United States Court of Appeals for the Federal Circuit

05-1515

MEDTRONIC, INC.,

Plaintiff-Appellant,

v.

GUIDANT CORPORATION, GUIDANT SALES CORPORATION and ELI LILLY & COMPANY,

Defendants-Appellees,

and

MIROWSKI FAMILY VENTURES L.L.C.,

Defendant-Appellee.

Kenneth C. Bass, III, Sterne, Kessler, Goldstein & Fox , P.L.L.C, of Washington, DC, argued for plaintiff-appellant. With him on the brief was Jon E. Wright.

Arthur I. Neustadt, Oblon, Spivak, McClelland, Maier & Neustadt, P.C., of Alexandria, VA, for Mirowski Family Ventures L.L.C., argued for all defendants-appellees. With him on the brief for Guidant Corporation, et al. were J. Michael Jakes, Kathleen A. Daley, and Naveen Modi, Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P, of Washington. Of counsel for Guidant Corporation, et al. was Kara F. Stoll.

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

Chief Judge Sue L. Robinson

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DECIDED: October 12, 2006

Before MICHEL, Chief Judge, SCHALL, and DYK, Circuit Judges.

Opinion for the court filed by Circuit Judge SCHALL. Concurring-in-part and dissenting-in-part opinion filed by Circuit Judge DYK.

SCHALL, Circuit Judge.

This is a patent case. Medtronic, Inc. ("Medtronic") is a manufacturer of medical devices. It filed a declaratory judgment action in the United States District Court for the District of Delaware against Guidant Corporation, Guidant Sales Corporation, Eli Lilly &

Company ("Eli Lilly"), and Mirowski Family Ventures L.L.C. In the action, Medtronic alleged that claims 15-26 of U.S. Reissue Patent No. 38,119 ("the RE'119 patent"), a re-issue of U.S. Patent No. 4,928,688 ("the '688 patent"), are invalid by reason of violation of the rule against recapturing surrendered subject matter. The RE'119 patent claims a method and a pacemaker apparatus. Both relate to a "procedure for pacing of the heart in a particular way so as to improve its contraction pattern, and thereby augment the movement of blood through the heart." RE'119 patent, col. 3, ll. 33-35. Mirowski Family Ventures L.L.C. and Eli Lilly are, respectively, the assignee and exclusive licensee of the patent. Guidant Corporation is a medical device manufacturer that was formed in 1994 when Eli Lilly divested certain assets, while Guidant Sales Corporation is a wholly owned subsidiary of Guidant Corporation. For ease of reference, we refer to the four defendants as "Guidant."

Medtronic now appeals from the final judgment of the district court, following a bench trial, that the RE'119 patent is not invalid. See Medtronic, Inc. v. Guidant Corp., 378 F. Supp. 2d 503 (D. Del. 2005). We affirm.

BACKGROUND

I.

A.

The heart is made up of four chambers: two atria and two ventricles. Electrical stimulations (depolarizations) within the chambers cause contractions within the heart that result in pumping. The electrical activity arises in the right atrium and is eventually transmitted to the ventricles. The period of time from depolarization of the atria to depolarization of the ventricles is called the "A-V delay period."

Dr. Morton Mower is the inventor named on the RE'119 patent. His invention involves a method and apparatus for treating ventricular asynchrony, a condition in which a person has a defect in his or her heart ventricles. The defect causes the ventricles to contract at different times. This results in the loss of effectiveness in the pumping of blood. The method of the RE'119 patent works through a pacemaker device invented by Dr. Mower which either conditionally or unconditionally paces the two ventricles of the heart to cause simultaneous ventricular contractions. The "conditional embodiment" of the invention requires sensing a depolarization in a first ventricle, then waiting for a predetermined period of time to sense a depolarization in the second ventricle. If no depolarization is sensed in the second ventricle, the device stimulates, or "paces" the second ventricle with an electrical pulse. This embodiment of the invention is called "conditional" because the delivery of pacing pulses depends on the analysis of the cardiac signals. In the "unconditional embodiment," depolarization is sensed in either ventricle and, as soon as depolarization in one ventricle is sensed, both ventricles are immediately paced. In the "unconditional embodiment," one ventricle will be paced twice, once naturally and once by the device.

In the invention's conditional embodiment, there are two apparatuses to sense electrical activity ("sensing electrodes"). There is one sensing electrode in each ventricle. In addition, there is at least one pacing electrode to pace the second ventricle. In the unconditional embodiment, there may be only one sensing electrode, as once a depolarization is sensed in one ventricle, the other ventricle is immediately paced. However, there are always two pacing electrodes, so that both ventricles may be paced at the same time.

B.

In the late 1980s, Dr. Mower asked Ron Cohn to prepare a patent application for his invention. On October 30, 1987, Cardiac Pacemakers, Inc. (now a wholly owned subsidiary of Guidant Corporation), where Dr. Mower was employed, forwarded Mr. Cohn's draft application to attorney Thomas Nikolai to prepare a final application. On December 3, 1987, Mr. Nikolai asked Dr. Mower to review the draft application, explaining that he had added the concept of a "window of coincidence"—a delay between sensing and pacing.

On August 23, 1988, Mr. Cohn, pursuant to instructions from Dr. Mower, forwarded Dr. Mower's comments to Mr. Nikolai, advising him that the essence of Dr. Mower's invention was "a bi-ventricular pacer [that] continually senses the activity of both the left and right ventricles, and when activity is sensed in either ventricle the device immediately electrically paces the other or both ventricles." With respect to Mr. Nikolai's concern about a "window of coincidence," Mr. Cohn stated that to have a delay between sensing and pacing would undermine the purpose of the invention, which he said was to cause a simultaneous contraction of the ventricles. On August 31, 1988, Mr. Nikolai responded to Mr. Cohn's letter with a letter to Dr. Mower, stating that he was "puzzled" about how the invention could sense the depolarization of one ventricle and then decide whether to pace the other ventricle without a delay period.

On September 9, 1988, Dr. Mower explained to Mr. Nikolai that while the mechanism would in some cases stimulate a ventricle that was in fact contracting normally, that was not a problem because "the artificial stimulus will fall harmlessly into

the intrinsic depolarization." Mr. Nikolai then amended the specification to include a description of the unconditional embodiment.

C.

On January 23, 1989, U.S. Patent Application No. 07/299,895 ("the '895 application") was filed with the Patent and Trademark Office for Dr. Mower's invention. As filed, the '895 application had twenty-two claims, including six independent claims (claims 1, 7, 15-17, and 19). Pertinent to this case, claims 1, 7, 15, and 16 of the '895 application stated:

> 1. A method for improving the hemodynamic efficiency of a sick heart comprising the steps of:
> (a) detecting respective cardiac signals originating in the left and right ventricles of the heart;
> (b) analyzing said cardiac signals and the absence thereof in an electronic control circuit;
> (c) providing electrical pulses from a stimulating circuit controlled by said control circuit for effecting substantially simultaneous contraction of both ventricles.
>
> 7. An atrial-coupled bi-ventricular pacemaker for implantation or external use comprising atria and ventricular sensing means for detecting cardiac signals, a control circuit connected to said sensing means to analyze the cardiac signals and provide a control signal, a stimulating circuit for effecting simultaneous contraction of both ventricles in response to the control signal of the control circuit after a pre-determined A-V delay period.
>
> 15. A method for effecting simultaneous contraction of both left and right ventricles of a heart for improving hemodynamic efficiency comprising the steps of:
> separately sensing cardiac signals from both left and right ventricles; and
> stimulating at least one ventricle substantially simultaneously with the contraction of at least one other ventricle.
>
> 16. A method of effecting simultaneous contraction of both left and right ventricles of a heart for improving hemodynamic efficiency comprising the steps of:

> sensing the cardiac signals of the atria and separately sensing the cardiac signals of both the left and right ventricles; and
> stimulating at least one ventricle simultaneously with the contraction of at least one other ventricle after a predetermined A-V period.

The specification included the following language directed towards the unconditional embodiment:

> It is also contemplated that when a ventricular depolarization signal is sensed in one or the other of the ventricles, that a stimulating pulse may also be immediately delivered, on an unconditional basis, to both ventricles, via the implanted leads 13 and 15, thus resulting in a coordinated contraction of both ventricles.

On June 9, 1989, the examiner issued a first office action, allowing claims 15 and 16 but rejecting the remaining twenty claims. Independent claims 1 and 7 and dependent claims 4-6 and 12-14 were rejected as anticipated by U.S. Patent No. 4,378,020 ("Nappholz"). The examiner asserted that Nappholz showed "all of the structure of the above claims." At the same time, the examiner rejected dependent claims 2, 3, 8, and 9 as obvious in view of Nappholz and U.S. Patent No. 4,774,950 ("Cohen"). The examiner asserted that Cohen showed "a means to sense a cardiac signal from the left or right ventricles. It is deemed to have been obvious to use Cohen with the pacemaker in Nappholz et al in order to more efficiently and effectively pace and sense the heart." The examiner explained, however, that "[t]he prior art does not show means to sense and stimulate both ventricles in a selective or alternate manner." The examiner suggested that dependent claims 10 and 11 and independent claims 17 and 19, as well as dependent claims 18 and 20-22, would be allowed if their form was corrected.

Mr. Nikolai responded on June 16, 1989, by canceling claim 6, by adding several claims, and by amending certain claims. Mr. Nikolai added independent claim 23 and dependent claims 24-27, all directed to the pacemaker apparatus. At the same time, he amended limitation (c) of claim 1 to read as follows: "providing electrical pulses from a stimulating circuit controlled by said control circuit to one, the other or both ventricles as required for effecting substantially simultaneous contraction of both ventricles." (Amendment underlined). At the same time, Mr. Nikolai amended the first clause of claim 7 to read as follows: "An atrial-coupled bi-ventricular pacemaker for implantation or external use comprising [atria] atrial and ventricular sensing means for detecting cardiac signals originating in the atrium and both ventricles. . . ." (Amendment underlined, removal bracketed). Mr. Nikolai distinguished the prior art from independent claims 1 and 7 and dependent claims 12-14 by arguing:

> [I]t is clear that the method being claimed involves detecting the respective cardiac signals originating in the left and the right ventricles of the heart. After analyzing those cardiac signals (or the absence thereof) in an electronic control circuit, electrical pulses are provided from a stimulating circuit to one, the other or both ventricles for effecting substantially simultaneous contraction of both ventricles. Clearly, Nappholz does not teach this method. The Nappholz patent describes a . . . pacemaker having a single atrial electrode and a single ventricular electrode . . . . Thus, the device of that patent is incapable of picking up ventricular depolarization signals from both ventricles.

(Emphasis in original).[1] Mr. Nikolai further argued that claims 7 and 12-14 of the '895 application were distinguishable over Nappholz because, unlike Nappholz, they called for "sensing cardiac signals originating in the atrium and in both ventricles and then stimulating both ventricles in a fashion such that simultaneous contraction of the

[1] As far as dependent claims 4 and 5 were concerned, Mr. Nikolai stated that claims 4 and 5 further defined and restricted the method of claim 1 and that since claim 1 was allowable over the prior art, they were, too.

ventricles occur[s] after a predetermined A-V delay period." Mr. Nikolai argued that dependent claims 2, 3, 8, and 9 of the '895 application were not obvious in light of Nappholz and Cohen because Nappholz disclosed a pacemaker that sensed and selectively paced an atrium and sensed and selectively paced a ventricle, while Cohen had electrodes in the ventricles that paced but did not sense. He urged that the two references did not suggest

> the idea of placing sensing electrodes in both the left and right ventricles and providing a control circuit capable of detecting the depolarization signals from both the left and right ventricles and to then provide control signals to a stimulating circuit that is used to stimulate one, the other or both ventricles whereby substantially simultaneous contraction of both ventricles and improved hemodynamic efficiency results.

(Emphasis in original).

The examiner responded on September 6, 1989, allowing dependent claims 4 and 15-22, but rejecting all other pending claims. Claims 1-3 and 5 were rejected as obvious in view of U.S. Patent No. 4,088,140 ("Rockland") on the ground that the method of claims 1-3 and 5 would be "within the scope of the skilled artisan when utilizing the Rockland . . . invention." Claims 7-9 and 12-14 were rejected as anticipated in view of Rockland on the ground that "Rockland . . . shows all of the basic structure of the above claims." Claims 10, 23, and 25-27 were rejected as being obvious in view of Rockland and U.S. Patent No. 3,937,226 ("Funke") because it would be "an obvious engineering design choice . . . to connect the ventricular electrodes in series, as shown by Funke." Finally, claims 11 and 24 were rejected as being obvious in view of Rockland and Funke and further in view of an additional patent ("McCorkle") because "[i]t would have been obvious to one of ordinary skill in the art to use McCorkle with

Rockland et al and Funke in order to more efficiently and accurately pace/sense ventricular depolarizations."

Mr. Nikolai responded by amending certain claims and canceling claims 4, 7-14, and 25-27. He amended claim 1 to add the following to limitation (c) of the claim:

> said step of analyzing including providing a control signal from said control circuit to said stimulating circuit for producing an electrical stimulating pulse to one or both ventricles in response to the absence of a detected cardiac signal from one or both ventricles within a time interval which is a small fraction of the pulse width of a detected cardiac signal.

Mr. Nikolai contended that, after this amendment, claim 1 and claims 2, 3, and 5, which depended directly or indirectly from claim 1, were allowable. Mr. Nikolai argued that claim 23 was not obvious in light of Rockland and Funke because Rockland failed "to disclose a pacer apparatus having circuitry for analyzing cardiac signals originating in the right and left ventricles for selectively providing stimulating or pacing pulses only to the right ventricle if a normal cardiac signal is missing there or to the left ventricle if the left ventricle is not producing normal heart activity in the left ventricle." Because claim 24 depended from claim 23, Mr. Nikolai asserted that it too was not obvious.

On December 5, 1989, the examiner and Mr. Nikolai conducted a telephone interview. After the interview, the examiner made an examiner's amendment for "minor wording changes" to put claims 15, 16, and other claims "in condition for allowance." The Notice of Allowability issued on December 11, 1989. After the amendment, claims 15 and 16 of the '895 application read as follows:

> 15. A method for effecting simultaneous contraction of both left and right ventricles of a heart for improving hemodynamic efficiency comprising the steps of:
> separately sensing <u>for the presence of</u> cardiac <u>depolarization</u> signals from both left and right ventricles;

determining whether said cardiac depolarization signals are simultaneously present in both the left and right ventricles; and
stimulating at least one ventricle substantially simultaneously with the contraction of at least one other ventricle in the event that said cardiac depolarization signals are determined not to be simultaneously present in both ventricles.

16. A method of effecting simultaneous contraction of both left and right ventricles of a heart for improving hemodynamic efficiency comprising the steps of:
sensing the cardiac signals of the atria and separately sensing the cardiac depolarization signals of both the left and right ventricles;
determining whether said cardiac depolarization signals are simultaneously present in both the left and right ventricles;
stimulating at least one ventricle simultaneously with the contraction of at least one other ventricle after a predetermined A-V period in the event that said cardiac depolarization signals are determined not to be simultaneously present in both ventricles.

(Examiner's amendment emphasized). As can be seen, whereas before the examiner's amendment claims 15 and 16 claimed Dr. Mower's unconditional embodiment, after the amendment they claimed only the conditional embodiment.

On May 29, 1990, the '688 patent issued to Dr. Mower. Claims 1-3, 5, and 15-24 of the '895 application issued as, respectively, claims 1-14 in the '688 patent.

D.

On May 29, 1992, pursuant to 35 U.S.C. § 251, Mr. Cohn, on behalf of Dr. Mower, sought reissue of the '688 patent with existing claims 1-14 and new claims 15-24. Claims 15-24 of the application were directed to the unconditional embodiment. Dr. Mower's reissue declaration stated that he had "claimed less than [he] had a right to claim in the patent" as the claims inadvertently did not include the unconditional

embodiment.[2] He suggested that the embodiment was disclosed in the specification, that it might be implicitly covered by the claims, but that it was not explicitly claimed.

On April 8, 1993, the examiner rejected all claims in the reissue application. The examiner rejected new claims 15-24 pursuant to 35 U.S.C. § 112, first paragraph, stating that the specification did not support the invention. He explained that in the specification, "it is mentioned that both ventricles are immediately stimulated," but in claims 15-24, "it is claimed that one or both ventricles are immediately stimulated." (Underlining in original).

Mr. Cohn amended claims 15, 16, 19, and 20 to more explicitly claim the unconditional embodiment and argued that the specification did describe the invention. The examiner then allowed reissue claims 1-18 and 20-24, but rejected claim 19. The examiner asserted that claim 19 was obvious in light of U.S. Patent No. 4,624,260 ("Baker") and Rockland and obvious in light of Baker and Funke. Mr. Cohn responded by arguing that claim 19 was not obvious in light of the prior art because neither Baker nor Rockland taught pacing in both ventricles followed by an A-V delay period. He also added two claims, claims 25 and 26, to distinguish Baker, Rockland, and Funke.

The RE'119 patent issued on May 20, 2003. The RE'119 patent has 26 claims. Claims 1-14 of the RE'119 patent are identical to claims 1-14 of the '688 patent. Of the remaining claims (which are new), claims 15, 19, 22, and 25 are independent.

[2] Because of repeated objections from the Examiner, Dr. Mower eventually submitted five reissue declarations.

II.

A.

On August 29, 2003, Medtronic filed a declaratory judgment action against Guidant, alleging that claims 15-26 of the RE'119 patent are invalid because the unconditional embodiment and the embodiment with only one sensing electrode were improperly recaptured. The unconditional embodiment appears in claims 15-26. Claim 15 of the RE'119 patent is representative. It states:

> 15. A method for improving the hemodynamic efficiency of a heart comprising the steps of:
> detecting a cardiac depolarization signal originating from a first ventricle;
> immediately and unconditionally stimulating both ventricles for effecting a coordinated contraction of both ventricles when a cardiac depolarization signal originating from the first ventricle is detected.

RE'119 patent, claim 15. The embodiment requiring only one sensing electrode appears in at least claims 15, 16, 25, and 26 of the RE'119 patent.[3] Representative claim 15, for example, is broad enough to include a device with one sensing electrode because it only requires "detecting a cardiac depolarization signal originating from a first ventricle."

Medtronic urged that both the unconditional embodiment and the embodiment with only one sensing electrode were recaptured because they were claimed in the

[3] The district court found that the RE'119 patent is "broad enough to include a device with one sensing electrode," as claim 15 of the RE'119 patent claims a device with only one ventricular sensing electrode because "it requires only 'detecting a cardiac depolarization signal originating from a first ventricle. . . .'" Medtronic, 378 F. Supp. 2d at 517-18. Medtronic asserts that claims 15, 16, and 22-26 of the RE'119 patent claim the embodiment with only one sensing electrode. Guidant does not appear to dispute that claims 15, 16, 25, and 26 claim the embodiment with only one sensing electrode, but it asserts that claims 22-24 of the RE'119 patent require sensing from both ventricles. It is not necessary, for the reasons discussed below, for this court to decide whether claims 22-24 require sensing from both ventricles.

original claims and amended during prosecution, or they were surrendered via argument during prosecution. Specifically, Medtronic asserted that claims 1, 7, 15, and 16 of the '895 application cover the unconditional embodiment, but were amended to cover only the conditional embodiment. As far as the embodiment with one sensing electrode was concerned, Medtronic argued that the embodiment, which it asserted appears in claims 15-18 and 22-26 of the RE'119 patent, was surrendered during prosecution.

In November 2004, the district court held a three-day bench trial. Medtronic argued that there was no error during the prosecution of the '895 application that would justify reissuing the patent under 35 U.S.C. § 251. Guidant responded that the error was attorney error resulting from Mr. Nikolai's failure to understand the technology.

In its decision rendered after trial, the district court ruled that the RE'119 patent did not improperly recapture subject matter that was surrendered during prosecution. Medtronic, 378 F. Supp. 2d 503. It rejected Medtronic's argument that Dr. Mower surrendered the unconditional embodiment and any embodiment with only one sensing electrode, agreeing with Guidant that the original claims of the '895 application did not include the unconditional embodiment and that Dr. Mower did not surrender a device that senses depolarizations in only one ventricle. Id. at 515-19.

The court first determined that the unconditional embodiment was not surrendered by amendment. Id. at 515-16. The court found that the claims of the '895 application that originally included the unconditional embodiment were claim 15 of the '895 application, which became claim 5 of the '688 patent, and claim 16 of the '895 application, which became claim 6 of the '688 patent. Id. The court noted that, at the

end of prosecution, the examiner narrowed the two claims to exclude immediate and unconditional pacing. Id. at 516. The court reasoned that neither claim 15 nor 16 of the '895 application was rejected as anticipated over prior art and that the addition of the conditional limitation to the claims, when they became claims 5 and 6 of the '688 patent, were wording changes, as characterized by the examiner, so the recapture rule did not apply to the reissue claims of the RE'119 patent that include the unconditional embodiment—claims 15-26 of the RE'119 patent. Id.

The court next found that the unconditional embodiment was not surrendered by argument. Id. at 517. The court determined first that the distinction over Nappholz made by Mr. Nikolai during prosecution was "directed towards the fact that Nappholz only discloses one electrode, not whether Nappholz immediately and unconditionally paces both ventricles." Id. Next, the court found Mr. Nikolai distinguished Cohen because Cohen "did not have electrodes that could both sense and pace, and not because of the way it paced the ventricles." Id. Addressing the distinction that Mr. Nikolai drew over Rockland, the court stated that "Rockland described a device that paced a plurality of sites over a predetermined time period," while "the unconditional embodiment immediately paces the ventricles and, therefore, has no predetermined time period." Id.

The court also found that the embodiment with only one sensing electrode—specifically, the embodiment represented by claim 15 of the RE'119 patent—was not surrendered during prosecution by amendment. Id. The court determined that claim 15 of the RE'119 patent "claims a device with only one ventricular sensing electrode (as it requires only 'detecting a cardiac depolarization signal originating from a first ventricle')

and two pacing electrodes (as it paces both ventricles unconditionally)." Id. at 517-18. The claims of the '895 application, which issued in the '688 patent, however, did not include an embodiment with only one sensing electrode: "[a]ll of the claims of the '895 application refer to some means of sensing in both the right and left ventricles." Id. at 517 (emphases in original). The court concluded that "[b]ecause the claims of the '895 application did not include an embodiment without two sensing electrodes, the patentee did not surrender subject matter [relating to just one sensing electrode] via an amendment during prosecution." Id. at 518.

Finally, the district court determined that the embodiment with only one sensing electrode, which is claimed in claim 15 of the RE'119 patent, was not surrendered by argument. Id. The court first considered arguments made to distinguish the claimed invention over Nappholz. Id. During prosecution of the '895 application, Dr. Mower distinguished Nappholz on the ground that it did not have two sensing electrodes and two pacing electrodes. Id. The court noted that, in distinguishing Nappholz, Mr. Nikolai had stated that "the Nappholz device was 'incapable of picking up ventricular depolarization signals from both ventricles and for ultimately providing stimulation to both ventricles,' which was characteristic of the invention of the '688 patent." Id. The district court reasoned that, "[a]ssuming that these statements are sufficient to surrender subject matter during prosecution, the surrendered subject matter, i.e., a pacemaker with one ventricular pacing electrode, does not appear in the reissue claims." Id. The court pointed out that the device of claim 15 of the RE'119 patent explicitly requires pacing in both ventricles and that therefore the claim "does not recapture the subject matter allegedly relinquished to distinguish Nappholz, as the Nappholz device only

allowed for one pacing electrode." Id. With respect to arguments made over Cohen, the court explained that Cohen was distinguished because it only had electrodes that paced and did not sense depolarizations. Id. "Such an embodiment," the court stated, "is not included in the reissue claims, which require at least one electrode that can both sense and pace." Id. Finally, the district court turned to the argument that was made during prosecution to distinguish Rockland. The court noted that Mr. Nikolai had distinguished Rockland from the invention claimed in the '895 application on the ground that it did not have analyzing circuitry and that it paced the heart over a predetermined time period at a plurality of points upon sensing depolarization. Id. The court determined that because the reissue claims require immediate and unconditional pacing of only the ventricles upon depolarization, "they do not include the embodiment disclosed in Rockland because they do not include a predetermined time period or pacing at more than two points." Id. Based upon its analysis, the district court ruled that, by claiming an embodiment with only one sensing electrode, the RE'119 patent did not recapture material that was surrendered by argument during prosecution of the '895 application. Id.

After judgment was entered, Medtronic filed a timely notice of appeal. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

DISCUSSION

I.

Pursuant to 35 U.S.C. § 251, a patentee may obtain reissue of a patent if the patent is, through error "without any deceptive intention, deemed wholly or partly inoperative or invalid, . . . by reason of the patentee claiming more or less than he had a

right to claim in the patent . . . ." 35 U.S.C. § 251; see also 37 C.F.R. § 1.175. "In considering the 'error' requirement, we keep in mind that the reissue statute is 'based on fundamental principles of equity and fairness, and should be construed liberally.'" Hester Indus., Inc. v. Stein, Inc., 142 F.3d 1472, 1479 (Fed. Cir. 1998) (citation omitted). We have stated that "[a]n attorney's failure to appreciate the full scope of the invention is one of the most common sources of defects in patents," and is generally sufficient to justify reissuing a patent. In re Wilder, 736 F.2d 1516, 1519 (Fed. Cir. 1984); see also Hester, 142 F.3d at 1479-80; In re Clement, 131 F.3d 1464, 1468 (Fed. Cir. 1997); Mentor Corp. v. Coloplast, Inc., 998 F.2d 992, 995 (Fed. Cir. 1993); Scripps Clinic & Res. Found. v. Genentech, Inc., 927 F.2d 1565, 1575 (Fed. Cir. 1991). It is not necessary that the error be unavoidable or that the error could not have been discovered by the patentee through proper communication with the prosecuting attorney. Wilder, 736 F.2d at 1519.

Reissue proceedings, however, cannot be used to obtain subject matter that could not have been included in the original patent. Under the "recapture" rule, the deliberate surrender of a claim to certain subject matter during the original prosecution of the application for a patent "made in an effort to overcome a prior art rejection" is not such "error" as will allow the patentee to recapture that subject matter in a reissue. Clement, 131 F.3d at 1468-69. Thus, the recapture rule prevents a patentee from regaining, through reissue, subject matter that was surrendered during prosecution of the original patent in an effort to obtain allowance of the original claims. Pannu v. Storz Inst., Inc., 258 F.3d 1366, 1371 (Fed. Cir. 2001); see also Hester, 142 F.3d at 1479-80

("[A] surrender is not the type of correctable 'error' contemplated by the reissue statute.").

A surrender can occur by argument as well as by amendment. Hester, 142 F.3d at 1480-84 (noting the statement in Clement that "'[t]o determine whether an applicant surrendered particular subject matter, we look to the prosecution history for arguments and changes to the claims made in an effort to overcome a prior art rejection'" (quoting Clement, 131 F.3d at 1469) (emphasis added in Hester, 142 F.3d at 1480)). We stated in Hester that, like prosecution history estoppel, "unmistakable assertions made to the Patent Office in support of patentability" "can give rise to a surrender for purposes of the recapture rule." Id. at 1482.

"We apply the recapture rule as a three-step process: (1) first, we determine whether, and in what respect, the reissue claims are broader in scope than the original patent claims; (2) next, we determine whether the broader aspects of the reissue claims relate to subject matter surrendered in the original prosecution; and (3) finally, we determine whether the reissue claims were materially narrowed in other respects, so that the claims may not have been enlarged, and hence avoid the recapture rule." N. Am. Container, Inc. v. Plastipak Packaging, Inc., 415 F.3d 1335, 1349 (Fed. Cir. 2005) (citing Clement, 131 F.3d at 1471); see also Pannu, 258 F.3d at 1371 (citing Hester, 142 F.3d at 1482-83; Clement, 131 F.3d at 1470).

Determining whether the claims of a reissued patent violate 35 U.S.C. § 251 is a question of law, which we review de novo. Pannu, 258 F.3d at 1370. The legal conclusion of whether an applicant has met the statutory requirements of 35 U.S.C.

§ 251 is based on underlying findings of fact, which we sustain unless they are clearly erroneous. Clement, 131 F.3d at 1468.

II.

A.

Medtronic contends first that claims 15 through 26 of the RE'119 patent are invalid because they recapture the unconditional embodiment. Medtronic asserts that this embodiment was surrendered both by amendment and by argument during prosecution of the '895 application.

1.

Medtronic argues that claims 1, 7, 15, and 16 of the '895 application, as filed, covered the unconditional embodiment and that, during prosecution, their scope was limited to the conditional embodiment. It argues that claims 15 through 26 of the RE'119 patent improperly recapture the unconditional embodiment. Guidant responds that the recapture rule does not apply to claims 15-26 of the RE'119 patent because, as filed, claims 1, 7, 15, and 16 of the '895 application were directed to the conditional embodiment. It urges that the district court correctly held that the unconditional embodiment was not surrendered by amendment.

The first issue is whether the claims at issue, in this case claims 1, 7, 15, and 16 of the '895 application,[4] ever disclosed the unconditional embodiment. See N. Am. Container, 415 F.3d at 1349. If they did, the second issue is whether the unconditional embodiment was surrendered during prosecution. See id. If it was, the final question is

[4] As seen above, claims 1, 15, and 16 of the '895 application issued as, respectively, claims 1, 5, and 6 in the '688 patent. Claim 7 of the '895 application was cancelled during prosecution.

whether the RE'119 claims were materially narrowed in other respects so that the claims may not have been enlarged and thus avoid the recapture rule. See id.

"Whether amendments made during reexamination enlarge the scope of a claim is a matter of claim construction." Hockerson-Halberstadt, Inc. v. Converse Inc., 183 F.3d 1369, 1373 (Fed. Cir. 1999). "'A claim of a reissue application is broader in scope than the original claims if it contains within its scope any conceivable apparatus or process which would not have infringed the original patent. A reissue claim that is broader in any respect is considered to be broader than the original claims even though it may be narrower in other respects.'" Id. at 1374 (quoting Tillotson, Ltd. v. Walbro Corp., 831 F.2d 1033, 1037 n.2 (Fed. Cir. 1987)); see also Pannu, 258 F.3d at 1371 (stating that a reissue claim that does not include a limitation present in the original claims is broader than the original claim).

We agree with the district court and Guidant that independent claims 1 and 7 of the '895 application as filed, and the claims that depended from them, claims 2-6 and 8-14, did not disclose the unconditional embodiment. See Medtronic, 378 F. Supp. 2d at 516 n.22. As the district court recognized, these claims as filed required the processing of signals, while in the unconditional embodiment, the device does not analyze or process any signals because it immediately and unconditionally stimulates the ventricles. Claim 1 of the '895 application as filed required that the device "analyz[e] said cardiac signals and the absence thereof," while claim 7 of the application as filed was limited to a device with a "control circuit connected to said sensing means to analyze the cardiac signals and provide a control signal." Claims 1 and 7 of the '895 application never covered the unconditional embodiment. Because claims 1 and 7 of

the ’895 application as filed did not include the unconditional embodiment, the recapture rule does not apply with respect to those claims.

We agree with the district court and Medtronic that claims 15 and 16 of the ’895 application as filed did include the unconditional embodiment. Claims 15 and 16 of the ’895 application as filed disclosed a method for effecting simultaneous contraction of both left and right ventricles. In claim 15, one step was “stimulating at least one ventricle substantially simultaneously with the contraction of at least one other ventricle.” Claim 15 clearly covered the unconditional embodiment because it immediately paced. In claim 16 as filed, one step was “stimulating at least one ventricle simultaneously with the contraction of at least one other ventricle after a predetermined A-V period.” While there was a delay in claim 16, there was no analysis step. Both claims described a device that paces at least one ventricle after the contraction of at least one ventricle, so the claims as filed were directed to a device that immediately paces the ventricles—i.e., the unconditional embodiment.

Because claims 15 and 16 did include the unconditional embodiment, we must consider whether the unconditional embodiment was surrendered during prosecution. We agree with the district court and Medtronic that after the examiner’s amendment—characterized as making “minor wording changes”—claims 15 and 16 no longer covered the unconditional embodiment. After the examiner’s amendment, claim 15 of the ’895 application as issued (claim 5 in the ’688 patent) had the additional limitations of “<u>determining whether said cardiac depolarization signals are simultaneously present in both the left and right ventricles</u>; and stimulating at least one ventricle substantially simultaneously with the contraction of at least one other ventricle <u>in the event that said</u>

cardiac depolarization signals are determined not to be simultaneously present in both ventricles." '688 patent, claim 5 (examiner's amendment emphasized). Claim 16 of the '895 application as issued (claim 6 in the '688 patent) had the additional limitations of "determining whether said cardiac depolarization signals are simultaneously present in both the left and right ventricles; stimulating at least one ventricle simultaneously with the contraction of at least one other ventricle after a predetermined A-V period in the event that said cardiac depolarization signals are determined not to be simultaneously present in both ventricles." Id., claim 6 (examiner's amendment emphasized). With the addition of the language "determining whether said cardiac depolarization signals are simultaneously present in both the left and right ventricles," claims 15 and 16 of the '895 application as issued no longer covered immediately pacing both ventricles—i.e., unconditional pacing.

While claims 15 and 16 of the '895 application did cover the unconditional embodiment as filed, and while they were amended so that they no longer covered that embodiment, that alone does not mean that the unconditional embodiment was surrendered. This court has recognized that whether recapture applies "'necessarily depends upon the facts in each case and particularly on the reasons for the cancellation.'" Mentor, 998 F.2d at 995 (quoting In re Willingham, 282 F.2d 353, 357 (C.C.P.A. 1960)). When we consider whether subject matter was "surrendered," we look at whether there was a deliberate withdrawal or amendment in order to secure the patent, as this kind of deliberate action is not the inadvertence or mistake that reissue is meant to remedy. See Clement, 131 F.3d at 1468-69; Mentor, 998 F.2d at 995.

In this case, there was no deliberate surrender of subject matter to obtain allowance of the claims. As discussed above, an attorney's failure to appreciate the full scope of the invention is a common source of defects in patents and has been found to be sufficient to justify reissuing a patent. See Hester, 142 F.3d at 1479-80; Clement, 131 F.3d at 1468; Mentor, 998 F.2d at 995; Scripps, 927 F.2d at 1575; Wilder, 736 F.2d at 1519. It is clear from the prosecution history that neither the examiner nor the prosecuting attorney, Mr. Nikolai, considered the unconditional embodiment a part of the invention. The fact that Mr. Nikolai thought the claims were directed to the conditional embodiment alone is demonstrated by his correspondence with the inventor and with the examiner. The fact that the examiner thought that the claim was to the conditional embodiment alone is demonstrated by the examiner's amendment he made to add "minor wording changes." This is the kind of inadvertence or mistake that the reissue doctrine was meant to remedy.

Further, there is no evidence that the unconditional embodiment could not have been included in the original patent. There is also no evidence that the unconditional embodiment was deliberately surrendered in an effort to overcome a prior art rejection. In fact, there was no prior art rejection, or any rejection at all. Thus, the examiner's amendment was not prompted by a rejection. We agree with the district court that because claims 15 and 16 were not amended over prior art, and because the amendments to the claims were made as clarifying amendments, there was no clear admission that the unconditional embodiment was not patentable. For this reason, the reissue rule does not apply with respect to these claims.

Thus, we agree with the district court that claims 15 through 26 of the RE'119 patent are not invalid for recapturing the unconditional embodiment by amendment.

2.

Medtronic also argues that the unconditional embodiment in claims 15-26 of the RE'119 patent was surrendered by argument. Guidant responds that Medtronic has not shown a clear and unmistakable surrender as Hester requires.

We agree with the district court that Dr. Mower did not surrender the unconditional embodiment through arguments made during prosecution. Mr. Nikolai distinguished claims 1 and 7 of the '895 application, and their dependent claims, which were directed to the conditional embodiment, on the ground that Nappholz only disclosed a single atrial electrode and a single ventricular electrode and thus was unable to sense and pace both ventricles, which is what is claimed in claims 15 and 16 of the RE'119 patent. Thus, Mr. Nikolai did not distinguish Nappholz one the grounds that Nappholz immediately and unconditionally paced both ventricles.

Mr. Nikolai also distinguished the rejected dependent claims 2, 3, 8, and 9 of the '895 application, which were directed to the conditional embodiment, from Cohen on the ground that Cohen had electrodes in the ventricles that paced but did not sense. In the unconditional embodiment in claims 15-26 of the RE'119 patent, however, there is at lease one sensing electrode in a ventricle. Thus, Mr. Nikolai did not clearly and unmistakably surrender the unconditional embodiment.

Medtronic also points to the arguments made by Mr. Nikolai with respect to rejected claim 23 of the '895 application in support of its argument that the unconditional embodiment was surrendered by amendment. Mr. Nikolai distinguished Rockland

because it could not selectively analyze and, instead, described a device that paced over a predetermined time interval. The unconditional embodiment, on the other hand, may immediately pace after a depolarization is sensed in one ventricle. Thus, Mr. Nikolai did not clearly and unmistakably surrender the unconditional embodiment.

Thus, we agree with the district court that claims 15 through 26 of the RE'119 patent are not invalid for recapturing the unconditional embodiment by argument.

B.

Medtronic argues that claims 15, 16, and 22-26 of the RE'119 patent are invalid because they recapture the embodiment with only one sensing electrode. According to Medtronic, this embodiment was surrendered by amendment and argument during prosecution of the '895 application.

1.

Medtronic asserts that claim 7 of the '895 application as filed covered sensing in a single ventricle as well as sensing in both ventricles, and was amended to surrender sensing in only one ventricle. According to Medtronic, claim 7 covered sensing in a single ventricle because the term "ventricular sensing means" encompassed sensing in either one ventricle or in both ventricles. Second, it asserts that claims 15, 16, and 22-26 of the RE'119 patent improperly recapture the embodiment with only one sensing electrode that was surrendered during prosecution. Guidant responds that the district court correctly held that the embodiment with only one sensing electrode was not surrendered by amendment because original claim 7 required sensing from both ventricles and Medtronic's arguments do not apply to reissue claims 22-24 because they require sensing from both ventricles.

The first issue we must address is whether claim 7 of the '895 application ever disclosed the "sensing of electrical activity in only one ventricle" embodiment. See N. Am. Container, 415 F.3d at 1349. If it did, the second issue is whether that subject matter was surrendered during prosecution. Id. If it was, the final question is whether reissue claims were materially narrowed in other respects so that the claims may not have been enlarged to avoid the recapture rule. Id.

We agree with the district court that claim 7 in the '895 application as filed did not include an embodiment with only one sensing electrode. Medtronic is incorrect that claim 7 of the '895 application as filed covered sensing in a single ventricle as well as sensing in both ventricles. The claim refers to a "bi-ventricular pacemaker," indicating that sensing is done in both ventricles. The claim uses the term "detecting cardiac signals," indicating that several sensing electrodes would be used. While one could argue that the term "signals" as used means signals over time, instead of multiple signals at the same time, later in the claim the singular term "signal" is used to describe the control signal of the control circuit. If the term "signals" referred to one single source of a signal over time, the claim would use "signals" again later when referring to the control signal. The addition of the language "originating in the atrium and both ventricles" does not narrow the scope of the claim, as it was always directed to sensing in both ventricles. In fact, the addition of this language after "detecting cardiac signals" demonstrates even more clearly that there are signals, and not a signal, which require multiple sensing electrodes.

Thus, we agree with the district court that claims 15, 16, and 22-26 of the RE'119 patent are not invalid for recapturing the embodiment with only one sensing electrode by amendment.

2.

Medtronic also argues that the embodiment with only one sensing electrode in the reissue claims was surrendered by argument. Guidant responds that the district court correctly held that this embodiment was not surrendered by argument.

As discussed above, if the claims of a reissue patent violate the recapture rule, the claims are invalid, see N. Am. Container, 415 F.3d at 1349, and surrender can occur by way of amendments or arguments, see Hester, 142 F.3d at 1480-81. The district court held that the embodiment with only one sensing electrode was not surrendered by argument. Medtronic, 378 F. Supp. 2d at 518. With respect to Nappholz, the court recognized, that during prosecution of the '895 application, Mr. Nikolai distinguished Nappholz because Nappholz did not have two sensing electrodes and it also did not have two pacing electrodes. Id. The court determined that, "[a]ssuming that these statements are sufficient to surrender subject matter during prosecution," the surrendered subject matter—a pacemaker with one ventricular pacing electrode—did not appear in the reissue claims because claim 15 of the RE'119 patent "explicitly requires pacing in both ventricles." Id. The court concluded that "[t]his does not recapture the subject matter allegedly relinquished to distinguish Nappholz, as the Nappholz device only allowed for one pacing electrode. Therefore, claim 15 is materially narrowed and would have been patentable over Nappholz." Id.

We see no error in the district court's ruling with respect to the arguments made to distinguish Nappholz. As the court noted, Mr. Nikolai's argument with respect to Nappholz was based on the proposition that Dr. Mower's invention was distinguishable over, and narrower than, Nappholz because it required two sensing electrodes. As indicated above, when a reissue claim, while broader in certain respects than the original patent claim, is materially narrowed in other respects, the recapture rule does not apply. See N. Am. Container, 415 F.3d at 1349. The district court's ruling with respect to Mr. Nikolai's arguments relating to Nappholz recognizes this rule.

Moreover, further support for the district court's ruling lies in the fact that the statements regarding Nappholz made during prosecution of the '895 application were not unmistakable assertions in support of patentability over the embodiment with a single sensing electrode. Mr. Nikolai distinguished Nappholz from the conditional embodiment on the ground that Nappholz had only a single atrial electrode and a single ventricular electrode and thus was unable to sense and pace both ventricles.[5] In the unconditional embodiment claimed in the RE'119 patent, there may be only one sensing electrode, as once a depolarization is sensed, both ventricles are immediately paced,

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[5] Mr. Nikolai distinguished Nappholz because

> it is clear that the method being claimed involves detecting the respective cardiac signals originating in the left and the right ventricles of the heart. After analyzing those cardiac signals (or the absence thereof) in an electronic control circuit, electrical pulses are provided from a stimulating circuit to one, the other or both ventricles for effecting substantially simultaneous contraction of both ventricles. Clearly, Nappholz does not teach this method. The Nappholz patent describes a . . . pacemaker having a single atrial electrode and a single ventricular electrode . . . . Thus, the device of that patent is incapable of picking up ventricular depolarization signals from both ventricles.

(Emphasis in original).

but there are two pacing electrodes in the ventricles, unlike Nappholz. We do not think Mr. Nikolai's statements about Nappholz's single ventricular sensing electrode (which were made in the context of distinguishing Nappholz from Dr. Mower's conditional embodiment) are unmistakable assertions in support of patentability distinguishing it from the embodiment with only one sensing electrode. That is because the statements were not made in the context of distinguishing Nappholz and the claimed invention based on the number of sensing electrodes, but rather in the context of distinguishing Nappholz from the conditional embodiment. In other words, we cannot say that the statement was an unmistakable assertion in support of patentability that invalidates the reissue patent claims covering the embodiment with only one sensing electrode.

As discussed above, Mr. Nikolai distinguished Cohen from his invention of the ground that Cohen had electrodes in the ventricles that paced but did not sense. This distinction is not relevant to the embodiment with only one sensing electrode, as Cohen cannot sense. Finally, as far as Rockland is concerned, Mr. Nikolai distinguished Rockland on the ground that it could not selectively analyze and, instead, described a device that paced over a predetermined time interval. This distinction is also irrelevant to the embodiment with only one sensing electrode, as that embodiment does not require a predetermined time period.

Thus, we agree with the district court that claims 15, 16, and 22-26 of the RE'119 patent are not invalid for recapturing the embodiment with only one sensing electrode because that embodiment was previously surrendered by argument.

CONCLUSION

In sum, we affirm the district court's determination that claims 15-26 of the RE'119 patent are not invalid. We do so because we agree with the district court that neither the unconditional embodiment nor the embodiment with only one sensing electrode, both of which were covered by those claims, was surrendered by amendment or argument during prosecution of the '895 application.

COSTS

Each party shall bear its own costs.

AFFIRMED

United States Court of Appeals for the Federal Circuit

05-1515

MEDTRONIC, INC.,

Plaintiff-Appellant,

v.

GUIDANT CORPORATION, GUIDANT SALES CORPORATION and ELI LILLY & COMPANY,

Defendants-Appellees.

and

MIROWSKI FAMILY VENTURES L.L.C.,

Defendant-Appellee.

DYK, Circuit Judge, concurring-in-part and dissenting-in-part.

I join the majority's opinion insofar as it holds that claims 15, 16 and 22-26 of the RE'119 patent did not impermissibly recapture the embodiment with only one sensing electrode. I dissent insofar as the majority holds that the reissue patent's claims 15-26, which claim the unconditional embodiment, did not violate the recapture rule, because I believe they impermissibly recapture the unconditional embodiment.

The recapture rule provides that an applicant may not regain, through reissue, subject matter that was deliberately surrendered during prosecution of the original patent in order to avoid a prior art rejection. In re Clement, 131 F.3d 1464, 1468 (Fed. Cir. 1997). The recapture rule involves a three-step process: "(1) first, we determine

whether, and in what respect, the reissue claims are broader in scope than the original patent claims; (2) next, we determine whether the broader aspects of the reissue claims relate to subject matter surrendered in the original prosecution; and (3) finally, we determine whether the reissue claims were materially narrowed in other respects, so that the claims may not have been enlarged, and hence avoid the recapture rule." N. Am. Container, Inc., v. Plastipak Packaging, Inc., 415 F.3d 1335, 1349 (Fed. Cir. 2005). Only a deliberate surrender of subject matter during prosecution will trigger application of the recapture rule; an inadvertent surrender will not. Kim v. Conagra Foods, Inc., --- F.3d ---, 2006 WL 2773237, at *7 (citing cases). The majority agrees that the claims originally claimed the unconditional embodiment, that they were narrowed to exclude the unconditional embodiment, that they were broadened during reissue to again cover the unconditional embodiment, and that they were not materially narrowed during reissue in other respects. But the majority further holds that there was no deliberate surrender. I respectfully disagree.

In considering whether a deliberate surrender of subject matter has occurred, we ask whether an objective observer viewing the prosecution history would conclude that such a deliberate surrender happened in order to avoid an obstacle to patentability. Kim, 2006 WL 2773237, at *7. The surrender issue is a question of law. N. Am. Container, 415 F.3d at 1349. In my view, the timing and content of Mr. Nikolai's statements regarding claim 23, and of the examiner's amendments to claims 15 and 16, lead to the conclusion that Medtronic deliberately surrendered the unconditional embodiment during prosecution of the original patent.

It is clear, and the majority agrees, that claims 15 and 16, as originally drafted, covered the unconditional embodiment of the invention as well as its conditional embodiment. It is undisputed that, after the examiner's amendment to claims 15 and 16, those claims no longer covered the unconditional embodiment. The examiner's statements made at the time of the amendment of claims 15 and 16—characterizing the language changes as "minor wording changes"—on their face do not demonstrate a concern with patentability. However, it is quite clear that the amendments were not, in fact, minor wording changes, and the examiner stated that the amendments were necessary in order to put claims 15 and 16 "in condition for allowance." In light of the prosecution history, the amendments to claims 15-16, in my view, were plainly directed to patentability.

Claim 23 of the '895 application originally included both the conditional and unconditional embodiments, as did the original language of claims 15 and 16. On September 6, 1989, the examiner rejected claim 23 as obvious in light of the Rockland and Funke prior art. Mr. Nikolai's statements designed to overcome the rejection of claim 23 were clearly directed towards patentability. In his September 26, 1989, response to the examiner, Mr. Nikolai distinguished the prior art on the basis that Rockland could not "analyz[e] cardiac signals" and "selectively . . . stimulat[e] or pac[e]" one ventricle, in other words, that the prior art did not disclose the conditional embodiment. Claim 23 was then amended to add language limiting it to the conditional embodiment.[1] Based on these representations as to the prior art and the amendment

[1] The language of claim 23 is below. Language that was added in September is indicated by underscoring, and language that was deleted is in brackets:

limiting the scope of claim 23 to the conditional embodiment, the claim eventually was allowed as claim 13 of the '688 patent (with minor additional language changes).

A few weeks after Mr. Nikolai's statements concerning claim 23 and the amendment to that claim, on December 5, 1989, the examiner similarly amended claims 15 and 16 to require "determining whether . . . signals . . . are simultaneously present," the very analysis function that Mr. Nikolai referred to in his claim 23 statement. The language of claims 15 and 16 was also amended, as the language of claim 23 had been amended, to make clear the conditional nature of the ventricle stimulation. Given this sequence of events, I think it is clear that the examiner's amendment to claims 15 and 16—which the majority agrees resulted in the elimination of the unconditional embodiment and the limitation of the those claims to the conditional embodiment—was made to avoid the same prior art that had caused claim 23's original rejection. In other words, an objective observer, viewing the prosecution history, would conclude that the unconditional embodiment was deliberately surrendered to avoid a prior art rejection of

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> An atrial-coupled, bi-ventricular pacemaker for implantation or external use comprising atrial and ventricular sensing means for detecting cardiac signals, said sensing means including first and second ventricular electrodes connected in series for sensing and stimulating the right and the left ventricles, respectively, and an atrial electrode adapted to be disposed in an atrial chamber for detecting cardiac signals of the atria, all of said electrodes being connected to separate ECG amplifier means for amplifying the sensed signals; a control circuit coupled to said ECG amplifier means for analyzing the cardiac signals picked up by said sensing means and providing a control signal; and a stimulating circuit [for effecting simultaneous contractions of both ventricles in response to said control signal following a predetermined A-V delay period] <u>for producing an electrical stimulating pulse to the left ventricle in the absence of a detected cardiac signal from the left ventricle, or to the right ventricle in the absence of a detected cardiac signal from the right ventricle, or to both ventricles in the absence of detected cardiac signals from both ventricles to effect substantially simultaneous contraction of both ventricles after a predetermined A-V delay period</u>.

claim 23, and an analogous prior art problem in claims 15 and 16. Under these circumstances, the recapture of the unconditional embodiment in the reissue patent was improper.