Trials@uspto.gov
Tel: 571-272-7822

Paper: 47
Entered: August 26, 2019

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DONNER TECHNOLOGY, LLC,
Petitioner,

v.

PRO STAGE GEAR, LLC,
Patent Owner.

Case IPR2018-00708
Patent 6,459,023 C1

Before KEVIN C. TROCK, JOHN A. HUDALLA, and STACY B. MARGOLIES, *Administrative Patent Judges*.

HUDALLA, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
Inter Partes Review
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

Petitioner, Donner Technology, LLC ("Petitioner"), filed a Petition (Paper 2, "Pet.") requesting an *inter partes* review of claims 9–13 and 22–30 of U.S. Patent No. 6,459,023 C1 (Ex. 1001, "the '023 patent"). Patent Owner, Pro Stage Gear, LLC ("Patent Owner"), filed a Preliminary Response (Paper 6, "Prelim. Resp."). Taking into account the arguments presented in Patent Owner's Preliminary Response, we initially denied

institution of an *inter partes* review. Paper 7 ("Dec. on Inst."). Petitioner subsequently filed a request for rehearing (Paper 8, "Req. Reh'g"), which we granted (Paper 11, "Rehearing Decision" or "Reh'g Dec."). In the Rehearing Decision, we determined that the information presented in the Petition established that there was a reasonable likelihood that Petitioner would prevail with respect to its unpatentability challenges. Reh'g Dec. 18. Pursuant to 35 U.S.C. § 314, we instituted this proceeding on November 9, 2018, as to all challenged claims and all grounds of unpatentability. *Id*.

During the course of trial, Patent Owner filed a Patent Owner Response (Paper 22, "PO Resp."), and Petitioner filed a Reply to the Patent Owner Response (Paper 31, "Pet. Reply"). Patent Owner also filed a Sur-Reply. Paper 35 ("PO Sur-Reply"). An oral hearing was held on May 30, 2019, and a transcript of the hearing is included in the record. Paper 46 ("Tr.").

Petitioner filed a declaration of Michael Stratton with its Petition (Ex. 1020). Patent Owner filed a declaration of John Chandler (Ex. 2001) with its Preliminary Response and a declaration of Matthew Farrow with its Response (Ex. 2073). The parties also filed transcripts of the depositions of Mr. Stratton (Exs. 2033, 2034), Mr. Farrow (Exs. 1047, 1048), and Mr. Chandler (Ex. 1049).

Petitioner filed a motion to exclude certain exhibits and certain testimony from Mr. Farrow related to a commercial product. Paper 36. Petitioner's motion also seeks to exclude certain testimony from Mr. Farrow related to secondary considerations of nonobviousness. *Id.* Patent Owner filed an opposition (Paper 40), and Petitioner filed a reply (Paper 42). Patent

Owner filed an additional declaration of Mr. Farrow (Ex. 2074) with its opposition.

In Patent Owner's Response, Patent Owner argues that Petitioner failed to identify all real parties-in-interest. PO Resp. 4–11. We decided to treat Patent Owner's argument as a separate motion to terminate based on a failure to identify all real parties-in-interest. Paper 24. Petitioner filed an opposition to the motion. Paper 29. We denied Patent Owner's motion to terminate. Paper 38.

We have jurisdiction under 35 U.S.C. § 6. This decision is a Final Written Decision under 35 U.S.C. § 318(a) as to the patentability of claims 9–13 and 22–30 of the '023 patent. For the reasons discussed below, Petitioner has not demonstrated by a preponderance of the evidence that claims 9–13 and 22–30 of the '023 patent are unpatentable.

I. BACKGROUND

A. Related Proceedings

The parties identify the following proceedings related to the '023 patent (Pet. 6–7; Paper 5, 1):

Pro Stage Gear, LLC v. Guangzhou Rantion Trading Co., No. 1:17-cv-00030 (E.D. Tenn. filed Feb. 1, 2017);

Swift Distribution, LLC v. Pro Stage Gear, LLC, No. 1:17-cv-00585 (D. Colo. filed March 6, 2017); and

Case IPR2018-00707, in which Petitioner challenges different claims of the '023 patent. A Final Written Decision in IPR2018-00707 is being issued concurrently with this Decision.

B. The ’023 Patent

The ’023 patent relates to mounting foot pedal controls, such as guitar effects, on a pedal board for foot operation. Ex. 1001, 1:8–11. Figure 7 of the ’023 patent is reproduced below.

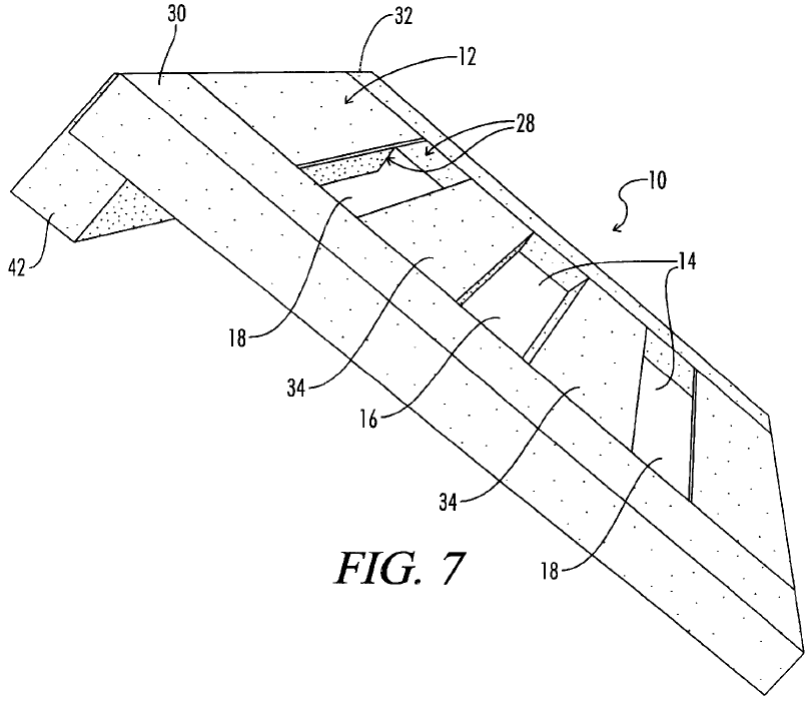


FIG. 7

Figure 7 depicts effects support board 10 with effect mounting surface 12, frame or support structure 28, and frame base 42. *Id.* at 3:9–12, 3:61–62. Effect mounting surface 12 includes cable connection openings 14, which may be defined as side connection opening 18 or end connection opening 16. *Id.* at 3:28–31.

Figures 12 and 14 of the ’023 patent are reproduced below.

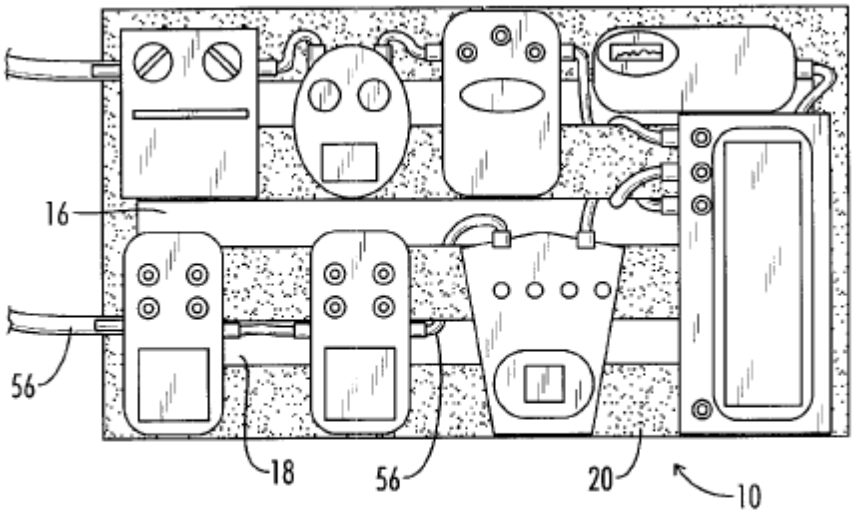


FIG. 12

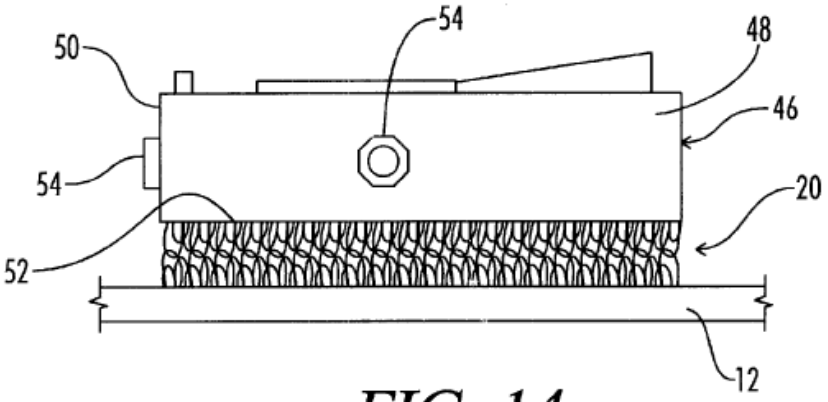


FIG. 14

Figure 12 depicts effects support board 10 with installed guitar effects. *Id.* at 2:66–67. Figure 14 depicts guitar effect 46 with side 48 and end 50 for supporting adapter 54. *Id.* at 4:44–45. Side connection opening 18 in Figure 12 allows for the connection of cable 56 to adapter 54 located on side 48 of guitar effect 46. *Id.* at 3:31–34. End connection opening 16 in Figure 12 allows for the connection of cable 56 to adapter 54 located on end 50 of guitar effect 46. *Id.* at 3:36–39. Friction surface 20, such as a hook and loop connection system, is connected to effect mounting

surface 12 and bottom surface 52 of guitar effect 46 to support guitar effect 46 on effect mounting surface 12. *Id.* at 3:43–46.

The ’023 patent was reexamined after the Office granted a request for *ex parte* reexamination of claims 1–13 filed by Warwick GmbH & Co. Music Equipment KG on June 22, 2015. Ex. 1005, 255–69 (decision granting reexamination), 290–340 (reexamination request). The Office issued an Ex Parte Reexamination Certificate for the ’023 patent on July 18, 2016. *Id.* at 1–4.[1] With respect to the challenged claims, the reexamination confirmed the patentability of claims 9–11; determined claims 12 and 13 to be patentable as amended; and added new claims, including claims 22–30, which were determined to be patentable. *Id.* at 2 (1:12–22).

C. Illustrative Claim

Of the challenged claims, claims 9, 12, 13, 22, and 26–28 of the ’023 patent are independent. Claims 10 and 11 depend directly or indirectly from claim 9; claims 23–25 depend directly or indirectly from claim 22; and claims 29 and 30 depend from claim 28. Claim 9 is illustrative of the challenged claims and recites:

> 9. An effect support board for mounting a guitar effect above an area, the guitar effect including a bottom surface and an adapter for connection to a cable, the effect support board comprising:
>
> a support structure;
>
> at least two top surface elements connected to the support structure, the top surface elements including leg extensions

[1] Petitioner included a copy of the Reexamination Certificate in two other exhibits. *See* Ex. 1001, 11–14; Ex. 1002. Hereinafter, we refer to the copy in Exhibit 1001.

projecting from the rigid support structure such that the top surface elements define edges of a first cable connection opening;

a third top surface element connected to the rigid support structure and including a third leg extension; and

a forth top surface element connected to the rigid support structure and including a forth leg extension, the third top surface element and fourth top surface element defining edges of a second cable connection opening, wherein the top surface elements are aligned to form at least two rows of guitar effects.

D. Prior Art

Petitioner relies on the following prior art:

Roland Corporation, Boss SCC-700C -700F Sound Control Center Owner's Manual (Ex. 1006, "SCC-700" or "SCC-700 manual");

U.S. Patent No. 6,215,055 B1 to Saravis, filed Dec. 27, 1999, issued Apr. 10, 2001 (Ex. 1013, "Saravis");

U.S. Patent No. Des. 339,612 to Carter et al., filed Aug. 14, 1992, issued Sept. 21, 1993 (Ex. 1014, "Carter"); and

U.S. Patent No. 3,504,311 to Mullen et al., filed Apr. 14, 1967, issued Mar. 31, 1970 (Ex. 1016, "Mullen").

E. The Instituted Grounds

We instituted *inter partes* review of claims 9–13 and 22–30 of the '023 patent on the following grounds (Reh'g Dec. 18), which are all of the grounds presented in the Petition (Pet. 9):

References	Basis	Claims Challenged
SCC-700 and Mullen	35 U.S.C. § 103(a)[2]	9–11, 22–25, and 28–30
SCC-700, Mullen, and Saravis	35 U.S.C. § 103(a)	12 and 26
SCC-700, Mullen, and Carter	35 U.S.C. § 103(a)	13 and 27

F. Claim Interpretation

In an *inter partes* review based on a petition filed before November 13, 2018,[3] we construe claims in an unexpired patent by applying the broadest reasonable interpretation in light of the specification. 37 C.F.R. § 42.100(b) (2017); *see Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016). Under the broadest reasonable interpretation standard, and absent any special definitions, claim terms are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *See In re Translogic Tech. Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Any special definitions for claim

[2] The Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C. § 103. Because the '023 patent was filed before the effective date of the relevant amendment, the pre-AIA version of § 103 applies.

[3] On October 11, 2018, the USPTO revised its rules to harmonize the Board's claim construction standard with that used in federal district courts. Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340 (Oct. 11, 2018) (codified at 37 C.F.R. pt. 42 (2019)). This rule change, however, applies only to petitions filed on or after November 13, 2018. *Id.* The revised claim construction standard therefore does not apply to this proceeding. *Id*.

terms or phrases must be set forth "with reasonable clarity, deliberateness, and precision." *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

We determine that no terms require explicit construction. *See, e.g.*, *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) ("[W]e need only construe terms 'that are in controversy, and only to the extent necessary to resolve the controversy' . . . ." (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

II. ANALYSIS

A. Legal Standards

A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) where in evidence, so-called secondary considerations. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). We also recognize that prior art references must be "considered together with the knowledge of one of ordinary skill in the pertinent art." *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994) (citing *In re Samour*, 571 F.2d 559, 562 (CCPA 1978)).

B. Level of Ordinary Skill in the Art

Citing testimony from Mr. Stratton, Petitioner contends a person having ordinary skill in the art would have had "approximately one year of practical experience mounting different types and arrangements of guitar effects on various types of boards and modifying, designing, and building boards for mounting guitar effects." Pet. 20 (citing Ex. 1020 ¶ 29). We applied this definition in our Institution Decision. Dec. on Inst. 8.

Citing testimony from Mr. Farrow, Patent Owner contends an ordinarily skilled artisan would have been "a guitarist with some experience mounting different types and arrangements of guitar effects and power supplies on plywood or shelf boards and either rearranging the effects or moving selected effects to a new plywood board."[4] PO Resp. 26 (citing Ex. 2073 ¶ 34). Among other things, Patent Owner notes the low educational level of those active in the field. *Id.*

In reply, Petitioner criticizes Patent Owner's definition because it "does not include knowledge or experience modifying, designing, or buildings [sic] effects boards." Pet. Reply 6; *see also id.* at 1 (stating Patent Owner's definition "would *exclude* someone with experience designing effects boards"). Petitioner also criticizes Mr. Farrow's cross-examination testimony that an ordinarily skilled artisan would not have been "capable of going into a facility and constructing, designing their own pedalboard." *Id.* at 6 (quoting Ex. 1047, 244:1–245:14).

In its Sur-Reply, Patent Owner argues its "definition does not 'exclude someone with experience designing effects boards.'" PO Sur-

[4] We note that Patent Owner's proposed definition differs somewhat from the one proposed in its Preliminary Response. *See* Prelim. Resp. 10.

Reply 2 (quoting Pet. Reply 1). Patent Owner explains that it simply disputes Petitioner's level of skill definition as being too high. *Id.*

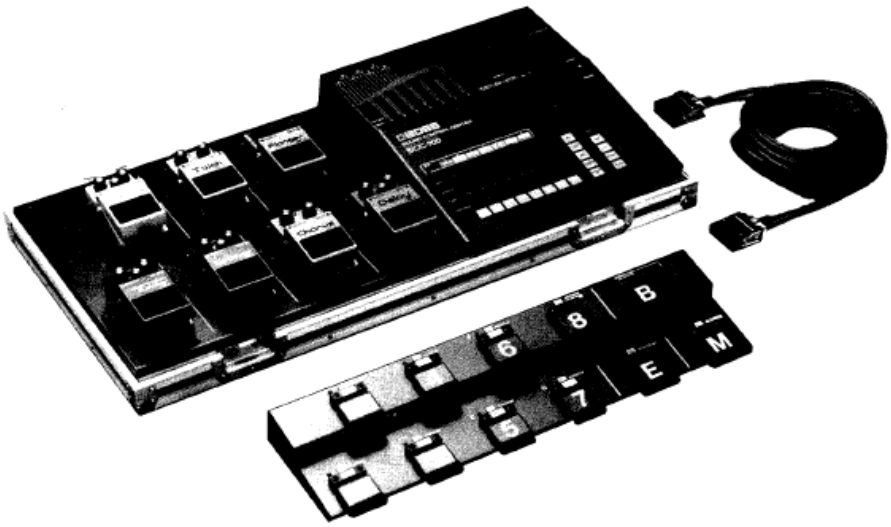
We agree with both parties that ordinarily skilled artisans working on guitar effects boards would have had no particular educational background. We also agree that the level of ordinary skill was relatively low. Nonetheless, Patent Owner's proposal about an ordinarily skilled artisan merely having "some experience" is too amorphous to be useful in defining the level of ordinary skill. For example, a guitarist with 15 minutes of experience rearranging an effects board would fit Patent Owner's definition, but such a person could hardly be considered ordinarily skilled. The market for effects boards had developed to some degree by 1999, the earliest possible effective filing date of the challenged claims, which suggests that ordinarily skilled artisans would have had at least some meaningful experience designing, modifying, and/or building effects boards in that time frame. *See* Ex. 1001, 1:23–30, 1:39 (stating that guitar effects were introduced in the late 1960s and that at least one effects pedal rack was in the prior art); Ex. 2001 ¶ 7 (Mr. Chandler testifying that "pedal mounting assemblies" were available in the 1990s). Petitioner's proposal includes a relatively modest level of practical experience—only one year—which comports with the modest development of the art in the 1999/2000 time frame. Thus, we apply Petitioner's definition of the level of ordinary skill in the art. We are satisfied that this definition comports with the level of skill necessary to understand and implement the teachings of the '023 patent and the asserted prior art.

C. Obviousness Ground Based on SCC-700 and Mullen

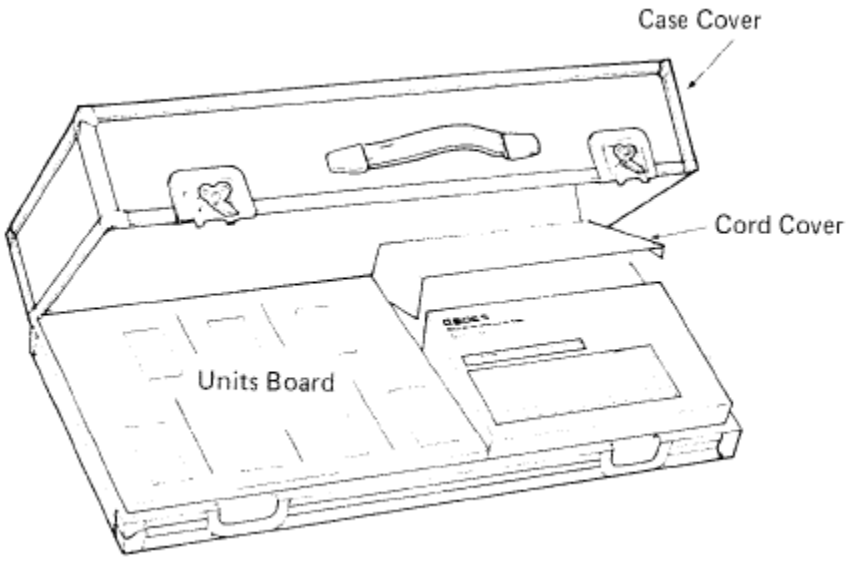
Petitioner contends the subject matter of claims 9–11, 22–25, and 28–30 would have been obvious over SCC-700 and Mullen. Pet. 35–69; Pet. Reply 11–21. Patent Owner disputes Petitioner's contentions. PO Resp. 31–40; PO Sur-Reply 4–11.

1. SCC-700

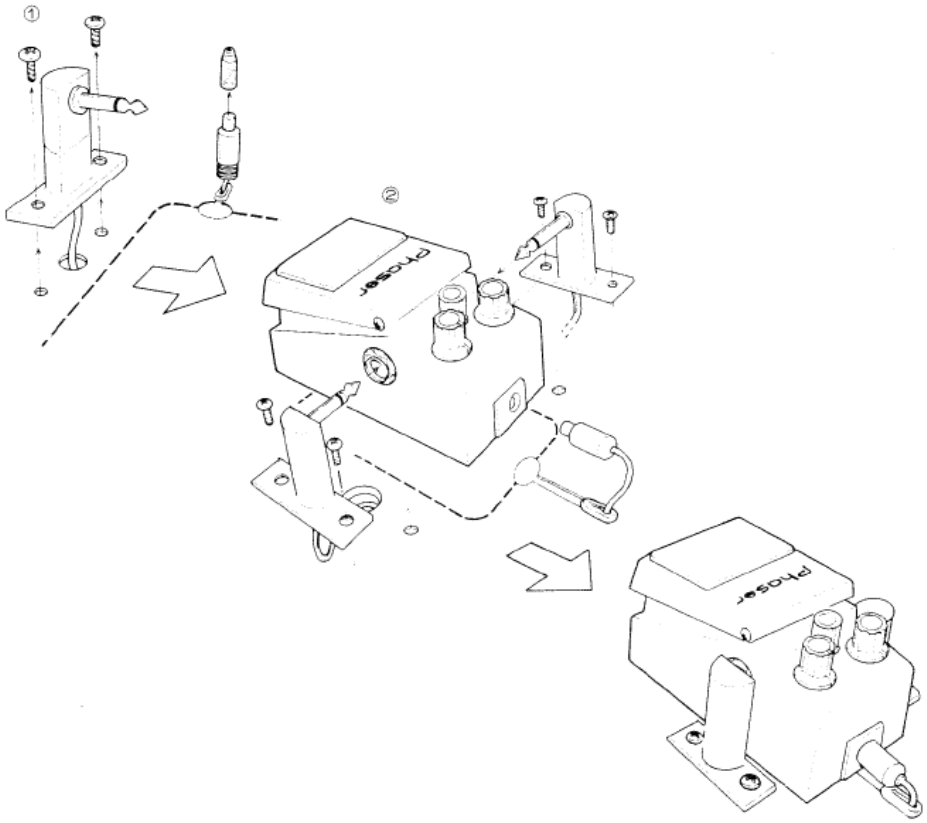
SCC-700 is an owner's manual for the Boss SCC-700 Sound Control Center by Roland Corporation ("Roland"). Ex. 1006, 1. The Sound Control Center "is a computer controlled device to which [a] maximum of 7 effect units can be connected." *Id.* at 2. A picture on the front cover of SCC-700 is reproduced below.



Id. at 1. The picture above shows seven effect units on the Sound Control Center. A diagram from page 29 of SCC-700 is reproduced below.



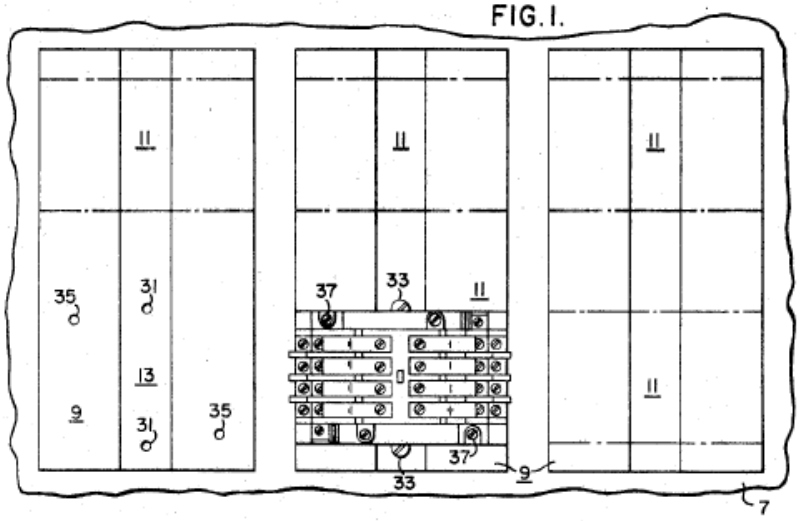
Id. at 29. This diagram of the SCC-700B Roland Effects Board from page 29 identifies the area where the effect units are located as a "Units Board." A diagram from page 31 of SCC-700 is reproduced below.

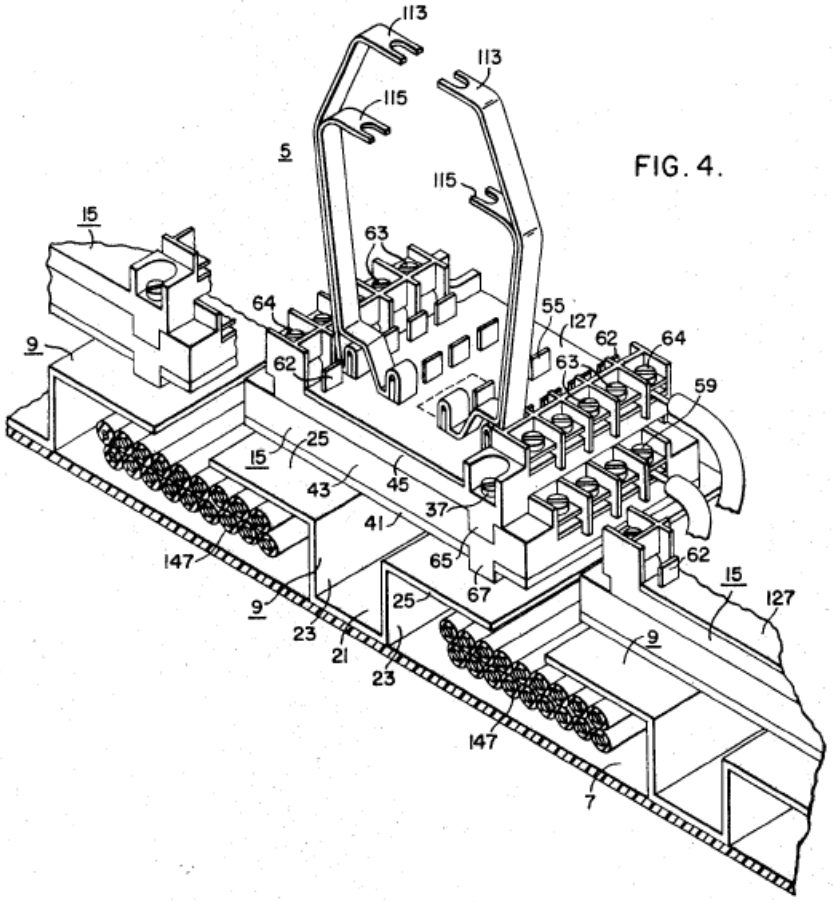


Id. at 31. This diagram from page 31 depicts how to mount an effect unit. *Id.* As can be seen, cables are shown coming through holes in the mounting surface. *See id.*

2. Mullen

Mullen is a U.S. patent issued in 1970 directed to "[a] plug-in relay having a plug-in base for plug-in connection between the relay and base." Ex. 1016, 1:13–14. One of the objects of Mullen "is to provide an improved support for supporting one or more relay structures and for providing wiring-channel space for receiving wires that would be connected to the relay structures to connect the relay structures in various control circuits." *Id.* at 1:50–55. Figures 1 and 4 of Mullen are reproduced below.



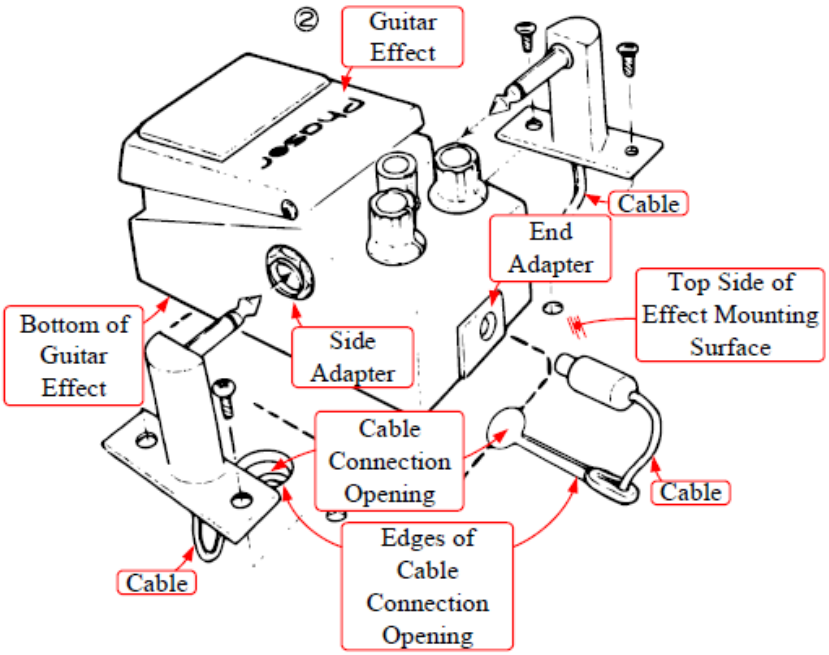


Figures 1 and 4 depict control panel 5 having flat metallic rigid supporting panel plate member 7 with elongated metallic rigid support members 9 mounted thereon. *Id.* at 2:21–25 ("[Figure] 1 is a plan view, with parts broken away, of part of a control panel . . . ."), 2:34–36 ("[Figure] 4 is a perspective view, with parts broken away and with parts shown in section, illustrating part of the control panel of [Figure] 1."), 2:40–43. Plug-in type relay control structures 11 are mounted on support members 9, and each control structure 11 comprises plug-in insulating base 15 and plug-in relay structure 17 (not shown). *Id.* at 2:43–45, 2:50–52. A plurality of stations 13 are provided on support members 9 for mounting individual relay control structures 11. *Id.* at 2:46–50.

Each support member 9 is an elongated metallic rigid channel support member comprising flat support base part 21, a pair of spaced leg parts 23 extending upward from base part 21, and a pair of shelf parts 25 extending outwardly from leg parts 23. *Id.* at 2:53–61. Shelf parts 25 are raised above the plane of plate member 7 to provide spaces that form channels. *Id.* at 2:63–66. Conducting lines 147 are supported in the wiring channels formed under shelf parts 25 and may be positioned to allow connections to plug-in base 15. *Id.* at 5:50–58.

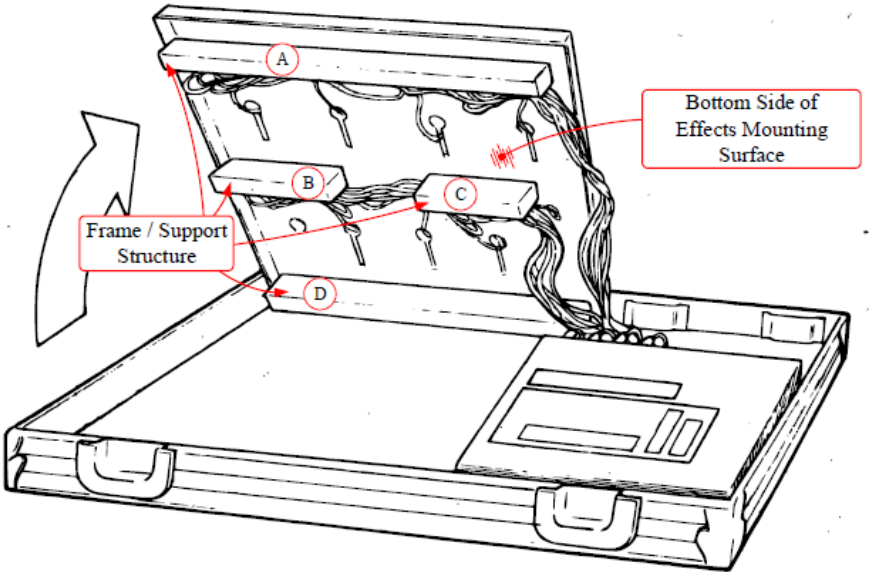
3. Claim 9

In its obviousness analysis for claim 9, Petitioner maps the recited "effect support board for mounting a guitar effect above an area" to SCC-700's units board for mounting guitar effects. Pet. 35–36 (citing Ex. 1006, 1, 29, 31). For the recited "guitar effect including a bottom surface and an adapter for connection to a cable," Petitioner provides the following annotated version of a portion of the diagram appearing on page 31 of SCC-700.



Pet. 36–37. As shown in this annotated diagram, Petitioner has indicated the bottom of the guitar effect and adapters for connection cables. *Id.* at 37.

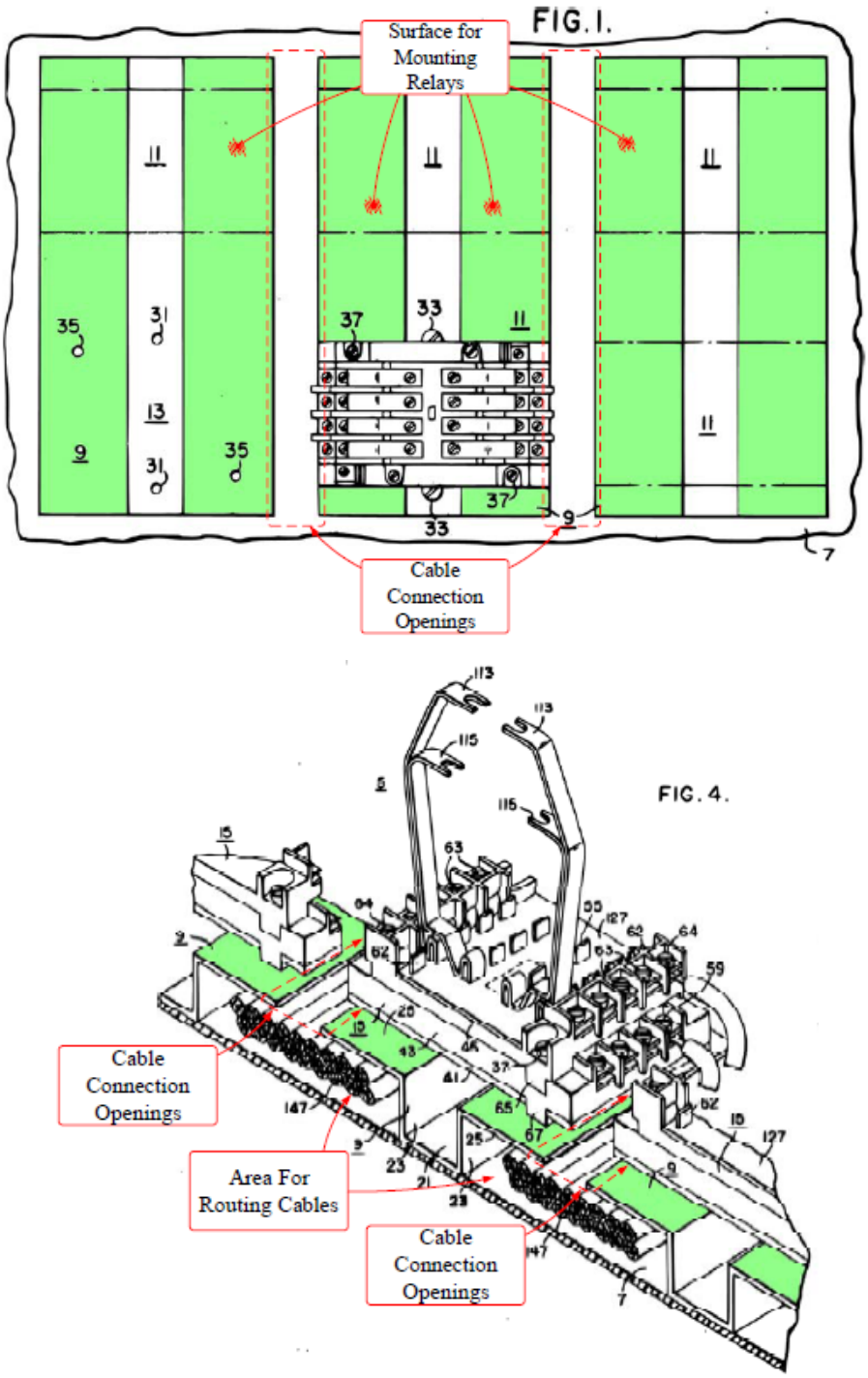
For the recited "support structure," Petitioner provides the following annotated version of a portion of the diagram appearing on page 32 of SCC-700.



Pet. 38. In this annotated diagram, Petitioner has indicated a "Frame/ Support Structure" including "cross members A-D." *Id.* Petitioner contends "cross members A-D support an effect mounting surface at an elevated level to create an area beneath it for routing cables." *Id*.

Regarding the "at least two top surface elements connected to the support structure, the top surface elements including leg extensions," Petitioner acknowledges that SCC-700's effect mounting surface "appears to be formed as a single, continuous top surface." *Id.* at 43. As such, Petitioner relies on Mullen's disclosure of support members 9, which have spaced leg parts 23 and shelf parts 25. *Id.* at 44–45 (citing Ex. 1016, 2:53–60, 2:64–69, Figs. 1, 4). Petitioner contends an ordinarily skilled artisan "would have . . . recognized that the spaced leg parts 23 and shelf parts 25 of the support members 9 . . . are analogous to the top surface elements and leg extensions recited in Claim 9." *Id.* at 48 (citing Ex. 1020 ¶ 54). Petitioner proposes that Mullen's support members 9 could have been used along with or in place of SCC-700's cross members A–D. *Id.* at 49 (citing Ex. 1020 ¶ 56). According to Petitioner, the top surfaces of the cross members (i.e., Mullen's support members 9) would constitute "top surface elements," and shelf parts 25 would constitute "leg extensions" extending and projecting outwardly from the cross members. *Id.* at 49–50 (citing Ex. 1020 ¶ 56).

For the "cable connection opening," Petitioner cites Mullen's teaching about "adjacent shelf parts cooperating to form a wiring channel." *Id.* at 46, 50 (both citing Ex. 1016, 6:25–31). Petitioner also provides the following annotated versions of Figures 1 and 4 from Mullen.



Id. at 45. In these annotated versions of Figures 1 and 4,[5] Petitioner has indicated shelf parts 25 in green and "[t]he wiring channels or cable

[5] Figures 1 and 4 of Mullen are described above. *See supra* § II.C.2.

connection openings of Mullen" with dashed red lines. *Id.* at 44–46. Petitioner contends that, "[i]n the combination of the SCC-700 manual and Mullen, similar wiring channels or cable connection openings would be defined between the edges of [SCC-700's] cross members A-D and/or [Mullen's] shelf parts 25." *Id.* at 50 (citing Ex. 1020 ¶ 59).

Regarding the third and fourth "top surface elements," Petitioner states the following:

> [I]t would have been obvious to one of ordinary skill in the art to use additional cross members A-D and support members 9 similar to those shown in the SCC-700 manual and Mullen, because Mullen envisions the use of more support members than the three illustrated in Figure 1 and the duplication of parts with merely expected results is obvious *per se*. One of ordinary skill in the art would have also found it obvious to duplicate any number of the support members 9 and/or the cross members A-D as a matter of design choice.

Pet. 53 (citing Ex. 1020 ¶ 66); *see also id.* at 52 (citing Ex. 1006, 32 for teaching SCC-700's multiple cross members), 52–53 (citing Ex. 1020 ¶ 63 and quoting Ex. 1016, 2:21–23 for the proposition that "Mullen envisions the use of more support members 9 than the three illustrated in Figure 1"). Petitioner also contends that mere duplication of parts has no patentable significance unless a new and unexpected result is produced. *Id.* at 53 (citing, *inter alia*, *In re Harza*, 274 F.2d 669, 671 (CCPA 1960)).

For the "second cable connection opening," Petitioner references its analysis from above regarding the first cable connection opening and contends the second opening would have been formed in the same way. *Id.* at 54 (citing Ex. 1016, 6:25–31). Regarding the limitation that "the top surface elements are aligned to form at least two rows of guitar effects,"

Petitioner contends SCC-700's cross members A–D are aligned, and SCC-700 depicts two rows of guitar effects. *Id.* (citing Ex. 1006, 1, 32).

Petitioner contends an ordinarily skilled artisan considering SCC-700's effect mounting surface would have found it obvious to form the effect mounting surface in other ways and/or using other structures. *Id.* at 43 (citing Ex. 1020 ¶ 47). In light of the different types, shapes, and sizes of guitar effects units known at the time, and further in light of SCC-700 contemplating the use of "effects units other than" the type depicted in SCC-700, Petitioner contends an ordinarily skilled artisan "would have been aware that the cable connection openings in the SCC-700 manual are not placed at the most suitable positions and limit the options for cable routing for many types of guitar effects units." *Id.* at 43 & n.9 (citing, *inter alia*, Ex. 1006, 5; Ex. 1020 ¶¶ 48, 50). According to Petitioner, this would have motivated the artisan to change the effect mounting surface and cable connection openings. *Id.* at 43–44 (citing Ex. 1020 ¶ 50).

Furthermore, Petitioner contends an ordinarily skilled artisan "would have recognized that the teachings of Mullen could be applied to address a known problem in the field of effect support boards, namely routing cables or wires in an organized fashion." *Id.* at 47 (citing Ex. 1020 ¶¶ 52–53). Petitioner also contends that Mullen is analogous art to SCC-700 because it is reasonably pertinent to the well-known problem of cable routing in the field of effect support boards. *Id.* (citing Ex. 1008, 2; Ex. 1016, 6:20–31).

In our initial Decision denying institution, we determined that Mullen is nonanalogous art. Dec. on Inst. 19–21. Our determination was guided by the well-known test for determining analogous art: "(1) whether the art is from the same field of endeavor, regardless of the problem addressed and,

(2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved." *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004). In light of Petitioner's arguments asserting only that Mullen meets the "reasonably pertinent" prong of this test, we focused our analysis on this prong.[6] Dec. on Inst. 19–21. In particular, we determined that "Petitioner has not persuasively shown why a 1970 patent on plug-in relays and supports would have commended itself to the attention of an inventor in 1999 considering the problem of guitar effects pedal mounting." *Id.* at 20.

On rehearing, we focused on Petitioner's evidence that Mullen was reasonably pertinent to "the problem of providing a confined and secure area for the routing of cables," as mentioned in the '023 patent. Reh'g Dec. 3–5 (citing, *inter alia*, Ex. 1001, Abstract, 2:1–4). Based on this evidence, we determined that Petitioner had made a threshold showing sufficient for institution that Mullen is analogous art. *Id.* at 4–5. Notwithstanding, we stated the following:

> During the course of trial, we expect the parties to further develop the issue of whether Mullen qualifies as analogous art to the '023 patent. In particular, the parties should consider whether Petitioner's construction of the problem addressed by the '023 patent (i.e., "cable routing in a confined and secure area") is too narrow, as in *Smith & Nephew, Inc. v. Hologic, Inc.*, 721 F. App'x 943, 949 (Fed. Cir. 2018). The parties also should address whether and how Mullen would have commended itself to an ordinarily skilled artisan considering the problem addressed by the '023 patent. *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992).

[6] Petitioner does not attempt to establish that Mullen is in the same field of endeavor as the '023 patent. *See* Pet. 47; Pet. Reply 11.

Id. at 5 n.3.

Patent Owner again argues that Mullen is not reasonably pertinent to the particular problem with which the inventor of the '023 patent was involved. PO Resp. 31–34. Patent Owner argues that Petitioner's focus on "providing a confined and secure area for the routing of cables" is a misstatement of the problem addressed by the '023 patent. *Id.* at 31–32. Rather, Patent Owner contends the particular problem addressed is "more refined" such that cable routing and placement must be associated with "easy positioning and changing of individual guitar effects." *Id.* at 32 (quoting Ex. 1001, 2:2–4 and citing Ex. 2073 ¶¶ 18, 79).

Patent Owner further argues the industrial relay items of Mullen would not have been familiar items to an inventor of pedalboards. *Id.* at 32–33 (citing Ex. 2073 ¶¶ 78–79). Patent Owner notes that relay systems used in industrial applications are not portable because they are "permanently affixed to the wall . . . in centralized locations away from normal interaction with humans." *Id.* at 33 (citing Ex. 2034, 16; Ex. 2073 ¶¶ 76–77). Patent Owner also notes that industrial relay systems "involve high voltages such that extreme care and caution is needed when handling such [systems]." *Id.* Patent Owner also notes that Mullen's priority date is in 1967 and that "[r]elay logic control panels such as those described by Mullen, became rare by the 1990s." *Id.* at 22 (citing Ex. 2073 ¶ 76). Thus, Patent Owner contends industrial relay systems would not have "have logically commen[d]ed themselves to an inventor of pedalboards in considering his problem because industrial relay systems and pedalboards have significant structural and functional differences." *Id.* (citing *Clay*, 966 F.2d at 660). Patent Owner also argues that "Petitioner provides no evidence of *why* a[n

ordinarily skilled artisan] seeking to solve a problem with cable routing and placement in pedalboards would [have] look[ed] for a solution in the field of electrical relays in the first place." PO Sur-Reply 7.

Petitioner cites the '023 patent's statement about the need for "an improved pedal effects board" that "allows easy positioning and changing of the individual guitar effects *while providing a confined and secure area for cable routing and placement*." Pet. 3; Pet. Reply 12 (both quoting Ex. 1001, 2:1–4) (emphasis added by Petitioner in Pet. Reply). Petitioner likens this need to Mullen's aim "to provide an improved support for supporting one or more relay structures and *for providing wiring-channel space for receiving wires that would be connected to the relay structures*." Pet. 30; Pet. Reply 12 (both quoting Ex. 1016, 1:50–55) (emphasis added by Petitioner in Pet. Reply). Petitioner states that Mr. Stratton's testimony "draws analogies between the purpose and function of the support members 9 of Mullen and the cross members of the SCC-700B, to tie the pertinent solution of Mullen back to the problem." Pet. Reply 12 (citing Ex. 1020 ¶¶ 53–55) (internal citations omitted). Petitioner also contends Patent Owner's arguments highlighting differences between Mullen and the '023 patent miss the point of the analogous art inquiry. *Id.* at 13 (citing PO Resp. 21–22, 32).

Having considered the entire trial record, we determine that Petitioner has failed to establish by a preponderance of the evidence that Mullen is analogous art. "Although familiar items may have obvious uses beyond their primary purposes, a reference is only reasonably pertinent when it logically would have commended itself to an inventor's attention in considering his problem." *Circuit Check Inc. v. QXQ Inc.*, 795 F.3d 1331, 1335 (Fed. Cir. 2015) (internal quotations omitted). We must "consider the

reality of the circumstances—in other words, common sense—in deciding in which fields a person of ordinary skill would reasonably be expected to look for a solution to the problem facing the inventor." *In re Oetiker*, 977 F.2d 1443, 1447 (Fed. Cir. 1992) (internal quotation omitted). Thus, even if Petitioner establishes that Mullen's relay wiring channels might have uses beyond their application in a relay system, Petitioner must still show that Mullen would have commended itself to an ordinarily skilled artisan. Petitioner does not do so despite our suggestion at the time of institution to further develop this issue. *See* Reh'g Dec. 5 n.3.

The record reflects significant differences between Mullen and the '023 patent. Mullen is a patent on a "Plug-In Relay and Support Therefor" that issued in 1970, whereas the '023 patent, which is titled "Mounting Board for Guitar Effects," was filed in 2000 and claims priority to a provisional application filed in 1999. Ex. 1001, [54], [60]; Ex. 1016, 4. Mullen discloses "[a] plug-in relay having a plug-in base for plug-in connection between the relay and base." Ex. 1016, 1:13–14. Mr. Farrow notes that "[i]ndustrial relays such as those described in Mullen were used in connection with the control of industrial equipment or other situations requiring the management of relatively high electrical loads." Ex. 2073 ¶ 76. Mr. Farrow also notes that relays typically are housed in a vertical panel contained in a large enclosure that is not transportable. *Id.* ¶ 77. We credit Mr. Farrow's testimony on these points because it is uncontested and because Mr. Farrow has a background in electrical engineering. *See id.* ¶ 7. This evidence tends to show that the purpose of Mullen's relay technology differs significantly from the purpose of the '023 patent, which is to mount guitar effects on a pedal board. *See* Ex. 1001, 1:8–11.

Furthermore, the evidence regarding industrial relay systems supports Patent Owner's argument that "[a]n inventor of pedalboards . . . likely would not have had an occasion to come across an industrial relay or industrial relay system and inspected it so that he or she might understand it and its applicability to other problems." PO Resp. 32. Petitioner does not put forth any argument or evidence to explain what would have compelled a pedalboard inventor in 1999 or 2000 to consider potential solutions arising from early 1970s-era relay technologies. And, even if we were to credit certain "pertinent similarities" between Mullen and the '023 patent (Pet. Reply 12–13 (citing Ex. 1020 ¶¶ 53–55)), this still does not establish why an ordinarily skilled artisan would have considered a reference from a different technology and time.

We also have considered the relatively low level of ordinary skill in the art. A person of ordinary skill in the art of the '023 patent would have had one year of experience mounting guitar effects and modifying, designing, and building guitar effects boards. *See supra* § II.B. Such a person also did not have any academic credentials. *See id.* Regarding Mullen, Mr. Farrow testifies that "persons of ordinary skill in the pedalboard field would not have been interested in or understood the design considerations relative to industrial relays and their housings and supports." Ex. 2073 ¶ 79. The record also reflects that Mullen's technology was more sophisticated and would have required a higher level of ordinary skill and education. In particular, Mr. Farrow testifies:

> The people working with the plug-in relay and support of Mullen to design control systems would have typically had an electrical engineering or technical degree and some practical training experience, while work on these relay panels in the

> field might be performed by industrial electricians who would have had several years apprenticeship of work combined with classroom instruction on safety and electrical science.

See Ex. 2073 ¶ 78. We also observe that Mr. Chandler and Mr. Stratton—who would have qualified, at least, as ordinarily skilled artisans (*see* Ex. 1020 ¶¶ 3–5; Ex. 1049, 32:11–35:21) but do not possess Mr. Farrow's engineering background (*see* Ex. 1049, 17:19–18:9; Ex. 2033, 16:16–17:10)—both testified that they had a poor understanding of Mullen's relay technology. Ex. 2001 ¶ 25; Ex. 2034, 10:17–18, 11:6–8. All of this evidence related to the level of ordinary skill supports Patent Owner's argument that Mullen would not have commended itself to an ordinarily skilled artisan considering the problem of the '023 patent.

Having considered the entire trial record, we find it unreasonable to deem Mullen pertinent to the problem of the '023 patent. We are mindful that "[t]he pertinence of the reference as a source of solution to the inventor's problem must be recognizable with the foresight of a person of ordinary skill, not with the hindsight of the inventor's successful achievement." *Sci. Plastic Prods., Inc. v. Biotage AB*, 766 F.3d 1355, 1359 (Fed. Cir. 2014). We agree with Patent Owner (*see* PO Sur-Reply 6–7) that, in the absence of hindsight, Petitioner has not established why an ordinarily skilled artisan seeking to solve a problem with cable routing and placement for effects pedal boards in 1999 or 2000 would have looked for a solution in the field of electrical relays from 1970. Thus, Petitioner has not persuasively shown that Mullen is analogous art to the '023 patent. For this reason, we determine Petitioner has not shown, by a preponderance of the evidence, that the subject matter of claim 9 would have been obvious over the combination of SCC-700 and Mullen.

4. Claims 10, 11, 22–25, and 28–30

Petitioner's obviousness analysis for claims 10, 11, 22–25, and 28–30 relies on the same obviousness rationale discussed above with respect to claim 9. *See* Pet. 55–69. Petitioner's analysis for these claims does not cure the deficiencies discussed above with respect to claim 9. *See supra* § II.C.3. On the entire trial record, we determine Petitioner has not shown, by a preponderance of the evidence, that the subject matter of claims 10, 11, 22–25, and 28–30 would have been obvious over the combination of SCC-700 and Mullen.

D. Obviousness Ground Based on SCC-700, Mullen, and Saravis

Petitioner contends the subject matter of claims 12 and 26 would have been obvious over SCC-700, Mullen, and Saravis. Pet. 69–75; Pet. Reply 22–23. Patent Owner disputes Petitioner's contentions. PO Resp. 40–42.

1. Saravis

Saravis is a U.S. patent directed to a pedal board for releasably retaining foot-pedal-operated sound effect generators used in conjunction with musical instruments. Ex. 1013, Abstract.

2. Claims 12 and 26

Petitioner's obviousness analysis for claims 12 and 26 relies on the same obviousness rationale discussed above with respect to the SCC-700–Mullen ground. *See* Pet. 69–75. Petitioner's analysis for these claims does not cure the deficiencies discussed above for that ground. *See supra*

§ II.C.3. On the entire trial record, we determine Petitioner has not shown, by a preponderance of the evidence, that the subject matter of claims 12 and 26 would have been obvious over the combination of SCC-700, Mullen, and Saravis.

E. Obviousness Ground Based on SCC-700, Mullen, and Carter

Petitioner contends the subject matter of claims 13 and 27 would have been obvious over SCC-700, Mullen, and Carter. Pet. 75–81; Pet. Reply 23–26. Patent Owner disputes Petitioner's contentions. PO Resp. 42–44.

1. Carter

Carter is a U.S. design patent directed to a video game foot pedal controller. Ex. 1014, [57].

2. Claims 13 and 27

Petitioner's obviousness analysis for claims 13 and 27 relies on the same obviousness rationale discussed above with respect to the SCC-700–Mullen ground. *See* Pet. 75–81. Petitioner's analysis for these claims does not cure the deficiencies discussed above for that ground. *See supra* § II.C.3. On the entire trial record, we determine Petitioner has not shown, by a preponderance of the evidence, that the subject matter of claims 13 and 27 would have been obvious over the combination of SCC-700, Mullen, and Carter.

F. Petitioner's Motion to Exclude

Petitioner moves to exclude paragraphs 94–95 of Exhibit 2073 (Farrow Decl.), Exhibit 2037 (Thrustmaster Manual), and Exhibit 2038 (Photos of Thrustmaster Packaging), which all relate to a commercial product known as Thrustmaster. Paper 36, 1–2. Petitioner also moves to exclude paragraphs 45–54, 61, and 63–66 of Exhibit 2073 (Farrow Decl.), which relate to secondary considerations of nonobviousness. Paper 36, 6–7. Petitioner's motion to exclude is dismissed as moot because we do not rely on these exhibits (or portions thereof).

III. CONCLUSION

Petitioner has not shown, by a preponderance of the evidence, that:

A. the subject matter of claims 9–11, 22–25, and 28–30 would have been obvious over the combination of SCC-700 and Mullen;

B. the subject matter of claims 12 and 26 would have been obvious over the combination of SCC-700, Mullen, and Saravis; or

C. the subject matter of claims 13 and 27 would have been obvious over the combination of SCC-700, Mullen, and Carter.

IV. ORDER

Accordingly, it is:

ORDERED that Petitioner has not shown by a preponderance of the evidence that claims 9–13 and 22–30 of the ’023 patent are unpatentable;

FURTHER ORDERED that Petitioner’s Motion to Exclude is *dismissed as moot*; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to this proceeding seeking judicial review of our decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

For PETITIONER:

Jason Perilla
Robert Gravois
THOMAS HORSTMEYER, LLC
jason.perilla@thomashorstemeyer.com
robert.gravois@thomashorstemeyer.com

For PATENT OWNER:

Douglas Johnson
Pharan Evans
MILLER & MARTIN PLLC
djohnson@millermartin.com
pharan.evans@millermartin.com