

# United States Court of Appeals for the Federal Circuit

05-1407

HONEYWELL INTERNATIONAL, INC.  
and HONEYWELL INTELLECTUAL PROPERTIES, INC.,

Plaintiffs-Appellants,

v.

ITT INDUSTRIES, INC. and ITT AUTOMOTIVE, INC.,

Defendants-Appellees,

and

TG NORTH AMERICA CORPORATION,  
TG FLUID SYSTEMS USA CORPORATION, and A. RAYMOND, INC.,

Defendants-Appellees.

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Appealed from: United States District Court for the Eastern District of Michigan

Senior Judge Avern Cohn

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DECIDED: June 22, 2006

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Before MAYER, LOURIE, and DYK, Circuit Judges.

LOURIE, Circuit Judge.

Honeywell International, Inc. and Honeywell Intellectual Properties, Inc. (collectively “Honeywell”) appeal from the final decision of the United States District Court for the Eastern District of Michigan granting summary judgment of noninfringement of U.S. Patent 5,164,879 in favor of ITT Industrials, Inc., ITT Automotive, Inc., TG North America Corporation, TG Fluid Systems USA Corporation, and A. Raymond, Inc. (collectively “ITT/TG”). Honeywell Int’l, Inc. v. ITT Indus., Inc., Civ. No. 02-73948 (E.D. Mich. April 27, 2005). Because the district court correctly

construed the claim limitation “fuel system component” and determined that the accused products do not meet that limitation, we affirm its grant of summary judgment of noninfringement. We further conclude that under our modified construction of the claim limitation “electrically conductive fibers,” the accused products do not meet that limitation either, thereby providing a separate ground for affirming the district court’s grant of summary judgment of noninfringement.

## BACKGROUND

The '879 patent, entitled “Electrostatically Dissipative Fuel System Component,” discloses a fuel filter that is specially made for use in motor vehicles that have electronic fuel injection (“EFI”) systems. Before motor vehicles began using EFI systems, the housing of a fuel filter was commonly made of metal or a polymer material. '879 Patent, col.1 ll.10-12 (filed July 1, 1991). Once vehicles began using EFI systems, as the '879 patent’s written description recognizes, fuel filters with polymer housing began to break down and start leaking. Id., col.1 ll.17-20. It was discovered that the breakdowns were caused by the contact between the fuel, which flows at a high velocity in EFI systems, and the fuel filter’s polymer housing. The resultant friction strips electrons from the hydrocarbon fuel and traps them in the non-conductive polymer housing, which leads to an electrostatic charge buildup within the housing of the fuel filter. Id., col.1 ll.26-30. The charge continues to build up until it finally discharges by “arcing” onto the vehicle’s metal frame and becomes grounded. “Arcing” forms microscopic holes in the fuel filter’s housing. Id., col.2 l.59 to col.3 l.2. When enough microscopic holes are formed, the fuel begins to leak. Fuel filters with metal housing avoid the “arcing” phenomenon because they allow no charge buildup. The conductive nature of metal prevents the

electrons from being trapped inside the fuel filter and allows them to pass through to the vehicle's frame. Fuel filters with housing made of polymer material, however, are more desirable than their metal housing counterparts because of their lower cost and weight. Id., col.1 ll.13-14.

The patented invention addresses the “arcing” problem in fuel filters with polymer housing by providing an electrically conductive pathway between the fuel filter and the vehicle’s metal frame. Id., col.3 ll.41-43. The electrically conductive pathway prevents the electrostatic charge from building up within the housing of the fuel filter. Id., col.3 ll.3-6. According to the written description, the electrically conductive pathway is created by incorporating small amounts of a “conductive filler material” into the polymer housing. Id., col.3 ll.47-51. The written description further discloses that stainless steel is an ideal “conductive filler material” because it has high conductivity, allowing it to be used in fibers with a high aspect ratio. Id., col.3 l.53 to col.4 l.13. The written description also notes that stainless steel fibers are ductile, which allows them to better maintain their integrity during melt-processing. Id. The benefits of stainless steel fibers are contrasted in the written description to electrically conductive carbon fibers, which are said to have less desirable characteristics, e.g., they must be used in fibers with smaller aspect ratios, are more rigid, and act as stress concentrators. Id., col.3 ll.56-60; col.4 ll.1-5.

Turning to the prosecution history of the patent in suit, the '879 patent issued from a divisional application of U.S. Patent Application 575,260, which issued as U.S. Patent 5,076,920 and was entitled “Electrostatically Dissipative Fuel Filter.” Also issuing from a divisional application of the '260 application was U.S. Patent 5,164,084, also

entitled “Electrostatically Dissipative Fuel Filter.” The drawing and written description sections for the ’879, ’920, and ’084 patents appear to be identical. See Honeywell Int’l, Inc. v. ITT Indus., Inc., 330 F. Supp. 2d 865, 871 (E.D. Mich. 2004). The patent examiner for the ’260 application issued a restriction requirement in that application because it claimed three distinct inventions: (1) a method for preventing breakdown of a fuel filter, (2) the fuel filter itself, and (3) a moldable polymeric material. Id. Faced with this restriction requirement, the patentee chose the first invention for immediate prosecution, a method for preventing breakdown of a fuel filter, and that became the claimed subject matter of what issued as the ’920 patent. The patentee filed divisional applications for the remaining inventions resulting in two other patents, the ’084 patent (for a fuel filter) and the ’879 patent (for a moldable polymeric material), the patent at issue in this case.

The ’879 application, as initially filed, was entitled “Electrostatically Dissipative Fuel Filter” and contained one independent claim directed to a “moldable material for fuel system components.”<sup>1</sup> The patent examiner rejected the claim on the ground of, inter alia, indefiniteness under 35 U.S.C. § 112, ¶ 2. According to the examiner, it was “not clear what fuel system components [were] intended to be constructed of the

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<sup>1</sup> The ’879 application’s independent claim, as originally filed, read as follows:

Moldable material for fuel system components for communicating fuel to the engine of a motor vehicle, said motor vehicle having a common electrical plane maintained at a common electrical potential, said material comprising a polymer material having electrically conductive fibers distributed randomly throughout the material to provide an electrically conductive path through said components between the fuel communicated through said components and said common electrical plane.

electrically conductive moldable material.” In addressing the indefiniteness rejection, the patentee deleted the “moldable material for” language so that the claims were directed to a “fuel system component.” The patentee also argued that the independent claim was not indefinite because, although the specification only referred to fuel filters and fuel lines, “it is Applicant’s position that he is entitled to a claim broad enough to cover all fuel system components manufactured of the moldable material disclosed and claimed in the specification.” While the application was pending, the title of the ’879 application was changed to “Electrostatically Dissipative Fuel System Component,” because, the patentee contended, it “more accurately reflect[ed] the scope of the claims.” After an interview between the patentee and examiner, which resulted in the “arcing” limitation being added, the claims were allowed and the patent issued. Following a reexamination proceeding, the sole independent claim was further amended to recite “fuel injection system component” instead of “fuel system component” as the subject matter of the claims.

On October 2, 2002, Honeywell filed suit against ITT/TG for infringement of the ’879 patent. Claim 1 of the ’879 patent, the patent’s only independent claim, provides as follows:

Fuel injection system component for communicating fuel to the engine of a motor vehicle, said motor vehicle having an electrical plane maintained at a predetermined electrical potential, said fuel system component being made of a composite material comprising a polymer having electrically conductive fibers distributed randomly throughout the material to provide an electrically conductive path through said component between the fuel communicated through said component and said electrical plane, so that at least a portion of the electrically conductive path extends through the component to thereby prevent build-up of electrostatic charge in the fuel and the resultant arcing which causes the

breakdown of the polymer material comprising the fuel injection system component.

The products accused of infringement are “quick connects” manufactured and sold by ITT/TG. Quick connects are nut-like structures that join the various components of a fuel injection system together, such as a fuel line to a fuel filter. The accused quick connects have polymer housing that is interlaced with carbon fiber. ITT/TG denied the charge of infringement, and the district court subsequently held a Markman hearing to construe various limitations of the '879 patent, including “fuel injection system component” and “electrically conductive fiber.”

The district court construed the “fuel injection system component” limitation to mean “a fuel filter.” In arriving at its construction, the court recognized that the ordinary meaning of the term “refers to any constituent part of the fuel injection system of a motor vehicle including, for example, fuel filters, fuel lines, and connectors.” Honeywell, 330 F. Supp. 2d at 878. The court also recognized that the patentee made statements during the prosecution of the '879 and '084 applications that could be interpreted to mean that the scope of the “fuel injection system component” limitation was broader than only fuel filters, at least in the patentee’s view.

Notwithstanding the ordinary meaning or the prosecution history, the court determined that the written description clearly limited the “fuel injection system component” to a fuel filter, and that the statements in the prosecution history could not be used to enlarge the content of the written description. Id. at 882-83. According to the court, on several occasions in the written description, the “invention” was identified to be only a fuel filter. Id. at 879. Moreover, the court explained, “[t]he entire specification of the '879 patent, as well as the sole drawing, describe the elements and

operation of a fuel filter with electrically conductive fibers. No other parts are described.” Id. Given the written description, the court concluded that “the patentee characterized a fuel filter as the only embodiment of his invention, not merely a ‘preferred’ version of all possible embodiments.” Id. at 880.

The district court also construed the claim term “electrically conductive fibers” to mean “fibers of a material that conducts electricity, including, without limitation, metal and carbon.” Id. at 888. According to the court, that was the ordinary meaning of “electrically conductive fibers.” The court gave the term its ordinary meaning despite a detailed disclosure in the written description why metal fibers were preferable to carbon fibers. Id. at 884. In the court’s view, the disclosure was “not like the clear specification language defining the ‘invention’ as a fuel filter.” Id. The court determined that the disclosure distinguishing metal and non-metal conductive fibers merely reflected the patentee’s preferred embodiment. Id. at 884-85. The court further noted that the written description never stated that carbon fibers could not be used as electrically conductive fibers. Id.

After the court issued its claim construction, ITT/TG filed a motion for summary judgment of noninfringement, which the court granted. In concluding that the accused products did not infringe the ’879 patent, the court determined that quick connects are not fuel filters, and thus they do not literally infringe. Honeywell Int’l, Inc. v. ITT Indus., Inc., Civ. No. 02-73948, slip op. at 9 (E.D. Mich. May 17, 2005). Moreover, the court found that quick connects do not infringe under the doctrine of equivalents because they are not interchangeable with a fuel filter, and they do not compete commercially with fuel filters. Id. The also court determined that Honeywell could not invoke the doctrine

of equivalents to encompass the accused quick connects in view of the written description's identification of a fuel filter as "the present invention." According to the court, the patentee knew of fuel system components other than fuel filters, and that because he limited the claims to a fuel filter, all other fuel system components were dedicated to the public, and thus outside the reach of the doctrine of equivalents. Id., slip op. at 13-14.

The district court entered final judgment on April 27, 2005. Honeywell timely appealed, and we have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

## DISCUSSION

We review a district court's grant of summary judgment de novo, reapplying the same standard used by the district court. Ethicon Endo-Surgery, Inc. v. U.S. Surgical Corp., 149 F.3d 1309, 1315 (Fed. Cir. 1998); Stratienko v. Cordis Corp., 429 F.3d 592, 597 (6th Cir. 2005). Summary judgment is appropriate if there is no genuine issue as to any material fact and the moving party is entitled to a judgment as a matter of law. Fed. R. Civ. P. 56(c). "The evidence of the non-movant is to be believed, and all justifiable inferences are to be drawn in his favor." Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 255 (1986). Claim construction is an issue of law, Markman v. Westview Instruments, Inc., 52 F.3d 967, 970-71 (Fed. Cir. 1995) (en banc), that we also review de novo, Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1456 (Fed. Cir. 1998) (en banc).

### I.

On appeal, Honeywell argues that the district court erred by limiting the "fuel injection system component" limitation to a fuel filter and including no other component of a fuel injection system. In doing so, Honeywell contends that the court imported a

limitation from the specification into the claims and thereby improperly limited the scope of the claims to the specification's preferred embodiment. According to Honeywell, nothing in the specification explicitly limits the claim term to a "fuel filter." Honeywell relies on a statement contained in the specification referring to "the metallic components used in prior art systems," '879 Patent, col.1 ll.32-33, to argue that the term "component" was meant to be broad. It also cites the patent's abstract, which summarized the invention using the term "component," and the title of the patent as amended, to further argue that the specification did not limit the "fuel injection system component" to a fuel filter.

In addition, Honeywell points to the prosecution history in assigning error to the district court's construction of the "fuel injection system component" limitation. According to Honeywell, the patentee stated during prosecution that the intended scope of the claims was to include "all fuel components manufactured of the moldable material disclosed and claimed in the specification." Honeywell also notes that the patent examiner issued a restriction requirement during prosecution of the '084 application (which also included claims to "fuel filters") because "the fuel system component [claims] do[ ] not specifically require that the component be a fuel filter."

Mainly reiterating the points made by the district court in its claim construction decision, ITT/TG responds that the claim term "fuel injection system component" was correctly limited to a fuel filter. ITT/TG also argues, however, that the court erred in its construction of the "electrically conductive fibers" limitation. ITT/TG contends that the court should have construed that term to include only metal fibers with a high aspect ratio, not carbon fibers. According to ITT/TG, the written description compared the

properties of metal and carbon fibers, and “disparaged” the use of the latter as an electrically conductive fiber. ITT/TG contends that there was a clear disavowal of carbon fibers from the scope of the claims. Moreover, because the accused quick connects are indisputably made with carbon fibers, ITT/TG asserts that there can be no infringement either literally or under the doctrine of equivalents.

We agree with the district court that the claim term “fuel injection system component” is limited to a fuel filter. In Phillips v. AWH Corp., 415 F.3d 1303, 1315 (Fed. Cir. 2005) (en banc), this court recognized that “claims ‘must be read in view of the specification, of which they are a part.’” We further stated that “the specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’” Id. (internal citations omitted). Here, the written description uses language that leads us to the conclusion that a fuel filter is the only “fuel injection system component” that the claims cover, and that a fuel filter was not merely discussed as a preferred embodiment. On at least four occasions, the written description refers to the fuel filter as “this invention” or “the present invention”:

This invention relates to a fuel filter for use in the fuel line that delivers fuel to a motor vehicle engine. ’879 Patent, col.1 ll.8-9.

According to the present invention, a fuel filter for a motor vehicle is made from a moldable material which may be safely used in vehicles equipped with electronic fuel injection system. Id., col.1 ll.40-43.

This and other advantages of the present invention will become apparent from the following descriptions, with reference to the accompanying drawing, the sole Figure of which is a cross-sectional view of a fuel filter made pursuant

to the teachings of the present invention. . . . Id., col.1 ll.43-49.

According to the present invention, an electrically conductive path is provided between the fuel within the inlet cavity **42** [of the fuel filter] and the [vehicle] body **38**. Id., col.3 ll.41-43.

The public is entitled to take the patentee at his word and the word was that the invention is a fuel filter.

Moreover, the written description does not indicate that a fuel filter is merely a preferred embodiment of the claimed invention. The fuel filter was the only component of an EFI system that the written description disclosed as having a polymer housing with electrically conductive fibers interlaced therein. The only other fuel component specifically mentioned in the written description, the fuel line, was not required by the patentee to be made of an electrically conductive polymer material, as the claims require. See id., col.1 ll.59-60 (stating that the “fuel line may also be made of a non-conductive material”). The written description’s detailed discussion of the prior art problem addressed by the patented invention, viz., leakage of non-metal fuel filters in EFI systems, further supports the conclusion that the fuel filter is not a preferred embodiment, but an only embodiment. Id., col.1 ll.10-25. Given the written description’s disclosure, we conclude that the patentee has limited the scope of the ’879 patent claims to a fuel filter.

Nor are we persuaded by Honeywell’s argument that the patentee confirmed a broader scope of his claims during prosecution. Honeywell relies mainly on the patentee’s response to the examiner’s indefiniteness rejection in which he stated that the claims cover “all fuel components manufactured of the moldable material disclosed and claimed in the specification.” Honeywell places too much weight on that statement,

as we find it to be ambiguous and possibly inconsistent with the written description. After all, the only fuel component disclosed and claimed in the patent was a fuel filter. In any event, such a broad and vague statement cannot contradict the clear statements in the specification describing the invention more narrowly.

We also do not assign much weight to the patent examiner's restriction requirement with respect to claims for a "fuel filter" and a "fuel system component" during prosecution of the '084 application. In making the restriction requirement, the examiner did not construe the claim term "fuel system component" or determine its meaning in light of the written description. He merely required that the applicant elect one aspect of his invention for prosecution without applying it to the specification.

Nevertheless, even if we were to agree with Honeywell that the patentee clearly expressed his intention during prosecution to have the "fuel injection system component" limitation include components in addition to a fuel filter, it would not change the result in this case. As we determined above, the written description provides only a fuel filter that is made with polymer housing and electrically conductive fibers interlaced therein. No other fuel injection system component with the claimed limitations is disclosed or suggested. Where, as here, the written description clearly identifies what his invention is, an expression by a patentee during prosecution that he intends his claims to cover more than what his specification discloses is entitled to little weight. See Biogen, Inc. v. Berlex Labs., 318 F.3d 1132, 1140 (Fed. Cir. 2003) (stating that "[r]epresentations during prosecution cannot enlarge the content of the specification").

We disagree, however, with the district court's construction of the claim term "electrically conductive fibers" to the extent that it encompasses carbon fibers. This

court has recognized that “[w]here the specification makes clear that the invention does not include a particular feature, that feature is deemed to be outside the reach of the claims of the patent, even though the language of the claims, read without reference to the specification, might be considered broad enough to encompass the feature in question.” Scimed Life Sys. v. Advanced Cardiovascular Sys., 242 F.3d 1337, 1341 (Fed. Cir. 2001). It is true, as the district court noted, that the '879 patent's written description did not expressly define “electrically conductive fibers,” as it did for “fuel injection system component.” Nevertheless, based on the disclosure in the written description, which demeaned the properties of carbon fibers, we conclude that the patentee thereby disavowed carbon fibers from the scope of the '879 patent's claims.

The written description contains the following disclosure:

Stainless steel also has the advantage of requiring smaller quantities for providing the required conductivity than other conductive fillers, such as carbon black. '879 Patent, col.3 II.56-60 (emphasis added).

Other electrically conductive fillers, such as the aforementioned carbon, act as stress concentrators and, at the relatively high filler loadings required to achieve conductivity, restrict the ability of the resin matrix to yield under stress. Id., col.4 II.1-5 (emphasis added).

Also, stainless steel fibers are ductile and non-rigid unlike straight or metallized carbon fibers. . . . This allows stainless steel fibers to maintain their integrity better during melt-processing. Id., col.4 II.5-10 (emphasis added).

Unlike the non-metallic fibers, stainless steel fibers also do not increase mechanical strength or stiffness of the base resin significantly. Other metal fibers with high aspect ratios can be satisfactorily substituted for stainless steel. Id., col.4 II.10-14 (emphasis added).

In making the above statements, the patentee informed its readers specifically why carbon fibers would not be suitable as “electrically conductive fibers” in the claimed invention. If the written description could talk, it would say, “Do not use carbon fibers.” There is no other way to interpret the written description’s listing of all the reasons that metal fibers fare better than carbon fibers for use in the claimed invention, even though both materials are electrically conductive, *viz.*, that metal fibers require smaller quantities to achieve the desired conductivity than carbon fibers, create less stress concentration, are more ductile, are less rigid, and increase the mechanical strength of the polymer housing. Contrary to the district court’s understanding, the written description has gone beyond expressing the patentee’s preference for one material over another. Its repeated derogatory statements concerning one type of material are the equivalent of disavowal of that subject matter from the scope of the patent’s claims.

In reaching this decision, we reject Honeywell’s argument in support of the district court’s construction of “electrically conductive fibers.” Honeywell argues that the written description did identify carbon fibers as electrically conductive fibers, and that stainless steel fibers were merely preferred embodiments. Honeywell’s argument misses the point. It is precisely because the written description has identified carbon fibers as electrically conductive, and yet it denigrated carbon fibers’ applicability to the claimed invention, that we find a disavowal of that subject matter. Moreover, it is irrelevant whether stainless steel fibers are a preferred embodiment of the claimed invention. We are not here modifying the district court’s claim construction to limit its scope to stainless steel fibers. We only modify it to exclude carbon fibers from the scope of the ’879 patent claims.

## II.

Because Honeywell does not appeal the district court's judgment of lack of literal infringement, we turn to the question whether the accused quick connects infringe under the doctrine of equivalents. Even if the district court correctly construed the "fuel injection system component" limitation, Honeywell argues that the court erred in finding that the accused quick connects do not infringe under the doctrine of equivalents as a matter of law. According to Honeywell, although quick connects do not filter fuel like a fuel filter, the '879 claims do not require that the "fuel injection system component" perform that function. Honeywell contends that the claims only require that the "fuel injection system component" perform the functions of "communicat[ing] fuel to the engine of a motor vehicle," and "provid[ing] an electrically conductive path through said component and [the] electrical plane." Honeywell also asserts that the claims require that the only result needed to be achieved is to "prevent the build-up of electrostatic charge in the fuel and the resultant arcing which causes the breakdown of the polymer material comprising the fuel injection system component." Because, Honeywell argues, the accused quick connects perform these functions in the same way as the fuel filter to achieve the same result, there is infringement.

We agree with the district court that the fuel filter and quick connects are not equivalent devices. They are substantially different. The accused quick connects do not filter fuel. Once we agree with the district court to construe a fuel system component to be a fuel filter, the fuel filter is not merely a limitation of the '879 patent claims. It is central to the patented invention. If one utilizes the conventional function/way/result analysis, it is beyond question that the accused quick connects do

not perform the function of the fuel filter. Any equivalent of a fuel filter must necessarily perform the function of fuel filter—filtering fuel—in order to be an equivalent. As Honeywell recognizes in its own brief, “a fuel filter inherently filters fuel.” Honeywell Op. Br., at 49.

Having established that any structure equivalent to a fuel filter must substantially perform the function of filtering fuel, we affirm the district court’s judgment of noninfringement. Honeywell concedes in its brief, as it must, that the accused quick connects do not perform the fuel filtering function. Honeywell Op. Br., at 47. Thus, no reasonable trier of fact could find that these two structures are equivalent. Given that quick connects do not perform substantially the same function as a fuel filter, there is no need for us to conduct a further analysis of the way that the accused products perform and the result of that performance.

We also conclude that the accused quick connects do not meet, either literally or under the doctrine of equivalents, the “electrically conductive fibers” limitation as we have construed it. There is of course no literal infringement because, as we have held and Honeywell has admitted, a quick connect is not a fuel filter. There can also be no infringement under the doctrine of equivalents because the accused quick connects use carbon fibers, and such fibers were disavowed from the scope of the “electrically conductive fibers” limitation, as we have discussed above. See J&M Corp. v. Harley-Davidson, Inc., 269 F.3d 1360, 1366 (Fed. Cir. 2001) (“The scope of equivalents may [ ] be limited by statements in the specification that disclaim coverage of certain subject matter.” Dawn Equip. Co. v. Ky Farms, Inc., 140 F.3d 1009, 1016 (Fed. Cir. 1998)).

## CONCLUSION

Because the accused quick connects do not meet, literally or equivalently, the “fuel injection system component” or “electrically conductive fibers” claim limitations, the district court’s grant of summary judgment of noninfringement of the ’879 patent in favor of ITT/TG is affirmed.

AFFIRMED