

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

WANGS ALLIANCE CORPORATION d/b/a WAC LIGHTING CO.,  
Petitioner,

v.

KONINKLIJKE PHILIPS N.V.,  
Patent Owner.

---

Case IPR2015-01287  
Patent 6,013,988

---

Before GLENN J. PERRY, TREVOR M. JEFFERSON, and  
MIRIAM L. QUINN, *Administrative Patent Judges*.

QUINN, *Administrative Patent Judge*.

DECISION  
Institution of *Inter Partes* Review  
37 C.F.R. § 42.108

Wangs Alliance Corporation (“Petitioner”) filed a Petition to institute *inter partes* review of claims 1 and 2 of U.S. Patent No. 6,013,988 (“the ’988 patent”) pursuant to 35 U.S.C. § 311–319. Paper 2 (“Pet.”). Koninklijke Philips N.V. (“Patent Owner”) timely filed a Preliminary Response. Paper 6 (“Prelim. Resp.”). We have jurisdiction under 35 U.S.C. § 314.

For the reasons that follow, we institute *inter partes* review with respect to claims 1 and 2 of the ’988 patent, as identified in this Decision.

## I. BACKGROUND

### A. RELATED MATTERS

Petitioner states that the patent-at-issue is the subject matter of a district court case filed in the U.S. District Court for the District of Massachusetts (Case No. 14-cv-12298-DJC). Pet. 1.

### B. ASSERTED GROUNDS

Petitioner contends that claims 1 and 2 (“the challenged claims”) are unpatentable under 35 U.S.C. § 102 and § 103 based on the following specific grounds (Pet. 3):

Reference[s]	Basis	Claims Challenged
Hochstein <sup>1</sup> and Hildebrand <sup>2</sup>	§ 103	1 and 2

---

<sup>1</sup> U.S. Patent No. 5,661,645 (Exhibit 1003) (“Hochstein”).

<sup>2</sup> U.S. Patent No. 5,075,601 (Exhibit 1005) (“Hildebrand”).

Reference[s]	Basis	Claims Challenged
Perry <sup>3</sup>	§ 102	1 and 2

C. THE '988 PATENT (EX. 1001)

The '988 patent is directed to a circuit arrangement for operating a semiconductor light source, or light emitting diode (“LED”) lights. Ex. 1001, 1:11–18. The '988 patent describes that control units in existing signaling systems often conduct “leakage current” when the control unit is in a non-conducting, or off, state. *Id.* at 1:36–38.

Figure 1 of the '988 patent, reproduced below, illustrates the control unit VB and semiconductor light source LB, or LED light.

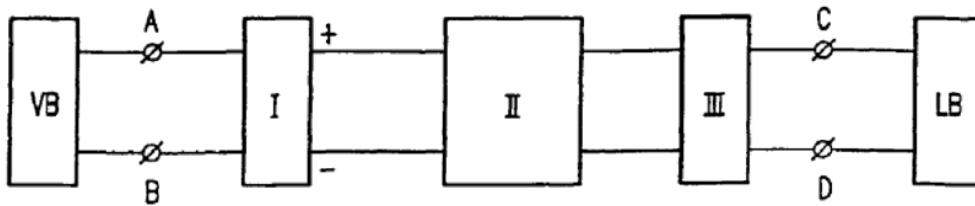
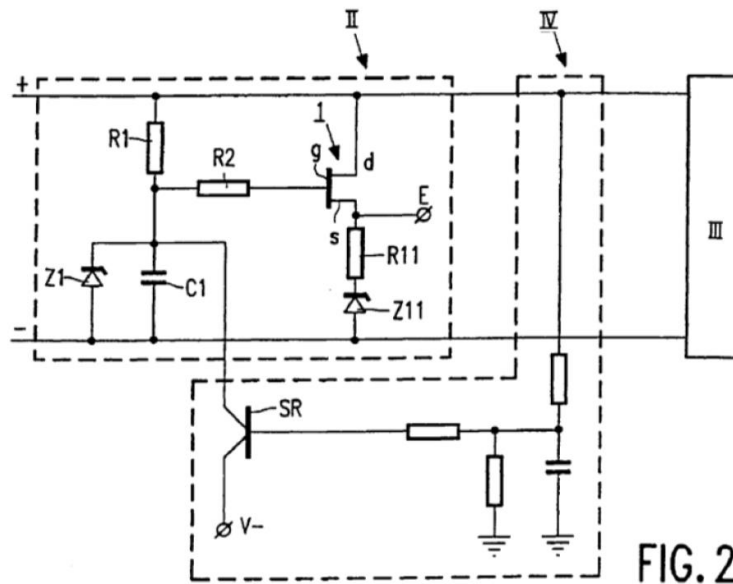


FIG. 1

Figure 1 depicts connection terminals A and B, input filter means I, self-regulating current-conducting network II, converter III, and output terminals C and D. *Id.* at 2:55–62. Figure 2, reproduced below shows an embodiment of the self-regulating current-conducting network II. *Id.* at 2:63–3:13.

---

<sup>3</sup> U.S. Patent No. 6,150,771 (Exhibit 1004) (“Perry”).



According to the embodiment depicted in Figure 2, above, when the control unit is switched on, the voltage at the positive pole + will rise, and switch SR becomes conducting, cutting off MOSFET 1, resulting in self-regulating current-conducting network II being deactivated. *Id.* at 3:21–25.

#### D. ILLUSTRATIVE CLAIMS

The challenged claims are reproduced below.

1. A circuit arrangement for operating a semiconductor light source, said circuit arrangement comprising:

connection terminals for connecting the circuit arrangement to outputs from a control unit for controlling the semiconductor light source;

input filter means coupled to the connection terminals;

a converter comprising a control circuit, said converter being coupled to output means of the input filter means; and

output terminals for coupled to output means of said

converter for connecting said circuit arrangement to the semiconductor light source,

characterized in that said converter comprises a switched-mode power supply for providing power to said semiconductor light source, said switched-mode power supply having a switching element which is cyclically switched on and off by said control circuit, and the circuit arrangement further comprises a self-regulating current-conducting network coupled between said filter means and said converter, said self-regulating current-conducting network draining off a leakage current in the control unit when said control unit is in a non-conducting state.

2. The circuit arrangement as claimed in claim 1, characterized in that the circuit arrangement comprises means [f]or deactivating the self-regulating current-conducting network [w]hen the converter is switched on.

## II. ANALYSIS

### A. CLAIM INTERPRETATION

The Board interprets claims of an unexpired patent using the “broadest reasonable construction in light of the specification of the patent in which [they] appear[.]” 37 C.F.R. § 42.100(b). We presume that claim terms have their ordinary and customary meaning. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007) (“The ordinary and customary meaning ‘is the meaning that the term would have to a person of ordinary skill in the art in question.’”).

Petitioner and Patent Owner have proposed constructions for various terms. *See* Pet. 3–10; Prelim. Resp. 11–23. We do not need to construe every term proposed by the parties if the construction is not helpful in our

determination of whether to institute trial. Our discussion of the relevant claim terms follows.

1. “*input filter means*”

Petitioner asserts that claim 1 is indefinite because, 1) the term “input filter means” recites subject matter in means-plus-function format, and 2) the specification fails to describe sufficient structure in accordance with 35 U.S.C. § 112, ¶ 6. Pet. 4–7. In the alternative, Petitioner argues that the broadest reasonable construction for this term is “an electric circuit or device which selectively transmits or rejects input signals in one or more intervals of frequencies.” Pet. 6–7 (relying on various dictionary definitions filed as Exhibits 1011, 1012, and on the Declaration of Mr. Tingler, Exhibit 1006, ¶ 25).

Patent Owner does not agree that the term is indefinite because it is not drafted in means-plus-function format. Prelim. Resp. 14–15. In particular, Patent Owner contends that the term recites no function and that the term recites sufficient structure, i.e., “input filter.” *Id.* Furthermore, Patent Owner sets forth evidence in the form of expert testimony that the term “input filter” identifies structure to a person of ordinary skill in the art. *Id.* at 15–16 (citing testimony of Dr. Batarseh, Exs. 1008–09, and of Dr. Smith, Ex. 2002).

We agree with Patent Owner that the term “input filter means” is not a means-plus-function term because it recites sufficient structure. Although the term is presumptively a means-plus-function claim limitation under 35 U.S.C. § 112, paragraph 6, the presumption can be rebutted “if the evidence intrinsic to the patent and any relevant extrinsic evidence so warrant.” *Personalized Media Comm’ns, LLC v. Int’l Trade Comm’n*, 161

F.3d 696, 704 (Fed. Cir. 1998). In this case, “input filter means” are not associated with a recited function and “input filter” is itself a structure. *See York Prod., Inc., v. Cent. Tractor Farm & Family Ctr.*, 99 F.3d 1568, 1574 (Fed. Cir. 1996) (“Without a ‘means’ sufficiently connected to a recited function, the presumption in use of the word ‘means’ does not operate.”). Notwithstanding that an “input filter” is not a specific structure, it is sufficient “if the claim term is used in common parlance or by persons of skill in the pertinent art to designate structure, even if the term covers a broad class of structures and even if the term identifies the structures by their function.” *Lighting World, Inc., v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1359–1360 (Fed. Cir. 2004).

Furthermore, the evidence of record shows that the term “filter” has generally understood meaning, even though the noun is derived from the function it performs. For example, as evidence of the meaning of “filter,” a dictionary defines the word as “[a]n electric circuit or device which selectively transmits or rejects signals in one or more intervals of frequencies.” *Definition filter*, WILEY ELECTRICAL AND ELECTRONICS ENGINEERING DICTIONARY, 285 (Steven M. Kaplan, 2004) (Ex. 1011). *See also Definition filter*, MCGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS, 715 (4<sup>TH</sup> ed., 1989) (“In general, a selective device that transmits a desired range of matter or energy while substantially attenuating all other ranges.”) (Ex. 1012). In the context of claim 1, and guided by the evidence of the meaning of “filter,” the term “input filter means” means an electronic circuit or device that selectively transmits or rejects signals in one or more intervals or frequencies. The word “input” connotes that the claimed filter is located at the input stage of the circuit arrangement. *See*

Ex. 1001, Fig. 1, 4:11–14 (describing terminal A as an input terminal). The location of the filter, however, need not be clarified further because the claim recites the devices and terminals the input filter means is coupled to, according to the claims, e.g., coupled to the connection terminals.

Therefore, in accordance with the ordinary and customary meaning of the claim, and consistent with the specification (Ex. 1001, 2:19–24) for purposes of this Decision, we construe “input filter means” as an electronic circuit or device that selectively transmits or rejects signals in one or more intervals or frequencies.

2. “*output means*”

Petitioner asserts that the term “output means” is not amenable to construction. Pet. 7–8. In particular, Petitioner argues that “output means” is a means-plus-function term, and the specification fails to identify structure linked to the alleged function of this term. *Id.* We do not agree with Petitioner that the term “output means” is a means-plus-function term.

Instead, we find persuasive Patent Owner’s arguments that the term “output means” does not recite a function and that “output” recites sufficient structure. Prelim. Resp. 19–20 (arguing that “output” means output connection or connections of a circuit). In particular, we find that “output” refers to the signal delivered out of the circuit or device. The claim supports this interpretation when it recites two “output means:” “output means of the input filter means” and “output means of said converter.” Regarding the “input filter means,” the claim requires the converter to couple to the input filter’s output, which is described in the specification as “a positive pole + and a negative pole – .” Ex. 1001, 2:60–62, 3:3–6, 3:20–21. Regarding the “converter,” the claim requires that output terminals of the circuit



arrangement couple to the output of the converter. The word “output” is a noun that takes its name from the function it performs: delivery of an output signal or data. *See Definition output*, WILEY ELECTRICAL AND ELECTRONICS ENGINEERING DICTIONARY, 541 (Steven M. Kaplan, 2004) (Ex. 3001) (defining *output* (2) as “[t]he energy, voltage, current, or other signal delivered or produced by a component, circuit device, piece of equipment, system, or process. For example, a voltage output taken from an electronic device. Also, to deliver or provide such a signal.”).

We do not agree with Patent Owner that “output means” are an output *connection* because the claim recites specific connection terminals and output terminals as providing connection (“connection terminals for connecting” and “output terminals . . . for connecting”). Furthermore, the dictionary definition of output referred to above defines the noun as either the signal that is provided by the circuit or the terminals from which such a signal is delivered. *Id.* (see definition number 4, “[t]he terminals of a component, circuit, device, or piece of equipment from which an output (2) is delivered. Also called output terminals.”). The claim distinctly recites terminals as output terminals, i.e., output terminals coupled to output means. Construing the “output means” as an output connection would make redundant the “output terminals,” which are recited precisely for the purpose of connecting the circuit to the semiconductor light source. Therefore, in accordance with the ordinary and customary meaning of the term “output,” the claim language, and in the context of the specification, we construe “output means” as the signal that is delivered.

3. “means [f]or deactivating”

Both parties agree that this term is drafted in means-plus-function format. Both parties also agree that the recited function is “deactivating the self-regulating current-conducting network [w]hen the converter is switched on.” The parties, however, disagree on whether the structure should refer to a transistor and a voltage divider, or a transistor and a voltage divider arranged in a certain way to perform the recited function. *See* Prelim. Resp. 21 (“In particular, the ’988 specification discloses a voltage divider arranged so that the voltage-divided signal is supplied to the gate of the transistor, as shown in annotated Figure 2 below.”).

Patent Owner also proffers that the “means for deactivating” must be distinct from the “self-regulating current-conducting network.” *Id.* at 22. The issue is relevant to claim construction because the function of the “means for deactivating” is to deactivate another device, namely the “self-regulating current conducting network.”

We agree with Patent Owner that the “means for deactivating” must be a transistor and voltage divider that perform the recited function. But we do not agree that the voltage divider is connected to the transistor precisely in the manner depicted in Figure 2 of the ’988 patent. Although Figure 2 describes the voltage divider connected in a certain way to the transistor, the structure of a means-plus-function term is construed to “cover the corresponding structure . . . described in the specification *and equivalents thereof.*” 35 U.S.C. § 112, ¶ 6 (emphasis added). Furthermore, to satisfy the claim language, the arrangement of the transistor and voltage divider must perform the recited function. Accordingly, we see no need to restrict further

the corresponding structure of a transistor and voltage divider that perform the recited function.

As for requiring the “means for deactivating” to be a structure distinct from the “self-regulating current-conducting network,” we agree with Patent Owner. On this point, our reviewing court stated in *Becton, Dickinson and Co. v. Tyco Healthcare Group, LP*,<sup>4</sup> that:

Where a claim lists elements separately, “the clear implication of the claim language” is that those elements are “distinct component[s]” of the patented invention. *Gaus v. Conair Corp.*, 363 F.3d 1284, 1288 (Fed. Cir. 2004); *Engel Indus., Inc. v. Lockformer Co.*, 96 F.3d 1398, 1404-05 (Fed. Cir. 1996) (concluding that where a claim provides for two separate elements, a “second portion” and a “return portion,” these two elements “logically cannot be one and the same”).

The language of claim 2 adds the “means for deactivating” to the circuit arrangement of claim 1, which comprises a “self-regulating current conducting network.” That is, the two elements—“means for deactivating” and “self-regulating current-conducting network”—are separately listed elements and distinct components of the claimed circuit arrangement. The specification confirms that the “means for deactivating” is separate and distinct from the “self-regulating current-conducting network.” For example, Figure 2 depicts, without overlap, the

---

<sup>4</sup> 616 F.3d 1249, 1254 (Fed. Cir. 2010).

“means for deactivating” as circuit labeled IV and the self-regulating current-conducting network” as the circuit labeled II. Ex. 1001, 3:14–16.

Accordingly, we determine that the “means for deactivating” is a transistor and voltage divider that deactivate the self-regulating current-conducting network when the converter is switched on, and where the “means for deactivating” is separate and distinct from the “self-regulating current-conducting network.”

#### *4. Other Claim Terms*

Petitioner has proposed a construction for the term “leakage current.” Patent Owner contends that construction of the term is not needed to resolve the dispute. Prelim. Resp. 20. We agree with Patent Owner that we do not need to construe this term. Because we have construed the terms relevant to the controversy, no express constructions for other claim terms are necessary at this time.

### B. OBVIOUSNESS GROUNDS BASED ON HOCHSTEIN AND HILDEBRAND

Petitioner asserts one ground predicated on the combination of Hochstein and Hildebrand.

#### *1. Overview of Hochstein (Ex. 1003)*

Hochstein relates to a power supply for operating light emitting diode (“LED”) array traffic signals. Ex. 1003, 1:5–8. The Hochstein apparatus provides a boost, buck/boost or buck, switch-mode converter to a power line operated LED array. *Id.* at 3:34–36. It includes an adaptive clamp circuit upstream of a rectifier input for preventing leakage current problems. *Id.* at

3:41–43. One embodiment of the Hochstein apparatus is depicted in Figure 5, reproduced below.

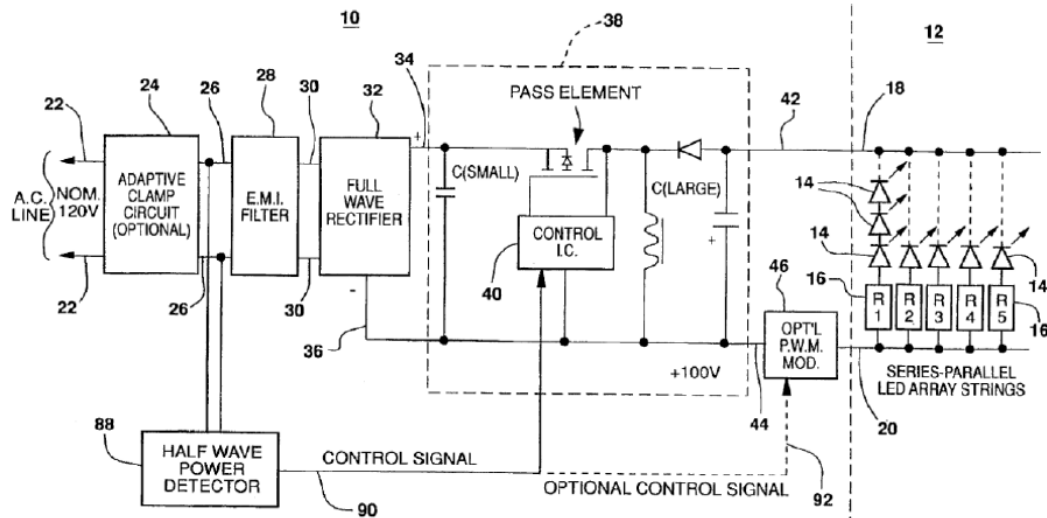


Figure 5 depicts regulated voltage, switch-mode power supply 10 with a pair of input lines 22 and an optional adaptive clamp circuit 24. *Id.* at 5:11–15. The output of adaptive clamp circuit 24 is connected to an input of an electromagnetic interference (“E.M.I.”) filter 28, which prevents conducted interference from feeding back into the power lines. *Id.* at 5:31–35. Lines 34 and 36 connect to an input of a power factor correction, buck/boost converter 38, which includes a power factor correction (“P.F.C.”) integrated circuit controller 40. *Id.* at 41–45. The output voltage of PFC switch-mode converter 38 is fed directly to LED array 12, or alternatively through pulse width modulated (“P.W.M.”) modulator 46. *Id.* at 5:66–6:1.

## 2. Overview of Hildebrand (Ex. 1005)

Hildebrand is directed to power supplies for gas discharge lamps, such as fluorescent or neon lamps, used with pedestrian or traffic signals. *See* Ex. 1005 at 1:6–20. In particular, Hildebrand describes using fluorescent or neon lamps with switches that exhibit leakage current, which can cause

monitoring circuits associated with the traffic signals to malfunction. *Id.* at 1:28–33.

Figures 1A and 1B, reproduced below, illustrate the Hildebrand power supply, which includes a “dynamic load circuit” that is designed so that the current shunted to ground is high at low input voltages and low at high input voltages. *Id.* at 1:44–46.

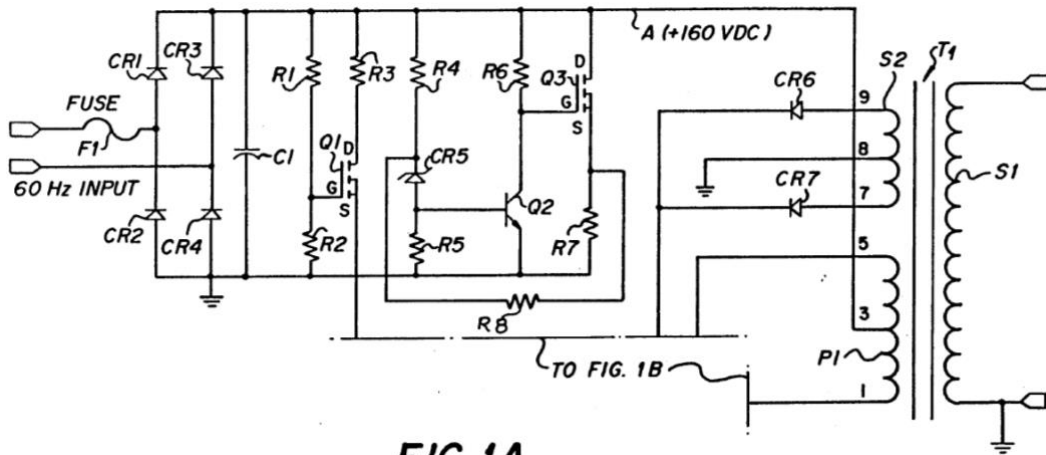


FIG. 1A

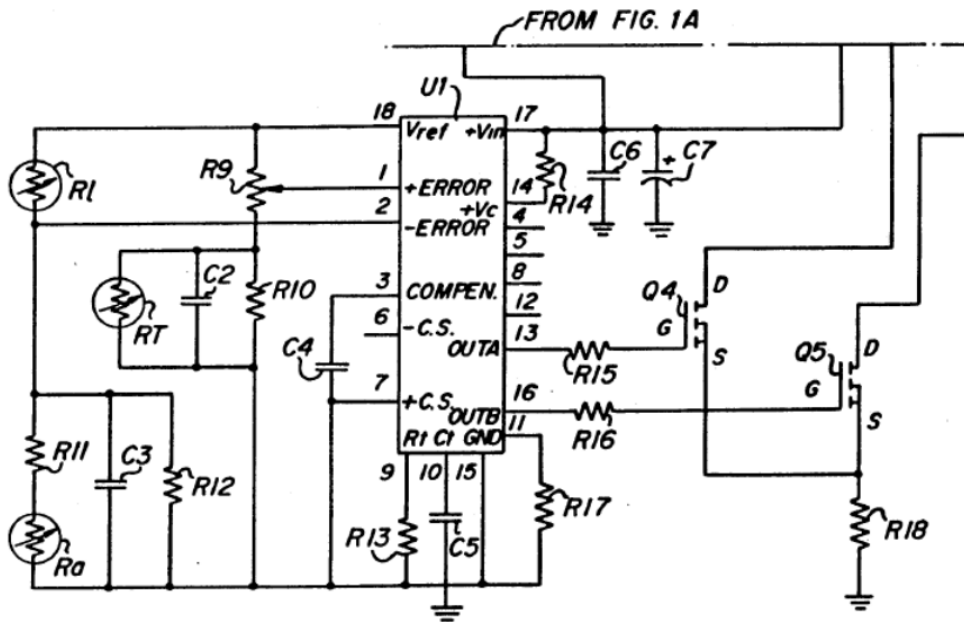


FIG. 1B

As shown in Figure 1A, Hildebrand discloses that a rectifier bridge—made up of diodes CR1-CR4—is connected to the A.C. line input. *Id.* at 2:23–26. Diodes CR1-CR4, together with capacitor C1, provides a “capacitive filtered DC power supply with nominal output voltage of 160 volts DC” to the “start-up power supply,” which includes transistor Q1 and resistors R1–R3. *Id.* at 2:29–33, 4:1–25. The circuit also includes a “dynamic load circuit,” which includes transistors Q2 and Q3, diode CR5, and resistors R4–R7. *Id.* at 5:51–6:6.

The Hildebrand power supply includes a “switching regulator” circuit, which is designed around integrated circuit U1, shown in Figure 1B. *Id.* at 2:34–36. The fluorescent or neon lamp to be energized is connected to secondary winding S1 of transformer T1, and the output of the switching regulator is attached to primary winding P1 of the transformer T1. *Id.* at 2:37–41. The switching regulator implements a “push-pull” architecture, which alternatively switches on and off transistors Q4 and Q5. *Id.* at 2:46–55. This architecture provides the A.C. power required by the fluorescent or neon lamps. *See id.* at 2:46–58.

### 3. Discussion

Petitioner contends that Hochstein discloses most of the limitations of claims 1 and 2. Pet. 17–35. The differences between the claims and the prior art are described in detail in the Petition. The Petition also states a rationale for the combination, which Patent Owner challenges as an insufficient showing of obviousness (Prelim. Resp. 30).

Specifically, Petitioner relies on Hochstein’s adaptive clamp circuit 24 as teaching the self-regulating current-conducting network. Pet. 29–30.

Hochstein, however, does not teach that circuit 24 is coupled between the EMI filter (the “input filter means”) and buck/boost converter 38 (the “converter”). Nevertheless, because Hochstein’s circuit 24 is described as “optional,” Petitioner argues that a person of ordinary skill in the art “would have understood that it would be obvious to place the adaptive clamp circuit 24 could between the EMI filter and the converter on the line, and that the placement of the adaptive clamp circuit 24 before the EMI filter on the line in Figure 5 is only illustrative.” *Id.* at 30–31.

Having reviewed the Petition, the supporting evidence, and Patent Owner’s arguments in rebuttal, we determine that the rationale presented by Petitioner is sufficient, for purposes of this Decision. The rebuttal arguments are presented as two contentions: 1) that the Petition fails to address fundamental differences between Hochstein and Hildebrand; and 2) that Hochstein teaches away from Hildebrand. We find neither of these arguments persuasive at this time.

First, we do not agree with Patent Owner that the “Petition gives *no* reason” for the alleged combination. Prelim. Resp. 30. As stated above, the Petition states a rationale for the combination. Also, we are not persuaded by Patent Owner’s argument that the alleged combination fails to account for the differences between Hochstein and Hildebrand. Prelim. Resp. 31–32. This argument appears to focus on the incorporation of Hildebrand’s features into Hochstein’s system. But we do not look to “whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference . . . . Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. *In re Keller*, 642 F.2d 413, 425 (CCPA 1981) (citations omitted).



Finally, we are not persuaded at this time that a reference teaches away merely because it is concerned with solving a problem that the components of the secondary reference do not solve. *See* Prelim. Resp. 38 (arguing that Hochstein’s teachings on power factor correction teach away from having at the input a rectifier-capacitor combination, such as that of Hildebrand). Instead, we see Petitioner’s contention as relying on the teachings of Hildebrand’s design to relocate Hochstein’s adaptive clamp circuit 24 to the output of EMI filter 28 and before converter 38. *See* Pet. 32 (arguing that combining the *teachings* of Hochstein with the *teachings* of Hildebrand “to appreciate that the adaptive clamp circuit 24 can be coupled between the EMI filter and the converter”). Again, we focus on the combination of the *teachings* in Hochstein and Hildebrand, not on the combination of their features or components. *See In re Keller*, 642 F.2d at 425. Furthermore, even if the alleged benefits of Hildebrand’s features (rectifier-capacitor combination and AC-driven architecture) were less relevant to the teachings of Hochstein, we are not persuaded that Hildebrand’s teachings are irrelevant or non-beneficial in their entirety. *Winner Int’l Royalty Corp. v. Wang*, 202 F.3d 1340, 1349 n. 8 (Fed. Cir. 2000) (“The fact that the motivating benefit comes at the expense of another benefit, however, should not nullify its use as a basis to modify the disclosure of one reference with the teachings of another. Instead, the benefits, both lost and gained, should be weighed against one another.”). We also credit the testimony of Dr. Tingler, Petitioner’s declarant, who opines that the swapped placement of adaptive clamp circuit 24 “would not affect the overall function of the system.” Ex. 1006, ¶¶ 78, 94. Nothing in the record, at this juncture, has shown otherwise.

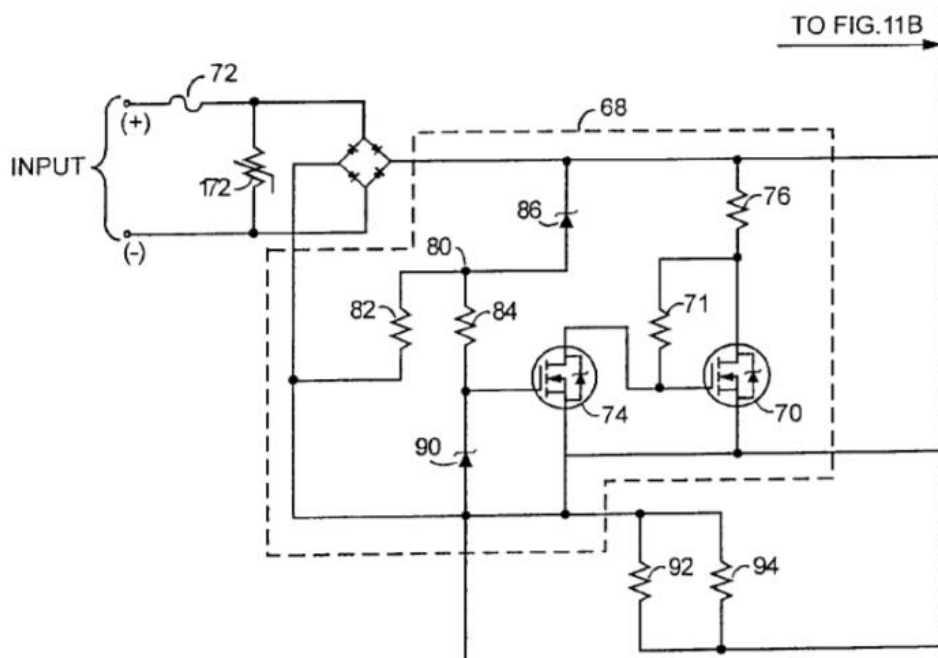
Accordingly, on the record before us, we determine that Petitioner has shown sufficiently a reasonable likelihood that it will prevail in its contention that claims 1 and 2 of the '988 patent are unpatentable over the combination of Hochstein and Hildebrand.

### C. ANTICIPATION BY PERRY

Petitioner asserts one ground of anticipation by Perry.

#### 1. Overview of Perry (Ex. 1004)

Perry is directed to a circuit for interfacing between a conventional traffic signal's control monitor and a plurality of LEDs. Ex. 1004 at Abstract. Perry's circuit includes a power factor corrected current source for driving the LEDs. *Id.* at 2:55–56. It also includes a circuit that short circuits incoming current that is below a certain value, indicating signal light turn off, and that opens up when the incoming current exceeds this value, indicating signal light turn on. *Id.* at 2:54–67, 7:58–59. Figure 11A, shown below, illustrates switching circuit 68.



As shown in Figure 11A above, Perry addresses voltage surges on the input line by providing line fuse 72 and metal oxide varistor (MOV) 172.

*See id.* at 9:61–63, Fig. 11A. Perry explains further that,

The MOV 172 can react to over voltage situations in a few nanoseconds to absorb an energy spike of up to 42 joules. If the over voltage situation lasts for very long, fuse 72 will open. Thus, in the case of short term spikes, MOV 172 acts as a clamp to protect the remaining circuitry. If this spike is of sufficient duration, fuse 72 will open before MOV 172 reaches its maximum energy dissipation.

*Id.* at 9:63–10:3.

## 2. Discussion

Petitioner describes in detail its contention of how Perry discloses all the limitation of claims 1 and 2. Pet 35–47. Two disclosures are relevant to our determination. First, Perry uses a metal oxide varistor (“MOV”) 172 to suppress input voltage surges, which Petitioner contends discloses the “input filter means,” recited in claim 1. Pet. 37–38. Second, Perry describes switching circuit 68 and transistor 70 arranged with voltage divider R71, R76 according to Figures 8 and 11A, which Petitioner contends disclose the “self-regulating current-conducting network” and “means for deactivating,” respectively. Patent Owner challenges these disclosures as insufficient for two reasons: 1) a varistor is not the “input filter means” of claim 1, properly construed; and 2) the transistor and voltage divider alleged to disclose the “means for deactivating” are part of switching circuit 68, and, are, therefore, not distinct and separate elements as required by claim 2.

Claim 1

We do not agree with Patent Owner that Perry's varistor does not disclose the "input filter means," as we have construed the term. Our definition of "input filter means" is an electronic circuit or device that selectively transmits or rejects signals in one or more intervals of frequencies. To meet this limitation, the alleged filter does not have to suppress voltage surges *based on* frequency. The definition may encompass a filter that operates on "one or more intervals of frequencies." Accordingly, we are not persuaded by the argument that the voltage suppression of Perry's varistor does not fall within our definition of "input filter means" merely because Perry's suppression is independent of frequency.

Having reviewed the Petition, the supporting evidence, and the information submitted by Patent Owner concerning the Perry ground against claim 1, we determine that Petitioner has shown a reasonable likelihood of prevailing in its contention that claim 1 is unpatentable over Perry.

Claim 2

As for Patent Owner's second argument, we agree that Petitioner has failed to show sufficiently that Perry discloses the recited "means for deactivating," given the overlap with the "self-regulating current-conducting network." We discussed in section II.A.3, above, that the "means for deactivating" is separate and distinct from the "self-regulating current-conducting network." In its assertion of unpatentability, Petitioner identified as the "means for deactivating" components that are integral to Perry's switching circuit 68. Accordingly, Petitioner has failed to show that Perry discloses a "means for deactivating."

Furthermore, we find that Petitioner has not explained sufficiently that the identified transistor and voltage divider in Perry perform the function of the “means for deactivating.” In particular, Petitioner asserts that when the current, passing through transistor 70 and resistor 76, rises beyond a predetermined threshold (as the converter is turned on), transistor 74 turns on, which causes transistor 70 to be turned off. Pet. 46. Petitioner has identified transistor 70 and voltage divider R71, R76 as the “means for deactivating.” *Id.* at 46–47. The function that these components would have to perform is “deactivating the self-regulating current-conducting network when the converter is switched on.” It is transistor 74, however, the one that deactivates transistor 70, thereby removing switching circuit 68 from the rest of the interface circuit. Ex. 1004, 7:20–26; Pet. 46–47. That is, even if we were to accept the identification of transistor 70 and voltage divider R71, R76 as the “means for deactivating,” we are not persuaded that Petitioner has shown sufficiently that these devices perform the recited function. Therefore, we are not persuaded that Petitioner has shown sufficiently that Perry discloses the “means for deactivating.”

Accordingly, we determine that Petitioner has not shown a reasonable likelihood of prevailing in its contention that claim 2 is unpatentable over Perry.

### III. CONCLUSION

For the foregoing reasons, we institute *inter partes* review of the '988 patent with respect to claims 1 and 2 on the ground based on Hochstein and Hildebrand. We also institute *inter partes* review with respect to claim 1 on the ground based on anticipation by Perry.

We deny the Petition with respect to claim 2 on the ground based on anticipation by Perry.

The Board has not made a final determination on the patentability of the challenged claims, nor has the Board made a final determination of any underlying factual or legal issue.

#### IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that the Petition is granted as to claims 1 and 2 of the '988 patent;

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(a), *inter partes* review of the '988 patent is hereby instituted with trial commencing on the entry date of this Decision, and pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of trial; and

FURTHER ORDERED that the trial is limited to the grounds on which we institute *inter partes* review identified in the Conclusion, and that all other grounds are *denied*.

IPR2015-01287  
Patent 6,013,988

PETITIONER:

David Radulescu (Lead Counsel)  
Angela Chao (Back-up Counsel)  
[david@radulesculp.com](mailto:david@radulesculp.com)  
[angela@radulesculp.com](mailto:angela@radulesculp.com)  
Radulescu LLP.

PATENT OWNER:

Denise DeFranco (Lead Counsel)  
Brandon Rash (Back-up Counsel)  
[denise.defranco@finnegan.com](mailto:denise.defranco@finnegan.com)  
[Brandon.rash@finnegan.com](mailto:Brandon.rash@finnegan.com)