

UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF MICHIGAN  
SOUTHERN DIVISION

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

Plaintiffs,

v.

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

Defendants.

CIVIL ACTION NO. 02-73948

HONORABLE AVER COHN

**Proof of Service**

The undersigned certifies that a copy of the foregoing Decision on Summary Judgment of Non-Infringement was served on the attorneys of record herein by electronic means or U.S. Mail on May 17, 2005.

s/K. Grimes

In the absence of Julie Owens  
Case Manager to Judge Cohn

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**DECISION ON SUMMARY JUDGMENT OF NON-INFRINGEMENT<sup>1</sup>**

**I. INTRODUCTION**

This is a patent case. Plaintiffs, Honeywell International, Inc. and Honeywell Intellectual Properties, Inc. (Honeywell), owners of U.S. Patent No. 5,164,879 (the '879 Patent) and Reexamination Certificate B1 5,164,879 covering an "Electrostatically Dissipated Fuel Filter" are suing defendants ITT Industries, Inc., ITT Automotive, Inc., TG North America Corporation, TG Fluid Systems USA Corporation and A. Raymond, Inc. (collectively ITT), for infringement of the '879 Patent, particularly with regard to quick connects manufactured and sold by them. Claim 1 has been designated as the paradigm claim. Claim 1, as amended, reads as follows:

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<sup>1</sup> This is a revision and extension of the bench decision of April 6, 2005.

*A 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 injection 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 and a conductive member leading to said electrical plane

to thereby 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.

The italicized elements are those relevant to this decision.

Before the Court are ITT's motions for summary judgment of non-infringement. The motions have been fully briefed. The Court has heard oral argument. For the reasons which follow, the motions were granted and the case dismissed.<sup>2</sup>

## **II. BACKGROUND<sup>3</sup>**

### **A. The Invention**

The invention covers a fuel delivery system in a motor vehicle, including multiple working parts. Fuel stored in the fuel tank is pumped to the engine of the vehicle through

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<sup>2</sup>See Entry of Final Judgment Regarding the Issue of Non-infringement of '879 Patent in favor of defendants against plaintiffs, filed April 13, 2005.

<sup>3</sup> Portions of this discussion are taken from the Markman decision. See Honeywell v. ITT, 330 F. Supp. 2d 865 (E.D. Mich. 2004).

fuel lines which are typically made from plastic, such as nylon-12 or steel tubing. A fuel filter is located between the tank and the engine to prevent dirt from getting inside the engine. A filter is usually a plastic or metal housing with a paper filter inside which traps the dirt. A fuel system also includes other parts such as fuel lines, connectors (called quick connects) and pumps. Plaintiffs in their papers have provided a schematic drawing of a fuel system, and particularly quick connects. It is attached here as Exhibit A.

When fuel is pumped through a nonconductive plastic part, the friction between the flowing fuel and the plastic surface to the part generates an electrostatic charge. Electrons are stripped from the fuel molecules and accumulate along the surface of the plastic because there is no path to ground. Naturally, the electrostatic charge buildup is greater when the fuel flows faster, such as in a fuel injection system, as contrasted with a carbureted system. When the electrostatic charge builds up to a sufficient level, it discharges by “arcing” to a nearby conductive surface like the metal vehicle body. “Arcing” occurs when two charged objects are placed in close proximity to each other and the air between them becomes electrically charged causing a spark to occur when the electric current jumps the gap. Eventually this arcing causes small holes to develop in a plastic which can lead to a fuel leak and fire. The ‘879 patent is directed particularly to a solution to the arcing problem in a fuel filter.

## **B. The ‘879 Patent**

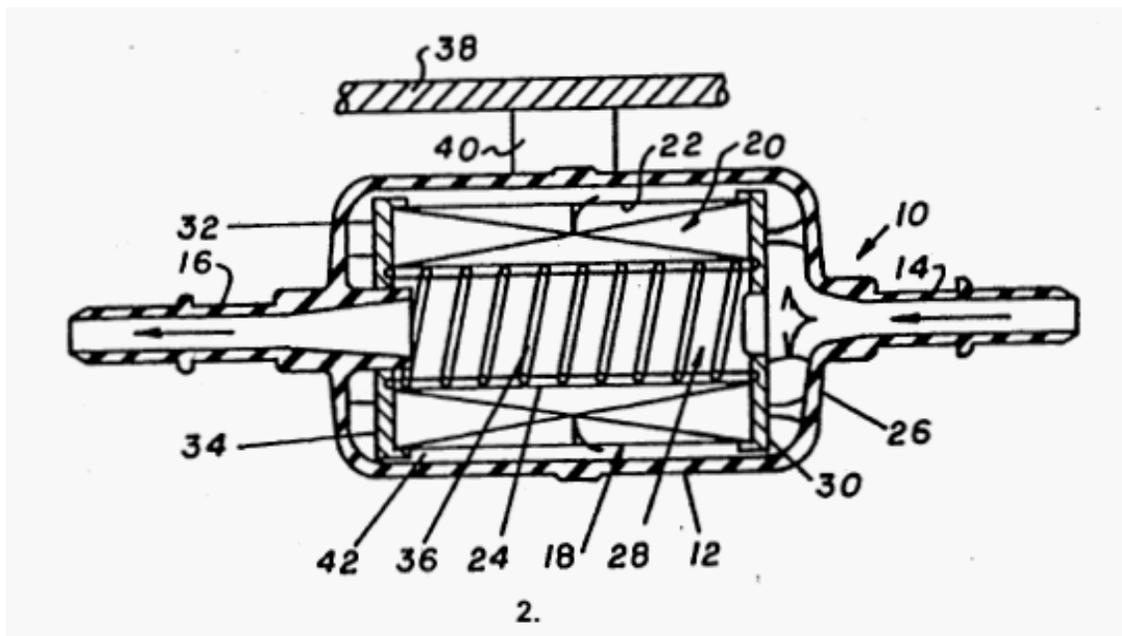
### **1.**

The Abstract describes the invention as follows:

A fuel system component for a motor vehicle constructed from a polymer material to which are added stainless steel fibers to render the component electrically conductive while retaining

moldability. The electrically conductive component permits charges generated by the fuel passing through the component to be dissipated to the vehicle body, thereby preventing arcing which causes erosion of the component and subsequent leaks.

Figure 1, the sole drawing in the patent, illustrates the invention as follows:



The specification generally describing the invention and the problem it solves states

as follows:

This invention relates to a fuel filter for use in the fuel line that delivers fuel to a motor vehicle engine.

The housings for filters used to filter the fuel delivered to a motor vehicle engine have commonly been made of metal or a polymer material, such as Nylon 12. Because of their inherently lower cost and other advantages, non-metallic fuel filters are preferred. Such non-metallic fuel filters have been commonly used on vehicles having carbureted engines without problems for many years. However, when such prior art non-metallic fuel filters were used on vehicles equipped with electronic fuel injection (EFI) systems, the non-metallic material occasionally broke down and started leaking. Since leaking fuel in the hot engine compartment of a motor vehicle is extremely dangerous, any leakage from a fuel filter is unacceptable. Accordingly, metallic filters have been used in

vehicles equipped with electronic fuel injection systems.

According to the present invention, it has been discovered that the material used in prior art non-metallic filters for electronic fuel injection fuel systems broke down and began leaking due to electrostatic buildup within the filter. Although the generation of electrical charges in hydrocarbon systems has been a recognized phenomena, it has been of little concern in the past, because the metallic components used in prior art systems provided an electrical path for the electrical charges to move freely to the grounded vehicle body. However, with non-conductive systems in which both the tubing and the filter are made from a non-conductive material, the pathway has been removed, leaving no way for the charges to drain to ground.

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.

Col. 1, ll. 4-43.

### 3.

Significantly the specification also states:

This invention relates to a fuel filter for use in a fuel line that delivers fuel to a motor vehicle engine. [Col. 1, ll. 8-9] (emphasis added).

...

However, with non-conductive systems in which both the tubing, and the filter are made from a non-conductive material, the pathway has been removed, leaving no way for the charges to drain to ground. [Col. 1, ll. 36-39] (emphasis added).

...

The inlet fitting 14 and the outlet fitting 16 are connected into the fuel line which delivers fuel from the tank to the engine. The fuel line may also be made of a nonconductive material. [Col. 1, ll. 56-60] (emphasis added).

...

A filter element generally indicated by the Numeral 18 is mounted within the housing 12 to filter fuel communicated through the fuel line. [Col. 1, ll. 61-63] (emphasis added).

...

Thus the fuel in the inlet cavity 42 becomes negatively charged. Although some electrical charge generation occurs in the fuel lines upstream and downstream of the filter due to stripping of electrons due to friction between the fuel and the walls of the fuel line, the charge generation due to the impact of the hydrocarbon paraffin against the media 20 may be as much as several orders of magnitude higher than the generation taking place in the lines themselves. [Col. 2, ll. 39-47] (emphasis added).

...

Accordingly, fuel filters used in recirculatory fueling systems, such as electronic fuel injection systems where flows through the fuel line are substantially higher than flows in older carbureted systems, will generate a proportionally higher charge level in the inlet chamber 42. [Col. 2, ll. 53-58] (emphasis added).

### C. The Markman Decision

The Court in its Markman decision interpreted Claim 1 as follows:<sup>4</sup>

<b>Term</b>	<b>Interpretation</b>
fuel injection system component for communicating fuel to the engine of a motor vehicle	fuel filter for transmitting fuel to the engine of a motor vehicle and not away from the engine
electrically conductive fibers	fibers of a material that conducts electricity, including, without limitation, metal and carbon

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<sup>4</sup>Honeywell v. ITT, 330 F. Supp. 2d at 888.

a conductive member leading to said electrical plane	any electrically conductive part or component – whether or not part of the fuel injection system – that forms at least part of the electrically conductive path that leads directly or indirectly to the electrical plane, which is any electrically conductive mass that can be maintained at a common electrical potential, including, without limitation, the body of an automotive vehicle
thereby 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	preventing the accumulation of charge in the fuel such that arcing and deterioration of the polymer material used to make the housing of the fuel filter are avoided

### III. THE LAW

#### A. Summary Judgment

Summary judgment is in order when the moving party demonstrates that there is “no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law.” Fed. R. Civ. P. 56(c). There is no genuine issue of material fact when “the record taken as a whole could not lead a rational trier of fact to find for the non-moving party.” Matsushita Elec. Indus. Co. v. Zenith Radio Corp., 475 U.S. 574, 587 (1986); Johnston v. IVAC Corp., 885 F.2d 1574, 1576- 77 (Fed. Cir. 1989). In deciding whether summary judgment is appropriate, the evidence must be viewed in a light most favorable to the party opposing the motion with doubts resolved in favor of the opponent. See Transmatic, Inc. v. Gulton Indus., Inc., 53 F.3d 1270, 1274 (Fed. Cir. 1995).

The court “may determine infringement or summary judgment only ‘when no reasonable jury could find that every limitation recited in the properly construed claim either

is or is not found in the accused device.” V-Formation, Inc. v. Benetton Group, SPA, 401 F.3d 1307, 1310 (Fed. Cir. 2005) (quoting Gart v. Logitech, Inc., 234 F.3d 1334, 1339 (Fed. Cir. 2004)).

### **B. Infringement Generally**

The infringement inquiry requires a comparison of the asserted claim with the allegedly infringing device. Kemco Sales, Inc. v. Control Papers, Inc., 208 F.3d 1352, 1359 (Fed. Cir. 2000). To prove infringement, the patentee must establish that the accused device contains each limitation of the asserted claim, Mas-Hamilton Group v. LaGard, Inc., 156 F.3d 1206, 1211 (Fed. Cir. 1998), or an equivalent of each limitation, Warner-Jenkinson Co. v. Hilton Davis Chemical Co., 520 U.S. 17, 40 (1997). The determination of infringement under the DOE is a question of fact. Teleflex, Inc. v. Ficosa North America Corp., 299 F.3d 1313, 1323 (Fed. Cir. 2002).

### **C. Infringement by Equivalents**

Infringement under the DOE requires that the accused device contain each limitation of the asserted claim or equivalent. See Warner-Jenkinson, 52 U.S. at 40 (noting that because each limitation contained in the claim is material to defining the scope of the patented invention the DOE analysis must be applied to individual claim limitations, not to the invention as a whole).

An element in the accused device is equivalent to a claim limitation if the difference between the two are insubstantial to one of ordinary skill in the art. Relevant to an insubstantial difference inquiry is whether the missing element in the accused device performs substantially the same function in substantially the same way to obtain the same result as the asserted claim limitation. See Grover Tank & Mfg. Co. v. Linde Air Products

Co., 339 U.S. 605, 608 (1950).

Additionally, the inventor may not reclaim any part of a claim surrendered by invoking the DOE, Gaus v. ConAir Corporation, 363 F.3d 1284, 1291 (Fed. Cir. 2004), and in expressing the surrender, “rigid formalism is not required.” Astrazeneca AB v. Mutual Pharmaceutical Co. Inc., 384 F.3d 1333, 1340 (Fed. Cir. 2004). In other words, if not claimed, the matter is dedicated to the public.

Also, the DOE may not be used to erase meaningful structural and functional limitations of a claim. Sage Products, Inc. v. Devon Ind., Inc., 126 F.3d 1420, 1424 (Fed. Cir. 1997).

#### **IV. THE POSITIONS OF THE PARTIES**

##### **A. ITT**

ITT overdescribes and overargues the reasons why the quick connects they manufacture and sell do not infringe Claim 1. Simply put, ITT says that Claim 1 calls for a fuel filter, and a quick connect is not a fuel filter. A quick connect does not filter fuel and is not interchangeable with a fuel filter, and does not compete commercially with a fuel filter.

More particularly, ITT says

- Honeywell disavowed the scope of Claim 1 in prosecuting the '879 patent to extend to a quick connect. The specification limited the scope of Claim 1 to a fuel filter, and not any part of a fuel system. The inventor cannot reclaim any part of a claim surrendered by invoking the DOE.
- There is no evidence of record that a quick connect contains the key structural and functional limitations recited in Claim 1. The structure of a fuel

filter as commonly understood in the art includes a filtering element, something absent in a quick connect. DOE cannot be used to erase meaningful structural and functional limitations.

- The record does not contain evidence of breakdown and arcing of nonconductive fuel lines and quick connects.

## **B. Honeywell**

Honeywell says that the '879 patent provides a solution for the arcing problem present in all fuel injection system components, including quick connects.

Honeywell says it does not challenge the Court's claim construction. Rather, Honeywell argues that there is a genuine issue of material fact over whether ITTs' quick connects infringe under the doctrine of equivalents (DOE). Honeywell says that a quick connect is the equivalent of a fuel filter in that the differences between the two are insubstantial under the law of infringement.

More particularly, Honeywell says

- It is a question of fact whether quick connects meet the function-way-result test as called for under the DOE because the filter function is incidental to a fuel filter for purposes of reading the limitations of Claim 1 on quick connects. Quick connects communicate fuel to an engine and provide a portion of an electrically conductive path.
- Quick connects are made of conductive material and are coupled to other components in the fuel delivery system. Quick connects accumulate electrostatic discharge and dissipate them. There are genuine issues of material fact regarding generation of electrical charge in quick connects to

require the avoidance of arcing.

- The specification does not explicitly call out and criticize quick connects or otherwise affirmatively exclude quick connects from the invention of the '879 patent. Without the filter element quick connects play substantially the same role as the fuel filter. The filter element is an incidental function of the fuel filter.

## V. ANALYSIS

Honeywell's assertion that infringement may be found under the DOE in the manufacture and sale of quick connects by ITT must be rejected for a variety of reasons.

### A. Disavowal

Honeywell's position is an effort to have the Court reconsider its Markman ruling and put Honeywell's interpretation of the phrase "fuel injection system component for communicating fuel to the engine of a motor vehicle" in place.

During the Markman proceedings, the parties' competing positions on interpretation of the term "fuel injection system component for communicating fuel to the engine of a motor vehicle" were as follows:

<b>Claim Term</b>	<b>Honeywell's Interpretation</b>	<b>Defendant's Interpretation</b>
fuel injection system component for communicating fuel to the engine of a motor vehicle	any part of the fuel injection system of a motor vehicle through which fuel flows on its way to the engine	fuel filter for transmitting fuel to the engine of a motor vehicle and not away from the engine

As discussed in the Markman decision, the Court found ITTs' interpretation correct.

There is no need to repeat the reasoning that led to this conclusion. It is found in the

Markman decision at 330 F. Supp.2d 870-75 and 878-83. This detailed discussion establishes without contradiction that the applicant for the '879 patent had the opportunity to enlarge the coverage of Claim 1 to include quick connects and he chose not to do so. Repeatedly in the specification the applicant distinguished the fuel filter component of a fuel injection system from the tubing and the connectors, i.e., quick connects. See excerpts from the specifications at pp. 4-5, supra. The applicant was aware of the possibility of electrostatic discharge in these components, and noted that they could be made of conductive or non-conductive material.

Honeywell cites Toro Co. v. White Consolidated Ind., 383 F.3d 1326 (Fed. Cir. 2004) for the proposition that insubstantial difference between a patented element and an accused element allow for the application of the DOE. Toro has a tortured history. See 199 F.3d 1295 (Fed. Cir. 1999); 2000 WL 34494818 (D. Minn. Aug. 9. 2000); 266 F.3d 1367 (Fed. Cir. 2001); 2003 WL 21147769 (D. Minn. May 14, 2003); 383 F.3d 1326 (Fed. Cir. 2004), cert. denied, \_\_\_ S. Ct. \_\_\_, 2005 WL 153312 (Mar. 28, 2005).

Toro involved U.S. Patent No. 4,694,528 covering a convertible vacuum blower which is used to vacuum leaves or blow lawn debris such as leaves. Toro, owner of the patent sued White for infringement. The dispute revolved around claim language which called for “a removable air inlet cover for covering [the] air inlet [which had] apparatus for passage of air through the cover [and] attachment means for removably securing [the] air inlet cover [to the] housing.”

In the blower described in the patent, the cover was filled with a ring that restricted the size of the apparatus in the blower which reduced the amount of air coming in. In the vacuum mode the air inlet cover was removed. In an effort to design around the air inlet

cover, the restrictive ring was made as separate parts in a manner that the ring was not automatically removed when the cover was removed; it had to be separately removed.

In its initial unreported decision the district court interpreted “attach means” in a manner disagreeable to the Federal Circuit, and found infringement. The Federal Circuit sent it back for the district court’s view on the claim of infringement by equivalents in light of the new interpretation. It said whether separate components for cover and ring were equivalent to the cover and ring called for by the patent was a question of fact to be determined.

On remand, the district court granted summary judgment in favor of White, finding there was a substantial functional and operational difference between Toro’s device and White’s device. Toro appealed.

Again the Federal Circuit disagreed with the district court, stating that “in some cases the change in the accused device is so facially unimportant and insubstantial that little additional guidance is needed for a fact-finder to determine whether an accused device includes the equivalent of a claim limitation” and went on to say that “neither specification nor the court’s claim interpretation made the inherent function of automatic placement a key objective of this invention, and that a genuine issue of material fact remains as to White’s vacuum-blower cover performs substantially the same overall function as the cover claimed by the ‘528 patent.” Toro, 266 F.3d 1367 (Fed Cir. 2001). Thus, the Federal Circuit recognized the rule that an accused device could conceivably lack an insignificant function of a single claim limitation and still be insubstantially different than the claimed invention.

On remand, the district court found in favor of White. Toro appealed.

The Federal Circuit affirmed the district court. In a nutshell, the Federal Circuit found that the “disclosed subject matter [was] sufficient to trigger the application of the disclosure dedication rule” and therefore the district court was correct in its finding of non-infringement. 383 F.3d 1326 (Fed Cir. 2004). Importantly, the Federal Circuit held that the disclosure dedication rule is for the court to decide. The Federal Circuit noted that where technology is both in existence and recognizably descriptive, if the written description of the element was not claimed, the DOE cannot be used to capture it. See also, PSC Computer Products, Inc. v. Foxconn Intl. Inc., 355 F.3d 1353 (Fed. Cir. 2004).

Such is the case here. Honeywell cannot invoke the DOE to capture quick connects in light of the specification language, set forth above, which clearly describes the invention as covering a “fuel filter.” This is confirmed by the Court’s claim construction which interpreted the term “fuel injection system component...” as a “fuel filter...” To accept Honeywell’s argument, the Court would have to read out the filtering element of the fuel filter and essentially turn its claim construction decision on its head. The difference between a fuel filter and a quick connect is not “insubstantial.” In short, Honeywell claimed only a fuel filter, not a quick connect. In so doing, components beyond the fuel filter, such as quick connects, are dedicated to the public and therefore not available as an equivalent.

### **B. Structure and Function**

Again, a quick connect is not a fuel filter. The fuel filter has a discrete structure as well as a particular function. The Society of Automotive Engineers bulletin J1124, entitled Glossary of Term Related to Fluid Filters and Filter Testing, under section 3.18 defines “FILTER” as follows:

A device having porous medium whose primary function is the

separation and retention of particulate contaminants from a fluid. The major filter components are the housing and the element.

We also find in the specification a description of the function and structure of a fuel filter (Col. 1, ll. 61-66):

A filter element generally indicated by the numeral 18 is mounted within the housing 12 to filter fuel communicated through the fuel line. Element 18 includes a conventional circumferentially extending array of pleated filter media. . . The pleats forming the filtering media. . . .

One skilled in the art would not read “fuel filter” with its discrete structure including its array of filter media as a quick connect which lacks any filtering element and which does not filter fuel. This reading would rewrite the element of Claim 1.

To apply the DOE to the fuel filter and find that a quick connect is the equivalent would stretch the doctrine beyond recognition and calls to mind the well quoted phrase:

“When I use a word,” Humpty Dumpty said, in a rather scornful tone, “it means just what I choose it to mean – neither more nor less.” “The question is,” said Alice, “whether you can make words mean so many different things.” “The question is,” said Humpty Dumpty, “which is to be master – that’s all.”

Lewis Carroll, Through the Looking Glass from Alice’s Adventures in Wonderland, Chapter VI, Humpty Dumpty (1865).

### **C. Quick Connects and Generation of Electrostatic Discharge**

There is evidence in the record of arcing in non-conductive fuel lines and quick connects. The significance of this discharge when compared to that in a fuel filter is much less. SAEJ 1645, entitled (R) Fuel System - Electrostatic Charge, under section 4.1.1 defines Liquid Fuel Phenomenon. Section 4.1.2, entitled How Fuel System Components Contribute to the Electrostatic Charge Phenomenon, describes the

phenomenon, comparing in a table the contribution of various fuel system components to electrostatic discharge. While fuel line and connection contribute, however, their contribution is qualitatively less.

Additionally, SAEJ 2044, entitled Quick Connect Coupling Specification for Liquid Fuel and Vapor/Emulsion Systems, under section 6.6. notes:

Electrical Resistance – If required by the OEM, all connectors used in fuel system applications involving flowing liquid fuel must be sufficiently conductive and capable of creating an electrical connection with the flexible tubing into which they are inserted and with the tube end form that is inserted into them in order to prevent the buildup of harmful electrostatic charges.

The specification (Col. 1, ll. 59-60) recognizes the optimal nature of the material used in the manufacture of quick connects when it states:

The fuel line may also be made from conductive material.

Suffice to say, in dealing with Honeywell's argument on this issue, if the determinative question of material fact on summary judgment related solely to the electrostatic discharge phenomenon in quick connects and its relationship to infringement under the DOE, it would be necessary to send this case to a jury. However, since the answer to the question of the significance of electrostatic discharge in quick connects has no bearing on ITTs' right to a summary judgment of non-infringement, no further action is necessary. In other words, any dispute as to the electrostatic discharge in quick connects is not a material dispute as it relates to the issues presented by ITT's motion for summary judgment of non-infringement.

## **VI. CONCLUSION**

At the initial conference with the parties following reassignment of this case to the Court's docket, it expressed skepticism that a patent, the sole drawing of which displayed a fuel filter and which the opening paragraph of the specification stated:

This invention relates to a fuel filter for use in the fuel line  
that delivers fuel to a motor vehicle engine

could cover a connector in the fuel line. That skepticism has continued throughout. While patent law is very complicated, there is at bottom a certainty that allows for only so much stretch. The doctrine of equivalents has some elasticity. To accept Honeywell's argument would conflate a fuel filter, a rather complex structure, with a quick connect, a relatively simple structure, and would stretch the breadth of the doctrine of equivalents to the point where it shattered.

Although many would not dispute the notion that the power of the doctrine has eroded over time, see Jerry A. Riedinger, The Future of the Doctrine of Equivalents, ABA Section of Intellectual Property Law Newsletter, Vol. 21, No. 1 (Fall 2002), that is all the more reason to ensure its proper application. The DOE has no application here.

Quick connects are simply not fuel filters as has been stated above. This at the bottom is why ITT has prevailed on summary judgment, and why Honeywell can continue to exclude others from the manufacturer of a fuel filter encompassed by Claim 1 of the '879 patent, but cannot include a quick connect within its confines.

Dated: May 17, 2005  
Detroit, Michigan

s/Avern Cohn  
AVERN COHN  
UNITED STATES DISTRICT JUDGE

# Exhibit A

