PUBLIC COPY

2009-1338, -1369

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

PASS & SEYMOUR, INC.,
Appellant,

v.

INTERNATIONAL TRADE COMMISSION
Appellee,

and

GENERAL PROTECHT GROUP, INC.,
Intervenor,

and

WENZHOU TRIMONE SCIENCE & TECHNOLOGY ELECTRIC CO., LTD.,
Intervenor,

and

SHANGHAI ELE MANUFACTURING CORPORATION,
Intervenor.

On appeal from the United States International Trade Commission in Investigation No. 337-TA-615.

BRIEF OF INTERVENOR SHANGHAI ELE MANUFACTURING CORPORATION

Tony D. Chen
CAYWIN LAW GROUP
1901 Avenue of the Stars, Suite 200
Los Angeles, California 90067
Telephone 310.871.2598

Counsel for Intervenor
Shanghai ELE Manufacturing Corporation

TABLE OF CONTENTS
(Continued)

TABLE OF CONTENTS
(Continued)

Page

TABLE OF CONTENTS
(Continued)

TABLE OF AUTHORITIES

Page

CASES

TABLE OF AUTHORITIES
(Continued)

Page

STATUTES

STATEMENT OF RELATED CASES

Shanghai ELE Manufacturing Corporation ("ELE"), Intervenor in this appeal, has also appealed in another appeal currently pending before this Court, *General Protecht Group, Inc., et al. v. Int'l Trade Comm'n*, Appeal No. 2009-1378, -1387, -1434. Pursuant to this Court's Order dated June 16, 2009, these appeals are treated as companion cases for purposes of oral argument.

There are two pending district court cases that may be directly affected by this appeal: *Pass & Seymour, Inc. v. General Protecht Group, Inc. et al.*, Civil Action No. 5:07-cv-833 (N.D.N.Y.); and *Pass & Seymour, Inc. v. Hubbell Inc.*, Civil Action No. 5:07-cv-945 (N.D.N.Y.).

STATEMENT OF JURISDICTION

The International Trade Commission ("Commission") had jurisdiction under 19 U.S.C. § 1337.

Pass & Seymour, Inc. timely commence this appeal within 60 days of the Commission's Final Determination, and ELE timely intervened in this appeal.

This Court has jurisdiction under 28 U.S.C. § 1295(a)(6) as well as 19 U.S.C. § 1337(c).

COUNTER-STATEMENT OF THE ISSUES

Whether the Commission correctly modified the Administrative Law Judge ("ALJ")'s construction of the claim 1 of U.S. Patent No. 7,212,386 ("the '386 patent", A411) to find that the same claim was not infringed by ELE's ground fault circuit interrupters ("GFCIs"), because ELE's GFCIs are not configured to trip in the reset state in response to an actuator signal generated as a result of the actuator assembly's receipt of a wiring state detection signal.

COUNTER-STATEMENT OF THE CASE

On September 18, 2007, the Commission commenced this Investigation No. 337-TA-615 from Pass & Seymour, Inc. ("P&S")'s claim that among others, ELE infringed claim 1 of the '386 patent. A4553-56.

On September 24, 2008, the ALJ issued an Initial Determination ("ID"). A86-261. The ALJ found that, *inter alia*, claim 1 of the '386 patent was valid and infringed by ELE's GFCIs. A258-59.

On October 8, 2008, ELE timely petitioned the Commission for review of the ALJ's ID. A25402-513.

On December 8, 2008, the Commission granted review of the ID in part, including review of the ALJ's construction of claim 1 of the '386 patent. A25983.

On March 9, 2009, the Commission issued a "Commission Opinion" as its Final Determination ("FD"). A1-32. The Commission modified the ALJ's construction of claim 1 of the '386 patent and reversed the ALJ's fining that the same claim was infringed by ELE's GFCIs. A15-20.

Following the Commission's FD, both the complainant and respondents below timely appealed and cross-intervened in the two companion appeals, Nos. 2009-1338, -1369 and 2009-1378, -1387, -1434, respectively.

In this appeal, ELE seeks this Court's affirmation of the Commission's finding that ELE's GFCIs do not infringe claim 1 of the '386 patent. ELE submits that when properly construed, as the Commission did, claim 1 of the '396 patent requires a GFCI be configured to trip in the reset state in response to an actuator signal generated as a result of the actuator assembly's receipt of a wiring state detection signal. ELE further submits that since ELE's GFCIs are not configured to trip in the reset state in response to an actuator signal generated as a result of the actuator assembly's receipt of a wiring state detection signal, they do not infringe claim 1 of the '386 patent.

COUNTERSTATEMENT OF THE FACTS

A. INTERVENOR ELE

ELE is an electrical and electronics product manufacturer located in China. A40668[1918-19]. GFCI is one of its main products. A40668-69[1919-20].

ELE is an innovative company with many patented inventions related to GFCI technology. Its chief engineer has about 60 issued U.S. and Chinese patents and pending applications on his inventions related to electrical safety devices such as GFCIs. A40669[1921-22]; A40677[1953-54]; A40682[1973-74]. ELE has an issued U.S. patent on its first-generation (2003 version) GFCIs ("2003 GFCIs"), as well as an issued U.S. patent on its second-generation (2006 version) GFCIs ("2006 GFCIs"). A49061; A53912 (now issued as U.S. Patent No. 7,498,909).

B. DEVELOPMENT OF GFCI TECHNOLOGY

1. Early GFCIs

GFCI technology has been in use since the 1960s, and GFCI receptacles have been on sale since the 1970s. A40813[2485]. Examples of early GFCIs include U.S. Patent Nos. 3,213,321 ("*Dalziel*", A53879) and 4,051,544 ("*Vibert*", A53926). The basic features of conventional GFCIs include a fault detection circuit, an actuator assembly, and a circuit interrupter that is actuated to break the electrical connection upon detection of a fault. A40798-812[2430-78].

a. Ground Fault Detection

Conventional GFCIs provide ground fault protection by comparing the current flowing from its input (or "line") side to the current returning from its output (or "load") side via the neutral conductors, to detect any current diverted from the line conductor to the ground as a result of a "ground fault" condition. A40817-18[2501-02]. When a hazardous ground current is detected, it interrupts, or "trip", the flow of power, eliminating the hazard quickly enough to prevent bodily injury or property damage. A40390[832-33]; A40505[1278].

b. Actuator Assembly

The actuator assembly responds to detection of a ground fault (and possibly other faults). In the event of a ground fault, the circuit component that detects the ground fault sends a ground fault detection signal to an electronic switching device, such as a silicon controlled rectifier (SCR). The SCR then activates a solenoid, which moves an armature. The movement of the armature causes the circuit interrupter to open. A408080[2463-65]; A40410-11[903-4]; A40318[538-40]; A54016; A53930; A56362.

c. The Circuit Interrupter's "Reset" And "Tripped" States

The circuit interrupter connects and disconnects the line and load conductive paths and terminals. The circuit interrupter includes two or more sets of movable ("interrupting") contacts. When these contacts are closed (touching), the line and load sides of the GFCI are connected, so that power can flow through the GFCI from the source of AC power to any appliances plugged into the GFCI receptacle, as well as to any "downstream" receptacles connected to its load terminals. This is called the "***reset state***" of the GFCI. When the contacts are open (separated), the GFCI is "tripped" and is in the "***tripped state***", where the connection is broken between the line and load terminals, so that no power can flow through the device. A40798-800[2430-33, 2435-36]; A40776[2342-44]; A40318[538-40]; A54016; A53930; A56362.

2. <u>GFCIs Complying With The UL Standards</u>

Changes in the designs of commercial GFCIs since the 1970s have been largely driven by changes in the Underwriters Laboratories (UL)'s 943 Standard, which effectively mandates the features required for a GFCI to be commercially viable in the United States. A40836-37[2577-78]; A40676-78[1950-51, 1955-56].

a. The UL Standards

In the last decade the UL's 943 Standard has undergone two major revisions, one became effective in 2003 ("the 2003 UL Standard", A51234) and the other in 2006 ("the 2006 UL Standard", A50962). A40836[2577-78]; A40677-78[1955-56]. The UL mandates had great effects on the development of GFCI technology. Many GFCI manufacturers designed and produced their respective newer generation GFCIs.

b. Miswiring (Reverse Wiring) Protection

The 2003 UL Standard added a mandate for a miswiring protection feature in commercial GFCIs. "Miswiring" (or "reverse wiring") occurs when AC power is accidentally connected to a GFCI's load terminals instead of its line terminals, which renders the GFCI's ground fault protection useless (*i.e.*, the GFCI will still deliver power even when a ground fault condition exists). The UL mandates requires that when a miswiring occurs, the GFCI must not be operational to provide electrical connection between its line and load sides. A40703[2057]; A40368[738]; A40375[768-69].

Different manufacturers took notably different approaches to comply with the 2003 UL Standard. One example is described in U.S. Patent No. 5,600,524 ("*Neiger*", A47081). P&S and ELE also took very different approaches.

C. P&S'S GFCIS AND THE '386 PATENT

1. <u>P&S's GFCIs</u>

a. Early G3 GFCI

P&S's older generation "G3" GFCI was developed in the mid-1970s. A40291[438]. It incorporates conventional features of prior art GFCIs: a fault detection circuit (differential and grounded neutral transformers and an integrated-circuit (IC) chip), an actuator assembly (an SCR and a solenoid), and a circuit interrupter. A40776[2342-44]; A40318[538-40]; A53930; A54016.

The G3 GFCI provides ground fault protection by detecting the occurrence or existence of a ground fault condition. When a ground fault condition is detected, the IC chip sends a signal to trigger the SCR, which energizes the solenoid and in turn causes the circuit interrupter to trip. A40776[2343-44]; A40318[539-40].

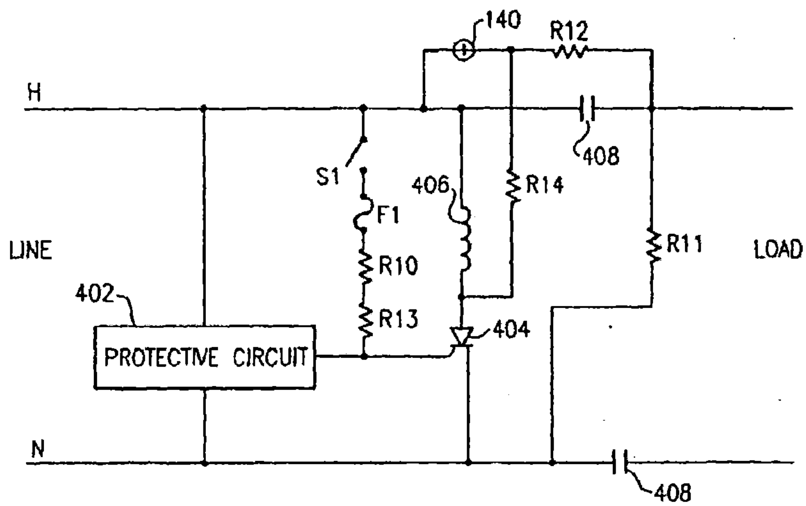
b. The G4 GFCI With Miswiring Detection

P&S's newer generation "G4" GFCIs were produced to replace its G3 GFCIs in order to comply with the 2003 UL Standard that added the mandate for miswire protection. The approach taken by P&S was to maintain its basic G3 GFCI design in the G4 GFCI, which would facilitate continued use of P&S's automated manufacturing line, as Pass & Seymour faced large expenses if it had to modify its G3 design or its G3 automated assembly line. A40266[338-39]. For this reason the G4 GFCI was designed to use the same actuator assembly (*i.e.*, the SCR and solenoid), which was used in the G3 GFCI for the ground fault protection, to also provide miswire protection. A40290[433-34]; A40296[458-59].

2. <u>P&S's '386 Patent</u>

The G4 GFCI design was the basis for the '386 patent. A40778-80[2351-60]; A40354[685]; A40858-59[2665-67]; A40312[516-17]. It described the G4 design which provides miswire protection by using the same actuator assembly (SCR and solenoid) that is also used to trip the GFCI when a ground fault was detected.

A representative circuit diagram from the '386 patent is reproduced below:



A414[Fig. 2]. It shows a GFCI having an actuator assembly (SCR 404 and solenoid 406) for actuating the circuit interrupter. The ground fault protection circuit 402 and the miswiring protection circuit (switch S1, fuse F1 and resistors R10 and R13) both connect to the gate terminal of SCR 404, *i.e.*, the ground fault protection circuit 402 and the miswiring protection circuit "share" the same actuator assembly (SCR 404 and solenoid 406). Under this design, SCR 404 will act ***either*** when a ground fault exists ***or*** when a miswiring occurs. In other words, the SCR responds to ***both*** a ground fault condition ***and*** a miswiring condition.

Under this design, the GFCI would trip when installed whether correctly wired or miswired. If the GFCI is properly wired, it would trip first, then the fuse F1 in the miswire protection circuit would burn out after a predetermined amount of time and the miswiring protection circuit 410 would stop feeding the SCR 404, such that the GFCI would stop tripping so it could then function normally in the reset state. From the normal reset state the GFCI can trip when it detects a ground fault condition. A40376[772]. However, if the GFCI is miswired, then the fuse F1 would not burn out, and the miswire protection circuitry would continue to operate to feed the SCR so that the GFCI would continue tripping every time the user attempted to reset it, effectively renders the GFCI inoperable normally. A40460[1101]; A40376[771-72].

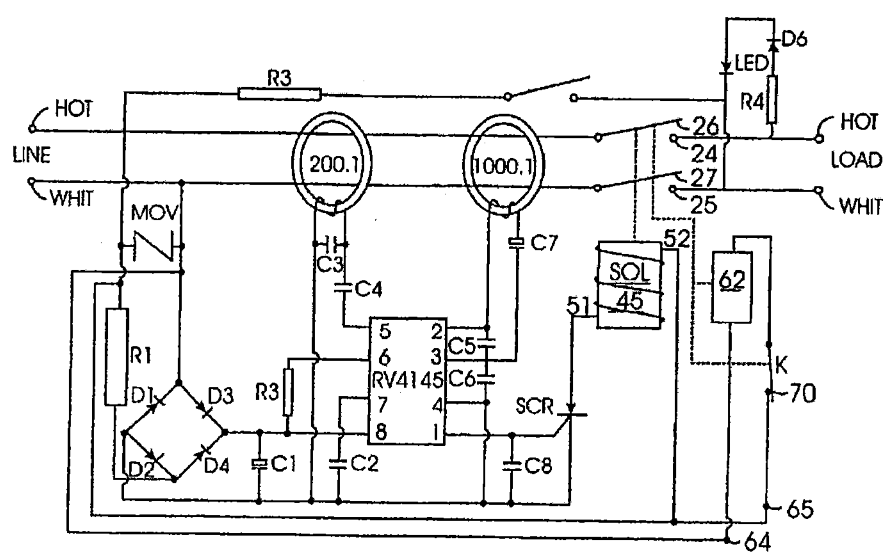
D. ELE'S GFCI TECHNOLOGY

1. ELE's 2003 And 2006 GFCIs

a. The 2003 GFCI

ELE designed and developed its 2003 GFCI to provide miswiring protection in compliance with the 2003 UL Standard. A40677[1953-55].

An illustrative circuit diagram of ELE's 2003 GFCI is reproduced below:

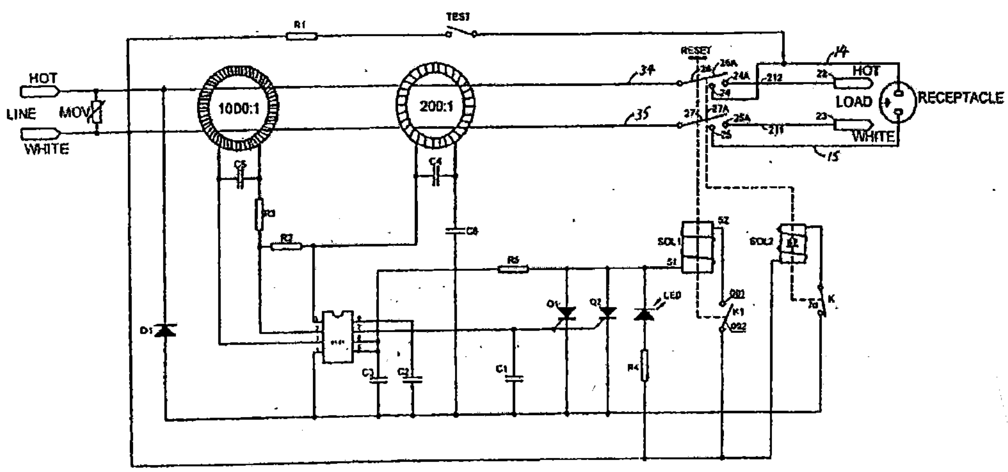


A49061[Fig. 5].

b. The '2006 GFCI

ELE also designed and developed its 2006 GFCIs in compliance with the 2006 UL Standard, keeping the same design approach for the miswiring protection circuit. A40682-83[1973-78].

An illustrative circuit diagram of ELE's 2006 GFCI is reproduced below:



A48913[Fig. 8].

c. Miswiring Protection Of ELE's GFCIs

As shown in the above circuit diagrams, the miswiring (or reverse wiring) protection circuit in both ELE's 2003 GFCI and 2006 GFCI are the same (therefore for the purpose of this appeal, ELE's 2003 GFCI and 2006 GFCI are hereinafter collectively referred to as "ELE's GFCIs"). The miswiring protection circuit of ELE's GFCIs mainly consists a second solenoid SOL-2 62 that is completely independent and separate from the actuator assembly.

The actuator assembly is formed by SCR(s) and a first solenoid SOL-1 52 (the 2003 GFCI has one SCR, whereas the 2006 GFCI has two redundant SCRs Q1 and Q2 for the "end-of-life" protection feature). While the first solenoid SOL-1 52 is activated by the SCR(s), the second solenoid SOL-2 62 is not activated by the SCR(s) and therefore is not part of the actuator assembly. Further, there is no detection of the wiring state performed and no detection signal generated by the GFCI. A40680[1964-65].

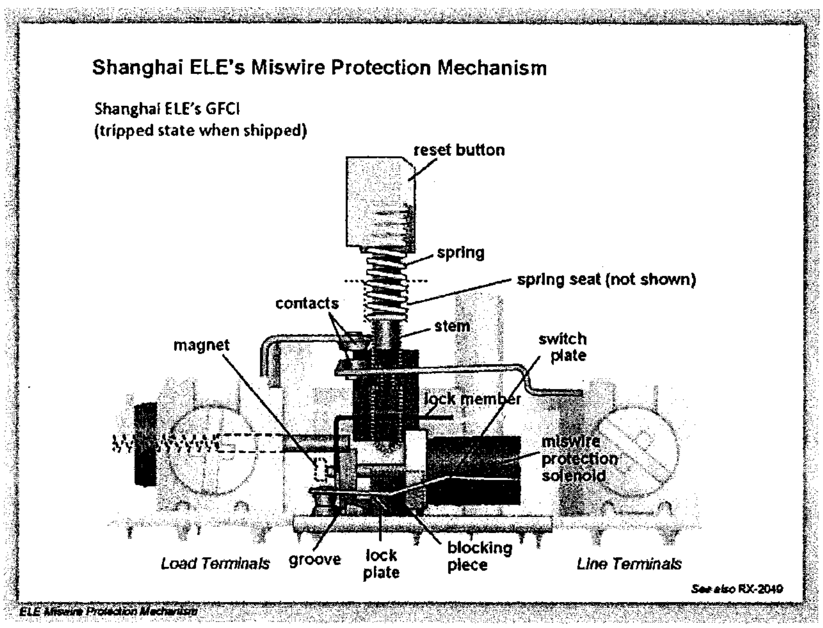
2. <u>ELE Took A Different Approach For Miswiring Protection</u>

ELE took an entirely different and unique approach to comply with UL's miswire protection mandate. ELE added a completely separate and independent miswire protection circuit, using a second solenoid that is not connected to, nor activated by, any SCR of the existing actuator assembly used for tripping the GFCI in a ground fault condition; *i.e.*, the added miswire protection circuit does not use or share any of the same actuator assembly (SCR(s) and solenoid) with the ground fault protection circuit. In ELE's GFCIs, the actuator assembly (SCR(s) and the first solenoid) is dedicated for the ground fault protection, and the second solenoid is dedicated for the miswiring protection. A40678[1957-58]; A40679-80[1963-66].

The function and operation of the miswiring protection circuit in ELE's GFCIs were described at trial by ELE's experts and illustrated in a series of slides presented by ELE's experts. A56300-309. The following facts remain undisputed:

a. ELE's GFCI Is Initially In A Tripped State

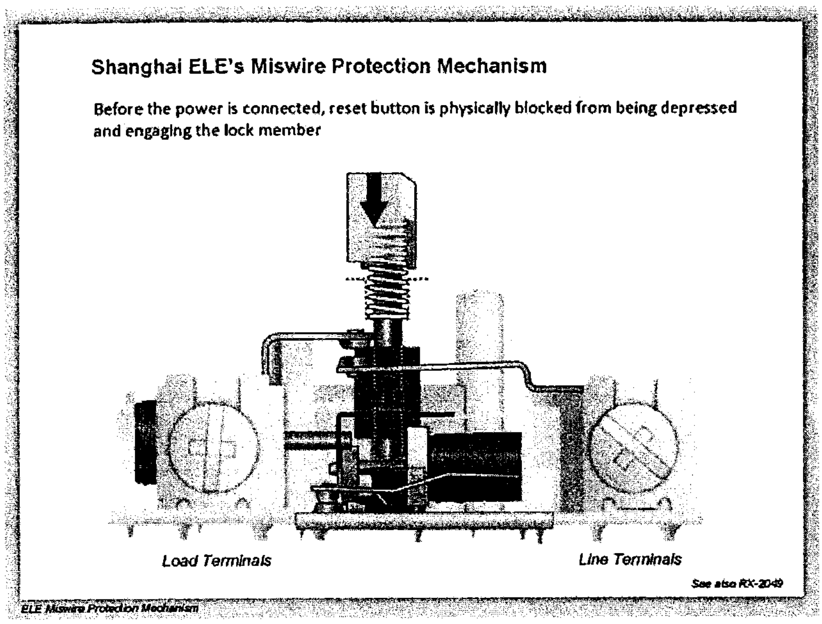
As shown in the illustration below, when ELE's GFCI is shipped or installed for the first time, its circuit interrupters are open so the GFCI is initially in a tripped state. A40679[1961].



A56301.

b. The GFCI Cannot Be Reset Until Properly Wired

As shown in the next illustration, when ELE's GFCI is in its initial tripped state, it cannot be reset because a blocking piece blocks the reset button from being pressed down. When ELE's GFCI is produced and shipped, the block piece is placed in position to physically block the depressing of the reset button so that the GFCI cannot be reset in its initial tripped state. A40679-80[1962, 65].



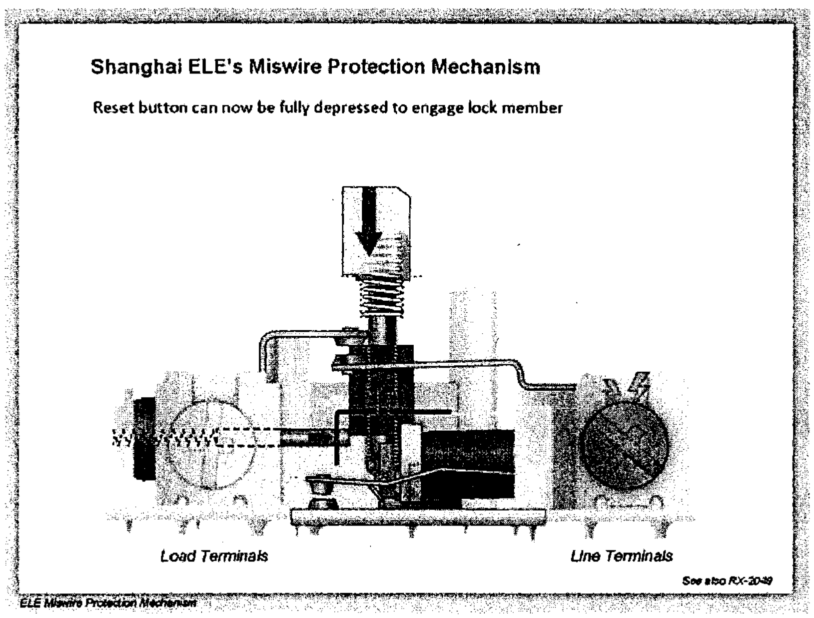
A56303.

c. If Miswired, ELE's GFCI Remains In Its Tripped State

As shown in the illustration above, when ELE's GFCI is in its initial, tripped state, the circuit interrupters are open so that the conductive paths between the line side and load side are disconnected, and the GFCI's internal circuitry are also disconnected. Because there is no connection between the load side and the internal circuitry of the GFCI, and no connection between the load and line sides of the GFCI, when power is miswired to the load side, no power will flow to the internal circuitry of the GFCI. The circuit interrupters will remain in the tripped state, and no power will flow from the load side to the line side. This provides miswiring protection. A40679[1962-63].

d. If Wired Properly, ELE's GFCI Can Be Reset

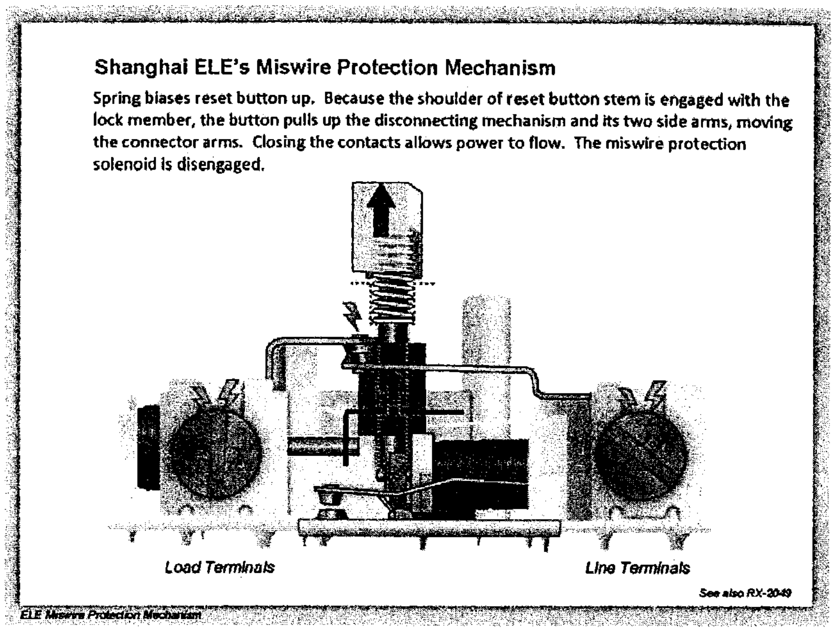
As shown in the illustration below, when ELE's GFCI is in its initial tripped state and power is correctly wired, current will flow to and energize the second solenoid SOL-2, causing the blocking piece to be moved out of the way so that the reset button can be pressed down. A40679-80[1963-64].



A56308.

e. ELE's GFCI Will Provide Power Once Reset

As shown in the next illustration, when ELE's GFCI is properly wired in its initial tripped state, it can be reset by depressing the reset button. This puts the GFCI in its reset state where the circuit interrupters are connected to allow electrical power to flow from the line side to the load side. A40680[1964].



A56309.

3. <u>The Unique Features Of ELE's Miswiring Protection Circuit</u>

As the above description and illustration explained in detail, the miswire protection circuit in ELE's GFCI is unique because of its significantly distinctive features.

a. No Sharing Of SCR(s) Used For Ground Fault Protection

As shown above, in ELE's GFCIs, the ground fault detection circuit and the actuator assembly (the SCR(s) and first solenoid SOL-1) play no role in the miswiring protection function. The actuator assembly only works with the ground fault detection circuit. The miswiring protection circuit (second solenoid SOL-2) is independent of the actuator assembly and does not share the actuator assembly with the ground fault detection circuit A40680[1964].

SUMMARY OF THE ARGUMENT

In this appeal, ELE seeks affirmation of the Commission's finding that ELE's GFCIs do not infringe claim 1 of the '386 patent.

ELE submits that when properly construed, as the Commission did, claim 1 of the '386 patent requires a GFCI be configured to trip in the reset state in response to an actuator signal generated as a result of the actuator assembly's receipt of a wiring state detection signal.

All teaching of the various embodiments of the GFCI described in the specification of the '386 patent made it very clear that these GFCIs have two critical characteristic features: (1) the fault protection circuit and the miswire protection circuit share the same actuator assembly; and (2) the actuator assembly causes the circuit interrupter to trip from a reset state in response to a wiring state condition. These two critical characteristic feature are very important in understanding the "actuator assembly" and "circuit interrupter" limitations of claim 1 of the '386 patent.

First, since the fault protection circuit and the miswire protection circuit share the same actuator assembly, the actuator assembly will generate an actuator signal in response to either the fault detection signal or the wire state detection signal. In other words, both the fault detection signal and the wire state detection signal will cause the actuator assembly to respond.

Second, the circuit interrupter will trip in a reset state in response to the actuator signal. Since the actuator signal is generated in response to either a fault detection or a wire detection signal, the circuit interrupter must be able to trip from a reset state in response to a wiring state signal.

Therefore, the Commission correctly construed claim 1 of the '386 patent as it requires the circuit interrupter be configured to trip in the reset state in response to an actuator signal generated in response to a wiring state detection signal.

P&S argues that because claim 1 requires the actuator signal be generated in response to *either* a fault detection signal *or* a wire state detection signal, a GFCI satisfies claim 1 as long as it trips in response to a fault detection signal. This is flatly wrong. A claim claiming "a device acts in response to A or B" is different from a claim claiming "a device comprises A or B". A device has only A not B will infringe the claim claiming "a device comprises A or B", but a device acts in response to A only but not B will not infringe the claim claiming "a device acts in response to A or B".

P&S also argues that the Commission's construction is wrong because a wire detection signal is not necessarily generated in a reset state. This argument is misplaced as no one really construed claim 1 that way. The Commission's construction only required the circuit interrupter *to trip in a reset state* in response to an actuator signal that is generated in response to a wire state detection signal.

P&S further argues that the Commission's construction of claim 1 would conflict with that of claim 9. But this is a false assertion. The Commission's construction of claim 1 has no requirement that the wiring state detection circuit provides a wiring state detection signal in the reset state. This does not conflict at all with claim 9's requirement that the wiring state detection circuit provides a wiring state detection signal in the reset state, as a narrower claim may add a more limiting requirement.

ELE submits that the Commission correctly construed claim 1 of the '386 patent to require the circuit interrupter be configured to trip in the reset state in response to an actuator signal generated as a result of the actuator assembly's receipt of a wiring state detection signal. ELE further submits that since ELE's GFCIs are not configured to trip in the reset state in response to an actuator signal generated as a result of the actuator assembly's receipt of a wiring state detection signal, they do not infringe claim 1 of the '386 patent.

ARGUMENT

A. STANDARD OF REVIEW

The Commission's claim construction is a question of law reviewed *de novo*. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (*en banc*), *aff'd* 517 U.S. 370 (1996); *Honeywell Int'l, Inc. v. Int'l Trade Comm'n*, 341 F.3d 1332, 1338 (Fed. Cir. 2003). The Commission's infringement and validity findings are questions of fact reviewed under the substantial evidence standard. *Texas Instruments, Inc. v. Int'l Trade Comm'n*, 988 F.2d 1165 (Fed. Cir. 1993); *Surface Tech., Inc. v. Int'l Trade Comm'n*, 801 F.2d 1336, 1340 (Fed. Cir. 1986).

B. THE COMMISSION CORRECTLY CONSTRUED CLAIM 1 OF THE '386 PATENT AND ITS FINDING THAT SUCH CLAIM WAS NOT INFRINGED BY ELE'S GFCIS SHOULD BE AFFIRMED

1. The Commission Correctly Construed Claim 1 Of The '386 Patent To Require The Circuit Interrupter Be Configured To Trip In A Reset State In Response To A Wire State Detection Signal

a. Claim 1 Of the '386 Patent

Claim 1 is the only claim asserted against ELE's GFCIs. It requires:

"An electrical wiring protection device comprising:

a housing assembly including at least one line terminal and at least one load terminal partially disposed therein;

a first conductive path electrically coupled to the at least one line terminal;

> a second conductive path electrically coupled to the at least one load terminal, the second conductive path being connected to the first conductive path in a reset state;
>
> a fault detection circuit coupled to the first conductive path, the fault detection circuit being configured to generate a fault detection signal in response to detecting at least one fault condition;
>
> a wiring state detection circuit coupled to the first conductive path, the wiring state detection circuit selectively providing a wiring state detection signal when the at least one line terminal is coupled to a source of AC power;
>
> ***an actuator assembly configured to provide an actuator signal in response to the fault detection signal or the wiring state detection signal***;
>
> ***and a circuit interrupter coupled to the actuator assembly, the circuit interrupter being configured to disconnect the first conductive path from the second conductive path in response to the actuator signal in the reset state***."

A00426[14:42-67] (*emphasis added*).

Despite all the arguments presented, the language of claim 1 is actually quite straight forward. It recites in relevant elements: (1) a "fault detection circuit" for generating a "fault detection signal" when there is a fault; (2) a "wiring state detection circuit" for providing "a wiring state detection signal" when there is proper wiring; (3) "an actuator assembly" for providing "an actuator signal" in response to either the fault detection signal or the wiring state detection signal; and (4) "a circuit interrupter" configured to trip the GFCI in response to the actuator signal in the reset state.

b. **The Construction Below**

This appeal focus on the "actuator assembly" limitation and the "circuit interrupter" limitations of claim 1, as both contained the term "actuator signal" that is provided by the actuator assembly and responded to by the circuit interrupter assembly, which term ("actuator signal") must be construed in a consistent manner in both of these claim limitations. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1356-57 (Fed. Cir. 1999).

The ALJ has construed the "actuator assembly" limitation as:

> [A]n assembly including, for example, one or more SCRs and/or solenoids configured to respond to the signal indicating detection of a fault and the signal indicating detection of a proper wiring state by, in response to either one of these signals, providing a signal to drive component or components into motion, for example, a solenoid armature.

A209[120].

The ALJ found that the "circuit interrupter" limitation needed no construction, but nonetheless construed the limitation as "not requir[ing] the circuit interrupter to trip in response to the wiring state detection signal in the reset state." A209-10[120-121].

The Commission did not modify the ALJ's construction of the "actuator assembly" limitation. However, since the term "actuator signal" was used in both the "actuator assembly" limitation and the "circuit interrupter" limitation, the Commission added that:

> [I]f the claim actuator signal in an allegedly infringing/ anticipating device indeed constitutes more that one signal, claim limitations referring to "the actuator signal" must be construed to refer to the one or more signals identified as constituting the claimed "actuator signal." Put another way, in such a device, all of the signals that make up the claimed "actuator signal" need to be considered when considering other limitations involving "the actuator signal."

A16[16:1-5] The Commission further modified the ALJ's construction of "circuit interrupter" limitation "to make clear that the limitation literally requires the claim circuit interrupter to be 'configured to disconnect' or 'trip' in response to 'the actuator signal' in the reset state." A17[17:4-6]. As the Commission reasoned:

> Because the "actuator assembly" limitation requires the assembly to generate the "actuator signal" in response to the wiring state detection signal, it follows that the "configured to disconnect" limitation requires an infringing device to be configured to disconnect in response to an actuator signal generated as a result of the actuator assembly's receipt of a wiring state detection signal when the device is in the reset state.

A17[17:6-10]. Therefore, the Commission made a construction of the "circuit interrupter" as:

> Where the claimed "actuator signal" limitation is met by two or more signals, the Commission construes the limitation to require that an infringing device be "configured to disconnect" in response to any and all of the signals that comprise the claimed "actuator signal." In other words, an infringing device must be configured to trip in response to the actuator signal generated in response to the wiring state detection signal when the device is in the reset state.

A17[17:14-18].

Accordingly, the Commission reversed the ALJ's construction of the "circuit interrupter":

> Although the actuator assembly's generation of the actuator signal is required as a "middle step," the Commission's construction of the claim ultimately reverses the ALJ's conclusion that an infringing device need not trip in response to a wiring state detection signal in the reset state.

A17[17:11-13].

c. Claim Language

The Commission's modified construction is consistent with the plain language of claim 1 of the '386 patent. Claim language is part of the intrinsic evidence to be used for claim construction. *Vitronics Corp. v. Concenptronics, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). Taking together, the claim language of the "actuator assembly" and the "circuit interrupter" limitations supports the Commission's construction that these limitations require the circuit interrupter be configured to trip in response to a wiring state detection signal in the reset state.

As a person of ordinary skill in the art would readily recognize, claim 1 recites standard features of a conventional GFCI with a particular form of miswire protection. A40797-98[2428-30]; A56361-63.

The conventional GFCI features recited in claim 1 include a housing, line terminal(s) and a line-side conductive path, load terminal(s) and a load-side conductive path, a fault detection circuit, an actuator assembly, and a circuit interrupter. A40797-98[2428-29]; A56362. Claim 1 adds a "wiring state detection circuit," which provides a "wiring state detection signal." A426[14:58-59]; A40798[2430]; A56363.

Claim 1 requires that the claimed GFCI respond the same way to detection of the wiring condition that it responds to detection of a ground fault. A40798[2430]; A56364. It recites that both the fault detection signal generated by the fault detection circuit and the wiring state detection signal generated by the wiring state detection circuit result in creation of an "actuator signal" by the "actuator assembly." A426[14:61-63]; A56364. It specifically recites an "actuator signal that responds to . . . either the fault or the wiring state detection." The circuit interrupter trips in response to the actuator signal, and for all this [to] work . . . it must work when the device is in the reset state. A40798[2431].

As understood by a person of ordinary skill in the art, claim 1 claims an approach for adding miswire protection that minimizes the need to add additional components and functions to a conventional GFCI, by making maximum use of the pre-existing components and functions already used to provide ground fault protection. In a conventional GFCI, detection of a ground fault results in triggering an SCR, which activates a solenoid (an "actuator") which in turn works on the circuit interrupting mechanism to trip the GFCI and cut off the supply of power to the GFCI-protected receptacle. A40798[2432-33]; A56365.

In the adaptation recited in claim 1, P&S merely adds a wiring state detection circuit to a pre-existing conventional GFCI. The wiring state detection signal generated by the wiring state detection circuit has exactly the same effect as a fault detection signal generated by the fault detection circuit in response to a ground fault or other potentially hazardous fault:

> What this claim adds is the concept of doing exactly the same thing, starting with the wiring state detection.
>
> Having that wiring state detection create a signal [to] work on the same SCR, the same solenoid and the circuit interrupting mechanism to ultimately trip, so this teaches tripping either due to ground fault or wiring [state] or both.

A40799[2433]; A56366.

A person of ordinary skill reviewing claim 1 in the context of the '386 patent would understand what was being accomplished by the claimed approach:

> [W]hat the inventor is trying to do is add miswiring protection to a conventional GFCI at the lowest possible cost. Cost drives everything we do in this industry. A penny is huge.
>
> So in this case, he is suggesting that you use the same actuator assembly to respond to whether it's a ground fault or an arc fault, and of course, . . . that would mean the same SCR, the same actuator assembly. That actuator assembly would work in the same interrupting mechanism, and all of that would be same.
>
> The only thing that you'd have to add to this would be . . . some logic circuit that tells you [whether] you have a miswire condition.

A40799[2434-35]; A56367.

In addition to requiring the sharing of the same SCR-and-solenoid "actuator assembly" for use in responding to both the fault detection and the wiring state detection, claim 1 is properly understood as to require that the responses to both kinds of detection occur and have the effect of tripping the claimed GFCI in the reset state.

> [T]he words [of the claim] discuss the fact that it has to do both, it has to trip both in response to a fault detection or a miswiring, so that would mean that the circuit interrupter coupled to the actuator assembly, again, would have to disconnect or trip the device.
>
> And for that to happen, the device would have to be in the reset state first, and then it would trip it.

A40799[2436]; A56368.

d. The Specification

The above understanding of the language of claim 1 by a person of ordinary skill is further supported by the specification, upon which heavy reliance is placed when construing a claim limitation. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (*en banc*).

The specification of the '386 patent made it very clear that the circuit interrupter is configured to trip the GFCI in a reset state in response to the actuator signal generated in response to the wiring state detection signal.

The first embodiment of the GFCI described in the '386 patent is shown in Figure 1 of the specification:

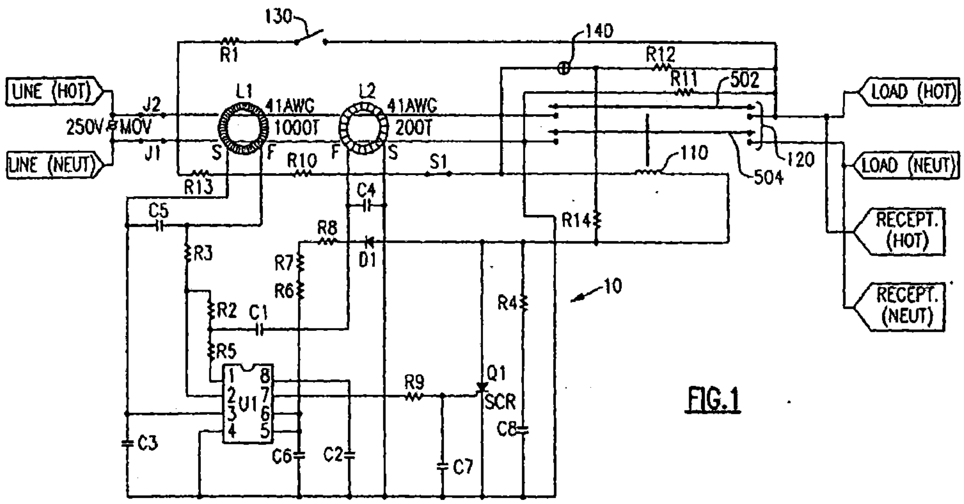


FIG.1

A413[Fig. 1].

As described in the '386 patent specification:

> GFCI 10 also includes a miswire circuit which uses a fault resistance R10, R13 to create a differential current on the primary of the differential current transformer L1.

A423[7:34-36].

This means that resisters R10 and R13 are part of the miswire circuit.

As described in the '386 patent specification:

> In this embodiment, if GFCI 10 is miswired such that AC power is connected to the load terminals, nothing visible happens if the GFCI is tripped. On the other hand, if the GFCI is in the reset condition, it will immediately trip when powered.

A423[7:43-47].

This means that in response to a miswire condition, if the GFCI is in the tripped the state, nothing happens; but if it is in the reset state, it will trip.

The specification of the '386 patent further describes:

> When electrical power is connected in a correct manner to the line terminals, a differential current is created by the fault resistance R10, R13 when power is applied to the device. If the device is reset before power is applied, the device trips as a result of this differential current. If the device is already in the tripped condition before power is applied, nothing visible happens.

A423[7:60-66].

This means that in response to a proper wiring, if the GFCI is in the tripped the state, nothing happens; but if it is in the reset state, it will trip.

However, in this proper wiring condition the current flow through resistors R10 and/or R13 will cause them to burn out, so if the GFCI is reset it will not trip again (in this proper wiring condition):

> However, because the fault resistor is on the line side of the interrupting contacts 120, current through fault resistance R10, R13 continues to flow, regardless of interrupting contacts 120 being open. This internal differential current, created by the fault resistance R10, R13 clears itself in a short time, typically 300 ms. ...... Another option is to provide a fuse F1 that is placed in series with the fault resistances R10, R13. ...... Accordingly, the fuse opens instead of the fault resistors R10, R13. ...... Once the device has been properly wired and the fault has been cleared, the device can be reset and provide its normal protective functions.

A423-24[7:66-8:13].

This means that in the proper wiring condition the current flow through resistors R10 and/or R13 (or fuse F1) will cause them to burn out, so that if the GFCI is reset now, it will not trip again (in this proper wiring condition).

It is important to note here that the specification made it clear that regardless of whether the GFCI is properly or miswired, *the GFCI will trip from its reset state in response to the wiring state condition* (but do nothing in its stripped state). This is a critical characteristic feature of the GFCI described in the specification of the '386 patent, which is consistent with claim 1's express requirement that the circuit interrupter is configured to trip from a reset state in response to a wiring state detection signal (where the wiring state may be proper wiring or miswiring).

This critical characteristic feature (that the GFCI trips from its reset state in response to a wiring state condition) is present through out the various embodiments of the GFCI described in the specification of the '386 patent.

Let's examine the next embodiment of the GFCI described in the '386 patent, shown in Figure 2 of the specification:

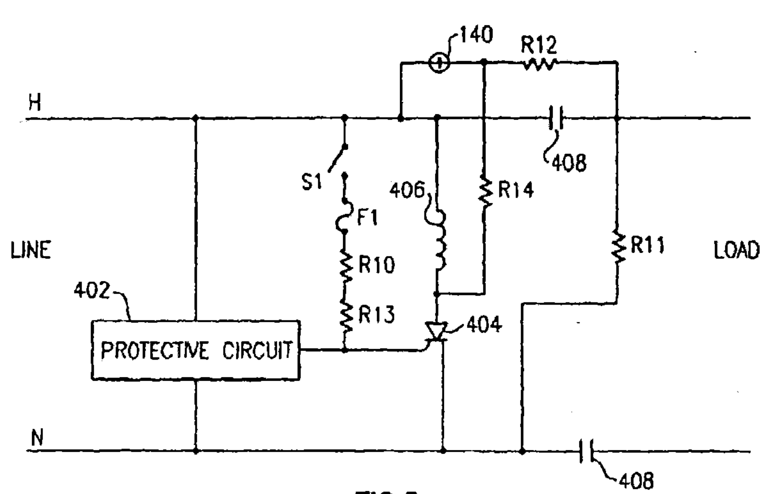


FIG.2

A414[Fig. 2].

As further described in the '386 patent specification:

> [T]the protective device 10 includes a protective circuit 402 that is configured to detect one or more fault conditions (arc fault, ground fault, etc.). In response to detecting a fault, protective circuit 402 drives electronic switching device 404 (SCR) into a conducting state to thereby energize solenoid 406. Solenoid 406 opens interrupting contacts 408 in an energized state.

A424[9:18:24].

Note that the fault protection circuit 402 uses the actuator assembly (SCR 404 and solenoid 406).

The '386 specification goes on to state:

> With regard to the miswire circuit, fault resistors R10, R13, switch S1, and fuse F1, have the same functions as previously described in FIG. 1.

A424[9:30:32].

> When power is miswired to the load terminals and the protective device is reset such that interrupting contacts 408 are closed, current flows through normally closed switch S1, fuse F1, fault resistors R10, R13 and the gate-cathode junction of SCR 404, energizing solenoid 406 and tripping the interrupting contacts 408. ...... If line power is connected as intended to the line terminals of the protective device, current flows through normally closed switch S1, fuse F1, fault resistors R10, R13, and the gate cathode junction of SCR 404 until such time as fuse F1 clears, after which it is possible to accomplish a resetting of the interrupting contacts 408.

A424[9:34-49].

It is clear that this embodiment also has the critical characteristic feature that the GFCI trips from its reset state in response to a wiring state condition.

In addition, it is clear that the '386 patent GFCI has another critical characteristic feature, that is, the fault protection circuit and the miswire protection circuit *share the same actuator assembly* (SCR 404 and solenoid 406). In other words, the circuit interrupter 408 trips in response to both the presence of a fault condition and the presence of a miswire condition. This additional critical characteristic feature (that the fault protection circuit and miswire protection circuit shares the same actuator assembly) is also present through out the various embodiments of the GFCI described in the specification of the '386 patent, as seen in the following circuit diagrams that show further alternative embodiments described in the specification of the '386 patent:

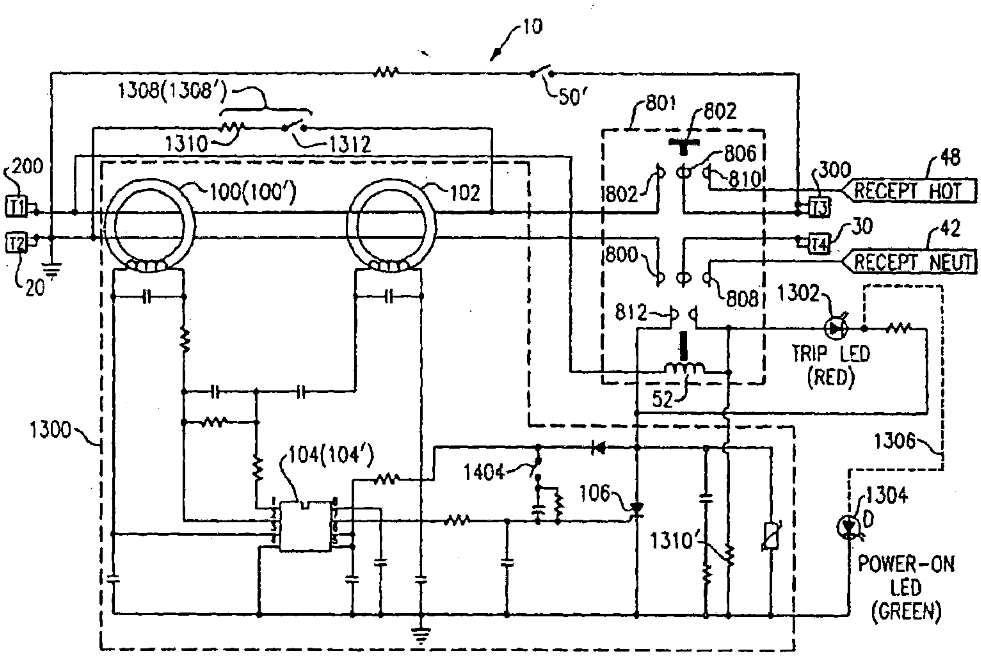


FIG.3

A415[Fig. 3].

As described in the '386 patent specification:

> Device 10 includes three main portions: a detection circuit 1300, a miswire detection circuit 1308, and tripping mechanism 801.
>
> ......
>
> The detected signal turns on SCR 106 to actuate solenoid 52 to trip the trip mechanism 801 as has been described.
>
> ......
>
> If device 10 is miswired, ... the current through resistor 1310 is sensed by differential transformer 100 as a differential current. Detector 104 interprets the differential current as a fault condition. Accordingly, detector 104 signals the control input to SCR 106. SCR 106 is turned ON to thereby actuate solenoid 52. Solenoid 52 generates a magnetic field and mechanism 801 is tripped.
>
> ......
>
> If reset button 822 is depressed to reset trip mechanism 801, current starts to flow again through resistor 1310. However, the current is again detected and device 10 is immediately tripped. Accordingly, device 10 will repeatedly trip when the source of power of the power distribution system is miswired to the load terminals.

A424[10:4-11:40].

From the above description, it is clear that the miswire protection circuit 1308 shares the same actuator assembly (SCR 106 and solenoid 52) with the fault protection circuit 1300, and the circuit interrupter 801 trips from a reset state in response to a miswire condition.

A further embodiment is shown in Figure 4:

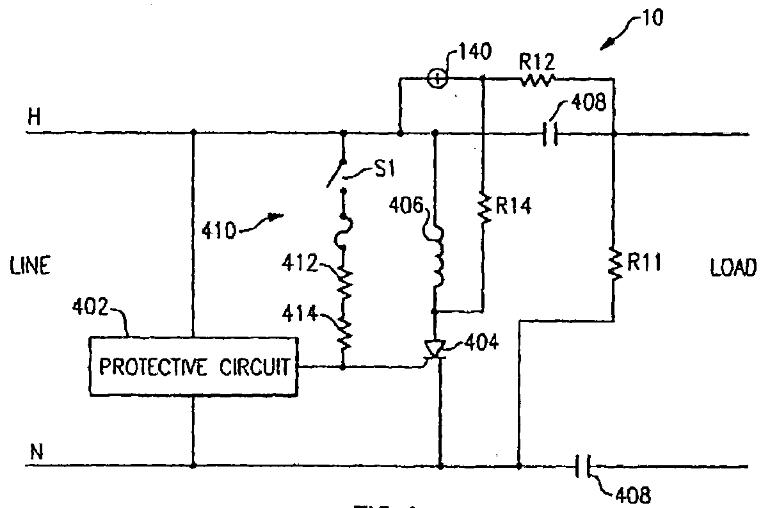


FIG.4

A414[Fig. 4].

As described in the '386 patent specification:

> This embodiment is very similar to the embodiment depicted in FIG. 2
>
> ......
>
> Therefore, the protective device 10 includes a protective circuit 402 that is configured to detect one or more fault conditions (arc fault, ground fault, etc.).
>
> In this embodiment, the miswire circuit 410 is disposed between the hot line conductor and the input to SCR 404.
>
> ......
>
> If device 10 is properly wired, current flows through the miswire circuit 410 to activate SCR 404. SCR 404 energizes solenoid 406.

A426[12:30-49].

Again, the miswire protection circuit 410 shares the same actuator assembly (SCR 404 and solenoid 406) with the fault protection circuit 402, and the circuit interrupter trips from a reset state in response to a wire state condition.

The next embodiment is shown in Figure 5 of the '386 patent:

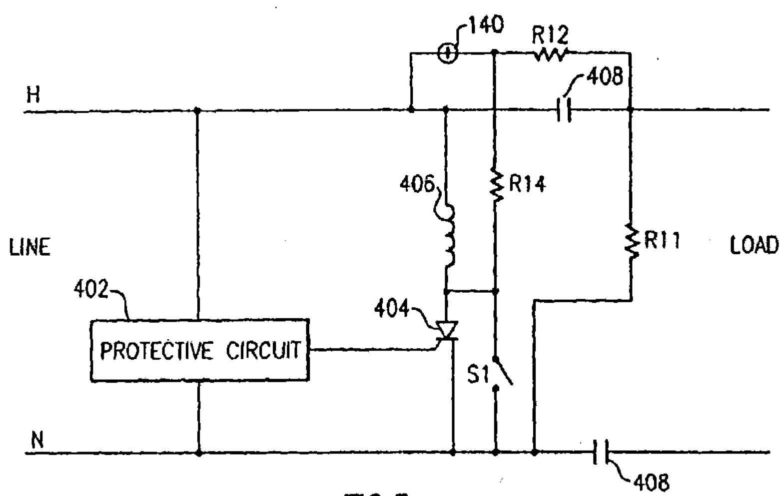


FIG.5

A416[Fig. 5]. As described in the specification of the '386 patent:

> FIG. 5 is another embodiment of the multi-shot miswire circuit. In this case, switch S1 is connected in parallel with SCR 404. If device 10 is properly wired, current flows through solenoid 406. Again, the armature moves in response thereto.

A425[12:60-64].

Same as in the other embodiments, the armature movement causes the circuit interrupter to trip from a reset state in response to a wire state condition. Still the miswire protection circuit shares the same actuator assembly (SCR 404 and solenoid 406) with the fault protection circuit 402.

The next embodiment is shown in Figure 6 of the '386 patent:

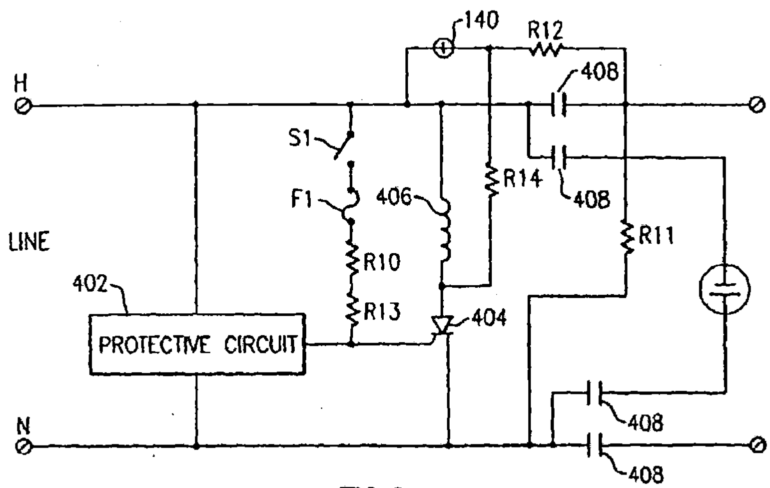


FIG.6

A416[Fig. 6].

As described in the specification of the '386 patent:

> FIG. 6 is a four pole version of the embodiment depicted in FIG. 4. Thus, this embodiment is very similar to the embodiment shown in FIG. 2 as well. ......
>
> The miswire circuit operates as follows. When the reset button is depressed, switch S1 is closed. If device 10 is properly wired, current flows through the miswire circuit 410 to activate SCR 404. SCR 404 energizes solenoid 406.

A426[13:5-23].

Similar to the embodiments shown earlier, solenoid 406 causes the circuit interrupter to trip from a reset state in response to a wire state condition. Again, the fault protection circuit 402 and the miswire protection circuit share the same actuator assembly (SCR 404 and solenoid 406).

The last embodiment described in the specification of the '386 patent is shown in Figure 7 thereof:

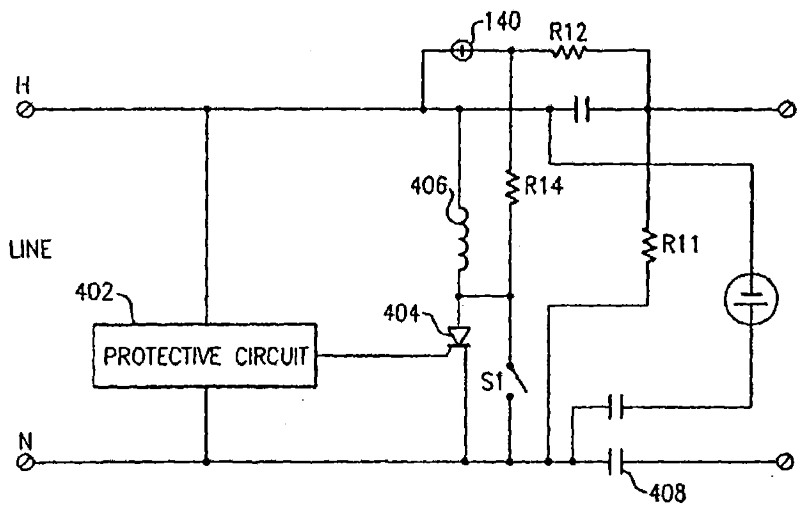


FIG.7

A417[Fig. 7].

As described in the specification of the '386 patent:

> Referring to FIG. 7, a three-pole version of the miswire circuit depicted in FIG. 5 is disclosed. ...... If device 10 is properly wired, current flows through solenoid 406 and the armature moves in response. The armature in solenoid 406 is configured to drive miswire lockout mechanism (not shown) into an unlocked state and the circuit interrupters 408 are tripped.

A426[13:35-45].

Once more, in this embodiment the protective circuit 402 and the miswire protection circuit share the same actuator assembly (SCR 404 and solenoid 406), which causes the circuit interrupter 408 to trip from a reset state in response to a wire state condition.

The above detailed review of the specification of the '386 patent confirms that the teachings therein supports the Commission's construction of claim 1 that the circuit interrupter be configured to trip in a reset state in response to an actuator signal that is generated in response to a wire state detection signal.

e. The Prosecution History

The Commission's proper construction of claim 1 of the '386 patent is further supported by the prosecution history of the '386 patent, which is also part of the intrinsic evidence to be considered for claim construction. *Graham v. John Deere Co.*, 383 U.S. 1, 33 (1966); *Multiform Desiccants, Inc. v. Medzam*, 133 F.3d 1473, 1478 (Fed. Cir. 1988).

In allowing claim 1 of the '386 patent, the Examiner said that it was

> "allowable because none of the prior art of record disclosed an electrical wiring protection device wherein [in addition to other limitations recited by the Examiner] ***an actuator assembly configured to provide an actuator signal in response to the wiring detection signal*** and ***a circuit interrupter disconnects the first conductive path from a second conductive path in response to the actual signal*** in combination with other claim limitations."

A56152 (*emphasis added*).

From the above paragraph it is clear that the Examiner has construed claim 1 to require not only that the actuator assembly provides "an actuator signal in response to the wiring state detection signal," but also that the circuit interrupter trips in "response" to that actuator signal.

The Examiner's construction tends to show how one of skill in the art would understand claim 1 at the time such claim was allowed. *Salazar v. Procter & Gamble Co.*, 414 F.3d 1342, 1347 (Fed. Cir. 2005). It further supports the Commission's correct construction of claim 1 of the '386 patent that it requires the circuit interrupter be configured to trip in a reset state in response to an actuator signal generated in response to a wire state detection signal.

2. **ELE's GFCIs Do Not Infringe Claim 1 Of The '386 Patent Under The Commission's Correct Construction Because It Does Not Trip In A Reset State In Response To A Wire State Detection Signal**

A patent claim is infringed by an accused device only if the device embodies every limitation of the claim. *Warner-Jenkinson* Co. *v. Hilton Davis Chem. Co.*, 520 U.S. 15, 29 (1997); *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1323 (Fed. Cir. 2002.) All claim elements and limitations are material and essential. If just one is missing, there can be no infringement. *Lemelson v. U.S.*, 752 F.2d 1538, 1551 (Fed. Cir. 1985.). Literal infringement occurs only when every element of a claim is met "exactly" in the accused device. *Southwall Technologies, Inc. v. Cardinal IG Co.*, 54 F.3d 1570-75 (Fed. Cir. 1995). (No infringement of the '386 patent is asserted against ELE's GFCIs under the Doctrine of Equivalents.)

Under the Commission's correct construction, ELE's GFCIs do not infringe claim 1 of the '386 patent because they do not have a circuit interrupter configured to trip in a reset state in respond to a wiring state signal.

It is uncontested that ELE's GFCIs never trip in response to their wiring state. A40679-80[1961-66]; A40808-89[2465-69]; A40451-52[1066-68]; A40454-55[1079-80]. P&S never presented any evidence to the contrary.

ELE's GFCIs do not respond to their wiring state while they are in a reset state. They are shipped in tripped condition. A40810[2470]; A40679[1961]. As shipped and originally installed, ELE's GFCIs are locked in a tripped state, with a mechanical block preventing the reset button from being pressed down until miswire protection is removed. A40810-11[2471-74]; A40679[1961-63]; A56371.

ELE's miswire protection operates solely while the GFCI remains in that tripped state, and it keeps the GFCI in the tripped state until the miswire protection components have completed their function and been deactivated. When ELE's GFCIs are correctly wired, current flows from the hot line terminal to SOL-2, activating that solenoid. A49061[Fig. 5] A48913[Fig. 8] (*supra*, pp. 12-13).

In ELE's GFCIs, movement of the plunger of the second solenoid SOL-2 moves the blocking piece that has been preventing the reset button from being pressed down while, at the same time, it also moves a switch plate, opening Switch K and thereby deactivating the miswire protection circuit. A40810[2471-73]; A40679-80[1963-64]; A56372. The miswire protection solenoid, SOL-2, is deactivated in the reset state. In reset state, it cannot function. It only functions in the tripped state. A40811[2474].

Here too, there is no factual dispute. P&S's expert agrees that, in ELE's GFCIs, the reset button cannot be pressed down until SOL-2 receives power and moves the physical barrier. A40676[1048-49].

P&S's expert also agrees that, in moving the physical block, SOL-2 also opens switch S2 and thereby "break[s] the circuit that [P&S's expert called] the wiring state detection circuit[.]" A40448[1050-52].

> Q. ... In Shanghai ELE's devices, it is never the case, that there is a wire state detection signal that causes the device to trip in the reset state?
>
> A. I agree with that.

A40454-55[1079-80].

The Commission correctly noted that

> Regarding infringement, P&S has provided no evidence that any respondents' product satisfies the "configured to disconnect" limitation under the Commission's construction. Specifically, P&S provides no evidence that any accused device is configured to trip in response to an actuator signal generated in response to the wiring state detection signal in the reset state.

A19[19:4-7].

The Commission correctly noted that "[t]he parties agree that the remaining accused devices are not configured to disconnect in response to their respective, identified actuator signals generated in response to a wiring state detection signal in the reset state." A19[19:15-17].

There can be no doubt that ELE's GFCIs do not have a circuit interrupter configured to trip in a reset state in response to a actuator signal that is generated in response to a wire state detection signal. As such ELE's GFCIs cannot infringe claim 1 of the '386 patent.

C. P&S'S ATTACKS ON THE COMMISSION'S CONSTRUCTION OF CLAIM 1 OF THE '386 PATENT ARE TOTALLY UNFOUNDED AND UNSUPPORTED BY ANY FACT OR LEGAL AUTHORITY

1. P&S Inappropriately Isolated The "Actuator Assembly" Limitation And The "Circuit Interrupter" Limitation By Ignoring Their Relation Through The "Actuator Signal"

P&S argues that the "circuit interrupter" limitation "***only*** requires tripping in response to an actuator signal in the reset state, and this actuator signal can result from a fault detection signal." P&S Opening Br. 26:17-19. This argument is wrong as it isolated the actuator assembly limitation and its relation to the circuit interrupter through the actuator signal.

In the "actuator assembly" limitation, claim 1 requires that an actuator signal be generated in response to either a fault detection signal or a wire state detection signal. A426[14:56-60]. In the "circuit interrupter" limitation, claim 1 requires that it trips the GFCI in the reset state in response to the actuator signal. The important connection here is the "actuator signal", which is generated and provided by the actuator assembly and received and responded to by the circuit interrupter assembly.

Since ***both*** the fault detection signal ***and*** the wire state detection signal can cause the actuator signal be generated, it logically follows that the circuit interrupter cannot be figured to respond only to a fault detection signal, as argued by P&S.

P&S appears to argue that because claim 1 requires the actuator signal be generated in response to *either* a fault detection signal *or* a wire state detection signal, a GFCI satisfies claim 1 as long as it trips in response to a fault detection signal. This is flatly wrong. A claim claiming "a device acts in response to A or B" is different from a claim claiming "a device comprises A or B". A device has only A not B will infringe the claim claiming "a device comprises A or B", but a device acts in response to A only but not B will not infringe the claim claiming "a device acts in response to A or B". Here, claim 1 of the '386 patent does not claim that its GFCI comprises fault detection or wire state detection. Rather, it claims a GFCI that trips in response to fault detection or wire state detection. This means that the GFCI must be configure to trip not only in response to fault detection, but also in response to wire state detection. If, as P&S argued, claim 1 only requires a GFCI that trips in response to fault detection, then its recitation of the "wire state detection" becomes completely superfluous. Why would there even be a need to recite a "wiring state detection circuit" and what would be the purpose of generating a "wiring state detection signal"?

2. <u>P&S's Attack On The Commission's Construction Based On P&S's Absurd Interpretation Of The "In The Reset State" Phrase Only Shows That It Lacks Any Credible Argument</u>

P&S also argued that the Commission's construction was wrong because it requires the GFCI "be configured to generate a wiring state detection signal ***in the reset state***" and trip in response to it." P&S Opening Br. 30:16-18. This attack is completely misplaced because the Commission did not construe claim 1 that way.

To be clear, the Commission construed the "circuit interrupter" as:

> to require that an infringing device be "configured to disconnect" in response to any and all of the signals that comprise the claimed "actuator signal." In other words, an infringing device must be configured to trip in response to the actuator signal generated in response to the wiring state detection signal ***when the device is in the reset state.***

A17[17:14-18] (*emphasis added*). The Commission's construction does not require the wire state detection signal be generated "in the reset state". Rather, the Commission's construction requires the device be configure to trip "when the device is in the reset state", in response to the actuator signal generated in response to the wiring state detection signal.

More absurd is P&S's argument that the phrase "in the reset state" in the "circuit interrupter" limitation of claim 1 modifies "the actuator signal". P&S Opening Br. 31:3-4.

In the "actuator assembly" limitation of claim 1 which recites the provision of the actuator signal, there is no such modification:

> an actuator assembly configured to provide an actuator signal in response to the fault detection signal or the wiring state detection signal;

A426[14:61-63].

Moreover, the language of the "circuit interrupter" limitation cannot be more clear what the "in the reset state" phrase is intended to modify:

> and a circuit interrupter coupled to the actuator assembly, the circuit interrupter being configured to disconnect the first conductive path from the second conductive path in response to the actuator signal in the reset state."

A426[14:64-68]. The "in the reset state" phrase is intended to modify the status of the GFCI when the circuit interrupter responds to the actuator signal and trips the GFCI. In other words, the "in the reset state" phrase requires that the GFCI is tripped from a reset state. From the extensive passages quoted earlier in this Brief from the '386 patent specification, it is clear that this is the correct interpretation of the "in the reset state" phrase. To the contrary, nothing in the plain language of claim 1 or the specification of the '386 patent suggests that the "in the reset state" phrase requires that the "wire state detection signal" or the "actuator signal" be generated in the reset state.

P&S's incongruous arguments made in connection with the "in the reset state" phrase is nothing but a failed effort to hide the inevitable conclusion that it does not have any meritorious basis to attack the Commission's proper construction of claim 1 of the '386 patent.

3. The Commission's Construction Of Claim 1 Is Totally Consistent With A Proper Construction Of Claim 9

Lastly P&S argued that the Commission's construction of claim 1 would "conflict with how essentially identical clam language must be interpreted in" claim 9. P&S Opening Br. 33:1-2. This argument is again groundless, because it is entirely rooted upon P&S's own misunderstanding of the Commission's construction of claim 1.

The table below provides a quick comparison of the respective limitations of claims 1 and 9, which reveals that these two claims are very similar except claim 9's addition of a reset button:

Limitation	Claim 1	Claim 9
Preamble	An electrical wiring protection device comprising:	An electrical wiring protection device comprising:
Housing	a housing assembly including at least one line terminal and at least one load terminal partially disposed therein;	a housing assembly including at least one line terminal and at least one load terminal partially disposed therein;
First conductive path	a first conductive path electrically coupled to the at least one line terminal;	a first conductive path electrically coupled to the at least one line terminal;
Second conductive path	a second conductive path electrically coupled to the at least one load terminal, the second conductive path being connected to the first conductive path in a reset state;	a second conductive path electrically coupled to the at least one load terminal, the second conductive path being connected to the first conductive path in a reset state;

Fault detection circuit	a fault detection circuit coupled to the first conductive path, the fault detection circuit being configured to generate a fault detection signal in response to detecting at least one fault condition;	a fault detection circuit coupled to the first conductive path, the fault detection circuit being configured to generate a fault detection signal in response to detecting at least one fault condition;
Reset button		a reset button coupled to the at least one line terminal;
Wiring state detection circuit	a wiring state detection circuit coupled to the first conductive path, the wiring state detection circuit selectively providing a wiring state detection signal when the at least one line terminal is coupled to a source of AC power;	a wiring state detection circuit coupled to the reset button, the wiring state detection circuit selectively providing a wiring state detection signal when the reset button is actuated and the at least one line terminal is coupled to a source of AC power;
Actuator assembly	an actuator assembly configured to provide an actuator signal in response to the fault detection signal or the wiring state detection signal; and	an actuator assembly configured to provide an actuation stimulus in response to the fault detection signal or the wiring state detection signal; and
Circuit interrupter	a circuit interrupter coupled to the actuator assembly, the circuit interrupter being configured to disconnect the first conductive path from the second conductive path in response to the actuator signal in the reset state.	a circuit interrupter coupled to the actuator assembly, the circuit interrupter being configured to disconnect the first conductive path and the second conductive path in response to the actuation stimulus in the reset state.

A426-27[14:43-67; 15:36-62].

As indicated earlier, the only significant differences between claims 1 and 9 are: (1) the addition of a reset button in claim 9; and (2) the "wiring state detection circuit" limitation of claim 9 requires "the wiring state detection circuit selectively providing a wiring state detection signal when the reset button is actuated."

However, nothing in a proper construction of claim 9 would conflict with the Commission's construction of claim 1.

As discussed above, the Commission's construction places no requirement that the wiring state detection signal be provided in the reset state. Rather, the "in the reset state" phrase is construed to modify the state in which the circuit interrupter is responding to an actuator signal and from which the GFCI is tripped. This construction does not specify the state of the GFCI in which the wiring state detection signal is provided. In other words, under claim 1, the wiring state detection signal may be provided in the reset state or in the tripped state.

A proper construction of the claim 9 would require that the wire state detection signal be provided in the reset state. This is because when the reset button is actuated, the GFCI is in the reset state. Therefore, under claim 9 the wiring state detection signal is provided in the reset state.

Now where is the conflict in these constructions? There is no conflict as it is a common practice in claim drafting to have a different and more narrow claim (claim 9 here) to provide a more limiting requirement.

CONCLUSION

For the reasons set forth in detail above, it is respectfully submitted that the Commission's final determination that claim 1 of the '386 patent was not infringed by ELE's GFCIs is correct and should be affirmed.

Respectfully submitted,

Dated: November 19, 2009

Tony D. Chen
CAYWIN LAW GROUP
1901 Avenue of the Stars, Suite 200
Los Angeles, California 90067
Telephone 310.871.2598

Counsel for Appellant Shanghai ELE Manufacturing Corporation