps the most complex set of rules found in the already-complex field of patent law.

Accordingly, in drafting a patent containing means plus function claims, a great deal of care must be used in determining what those claims will be interpreted to mean, and what will be their resultant scope. Likewise, in enforcing means plus function claims, a great deal of time, money and effort needs to be spent, up front, to determine

just what each means plus function claim limitation means, and what each of those claim limitations cover. Do not wait for your adversary to construe those claim limitations first. And perhaps most importantly, never assume that the accused device contains the means simply because the device performs the recited function.

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Avoid "means" at the point of novelty, or everywhere?

1. "means for connecting A and B"
2. "a connector ~~connecting~~ joining A and B"
3. "A being connected to B"