

United States Court of Appeals for the Federal Circuit

00-1508

EMI GROUP NORTH AMERICA, INC.,

Plaintiff-Appellant,

v.

CYPRESS SEMICONDUCTOR CORPORATION,

Defendant-Appellee.

James P. Bradley, Sidley & Austin, of Dallas, Texas, argued for plaintiff-appellant. With him on the brief were Kathi A. Cover and William D. McSpadden. Of counsel were Ivan S. Kavrukov, Cooper & Dunham LLP, of New York, New York; and Donald F. Parsons, Jr., Morris, Nichols, Arsht and Tunnell, of Wilmington, Delaware.

C. Randall Bain, Brown & Bain, P.A., of Phoenix, Arizona, argued for defendant-appellee. With him on the brief were C. Mark Kittredge and Roger A. Denning.

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

Judge Roderick R. McKelvie

United States Court of Appeals for the Federal Circuit

00-1508

EMI GROUP NORTH AMERICA, INC.,

Plaintiff-Appellant,

v.

CYPRESS SEMICONDUCTOR CORPORATION,

Defendant-Appellee.

DECIDED: September 21, 2001

Before RADER, Circuit Judge, PLAGER, Senior Circuit Judge, and DYK, Circuit Judge.
RADER, Circuit Judge.

After a jury verdict, the United States District Court for the District of Delaware denied EMI Group North America, Inc.'s motion for a new trial. EMI Group N. Am., Inc. v. Cypress Semiconductor Corp., 104 F. Supp. 2d 370 (D. Del. 2000). Because the district court did not abuse its discretion in determining that the jury verdicts were consistent, this court affirms.

EMI also sought a judgment as a matter of law (JMOL) that United States Patent Nos. 4,826,785 (the '785 patent) and 4,935,801 (the '801 patent) are not invalid. The district court denied the motion in part. Because a reasonable jury could conclude on this record that claim 1 of the '785 patent and claims 1 and 5 of the '801 patent are impossible, this court affirms the district court's denial of EMI's motion for JMOL.

The district court granted in-part EMI's motion for JMOL that the '785 and '801 patents are not invalid for obviousness or anticipation. Because the district court erred in finding that the mechanism recited in the asserted claims is not inherent, this court reverses the district court's partial grant of EMI's motion for JMOL.

The district court also denied in-part EMI's motion for JMOL that Cypress Semiconductor Corp. infringed the asserted claims of the '785 and '801 patents. Because we find that the claims of the '785 and '801 patents are invalid, this court does not reach the issue of infringement.

I.

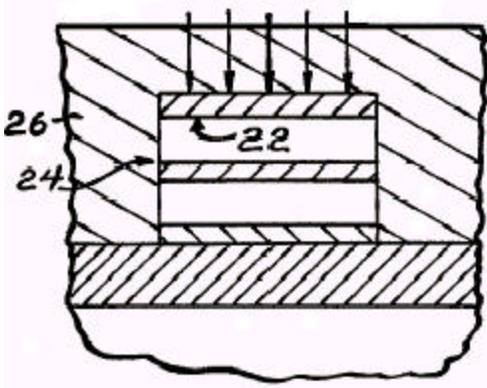
The present case features metallic fuses for semiconductor chips. Due to manufacturing complexities, semiconductor chips typically have redundant circuitry. Manufacturers test each chip to determine whether portions of the chip are dysfunctional. Manufacturers then disconnect the dysfunctional portions and the redundant circuitry takes over the function. With this method, the manufacturing process yields a greater percentage of viable chips.

Interconnects, called links or fuses, typically connect sections of a chip. To disconnect a dysfunctional portion of the semiconductor chip, manufacturers sever the fuses that connect the dysfunctional portion to the rest of the chip. A laser beam performs this disconnecting function by melting or “blowing” a portion of the fuse. EMI owns the '801 patent, which claims a structure for a metallic fuse with an optically absorptive upper layer, and the '785 patent, which claims a method for fabricating and blowing such a fuse. The '801 patent is a divisional of the application that led to the '785 patent.

Originally, the semiconductor industry made fuses of polysilicon. A laser easily blew these fuses without damaging the surrounding structures of the chip. Because metal produced a more efficient and reliable circuit, manufacturers began switching to metal fuses in the 1980s. Metal fuses, however, presented a significant manufacturing problem because they do not melt without a high energy laser blast. This high laser energy damages the underlying silicon substrate and surrounding polysilicon structures of the chip.

In 1986, Dr. Robert Jones, Jr. and Mr. Paul McClure, both scientists with INMOS Corp., [1] developed a metallic fuse structure that would melt under a low energy laser. The fuse structure 24, as disclosed in both the '785 and '801 patents, has metal interconnect layers, typically made of a material such as aluminum, underneath a cap 22. The cap is an optically absorptive refractory material, such as tungsten or titanium. This optically absorptive refractory material has a higher boiling point than underlying metal layers and absorbs low energy laser radiation that the underlying metal layers would typically reflect. In some of the embodiments disclosed in both patents, the cap 22 is further covered with a glass passivation

layer 26.



The specification of both patents describes the theoretical mechanism for blowing the disclosed metallic fuse. According to the specifications, as the transition metal layer absorbs laser energy, it causes "the rest of the underlying metallic fuse portion to heat up and eventually melt" while it remains solid. '785 patent, Col. 2, ll. 44-45; '801 patent, Col. 2, ll. 50-51. The underlying metallic portion eventually evaporates and the fuse quickly accumulates vapor pressure under the transition metal layer. This vapor pressure, in theory, causes the melted fuse material to explode, thus removing the fuse from the chip. '785 patent, Col. 2, ll. 45-50; '801 patent, Col. 2, ll. 51-56. This entire fuse explosion sequence occurs within nanoseconds.

Thus, according to both the '785 and '801 patents: "The use of the thin, high-temperature optically absorptive coating on top of the interconnect member forming the fuse portion acts as a cap to prevent evaporation until the vapor pressure of the material below the cap is very high." '785 patent, Col. 2, ll. 50-54; '801 patent, Col. 2, ll. 56-60. Dr. Jones and Mr. McClure did not, however, practice or observe the actual severance of the fuse by this method. Rather the disclosed and claimed explosive mechanism is theoretical. Claim 1, the only independent claim of the '785 patent, recites:

1. A method of fabricating on a substrate surface a fuse forming an integral part of a metallic interconnect line joining elements in an integrated circuit, the method comprising:

forming a metal interconnect layer above the substrate surface;

forming a layer of an optically absorptive refractory transition metal above said metal interconnect layer, said refractory metal having a higher boiling point than said metal interconnect layer;

defining said metal interconnect layer and said optically absorptive layer into a patterned metallic interconnect for the integrated circuit including a fuse portion therein, said refractory metal forming a cap to prevent evaporation of said fuse portion when said fuse portion is exposed to a directed energy source to increase the vapor pressure under the cap to produce an explosive removal of said fuse portion; and

removing said fuse portion from said interconnect line by exposing said optically absorptive refractory metal to directed energy source that explosively removes said fuse portion without damaging the substrate.

(Emphasis added.) Claims 1 and 5, the only independent claims of the '801 patent, recite:

1. A fuse for a metallic interconnect line that joins elements of an integrated circuit formed on and in a silicon substrate wherein the fuse comprises

a layered interconnect structure having an upper layer of an optically absorptive material and a lower layer of metal below said upper layer,

said optically absorptive material having a higher boiling temperature than that of said metal, said upper layer forming an explosion-inducing cap,

said layered interconnect configured such that a laser light directed on said upper layer is absorbed thereby and causes said lower layer to vaporize before said upper layer vaporizes thereby inducing an explosion which substantially removes said layered interconnect structure, disconnecting the previously joined elements of the integrated circuit.

5. A fuse for metallic interconnect line that joins elements of an integrated circuit formed on and in a silicon substrate wherein the fuse comprisesi [sic]

a layered interconnect structure having an explosion-inducing cap which includes an upper layer of an optically absorptive material,

said layered interconnect structure further including a lower layer of metal below said upper layer, said optically absorptive material having a higher boiling temperature relative to said metal,

said layered interconnect structure being responsive to a laser light having a circular Gaussian energy distribution output on said upper layer, such that when said layered interconnect structure is exposed to said laser light, said upper layer absorbs said laser light and transmits heat to said lower layer, said lower layer vaporizes before said upper layer causing an explosion, said explosion forming an opening between said elements on said integrated circuit.

(Emphasis added.)

EMI sued Cypress in 1998 for infringement of the '785 and '801 patents by fuses manufactured by Cypress' RAM 3, RAM 4, and RAM 5 processes. Cypress' accused fuses feature an aluminum layer capped by a tungsten-titanium alloy layer and further covered by a glass passivation layer. In September 1999, the district court held a Markman hearing and

issued an order construing the asserted claims.

During the ensuing trial, EMI's expert witness, Dr. Fair, testified about the accuracy of the claimed theoretical vapor-induced explosion mechanism. Cypress' expert witness, Dr. Bernstein, testified that the explosion mechanism recited in the asserted claims is impossible. He explained that before the fuse temperature becomes hot enough to vaporize the metal layer, the metal expands under the heat causing any passivation layer to crack at the corners of the fuse. Melted metal then ejects through the cracks. According to Dr. Bernstein, the metal layers of a fuse cannot vaporize under a transition metal cap to cause an explosive removal of the metal layers because the molten metal will eject from the fuse before vapor pressure causes an explosion. Thus, according to Dr. Bernstein, EMI's patents claim an impossible mechanism, which Cypress' fuses and processes cannot infringe because they do not explode according to the claimed mechanism.

Dr. Bernstein further testified that if his theory were wrong and the claimed explosive mechanism were possible, it would be inherent in all similar prior art fuses. Dr. Bernstein thus testified that the prior art fuses disclosed in Japanese Patent Application No. 58-165347 to Makoto Nakase (the Toshiba patent), United States Patent No. 4,531,144 to Scott H. Holmberg (the Holmberg patent), and United States Patent No. 4,556,897 to Masaharu Yorikane et al. (the Yorikane patent) anticipate or render obvious the asserted claims of both the '785 and '801 patents.

EMI and Cypress each submitted jury verdict forms to the court. The court adopted Cypress' form. The jury's verdict form thus stated:

Question No. 15 [16, 17] . . . Do you find by clear and convincing evidence that the following language of claim 1 [1, 5] of the '785 ['801, '801] Patent describes a fuse-removal mechanism that is physically impossible in the structure described in the claim?

. . . .

Question No. 18 [19, 20] . . . *For the purpose of this question, assume that the fuse removal mechanism described in claim 1 [1, 5] of the '785 ['801, '801] Patent is not impossible in the structure described in the claim, regardless of your answer to Question No. 15 [16, 17].*

Do you find by clear and convincing evidence that the underlined language in the following portions of claim 1 [1, 5] of the '785 ['801, '801] Patent describes an inherent property, law of nature, natural phenomenon, or a new use for an old

structure?

On October 29, 1999, the jury answered "Yes" to all of these questions. The jury further found that Cypress' accused fuses and processes do not infringe the asserted claims. In a motion JMOL, EMI sought a ruling that the earlier claim construction was incorrect, that Cypress infringes the asserted claims, that the asserted claims are not invalid for impossibility, and that Cypress did not put forth substantial evidence that the asserted claims are anticipated or obvious. In the alternative, EMI sought a new trial because the jury verdicts were allegedly inconsistent. Specifically, EMI argued that the verdict form required the jury to make assumptions contrary to its previous findings about issues involving the same set of facts. Because the facts can only support one conclusion at most, EMI asserted that this "inconsistency" warranted a new trial.

The district court denied EMI's motion for a new trial. The district court further denied in part EMI's JMOL motion that the asserted claims of the '785 and '801 patents are not invalid for impossibility and are infringed by Cypress. The district court did, however, grant in part EMI's JMOL motion that its asserted claims are not anticipated or obvious. EMI appealed. This court has jurisdiction under 28 U.S.C. § 1295(a)(1).

II.

The denial of a motion for a new trial is a procedural issue not unique to patent law which we review under the law of the regional circuit where the appeal from the district court normally would lie – in this case, the Third Circuit. Southwest Software, Inc. v. Harlequin, Inc., 226 F.3d 1280, 1290, 58 USPQ2d 1321, 1327 (Fed. Cir. 2001). As for JMOL, a district court may only grant these motions when "a party has been fully heard on an issue and there is no legally sufficient evidentiary basis for a reasonable jury to find for that party." Fed. R. Civ. P. 50(a)(1).

A.

The Federal Circuit applies the law of the regional circuit, in this case the Third Circuit, to the question of allegedly inconsistent jury verdicts. If possible, the Third Circuit interprets jury answers to special interrogatories in a way that makes them consistent. Andrasko v. Chamberlain Mfg. Corp., 608 F.2d 944, 947 (3d Cir. 1979) (courts "must attempt to harmonize the jury's answers to interrogatories, if it is possible"); see also Atl. & Gulf Stevedores, Inc. v. Ellerman Lines, Ltd., 369 U.S. 355, 364 (1962). Under Third Circuit law, a "fundamental

inconsistency" among jury verdicts may, however, "fatally undermine" an entered judgment and require a new trial. Riley v. K Mart Corp., 864 F.2d 1049, 1054 (3d Cir. 1988). The Third Circuit allows defense of a case on alternative theories so long as counsel "explain [s] carefully in language capable of lay comprehension what is intended by the various . . . theories." Malley-Duff & Assocs., Inc. v. Crown Life Ins. Co., 734 F.2d 133, 147 (3d Cir. 1984).

In this case, Cypress adequately explained its alternative theories and thus provided adequate support for the jury verdict questions. Specifically, Dr. Bernstein testified that EMI's claimed explosion method was impossible. He also testified that Cypress' accused fuses do not infringe the '785 and '801 patents because they simply cannot explode according to the theoretical method recited in the asserted claims. In support of this testimony, he presented his test results on certain Cypress fuses.

Dr. Bernstein also testified: "u If it turns out that my research and my information [regarding impossibility] is not correct, it doesn't change how [the fuse] is removed; it just perhaps changes how we understand that it's removed. But the inherent property of the material will behave as it will behave in nature." (Emphasis added). The verdict form was in accord with this testimony, including a clear explanation that the jury's verdict on inherency should be a verdict in the alternative. The question expressly asks the jury to assume that the claimed mechanism was not impossible. Thus, Cypress carefully put forth evidence and carefully explained what it meant by its alternative verdict. The trial court's questionnaire clearly stated the alternatives and the assumptions underlying each question. The district court, therefore, did not abuse its discretion in harmonizing the jury's verdicts on noninfringement, impossibility, and inherency.

B.

As explained above, Cypress presented two alternative theories of invalidity of EMI's asserted claims at trial: impossibility and inherency of the claimed vapor-induced mechanism. On appeal, Cypress again argues in the alternative that EMI's asserted claims are invalid because they either (1) recite a limitation that is impossible; or (2) are anticipated or obvious because the claimed vapor-induced explosion mechanism, which is the only difference between the asserted claims and prior art, is inherent in prior art devices. This court will address both theories of invalidity in turn.

A claimed invention having an inoperable or impossible claim limitation may lack utility under 35 U.S.C. § 101 and certainly lacks an enabling disclosure under 35 U.S.C. § 112. Raytheon Co. v. Roper Corp., 724 F.2d 951, 956, 220 USPQ 592, 596 (Fed. Cir. 1983). Discussing impossibility, this court stated: "Even if some of the claimed combinations were inoperative, the claims are not necessarily invalid. . . . [I]f the number of inoperative

combinations becomes significant, and in effect forces one of ordinary skill in the art to experiment unduly in order to practice the claimed invention, the claims might indeed be invalid." Atlas Powder Co. v. E.I. Du Pont De Nemours & Co., 750 F.2d 1569, 1576-77, 224 USPQ 409, 414 (Fed. Cir. 1984). In Johns Hopkins Univ. v. Cellpro, Inc., 152 F.3d 1342, 47 USPQ2d 1705 (Fed. Cir. 1998) and Moleculon Research Corp. v. CBS, Inc., 793 F.2d 1261, 229 USPQ 805 (Fed. Cir. 1986), this court clarified that the party alleging inoperability must show that each disclosed embodiment in the patents was impossible or not enabled. In those cases, the patents disclosed several alternative combinations of method steps or ingredients. The records showed that only some of the disclosed alternative combinations were inoperative or not enabled. Johns Hopkins, 152 F.3d at 1361; Moleculon Research, 793 F.2d at 1269. In that setting, the party alleging invalidity clearly has a burden to show that all disclosed alternative embodiments are inoperative or not enabled.

In the present case, however, each asserted claim recites the vapor-induced explosion mechanism. If this mechanism is inoperative, then the claims themselves—regardless of the potential for multiple embodiments—recite a method or apparatus that does not work. When a claim itself recites incorrect science in one limitation, the entire claim is invalid, regardless of the combinations of the other limitations recited in the claim. Process Control Corp. v. Hydroclaim Corp., 190 F.3d 1350, 1359, 52 USPQ2d 1029, 1035 (Fed. Cir. 1999) ("[W]hen an impossible limitation, such as a nonsensical method of operation, is clearly embodied within the claim, the claimed invention must be held invalid."). Thus, in this case, Cypress needed only to show with clear and convincing evidence that the recited explosion mechanism was impossible, not that specific disclosed embodiments of fuse structures of the '785 and '801 patents were each inoperable.

Dr. Bernstein testified that EMI's claimed theoretical mechanism for blowing a fuse was impossible. His testimony addressed all metallic fuses covered with a layer of optically absorptive material, not specific embodiments. Dr. Bernstein researched many types of fuse-severing mechanisms for over ten years using computer models and observing various fuse structures as they were irradiated by laser pulses. In the short time the laser focuses on a fuse, he testified, it does not reach the boiling point of the underlying metal layer before expanding through surrounding barriers. Dr. Bernstein further testified about his experiments to show that the claimed vapor-induced explosion was not possible in either glass passivated or unpassivated fuse structures. Finally, Dr. Bernstein testified that a fuse simply cannot explode due to vapor pressure. The record thus supports the jury's verdict that the claimed vapor-induced mechanism limitation is impossible.

C.

"[T]he discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition

patentably new to the discoverer." Atlas Powder Co. v. IRECO Inc., 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999); see also Parker v. Flook, 437 U.S. 584, 594 (1978) ("[D]iscovery of . . . a [natural] phenomenon cannot support a patent unless there is some other inventive concept in its application."). "The public remains free to make, use, or sell prior art compositions or processes, regardless of whether or not they understand their complete makeup or the underlying scientific principles which allow them to operate." Atlas Powder, 190 F.3d at 1348. The vapor-induced explosion mechanism recited in the claims at issue is a scientific explanation for the process of blowing the claimed fuse structure of the and '785 patents. Thus, to support the verdict that the claimed theoretical explanation is inherent in the prior art, the record must show prior art references that disclose the claimed fuse structure.

The record shows that the Toshiba, Holmberg, and Yorikane patents disclose the same structure as recited in the claims at issue. The Toshiba patent discloses a fuse structure with a metal layer, such as aluminum, covered with a layer of molybdenum (an optically absorptive refractory transition metal). Toshiba patent, translated p.8. The Toshiba patent also explains that the disclosed structure "reduce[s] the laser reflection coefficient of the metal layer to be melted and easily melt[s] the metal layer with a low-power laser beam." Toshiba patent, translated p.7. This explanation mirrors the explanation in the '785 and '801 patents. The Toshiba patent further discloses melting the fuse with a 5-microjoule pulse laser. Toshiba patent, translated p. 8. Finally, the Toshiba patent also claims a method of manufacturing the disclosed fuse. Toshiba patent, translated p. 2.

The Holmberg patent discloses a fuse structure wherein a metal layer, such as aluminum, is covered by a layer of refractory metal, such as tantalum, hafnium, etc. Holmberg patent, Abstract. The Holmberg patent also discloses a method of making such a fuse. Holmberg patent, col. 3, ll. 51-67. The Yorikane patent discloses wiring for a semiconductor device wherein the wiring is made of a wiring layer and coated with a metallic film of refractory metal. Yorikane patent, col. 1, ll. 42-45. The wiring layer can be made of aluminum, silicon, copper, or alloys thereof, and the refractory metallic film may be made of titanium, titanium nitride, molybdenum, tungsten, platinum, chromium or alloys thereof. Yorikane patent, col. 1, ll. 60-65.

A prior art reference anticipates a patent claim if the reference discloses, either expressly or inherently, all of the limitations of the claim. Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 771, 218 USPQ 781, 789 (Fed. Cir. 1983). Dr. Bernstein acknowledged that none of

these patents disclose the vapor-induced explosion as recited in the claims of the '785 and '801 patents. He did, however, testify that regardless of how fuses with the same as that recited in the '785 and '801 patents sever, the scientific mechanism of their severance is inherent.

The district court, however, granted JMOL that the claims in suit are not anticipated or obvious based on insubstantial evidence of inherency. In granting JMOL, the district court concluded: "The pertinent inquiry was whether the prior art inherently discloses the claimed fuse-removal mechanism, not whether the fuse-removal mechanism is an inherent characteristic of the claimed structure." EMI Group, 104 F. Supp. 2d at 386. The district court relied on this court's statement in Continental Can Co. v. Monsanto Co., 948 F.2d 1264, 1268, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991), that: "To serve as an anticipation when the reference is silent about the asserted inherent characteristic, such gap in the reference may be filled with recourse to extrinsic evidence. Such evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill."

This requirement, that a person of ordinary skill in the art must recognize that the missing descriptive matter is necessarily present in the reference, may be sensible for claims that recite limitations of structure, compositions of matter, and method steps which could be inherently found in the prior art. Such recognition by one of ordinary skill may be important for establishing that the descriptive matter would inherently exist for every combination of a limitation. See In re Oelrich, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981) ("Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient."). Theoretical mechanisms or rules of natural law that are recited in a claim, that themselves are not patentable, however, do not need to be recognized by one of ordinary skill in the art for a finding of inherency. A person of ordinary skill does not need to recognize that a method or structure behaves according to a law of nature in order to fully and effectively practice the method or structure. E.g., Mehl/Biophile Int'l Corp. v. Milgraum, 192 F.3d 1362, 1365, 52 USPQ2d 1303, 1305-06 (Fed. Cir. 1999) ("Inherency is not necessarily coterminous with the knowledge of those of ordinary skill in the art. Artisans of ordinary skill may not recognize the inherent characteristics or functioning of the prior art."); In re Ackenbach, 45 F.2d 437, 439, 7 USPQ 268, 270 (CCPA 1930) ("[I]f a previously patented device, in its normal and usual operation, will perform the function which an appellant claims in a subsequent application for

process patent, then such application for process patent will be considered to have been anticipated by the former patented device.").

A hypothetical example clarifies this principle. Humans lit fires for thousands of years before realizing that oxygen is necessary to create and maintain a flame. The first person to discover the necessity of oxygen certainly could not have obtained a valid patent claim for "a method of making a fire by lighting a flame in the presence of oxygen." Even if prior art on lighting fires did not disclose the importance of oxygen and one of ordinary skill in the art did not know about the importance of oxygen, understanding this law of nature would not give the discoverer a right to exclude others from practicing the prior art of making fires.

Similarly, in the present case the prior art does not need to inherently disclose the claimed theoretical vapor-induced fuse explosion mechanism. Nor does one of skill in the art need to understand the severing mechanism. Recitation of a law of nature does not distinguish a claim from prior art. Funk Bros. Seed Co. v. Kalo Inoculant Co., 333 U.S. 127, 130 (1948) ("[M]anifestations of laws of nature [are] free to all men and reserved exclusively to none. He who discovers a hitherto unknown phenomenon of nature has no claim to a monopoly of it which the law recognizes."). The prior art, as described above and as testified to by Dr. Bernstein, discloses the fuse structure recited in the claims at issue, and thus inherently discloses the law of nature by which such fuses rupture under the heat of a laser. Thus, by showing that the prior art disclosed identically structured fuses to those recited in the claims and that the patents-in-suit disclose blowing these fuses with conventional lasers, the record contains substantial evidence for a reasonable jury to find inherency. The district court, therefore, improperly granted JMOL that the claims of the '785 and '801 patents are not invalid for anticipation and obviousness.

This court's holding does not foreclose an inventor from claiming an invention in terms of a structure that achieves a specific claimed result. In this case, however, the claim merely explains the operation of the claimed structure, rather than defining the claimed structure in terms of the result it achieves. Moreover, in explaining the operation, the claim merely recited a purported law of nature.

CONCLUSION

Because the district court did not abuse its discretion in denying EMI's motion for a new trial, and properly maintained the jury's verdict that the '785 and '801 patents' claims are invalid due to impossibility, this court affirms that portion of the judgment. Further, because the district court improperly reversed the jury's verdict that the '785 and '801 patents' claims are

invalid as anticipated and obvious, this court reverses that portion of the judgment. Finally, because both the '785 and '801 patents have been found invalid, we do not reach the issue of infringement.

COSTS

Each party shall bear its own costs.

AFFIRMED-IN-PART and REVERSED-IN-PART

^[1] EMI purchased INMOS in 1984 and retained ownership rights to certain INMOS patents when it sold INMOS in 1989.