United States Court of Appeals for the Federal Circuit

99-1499

SCIMED LIFE SYSTEMS, INC.,

Plaintiff-Appellant,

v.

ADVANCED CARDIOVASCULAR SYSTEMS, INC.,

Defendant-Appellee.

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Appealed from: United States District Court for the Northern District of California

Judge Martin J. Jenkins

United States Court of Appeals for the Federal Circuit

99-1499

SCIMED LIFE SYSTEMS, INC.,

Plaintiff-Appellant,

v.

ADVANCED CARDIOVASCULAR SYSTEMS, INC.,

Defendant-Appellee.

DECIDED: March 14, 2001

Before BRYSON, Circuit Judge, PLAGER, Senior Circuit Judge, and DYK, Circuit Judge. Opinion for the court filed by Circuit Judge BRYSON. Concurring opinion filed by Circuit Judge DYK .

SciMed Life Systems, Inc., (SciMed) owns three U.S. patents drawn to features of balloon dilatation catheters: U.S. Patent Nos. 5,156,594 (the '594 patent), 5,217,482 (the '482 patent), and 5,395,334 (the '334 patent). SciMed filed suit against Advanced Cardiovascular Systems, Inc., (ACS) in the United States District Court for the Northern District of California, charging ACS with infringement of each of the three patents. On ACS's motion for summary judgment, the district court ruled that ACS had not infringed the disputed patents. The district court's ruling was based on the court's conclusion that the asserted claims were limited to a structure not found in ACS's accused devices and on the

court's conclusion that ACS's devices did not infringe SciMed's patents under the doctrine of equivalents. We agree with the district court's claim construction and its ruling on the equivalents issue. We therefore affirm the summary judgment of non-infringement.

I

Balloon dilatation catheters are used in coronary angioplasty procedures to remove restrictions in coronary arteries. The SciMed patents describe catheters having three sections: a first shaft section, a second shaft section, and a transition section between the two. The first shaft section is long, relatively stiff, and generally tubular. The second shaft section is relatively flexible and contains a balloon at the end, which is inflated to relieve the arterial restriction. The transition section connects the first and second shaft sections and provides a gradual transition in stiffness between the two shaft sections.

> The catheters claimed in the SciMed patents contain two passageways, or lumens. The first lumen, the guide-wire lumen, is used to guide the catheter through a patient's arteries to the site of the arterial restriction. A guide wire is first inserted into one of the patient's arteries. The guide-wire lumen is then threaded over the guide wire to guide the catheter through the patient's arteries until the catheter reaches the coronary restriction. In the invention recited in the SciMed patents, the guide wire does not enter the catheter at the proximal end of the catheter, i.e., the end closer to the surgeon, but at a point nearer to the distal end of the catheter, i.e., the leading end of the catheter as it is inserted into the patient. The guide-wire lumen is present only in the distal portion of the catheter and does not extend the entire length of the catheter. The second lumen is the inflation lumen. It extends through all sections of the catheter and terminates in a connection with the balloon.

The balloon is inflated by forcing fluid into the inflation lumen. The balloon then compresses the material restricting the artery, thereby relieving the restriction.

The parties agree that only two arrangements of the two lumens are known and practiced in the art. In the dual (or adjacent) lumen configuration, the two lumens are positioned side-by-side within the catheter. In the coaxial lumen configuration, the guide wire lumen runs inside the inflation lumen; in that configuration the inflation lumen, viewed in cross-section, is annular in shape. The parties also agree that the accused ACS devices employ only the dual lumen configuration and that the preferred embodiment described in the SciMed patents employs the coaxial lumen configuration.

Based on language in the common written description portion of the three SciMed patents, the district court construed the asserted claims of the patents to be limited to catheters with coaxial lumens, and not to read on catheters with a dual lumen configuration. The court noted that "the language contained in SciMed's specifications expressly limits all embodiments of the claimed invention to a coaxial structure." The court focused in particular on language from the common specification describing the coaxial lumen structure as the "basic sleeve structure for all embodiments of the present invention contemplated and disclosed herein." That language, the court concluded, "leaves no doubt that a person skilled in the art would conclude that the inventor envisioned only one design for the catheters taught in SciMed's patents—an intermediate sleeve section containing two . . . lumens arranged coaxially."

In light of the district court's construction of the asserted claims, SciMed conceded that ACS's accused catheters did not literally infringe any of the asserted claims. In addition, the court held on summary judgment that the two lumen arrangements were

sufficiently different that no reasonable jury could find the accused catheters to infringe the SciMed patents under the doctrine of equivalents. SciMed appeals the claim construction and the summary judgment based on that construction.

II

The principal question in this case is a narrow one: whether the common specification of the three patents limits the scope of the asserted claims to catheters with coaxial lumens. There is nothing pertinent to this issue in the prosecution history of the three patents; the case turns entirely on an interpretation of the asserted claims in light of the specification, which is essentially identical for each of the three patents. Like the district court, we interpret the specification to disclaim the dual lumen configuration and to limit the scope of the asserted claims to catheters with coaxial lumen structures having annular inflation lumens. We therefore construe the asserted claims to read only on catheters with coaxial lumens, and not on catheters with dual or side-by-side lumens.

Claim 19 of the '594 patent is representative of the asserted claims of the three patents in suit. It claims the following:

> In an elongate dilatation catheter of the type that can be slidably moved along a guide wire that can extend past a distal end of the catheter, wherein the guide wire is received in a guide wire lumen of the catheter, the guide wire extending from a distal guide wire lumen opening to a proximal guide wire lumen opening disposed in a portion of the catheter that is spaced distally from a proximal end of the catheter, the dilatation catheter including an

inflatable balloon and an inflation lumen extending through the catheter separate from the guide wire lumen, an improvement comprising:

a first proximal shaft section of the catheter defined by a relatively rigid metallic tube;

a second shaft section disposed distally of the first shaft section, the second shaft section being relatively more flexible than the first shaft section; and

a transition section disposed between the first shaft section and the second shaft section, the transition section including a transition member comprising a metallic element of gradually diminished dimension, the transition member extending adjacent to the proximal guide wire lumen opening, and the transition member having gradually decreasing rigidity in the distal direction to provide a relatively smooth transition between the first shaft section and the second shaft section.

SciMed argues at length that in construing the claims based on the written description, the district court has committed one of the cardinal sins of patent law—reading a limitation from the written description into the claims. See Comark Communications, Inc. v. Harris Corp., 156 F.3d 1182, 1186, 48 USPQ2d 1001, 1005 (Fed. Cir. 1998). But that is not an accurate characterization of what the district court did. Instead, the district court properly followed the invocation that "[c]laims must be read in view of the specification, of which they are a part." Markman v. Westview Instruments, 52 F.3d 967, 979-980, 34 USPQ2d 1321, 1329 (Fed. Cir. 1995), aff'd, 517 U.S. 370 (1996); see also United States v. Adams, 383 U.S. 39, 49, 148 USPQ 479, 482 (1966) ("[C]laims are to be construed in

light of the specifications and both are to be read with a view to ascertaining the invention."); Slimfold Mfg. Co. v. Kinkead Indus., Inc., 810 F.2d 1113, 1116, 1 USPQ2d 1563, 1566 (Fed. Cir. 1987) ("Claims are not interpreted in a vacuum, but are part of and are read in light of the specification.").

As this court has recently explained, "[o]ne purpose for examining the specification is to determine if the patentee has limited the scope of the claims." Watts v. XL Sys., Inc., 232 F.3d 877, 882, 56 USPQ2d 1836, 1839 (Fed. Cir. 2000). Where the specification makes clear that the invention does not include a particular feature, that feature is deemed to be outside the reach of the claims of the patent, even though the language of the claims, read without reference to the specification, might be considered broad enough to encompass the feature in question. Thus, in the Watts case, the claim in dispute recited pipe joints that could be "sealingly connected." The court noted that the specification described only one method to achieve the sealing connection, that is, to misalign the taper angles of the respective threads of the joined pipes. The court pointed out that the specification "actually limits the invention to structures that utilize misaligned taper angles, stating that 'the present invention utilizes [the varying taper angle] feature.'" 232 F.3d at 883, 56 USPQ2d at 1840. In light of that statement, the court construed the claim language as limited to connections effected by misaligned taper angles.

Another case in which the claims were given a narrow construction in light of the written description is Wang Labs, Inc. v. America Online, Inc., 197 F.3d 1377, 53 USPQ2d 1161 (Fed. Cir. 1999). In that case, the parties agreed that in general usage the claim term "frame" could be applied both to "bit-mapped display systems" and to "character-based systems." The court, however, construed the claims as limited to character-based

systems. The court noted that the "only system that is described and enabled" in the patent specification "uses a character-based protocol," and that references to bit-mapped protocols did "not describe them as included in the applicant's invention, and that the specification would not be so understood by a person skilled in the field of the invention." Id. at 1382, 53 USPQ2d at 1164. Citing Modine Manufacturing Co. v. United States International Trade Commission, 75 F.3d 1545, 1551, 37 USPQ2d 1609, 1612 (Fed. Cir. 1996), the court explained that "when the 'preferred embodiment' is described as the invention itself, the claims are not entitled to a broader scope than that embodiment." 197 F.3d at 1383, 53 USPQ2d at 1165.

The court in Cultor Corp. v. A.E. Staley Manufacturing Co., 224 F.3d 1328, 56 USPQ2d 1208 (Fed. Cir. 2000), followed a similar analytical path. Although the claim language referred broadly to dissolving polydextrose in water, the written description made clear that the water-soluble polydextrose referred to in the claims was polydextrose prepared using a citric acid catalyst. Because the written description explicitly limited the subject matter of the patent to a polydextrose purification process using a citric acid catalyst, the court declined to hold that the asserted claims read on a process using a catalyst other than citric acid, even though the claims themselves did not refer to citric acid. The explicit reference in the specification to the invention as a process limited to one prepared with the citric acid catalyst, the court held, "effected a disclaimer of the other prior art acids. Claims are not correctly construed to cover what was expressly disclaimed." 224 F.3d at 1331, 56 USPQ2d at 1210.

In another similar case, O.I. Corp. v. Tekmar Co., 115 F.3d 1576, 1581, 42 USPQ2d 1777, 1781 (Fed. Cir. 1997), the patentee argued that the claim term "passage"

should be given its ordinary and accustomed meaning, and that the district court had erred by limiting the scope of the patent to the kind of "passage" employed in the preferred embodiment. The court rejected that argument on two grounds. First, it noted that "all of the 'passage' structures contemplated by the written description [were] either non-smooth or conical." In addition, the written description "expressly distinguishe[d] over prior art passages by stating that those passages are generally smooth-walled." Id., 42 USPQ2d at 1781. The court therefore concluded that "one skilled in the art reading the claims, description, and prosecution history would conclude that the term 'passage' . . . does not encompass a smooth-walled, completely cylindrical structure." Id.

Finally, we find instructive the analysis in Toro Co. v. White Consolidated Industries, Inc., 199 F.3d 1295, 53 USPQ2d 1065 (Fed. Cir. 1999). The patent at issue described and claimed a hand-held convertible vacuum-blower for vacuuming and blowing leaves and yard debris. In the claimed device, the cover was fitted with a ring that restricted the size of the air inlet when the device was being used in blower mode. One of the questions before the court was whether the cover, which the claim characterized as "including" a restriction ring, had to be permanently attached to the restriction ring. To answer that question the court looked to the specification. The court observed that the specification and drawings showed the ring as part of and permanently attached to the cover, and did not illustrate or describe any other structure. Indeed, the court pointed out, the specification described the advantages of the unitary structure as important to the invention. Based on the specification, the court construed the term "including" in the asserted claims as requiring that the restriction ring be attached to the cover. 199 F.3d at 1302, 53 USPQ2d 1069-70.

The analysis in these cases is directly applicable to the claim construction issue presented here. At various points, the common specification of the three patents indicates that the claimed invention uses coaxial, rather than side-by-side lumens, i.e., that the guide wire lumen is contained within the inflation lumen and that the inflation lumen is annular. Read together, these portions of the common specification lead to the inescapable conclusion that the references in the asserted claims to an inflation lumen "separate from" the guide wire lumen must be understood as referring to coaxial lumens, and thus that the asserted claims read only on catheters having coaxial lumens.

First, the abstract of each of the patents refers to the intermediate sleeve section of the invention as including "an inner core tube which defines a guide wire lumen." The abstract adds that the inflation lumen is "continued as an annular inflation lumen" through the sleeve section of the catheter. Thus, from the outset the specification identifies the inflation lumen, as that term is used in the SciMed patents, as annular, i.e. coaxial rather than dual in structure.

Second, in discussing the disadvantages of certain prior art structures, the written description of each of the patents explains that the prior art catheters with shortened guide wire lumens "suffer from several disadvantages." The first cited disadvantage is that "[s]uch catheters have been one piece polyethylene catheters having dual lumen configurations adjacent their distal regions. Typically, such catheters have larger than necessary shaft sizes and are stiffer in their distal regions than would be desired . . . ." '594 patent, col. 3, ll. 3-8; '482 patent, col. 3, ll. 5-10; '334 patent, col. 3, ll. 10-15. Thus, the SciMed patents distinguish the prior art on the basis of the

use of dual lumens and point out the advantages of the coaxial lumens used in the catheters that are the subjects of the SciMed patents. That discussion in the written description supports the district court's conclusion that the claims should not be read so broadly as to encompass the distinguished prior art structure. See, e.g., Tronzo v. Biomet, Inc., 156 F.3d 1154, 1159. 47 USPQ2d 1829, 1833 (Fed. Cir. 1998) (specification distinguished prior art as inferior and touted advantages of a conical shaped cup for use in an artificial hip device; "[s]uch statements make clear that the '589 patent discloses only conical shaped cups and nothing further"); Ekchian v. Home Depot, Inc., 104 F.3d 1299, 1304, 41 USPQ2d 1364, 1368 (Fed. Cir. 1997) ("[S]ince, by distinguishing the claimed invention over the prior art, an applicant is indicating what the claims do not cover, he is by implication surrendering such protection.").

Third, the "Summary of the Invention" portion of the patents describes "the present invention" as having a sleeve section with an inner core tube having a guide wire lumen extending through it and an outer sleeve defining "a longitudinally extending annular inflation lumen." '594 patent, col. 3, ll. 33-45; '482 patent, col. 3, ll. 34-46; '334 patent, col. 3, ll. 40-52. The characterization of the "present invention" includes several more references to the "annular inflation lumen" as well, see '594 patent, col. 3, ll. 58-59, 61, col. 4, ll. 43-44; '482 patent, col. 3, ll. 59-60, 62, col. 4, ll. 45-46; '334 patent, col. 3, ll. 65, 68, col. 4, ll. 51-52, and the "Conclusion" section of the written description again refers to the "guide wire lumen and annular inflation lumen" in the distal portions of the catheter. '594 patent, col. 14, ll. 26-28; '482 patent, col. 14, ll. 31-33; '334 patent, col. 3, ll. 41-44. As in the Wang Labs and Modine cases cited

above, the characterization of the coaxial configuration as part of the "present invention" is strong evidence that the claims should not be read to encompass the opposite structure.

The most compelling portion of the specification, and the portion on which the district court principally focused, is the passage in the section entitled "Catheter Intermediate Sleeve Section" in which the inflation lumen is described as annular in structure, being formed from an outer sleeve or tube (the inflation lumen) and an inner core tube (the guide wire lumen). See '594 patent, col. 7, ll. 26-28, 63-65; '482 patent, col. 7, ll. 29-31, 66-68; '334 patent, col. 7, ll. 41-43, col. 8, ll. 10-12. The patents then recite:

> The intermediate sleeve structure defined above is the basic sleeve structure for all embodiments of the present invention contemplated and disclosed herein—namely, an inner core tube bonded to a distal portion of the main catheter shaft, with an outer sleeve forming an annular continuation of the inflation lumen through the main shaft between the core tube and outer sleeve. As discussed below and illustrated herein, various configurations of the connections and components relative to the formation of the distal guide wire lumen, including the coupling of the main shaft to the intermediate sleeve section, are contemplated.

'594 patent, col. 8, ll. 3-14; '482 patent, col. 8, ll. 6-17; '334 patent, col. 8, ll. 18-29 (emphasis added).

This language defines SciMed's invention in a way that excludes the dual, or side-by-side, lumen arrangement. SciMed argues that the references to the annular inflation lumen are meant only to refer to the preferred embodiment of the invention, and not to indicate that the claims should be construed as limited to a structure employing coaxial lumens. That argument, however, flies in the face of the many statements in the written description that define "the invention" as employing a coaxial lumen structure and distinguish the prior art in part on the ground that it used a dual lumen structure, which had the disadvantage of making the shaft sizes of the catheters larger than necessary and making the catheters "stiffer in their distal regions than would be desired." '594 patent, col. 3, ll. 3-9; '482 patent, col. 3, ll. 5-11; '334 patent, col. 3, ll. 10-16. SciMed's argument is particularly unconvincing in the face of its own statement in the written description that the structure containing coaxial lumens ("namely, an inner core tube bonded to a distal portion of the main catheter shaft, with an outer sleeve forming an annular continuation of the inflation lumen through the main shaft between the core tube and the outer sleeve") is "the basic sleeve structure for all embodiments of the present invention contemplated and disclosed herein." '594 patent, col. 8, ll. 4-9; '482 patent, col. 8, ll. 7-12; '334 patent, col. 8, ll. 19-24. That characterization of the invention cannot reasonably be interpreted as limited to the preferred embodiment, as SciMed argues, but is expressly made applicable to "all embodiments of the present invention."

The words "all embodiments of the present invention" are broad and unequivocal. It is difficult to imagine how the patents could have been clearer in making the point that the coaxial lumen configuration was a necessary element of every variant of the claimed invention. Moreover, there is no suggestion that the patentee made that statement

unaware of the alternative dual lumen configuration, because earlier in the patent the patentee had distinguished the dual lumen configuration used in prior art devices as having disadvantages that the coaxial lumens used in the patented invention had overcome. See '594 patent, col. 3, ll. 1-22; '482 patent, col. 3, ll. 3-24; '334 patent, col. 3, ll. 8-29. (describing the dual lumen configuration). This is therefore a clear case of disclaimer of subject matter that, absent the disclaimer, could have been considered to fall within the scope of the claim language.

Citing Renishaw PLC v. Marposs Societa' per Azioni, 158 F.3d 1243, 1248, 48 USPQ2d 1117, 1121 (Fed. Cir. 1998), and Johnson Worldwide Assocs. v. Zebco Corp., 175 F.3d 985, 989-90, 50 USPQ2d 1607, 1610 (Fed. Cir. 1999), SciMed argues that the only way in which statements in the written description can restrict the scope of a claim is by setting forth a specific, narrowing definition for a particular claim term. As indicated by the cases discussed above, such as Watts, Wang Labs, Cultor, and Tekmar, SciMed's characterization of the role of the written description is too narrow. While it is true, of course, that "the claims define the scope of the right to exclude" and that "the claim construction inquiry, therefore, begins and ends in all cases with the actual words of the claim," Renishaw PLC, 158 F.3d at 1248, 48 USPQ2d at 1121, the written description can provide guidance as to the meaning of the claims, thereby dictating the manner in which the claims are to be construed, even if the guidance is not provided in explicit definitional format. See, e.g., Phonometrics, Inc. v. Northern Telecom Inc., 133 F.3d 1459, 1466, 45 USPQ2d 1421, 1426-27 (Fed. Cir. 1998); Gen. Am. Transp. Corp. v. Cryo-Trans, Inc., 93 F.3d 766, 769-70, 39 USPQ2d 1801, 1803-04 (Fed. Cir. 1996); Carroll Touch, Inc. v. Electro Mech. Sys., Inc., 15 F.3d 1573, 1577-78, 27 USPQ2d 1837, 1840-41 (Fed. Cir.

1993); Minn. Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc., 976 F.2d 1559, 1566, 1567 (Fed. Cir. 1992). In this case, the written description makes clear that when the asserted claims refer to the respective locations of the guide wire and inflation lumens, and in particular when the claims refer to the inflation lumen as "extending through the catheter separate from" the guide wire lumen, the claim language refers to coaxial lumens.

Because the three SciMed patents make clear that the lumens referred to in the claims are all coaxial in structure, the district court was correct to construe the patents as disclaiming the dual lumen configuration. Under such a construction, SciMed concedes that no literal infringement can be found. The district court therefore properly entered summary judgment in favor of ACS on the issue of literal infringement.

III

In a separate opinion, the district court rejected SciMed's argument that ACS's accused devices infringed the three asserted patents under the doctrine of equivalents. We agree with the court that the doctrine of equivalents is inapplicable in this case and that the district court properly granted summary judgment to ACS on that issue.

As noted above, the common specification of SciMed's patents referred to prior art catheters, identified them as using the dual lumen configuration, and criticized them as suffering from the disadvantages of having "larger than necessary shaft sizes" and being "stiffer in their distal regions than would be desired." '594 patent, col. 3, ll. 6-8; '482 patent, col. 3, ll. 8-10; '334 patent, col. 3, ll. 13-15. That criticism of the dual lumen configuration was consistent with the evidence from SciMed witnesses and documents, which noted the advantages of the coaxial lumen configuration in

increasing the flexibility of catheters and their ability to track through the coronary arterial system. The disclaimer of dual lumens was made even more explicit in the portion of the written description in which the patentee identified coaxial lumens as the configuration used in "all embodiments of the present invention."

Having specifically identified, criticized, and disclaimed the dual lumen configuration, the patentee cannot now invoke the doctrine of equivalents to "embrace a structure that was specifically excluded from the claims." Dolly, Inc. v. Spalding & Evenflo Cos., 16 F.3d 394, 400, 29 USPQ2d 1767, 1771 (Fed. Cir. 1994). A particular structure can be deemed outside the reach of the doctrine of equivalents because that structure is clearly excluded from the claims whether the exclusion is express or implied. In Moore, U.S.A., Inc. v. Standard Register Co., 229 F.3d 1091, 56 USPQ2d 1225 (Fed. Cir. 2000), for example, the court considered a claim to a mailer-type business form in which the longitudinal strips of adhesive extend "the majority of the lengths" of the longitudinal margins of the form. The patentee argued that the accused form, in which the longitudinal strips of adhesive extended a minority of the length of the longitudinal margin of the form, infringed under the doctrine of equivalents. The court rejected the argument, holding that "it would defy logic to conclude that a minority—the very antithesis of a majority—could be insubstantially different from a claim limitation requiring a majority, and no reasonable juror could find otherwise." 229 F.3d at 1106, 56 USPQ2d at 1236. Similarly, in Eastman Kodak Co. v. Goodyear Tire & Rubber Co., 114 F.3d 1547, 42 USPQ2d 1737 (Fed. Cir. 1997), the patent claimed a process that included crystallizing a particular substance at high temperature "under

an inert gas atmosphere." The patentee argued that certain of the accused processes, which used "heated air" rather than "an inert gas atmosphere" infringed under the doctrine of equivalents. The court rejected that argument, explaining that "the claim language specifically excludes reactive gases—such as 'heated air'—from the scope of the claims" and in light of that specific exclusion, the accused processes could not infringe under the doctrine of equivalents. 114 F.3d at 1561, 42 USPQ2d at 1747. In each of these cases, by defining the claim in a way that clearly excluded certain subject matter, the patent implicitly disclaimed the subject matter that was excluded and thereby barred the patentee from asserting infringement under the doctrine of equivalents.

The court did effectively the same thing in Sage Products, Inc. v. Devon Industries, Inc., 126 F.3d 1420, 44 USPQ2d 1103 (Fed. Cir. 1997). In that case, the claim was to a syringe disposal container having an elongated slot at the top of the container body and a "first constriction extending over said slot." Although those limitations did not literally read on the accused device, the patentee argued that the device infringed under the doctrine of equivalents. The court rejected that argument, noting that the claim

> defines a relatively simple structural device. No subtlety of language or complexity of the technology, nor any subsequent change in the state of the art, such as later-developed technology, obfuscated the significance of this limitation at the time of its incorporation into the claim. . . . If Sage desired broad patent protection for any container that performed a function similar to its claimed container, it could have sought claims with fewer structural

encumbrances. . . . [A]s between the patentee who had a clear opportunity to negotiate broader claims but did not do so, and the public at large, it is the patentee who must bear the cost of its failure to seek protection for this foreseeable alteration of its claimed structure.

126 F.3d at 1425, 44 USPQ2d at 1107. Thus, the court determined that because the scope of the claim was limited in a way that plainly and necessarily excluded a structural feature that was the opposite of the one recited in the claim, that different structure could not be brought within the scope of patent protection through the doctrine of equivalents. See Ethicon Endo-Surgery, Inc. v. U.S. Surgical Corp., 149 F.3d 1309, 1317, 47 USPQ2d 1272, 1277 (Fed. Cir. 1998) (subject matter is "specifically excluded" from coverage under the doctrine of equivalents if its inclusion is "inconsistent with the language of the claim").

Finally, in Athletic Alternatives, Inc. v. Prince Manufacturing, Inc., 73 F.3d 1573, 37 USPQ2d 1365 (Fed. Cir. 1996), the court addressed a claim directed to a system for stringing tennis rackets with splayed strings. The court construed the claim to require that the stringing system produce rackets with at least three different splay-creating offset distances for the strings. Having construed the claim in that manner, the court held that, for purposes of the doctrine of equivalents, "the properly construed claim cannot have an equivalent in a racket with only two offset distances," i.e., the two-distance splayed string system was "specifically excluded from the scope of the claims." 73 F.3d at 1582, 37 USPQ2d at 1373 (quoting Dolly, 16 F.3d at 400, 29 USPQ2d at 1771). See also Zodiac Pool Care, Inc. v. Hoffinger

Indus., Inc., 206 F.3d 1408, 1416, 54 USPQ2d 1141, 1147 (Fed. Cir. 2000) ("[N]o reasonable jury could find that a stop which extends to the peripheral edge of a disk is equivalent to one that is 'substantially inward' of the very same disk."); Wiener v. NEC Elecs., Inc., 102 F.3d 534, 541, 41 USPQ2d 1023, 1029 (Fed. Cir. 1996) (doctrine of equivalents does not extend to an accused device in which "the required structure is specifically excluded" by the patent).

The principle articulated in these cases is akin to the familiar rule that the doctrine of equivalents cannot be employed in a manner that wholly vitiates a claim limitation. See Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 29-30 (1997); Athletic Alternatives, 73 F.3d at 1582, 29 USPQ2d at 1771 ("specific exclusion" principle is "a corollary to the 'all limitations' rule"). Thus, if a patent states that the claimed device must be "non-metallic," the patentee cannot assert the patent against a metallic device on the ground that a metallic device is equivalent to a non-metallic device. The unavailability of the doctrine of equivalents could be explained either as the product of an impermissible vitiation of the "non-metallic" claim limitation, or as the product of a clear and binding statement to the public that metallic structures are excluded from the protection of the patent. As the court made clear in Sage, the foreclosure of reliance on the doctrine of equivalents in such a case depends on whether the patent clearly excludes the asserted equivalent structure, either implicitly or explicitly.

In that respect, this case is an even stronger one for not applying the doctrine of equivalents than cases such as Dolly, Sage, Eastman Kodak, Moore, and Athletic Alternatives. Each of the SciMed patents specifically recognized and disclaimed

the dual lumen structure, making clear that the patentee regarded the dual lumen configuration as significantly inferior to the coaxial lumen configuration used in the invention. Where such an explicit disclaimer is present, the principles of those cases apply a fortiori, and the patentee cannot be allowed to recapture the excluded subject matter under the doctrine of equivalents without undermining the notice function of the patent. As the court observed in Sage, the patentee had an opportunity to draft the patent in a way that would make clear that dual lumens as well as coaxial lumens were within the scope of the invention, but the patentee did just the opposite, leaving competitors and the public to draw the reasonable conclusion that the patentee was not seeking patent protection for catheters that used a dual lumen configuration. Under these circumstances, the district court was justified in concluding that a reasonable jury could not find that the accused devices infringe the SciMed patents under the doctrine of equivalents.

AFFIRMED.

United States Court of Appeals for the Federal Circuit

99-1499

SCIMED LIFE SYSTEMS, INC.,

Plaintiff-Appellant,

v.

ADVANCED CARDIOVASCULAR SYSTEMS, INC.,

Defendant-Appellee.

DYK, Circuit Judge, concurring.

On the facts of this particular case, I agree with the result reached by the majority, and I join the opinion. I also agree with the majority that "the written description can provide guidance as to the meaning of the claims, thereby dictating the manner in which the claims are to be construed, even if the guidance is not provided in explicit definitional format." The problem is that our decisions provide inadequate guidance as to when it is appropriate to look to the specification to narrow the claim by interpretation and when it is not appropriate to do so. Until we provide better guidance, I fear that the lower courts and litigants will remain confused.