

**United States Court of Appeals  
for the Federal Circuit**

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**MHL TEK, LLC,**  
*Plaintiff-Appellant,*

**v.**

**NISSAN MOTOR CO. AND NISSAN NORTH  
AMERICA, INC.,**  
*Defendants-Cross Appellants,*

**and**

**HYUNDAI MOTOR CO., HYUNDAI MOTOR  
AMERICA, HYUNDAI MOTOR MANUFACTURING  
ALABAMA LLC, KIA MOTORS CORPORATION, AND  
KIA MOTORS AMERICA, INC.,**  
*Defendants-Cross Appellants,*

**and**

**DR. ING. H.C.F. PORSCHE AG, PORSCHE CARS  
NORTH AMERICA, INC.,**  
*Defendants-Cross Appellants,*

**and**

**SUBARU OF AMERICA, INC., AND SUBARU OF  
INDIANA AUTOMOTIVE, INC.,**  
*Defendants-Cross Appellants,*

**and**

**AUDI AG, VOLKSWAGEN AG, AND  
VOLKSWAGEN GROUP OF AMERICA, INC.  
(DOING BUSINESS AS AUDI OF AMERICA, INC.),**  
*Defendants-Cross Appellants,*

**and**

**BMW AG (ALSO KNOWN AS BAYERISCHE MOTOREN  
WERKE AG), BMW OF NORTH AMERICA LLC, AND  
BMW MANUFACTURING CO. LLC,**  
*Defendants-Cross Appellants.*

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2010-1287, -1317, -1318

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Appeals from the United States District Court for the Eastern District of Texas in case no. 07-CV-0289, Judge T. John Ward.

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Decided: August 10, 2011

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DEANNE E. MAYNARD, Morrison & Foerster, LLP, of Washington, DC, argued for plaintiff-appellant. With her on the brief were JASON A. CROTTY, of San Francisco, California; and DAVID C. DOYLE, RICHARD C. KIM and STEPHEN D. KEANE, of San Diego, California.

KURT L. GLITZENSTEIN, Fish & Richardson, P.C., of Boston, Massachusetts, argued for all defendants-cross appellants. Of counsel for Dr. Ing. h.c. F. Porsche AG, et al., were J. NICHOLAS BUNCH, of Dallas, Texas, and JOHN A. DRAGSETH, of Minneapolis, Minnesota. On the brief for defendants-cross appellants Nissan Motor Co. et al. was JEFFREY S. PATTERSON, Hartline, Dacus, Barger, Dreyer & Kern LLP, of Dallas, Texas. Of counsel were JEFFREY J. COX and BRETT C. MARTIN. On the brief for defendants-cross appellants Hyundai Motor Co, et al. were BARRY W. GRAHAM, EDWARD J. NAIDICH, Finnegan, Henderson,

Farabow, Garrett & Dunner, L.L.P. of Washington, DC, and ANDREW C. SONU, of Reston, Virginia. Of counsel was JOHN T. BATTAGLIA, of Washington, DC. On the brief for defendants-cross appellants Subaru of America, Inc., et al. was JOHN A. DRAGSETH, Fish & Richardson P.C., of Minneapolis, Minnesota, and J. NICHOLAS BUNCH, of Dallas, Texas. Of counsel was KURT L. GLITZENSTEIN, of Boston, Massachusetts. On the brief for defendants-cross appellants, BMW AG (also known as Bayerische Motoren Werke AG), et al. was JOSEPH P. LAVELLE, Dewey & LeBoeuf LLP, of Washington, DC. Of counsel were JEFF E. SCHWARTZ; and VIVIAN S. KUO, Howrey LLP, of Washington, DC.

MICHAEL J. LENNON, Kenyon & Kenyon, LLP, of New York, New York, for defendants-cross appellants Audi AG, et al. Of counsel on the brief was SUSAN A. SMITH, of Washington, DC. Of counsel was MARK A. HANNEMANN, of New, York, New York.

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Before RADER, *Chief Judge*, GAJARSA\* and PROST, *Circuit Judges*.

GAJARSA, *Circuit Judge*.

At issue in this appeal is whether MHL Tek, LLC (“MHL Tek”) has standing to assert any of the patents-in-suit and if so, whether the district court properly granted summary judgment of non-infringement of U.S. Patent No. 5,731,516 (“the ’516 patent”).

MHL Tek filed suit against numerous automobile manufacturers<sup>1</sup> for infringement of U.S. Patent Nos.

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\* Circuit Judge Arthur J. Gajarsa assumed senior status on July 31, 2011.

5,663,496 (“the ’496 patent”), 5,741,966 (“the ’966 patent”), and the ’516 patent (collectively, “patents-in-suit”). MHL Tek’s claim for infringement proceeded only with respect to the ’516 patent because the district court dismissed MHL Tek’s claim for infringement of the ’496 and ’966 patents for lack of standing. *MHL Tek, LLC v. Gen. Motors Corp.*, 622 F. Supp. 2d 400, 402 (E.D. Tex. 2009) (“*Standing Op. II*”). The district court later granted defendants’ motion for summary judgment of non-infringement of the ’516 patent. *MHL Tek, LLC v. Nissan Motor Co.*, 691 F. Supp. 2d 698 (E.D. Tex. 2010) (“*Infringement Op.*”). For the reasons discussed below, we affirm the district court’s decision as to the ’496 and ’966 patents and reverse the district court’s decision as to MHL Tek’s standing to assert the ’516 patent. As a result, we vacate the district court’s grant of summary judgment of non-infringement.

## BACKGROUND

### I.

The patents-in-suit relate to a tire pressure monitoring system (“TPMS”) and have the same inventors, Michael Handfield and Helen Laliberte. As the name suggests, a TPMS monitors a tire’s pressure and then transmits this information to the vehicle’s operator. The ’496 and the ’966 patents are divisionals of U.S. Patent Application No. 08/101,379 (“Parent Application”), and

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<sup>1</sup> The defendants are Nissan Motor Co.; Nissan North America, Inc.; Hyundai Motor Co; Hyundai Motor America; Hyundai Motor Manufacturing Alabama LLC; Kia Motors Corp.; Kia Motors North America, Inc.; Dr. ING. H.C.F. Porsche AG, Porsche Cars North America, Inc.; Subaru of America, Inc., Subaru of Indiana Automotive, Inc.; Audi AG; Volkswagen AG; Volkswagen Group of America, Inc.; BMW AG; BMW of North America LLC; and BMW Manufacturing Co. LLC.

were both filed on June 6, 1995. The '516 patent is not related to the '496 and '966 patents. It was filed on May 2, 1996 and is a divisional of U.S. Patent Application Ser. No. 476,613, which itself is a divisional of U.S. Patent Application Ser. No. 332,200.

A.

When the Parent Application was filed on August 3, 1993, its claims were very similar to those that eventually issued in the '496 and '966 patents. Below are claims 1 and 7 from the '496 patent—a method and a system claim, respectively. Any limitations not appearing in the corresponding claims of the Parent Application are underlined:

1. A method for monitoring a parameter of a tire for a vehicle having a plurality of conductive components which form an electromagnetic path with first and second ends, the method comprising the steps of:

generating a signal indicative of a parameter of the tire using a sensor disposed within the tire;

transmitting the generated signal along the electromagnetic path by introducing the generated signal to the electromagnetic path first end *wherein the electromagnetic path includes a ground plane of the vehicle*;

receiving a path signal at the electromagnetic path second end, the path signal being responsive to the generated signal; and

monitoring the tire parameter by monitoring the path signal.

'496 patent col.17 ll.18-33 (emphasis added).

7. A system for monitoring a parameter of a tire for a vehicle, the system comprising:

a sensor, disposed within the tire, for generating a signal indicative of the parameter of the tire;

an electromagnetic path being formed of a plurality of conductive components of the vehicle *including a ground plane of the vehicle*, the electromagnetic path having first and second ends;

a transmitter, in electrical communication with the sensor and with the electromagnetic path first end, for transmitting the generated signal along the electromagnetic path;

a receiver, in electrical communication with the electromagnetic path second end, for receiving a path signal at the electromagnetic path second end, the path signal being responsive to the generating signal; and

a monitor, in electrical communication with the receiver, for monitoring the tire parameter by monitoring the path signal.

*Id.* col.17 ll.45-63 (emphasis added).

Thus, in the claimed invention of the '496 patent, a sensor inside the tire generates a signal related to the parameter of the tire. That signal is transmitted from the sensor along an electromagnetic path, or communications link, to a receiver. *Id.* col.6 ll.36-43, col.7 ll.57-61. The communications link allows the pressure signal to travel from the sensor to the transmitter and then to the receiver by using the conductive components of the car, i.e. the "metallic wheel on which a tire is mounted, the wheel bearings and axle, . . . the axle supports and vehicle frame." *Id.* col.8 ll.1-4. The receiver, in turn, communicates the signal to a device that monitors the tire pressure. In a preferred embodiment of the invention, the sensor and the transmitter have a piezo-resistive power

source, allowing them to reduce energy expenditure when the tires are stationary. *Id.* col.2 ll.34-39.

The '966 patent also claims a system for monitoring tire pressure. Claim 1 is representative; any limitations not appearing in the corresponding claims of the Parent Application are underlined:

1. A system for monitoring a status of a parameter of a tire for a vehicle, the system comprising:

a sensor, disposed within the tire, for generating a signal indicative of the parameter of the tire *independently of magnitude of the parameter*;

a *programmable* processor, in electrical communication with the sensor for determining status of the tire parameter by comparing the tire parameter to a selected threshold;

a transmitter, in electrical communication with the processor for transmitting a status signal indicative of the status of the tire parameter along a first communications link;

a monitor, in communication with the first communications link, for monitoring the status of the tire parameter;

a communication unit in electrical communication with the processor having a first receiver for receiving a processor control command; and

a remote controller, positionable for *electrical* communication with the communication unit via a second communications link, for initiating the processor control command.

'966 patent col.17 ll.19-42 (emphases added). This claimed system is similar to the one claimed in the '496 patent, with the addition of the "processor control com-

mand.” This element allows remote-controlled command entry. *Id.* col.14 l.4-col.15 l.5. For example, with the remote controller, the user can request a report of all tire pressure alarms for a particular period. *Id.*

### B.

The '516 patent claims an apparatus used to measure tire pressure. What is claimed is:

1. Apparatus for monitoring inflation pressure of a pneumatic tire mounted on a conductive wheel, the apparatus comprising:

a cylindraceous housing having a passage to allow air ingress and egress to and from the pneumatic tire, the housing including an elongate portion adapted for extension through an aperture of the wheel, the housing also including a conductive portion, the elongate portion being sized to allow the conductive portion of the housing to contact the conductive wheel to allow transmission of the signal using the conductive wheel;

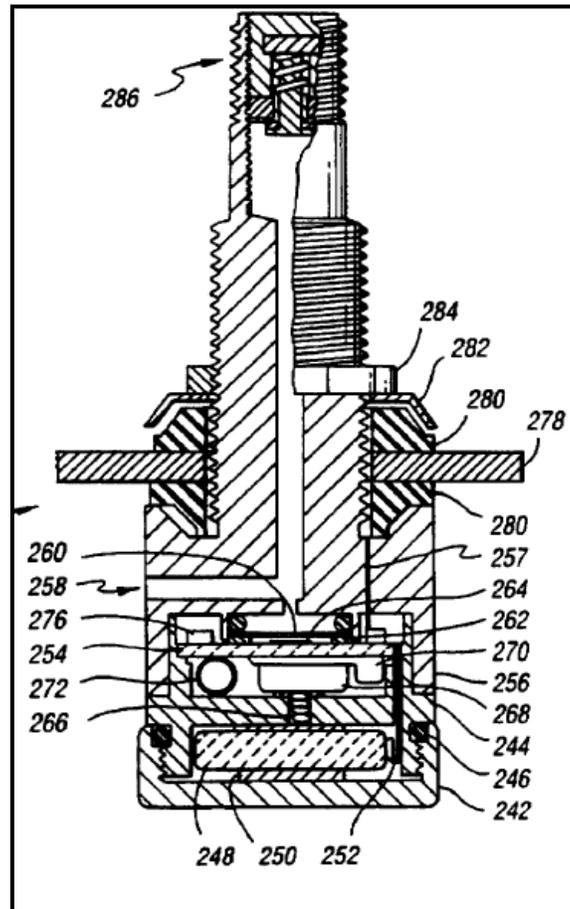
a pressure transducer disposed within the housing in fluid communication with the pneumatic tire for providing a signal indicative of the inflation pressure;

an electronic circuit for monitoring the signal and conditioning the signal for transmission to a remote receiver; and

a needle and spring disposed within one end of the elongate portion to selectively control inflation or deflation of the pneumatic tire.

'516 patent col.18 l.63-col.19 l.16. As stated in the claim, the components of the invention are all contained within a “cylindraceous housing” and together measure tire pres-

sure and allow the signal to be transmitted. The claimed invention is best illustrated in Figure 7, one of the embodiments:



Thus, according to claim 1, the cylindraceous housing contains (1) a passage for air to flow through 258; (2) an elongate portion that extends through an aperture of the wheel rim 278; (3) a conductive portion that contacts the wheel 280; (4) a pressure transducer 260 and 262; and (5) a needle and spring in the elongate portion 286. The elongate portion is the "valve stem" that is inserted into the tire. *Id.* col.11 ll. 39-42.

## II.

On August 5, 1993, two days after the Parent Application was filed, the inventors executed an assignment to Animatronics, Inc. (“Animatronics”), which stated that:

For the sum of One Dollar . . . and other good and valuable consideration, . . . [the inventors] do hereby assign, sell and set over to ANIMATRONICS, INC. . . . the entire right, title and interest, domestic and foreign, in and to the inventions and discoveries in [the Parent Application].

Audi’s Mot. to Dismiss Ex. 3-B (Nov. 21, 2007) (D.I. 89-5). Animatronics subsequently executed an Assignment of Patent Rights (“Patent Assignment”) to McLaughlin Electronics (“ME”) on November 1, 1993. The Patent Assignment states that “Animatronics does hereby assign to [ME] the entire right, title and interest, domestic and foreign, in and to the inventions and discoveries set forth in the [Parent] Application.” J.A. 847, ¶ 2. The Patent Assignment, however, “shall not cover any rights to the [Parent] Application that concern the Animatronics Proprietary Inventions . . . .” J.A. 848, ¶ 3 (the “carve out” provision). Instead,

[p]ursuant to the Development Agreement, [ME] shall have an exclusive, irrevocable, royalty free license to use the Animatronics Proprietary Inventions to make, use and sell the TPMS, which license shall not preclude Animatronics . . . from using the Animatronics Proprietary Inventions to make, use and sell products other than [TPMS].

*Id.* Animatronics and ME had previously executed a Development Agreement on March 1, 1993, concerning the design and development of a TPMS. *Standing Op. II*

at 402. The “Animatronics Proprietary Inventions” are defined in the Patent Assignment as “(1) the Communications Link; (2) a radio frequency transceiver and algorithm used in the Service Unit and Sensor Unit; and (3) a peizo [sic] resistive rubber pressure sensor for use in the Sensor Unit.” J.A. 848, ¶ 3. As explained *infra*, the Patent Assignment defines the Communications Link, the Service Unit, the Sensor Unit, and the Display Module. J.A. 846-47, ¶¶ 1(b)-(e). The TPMS is defined as including all four of these items. J.A. 846, ¶ 1(a).

As time passed, Animatronics and ME’s relationship deteriorated. Animatronics believed that ME had fallen behind on its payment obligations under the Development Agreement. In 1997, the parties exchanged correspondence concerning ownership of the ’496 and ’966 patents and other obligations under the Development Agreement. Animatronics’ dispute with ME concerning the ownership of the ’496 and ’966 patents and the Development Agreement was never resolved.

### III.

On June 7 and July 6, 2007, the inventors signed documents purporting to assign the patents-in-suit to MHL Tek. *MHL Tek, LLC v. Nissan Motor Co.*, Case No. 07-CV-0289, slip op. at 2 (Sept. 19, 2008) (D.I. 191) (“*Standing Op. I*”). MHL Tek sued the defendants on July 13, 2007, claiming that their respective TPMS infringed the patents-in-suit. Animatronics assigned MHL Tek the rights to the patents-in-suit on November 26, 2007. *Id.* MHL Tek then filed a second suit alleging infringement of the same patents against different defendants on March 31, 2008. *MHL Tek, LLC v. Gen. Motors Corp.*, Case No. 08-CV-125 (E.D. Tex.).

In the present litigation, the defendants moved to dismiss MHL Tek’s claims for lack of standing. The

district court agreed that MHL Tek lacked standing to assert the '496 and '966 patents because they were not assigned to MHL Tek until November 2007, after it had filed suit. *Standing Op. I* at 5. To cure this defect, MHL Tek filed an amended complaint. The district court, however, held that the inventors never assigned the '516 patent to Animatronics and therefore, the June and July 2007 assignments conferred standing on MHL Tek to assert the '516 patent. *Id.* at 3-4.

The defendants again moved to dismiss MHL Tek's claims concerning the '496 and '966 patents for lack of standing, this time asserting that Animatronics had assigned the patents to ME.<sup>2</sup> The district court agreed, finding that Animatronics had assigned any rights it had to the '496 and '966 patents when the Patent Assignment was executed in November 1993. *Standing Op. II* at 405. It found that the '496 and '966 patents were directed to an overall TPMS and therefore were not subject to the carve out provision for patents related to Animatronics Proprietary Technology. *Id.* at 410. The district court also rejected MHL Tek's argument that the Patent Assignment was contingent on ME's performance under the Development Agreement. *Id.* at 405-06. The district court found that "[u]nder the contracted terms, the parties clearly intended for title to all 'patents issued for the TPMS' to pass to ME upon execution of the [D]evelopment [A]greement, as well as the [P]atent [A]ssignment . . . ." *Id.* at 406 (citation omitted).

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<sup>2</sup> The district court issued the opinion on MHL Tek's standing to assert the '496 and '966 patents in the second suit, *MHL Tek, LLC v. General Motors Corp.*, Case No. 08-CV-125 (E.D. Tex.), and then issued an order in the first suit adopting its findings and similarly dismissing the claims. *See MHL Tek, LLC v. Nissan Motor Co.*, Case No. 07-CV-289, slip op. at 1-2 (Mar. 31, 2009) (D.I. 269).

The defendants subsequently filed another motion to dismiss MHL Tek's claim for infringement of the '516 patent for lack of standing. *MHL Tek, LLC v. Nissan Motor Co.*, Case No. 07-CV-00289, slip op. (Nov. 10, 2009) (D.I. 468) ("*Standing Op. III*"). They argued that the '516 patent was assigned to ME when the Patent Assignment was executed because the invention claimed in the '516 patent was within the scope of the "inventions and discoveries" in the Parent Application. The district court disagreed, holding that that the Patent Assignment only assigned patents that were related to the Parent Application. *Id.* at 2. Because the '516 patent was not related to the Parent Application, it was not included within the scope of the assignment, and furthermore, the invention claimed in the '516 patent was not described in the Parent Application. *Id.*

Thus, only litigation concerning the '516 patent proceeded. Based on the parties' agreement that "cylindrical housing" should be construed as "a housing that is generally cylindrical in shape," the district court granted defendants' motion for summary judgment of non-infringement. *See MHL Tek, LLC v. Nissan Motor Co.*, 691 F. Supp. 2d 698, 703 (E.D. Tex. 2010) ("*Summ. J. Op.*"); *MHL Tek, LLC v. Nissan Motor Co.*, Case No. 07-CV-289, 2009 WL 2824731, \*5 (Aug. 28, 2009) ("*Claim Construction Op.*"). The district court rejected MHL Tek's argument that having a generally cylindrical valve system attached perpendicularly to a generally cylindrical electronics enclosure constitutes a "cylindrical housing." *Summ J. Op.* at 705. Because defendants' products are all t-shaped, the district court found that they did not meet the "cylindrical housing" limitation and therefore did not infringe. Furthermore, the district court found the doctrine of equivalents inapplicable because MHL Tek's theory of its application violated the all elements

rule, and, in any event, it was precluded from arguing the doctrine of equivalents by prosecution history estoppel. *Id.* at 707, 710.

MHL Tek appeals the dismissal of its infringement claims under the '496 and '966 patents and the district court's grant of summary judgment of non-infringement in favor of the defendants. The defendants cross-appeal the district court's denial of their motion to dismiss MHL Tek's claims of infringement under the '516 patent for lack of standing. This court has jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

## DISCUSSION

### I.

Determining whether a party has standing to sue is a question of law, which this court reviews de novo. *Prima Tek II, L.L.C. v. A-Roo Co.*, 222 F.3d 1372, 1376 (Fed. Cir. 2000). To have standing, (1) “the plaintiff must have suffered an ‘injury in fact’” (2) “there must be a causal connection between the injury and the conduct complained of”; and (3) “it must be ‘likely,’ . . . that the injury will be ‘redressed by a favorable decision.’” *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560-61 (1992) (citations omitted). In an action for patent infringement, “[t]he party holding the exclusionary rights to the patent suffers legal injury in fact under the statute.” *Morrow v. Microsoft Corp.*, 499 F.3d 1332, 1339 (Fed. Cir. 2007) (footnote omitted). The party bringing the action has the burden of establishing that it has standing to sue for infringement. *Spine Solutions, Inc. v. Medtronic Sofamor Danek USA, Inc.*, 620 F.3d 1305, 1317 (Fed. Cir. 2010) (citation omitted).

The scope of the Patent Assignment is central to resolving whether MHL Tek has standing to assert any of

the patents-in-suit. With respect to the '496 and '966 patents, MHL Tek claims that they are subject to the “carve out” provision of the Patent Assignment and therefore were not assigned to ME. Conversely, the defendants argue that the '516 patent was subject to the Patent Assignment because it is included in the “inventions and discoveries set forth in the [Parent] Application,” even though the '516 patent and the Parent Application are not related. For the reasons discussed below, the court concludes that MHL Tek lacks standing to assert any of the patents-in-suit.

A.

MHL Tek does not dispute that the claims of the '496 and '966 patents are “inventions and discoveries set forth in the [Parent] Application.” J.A. 847, ¶ 2. Yet MHL Tek maintains that these patents were not assigned to ME because they are subject to the “carve out” provision of the Patent Assignment. Appellant’s Br. 34-36. The “carve out” provision states that the Patent Assignment “shall not cover any rights to the [Parent] Application that concern the Animatronics Proprietary Inventions.” J.A. 848, ¶ 3. According to MHL Tek, certain limitations of the claims of the '496 and '966 patents “concern” Animatronics Proprietary Inventions. MHL Tek claims that the '496 and '966 patents were therefore not part of the rights assigned. Appellant’s Br. 35.

While the '496 patent defines “communications link” as an electromagnetic path, '496 patent col.6 ll.36-43, col.7 ll.57-61, the Communications Link of the Patent Assignment is a “system” with a variety of components. The Patent Assignment defines the Communications Link as:

the system that will consist of: (1) a transmitter that will be packaged with the Sensor Unit to convert the signal from the Sensor Unit into a form

suitable for transmission over the Communication Link and transmit it; (2) the integrated circuit components that are utilized to connect the transmitter in the Sensor Unit with the receiver in the Display Module; (3) a receiver that will be packaged with the Display Module to receive and interpret the data that is transmitted from the Sensor Unit; (4) the communications protocol and software used to transmit that data over those components; and (5) the methodology used in connection therewith.

J.A. 847, ¶ 1(c).

MHL Tek argues that because the independent claims of the '496 patent include a limitation for a communications link, the '496 patent is subject to the “carve out” provision. This argument confuses the patent specification with the Patent Assignment, which controls the scope of the assignment. MHL Tek does not assert that the claims of the '496 patent cover the Communications Link as defined in the Patent Assignment. Moreover, to the extent that claim 7 of the '496 patent includes some components of the Communications Link system, it does not cover the system itself. Rather, as the district court found, the '496 patent claims a TPMS. *Standing Op. II* at 410. Thus, MHL Tek has not met its burden of showing that the claims of the '496 patent cover the Communications Link and therefore lacks standing to assert the '496 patent.

Next, MHL Tek asserts that the '966 patent was not assigned because independent claims 1 and 12 of the '966 patent cover the Service Unit and its RF Link (i.e. the remote controller and the second communications link). Again, MHL Tek ignores the language of the “carve out” provision, which includes only “a radio frequency trans-

ceiver *and* algorithm *used in* the Service Unit and Sensor Unit.” J.A. 848, ¶ 3 (emphases added). But the second communications link claimed in the ’966 patent is clearly not used in the Sensor Unit. Indeed, this second communications link appears only as a means of communicating between the communications unit and the remote controller. This same communications link is not “used in” the “Sensor Unit.” Furthermore, the ’966 patent claims “a remote controller, positionable for electrical communication with the communication unit via a second communications link.” ’966 patent col.17 ll.39-41. This “second communications link” is not “used in the Service Unit *and* [the] Sensor Unit.” At most this second communications link is “used with” the Service Unit, not “used in” it. Therefore, claims 1 and 12 of the ’966 patent are not subject to the “carve-out” provision of the Patent Assignment.

Lastly, MHL Tek argues that independent claim 13 of the ’966 patent claims the piezo-electric element of Animatronics Proprietary Inventions and therefore the ’966 patent was excluded from the assignment. Again, claim 13 is not subject to the “carve out” provision because it includes the phrase “piezo electric.” Animatronics reserved the rights to “a peizo [sic] resistive rubber pressure sensor for use in the Sensor Unit.” J.A. 848, ¶ 3. The ’966 patent claims “a piezo-electric element, for supplying power to the transmitter independent of inflation pressure of the time [sic].” ’966 patent col.18 ll.37-39. The piezo resistive element of the “carve out” provision is a pressure sensor, whereas the claimed piezo-electric element supplies power. Moreover, the ’966 patent does not even describe a rubber piezo resistive element. Thus, claim 13 of the ’966 patent does not “concern” the piezo-electric element and is not subject to the “carve out” provision. The district court correctly determined that

MHL Tek lacks standing to assert the '496 and '966 patents.

B.

When the inventors assigned the Parent Application to Animatronics, they assigned “the entire right, title and interest, domestic and foreign, in and to the *inventions and discoveries* in [the Parent Application].” Audi’s Mot. to Dismiss Ex. 3-B (Nov. 21, 2007) (D.I. 89-5) (emphasis added). Similarly, the Patent Assignment states that “Animatronics does hereby assign to [ME] the entire right, title and interest . . . in and to the *inventions and discoveries* set forth in the [Parent] Application.” J.A. 847, ¶ 2 (emphasis added). Thus, the resolution of MHL Tek’s standing to assert the '516 patent depends on whether the inventions claimed therein are the “inventions and discoveries” set forth in the Parent Application.

First, MHL Tek asserts that the '516 patent was not within the scope of the assignment because it is not related to the Parent Application. The plain language of either assignment is not so narrow. Both clearly assign the “inventions and discoveries” disclosed in the Parent Application without further requiring that the “inventions and discoveries” be in patents or applications that are related to the Parent Application. Indeed, the inventors and Animatronics understood this when they executed the August 3, 1993 assignment. The file history of the '200 application, one of the divisional applications that led to the '516 patent, states that “[t]he inventors have assigned the current application to Animatronics, Inc.” J.A. 1425. While the ultimate determination of whether the '516 patent was ultimately assigned to ME depends on whether it claims “inventions and discoveries” in the Parent Application, this statement expresses the inventors’ and Animatronics’ understanding that the August 3,

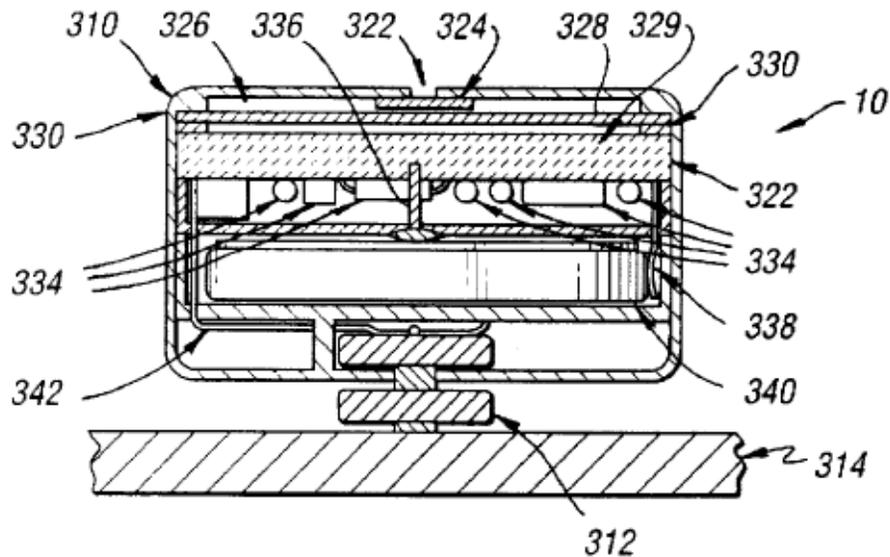
1993 assignment encompassed more than just patents and applications related to the Parent Application. Thus, if the '516 patent claims “inventions and discoveries” set forth in the Parent Application, it will have been assigned to Animatronics and then to ME.

Next, MHL Tek argues that the inventions of the '516 patent are not within the “inventions and discoveries” disclosed in the Parent Application because “[t]he two specifications are different, and they disclose different subject matter.” Appellant’s Resp.-Reply Br. 25. Specifically, MHL Tek argues that Figure 7 of the '516 patent and its related text do not appear in the Parent Application, which concern an embodiment of the invention having a cylindraceous housing. The assignments, however, make the relevant comparison between the claims of the '516 patent, which define the inventions claimed therein, *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (“[T]he claims of a patent define the invention . . .” (citation omitted)), and the specification of the Parent Application, which describes the inventions disclosed therein. See 35 U.S.C. § 112 (“The specification shall contain a written description of the invention . . .”). Thus, so long as the written description of the Parent Application “reasonably conveys to those skilled in the art,” see *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 589 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc), the invention claimed in the '516 patent, the '516 patent was assigned to Animatronics and then to ME.

The specification of the Parent Application supports the claims of the '516 patent, meaning that it is within the “inventions and discoveries” in the Parent Application and was therefore assigned to ME. The preamble of claim 1 of the '516 patent indicates that the invention is an “[a]pparatus for monitoring inflation pressure of a pneumatic tire mounted on a conductive wheel.” '516 patent

col.18 ll.63-64. The Parent Application describes “a system for monitoring a parameter of a tire for a vehicle,” and in one embodiment, the sensor unit is “spot welded to the interior wheel rim wall . . . of a vehicle.” J.A. 4844, 4868.

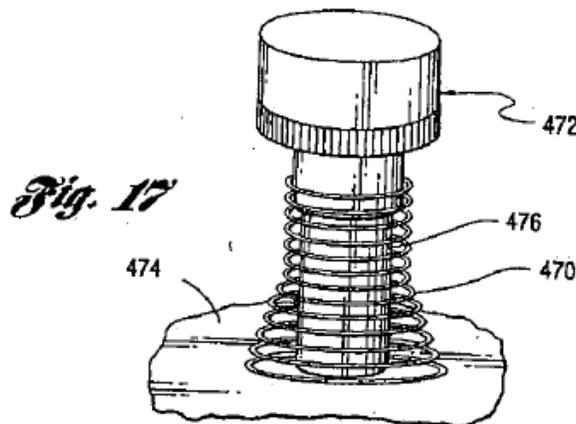
Claim 1 of the '516 patent also requires a “cylindrical housing” that contains (1) a passage for air to flow through; (2) an elongate portion that extends through an aperture of the wheel rim; (3) a conductive portion that contacts the wheel; (4) a pressure transducer; and (5) a needle and spring in the elongate portion. '516 patent col.18 l.66-col.19 l.9, col.19 ll.13-15. The Parent Application discloses a “detector/transmitter unit 10 [that] is housed in a . . . casing 310 attached to stud rivet 312 [that] is spot welded to the interior wheel rim wall 314 of a vehicle.” J.A. 4868. The detector/transmitter unit 10 is depicted in Figure 9c:



As shown in the figure, the sensor unit, or housing, is generally cylindrical. In addition,

The top of phenolic casing 310 provides an access hold 322 . . . for allowing the admission of pressurized gas within the tire. The pressurized gas is filtered by filter 324 before admittance into chamber 326. Chamber 326 is enclosed by capacitive plate 328 which flexes in response to the pressure of the admitted gas. This capacitive plate 328 is supported by spacers 330 above ceramic substrate 332 on which is deposited a conductive coating supplying second capacitive plate 329.

J.A. 4843. The Parent Application also describes the sensor located within the valve cap for the tire stem, as shown in Figure 17:



The tire stem controls the inflation and deflation of the tire, thus meeting the “needle and spring” limitation of claim 1 of the ’516 patent. J.A. 4869.

The final limitation of claim 1 requires an electronic circuit to monitor the pressure signal and transmit the pressure signal to a remote receiver. ’516 patent col.19 ll.10-12. The Parent Application discloses that “a transmitter [is] in electrical communication with the sensor

and with the electromagnetic path . . . , a receiver . . . for receiving a path signal [that is] responsive to the generating signal, [and] a monitor for monitoring the tire parameter . . . .” J.A. 4843. Thus, all the limitations of claim 1 of the ’516 patent are disclosed in the Parent Application.

Finally, MHL Tek argues that the inventions claimed in the ’516 patent are subject to the “carve out” provision of the Patent Assignment because the patent “concerns” the Communications Link. Appellant’s Resp.-Reply Br. 27. Specifically, MHL Tek claims that the ’516 patent “concerns” elements 1, 3, and 5 of the Communications Link, which are listed *supra* at 13. Yet, as explained above, “concerning” some elements of the Communications Link is not the same as “concerning” the Communications Link itself. The Patent Assignment very specifically defines the system that comprises the Communications Link. It would be contrary to the language of the assignment to decide that something with fewer than these components is the same thing as the system itself. Furthermore, to the extent that the ’516 patent concerns anything, it concerns the Sensor Unit, which is clearly not included in the “carve out” provision.

Because the invention claimed by the ’516 patent was covered by the assignment of August 5, 1993, to Animatronics, which then assigned it to ME, the agreements of June and July 2007 by the inventors failed to assign the ’516 patent to MHL Tek. Therefore, MHL Tek lacks standing to assert that the ’516 patent is infringed, and its claims asserting infringement of that patent must be dismissed. Moreover, we vacate the district court’s grant of summary judgment of non-infringement as to the ’516 patent.

**CONCLUSION**

For the foregoing reasons, we affirm the decision of the district court holding that MHL Tek lacks standing to assert the '496 and '966 patents; we reverse the district court's decision holding that MHL Tek has standing to assert the '516 patent; and we vacate the district court's grant of summary judgment of non-infringement of the '516 patent.

**AFFIRMED-IN-PART, REVERSED-IN-PART, AND  
VACATED-IN-PART****COSTS**

Costs are awarded to the defendants.