

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CAPTIONCALL, LLC,
Petitioner,

v.

ULTRATEC, INC.,
Patent Owner

Case IPR2013-00549
Patent 6,603,835 B2

Before WILLIAM V. SAINDON, BARBARA A. BENOIT, and
LYNNE E. PETTIGREW, *Administrative Patent Judges*.

SAINDON, *Administrative Patent Judge*.

DECISION

Final Written Decision
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

We have jurisdiction under 35 U.S.C. § 6(c). This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73.

With respect to the grounds asserted in this trial, we have considered the papers submitted by the parties and the evidence cited therein. For the reasons discussed below, we determine that Petitioner has shown, by a preponderance of the evidence, that the subject matter of claims 1–5 and 7 of U.S. Patent No. 6,603,835 B2 (Ex. 1001, “the ’835 patent”) is unpatentable.

A. *Procedural History*

CaptionCall, LLC (“Petitioner”) filed a Petition requesting an *inter partes* review of claims 1–8 of the ’835 patent. Paper 1 (“Pet.”). Petitioner included a Declaration of Mr. Benedict J. Occhiogrosso. Ex. 1010. Ultratec, Inc. (“Patent Owner”) filed a Preliminary Response to the Petition. Paper 6 (“Prelim. Resp.”).

In our Decision Instituting *Inter Partes* Review, we granted review as to claims 1–5 and 7 of the ’835 patent but not as to claims 6 and 8. Paper 7 (“Inst. Dec.”). Patent Owner filed a Response to the Petition (Paper 24, “PO Resp.”), which included declarations by Mr. James A. Steel, Jr. (Ex. 2001), Ms. Brenda Battat (Ex. 2003), and Ms. Constance Phelps (Ex. 2004). Petitioner filed a Reply to the Response (Paper 37, “Pet. Reply”), which included a Supplemental Declaration of Mr. Occhiogrosso (Ex. 1038).

On November 19, 2014, all parties were present for an oral hearing.

This Decision includes our decision on Patent Owner’s Motion to Exclude Evidence (Occhiogrosso) (Paper 47, “PO Mot. Excl.”). Petitioner

filed an opposition to Patent Owner’s motion (Paper 54, “Pet. Opp. Mot. Excl.”) and Patent Owner filed its reply (Paper 55, “PO Reply Mot. Excl.”).

B. Related Matters

Petitioner states that the ’835 patent was asserted against its parent company, Sorenson Communications, Inc., in *Ultratec, Inc. v. Sorenson Communications, Inc.*, No. 13-CV-00346 (W.D. Wis.). Pet. 2. Petitioner states that the lawsuit included certain other patents asserted against its parent company and that Petitioner has filed concurrently other petitions for *inter partes* review. *Id.*

The concurrently filed petitions are as follows:

Case	Patent
IPR2013-00540	US 6,233,314
IPR2013-00541	US 5,909,482
IPR2013-00542	US 7,319,740
IPR2013-00543	US 7,555,104
IPR2013-00544	US 8,213,578
IPR2013-00545	US 6,594,346
IPR2013-00550	US 7,003,082

Additionally, Petitioner filed IPR2014-00780, which is directed to the same patent as this proceeding. IPR2014-00780 is an *inter partes* review of claims 6 and 8 of the ’835 patent; those claims are not at issue in this proceeding.

C. Technology Background

A teletype (TTY), or telecommunications device for the deaf (TDD), is a device having a keyboard and display that permits a deaf person to communicate over telephone lines. Ex. 1001 at 1:30–33. If the deaf person is to communicate with a hearing person, a relay service is utilized. With a

relay service, a relay operator voices the deaf user's typed words to the hearing user, and types the hearing user's voiced words to the deaf person's TTY. *Id.* at 1:60–2:13. Traditionally, the relay service maintains a separate telephone connection with both the hearing and assisted users, with the relay service acting, as the name implies, as a relay. A traditional relay service is found in figure 2 of U.S. Patent No. 5,724,405 (Ex. 1005, “Engelke ’405 patent”). Figure 2 of Engelke ’405 is depicted below:

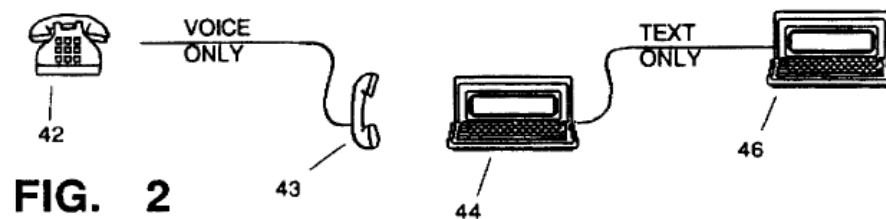


Figure 2 of Engelke ’405 depicts a traditional relay service arrangement in which a hearing caller speaks with a relay operator over one telephone line while the relay operator types back and forth with the assisted user over a second telephone line, using a TTY machine. Ex. 1005, 6:11–14.

D. The '835 Patent

The '835 patent describes another way to provide a relay service. In particular, the '835 patent describes two separate connections: one between the assisted and non-assisted user, and one between the assisted user and the relay service. Ex. 1001, 9:33–43, Fig. 5. Figure 5 depicts this arrangement:

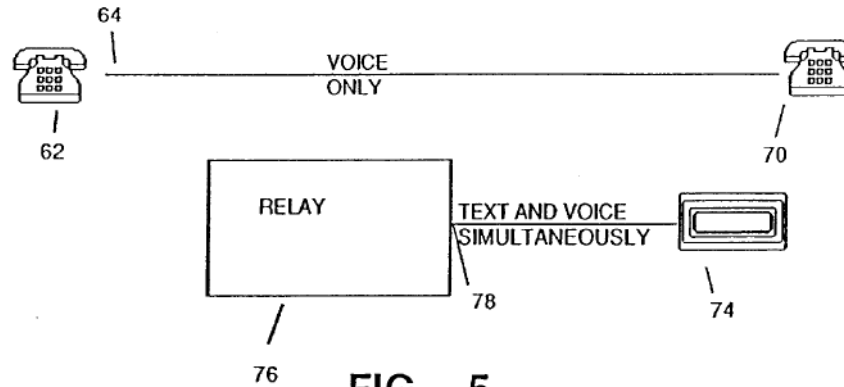


FIG. 5

Figure 5 of the '835 patent depicts a typical, voice-only connection between the hearing user and assisted user, with a second, simultaneous text and voice connection between the assisted user and the relay service. *Id.* at 9:33–43. The relay service and the hearing user are connected at the assisted user's location to allow the relay operator to hear the hearing user's spoken words and to voice the assisted user's typed words. *Id.* at 9:45–60. Notably, the hearing and assisted users are connected directly over a telephone connection, whereas the hearing user and the relay service are connected indirectly, by way of the assisted user's separate connection to the relay service. *Id.* at 9:37–43.

E. Illustrative Claim

Of the challenged claims, 1 and 7 are independent, with claims 2–5 depending from claim 1. Claim 1 is reproduced below.

1. A method for providing captioned telephone service to an assisted user communicating with a hearing user, the assisted user using a telephone station to communicate with a relay having speech to text translation capability, the hearing user speaking words in voice, the method comprising the steps of:

initiating a telephone call over a first telephone line directly between the assisted user and the hearing user;
the assisted user initiating a telephone connection over a second telephone line to the relay;
at the station of the assisted user, the station transmitting the voice of the hearing user over the second telephone line to the relay;
at the relay, converting the words spoken by the hearing user into text;
transmitting the text created by the relay back to the station of the assisted user over the second telephone line; and
displaying the text to a captioned telephone display device within sight of the assisted user such that captioning of the communication session is provided to the assisted user.

Independent claim 7 includes a limitation specifying that the voice to text conversion is performed using “voice recognition computer software.”

F. Asserted Ground and Prior Art

We instituted an *inter partes* review on the ground of obviousness of claims 1–5 and 7 of the ’835 patent over the teachings of Liebermann¹ and Engelke ’405.²

¹ U.S. Patent No. 5,982,853 (issued Nov. 9, 1999) (Ex. 1008).

² U.S. Patent No. 5,724,405 (issued Mar. 3, 1998) (Ex. 1005).

II. ANALYSIS

A. Claim Construction

We interpret the claims of an unexpired patent using the broadest reasonable interpretation in light of the specification of the patent. 37 C.F.R. § 42.100(b); *see also In re Cuozzo Speed Techs., LLC*, No. 2014-1301, slip op. at 11–19 (Fed. Cir. Feb. 4, 2015). Under the broadest reasonable interpretation standard, 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. *In re Translogic Tech. Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Any special definition for a claim term must be set forth with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

1. Assisted User / Hearing User

These terms are found in independent claims 1 and 7. We previously construed “assisted user” as “the individual making use of the transcribed text, regardless of the individual’s actual hearing abilities.” Inst. Dec. 8–9. We previously construed “hearing user” as “the individual in communication with the assisted user.” *Id.* at 9.

These constructions have not been challenged. While these terms are not at issue in this Decision, their constructions are useful in understanding the claimed subject matter.

2. Directly Between

Independent claims 1 and 7 both recite “a first telephone line directly between the assisted user and the hearing user.” We previously construed this phrase to mean “a first telephone line with the hearing user over a first

telephone connection between the assisted user and the hearing user, without a relay intervening on that connection.” Inst. Dec. 9–11. We maintain this construction; it has not been challenged.

3. Initiating a Telephone Connection

Independent claims 1 and 7 both recite “the assisted user initiating a telephone connection over a second telephone line to the relay.” The ’835 patent does not define whether any particular action is required by a user to initiate the second telephone connection. The ’835 patent includes, as an exemplary embodiment, a user operating a button to initiate the second telephone connection. Ex. 1001, 10:40–43. This particular form of initiation is recited more broadly in claims 6 and 8 of the ’835 patent (“the assisted user operating a control”), but is not recited in the challenged claims.

We have no evidence before us that one of ordinary skill in the art would consider the “initiating” step to be performed by a certain action, structure, or series of events. Likewise, neither the claims nor the written description of the ’835 patent clearly limits the step to a certain action, structure, or series of events. Accordingly, we interpret the term “initiating” in “the assisted user initiating a telephone connection” to mean that, *but for an action of the assisted user, the telephone connection would not have been made.*

B. The Testimony of Mr. Occhiogrosso is not Excluded

Patent Owner seeks to exclude the testimony of Mr. Benedict Occhiogrosso (Exs. 1010, 1038, 2005, 2006, and 2012) on the theory that he is not qualified as an expert under Federal Rule of Evidence 702 (“FRE

702”).^{3,4} PO Mot. Excl. 1–2. FRE 702 permits expert testimony if a witness is qualified, “by [his or her] knowledge, skill, experience, training, or education,” and if his or her testimony “will help the trier of fact to understand the evidence or to determine a fact at issue,” *inter alia*.

Testimony on the issue of unpatentability proffered by a witness who is not “qualified in the pertinent art” generally is not admissible under FRE 702. *Sundance, Inc. v. DeMonte Fabricating Ltd.*, 550 F.3d 1356, 1363–64 (Fed. Cir. 2008).⁵ In determining who is “qualified in the pertinent art” under FRE 702, we need not find a complete overlap between the witness’s technical qualifications and the problem confronting the inventor or the field of endeavor for a witness to qualify as an expert. *SEB S.A. v. Montgomery Ward & Co., Inc.*, 594 F.3d 1360, 1372–73 (Fed. Cir. 2010) (upholding

³ Patent Owner also seeks to *exclude* Mr. Occhiogrosso’s testimony under 37 C.F.R. § 42.65. PO Mot. Excl., 1. Rule 42.65, however, addresses (a) the weight given to expert testimony that does not disclose underlying facts or data on which the opinion is based, (b) the showing required if a party seeks to rely on a technical test or data from such a test, and (c) the exclusion of expert testimony on United States patent law or patent examination practice. As such, Rule 42.65 does not apply to a determination whether to exclude Mr. Occhiogrosso’s testimony.

⁴ With some enumerated exceptions, the Federal Rules of Evidence apply to an *inter partes* review. 37 C.F.R. § 42.62.

⁵ In *Sundance*, the court was concerned with allowing improper testimony in jury trials. *Sundance*, 550 F.3d at 1365, n.8. The Board, on the other hand, sitting as a non-jury tribunal with administrative and technical expertise, is well-positioned to determine and assign appropriate weight to evidence presented. *Gnosis S.P.A. v. S. Alabama Medical Science Foundation*, IPR2013-00118, slip op. at 43 (PTAB June 20, 2014) (Paper 64); *see also Donnelly Garment Co. v. NLRB*, 123 F.2d 215, 224 (8th Cir. 1941) (“One who is capable of ruling accurately upon the admissibility of evidence is equally capable of sifting it accurately after it has been received.”).

admission of the testimony of an expert who admittedly lacked expertise in the design of the patented invention, but had experience with materials selected for use in the invention); *Mytee Prods., Inc. v. Harris Research, Inc.*, 439 Fed. App'x 882, 886–87 (Fed. Cir. 2011) (non-precedential) (upholding admission of the testimony of an expert who “had experience relevant to the field of the invention,” despite admission that he was not a person of ordinary skill in the art).

Patent Owner contends that, to qualify as an expert under FRE 702, Mr. Occhiogrosso must be a person of ordinary skill in the art, and that Mr. Occhiogrosso is not a person of ordinary skill in the art because he does not have “general knowledge and understanding of the telecommunications needs of the deaf and HOH [(hard of hearing)]” or “experience with the development of assistive telecommunications technology for such individuals.” *Id.* at 1–5; *see also id.* at 5–7 (discussing Mr. Occhiogrosso’s experience with respect to these factors).

Petitioner responds that Patent Owner’s definition of the level of ordinary skill in the art conflates a requirement for skill in the relevant technical art (“telecommunications systems [having] voice-to-text transcription”) with skill in one particular commercial sector that applies that technical art (“telecommunications services *specifically* designed for the deaf or hard of hearing”). Pet. Opp. Mot. Excl. 1. Petitioner also points out that, even if we were to adopt Patent Owner’s proposed level of ordinary skill in the art, Mr. Occhiogrosso has experience with developing a telecommunications system for the deaf and hard of hearing. *Id.* at 12–15.

Patent Owner’s arguments are unpersuasive at the outset because, to testify as an expert under FRE 702, a person need not be a person of

ordinary skill in the art, but rather simply “qualified in the pertinent art.” *Sundance*, 550 F.3d at 1363–64; *SEB*, 594 F.3d at 1372–73; *Mytee*, 439 Fed. App’x at 886–87. Notwithstanding, for the reasons we express below in Section II.C, we find Mr. Occhiogrosso to be qualified to testify as to the level of ordinary skill in the art. Patent Owner’s arguments are also unpersuasive because they attempt to constrict the “pertinent art,” i.e., the pertinent technology, to a particular subset of individuals who use the pertinent technology, rather than the pertinent technology itself. *See also* Pet. Opp. Mot. Excl. 4–5 (arguing that the problems in the pertinent art are not “uniquely related to . . . the deaf and hard-of-hearing”).

The technology at issue in the ’835 patent “relates to the general field of telephone communications.” Ex. 1001, 1:18–19. The ’835 patent focuses on a particular application of that technology: people who need assistance in using telecommunications devices. *Id.* 1:19–2:29 (describing various prior art assistive technologies to help frame the evolution of assistive technologies). Patent Owner would have us define the pertinent art in the narrowest way: “telecommunications technology *for the deaf and hard of hearing*.” PO Mot. Excl. 3 (emphasis added); *see also id.* (additionally characterizing the technology as “assistive telecommunications technology”). The Federal Circuit in *Sundance*, however, used the phrase “qualified in the pertinent art,” however, and did not set forth a rule requiring an expert in the specific technological solution recited in the claims or the particular motivation behind the inventors’ invention. *Sundance*, 550 F.3d at 1363–64. We determine the pertinent art to be telecommunications systems, because any communications technology would be pertinent art to the ’835 patent. While assistive technology may be

more pertinent, and assistive technology for the deaf and hearing impaired, using voice-to-text relays, may be most pertinent, anything in the telecommunications technology field would be pertinent to the inventors when considering their problem.

Mr. Occhiogrosso has established that he has knowledge, experience, and education in the field of telecommunications systems. Ex. 1010 ¶¶ 5–10; Ex. 1038 ¶¶ 4–11. As such, Mr. Occhiogrosso is qualified sufficiently in the pertinent art to testify under FRE 702 in this proceeding, because his testimony helps us to understand aspects of telecommunications technology used in the '835 patent.

Moreover, to the extent Mr. Occhiogrosso is more familiar with general telecommunications technology and less familiar with voice-to-text or its application to the deaf or hearing-impaired, or to the extent that Mr. Occhiogrosso's testimony is inconsistent or unsupported, we will weigh Mr. Occhiogrosso's testimony accordingly, taking into account the extent of his expertise in these areas. *See, e.g., Yorkey v. Diab*, 601 F.3d 1279, 1284 (Fed. Cir. 2010) (holding the Board has discretion to give more weight to one item of evidence over another “unless no reasonable trier of fact could have done so”); *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1368 (Fed. Cir. 2004) (“[T]he Board is entitled to weigh the declaration and conclude that the lack of factual corroboration warrants discounting the opinions expressed in the declarations.”); *see also* PO Mot. Excl. 5–7 and PO Reply Mot. Excl. 2–4 (arguing Mr. Occhiogrosso does not have sufficient experience with the deaf or hearing impaired); PO Mot. Excl. 8 and PO Reply Mot. Excl. 4–5 (arguing that Mr. Occhiogrosso's statements are unsupported and unreliable).

Under the totality of these circumstances, we decline to exclude the testimony of Mr. Occhiogrosso. Accordingly, Patent Owner's Motion to Exclude to Mr. Occhiogrosso's testimony is *denied*.

C. Mr. Occhiogrosso Is Qualified to Testify as to the Level of Ordinary Skill in the Art

The hypothetical person of ordinary skill in the art is attributed with knowledge “of all prior art in the field of the inventor’s endeavor and of prior art solutions for a common problem even if outside that field.” *In re Nilssen*, 851 F.2d 1401, 1403 (Fed. Cir. 1988). As we explained above in Section II.**Error! Reference source not found.**, the pertinent art is telecommunication systems. Thus, a person of ordinary skill in the art is a person familiar with at least that technology, by way of background and/or experience. The prior art in the record before us is highly indicative of the level of ordinary skill in this art. *Okajima v. Bourdeau*, 261 F.3d. 1350, 1355 (Fed. Cir. 2001) (the prior art itself can reflect the appropriate level of skill in the art.)

Patent Owner argues that Mr. Occhiogrosso has no particular experience in telecommunication relay services (“TRS”) for the deaf and hard of hearing and, as such, is not qualified to testify as to the level of ordinary skill in the art. PO Resp. 7–8. Petitioner replies that Mr. Occhiogrosso has “comprehensive industry experience” that includes experience “relating to each of the component technologies at issue” as well as “applications for the deaf and hard-of-hearing.” Pet. Reply 2 (citing Ex. 1038 ¶¶ 4–11).

Patent Owner’s argument is, essentially, that Mr. Occhiogrosso is not qualified sufficiently in this field because he has insufficient experience with

a particular intended end user of the claimed invention. PO Resp. 7–8. Although those end users may be a large segment of users of this technology, the same technology is used in other contexts, such as translation of spoken languages and captioning of voices, and Mr. Occhiogrosso has experience in those contexts. Ex. 1038 ¶¶ 7, 9–11. Thus, Patent Owner’s argument is unpersuasive. Moreover, Mr. Occhiogrosso testifies he has experience with voice-to-text technology specifically for deaf and hard-of-hearing persons. *Id.* ¶ 11.

Reviewing the testimony of Mr. Occhiogrosso and his supporting documentation (Exs. 1010, 1011, 1038, 2005, 2006, and 2012), we are persuaded that he is qualified to testify as to the level of ordinary skill in the art in this proceeding.

D. The Liebermann-Engelke Ground

Petitioner asserts that the teachings of Liebermann and Engelke ’405, in combination, would have rendered obvious the subject matter of claims 1–5 and 7. Pet. 38–43, 48–49. We first discuss the relevant teachings of Liebermann and Engelke ’405. Then, we discuss Petitioner’s ground and Patent Owner’s arguments with respect to claim 1, including Patent Owner’s evidence of secondary considerations of non-obviousness. Finally, we turn to independent claim 7 and dependent claims 2–5.

1. Liebermann

Liebermann discloses a method for providing captioned telephone service to an assisted user communicating with a hearing user. The assisted user and hearing user first connect over a telephone connection. Ex. 1008, 6:64–65 (“[t]he normally hearing person who calls a deaf person dials the

deaf person's phone number"), 7:5–6 ("the line between the normally hearing person and the deaf person is analog for voice content only"). Then, the assisted user's device connects to the relay on another line and arranges for all parties to be on line, thus facilitating the captioning service. *Id.* at 7:1–3, 7–9, Fig. 4. The relay converts the spoken words of the hearing user into text, which is displayed to the assisted user. *Id.* at 7:10–17, Fig. 8 (showing the assisted user's display, including the hearing user's spoken words as text). Figure 4 is illustrative of the method by which Liebermann initiates the captioning service:

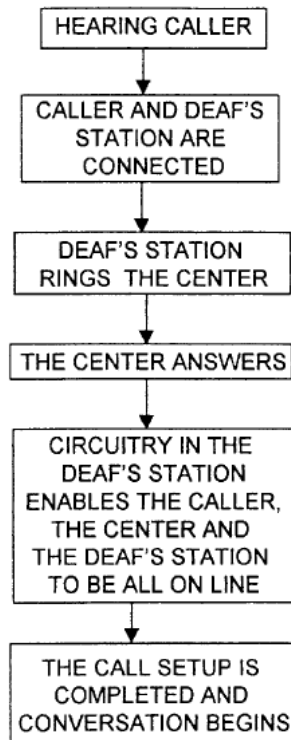


FIG. 4

Reproduced above is a portion of Figure 4 of Liebermann, depicting the method by which a deaf user receives a call from an outside, hearing caller and initiates a captioning service on a second line.

2. Engelke '405

Engelke '405 describes a text-enhanced telephone, which allows for the assisted user to have both a voice connection with the hearing user and a text connection with the relay service at the same time. Ex. 1005, 3:31–37, Fig. 4. Figure 4 of Engelke '405 is illustrative:

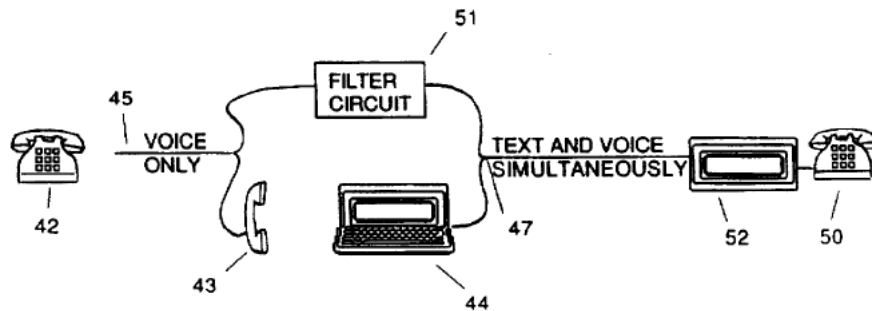


FIG. 4

Figure 4 of Engelke '405 depicts a text-enhanced telephone connection in which assisted user's telephone 50 can send and receive both text and voice, such that the hearing user (at telephone 42), assisted user, and relay operator (at relay 44) can all speak and hear each other, and the assisted user's TTY machine and the relay operator's TTY machine can send text back and forth.

The benefit of this type of system is that it allows users with some hearing or speaking capability to continue to use a telephone and to augment the spoken words of the hearing user with text from the relay service. *Id.* at 2:9–27. Thus, the system allows the assisted user to speak directly to the hearing user or to hear directly from the hearing user, with the relay service providing assistance as needed. *Id.* at 6:48–52. The ability of a relay service to convey the assisted user's voice to the hearing user is called “voice carry over” (“VCO”). *Id.* at 5:64–6:3.

E. Petitioner Has Established That the Combination of Liebermann and Engelke '405 Teaches Each Element of Claim 1

Patent Owner characterizes the '835 patent as directed to a “two-line” approach to captioned telephone services, allowing the captioning service to benefit hearing-impaired users (i.e., as opposed to only deaf users). See PO Resp. 3–4. In general, Petitioner cites to Liebermann to show that the two-line approach was known for deaf users and to Engelke '405 to show it was known to use captioned telephone to modify systems originally designed for deaf users to benefit the hearing impaired. Pet. 38–42. We review each of Petitioner’s assertions and Patent Owner’s arguments against for each limitation of claim 1.

1. Liebermann discloses “initiating a telephone call over a first telephone line directly between the assisted user and the hearing user.”

Liebermann discloses a device having one telephone line between the hearing user and the assisted user, without a relay interposing on that line. Ex. 1008, 6:64–65 (“The [hearing user] who calls [an assisted user] dials the [assisted user’s] phone number”), 7:7–9 (“the line between the [hearing user] and the [assisted user] is analog . . . while the line between the [assisted user] and the relay] is analog but transfers both voice and data”); 7:25–26 (“the cellular phone maintains two cellular connections . . . one to the [relay] . . . and one to the [hearing user].”); see also Ex. 1038 ¶¶ 29–31 (Mr. Occhiogrosso testifying that Liebermann discloses two separate lines). Using Liebermann’s device, a hearing user may call an assisted user at the assisted user’s phone number directly (i.e., in lieu of calling a relay first). *Id.* at 6:64–65; see Fig.4 (“Caller and deaf’s station are connected”).

Patent Owner argues that the connection in Liebermann between the hearing user, assisted user, and the relay operator is a “party call” such that the relay interposes on the connection between the hearing and assisted users. PO Resp. 14–17. Patent Owner points out that our construction of *directly connected* prevents the relay from being interposed between the hearing and assisted users, and thus, according to Patent Owner, the “party call” format of Liebermann means that there is no direct connection between the hearing and assisted users.

Patent Owner’s argument is unpersuasive because it misunderstands what Liebermann means by “party call.” Patent Owner argues that each party is connected to a central “switch,” which “allow[s] for the three parties to be on the call simultaneously.” *Id.* at 15 (citing Ex. 2001 ¶ 26). Neither Patent Owner nor its declarant, Mr. Steel, explains where Liebermann describes such a central switch; Liebermann does not use or imply those words. The only support Patent Owner offers for its position is a schematic drawing showing the arrangement of the parties on the party call, Figure 2 of Liebermann. *Id.* at 15–16; Ex. 2001 ¶ 26. However, Figure 2 of Liebermann merely shows how the hearing user and the assisted user are “communicating,” not that they are all connected to an undisclosed central switching facility. Ex. 1008, 5:40–41, Fig. 2. In addition, even if Patent Owner were to show persuasively that one embodiment of Liebermann contemplated a “party call” in the manner Patent Owner argues, Liebermann explicitly discloses an embodiment that has two separate lines, with one to the hearing user and one to the relay. Ex. 1008, 7:25–26 (“the cellular phone maintains two cellular connections on line, one to the [relay] and one to the [hearing user]”).

We credit the testimony of Mr. Occhiogrosso over that of Mr. Steel on this issue because Mr. Occhiogrosso's testimony closely comports with the explicit disclosure of Liebermann, whereas Mr. Steel's testimony is based on conjecture and the extrapolation of a schematic at the expense of the explicit disclosure. Patent Owner has not set forth sufficient facts to support its assertion that Liebermann's "party call" is switched centrally. Instead, we are persuaded by the evidence cited by Petitioner and its declarant, Mr. Occhiogrosso, that Liebermann has separate telephone connections from the assisted user to the hearing user and to the relay, such that the relay does not interpose on the connection between the assisted user and the hearing user.

In view of the above, we are persuaded that Liebermann discloses a step of "initiating a telephone call over a first telephone line directly between the assisted user and the hearing user."

2. Liebermann discloses "the assisted user initiating a telephone connection over a second telephone line to the relay."

Liebermann discloses that the assisted user has a designated line to the relay, i.e., a second line, separate from the line connecting the assisted user and the hearing user. Ex. 1008, 6:65–7:1 ("a single line which is the [assisted user's] designated line to the [relay]"), 7:7–9 ("the line between the [hearing user] and the [assisted user] is analog . . . while the line between the [assisted user and the relay] is analog but transfers both voice and data"); 7:25–26 ("the cellular phone maintains two cellular connections . . . one to the [relay] . . . and one to the [hearing user]."); *see also* Ex. 1038 ¶¶ 29–31 (Mr. Occhiogrosso testifying that Liebermann discloses two separate lines). Liebermann's device calls the relay automatically *after* receiving the hearing user's call. Ex. 1008, Fig. 4 (noting the order of events). Petitioner's

declarant, Mr. Occhiogrosso, testifies that a person of ordinary skill in the art would understand that the assisted user would provide some indication that they were available to communicate before calling the relay, because otherwise, if the device automatically answered every call, there would be some calls answered where no one was available to communicate. Ex. 1038 ¶ 28.

Patent Owner argues that the device in Liebermann, not the assisted user, initiates the connection to the relay. PO Resp. 17. Our construction of the term “initiating” requires some action on the part of the user before the connection on the second telephone line is made, but not proximal causation, as Patent Owner implicitly would require. Even if Liebermann automatically connects to the relay, we are persuaded by Mr. Occhiogrosso’s testimony that one of ordinary skill in the art would recognize to have some initiating act from the user indicating his or her availability to communicate before placing the second call on the second telephone line. This is also a matter of common sense; it makes little sense to waste time and money connecting to the first caller or to the relay if the assisted user is not available to communicate.

Patent Owner also argues that there is no second telephone line because all parties are on a “party call” through a central switch. PO Resp. 17–20. This is the same argument we discussed with respect to the previous limitation. As we explained in our analysis there, we are not persuaded Liebermann describes a “party call” switch in the manner alleged by Patent Owner.

In view of the above, we are persuaded that Liebermann discloses “the assisted user initiating a telephone connection over a second telephone line to the relay.”

3. *Liebermann discloses “at the station of the assisted user, the station transmitting the voice of the hearing user over the second telephone line to the relay.”*

Liebermann discloses that, after having connected to the hearing user on the first telephone line and to the relay on the second telephone line, the hearing user’s voice is sent to the relay for voice recognition. Ex. 1008, 7:1–12 and 18–19, Fig. 4 (“Circuitry in the [assisted user’s] station enables the [hearing user], the [relay,] and the [assisted user] to all be on line.”).

Liebermann indicates that both first and second telephone lines remain open, such that the circuitry Liebermann discusses must be in the assisted user’s station. *Id.* at 7:5–9; 7:25–26; *see also* Ex. 1038 ¶¶ 29–30 (Mr. Occhiogrosso testifying that there are two separate lines, and the assisted user’s station receives the hearing user’s voice over the first line and transfers it over the second line to the relay).

Patent Owner argues, “[a]ll three parties . . . are in fact connected to a switch that is located in the service provider’s switching network.” PO Resp. 20 (emphasis removed). We have determined already that this argument is not compelling.

In view of the above, we are persuaded that Liebermann discloses “at the station of the assisted user, the station transmitting the voice of the hearing user over the second telephone line to the relay.”

4. *Liebermann discloses “at the relay, converting the words spoken by the hearing user into text.”*

Liebermann discloses that the hearing user’s voice “undergoes speech recognition in the [relay].” Ex. 1008, 7:10–12. Specifically, the hearing user “talks on his or her conventional telephone in the normal and regular way,” then “[h]is or her voice is carried on line . . . to the [relay] where speech recognition algorithms convert the spoken word to text.” *Id.* at 5:14–23. “The [relay] will accommodate appropriate speech recognition (i.e., automatic, continuous and speaker independent.” *Id.*

Patent Owner argues that Liebermann does not use a “revoicing technique” to convert the words spoken by the hearing user into text. PO Resp. 22. Patent Owner offers no cogent explanation as to why the claims are so limited to a particular embodiment described in the specification of the ’835 patent. It is well settled that broad claims are not limited to specific embodiments described in the specification outside of an express indication in the specification to so limit the invention. *See, e.g., In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004) (“[a]bsent claim language carrying a narrow meaning, the PTO should only limit the claim based on the specification or prosecution history when those sources expressly disclaim the broader definition.”). There is no “re-voicing” limitation in the claim, and even if the ’835 patent uses re-voicing in an embodiment, the specification does not unambiguously limit the voice-to-text conversion to re-voicing technology.

In view of the above, we are persuaded that Liebermann discloses “at the relay, converting the words spoken by the hearing user into text.”

5. *Liebermann discloses “transmitting the text created by the relay back to the station of the assisted user over the second telephone line.”*

Liebermann discloses that the hearing user’s voice is converted to text at a relay, and then “[t]he text is sent from the [relay] to the [assisted user’s] device via telephone lines.” Ex. 1008, 7:10–14, 5:21–25.

Patent Owner argues that Lieberman does not convert the hearing user’s words to text and then transmit that text to the assisted user. PO Resp. 22–23. Patent Owner states that Liebermann actually translates voice to text, then to signing content, and then finally to text again. *Id.* at 23. First, we note that Liebermann explicitly states that “[t]he text is sent from the [relay] to the [assisted user’s] device via telephone lines.” Ex. 1008, 7:10–14, 5:21–25. The claim limitation directly reads on this disclosure. Second, even if Liebermann’s text underwent several conversions, as Patent Owner alleges, such a process results in the claimed step, which is simply “transmitting the text created by the relay.” The claim, by its own words or in view of the specification, does not limit to a specific process of converting the words to text, nor does it preclude the particular voice-to-text process of Liebermann.

In view of the above, we are persuaded that Liebermann discloses “transmitting the text created by the relay back to the station of the assisted user over the second telephone line.”

6. *Liebermann discloses “displaying the text to a captioned telephone display device within sight of the assisted user such that captioning of the communication session is provided to the assisted user.”*

Liebermann describes a visual display for providing signing images and text of the hearing user’s voice. Ex. 6:31–36, Fig. 8 (“Incoming Text Screen”). Patent Owner does not contest that Liebermann discloses this step

in its Response. We are persuaded that Liebermann discloses “displaying the text to a captioned telephone display device within sight of the assisted user such that captioning of the communication session is provided to the assisted user.”

7. It was known in the art to configure telephone services to provide various levels of user assistance.

Liebermann’s device is a two-line device for deaf users and, as such, it does not describe explicitly a use by hearing-impaired users. Petitioner proposes that it would have been obvious to a person of ordinary skill in the art to modify Liebermann to include known services to assist hearing- and speech-impaired users.⁶ To that effect, Petitioner’s declarant, Mr. Occhiogrosso, testifies that one of ordinary skill in the art would have been aware of various services available to assist hearing and speech-impaired users. Ex. 1010 ¶ 36. Several such technologies were known at the time of invention, such as “voice carry over” (VCO), “hearing carry over” (HCO), and captioned telephone. *Id.* VCO is where the voice of the assisted user is sent to the hearing user. *Id.* ¶ 23 (explaining VCO). HCO is where the voice of the hearing user is sent to the assisted user. *Id.* (explaining HCO). Captioned telephone, also known as text-enhanced telephone, is where the voice of the hearing user as well as transcribed text of the hearing user are sent to the assisted user. Ex. 1005, 2:31–38. As evidence in support of this

⁶ We discern no claim limitation Petitioner is attempting to address by the modification. Given the nature of the proposed modification, Petitioner appears to be proposing the modification in an abundance of caution, such as if we construed an assisted user to mean a user who was hearing impaired but not deaf.

testimony, Mr. Occhiogrosso offers citations to several patents, each of which we discuss below.

Engelke '405 recognized that, while devices were available to assist deaf users, those who were hearing impaired could benefit from text assistance while using their telephones. Ex. 1005, 1:9–27. These people can often speak, so Engelke '405 discusses using a known VCO mode to allow deaf or hearing deficient users to speak to the hearing user. *Id.* at 5:64–6:3. At the same time, Engelke '405 also discusses to provide text translation of the hearing user's voice, and to provide both the hearing user's voice and the text of the hearing user's voice, so as to allow the text to supplement a hearing-impaired user's hearing. *Id.* at 2:31–38. Engelke '405 characterizes this service as “text enhanced telephone,” which is also known as captioned telephone. *Id.*; Ex. 1001, 3:12–15.

U.S. Patent No. 5,163,081 (issued Nov. 10, 1992 to Wycherley) (Ex. 1013) discusses a device wherein a user could request HCO and VCO modes by switching the device to indicate how he or she wished to use the device. Ex. 1013, 1:40–52.

U.S. Patent No. 6,181,736 (issued Jan. 30, 2001 to McLaughlin) (Ex. 1006) discusses that HCO and VCO modes are known in the art to be used according to the particular needs of the user. Ex. 1006, 29:28–44.

F. Petitioner Has Established a Reason to Combine the Teachings of Liebermann and Engelke '405 in the Manner Proposed

Petitioner asserts that it would have been obvious “to configure the two-line device disclosed in Liebermann to provide both voice and text to a user who, as described in Engelke '405, had attenuated but functional hearing.” Pet. 39. The evidence before us, discussed above in Section

II.E.7, establishes that this reasoning has rational underpinnings.

Specifically, a person of ordinary skill in the art would have known by the time of the invention that devices originally created for deaf users may be upgraded to benefit hearing-impaired users. A person of ordinary skill in the art would have recognized several options, including captioned telephone. That person would have also recognized that such features could be utilized to accommodate the particular needs of the user. In sum, the prior art identified a known problem (need for varying levels of assistance) for which there was a known solution (captioned telephone). *See KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1742 (2007). To provide such a known improvement for Liebermann's device, therefore, would have been within the level of ordinary skill in the art and obvious. Accordingly, Petitioner has shown sufficiently a reason with rational underpinnings for modifying Liebermann's device to provide both voice and text to a user. *Id.* at 1741 ("there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.") (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

We have reviewed Patent Owner's arguments to the contrary and do not find them persuasive. Patent Owner argues at length the deficiencies it perceives in Liebermann as a commercial product. PO Resp. 28–33. The simple matter is that even if Liebermann found little commercial success, that does not undo what the reference discloses. What matters is whether the objective reach of the claim would have been obvious in view of the prior art to a person of ordinary skill in the art at the time of the invention. As we set forth in Section II.E above, Petitioner's proposed combination of the teachings of Liebermann and Engelke '405 addresses each limitation of

claim 1, and, as we explained above, Petitioner's proposed combination is supported by a reason with rational underpinnings.

Patent Owner next argues that Petitioner has not established a rationale for combining Liebermann and Engelke '405. PO Resp. 34–37. Patent Owner hinges its arguments here on its prior, unsuccessful argument that Liebermann did not teach all claim limitations. *Id.* at 34–35.

Patent Owner then argues that the voice and text transmission taught in Engelke '405 was not implemented commercially. *Id.* at 35–37. As we stated above, prior art need not be commercially successful to be prior art. Further, to the extent that Patent Owner is arguing here that Engelke '405 is not enabled, we note that Patent Owner has provided no evidence to that effect, and that, even if Patent Owner had, the prior art need not be enabled at the time of its publication to render claims obvious. *See Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 314 F. 3d 1313, 1355 (Fed. Cir. 2003) (holding that a reference asserted in an obviousness context is presumed to be enabled and it is patentee's burden to prove nonenablement); *id.* at 1357 (“Under § 103 . . . a reference need not be enabled; it qualifies as a prior art, regardless, for whatever is disclosed therein”).

Patent Owner next argues that there is no motivation to provide both voice and text to the user in Liebermann, who is a deaf user (and thus, cannot hear the voice). PO Resp. 36. This argument presumes a reference may never be modified and ignores the combination Petitioner proposes, which is to modify Liebermann to include voice and text, *to enable the device to be used by the hearing impaired*, as taught in Engelke '405.

Patent Owner then argues that the proposed modification would change the principle of operation of Liebermann. PO Resp. 37–40. This

argument relies on Patent Owner's unpersuasive interpretation of Liebermann's "party call," which we addressed above in Section II.E.1.

Patent Owner lastly argues that the proposed combination does not provide "the anonymity that the system disclosed in the '835 Patent provided." *Id.* at 38–39. Patent Owner fails to explain how this is relevant here, and does not direct us to any limitation of claim 1 of the '835 patent that would require some form of "anonymity." *In re Self*, 671 F.2d 1344, 1348 (CCPA 1982) ("[these] arguments fail from the outset because . . . they are not based on limitations appearing in the claims").

In view of the above, we are persuaded that it would have been obvious "to configure the two-line device disclosed in Liebermann to provide both voice and text to a user who, as described in Engelke '405, had attenuated but functional hearing." Pet. 39. As such, Petitioner has established a reason with rational underpinnings for combining the teachings of Liebermann and Engelke '405 in the manner proposed.

G. Patent Owner's Evidence of Secondary Considerations is Unavailing

Factual inquiries for an obviousness determination include secondary considerations based on evaluation and crediting of objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). Notwithstanding what the teachings of the prior art would have suggested to one with ordinary skill in the art at the time of the '835 patent's invention, the totality of the evidence submitted, including objective evidence of nonobviousness, may lead to a conclusion that the challenged claims would not have been obvious to one with ordinary skill in the art. *In re Piasecki*, 745 F.2d 1468, 1471–72 (Fed. Cir. 1984). Secondary considerations may include any of the following: long-felt but unsolved need, failure of others,

unexpected results, commercial success, copying, licensing, and praise. See *Graham*, 383 U.S. at 17; *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007).

To be relevant, evidence of nonobviousness must be commensurate in scope with the claimed invention. *In re Kao*, 639 F.3d 1057, 1068 (Fed. Cir. 2011) (citing *In re Tiffin*, 448 F.2d 791, 792 (CCPA 1971)); *In re Hiniker Co.*, 150 F.3d 1362, 1369 (Fed. Cir. 1998). Thus, to be accorded substantial weight, there must be a nexus between the merits of the claimed invention and the evidence of secondary considerations. *In re GPAC Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995). “Nexus” is a legally and factually sufficient connection between the objective evidence and the claimed invention, such that the objective evidence should be considered in determining nonobviousness. *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988). The burden of showing that there is a nexus lies with the Patent Owner. *Id.*; see *In re Paulsen*, 30 F.3d 1475, 1482 (Fed. Cir. 1994).

Patent Owner alleges “substantial praise for the inventions claimed in [Patent Owner’s] patents, including the ’835 patent, the long-felt but unresolved need of the deaf and hard of hearing community, the commercial success of the products and services embodying the invention, and the failure of others to provide a relay service or other solution that provided the benefits of the claimed inventions.” PO Resp. 41. For support, Patent Owner proffers declarations by Ms. Battat (Ex. 2003) and Ms. Phelps (Ex. 2004) describing general innovations of Patent Owner’s CapTel Service and its CapTel phone and describes their benefits to the deaf and hard of hearing community. PO Resp. 41. In an attempt to establish the requisite

nexus, Patent Owner relies on a declaration of Mr. Ludwick (Ex. 2007) asserting that his expert declaration “explain[s], on a feature by feature basis, the nexus between those secondary considerations and the claimed design” and “illustrates, in chart form, that the CapTel system and various models of CapTel phones embody the claims of the present invention.” PO Resp. 41–42.

Patent Owner’s Response contains no substantive arguments. *See id.* Instead, Patent Owner merely lists the names of various common forms of secondary evidence, without exposition. This does not provide sufficient analysis for us to determine whether Patent Owner has provided adequate evidence of secondary considerations and a nexus between any such evidence and the merits of the claimed invention. Thus, Patent Owner’s broad contentions regarding secondary considerations in its Patent Owner Response do not demonstrate nonobviousness.

Notwithstanding, turning to Patent Owner’s declarations submitted as evidence of secondary considerations, we find that Patent Owner has failed to establish a nexus between the merits of the claimed invention and the evidence of secondary considerations. To show a nexus, Patent Owner relies on Mr. Ludwick’s declaration. That declaration describes his visit to CapTel, Inc.’s relay center in Madison, Wisconsin. Ex. 2007 ¶ 54. Mr. Ludwick’s chart presents his conclusions based on personal observation that the CapTel Service meets each claim limitation of the ’835 patent. *Id.* ¶ 55 (pp. 36–42). For example, regarding “the assisted user initiating a telephone connection over a second telephone line to the relay,” recited in claim 1, Mr. Ludwick asserts:

I personally observed that the CapTel Service meets this element to the extent the CapTel Phones

are operated in twoline mode. I observed that a connection over the second telephone line is made to the relay when the user turns 'on' the captioning service on a CapTel Phone. I further confirmed this from my own knowledge of CapTel Service and my observation of CapTel Phones. The CapTel Service has always involved performance of the claimed method to the extent the commercially-sold CapTel Phones are operated in two-line mode.

Ex. 2007 ¶ 55 (p. 37); *see also id.* ¶ 55 (p. 40–41) (making the same observation for the same limitation in claim 7).

Because Mr. Ludwick's conclusions are based on personal observations, without sufficient supporting facts or data, his testimony has little probative value. *See In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1368 (Fed. Cir. 2004) (“[T]he Board is entitled to weigh the declaration and conclude that the lack of factual corroboration warrants discounting the opinions expressed in the declarations.”); *see also* Fed. R. Evid. 702 (providing one may testify in the form of an opinion if the testimony is based on sufficient facts or data). As such, Mr. Ludwick's conclusory assertions do not provide a sufficient connection between objective evidence and the claimed invention, and so do not establish the requisite nexus between the merits of the claimed invention and the evidence of secondary considerations.

In addition, the evidence proffered by Patent Owner is unconvincing. The evidence provided is divided generally into three claim features: re-voicing, simultaneous voice and text, and two-line service. *See, generally*, Exs. 2003, 2004, 2007. As we discussed above in Section II.E.4, the '835 patent does not require re-voicing. *See Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1312-13 (Fed. Cir. 2006) (finding unconvincing secondary

evidence directed to unclaimed features). As to simultaneous voice and text, no limitation in the '835 patent requires such a feature. *See id.* Finally, as to two-line service, Liebermann discloses this feature, as we discussed in Sections II.E.1–3 above. Even if we were to consider Patent Owner's showings here as tending to demonstrate commercial success, *arguendo*, success in something already known in the art is not pertinent. *Ormco*, 463 F.3d at 1312 (“if the feature that creates the commercial success was known in the prior art, the success is not pertinent”).

Accordingly, Patent Owner fails to provide sufficient credible evidence to support its allegations of nonobviousness based on secondary considerations.

H. The Subject Matter of Claim 1 Would Have Been Obvious

Having reviewed the papers submitted by the parties and the evidence cited therein (which includes the evidence of secondary considerations), we determine that Petitioner has shown, by a preponderance of the evidence, that the subject matter of claim 1 of the '835 patent would have been obvious to a person of ordinary skill in the art in view of the teachings of Liebermann and Engelke '405.

I. Petitioner Has Shown that the Subject Matter of Claim 7 Would Have Been Obvious in View of Liebermann and Engelke '405

Petitioner's treatment of claim 7 is substantially similar to its treatment of claim 1. Pet. 48–49 (citing to the entries for claim 1 in its claim chart). Claim 7 additionally requires that the voice-to-text conversion be performed “using voice recognition computer software.” As we identified above in Section II.E.4, Liebermann discloses using voice recognition computer software. Patent Owner does not set forth separate arguments.

Having reviewed the papers submitted by the parties and the evidence cited therein, we determine that Petitioner has shown, by a preponderance of the evidence, that the subject matter of claim 7 of the '835 patent would have been obvious to a person of ordinary skill in the art in view of the teachings of Liebermann and Engelke '405.

J. Petitioner Has Shown that the Subject Matter of Claims 2–5 Would Have Been Obvious in View of Liebermann and Engelke '405

Petitioner addresses each limitation of claims 2–5, which depend from claim 1. Pet. 42–43. Patent Owner again argues that the first and second telephone lines in Liebermann are not separate and distinct. PO Resp. 27. We did not find this argument persuasive in Section II.E above, nor do we find it persuasive here.

Having reviewed the papers submitted by the parties and the evidence cited therein, we determine that Petitioner has shown, by a preponderance of the evidence, that the subject matter of claims 2–5 of the '835 patent would have been obvious to a person of ordinary skill in the art in view of the teachings of Liebermann and Engelke '405.

K. Conclusion

Petitioner has shown, by a preponderance of the evidence, that the subject matter of claims 1–5 and 7 of the '835 patent would have been obvious in view of the teachings of Liebermann and Engelke '405.

III.ORDER

In view of the foregoing, it is hereby:

ORDERED that Petitioner has shown by a preponderance of the evidence that claims 1–5 and 7 of the '835 patent are unpatentable; and

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FURTHER ORDERED that this is a final written decision and that parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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