United States District Court,
N.D. California.

OPTICAL COATING LABORATORY, INC,
Plaintiff.
v.
APPLIED VISION, LTD,
Defendant.
APPLIED VISION, LTD,
Counterclaimant.
v.
OPTICAL COATING LABORATORY, INC,
Counterdefendant.

No. C-92-4689 MHP

Jan. 19, 1996.

MEMORANDUM & ORDER

PATEL**, District Judge.**

Plaintiff Optical Coating Laboratory, Inc. ("OCLI") brought this action against defendant Applied Vision, Ltd. ("AVL"), alleging infringement of U.S. Patent No. 4,851,095 ("the '095 patent") in violation of 37 U.S.C. s. 271. Now before this court is the claim construction of the patent terms in dispute.

Having considered the parties' arguments and submissions, and for the reasons set forth below, the court enters the following memorandum and order.

BACKGROUND FN1

Plaintiff OCLI is a Delaware corporation with an established place of business in Santa Rosa, California. Defendant AVL is a British corporation with an established place of business in Leicestershire, Great Britain.

OCLI is the assignee of the '095 Patent, which was issued on July 25, 1989 to Michael A. Scobey, et al., for an invention entitled "Magnetron Sputtering Apparatus and Process," which is capable of applying thin protective films to optical grade lenses (also called substrates). AVL manufactures and sells a device known as the ARx10 Coating Machine ("the ARx10"), which uses an unbalanced magnetron to provide a plasma stream of activated species, including ions, activated oxygen, excited oxygen, neutrals, and/or argon.

Claim 35 of the '095 patent (hereinafter "Claim 35") states:

A process for forming single layer films and multi-layer composite films on substrates, comprising: providing a vacuum chamber having a movable workpiece carrier thereon and at least one magnetron-enhanced sputter cathode device positioned adjacent the workpiece carrier for sputter depositing a selected material onto the workpiece; providing at least one ion source device positioned adjacent to the workpiece carrier for providing a selected reaction with the selected material; pulling a vacuum in the chamber; moving the carrier past the devices; selectively operating the sputter cathode device to deposit a layer of the selected material on the substrate; and selectively operating the ion source device in sequence with the sputter cathode device for substantially completing the selected reaction during a single pass of the carrier.

Claim 24 of the '095 patent (hereinafter "Claim 24") states:

A sputter coating system comprising: a vacuum chamber, a movable workpiece carrier mounted within said vacuum chamber and adapted for mounting substrates thereon for moving the substrates past at least first and second physically spaced work stations; a linear magnetron-enhanced sputter device positioned at said first work station and including a target of selected material and means for generating an associated plasma within said device and adjacent said work station and substantially throughout an extended region of the chamber including the physically spaced second work station, for sputter depositing material on said substrates traversing the first work station; and a linear magnetron-enhanced ion source positioned at said second work station and adapted for using electrons from said plasma associated with said sputter device and applying reactive gas to form along a relatively narrow zone adjacent to the workpiece carrier a second plasma comprising ions of the reactive gas, the ion source further comprising means of applying a directed potential between said ion source and said plasma associated with said sputter device for accelerating the reactive ions to the substrates for effecting a selected reaction with the sputter-deposited material; and means adapted for reciprocating the substrate carrier past the work stations a plurality of times to achieve the desired film coating thickness.

It is undisputed that the ARx10 incorporates a vacuum chamber and a movable workpiece carrier mounted inside the vacuum chamber and adapted for mounting substrates thereon for moving the substrates past at least first and second physically spaced work stations. It is further undisputed that the ARx10 has at least one sputter cathode which supplies metals to the substrate loaded on its movable workpiece carrier, incorporates a process for forming single layer films and multi-layer composite films on substrates, and includes a process step which literally corresponds to the pulling of a vacuum in a vacuum chamber. Finally, it is undisputed that the ARx10 has at least one magnetron-enhanced sputter cathode device positioned adjacent to a workpiece carrier, and that the ARx10 process substantially completes a reaction during a single pass of the carrier.

OCLI filed this patent infringement action on December 2, 1992, alleging that AVL's selling and marketing of the ARx10 infringes the '095 patent. The parties stipulated to a temporary restraining order, which the court entered on December 9, 1992. On December 18, 1992 a hearing was held on OCLI's application for a preliminary injunction, which the court denied by order filed December 23, 1992 on the grounds that OCLI did not submit sufficient clear and convincing evidence of likelihood of success on the merits on its infringement claim; accordingly, the court dissolved the TRO. On December 22, 1992 AVL timely answered and counterclaimed for declaratory and injunctive relief and for damages based on OCLI's alleged unfair competition.

AVL subsequently filed a motion for summary judgment on noninfringement. The court denied that motion on June 29, 1994, on the grounds that there was a genuine dispute as to the construction of the claims at

issue as well as to whether the design of the accused device infringed those claims. Since then, Markman v. Westview Instruments, Inc., 52 F.3d 967 (Fed. Cir.), *cert. granted,* 116 S. Ct. 40 (1995) has mandated that courts construe the meaning and scope of patent claims as a matter of law. On May 16, 1995, AVL filed an application for leave to file a motion to reconsider its summary judgment motion in light of *Markman*. In a phone conference with the parties on August 29, 1995, the court ruled that it would revisit the motion for summary judgment solely on the issue of claim construction, and requested further briefing on that point.

LEGAL STANDARD

"[T]he interpretation and construction of patent claims, which define the scope of the patentee's rights under the patent, is a matter of law exclusively for the court." Markman, 52 F.3d at 970-71. *Markman* did not change the nature of the infringement analysis, which still proceeds in two steps. "The first step is determining the meaning and scope of the patent claims asserted to be infringed. The second step is comparing the properly construed claims to the device accused of infringing." *Id*. at 976; *see* Read Corp. v. Portec, Inc., 970 F.2d 816, 821 (Fed. Cir. 1992); Becton Dickinson and Co. v. C.R. Bard, Inc., 922 F.2d 792, 796 (Fed. Cir. 1990). Only the first step was at issue in *Markman* and likewise it is the only step at issue now. FN2

DISCUSSION

AVL's original motion sought summary judgment on noninfringement of independent claims 24 and 35. To aid the court in revisiting the first part of the infringement inquiry, the parties were asked to specify in a joint statement ("Joint Statement") the patent terms within claims 24 and 35 that were in dispute. The Joint Statement identified a total of thirteen disputed terms. At oral argument the parties narrowed the source of disagreement to three terms. FN3 The court will discuss each claim and disputed term in turn.

I. ***Analytic Framework***

To determine the meaning of claims within a patent, the court must look to the claim language, the specification and the prosecution history. Markman, 52 F.3d at 979 (citing Unique Concepts, Inc. v. Brown, 939 F.2d 1558, 1561 (Fed. Cir. 1991)).

The court may also consider extrinsic evidence to the extent it helps illuminate the language of the patent documents. Id. at 979, 980, 981. "The district court's claim construction, enlightened by such extrinsic evidence as may be helpful, is still based upon the patent and prosecution history." Id. at 981. FN4

AVL repeatedly contends that the court may only consider extrinsic evidence to the extent it explains scientific and technical terms or terms of art and that furthermore it is "improper" to consider such evidence when the terms in dispute are not technical. AVL is simply wrong and its analysis misreads *Markman,* which merely concluded that extrinsic evidence " *may* be helpful to explain" scientific principles, technical terms and terms of art. 52 F.2d at 980 (emphasis added). In fact, contrary to limiting a court's consideration of extrinsic evidence to technical issues, the *Markman* court explicitly acknowledged that a district court judge has broad discretion in determining what assistance she needs in understanding the patent terms. *Id*. at 981 (citations omitted).

However, caselaw limits the uses to which district courts may put such evidence. While extrinsic evidence may be used at any point to aid in interpreting the claims and illuminate the patent language, it may not alter or contradict the terms of the claims. Southwall Technologies, Inc. v. Cardinal IG Co., 54 F.3d 1570, 1578

(Fed. Cir.), *cert. denied,* --- S. Ct. ---- (Nov. 27, 1995); Markman, 52 F.3d at 981. As noted above, it is always the language of the patent claims, the patent specification and the prosecution history that guide claim construction. *Id.*

Moreover, unless claim terms are given a different meaning by the patentee, patent language is understood to convey its ordinary meaning to one skilled in the art. *Southwall,* 54 F.2d at 1578 (citing Intellical, Inc. v. Phonometrics, Inc., 952 F.2d 1384, 1387 (Fed. Cir. 1992)). Courts are to construe disputed claim language acording to "an objective test of what one of ordinary skill in the art at the time of the invention would have understood the term to mean." Markman, 52 F.3d at 986. In this respect, *Markman* does not represent a change in the controlling law.

II. *Discussion*

A. *Claim 35*

In their Joint Statement the parties identified six disputed terms within Claim 35. By the time of oral argument the sole term in dispute was "selectively operating" within the context of the phrases "selectively operating the sputter cathode device to deposit a layer of the selected material on the substrate" and "selectively operating the ion source device in sequence with the sputter cathode device ...."

Avidly adversarial, the parties make this determination harder than it needs to be by consistently exaggerating the position of the other side and obscuring the actual point of disagreement. As this court sees it, the crux of the debate is whether "selectively operating" refers to *how* a device is operated to control conditions or *whether* a device operates at all at any given moment in the process.

AVL contends that "selectively" modifies "operating" such that the term requires that both the sputter cathode device and the ion source device be capable of either operating or not operating. Joint Statement at 4, 5. In addition, AVL urges that since the patentees did not specifically define the term, it should be given its accustomed meaning. To support that proposed reading AVL looks to Webster's Dictionary to define "select" as "to pick or choose," and to the patent specification and prosecution history which discloses how to achieve the desired reaction by "selectively opening the shutters." '095 Patent at col. 13, line 62. At oral argument, AVL suggested that the term requires turning the stations on and off; its putative expert Albert Smith goes farther, implying that it requires shutters or baffles to prevent poisoning. *See* Declaration of Albert Smith, para. 16.

OCLI contends that it would be more accurate to interpret "selectively operating" to mean that the device "is operated selectively through allowing for selection of process conditions" necessary to create the desired reaction. Joint Statement at 5, 6. OCLI emphasizes a number of places in the patent to support their reading. For example, it enumerates the many instances in which a reaction is governed by the thickness of a coating or the power applied to the sputter sources to argue that those decisions require selective operation. OCLI opp. at 12, n.13. In other words, what one picks and chooses is not mere functionality but the myriad process conditions which dictate the end result. During oral argument, OCLI elaborated on this claim by referring to the invention's parameters--citing a list of process conditions in column twelve of the patent--which they contend are all controlled by selectively operating the sputter cathode and ion source devices. In fact, OCLI proposes that selective operation encompasses almost the entire array of operating conditions necessary to achieve the desired reaction, including the regulation of pressure, power flow, oxygen flow, and target material in addition to sequentially turning the devices on and off as contemplated by AVL. Selective operation according to OCLI is expansive enough to embrace continuous operation as well. OCLI

opp. at 12, n.13.

OCLI further relies on its putative experts to support its proposed reading of "selectively operating." Charles K. Carniglia, for example, attests that to one with ordinary skill in the art, the '095 patent "teaches selection of 'materials,' 'thickness of materials,' 'power,' 'pressure,' 'gas flow rates' and other process conditions for selective operation of the claimed magnetron-enhanced sputter device(s) and ion source(s)." Declaration of Charles K. Carniglia, para. 30. Finally, OCLI insists that selective operation does not necessitate shutters, baffles, or the ability to turn a device on and off.

First, with respect to separation of the sputter device and ion source device through the use of sputters or baffles, OCLI is correct that nothing in the patent requires these although the various embodiments make use of them. However, AVL is also right that physical separation is envisioned and incorporated into the '095 patent. *See* '095 Patent at col. 3, line 36. It appears that all the embodiments contemplate that "the sputter device and the ion source device are enclosed in distinct partial pressure regimes or chamber regions between which the substrate is alternated by the continuously rotating drum." '095 Patent at col. 8, lines 4-7. Furthermore, the '095 patent discloses one of the "essential differences" between it and the prior art is that the '095 "technique employs distinct separate non-contiguous zones for deposition and reaction." '095 patent at col. 18, lines 1-2.

Second, while the meaning of "selectively operating" as used in the patent is far from clear and both parties interpretations seem reasonable, this court's reading of the term tends toward that proposed by AVL in which the term refers to the choice of whether or when to operate or activate either a given sputter cathode device or the ion source device during a particular pass of the carrier. FN5

The interpretation proposed by OCLI is so expansive that it imports a great many functions into otherwise simple claim language. Without a doubt the invention requires both the selection of the process conditions and the selective operation of sputter cathode devices and the ion source device to achieve the conditioned result. However, the patent language appears to make a fine distinction between "selected" materials and conditions and "selective" operation. The patent documents use "selected" and "selectively" throughout and though they do not appear to be terms of art, they are used in different contexts within the patent specification and claims and seem to have slightly different meanings.

The meaning of "selectively operating" suggested by OCLI is better understood as the selection of "materials" and "reactions" rather than the selection of the sequence in which the devices should operate. Admittedly both types of selection occur and are correlated, but contrary to OCLI's contention, they appear as distinct processes within the context of the '095 patent and are not both embodied in the term "selective operation." For example, one *selects* metal 1 and metal 2 for the sputter cathodes and *selects* a particular sequence for depositing and oxidizing them, then one *selectively* operates the sputter and ion source devices to conform to the desired sequence. This distinction is best exemplified in the patent language in the summary of the rotary system operation:

With the sputter cathodes and ion source cathodes established at stable operating conditions, that is, at stable *selected* power, gas flow and pressure and with the drum operating at the specified rotational speed to provide *selected* deposition and oxidation rates, the desired deposition and oxidation sequence is effected by *selectively* opening the shutters.

'095 Patent at col. 13, lines 56-62 (emphasis added). As this language demonstrates, the process conditions

are already selected; the sputter cathode and ion source devices are then selectively activated in a given sequence to produce the contemplated result. Nor is this reading a limitation from the specification on the claims, as this distinction between selected conditions and selective operation appears not only in the specification, but in claim 35 itself as well as in claim 46. This use of "selectively" is also consistent with a number of other dependent claims, in particular claims 22, 23 and 40.

OCLI posited at oral argument that selective operation must mean to tailor the process conditions because those of ordinary skill in the art refer to activating the sputter cathode and ion source devices in sequence as "sequencing." OCLI cites an article on the ARx10 by AVL expert J. Michael Walls in support of this interpretation. Declaration of Larry R. Laycock, Exh. I at 388. However, the Walls article does not appear to use "sequencing" as a term of art; rather it discusses how the process is controlled by "activating each of the magnetrons in sequence." Id. This sequential activation is distinguished from the control of the other parameters of the ARx10 machine. Walls' description is also consistent with this court's construction of "selectively operating" in the context of the '095 patent in which selection of the process conditions or parameters occurs apart from the selective activation of the sputter cathode and ion source devices. In the '095 patent "selectively operating" therefore means selective activation or operation of the device regardless of the method used to achieve activation.

B. ***Claim 24***

In their Joint Statement the parties identified seven disputed terms within Claim 24. Again, the parties contentiousness was considerably larger than their actual disagreement. Most of the terms they imagined were in dispute were not differences that related to claim construction at all but to the capabilities of the ARx10, which is not relevant to the present inquiry. At the hearing on this motion the parties isolated two disputed terms which require construction by this court: 1) "linear" in the context of "linear magnetron-enhanced sputter device" and "linear magnetron-enhanced ion source" and 2) "reciprocating" in the context of "means adapted for reciprocating the substrate carrier past the work stations a plurality of times." Each will be addressed in turn.

1. ***A linear magnetron-enhanced sputter device and a linear magnetron-enhanced ion source device***

AVL maintains that linear should be understood in its ordinary sense, which it defines as resembling a straight line, long and narrow. Joint Statement at 9. Thus, in order to infringe, an accused device must employ long and narrow, even rectangular, magnetron-enhanced sputter devices and ion source devices. AVL makes much of the patent language which depicts deposition and reaction within "long narrow axial zones" as supporting its position that the devices at issue be linear. In response to OCLI's contention that the devices can be either linear *or* planar, AVL asserts that the words are not coterminous and that planar is broader, so that to the extent the magnetrons are planar they must *also* be linear.

OCLI asserts that the patentees exercised their right to be their own lexicographers in this instance and clearly defined "linear" to encompass the term "planar." They point to the repeated use of planar to modify magnetron and the seeming interchangeability of the terms linear and planar throughout the patent specification. They also cite their putative expert Bryant P. Hichwa as one with ordinary skill in the art who understands a circular planar magnetron to meet the definition of a linear magnetron. Deposition of Bryant P. Hichwa at ----. FN6 At oral argument OCLI sought to demonstrate its interpretation of linear by rotating a piece of paper to reveal how it can be at once linear and planar depending on the position from which one views it. It also distinguished the magnetron from the zone of treatment; the latter, it agreed, must be long and narrow.

AVL is correct that the '095 patent distinguishes itself from the prior art by effecting the deposition and reaction in long narrow axial zones adjacent the periphery of the carrier. '095 Patent at col. 2, lines 45-48. However, the language of the patent specification does not seem to require linear magnetrons to accomplish this effect. To the contrary, the specification allows for *any* ion source, for example, configured to produce such an effect, "such as the linear magnetron, or a suitably configured ion gun." '095 Patent at col. 2, lines 56-58. Moreover, elsewhere the specification calls for at least one "preferably linear" cathode plasma generating device. '095 Patent at col. 3, lines 22-23. Clearly the embodiments disclosed all use a linear magnetron sputter device and linear magnetron ion source device to achieve the required long narrow reaction zones, FN7 but contrary to AVL's contention, AVL reply at 11-12, nothing in the *specification* language requires this combination.

Despite the fact that the specification language does not require linear magnetrons, the claim language certainly does. The question for the court is the construction of linear in that context, and specifically whether linear and planar are interchangeable terms within the '095 patent. Both parties point to the fact that the specification describes the magnetron sputtering stations as "linear/planar." AVL reads the slash to mean "and" while OCLI reads it to mean "or." Both are plausible interpretations. And OCLI is correct that the terms appear to be used interchangeably elsewhere in the specification. Unlike the subtle distinctions evident between "selected" and "selectively" noted above, the patent does not seem to similarly distinguish linear and planar. The most telling use of both terms together suggests that planar should be understood as a subset of linear rather than the other way around: "The substrates are moved past a set of processing stations comprising (1) at least one preferably linear cathode plasma generating device (e.g., a planar magnetron or a Shatterproof rotating magnetron) ...." '095 Patent at col. 3, lines 20-25.

While it is true that patentees can be their own lexicographers, Markman, 52 F.3d at 980 (citing Autogiro Co. of Am. v. United States, 384 F.2d 391, 397 (Ct. Cl. 1967)), the catch is that special definitions must be clearly defined in the specification. *Id*. Given that linear and planar normally have quite distinct meanings that are not interchangeable, this court does not find that the specification is explicit enough to support the interpretation of linear offered by OCLI. It would indeed be relevant if one of ordinary skill in the art understood the term linear to encompass the term planar, however, the portion of Dr. Hichwa's deposition that plaintiff cites for this purpose is evidently miscited and nothing of the sort appears on the page provided. Furthermore, reference to the meaning of linear by OCLI's other putative experts are framed as legal opinion or go to literal infringement and are therefore not helpful to this court. FN8 Accordingly, the court does not construe linear as interchangeable with the term planar. To the extent a device is planar, it must also be linear to infringe the '095 patent.

2. ***Means adapted for reciprocating the substrate carrier past the work stations a plurality of times***

AVL contends that "reciprocating" means to move back and forth and that because the substrate carrier in the ARx10 rotates in a circle it does not infringe the '095 patent. AVL points to language in the specification that describes coating a substrate by moving it past the processing stations and from there "it is returned in the opposite direction .... The forward and reverse transport cycle is repeated until the desired oxide thickness of metal has been built up on the substrate." '095 Patent at col. 17, lines 4-5, 10-12.

OCLI protests that this description is taken from one particular embodiment of the invention and should not be read to limit the claim, nor can the dependant claim describing that embodiment be used to limit the independent claim at issue.

OCLI is quite right that the language AVL relies on is a description of an "in-line transitional system" that is distinguished from the rotary system depicted in the rest of the specification. In the rotary system, the workpiece carrier is cylindrical and moves "rotatably." Claim 25, '095 Patent at col. 24, lines 62-64. The in-line system, in contrast, utilizes a flat workpiece carrier whose movement is linear. Claim 26, '095 Patent at col. 25, lines 1-3. Both the rotary system and the in-line system--described in the specification and disclosed in dependant claims 25 and 26 respectively--are particular embodiments of the system disclosed in claim 24. Such limitations, as they exist in the specification, should not be read into claims. Sjolund v. Musland, 847 F.2d 1573, 1582 (Fed. Cir. 1988). Nor should explicit limitations in one claim be introduced into another. Caterpillar Tractor Co. v. Berco, S.P.A., 714 F.2d 1110, 1116 (Fed. Cir. 1983). Accordingly, as "reciprocating" can mean either moving back and forth or just simply returning, and as the embodiments described in the specification and claims contemplate both linear and rotary workpiece carriers, this court construes the term to be broad enough to include carriers that move in a circular rotation.

CONCLUSION

As set forth above, the disputed terms in Claims 35 and 24 are hereby construed as a matter of law.

IT IS SO ORDERED.

FN1. All facts in this section are derived from the Joint Statement of Undisputed Facts submitted by the parties, except where otherwise indicated.

FN2. After the claims have been properly construed, AVL may renew its motion for summary judgment on noninfringement and address the second step of the analysis.

FN3. It would have behooved attorneys on both sides to have narrowed the dispute *before* oral argument. It generally saves a client's money and the court's time.

FN4. The *Markman* court explained how the consideration of extrinsic evidence fits into the legal inquiry of claim construction:
Through this process of constructing claims by, among other things, using certain extrinsic evidence that the court finds helpful and rejecting other evidence as unhelpful, and resolving disputes *en route* to pronouncing the meaning of claim language as a matter of law based on the patent documents themselves, the court is *not* crediting certain evidence over other evidence or making factual evidentiary findings. Rather, the court is looking to the extrinsic evidence to assist in its construction of the written document, a task it is required to perform.

Markman, 52 F.3d at 981 (footnote omitted) (emphasis in original).

How district courts gather such extrinsic evidence is another question. As Delaware District Court Judge McKelvie has noted, courts can meet their obligation under *Markman* in three ways: they can make the

claim construction based on the papers, hold a bench trial and receive expert testimony, or go to trial and construe the claims in time to instruct the jury. Elf Atochem N. Am., Inc. v. Libbey-Owens-Ford Co., Inc., 894 F. Supp 844, 850 (D. Del. 1995).
FN5. It should be noted that the court does not concur with other readings of the phrase proffered by AVL. For example, AVL also understands selectively operating to mean a device must be turned on or off, or functionally removed from the system. Joint Statement at 6. This court reads the term to mean only that the device's ability to operate can be controlled or activated.

FN6. OCLI quotes Dr. Hichwa to this effect in its opposition memorandum and cites page 108 of his deposition which it attaches to the Declaration of Mr. Laycock as Exhibit J. However, nothing on page 108 of Dr. Hichwa's excerpted deposition discusses the meaning of linear.

FN7. In fact, all the disclosed embodiments use *rectangular* devices.

FN8. Dr. Carniglia does not say that linear also means planar to one of ordinary skill in the art. Instead, he asserts that the term linear is "defined in the '095 patent" to mean planar. Decl. of Charles K. Carniglia at para. 49. This is precisely the legal determination the court is to make and constitutes legal opinion of no use to the court. *See* Markman, 52 F.3d at 983. OCLI's final expert, patentee James W. Sesser, does not make any claims about the meaning of linear; rather, he opines that the ARx10 incorporates a *linear* magnetron. Decl. of James W. Sesser at para.para. 20-22. This evidence goes to the second step of the infringement analysis and is therefore irrelevant to the present inquiry.

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