

# United States Court of Appeals for the Federal Circuit

2006-1350

BIOMEDINO, LLC,

Plaintiff-Appellant,

v.

WATERS TECHNOLOGIES CORPORATION,

Defendant-Appellee,

and

GENERAL ELECTRIC COMPANY (doing business as GE Healthcare),

Defendant-Appellee,

and

AGILENT TECHNOLOGIES, INCORPORATED,

Defendant-Appellee.

Alisa Anne Lipski, Goldstein, Faucett & Prebeg, LLP, of Houston, Texas, argued for plaintiff-appellant. On the brief was Edward W. Goldstein.

Robert P. Taylor, Howrey LLP, of East Palo Alto, California, argued for defendant-appellee, General Electric Company (d/b/a GE Healthcare), and all other defendants-appellees. With him on the brief for General Electric Company were Matthew M. Wolf, Howrey LLP, of Washington DC, Wallace Wu, of Los Angeles, California, and Richard L. Stanley, of Houston, Texas. With him on the brief for Waters Technologies Corporation were Aslan Baghdadi, Lawrence J. Gotts, and June E. Cohan, Paul, Hastings, Janofsky & Walker LLP, of Washington, DC. With him on the brief for Agilent Technologies, Incorporated, were James W. Geriak, Kurt T. Mulville, and Hardip B. Passananti, Orrick, Herrington & Sutcliffe LLP, of Irvine, California. Of counsel was Joseph K. Liu.

Appealed from: United States District Court for the Western District of Washington

Chief Judge Robert S. Lasnik

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DECIDED: June 18, 2007

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Before RADER, Circuit Judge, ARCHER, Senior Circuit Judge, and GAJARSA, Circuit Judge.

ARCHER, Senior Circuit Judge.

Biomedino, LLC (“Biomedino”) appeals the judgment of the United States District Court for the Western District of Washington that claims 13-17 and 40 of U.S. Pat. No. 6,602,502 (“the ’502 patent”) are invalid for indefiniteness under 35 U.S.C. § 112, ¶ 2. Biomedino v. Waters Techs. Corp., No. CV05-0042 (W.D. Wash. Mar. 15, 2006). Because the claim limitation “control means” has no corresponding structure described

in the specification as required by 35 U.S.C. 112, ¶ 6, we affirm the district court's invalidity determination.

I

Section 112, ¶ 6 of Title 35 of the United States Code permits an applicant to express a claim limitation as a means or step for performing a specified function without claiming the structure that performs the function:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

35 U.S.C § 112, ¶ 6 (2000).

In Valmont Industries, Inc. v. Reinke Manufacturing Co., we explained that § 112, ¶ 6 permitted “broad means-plus-function language, but provided a standard to make the broad claim language more definite[: ] . . . [t]he applicant must describe in the patent specification some structure which performs the specified function.” 983 F.2d 1039, 1543 (Fed. Cir. 1993). Thus, in return for generic claiming ability, the applicant must indicate in the specification what structure constitutes the means.<sup>1</sup> “If the specification is not clear as to the structure that the patentee intends to correspond to the claimed function, then the patentee has not paid the price but is rather attempting to claim in functional terms unbounded by any reference to structure in the specification.” Med. Instrumentation & Diagnostics Corp. v. Elekta AB, 344 F.3d 1205, 1211 (Fed. Cir.

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<sup>1</sup> Permitting an applicant to use a broad means expression for claiming a functional limitation provided that the specification indicates what structure constitutes the means for performing the claimed function is often referred to as the “quid pro quo” for the convenience of employing § 112, ¶ 6. Atmel Corp. v. Info. Storage Devices, Inc., 198 F.3d 1374, 1378 (Fed. Cir. 1999).

2003). Thus, “[i]f 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 § 112.” In re Donaldson Co., 16 F.3d 1189, 1195 (Fed. Cir. 1994) (en banc).

The independent claims at issue in the present case recite as follows:

13. A device comprising a passage; binding means in said device for binding a species substantially specifically, said binding means being in fluid communication with said passage; exposure means in said device for exposing said species to said binding means and for preventing said binding means from leaving said device; closed regeneration means for separating said species from said binding means for reuse of said binding means in said device; valving for selectively connecting said closed regeneration means in fluid communication with said binding means, and control means for automatically operating said valving.

40. A closed regeneration device for separating a molecule bound substantially specifically to a binding species for reuse of said binding species said regeneration device comprising a first reagent, a first valve selectively connecting said first reagent in fluid communication with said molecule bound to the binding species to separate said molecule from said binding species, a second reagent, a second valve selectively connecting said second reagent in fluid communication with said binding species to return said binding species to a regenerated condition, and control means for automatically operating valves.

'502 patent col.13 ll.25-35, col.16 ll.20-31 (claim terms at issue emphasized).<sup>2</sup> Claims 14-17 are dependent from claim 13.

The district court began its construction of the term “control means” with the observation that if a claim element contains the term “means” and recites a function, there is a presumption that § 112, ¶ 6 applies. Biomedino, slip op. at 8. Concluding that the inclusion of the word “control” did not identify structure and thus did not

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<sup>2</sup> The parties treat “control means for automatically operating said valving” and “control means for automatically operating said valves” as identical.

overcome the presumption that the claim limitation was a means-plus-function limitation, the district court began a § 112, ¶ 6 analysis.

The only references in the specification to the “control means” are a box labeled “Control” in Figure 6 and a statement that the regeneration process of the invention “may be controlled automatically by known differential pressure, valving and control equipment.” ’502 patent col.11 ll.55-58. From this, the district court concluded:

The specification says nothing more than that unspecified equipment may be used to control the regeneration process. The fact that one skilled in the art could envision various types of equipment capable of automatically operating valves does not change the fact that no structure capable of performing that function was disclosed by the inventor.

Biomedino, slip op. at 11. As a result, the court held that “[t]he failure to disclose a structure corresponding to the ‘control means’ function makes claims 13-17 and claim 40 of indefinite scope in violation of § 112, ¶ 2 of the Patent Act.” Id.

Biomedino appeals, and we have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

## II

“A determination that a patent claim is invalid for failure to meet the definiteness requirement of 35 U.S.C § 112, paragraph 2, is ‘a legal conclusion that is drawn from the court’s performance of its duty as the construer of patent claims[, and i]ndefiniteness, therefore, like claim construction, is a question of law that we review de novo.” Intellectual Prop. Dev., Inc. v. UA-Columbia Cablevision of Westchester, Inc., 336 F.3d 1308, 1318 (Fed. Cir. 2003) (quoting Atmel, 198 F.3d at 1378).

### III

#### A

As an initial matter, we address Biomedino's assertion that use of the term "control" to describe "means" takes the phrase "control means" outside the realm in which § 112, ¶ 6 applies. This argument is based on the premise that "control means" recites sufficient structure on its own such that it obviates the need for § 112, ¶ 6. Biomedino argues that a "control" is a precise structure well understood by those of skill in the art, and thus, the word "means" in claims 13 and 40 can be ignored. Additionally, Biomedino contends that "control" is analogous to the term "controller" and conveys, to one skilled in the art, structure for controlling the valves and other equipment. We disagree.

When a claim uses the term "means" to describe a limitation, a presumption inheres that the inventor used the term to invoke § 112, ¶ 6. Altiris, Inc. v. Symantec Corp., 318 F.3d 1367, 1375 (Fed. Cir. 2003). "This presumption can be rebutted when the claim, in addition to the functional language, recites structure sufficient to perform the claimed function in its entirety." Id. Claims 13 and 40 recite no such structure. As the district court noted, the "reference to 'control' is simply an adjective describing 'means:' [sic] it is not a structure or material capable of performing the identified function." Biomedino, slip op. at 12. We agree with the district court and hold that Biomedino has not rebutted the presumption that § 112, ¶ 6 applies to "control means."

#### B

Once a court concludes that a claim limitation is a means-plus-function limitation, two steps of claim construction remain: 1) the court must first identify the function of the

limitation; and 2) the court must then look to the specification and identify the corresponding structure for that function. Med. Instrumentation, 344 F.3d 1205 at 1210. If there is no structure in the specification corresponding to the means-plus-function limitation in the claims, the claim will be found invalid as indefinite. See Atmel, 198 F.3d at 1378-79 (citing In re Donaldson, 16 F.3d at 1195).

While the specification must contain structure linked to claimed means, this is not a high bar: “[a]ll one needs to do in order to obtain the benefit of [§ 112, ¶ 6] is to recite some structure corresponding to the means in the specification, as the statute states, so that one can readily ascertain what the claim means and comply with the particularity requirement of [§ 112,] ¶ 2.” Atmel, 198 F.3d at 1382. Additionally, interpretation of what is disclosed in the specification must be made in light of the knowledge of one skilled in the art. Id. at 1380. Thus, in order for a means-plus-function claim to be valid under § 112, the corresponding structure of the limitation “must be disclosed in the written description in such a manner that one skilled in the art will know and understand what structure corresponds to the means limitation. Otherwise, one does not know what the claim means.” Id. at 1382. However, “the testimony of one of ordinary skill in the art cannot supplant the total absence of structure from the specification.” Default Proof Credit Card Sys., Inc. v. Home Depot U.S.A., Inc., 412 F.3d 1291, 1302 (Fed. Cir. 2005).

In the present case, there is no dispute that the claimed function is “automatically operating said valving”/“automatically operating valves.” The parties also agree that the only references in the specification to the “control means” are the box labeled “Control” in Figure 6 and a statement that the regeneration process may be “controlled

automatically by known differential pressure, valving and control equipment,” ’502 patent col.11 ll.55-58. Biomedino argues that the excerpt from the written description demonstrates that “known differential pressure equipment can be used to operate valves, known valving equipment may be used, or known control equipment may be used.” Biomedino further argues that the only remaining inquiry is whether one skilled in the art would identify the structure from that description. To demonstrate that one skilled in the art would identify structure from the description in the written description, Biomedino points to two prior art references and the appellees’ (collectively “Waters”) own expert’s testimony. Together, this evidence suggests that there were many known ways to operate valves, including pneumatically, hydraulically, mechanically, and electrically.

In response, Waters argues that there is no specific structure identified in the specification to correspond to the claimed function of automatically operating the valves/valving: “the reference to ‘differential pressure, valving and control equipment’ is not at all descriptive of specific structure by which the ‘control means’ will automatically operate the claimed valving.” As to the prior art references and expert testimony, citing Medical Instrumentation, 344 F.3d at 1212, Waters contends that the proper inquiry for identifying the structure corresponding to the recited function is “whether one of skill in the art would understand the specification itself to disclose the structure, not simply whether that person would be capable of implementing that structure.”

Essentially this case asks the following question: for purposes of § 112, ¶ 6, is sufficient corresponding structure disclosed when the specification simply recites that a claimed function can be performed by known methods or using known equipment where

prior art of record and the testimony of experts suggest that known methods and equipment exist? In Medical Instrumentation, 344 F.3d 1205, we came close to answering that question in the negative. In that case the alleged infringer argued that the district court improperly included software for digital-to-digital conversion as corresponding structure for the claimed “converting means.” Medical Instrumentation’s expert never pointed to any disclosure of structure for digital-to-digital conversion in the specification. When asked about digital-to-digital conversion in the patents, he explained that such conversion was not disclosed or discussed in the specification presumably because it was well-known in the art and required no explanation. We observed that there was no evidence to indicate that a person skilled in the art would actually understand from the specification that software for digital-to-digital conversion was structure that corresponded to the means for converting. Id. at 1217. “Because software [wa]s not clearly linked in the specification or prosecution history to the claimed function” of converting means, we held that the district court’s identification of software as a corresponding structure for § 112, ¶ 6 purposes was erroneous. Id. at 1222.

In another similar case, Atmel, we also stated that the specification must disclose some structure but found that such a disclosure had been made. The claim limitation at issue in Atmel was “high voltage generating means disposed on said semiconductor circuit for generating a high voltage from a lower voltage power supply.” 198 F.3d at 1376. The portion of the written description that pertained to the structural component of the means plus function limitation was the following: “the present invention may include high-voltage generator circuit 34. Known Circuit [sic] techniques are used to implement high-voltage circuit 34. See On-Chip High Voltage Generation in NMOS

Integrated Circuits Using an Improved Voltage Multiplier Technique, IEEE Journal of Solid State Circuits, Vol[.] SC-11, No. 3, June 1976.” Id. at 1377. Additionally, the figures of the relevant patent depicted the high-voltage generator circuit as a “black box.” Id.<sup>3</sup>

We began our sufficiency of the disclosure analysis in Atmel by explaining that structure supporting a means-plus-function claim under § 112, ¶ 6 must appear in the specification. Further, we noted that “consideration of the understanding of one skilled in the art in no way relieves the patentee of adequately disclosing sufficient structure in the specification.” Id. at 1380. We said that a proper indefiniteness analysis “asks first whether structure is described in the specification, and, if so, whether one skilled in the art would identify the structure from the description.” Id. at 1381. Thus, we concluded that the district court acted properly in ruling that the cited article could not take the place of structure that does not appear in the specification.

As noted, however, the written description in Atmel sets forth the article’s title, viz., “On-Chip High Voltage Generation in NMOS Integrated Circuits Using an Improved Voltage Multiplier Technique, IEEE Journal of Solid State Circuits.” Id. at 1382. Atmel’s expert had testified that the article’s title alone was sufficient to indicate to one skilled in the art the precise structure of the means recited in the specification. Id. Because this testimony was un rebutted, we concluded that the court improperly granted summary judgment that the patent was invalid for indefiniteness.

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<sup>3</sup> The first part of our analysis in Atmel involved a determination of whether the district court erred by failing to assess whether sufficient structure was disclosed in the specification to support the means-plus-function limitation based on the understanding of one skilled in the art. 198 F.3d at 1380. We answered this question in the affirmative.

There is a significant difference between the facts of Atmel and those in the present case. In Atmel it was not the fact that one skilled in the art was aware of known circuit techniques that resulted in a conclusion that sufficient structure was recited. Rather, it was the inclusion in the written description of the title of the article which itself described the structure for a “known circuit technique.” Expert testimony was used to show what the title of the article would convey to one skilled in the art—in that case it was “the precise structure of the means recited in the specification.” Atmel, 198 F.3d at 1382. The expert’s testimony did not create or infer the structure.

In the present case, there is nothing to suggest a structure for the claimed control means. As we have previously explained, § 112, ¶ 6 requires some disclosure of structure in the specification corresponding to the claimed means. “[W]hile it is true that the patentee need not disclose details of structures well known in the art, the specification must nonetheless disclose some structure.” Default Proof, 412 F.3d at 1302; see also Atmel, 198 F.3d at 1382 (“There must be structure in the specification” and the requirements of § 112, ¶ 6 will not be met when there is “a total omission of structure.”); Med. Instrumentation, 344 F.3d at 1211 (“If the specification is not clear as to the structure that the patentee intends to correspond to the claimed function, then the patentee has not paid [the price for use of the convenience of broad claiming afforded by § 112, ¶ 6] but is rather attempting to claim in functional terms unbounded by any reference to structure in the specification. Such is impermissible under the statute.”); Donaldson, 16 F.3d at 1195 (“[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.”).

The inquiry is whether one of skill in the art would understand the specification itself to disclose a structure, not simply whether that person would be capable of implementing a structure. Med. Instrumentation, 344 F.3d at 1212 (citing Atmel, 198 F.3d at 1382). Accordingly, a bare statement that known techniques or methods can be used does not disclose structure. To conclude otherwise would vitiate the language of the statute requiring “corresponding structure, material, or acts described in the specification.”

#### IV

For the foregoing reasons, the judgment of the district court holding claims 13-17 and 40 of the '502 patent as invalid for indefiniteness is

AFFIRMED.