

United States Court of Appeal for the Federal Circuit

01-1546, 02-1478

OMEGA ENGINEERING, INC.,

Plaintiff-Appellant,

v.

RAYTEK CORPORATION,
DAVIS INSTRUMENT MANUFACTURING COMPANY, INC.,
COLE-PARMER INSTRUMENT COMPANY, and
DWYER INSTRUMENTS, INC.,

Defendants-Appellees.

RAYTEK CORPORATION,

Plaintiff-Appellee,

v.

OMEGA ENGINEERING, INC.,

Defendant -Appellant,

and

NEWPORT ELECTRONICS, INC.,

Defendant.

Richard G. Greco, Kaye, Scholer LLP, of New York, New York, argued for Omega Engineering, Inc. Of counsel on the brief were Peter W. Peterson and Robert Curcio, DeLio & Peterson, LLC, of New Haven, Connecticut.

A. James Isbester, Isbester & Associates, of Berkeley, California, argued for Raytek Corporation, et al. With him on the brief were Robert L. Risberg and Paul Svendsen.

Appealed from: United States District Court for the District of Connecticut

Judge Janet C. Hall

United States Court of Appeals for the Federal Circuit

01-1546, 02-1478

OMEGA ENGINEERING, INC.,

Plaintiff-Appellant,

v.

RAYTEK CORPORATION,
DAVIS INSTRUMENT MANUFACTURING COMPANY, INC.,
COLE-PARMER INSTRUMENT COMPANY, and DWYER INSTRUMENTS, INC.,

Defendants-Appellees,

RAYTEK CORPORATION,

Plaintiff-Appellee,

v.

OMEGA ENGINEERING, INC.,

Defendant-Appellant,

and

NEWPORT ELECTRONICS, INC.,

Defendant.

DECIDED: July 7, 2003

Before MICHEL, CLEVINGER, and SCHALL, Circuit Judges.

CLEVINGER, Circuit Judge.

Omega Engineering, Inc. ("Omega") appeals the grants of summary judgment in favor of Raytek Corporation, Davis Instrument Manufacturing Company, Inc., Cole-Parmer Instrument Company, and Dwyer Instruments, Inc. (collectively "Raytek"). In this appeal involving three consolidated actions, the district court ruled that Raytek did not infringe the asserted claims of U.S. Patents Nos. 5,727,880 (the "'880 patent"), 5,823,678 (the "'678 patent"), and 5,823,679 (the "'679 patent"). Based on its claim construction, the trial court also invalidated claims 33 and 41 of the '679 patent as indefinite. Because the district court erred in its claim construction of the patents in suit, we reverse and remand.

I

The patents in suit relate to a laser sighting system for use on infrared thermometers. Such sighting systems address a problem particular to the operation of infrared thermometers, which are also called radiometers.

Before the advent of radiometers, mercury thermometers and other traditional means of measuring an object's temperature required physical contact between the sensor and the measured object. In many situations, however, physical contact is difficult or even impossible, such as when the object is a moving piece of machinery in an industrial setting or has

a temperature that exceeds the melting point of the sensor.

To address that problem, infrared thermometers can measure a surface's temperature remotely by assessing the amount of heat energy emitted in the form of infrared radiation. The radiometer detects infrared energy through a lens, which receives and directs radiation in the same way that the optics of a telescope receive visible light waves. Like a telescope, the radiometer's lens only detects radiation within its optical "field of view."

Because the radiometer measures temperature by averaging the temperature of all surfaces within its field of view, the optimum temperature measurement occurs when the target area perfectly fills the entire field of view. Under less than optimum conditions, the indicated temperature represents a mixture of object and background temperatures, possibly leading to inaccurate readings. It is therefore important to determine the location of the field of view and the extent to which it encompasses the target area.

Since infrared radiation is not visible to the naked eye, a radiometer user cannot easily determine the size and position of the surface area encompassed by the field of view. Several sighting systems for infrared thermometers have attempted to address that problem. For instance, U.S. Patent No. 4,494,881 issued to Everest ("Everest") illuminates the entire area encompassed by the field of view by directing onto it a beam of incandescent light. Similarly, Japanese Patent No. 62-12848 ("JP 62-12848") uses a plurality of incandescent light beams to identify the target area and its periphery. Other systems, such as the one disclosed by U.S. Patent No. 4,315,150 issued to Derringer ("Derringer"), use a single laser beam directed to the center of the area covered by the field of view.

The patents in suit disclose another sighting system for infrared thermometers. These patents teach methods or devices for using one or more laser beams to visually "outline" or determine "the periphery" of the surface area encompassed by the field of view. That target area within the field of view is known as the "energy zone," which the patents define as the surface area from which emanates 90 percent of the radiated energy received by the radiometer. '880 patent, col. 2, ll. 15-16; '678 patent, col. 2, ll. 25-26; '679 patent, col. 2, ll. 30-31.

The three patents in suit have the same genealogy, originating from an ancestor patent application that matured into U.S. Patent No. 5,368,392 (the "'392 patent"). The oldest patent in suit, the '880 patent, is the grandchild of the '392 patent and discloses a sighting device using at least one laser beam to outline the energy zone. The broadest claim covers:

1. A laser sighting device for outlining an energy zone to be measured by a radiometer when measuring the temperature of a surface, said device including:
 - means for projecting at least one laser beam toward said surface; and
 - means for causing said at least one laser beam to strike the periphery of the energy zone for visibly outlining said entire energy zone.

'880 patent, col. 9, ll. 34-41 (emphases added). Claim 16 covers a laser sighting device to identify the center and periphery of the energy zone:

16. A laser sighting device for identifying and defining the center and periphery of an energy zone to be measured by a radiometer when measuring the temperature of a surface, said device including:

means for projecting project at least one laser beam toward said surface; and

means for causing said at least one laser beam to identify and define both the center and only the periphery of said energy zone.

Id., col. 10, ll. 24-33 (emphases added). All of the asserted claims of this patent (claims 1, 3, 16 and 18) are concededly written in means-plus-function format.

As a continuation in part of the '880 patent, the '678 patent claims methods and devices using more than two laser beams to outline the energy zone. Claim 1 of the '678 patent states:

1. A method for outlining an energy zone on a surface whose temperature is to be measured using the combination of a radiometer and a laser aiming device, said method comprising the steps of providing said laser device associated with said radiometer, and causing said device to emit simultaneously a plurality of more than two laser beams towards said surface to strike said surface at individual mutually spaced locations to outline said energy zone.

'678 patent, col. 10, ll. 55-62 (emphases added).

Although it issued on the same day as the '678 patent, the '679 patent is in fact a continuation in part of the '678 patent and teaches the use of at least three laser beams to outline the energy zone. The broadest independent claim of the '679 patent covers:

1. A method for outlining an energy zone on a surface whose temperature is to be measured using the combination of a temperature measurement device and a laser sighting device, said method comprising the steps of providing a laser sighting device associated with said temperature measurement device and causing said laser device to emit a plurality of at least three laser beams toward said surface to strike said surface simultaneously at mutually spaced locations serving to outline said energy zone.

'679 patent, col. 12, l. 64 - col. 13, l. 5 (emphases added).

Omega asserted infringement of all three patents by Raytek's MX and ST series devices. The MX models use a diffraction device to divide a laser beam into sixteen separate beams, fifteen of which are directed to the periphery of the energy zone while the sixteenth beam is directed to the center of the zone. Similarly, the ST models use a diffraction device or beam splitter to divide a laser beam into multiple beams projecting around the energy zone, with one beam directed into the center of the energy zone. In its pleadings, Omega asserted that the MX and ST devices infringed claims 1, 3, 16 and 18 of the '880 patent; all of the claims of the '678 patent except claim 5; and claims 1 to 53 of the '679 patent.

In resolving the parties' claim construction disputes, the district court interpreted the phrases "to outline the energy zone," "outline visibly" the energy zone, "to outline visibly the periphery," and equivalent phrases in the asserted claims of the '678 and '679 patents as excluding a laser beam directed inside the energy zone. The trial court also interpreted "means

for causing" in claim 1 of the '880 patent as projecting a laser beam toward the surface but not encompassing any "light striking the center or interior portion of the energy zone." In the same vein, the court read claim 16 of the '880 patent as precluding the simultaneous identification of the center and periphery of the energy zone by the "means for causing."

Based on its construction of the claims and the undisputed fact that the accused devices have a laser beam directed to the center of the energy zone, the district court granted summary judgment of noninfringement in Raytek's favor. In the alternative, the trial court also granted summary judgment invalidating claims 33 and 41 of the '679 patent for indefiniteness, because claims 33 and 41 explicitly require a central laser beam while being dependent on claims construed to exclude any laser beam directed inside the energy zone. Omega timely appealed, vesting us with jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

II

We review the grant of summary judgment de novo, without deference to the district court's determinations. IMS Tech., Inc. v. Haas Automation, Inc., 206 F.3d 1422, 1429, 54 USPQ2d 1129, 1133 (Fed. Cir. 2000). We therefore reapply the standard set forth in Rule 56 of the Federal Rules of Civil Procedure. Suntiger, Inc. v. Scientific Research Funding Group, 189 F.3d 1327, 1334, 51 USPQ2d 1811, 1815 (Fed. Cir. 1999).

A motion for summary judgment shall be granted where "there is no genuine issue as to any material fact and . . . the moving party is entitled to a judgment as a matter of law." Fed. R. Civ. P. 56(c). Summary judgment is therefore appropriate when there is no genuine issue of material fact or when, drawing all factual inferences in favor of the nonmoving party, no "reasonable jury could return a verdict for the nonmoving party." Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248 (1986). The party opposing the motion cannot rest on the mere allegations or denials of his pleading, but must "go beyond the pleadings and by her own affidavits, or by the 'depositions, answers to interrogatories, and admissions on file' designate 'specific facts showing that there is a genuine issue for trial.'" Celotex Corp. v. Catrett, 477 U.S. 317, 324 (1986) (citation omitted). Material facts are those which "might affect the outcome of the suit under the governing law." Anderson, 477 U.S. at 248. Any doubt as to the existence of any issue of material fact requires denial of the motion. Id.

A determination of infringement involves a two-step analysis. "First, the claim must be properly construed to determine its scope and meaning. Second, the claim as properly construed must be compared to the accused device or process." Carroll Touch, Inc. v. Electro Mech. Sys., Inc., 15 F.3d 1573, 1576, 27 USPQ2d 1836, 1839 (Fed. Cir. 1993). We review the first step, determining the meaning and scope of the patent claims, as a matter of law, without deference to the trial court. Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1456, 46 USPQ2d 1169, 1174 (Fed. Cir. 1998) (en banc). The second step, comparing the properly construed claims to the accused device, is a question of fact. Bai v. L & L Wings, Inc., 160 F.3d 1350, 1353, 48 USPQ2d 1674, 1676 (Fed. Cir. 1998).

As mandated by the definiteness requirement of the Patent Act, a specification must conclude with claims "particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." 35 U.S.C. § 112, ¶ 2 (2000). Determining whether a claim is definite requires an analysis of "whether one skilled in the art would understand the bounds of the claim when read in light of the specification If the claims read in light of the specification reasonably apprise those skilled in the art of the scope of the invention, § 112 demands no more." Miles Labs., Inc. v. Shandon, Inc., 997 F.2d 870, 875, 27 USPQ2d 1123, 1126 (Fed. Cir. 1993). We conduct that analysis de novo, because "[a] determination of claim indefiniteness is a legal conclusion that is drawn from the court's performance of its duty as the construer of patent claims." Personalized Media Communications, LLC v. Int'l Trade Comm'n, 161 F.3d 696, 705, 48 USPQ2d 1880, 1888 (Fed. Cir. 1998).

III

Turning first to the summary judgment that claims 1 and 3 of the '880 patent were not infringed, we commence our plenary review of that ruling by determining the proper scope of the claims at issue. TurboCare Div. of Demag Delaval Turbomachinery Corp. v. Gen. Elec. Co., 264 F.3d 1111, 1120, 60 USPQ2d 1017, 1024 (Fed. Cir. 2001).

Claims 1 and 3 of the '880 patent require a "means for causing said at least one laser beam to strike the periphery of the energy zone for visibly outlining said entire energy zone." The parties agree that those claims at issue are in means-plus-function format and therefore invoke the provisions of 35 U.S.C. § 112, ¶ 6. See Wenger Mfg., Inc. v. Coating Mach. Sys., Inc., 239 F.3d 1225, 1232, 57 USPQ2d 1679, 1684 (Fed. Cir. 2001) (holding that claim limitation using the term "means for" and not reciting any structure presumptively falls within the scope of § 112, ¶ 6).

Section 112, paragraph 6, allows a patentee to recite a function to be performed as a claim limitation rather than reciting structure or materials for performing that function. 35 U.S.C. § 112, ¶ 6 (2000). The construction of a means-plus-function limitation follows a two-step approach. First, we must identify the claimed function, Micro Chem., Inc. v. Great Plains Chem. Co., Inc., 194 F.3d 1250, 1258, 52 USPQ2d 1258, 1263 (Fed. Cir. 1999), staying true to the claim language and the limitations expressly recited by the claims. Cardiac Pacemakers, Inc. v. St. Jude Med., Inc., 296 F.3d 1106, 1113, 63 USPQ2d 1725, 1730 (Fed. Cir. 2002). Once the functions performed by the claimed means are identified, we must then ascertain the corresponding structures in the written description that perform those functions. Id. A disclosed structure is corresponding "only if the specification or the prosecution history clearly links or associates that structure to the function recited in the claim." B. Braun Med., Inc. v. Abbott Labs., 124 F.3d 1419, 1424, 43 USPQ2d 1896, 1900 (Fed. Cir. 1997). In other words, the structure must be necessary to perform the claimed function. Northrop Grumman Corp. v. Intel Corp., 325 F.3d 1346, 1352, 66 USPQ2d 1341, 1345 (Fed. Cir. 2003).

A

At the threshold, the parties disagree on the proper function performed by the "means for causing" in claims 1 and 3 of the '880 patent. According to the text of claim 1, on which claim 3 is dependent, the "means" causes "at least one laser beam to strike the periphery of the energy zone for visibly outlining said entire energy zone." '880 patent, col. 9, ll. 39-41 (emphases added). The district court construed the phrase "strike the periphery . . . for visibly outlining" in the claims' function as encompassing the "projection of the laser light toward the surface, but does not encompass light striking the center or interior portion of the energy zone." In reaching that interpretation, the trial court reasoned that the language of claims 1 and 3 requires the laser beam to only strike the periphery of the energy zone. To buttress that decision, the district court indicated that permitting the laser beam to strike the center of the energy zone would be contrary to the claim's purpose of visibly outlining the energy zone and contradict an express element of the claim. However, neither the reasons provided by the district court nor our plenary review of the intrinsic evidence support that claim interpretation.

"When construing the functional statement in a means-plus-function limitation, we must take great care not to impermissibly limit the function by adopting a function different from that explicitly recited in the claim." Generation II Orthotics, Inc. v. Med. Tech., Inc., 263 F.3d 1356, 1364-65, 59 USPQ2d 1919, 1926 (Fed. Cir. 2001). Despite that admonition, the trial court's ruling incorporated into the claim language a novel negative limitation, precluding the laser beam affected by the "means for causing" from striking the center or the interior of the energy zone. As construed by the district court, claims 1 and 3 now encompass a "means for causing said at least one laser beam to strike the periphery of the energy zone, but not strike the center or interior portion of the energy zone, for visibly outlining said entire energy zone."

This additional negative limitation finds no anchor in the explicit claim language. The express text of the claims does not prohibit the laser beam from striking inside the energy zone. The claims' wording only calls for the laser beam to "strike the periphery of the energy zone for visibly outlining said entire energy zone." '880 patent, col. 9, ll. 39-41. The phrase added by the district court finds no support in the text of the claims.

Nor is that negative limitation inherent in the term "periphery," as believed by the district court and argued by Raytek. The term's ordinary and customary meaning as discernible from dictionary evidence, see Schumer v. Lab. Computer Sys., Inc., 308 F.3d 1304, 1311, 64 USPQ2d 1832, 1838 (Fed. Cir. 2002) ("The proper approach is to construe the claim language using standard dictionary definitions, because here, the claims have no specialized meaning."), is "the perimeter of a circle, ellipse, or other closed curvilinear figure." Webster's Third New Int'l Dictionary 1681 (1993). That definition does not necessitate the addition of a negative limitation, since nothing in the term's denotation precludes the laser beam from striking inside the energy zone's perimeter. The plain words of the claims merely require that the laser beam strike the periphery of that zone.

In the same vein, we do not agree with the trial court that directing light inside the energy zone would contradict the

claim's stated purpose of "visibly outlining said entire energy zone." The inherent contradiction identified by the district court exists only because it assumed that a laser beam directed inside the energy zone cannot at the same time outline that zone. That assumption, in turn, supposes two facts: (1) the claimed invention only has one laser beam, and (2) the sole laser beam is incapable of outlining while striking the inside of the energy zone at the same moment. The plain words of the claims belie the first supposition, since the claims permissively call for "at least one laser beam." '880 patent, col. 9, l. 39 (emphasis added). The phrase "at least one" indicates that the "means for causing" does not necessarily act on only one laser beam. See Rhine v. Casio, Inc., 183 F.3d 1342, 1345, 51 USPQ2d 1377, 1379 (Fed. Cir. 1999) ("Use of the phrase 'at least one' means that there could be only one or more than one."). The second supposition is equally flawed, because the claims only require that the laser beam strike the periphery to outline the energy zone. In other words, striking the inside of the energy zone is not a requirement of the plain claim language, avoiding the necessity of the laser beam being both outside and inside the energy zone at the same time. Consequently, with both suppositions put to rest, the assumption made by the district court can no longer stand, exposing the alleged contradiction as a mere illusion.

Beyond the words of the claim, neither the district court nor Raytek has identified any express disclaimer or independent lexicography in the written description that would justify adding that negative limitation. See CCS Fitness, Inc. v. Brunswick Corp., 288 F.3d 1359, 1366-67, 62 USPQ2d 1658, 1662-63 (Fed. Cir. 2002). Our independent review of the patent document, see Bell Atl. Network Servs., Inc. v. Covad Communications Group, Inc., 262 F.3d 1258, 1266, 59 USPQ2d 1865, 1869 (Fed. Cir. 2001), reveals no express intent to confer on the claim language the novel meaning imparted by this negative limitation. Accordingly, we must conclude that there is no basis in the patent specification for adding the negative limitation.

B

We indulge a "heavy presumption" that claim terms carry their full ordinary and customary meaning, CCS Fitness, 288 F.3d at 1366, 62 USPQ2d at 1662, unless the patentee unequivocally imparted a novel meaning to those terms or expressly relinquished claim scope during prosecution, see Teleflex, Inc. v. Ficosa N. Am. Corp., 299 F.3d 1313, 1325-26, 63 USPQ2d 1374, 1380-81 (Fed. Cir. 2002). Raytek urges us to disregard that strong presumption and to condone the added negative limitation based on Omega's alleged disclaimer of the use of a central laser beam during the patent prosecution. See Cybor Corp., 138 F.3d at 1457, 46 USPQ2d at 1175 (stating that a patent's prosecution history "is relevant to the construction of a claim written in means-plus-function form"). Omega of course disagrees. On the facts of this case, Omega's prosecution disclaimer is more circumscribed than Raytek asserts.

The doctrine of prosecution disclaimer is well established in Supreme Court precedent, precluding patentees from recapturing through claim interpretation specific meanings disclaimed during prosecution. See Schreiber-Schroth Co. v. Cleveland Trust Co., 311 U.S. 211, 220-21 (1940) ("It is a rule of patent construction consistently observed that a claim in a patent as allowed must be read and interpreted with reference to claims that have been cancelled or rejected, and the claims allowed cannot by construction be read to cover what was thus eliminated from the patent."); Crawford v. Heysinger, 123 U.S. 589, 602-04

(1887); Goodyear Dental Vulcanite Co. v. Davis, 102 U.S. 222, 227 (1880); cf. Graham v. John Deere Co., 383 U.S. 1, 33 (1966) (ruling, in addressing the invalidity of the patents in suit, that "claims that have been narrowed in order to obtain the issuance of a patent by distinguishing the prior art cannot be sustained to cover that which was previously by limitation eliminated from the patent").

In light of the Court's guidance, we have adopted that doctrine as a fundamental precept in our claim construction jurisprudence. See Tex. Digital Sys., Inc. v. Telegenix, Inc., 308 F.3d 1193, 1204, 64 USPQ2d 1812, 1819 (Fed. Cir. 2002); Hockerson-Halberstadt, Inc. v. Avia Group Int'l, Inc., 222 F.3d 951, 956, 55 USPQ2d 1487, 1491 (Fed. Cir. 2000); Southwall Techs., Inc. v. Cardinal IG Co., 54 F.3d 1570, 1576-77, 34 USPQ2d 1673, 1676-77 (Fed. Cir. 1995); Biodex Corp. v. Loredan Biomedical, Inc., 946 F.2d 850, 863, 20 USPQ2d 1252, 1262 (Fed. Cir. 1991); Standard Oil Co. v. Am. Cyanamid Co., 774 F.2d 448, 452, 227 USPQ 293, 296 (Fed. Cir. 1985) (ruling that "the prosecution history (or file wrapper) limits the interpretation of claims so as to exclude any interpretation that may have been disclaimed or disavowed during prosecution in order to obtain claim allowance"); McGill Inc. v. John Zink Co., 736 F.2d 666, 673, 221 USPQ 944, 949 (Fed. Cir. 1984). As a basic principle of claim interpretation, prosecution disclaimer promotes the public notice function of the intrinsic evidence and protects the public's reliance on definitive statements made during prosecution. See Digital Biometrics, Inc. v. Identix, Inc., 149 F.3d 1335, 1347, 47 USPQ2d 1418, 1427 (Fed. Cir. 1998).

We have, however, declined to apply the doctrine of prosecution disclaimer where the alleged disavowal of claim scope is ambiguous. For instance, in Northern Telecom Ltd. v. Samsung Electronics Company, 215 F.3d 1281, 1293-95, 55 USPQ2d 1065, 1074-75 (Fed. Cir. 2000), the accused infringer relied on remarks made by the inventors to overcome a rejection as the basis for narrowing the broad language of the claims. Having independently considered the prosecution history, we viewed the inventors' statements as amenable to multiple reasonable interpretations and deemed the remarks so ambiguous that, "[l]ike the district court, we simply cannot tell." Id. at 1294, 55 USPQ2d at 1075. Since the prosecution statements were "far too slender a reed to support the judicial narrowing of a clear claim term," we declined to apply the doctrine of prosecution disclaimer under those circumstances. Id.; see also Rexnord Corp. v. Laitram Corp., 274 F.3d 1336, 1347, 60 USPQ2d 1851, 1858 (Fed. Cir. 2001) (refusing to limit the ordinary meaning of the claim because the alleged disclaimer in the file wrapper was at best "inconclusive"); Pall Corp. v. PTI Techs. Inc., 259 F.3d 1383, 1393-94, 59 USPQ2d 1763, 1770 (Fed. Cir. 2001) (finding that the scope of disclaimer over the prior art reference was ambiguous and thus remanding for clarification), vacated on other grounds, 535 U.S. 1109 (2002); DeMarini Sports, Inc. v. Worth, Inc., 239 F.3d 1314, 1326-27, 57 USPQ2d 1889, 1895-96 (Fed. Cir. 2001) (refusing to rely on ambiguity surrounding examiner's silence or patentee's lack of argument during prosecution to construe claim term); Vanguard Prods. Corp. v. Parker Hannifin Corp., 234 F.3d 1370, 1372, 57 USPQ2d 1087, 1089 (Fed. Cir. 2000) (refusing to narrow the asserted claim based on prosecution disclaimer because "the prosecution history does not support [the infringer]'s argument that the Vanguard inventors 'expressly disclaimed' claim scope beyond products made by co-extrusion"); Serrano v. Telular Corp., 111 F.3d 1578, 1584, 42 USPQ2d 1538, 1542-43 (Fed. Cir. 1997); cf. Spectrum Int'l, Inc. v. Sterilite Corp., 164 F.3d 1372, 1378, 49 USPQ2d 1065, 1068-69 (Fed. Cir. 1998) (noting that "explicit statements made by a patent applicant during prosecution to distinguish a claimed invention over prior art may serve to narrow the scope of a claim").

But where the patentee has unequivocally disavowed a certain meaning to obtain his patent, the doctrine of prosecution disclaimer attaches and narrows the ordinary meaning of the claim congruent with the scope of the surrender. For example, in Rheox, Inc. v. Entact, Inc., 276 F.3d 1319, 1325, 61 USPQ2d 1368, 1373 (Fed. Cir. 2002), we ruled that the

scope of the patent in suit did not cover “triple superphosphate”—an embodiment expressly disclosed in the written description—because the patentee cancelled a claim covering “triple superphosphate” and expressly disclaimed that compound in his arguments to the examiner to gain patent allowance. Id. We reached a similar conclusion in Ballard Medical Products v. Allegiance Healthcare Corporation, 268 F.3d 1352, 1359-62, 60 USPQ2d 1493, 1499-1501 (Fed. Cir. 2001), which involved means-plus-function claims. There, the patentee asserted that the accused devices were equivalents, under paragraph 6 of section 112, to the claimed function's corresponding structure. Id. at 1359, 60 USPQ2d at 1499. We rejected that assertion on the basis of prosecution disclaimer:

When a patentee advises the examiner (and the public after patent issuance) that a particular structure is not within his invention, the patentee is not permitted to assert in a subsequent infringement action that the same structure is equivalent to the structure described in the patentee's specification for purposes of section 112 paragraph 6.

Id. Based on the clear disavowal found in the file wrapper, we concluded that the accused device did not include an equivalent to the claimed function's corresponding structure. Id. at 1362, 60 USPQ2d at 1501; see also Bell Atl. Network, 262 F.3d at 1273-75, 59 USPQ2d at 1874-76 (relying on prosecution history to limit claimed "transceiver" to the three stated modes, because of clearly limiting statements made by the patentee to the examiner to overcome a prior art rejection); Day Int'l, Inc. v. Reeves Bros., Inc., 260 F.3d 1343, 1349, 59 USPQ2d 1790, 1794 (Fed. Cir. 2001) (holding that the patentee had disavowed curing done at the higher conventional curing temperatures, because of representations to the patent examiner that the prior art curing temperatures were too high and because of the numerous references to a "low temperature cure" or "low temperature vulcanization" throughout the file wrapper); Southwall, 54 F.3d at 1576-77, 34 USPQ2d at 1677 (holding that the limitation "sputter-deposited dielectric" excluded a two-step process, because the patentee argued during prosecution that the metal oxide in the process was “directly deposited” and that the invention thus only covered a one-step process).

To balance the importance of public notice and the right of patentees to seek broad patent coverage, we have thus consistently rejected prosecution statements too vague or ambiguous to qualify as a disavowal of claim scope. E.g., Schwing GmbH v. Putzmeister Aktiengesellschaft, 305 F.3d 1318, 1324-25, 64 USPQ2d 1641, 1645 (Fed. Cir. 2002) (“[P]rosecution history . . . cannot be used to limit the scope of a claim unless the applicant took a position before the PTO that would lead a competitor to believe that the applicant had disavowed coverage of the relevant subject matter.”); DeMarini Sports, 239 F.3d at 1326-27, 57 USPQ2d at 1896. Rather, we have required the alleged disavowing statements to be both so clear as to show reasonable clarity and deliberateness, N. Telecom, 215 F.3d at 1294-95, 55 USPQ2d at 1075 (declining to apply doctrine because the infringer had not shown “that the patentees—with reasonable clarity and deliberateness—defined 'plasma etching' as excluding ion bombardment” (citation omitted)), and so unmistakable as to be unambiguous evidence of disclaimer. E.g., Storage Tech. Corp. v. Cisco Sys. Inc., 329 F.3d 823, 833, 66 USPQ2d 1545, 1552 (Fed. Cir. 2003) (“We therefore do not consider the applicants' statement to be a clear and unambiguous disavowal of claim scope as required to

depart from the meaning of the term provided by the written description."); Invitrogen Corp. v. Biocrest Mfg., L.P., 327 F.3d 1364, 1369, 66 USPQ2d 1631, 1634 (Fed. Cir. 2003) ("The prosecution history does not show any clear and unambiguous disavowal of steps in advance of the step of growing E. coli cells in the claimed temperature range."). Consequently, for prosecution disclaimer to attach, our precedent requires that the alleged disavowing actions or statements made during prosecution be both clear and unmistakable. [11]

In this case, the prosecution history indicates that a clear and unmistakable disclaimer occurred regarding the term "to visibly outline" in the claimed function, but not one as broad as Raytek urges. During the prosecution of the '880 application, the examiner rejected as obvious some of the filed claims based on a combination of three prior art references: (1) the Everest reference, which used incoherent incandescent light to illuminate the entire energy zone; (2) the JP 62-12848 reference, which used multiple incandescent light sources to identify the energy zone; and (3) the Darringer reference, which used a single laser beam to identify the center of the energy zone. Instead of amending the claim in response to the rejection, the patentee attempted to overcome the prior art by proffering a narrower meaning of the function performed by the "means for causing."

To overcome the combination of Everest and Darringer, Omega argued that Everest, alone or with Darringer, would add detectable heat to the energy zone and thus affect the accuracy of the temperature measurements. As the patentee explained:

The advantage offered by the invention of claim 1, amended, is that it provides a laser sighting device that relies on the use of at least one laser beam that is able to outline the energy zone on the surface to be measured rather than illuminate the entire zone. The clear advantage offered by such a device is that it only directs energy at the edge of the energy zone to be measured to outline same and, as such, has virtually no effect on the temperature measurement to be taken. Such a concept is neither taught nor suggested in either Everest or Darringer et al., taken alone or in combination.

As this passage shows, Omega did not clearly and unmistakably disavow a device that directs light into the interior of the energy zone, contrary to the construction adopted by the trial court and urged by Raytek. Stated otherwise, the patentee did not deliberately and unambiguously define its invention as a device whose laser beams would remain outside of the energy zone. Rather, the patentee distinguished the prior art by clearly stating that its device would have "virtually no effect on the temperature measurement to be taken" when it outlines the energy zone. In drawing that distinction, Omega put the examiner and the public on notice of the invention's crucial feature: The invention would not add appreciable heat to the energy zone.

Were that passage the sole statement in the prosecution history, the disclaimer might not rise to the requisite level of being unmistakable. In this case, however, Omega strengthened its disavowal in response to the examiner's obviousness rejection based on the substitution of laser beams for JP 62-12848's incandescent lamps. To overcome that rejection, the patentee emphasized that:

When such a [sic] incoherent beam is projected parallel and in close proximity to the outside boundaries of the invisible IR cone, a portion of the incoherent beam would diffuse towards the inside of the energy cone

[sic]. The diffused portion of light inside the cone will hit the target energy zone in the form of heat energy and will be reflected back to the IR detector giving an erroneous temperature reading . . . [A] laser produces a coherent beam whereas an incandescent lamp produces incoherent light. Since the laser can project a well-defined beam of light, it may be used to define an IR heat zone accurately without infusing energy into the IR cone.

Again, the patentee's arguments did not focus on the projected laser beams remaining outside of the energy zone. Instead, Omega's concerns concentrated on how the coherent beams in its invention would "define an IR heat zone accurately without infusing energy into the IR cone." By avoiding the addition of heat into the energy zone, the patented device would provide a more accurate temperature reading.

Omega reiterated this point again in response to the rejection based on the combination of JP 62-12848 and Darringer. To overcome that rejection, the patentee argued that the lamps in JP 62-12848 were not, and could not be, laser beams. In essence, Omega distinguished JP 62-12848 on the basis that its incandescent lamps would allow heat to diffuse into the energy zone and affect temperature readings. Turning to Darringer, the patentee asserted that the reference did not teach or suggest the "means for causing said at least one laser beam to outline said energy zone." In other words, Darringer only projected a single laser beam into the center of the energy zone. When combined, Darringer and JP 62-12848 would compound the problem. For that reason, Omega affirmed that "the simple substitution of a laser beam for an incandescent light source is not, as maintained by the Examiner, an obvious substitution but offers far superior results."

Consequently, during the prosecution of the application that issued as the '880 patents, Omega repeatedly insisted that its invention differed from the prior art by precluding appreciable heat from entering the energy zone and affecting the temperature of the energy zone. By insisting that its invention directs energy in a way that does not affect temperature measurement, the patentee has rejected the examiner's broad assessment of the claim scope and stated in a public record what his invention could not be. That statement is a deliberate surrender of claim scope, unmistakable in its effect because it is not suitable to multiple interpretations as in Northern Telecom, 215 F.3d at 1294, 55 USPQ2d at 1075. There is only one possible interpretation of this clear statement: The inventions covered by claims 1 and 3 have significantly reduced effect on temperature measurement.

Since the patentee offered a narrower construction of the verb "to visibly outline" in the disputed function, it has clearly and unmistakably disclaimed the territory between the full ordinary meaning of the claim language and the asserted new meaning. The claimed function, as stated in claims 1 and 3, must not add appreciable heat to the energy zone as to affect the accuracy of the temperature measurement. The district court was therefore correct in finding prosecution disclaimer, but erred in ascertaining the scope of the disavowal. See Part III.A., supra.

In sum, based on our consideration of the district court's analysis and our plenary review of the intrinsic evidence, we cannot agree with the trial court's interpretation of the function performed by the "means for causing." There is no support in the specification or the prosecution history for the district court's negative limitation that would preclude the projection of light into the interior or the center of the energy zone. Rather, we must give the claim language its presumptive full ordinary meaning, limited solely by the patentee's clear and unmistakable disclaimer. Therefore, we conclude that the claimed function is the causing of at least one laser beam to strike the periphery of the energy zone for visibly outlining the entire energy zone, without adding appreciable heat to the energy zone as to affect the accuracy of the temperature measurement.

C

Having determined the function performed by the "means for causing," we must now ascertain the corresponding structures which perform those functions. Cardiac Pacemakers, 296 F.3d at 1113, 63 USPQ2d at 1730. A corresponding structure must be clearly linked to the claimed function. B. Braun Med., 124 F.3d at 1424-25, 43 USPQ2d at 1900.

The specification of the '880 patent discloses numerous corresponding structures, clearly linked to the claimed function by statements such as "direct the laser beam about the perimeter of the energy zone," '880 patent, col. 6, ll. 25-26, or

"thereby permitting the laser beam 114 to rotate about the periphery of the energy zone E to make it visible to the user of the radiometer 10," id., col. 6, ll. 49-51.

Guided by those "clearly linking" statements, we have associated the following disclosed structures to the "means for causing," and list them according to the corresponding figures discussed in the specification. Figures 2 and 3 depict the use of the motive means, id., col. 6, ll. 9-11 and 45, the vibratory means, or the application of a magnetic field, id., col. 6, ll. 13-15 and 46-47, to rotate the laser beam. Figure 4 also shows a magnetic field applied to rotate the laser beam around the periphery of the energy zone. Id., col. 6, ll. 53-59. In the embodiment shown in figure 6, a combination of a pivot bearing, connecting arm and attached motor rotates the laser beam, id., col. 7, ll. 7-10, while optical fibers effect the desired function in the embodiment of figures 7 and 10, id., col. 7, ll. 14-20 and 41-49. A combination of a rotating flat mirror and motor performs that function in the embodiment of figure 8, id., col. 7, ll. 24-29, whereas an arrangement of motor, slip rings, counterweights, screw adjustments and pivot point produces the desired effect in the embodiment shown in figures 11 and 12, id., col. 7, l. 50 – col. 8, l. 15 and col. 8, ll. 26-36. Finally, the text discussing figure 13 describes a combination of motor, slider, swivel ball and swivel seat as the corresponding structures. Id., col. 8, ll. 52-62.

D

Having construed the disputed claims, we must now ascertain whether the district court properly granted summary judgment of noninfringement of claims 1 and 3 of the '880 patent. On that point, we must answer in the negative.

Indeed, triable issues of fact, not amenable to appellate determination on first instance, remain in this case. As a question of fact, literal infringement of a § 112, ¶ 6 limitation requires that the relevant structure in the accused device perform the identical function recited in the claim and be identical or equivalent to the corresponding structure in the specification.^[2] Odetics, Inc. v. Storage Tech. Corp., 185 F.3d 1259, 1268-69, 51 USPQ2d 1225, 1229-31 (Fed. Cir. 1999). Functional identity and either structural identity or equivalence are both necessary. Id., 51 USPQ2d at 1229-30. Because we have rectified the district court's construction of the claimed function and clarified the corresponding structures, the summary judgment of noninfringement cannot stand since the conclusion regarding the lack of functional identity is no longer necessarily true. Under the correct construction of its function, the "means for causing" is no longer prohibited from projecting its laser beams into the interior of the energy zone; it must only avoid adding appreciable heat to the energy zone as to affect the accuracy of the temperature measurement.

In this case, the parties agree that the accused devices project a single laser beam into the center of the energy zone, but dispute whether that laser beam adds any appreciable heat to the zone. In fact, in response to Raytek's motion for summary judgment, Omega proffered two expert declarations, both asserting that any heat added by a central laser was inconsequential and did not affect the temperature reading. Because a reasonable jury might reach different conclusions when faced with this evidence, we must conclude that a triable issue of fact remains in this case and must therefore reverse the summary judgment of noninfringement of claims 1 and 3 of the '880 patent.

IV

We now turn to the summary judgment that claims 16 and 18 of the '880 patent were not infringed. Claim 16, on which claim 18 is dependent, calls for a "means for causing said at least one laser beam to identify and define both the center and only the periphery of said energy zone," and the parties agree that those claims fall within the ambit of § 112, ¶ 6.

A

Because these claims are in means-plus-function format, we commence our plenary review by addressing the district court's construction of the claims' function. Micro Chem., 194 F.3d at 1258, 52 USPQ2d at 1263. Faced with the requirement that the laser beam strikes both the periphery and the center of the energy zone, the trial court rejected the possibility that the laser could simultaneously define and identify the center and the periphery of the energy zone. Instead, the district court required that the laser beam strike those points sequentially. We cannot agree.

It is axiomatic that, unless expressly compelled by the intrinsic evidence, courts must avoid the addition of a novel limitation. See Wenger Mfg., 239 F.3d at 1233, 57 USPQ2d at 1684 ("Under § 112, ¶ 6, a court may not import functional limitations that are not recited in the claim, or structural limitations from the written description that are unnecessary to perform the claimed function."). In reaching its interpretation of claims 16 and 18, the district court improperly imposed an additional limitation that has no support in the wordings of the claims, the written description or the prosecution history.

Indeed, the text of the claims themselves does not substantiate that construction. Claims 16 and 18 differ from claims 1 and 3 by requiring that, in addition to striking the periphery of the energy zone, the laser beam must also identify the zone's center. Compare '880 patent, col. 9, ll. 39-41, with id., col. 10, ll. 31-33. The claims' language is, however, silent on whether the laser beam must strike the center and the periphery either sequentially or simultaneously. And neither word is necessary to the performance of the claimed function. There is thus no basis in the text of the claims for adding a new limitation, be it the adjective "simultaneous" or "sequential."

The district court justified the addition of the "sequential" limitation by reference to two preferred embodiments in the written description. Specifically, the trial court determined the function by first searching for the corresponding structures, finding those structures in figures 11 and 12. We find that justification inadequate, because such a reasoning turns our rule of construction for means-plus-function claims upside down. The district court's approach essentially starts with a structure, and defines the function in light of that structure. Our case law, however, requires the exact opposite procedure: In construing means-plus-function claims, courts must first identify the claimed function using traditional tools of claim construction and then determine the structure corresponding to the identified function. See Micro Chem., 194 F.3d at 1258, 52 USPQ2d at 1263. Consequently, the additional limitation has no support in the patent's specification.

Nor does the prosecution history validate that ruling. According to the district court and Raytek, the addition of the word "only" before "the periphery" during the prosecution of the '880 patent indicated "the concept that the energy field was not to be the target of the laser beam, but merely the periphery." In other words, the trial court read the addition of the term "only" as tantamount to a disclaimer of nonsimultaneity. This alleged prosecution disclaimer does not, however, rise to the level of being unmistakable. Although Omega added the word "only" by amendment to overcome the Everest and JP 62-

12848 references cited by the examiner, the basis for that amendment is reasonably amenable to more than one explanation. Perhaps, as Omega suggests, the patentee made the amendment to prevent the projected light from illuminating the entire energy zone, as taught by Everest and JP 62-12848, by requiring a space between the central laser beam and the laser striking the periphery. Or it could be any number of other unstated but reasonable rationales unrelated to the issue of simultaneity. As in Northern Telecom, there is more than one reasonable basis for the amendment, rendering the intent underlying the amendment ambiguous and thus negating the possibility of the disclaimer being unmistakable. Consequently, there is no ground for adding a "sequential" limitation or for excluding the concept of simultaneity.

In sum, we reject the imposition of a "sequential" limitation to the function of claims 16 and 18, because that restriction finds no support in the intrinsic evidence. Given its full ordinary meaning, the laser beam in those two claims may strike the center and periphery of the energy zone either sequentially, simultaneously, or otherwise.

B

We must now consider whether the disclaimer attaching to claims 1 and 3 of the '880 patent also applies to claims 16 and 18 of the same patent, as argued by Raytek. We note that the patentability of claims 16 and 18 stands on their own merit, as the patentee has not tied the fate of those claims to claim 1 and 3, as it has done for the '678 and '679 patents. See Parts V.A. and VI.A., infra. Since the doctrine of prosecution disclaimer is inextricably tied to the arguments, amendments or concessions made by the patentee during prosecution, our analysis must necessarily begin with the prosecution history of claims 16 and 18.

During prosecution of the '880 patent, the examiner rejected claims 1 through 15 as obvious based on Everest, Darringer and JP 62-12848. In response, Omega argued that those claims did not add substantial heat to the energy zone. As part of that response, the patentee also added nine new claims, including claims 16 and 18. There was no argument or substantive comment on the newly added claims; Omega directed all of its effort on overcoming the rejection of claims 1 through 15.

Subsequently, Omega and the examiner had four telephonic interviews over the space of a week in February of 1997, culminating inter alia in the patentee's voluntary addition of the word "only" to the "means for causing" in claim 16. As a result of that addition, claim 16 and its dependent claim 18 now "identify and define both the center and only the periphery of the said energy zone." The Examiner Interview Summary Record provided a short explanation for that voluntary amendment:

Claims 1, 8, 9, 11, 12, 15, 16, 22, 24 were amended to clearly define the invention over the prior art of the record [i.e., Everest and JP 62-12848]. Applicant will submit a new terminal disclaimer. The changes to the claims will be submitted in a Supplemental Amendment.

Because the examiner deemed it unnecessary for the applicant to provide a separate record of the substance of the interview, Omega's Supplemental Amendment only contained this cryptic statement: "Responsive to numerous telephone conversations with the Examiner, please amend the above identified application as follows." Except for the changes to the claims' text, Omega did not provide any reason for the amendments.

Although the outcome of the changes on the claims' text is unmistakable, its effects and reasons are at best ambiguous. As we explained above, see Part IV.A., supra, the addition of the term "only" has multiple reasonable bases and is therefore insufficient to tax the patentee with a disavowal of either the central laser beam or the injection of heat into the energy zone. Nor can such disclaimers be drawn from the mere statements "[r]esponsive to numerous telephone communications with the Examiner" and "to clearly define the invention over the prior art." To conclude otherwise would require an ungrounded leap of logic, requiring us to assume that the

clear definition of the invention means an unequivocal disclaimer of the addition of heat into the energy zone or even a surrender of the central laser beam specifically recited by the claim's text. Neither logic nor justice permits such a leap.

Moreover, we decline to vest claims 16 and 18 with the disavowal attached to claims 1 and 3. The prosecution disclaimer arose from the patentee's arguments regarding the term "to outline" present in claims 1 and 3. However, neither claim 16 nor 18 contains the term "to outline" or equivalent terms. And the patentee did not direct any of its disavowing arguments or comments to claims 16 and 18; they were all focused on overcoming the rejection of claims 1 through 15. Without the common term "to outline" or an indication by the patentee that the disavowal should also cover the newly added claims, there is no ground upon which a prosecution disclaimer may rest.

Consequently, there is no clear and unmistakable disclaimer attached to claims 16 and 18 of the '880 patent. As to those two claims, the patentee has neither disavowed a central laser beam nor the injection of heat into the energy zone.

C

We must now ascertain the disclosed structures corresponding to the function identified in claims 16 and 18. The written description of the '880 patent discusses a laser beam striking the center of the energy zone only once, when it describes the functioning of the single laser in figures 11 and 12. '880 patent, col. 8, ll. 19-25. In that discussion, the specification clearly links the function of outlining the periphery of the energy zone with a combination of motor, slip rings, counterweights, screw adjustments and pivot point. Id., col. 7, l. 50 – col. 8, l. 14, and col. 8, ll. 26-36. That combination

of equipment causes the laser to outline the zone by rotating around the pivot point, and to return to "the center of the target" once the motor is turned off. Id., col. 8, ll. 21-26. Omega concedes that this combination provides the only corresponding structure expressly discussed in the specification that both identifies the center and also outlines the energy zone.

Despite that concession, Omega also contends that one of skill in the art would understand that lenses, prisms, and laser beam splitting device are disclosed structures corresponding to the claimed means. That argument is unavailing for two reasons. First, those structures are not clearly linked to the function recited in claims 16 and 18. Although the splitting device, lenses, and prisms appear in the '880 patent, see id., col. 6, ll. 19-25 and col. 7, ll. 1-2, the specification does not clearly associate those structures with the claimed function. Indeed, the sole function expressly performed by those structures is to cause the laser beam to outline the periphery of the energy zone; there is no description at all that the laser beam could strike the center of the energy zone. Id. Unless the structures are clearly associated with the claimed function, they cannot be corresponding structures for purposes of § 112, ¶ 6. See B. Braun Med., 124 F.3d at 1424-25, 43 USPQ2d at 1900. Second, Omega impermissibly relies on expert declarations to clearly link the claimed function and the laser splitting device, lenses, and prisms. Although expert testimony and declarations are useful to confirm that the construed meaning is consistent with the denotation ascribed by those in the field of the art, Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1309, 51 USPQ2d 1161, 1168 (Fed. Cir. 1999), such extrinsic evidence cannot be used to vary the plain language of the patent document. Vitronics Corp. v. Conceptoronic, Inc., 90 F.3d 1576, 1584, 39 USPQ2d 1573, 1577 (Fed. Cir. 1996). Yet, Omega submits its expert declarations not to shed light on this field of art, but to rewrite the patent's specification and explicitly provide for the laser splitting device, lenses, and prisms to strike the center of the energy zone. That we cannot accept. See id.

Accordingly, the laser splitting device, lenses, and prisms are not corresponding structures to the "means for causing" function in claims 16 and 18. Only the combination of motor, slip rings, counterweights, screw adjustments and pivot point is clearly linked to that function.

D

As for claims 1 and 3 above, we must also reverse the grant of summary judgment of noninfringement regarding claims 16 and 18. We have corrected the district court's construction of the claimed function, casting doubt on the determination of no functional identity upon which the district court relied. Because of our correction and the evidence submitted by Omega to overcome the summary judgment motion, see Part III.D., supra, triable issues of fact now exist.

V

Having resolved the dispute surrounding the '880 patent, we now turn to the summary judgment that Raytek does not infringe the '678 patent. Because the district court erred in its claim construction, we reverse.

A

Not drafted in means-plus-function format, the fourteen asserted claims of the '678 patent all require the laser beams "to outline" the energy zone or its periphery.^[3] See '678 patent, col. 10-12. In its construction of that term, the district court repeated the error it made in interpreting the function in claims 1 and 3 of the '880 patent: it added a negative limitation which precluded any projection of light into the interior or center of the energy zone.

That was error. In narrowing the '678 patent claims, the district court relied on the same reasons it used to add a negative limitation to the function disclosed by claims 1 and 3 of the '880 patent. Outside of the means-plus-function context and given the similarity between these related patents, those reasons are even more clearly flawed. As we explained above, neither the plain text of the claims, the specification, nor the file wrapper justifies the imposition of this negative limitation. See Part III.A., *supra*. Consequently, because there is no support in the intrinsic evidence for the district court's departure from the claims' ordinary meaning, we cannot sustain its claim construction.

B

We agree with Raytek that the disclaimer from the prosecution of claims 1 of the '880 patent attaches to the construction of the '678 patent and narrows the broad scope of the asserted claims. Despite Omega's assertions to the contrary, prosecution disclaimer may arise from disavowals made during the prosecution of ancestor patent applications. See *Advanced Cardiovascular Sys., Inc. v. Medtronic, Inc.*, 265 F.3d 1294, 1305, 60 USPQ2d 1161, 1168-69 (Fed. Cir. 2001) ("The prosecution history of a related patent can be relevant if, for example, it addresses a limitation in common with the patent in suit."); *Elkay Mfg. Co. v. Ebco Mfg. Co.*, 192 F.3d 973, 980, 52 USPQ2d 1109, 1114 (Fed. Cir. 1999) ("When multiple patents derive from the same initial application, the prosecution history regarding a claim limitation in any patent that has issued applies with equal force to subsequently issued patents that contain the same claim limitation."). As long as the same claim limitation is at issue, prosecution disclaimer made on the same limitation in an ancestor application will attach. *Augustine Med., Inc. v. Gaymar Indus., Inc.*, 181 F.3d 1291, 1300, 50 USPQ2d 1900, 1907 (Fed. Cir. 1999) ("[T]he prosecution of a parent application may limit the scope of a later application using the same claim term.").

Omega attempts to avoid this doctrine by citing *Advanced Cardiovascular* as shielding continuations-in-part from narrowing disavowals made in parent applications. Our precedent holds to the contrary, indicating that an interpretation asserted in the prosecution of a parent application can also affect continuation applications, *Elkay*, 192 F.3d at 980, 52 USPQ2d at 1114, continuation-in-part applications, *Wang Labs., Inc. v. Am. Online Inc.*, 197 F.3d 1377, 1384, 53 USPQ2d 1161, 1165 (Fed. Cir. 1999) ("[T]his subject matter is common to the continuation-in-part application, and argument concerning the [prior art] reference was correctly viewed as applying to the common subject matter."), and even related continuation-in-part applications arising from the same parent, *Jonsson v. Stanley Works*, 903 F.2d 812, 818, 14 USPQ2d 1863, 1869 (Fed. Cir. 1990) (holding that when two patents issued from continuation-in-part applications derived from one original application, the prosecution history of a claim limitation in the first patent to issue was properly applied to the same claim limitation in the second patent to issue). Consequently, that the '678 patent is a continuation-in-part of the '880 patent does not shield it from narrowing disclaimers made during the prosecution of a parent application.

Moreover, Omega misunderstands Advanced Cardiovascular, which distinguished Wang Labs and Jonsson, because, in Advanced Cardiovascular, "there are no common claim terms in dispute." Advanced Cardiovascular, 265 F.3d at 1305-06, 60 USPQ2d at 1169. As we emphasized in that case:

Indeed, the present case involves the absence of a claim term. The patentee's whole point in filing the application that resulted in the '233 patent was to secure broader claims. As Medtronic admits in its opening brief, "none of the '233 Patent claims explicitly state the guidewire tube runs inside a balloon catheter [which is the disputed claim]."

Id. at 1306, 60 USPQ2d at 1169. Contrary to Advanced Cardiovascular, there is a common term in dispute here. The disputed term "to outline" is the same throughout all five patents in the genealogy, including the '880 and '678 patents. The patentee made a clear and unmistakable disclaimer of claim scope in its prosecution of the parent '880 patent, and we presume, unless otherwise compelled, that the same claim term in the same patent or related patents carries the same construed meaning. See Fin Control Sys. Pty. Ltd. v. OAM, Inc., 265 F.3d 1311, 1318, 60 USPQ2d 1203, 1208 (Fed. Cir. 2001). Advanced Cardiovascular is thus inapposite; rather, Jonsson and Wang Labs control the disposition of this case.

Without any basis for the district court's negative limitation, we must give the term "to outline" its presumptive denotation of "to draw a line that marks the outer limits of an object or figure." See Webster's, supra, at 1602. However, because prosecution disclaimer made in the '880 patent extends to the '678 patent, we rule that any energy directed inside the energy zone cannot add appreciable heat to the energy zone as to affect the accuracy of the temperature measurement.

C

Because we have corrected the district court's construction of the disputed claim limitation and in light of the expert declarations submitted by Omega to overcome the summary judgment motions, triable issues of facts regarding Raytek's central laser beam remain. We therefore reverse the grant of summary judgment regarding the '678 patent and remand for further proceedings.

VI

We now address the summary judgment that Raytek does not infringe the '679 patent and that claims 33 and 41 of that patent were invalid for indefiniteness. This patent is a continuation in part of the '678 patent, and all 51 asserted claims^[4] cover either a method or an apparatus which uses at least three laser beams "to outline" the energy zone.^[5] Of the 51 asserted claims, six of those claims—claims 20, 26-28, 32, and 53—are drafted in means-plus-function format.

A

As with all infringement and invalidity analyses, we commence our inquiry with the construction of the claims in suit. TurboCare, 264 F.3d at 1120, 60 USPQ2d at 1024; SIBIA Neurosciences, Inc. v. Cadus Pharm. Corp., 225 F.3d 1349,

1355, 55 USPQ2d 1927, 1930 (Fed. Cir. 2000) (“The first step in any invalidity analysis is claim construction, an issue of law that this court reviews de novo.”). In construing the non-means-plus-function claims, the district court adopted the same negative limitation as for the '678 patent, precluding any projection of light into the interior or center of the energy zone. The trial court expressly based that ruling on the same reasons it gave in connection with the '678 patent. Since we deemed those grounds inadequate to impose the negative limitation in the '678 patent, it is equally true that those reasons will not form the requisite bases for construing the '679 patent. Unless otherwise compelled, the claims receive their ordinary and accustomed meaning.^[6]

As with the '678 patent, the disclaimer made by the patentee during the prosecution of the '880 patent flows down to the '679 patent. Indeed, the '679 patent is a continuation in part of the '678 patent, and it is settled that prosecution disclaimer attaches to progeny continuation in part applications where the same claim limitation is at issue. See Advanced Cardiovascular, 265 F.3d at 1305, 60 USPQ2d at 1168-69; Wang Labs., 197 F.3d at 1380, 53 USPQ2d at 1165; Jonsson, 903 F.2d at 818, 14 USPQ2d at 1869. Consequently, because the prosecution disclaimer made in the '880 patent extends to the '679 patent, we conclude that any energy directed inside the energy zone cannot add appreciable heat to the energy zone as to affect the accuracy of the temperature measurement.

As to the claims of the '679 patent written in means-plus-function format, the district court imposed a negative limitation on the function contained in those claims as it did for claims 1 and 3 of the '880 patent. As the reason for that determination, the district court referred to the analysis provided for claim 1 of the '679 patent. Having deemed that reasoning erroneous, we similarly correct the interpretation of the function in those means-plus-function claims and clarify that the claim language does not preclude light from striking the interior of the energy zone, although prosecution disclaimer precludes the addition of appreciable heat to the energy zone as to affect the accuracy of the temperature measurement.

B

The district court granted summary judgment of noninfringement as to the '679 patent based on its erroneous claim construction. Since we have now corrected the claim construction and in light of the expert declarations submitted by Omega to overcome the summary judgment motions, triable issues of fact regarding Raytek's central laser beam remain. The summary adjudication must therefore be reversed and the case remanded for factual findings.

The district court also ruled that claims 33 and 41 of the '679 patent were indefinite, because it deemed those claims internally inconsistent. The trial court noted that those two claims expressly require a laser beam directed to the center of the energy zone, while at the same time being respectively dependent on independent claims 32 and 38 which were construed as excluding that central laser beam. Reasoning that claims 33 and 41 could not simultaneously require and preclude that central laser beam, the court concluded that one of skill in the art could not determine the scope of those claims, rendering them indefinite. Our correction of the claim construction has now removed the improper negative limitation and thus negated the inherent contradiction identified by the district court. Accordingly, we reverse the summary adjudication that claims 33 and 41 of the '679 patent are invalid for indefiniteness.

CONCLUSION

We reverse the grants of summary judgment that Raytek does not infringe the patents in suit and that claims 33 and

41 of the '679 patent are indefinite. Having done so, we remand these cases for further proceedings consistent with this opinion.

REVERSED AND REMANDED

[1] We note that this is the same standard applicable, in the context of the doctrine of equivalents, to the doctrine of argument-based estoppel, Litton Sys., Inc. v. Honeywell, Inc., 140 F.3d 1449, 1458, 46 USPQ2d 1321, 1327 (Fed. Cir. 1998), and that our precedent has recognized a relation between the doctrines of argument-based estoppel and prosecution disclaimer, Alpex Computer Corp. v. Nintendo Co. Ltd., 102 F.3d 1214, 1221, 40 USPQ2d 1667, 1673 (noting that "just as prosecution history estoppel may act to estop an equivalence argument under the doctrine of equivalents, positions taken before the PTO may bar an inconsistent position on claim construction").

[2] Because Omega did not pursue any argument that Raytek infringed the '880 patent under the doctrine of equivalents, we limit our discussion to literal infringement.

[3] Except for independent claim 7, all the asserted claims of the '678 patent include the limitation "to outline." Claim 7 requires that the laser beams "identify the extent of said radiation zone." '678 patent, col. 11, ll. 41-42. Because the district court and the parties treated the limitation in claim 7 as an equivalent of "to outline," tying their fates together, we shall do the same.

[4] Although the '679 patent contains 53 claims which were all asserted in the complaint, the parties subsequently submitted a stipulation withdrawing claims 15 and 16 from the litigation. We will consequently not address those withdrawn claims.

[5] Although some of the claims of the '679 patent use phrases akin to the term "to outline," the district court and the parties treated those analogous phrases as equivalents to the term "to outline," tying their fates together. We will therefore do the same.

[6] We note that the district court's claim construction inevitably required the invalidation of claims 33 and 41, in contradiction to the canon that courts should attempt to construe claims to preserve their validity. See Wang Labs., Inc. v. Am. Online, Inc., 197 F.3d 1377, 1383, 53 USPQ2d 1161, 1165 (Fed. Cir. 1999). Since the intrinsic evidence did not compel the invalidating construction, the district court thus erred.