

UNITED STATES INTERNATIONAL TRADE COMMISSION
WASHINGTON, D.C.

Before The Honorable Monica Bhattacharyya
Administrative Law Judge

In the Matter of

CERTAIN PORTABLE BATTERY JUMP
STARTERS AND COMPONENTS
THEREOF (II)

Inv. No. 337-TA-1359

RESPONDENTS' OPENING CLAIM CONSTRUCTION BRIEF

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I. INTRODUCTION

Although this investigation began a few months ago, it is only the latest chapter in a years-long effort by NOCO to damage its competitors in the jump starter market—including the Respondents¹ in this litigation—through patent litigation. Although NOCO has succeeded in imposing massive litigation costs on its rivals, it has almost uniformly failed on the merits. Rather than learning its lesson and focusing on competing in the marketplace, however, NOCO responded to its defeats by going back to the Patent Office with continuation applications to acquire new claims tailor-made for litigation—purportedly supported by applications filed in 2016 and 2017—and asserting them against the same competitors that defeated its prior attempts to assert the parent patents to which the continuations claim priority. Several of the six patents NOCO has asserted in this Investigation—U.S. Patent Nos. 9,770,992 (the “’992 patent”), 10,328,808 (the “’808 patent”),² 10,981,452 (the “’452 patent”), 11,254,213 (the “’213 patent”), and 11,584,243 (the “’243 patent”) (collectively the “Asserted Patents”)—are the result of those litigation-driven prosecution efforts.

The litigation-focused nature of the Asserted Patents is reflected in the constructions NOCO seeks for the terms the parties have identified for construction. As is explained in more detail below, time and again, NOCO proposes claim constructions that are unmoored from the patents’ written descriptions and give no meaningful regard to what a person of ordinary skill in

¹ As used herein, “Respondents” refers to Shenzhen Carku Technology Co., Ltd., Metasee LLC, Ace Farmer LLC, Shenzhen Gooloo Ecommerce Co., Ltd., Gooloo Technologies LLC, Hulkman LLC, Shenzhenshi Xinmeitemuxiangbao Zhuangyouxiangongsi, Aukey Technology Co., Ltd., Shenzhenshi Shoudiankejiyouxiangongsi, ChangShaHongMaoKai KeJiYouXianGongSi, Shenzhenshi Daosishangmao Youxiangongsi, Shenzhen Pinwang Industry Co. Ltd., Winplus North America, Inc., Winplus NA, LLC, and ADC Solutions Auto, LLC (d/b/a Type S).

² ADC Solutions Auto, LLC, Shenzhen Pinwang Industry Co. Ltd., Winplus North America, Inc., and Winplus NA, LLC (the “Winplus Respondents”) take no position on the construction of terms appearing only in the ’808 and ’992 patents, as those patents have not been asserted against them.

the relevant art (“POSITA”)—as of the relevant priority date—would have understood the patentees to have actually invented, described, and claimed. The Staff’s constructions are somewhat better in this regard but, in several instances, deviate from the alleged invention actually described in the specification. Respondents’ constructions in contrast, as explained in more detail below, best capture how a POSITA would interpret the claim terms in question in view of the intrinsic and relevant extrinsic evidence. Respondents respectfully urge the Court to adopt them.

II. RELEVANT LITIGATION AND PROCEDURAL HISTORY

NOCO’s litigation campaign began in 2017, when it initiated a series of litigations asserting U.S. Pat. No. 9,007,015 (“the ’015 patent”). The ’015 patent and its disclosure are directly relevant to NOCO’s infringement allegations in this Investigation, and the claim construction issues before the Court. Four of NOCO’s asserted patents—the ’992 , ’808, ’243, and ’023 patents—claim priority to the application that issued as the ’015. The other two asserted patents—the ’452 patent and ’213 patents—expressly reference the ’015 patent in their shared written description.

Virtually all of NOCO’s ’015 patent cases have been stayed for years as a result of IPR petitions challenging the patentability of the asserted claims of the ’015 patent. Those IPR petitions ultimately resulted in a final written decision finding that all but one of the asserted claims of the ’015 patent were unpatentable. Ex. K, IPR2020-00944, Paper 73, Final Written Decision (November 3, 2021). That decision is now on appeal to the Federal Circuit. NOCO has also asserted the ’015 patent and other related patents at the ITC. That investigation resulted in a finding of no violation with respect to NOCO’s patent infringement allegations. *Certain Portable Battery Jump Starters & Components Thereof*, Inv. No. 337-TA-1256, Comm’n Notice of Final Determination (Aug. 29, 2022).

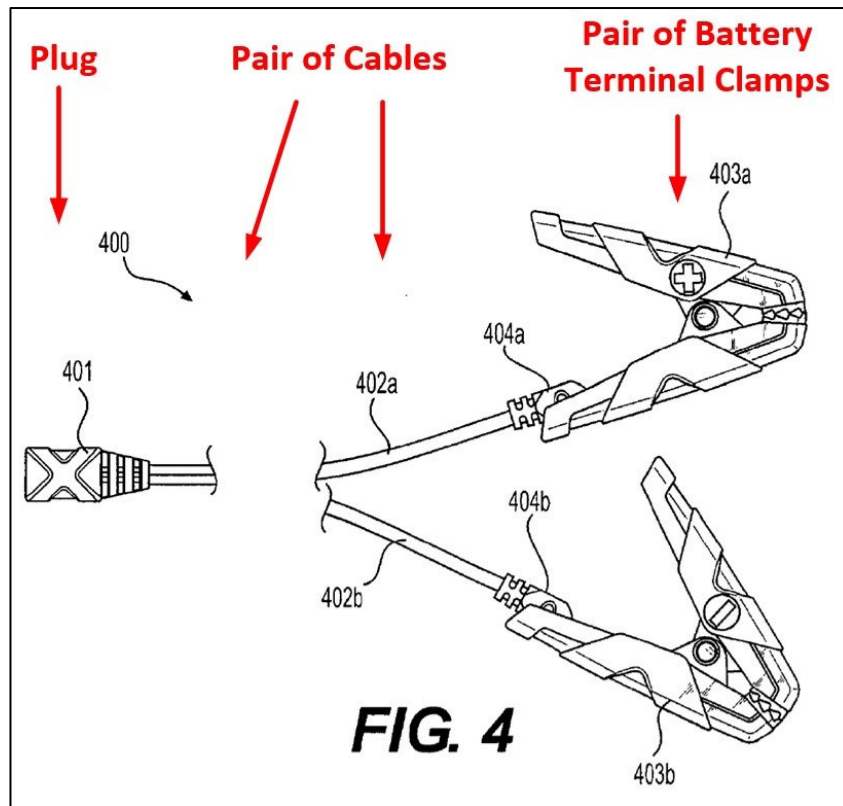
Having failed to achieve any meaningful results through its assertion of the '015 patent and other early generation patents in the same family, NOCO filed the Complaint leading to this investigation on February 13, 2023.

III. OVERVIEW OF THE ASSERTED PATENTS

A. The Cable Patents - U.S. Patent No. 9,770,992 and U.S. Patent No. 10,328,808

The '992 patent and the '808 patent (collectively, the “Cable Patents”) are related to and share a substantially identical written description with the USB Patents discussed below. The specification of the Cable Patents is generally directed to jump starting devices.

The Cable Patents do, however, have a brief disclosure of cable device, which is described with respect to Figure 4 of each patent. '992 patent, 7:53–8:18, Fig. 4; '808 patent, 7:52–8:29, Fig. 4. As shown below, the Cable Patents disclose a three-part cable device, having a plug, a pair of cables, and a pair of battery terminal clamps. The plug can be connected to a “handheld device 300,” such as a jump starter. '992 patent, 7:54–56. The cables then connect the plug to the terminal clamps, which can be connected to a battery. '992 patent, 7:56–66. Many of the claims at issue in this Investigation relate to characteristics of the plug, especially its shape and physical dimensions.



'992 patent, Fig. 4 (red annotations by Respondents).

B. The USB Patents - U.S. Patent No. 11,447,023 and U.S. Patent No. 11,584,243

The '023 patent and the '243 patent (collectively, the “USB Patents”) are continuations of, and share a substantially identical written description with, the Cable Patents. Through a complicated chain of priority applications, both of the USB Patents ultimately claim priority to PCT/US2014/045434, which was filed on July 3, 2014. Respondents’ assume for purposes of this brief, without admitting, that the USB Patents are entitled to the benefit of the foregoing July 3, 2014 application. The '023 patent which is titled “Portable Vehicle Battery Jump Start Apparatus with Safety Protection and Jumper Cable Device Thereof” issued on September 20, 2022. The '243 patent is titled “Jump Starting Device With USB” and issued on February 21, 2023.

The specification and claims of the USB Patents are generally directed to a jump starting device with particular characteristics. Each independent claim of the USB Patents includes a

limitation directed to either a “USB input circuit” or “USB charge circuit.” Relatively little of the written description, however, is devoted to discussing or explaining the role USB plays in the claimed invention. Virtually all of the USB Patents’ description of the use of “USB”—a term that the patents never spell out or define—in the claimed invention is contained in the passage reproduced below (or the figures referenced therein):

A USB output 56 circuit (FIG. 2C) is included to provide a USB output for charging portable electronic devices such as smartphones from the internal lithium battery pack 32. Control circuit 57 from the microcontroller 1 allows the USB Out 56 to be turned on and off by software control to prevent the internal lithium battery getting too low in capacity. The USB output is brought to the outside of the device on a standard USB connector 58, which includes the standard voltage divider required for enabling charge to certain smartphones that require it.

The USB charge circuit 52 allows the internal lithium battery pack 32 to be charged using a standard USB charger. This charge input uses a standard micro-USB connector 48 allowing standard cables to be used. The 5V potential provided from standard USB chargers is up-converted to the 12.4 VDC voltage required for charging the internal lithium battery pack using a DC-DC converter 49. The DC-DC converter 49 can be turned on and off via circuit 53 by an output from the microcontroller 1.

’243 patent at 7:22-40. As is apparent from the language above, the USB Patents contemplate the use of “standard” USB equipment.

C. The Cell Equalization Patents - U.S. Patent No. 10,981,452 and U.S. Patent No. 11,254,213

Respondents refer to the ’452 and ’213 patents collectively as the “Cell Equalization Patents” because they stem from continuation applications that share a specification in which the core claimed advance over the prior art described is a purportedly new “battery cell equalization circuit.” *See, e.g.*, ’213 patent at 3:29-62. The ’213 patent is the earlier of the two in the chain, and it claims priority to a PCT/US2018/050243, which was filed on September 10, 2018, and PCT/US2018/025424, filed on March 30, 2018. It does not claim priority to any earlier applications and thus cannot claim the benefit of any earlier applications as a matter of law. *See, e.g.*, 35 USC §§ 119(e)(1) and 120; *Encyclopaedia Britannica, Inc. v. Alpine Elecs. of Am., Inc.*,

609 F.3d 1345, 1352 (Fed. Cir. 2010) (“We conclude that § 120 requires each application in the chain of priority to refer to the prior applications.”). The earliest effective filing date of the ’213 patent is thus March 30, 2018.

The ’452 patent issued from a continuation of the application that issued as the ’213 patent. The ’452 patent claims priority to a provisional application filed on March 31, 2017, but that priority claim fails because the preceding application in the chain failed to claim priority to that provisional application. Accordingly, the earliest effective filing date of the ’452 patent is also March 30, 2018.

The written description of the Cell Equalization Patents states that “[t]he present invention relates generally to an electronic device or apparatus having multiple batteries or a battery pack having multiple battery cells provided with a battery cell equalization circuit.” ’452 patent at 1:21-24. Much of the Cell Equalization Patents’ discussion of the prior art is copied verbatim from an earlier application not in the priority chain, and discusses problems in the prior art that are not relevant to the subject matter claimed in the Cell Equalization Patents. *See, e.g.*, ’452 patent at 1:33-3:32. Pertinent to the subject matter claimed in the Cell Equalization patents, the specification states:

Further, there exists a problem with the prior art electronic devices or apparatus having multiple batteries or a battery pack with multiple battery cells.

For example, lithium-ion (Li-ion) batteries have been known to explode or catch fire due to overheating when individual battery cells get overcharged. The battery life also decreases, if individual battery cells are not equally charged, causing significantly unequal voltages across the individual battery cells.

Currently, portable or hand-held vehicle jump starters using Li-ion batteries do not include battery equalization circuits. Thus, Li-ion batteries can suffer from the above overcharging problems. An example of such a hand-held vehicle jump starter is disclosed in U.S. Pat. No. 9,007,015, which is incorporated herein by reference.

A battery cell equalization circuit according to the present invention can be applied or incorporated into the portable or hand-held vehicle jump starter device

disclosed and claimed in U.S. Pat. No. 9,007,015.

There exists a need to provide battery equalization circuits, for example, with electronic apparatus having multiple Li-ion batteries or Li-ion battery packs having multiple battery cells, for example, in rechargeable electronic devices such as the portable or hand-held vehicle jump starter device according to the present invention.

While the prior art attempted to provide solutions to one or more of the above-mentioned problem(s) as discussed above, each of the prior art solutions suffers from other shortcomings, either in complexity, cost and/or has potential for malfunction. Accordingly, there exists a need in the art for further improvements to electronic devices or apparatus having multiple batteries or battery packs having multiple battery cells such as used in vehicle jump starting devices or apparatus.

'452 patent at 3:37-4:3.

The solution, according to the Cell Equalization Patents, is a “battery cell equalization circuit,” which is depicted in Figure 5 and described in columns 9 through 11. *See* '452 patent at 5:25-26 (“FIG. 5 is a schematic circuit diagram of a ***battery cell equalization circuit according to the present invention.***”);³ *id.* at 9:30-11:61. According to the Cell Equalization Patents, the battery cell equalization circuit can be implemented in a wide variety of electronic devices that use multi-cell batteries, including electric cars and trucks. '452 patent at 4:4-64 (emphasis added).

IV. PERSON OF ORDINARY SKILL IN THE ART

As of the claimed effective filing dates of the Asserted Patents, Respondents contend that a POSITA would have had at least a Bachelor's Degree in Electrical Engineering and at least two years of experience in the field of electrical engineering and specifically power supply management such as battery charging system design. Further education could also suffice in lieu of experience in the field or significant experience in the field could substitute for formal education. The parties and their experts agree that the differences between the parties' formulations of the definition of a POSITA do not impact the claim construction issues discussed

³ All emphasis herein has been supplied unless otherwise noted.

here. Ex. B, Rebuttal Expert Declaration of David Ricketts to the Initial Expert Report of Dr. Ayman Fayed, ¶5; Ex. C, Initial Expert Report of Dr. Ayman A. Fayed, Ph.D. Regarding Constructions of Certain Disputed Claim Terms, ¶15.

V. LEGAL STANDARD

Respondents understand that the Court is very familiar with the fundamental tenets of claim construction, and adopt the general statement of law set forth in USITC Inv. No. 337-TA-1308, which we have reproduced below for convenience.

The scope of a patent claim is defined by the claim language. *Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 807 (Fed. Cir. 2002). In construing the claims, the court's task is to "ascertain[] the meaning of the claim terms to one of ordinary skill in the art at the time of invention." *Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1361 (Fed. Cir. 2004). "[O]nly those [claim] terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy." *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999); *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Ltd. Matal*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (same).

To ascertain the meaning of claim terms at issue, courts rely on intrinsic evidence: the claims, specification, and prosecution history for the patent at issue. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313-14 (Fed. Cir. 2005); *Vitronics Corp. v. Conceptoronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). The words of a claim "are generally given their ordinary and customary meaning." *Phillips*, 415 F.3d at 1312. This is the meaning "that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Id.* at 1313.

Importantly, the person of ordinary skill in the art "is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Id.* The Federal Circuit has repeatedly confirmed that the specification is "the single best guide to the meaning of a disputed term." *Id.* at 1315. The specification plays a primary role because it can function as "a concordance for the claims," explaining the invention and defining the terms used in the claims. *Id.* (citation omitted); see also *id.* ("[C]laims . . . do not stand alone. Rather, they are part of a 'fully integrated written instrument,' consisting principally of a specification that concludes with the claims.") (citation omitted). "Ultimately . . . the construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Id.* at 1316 (internal quotation and citation omitted).

Claims should also be read in view of the prosecution history, which provides “evidence of how the PTO and the inventor understood the patent.” *Id.* at 1317. “The prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.” *Id.*

In addition to intrinsic evidence, extrinsic evidence may be considered if necessary to explain scientific principles, technical terms, and terms of art that appear in the patent and prosecution history. Extrinsic evidence consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises. *Vitronics*, 90 F.3d at 1584. Extrinsic evidence in the form of expert testimony “can be useful to a court for a variety of purposes, such as to provide background on the technology at issue, to explain how an invention works, to ensure that the court’s understanding of the technical aspects of the patent is consistent with that of a person of skill in the art, or to establish that a particular term in the patent . . . has a particular meaning in the pertinent field.” *Phillips*, 415 F.3d at 1318. While not prohibited, extrinsic evidence is less reliable than the patent and its prosecution history. *Id.* Extrinsic evidence in the form of expert testimony that is at odds with the intrinsic evidence must be disregarded. *Network Com., Inc. v. Microsoft Corp.*, 422 F.3d 1353, 1361 (Fed. Cir. 2005).

In the Matter of Certain Power Semiconductors, & Mobile Devices & Computers Containing Same, Inv. No. 337-TA-1308, Ord. No. 36: Construing Certain Terms of the Asserted Claims of the Patent at Issue, (Jan. 30, 2023).

VI. CLAIM TERMS FOR CONSTRUCTION – CABLE PATENTS

A. *Preambles - Claims 1 and 14 of the '992 Patent, and Claims 1, 15, 16, and 17 of the '808 Patent*

NOCO’s Proposed Construction	Respondents’ Proposed Construction	Staff’s Proposed Construction
Limiting	Independent claim preambles are not limiting	Limiting

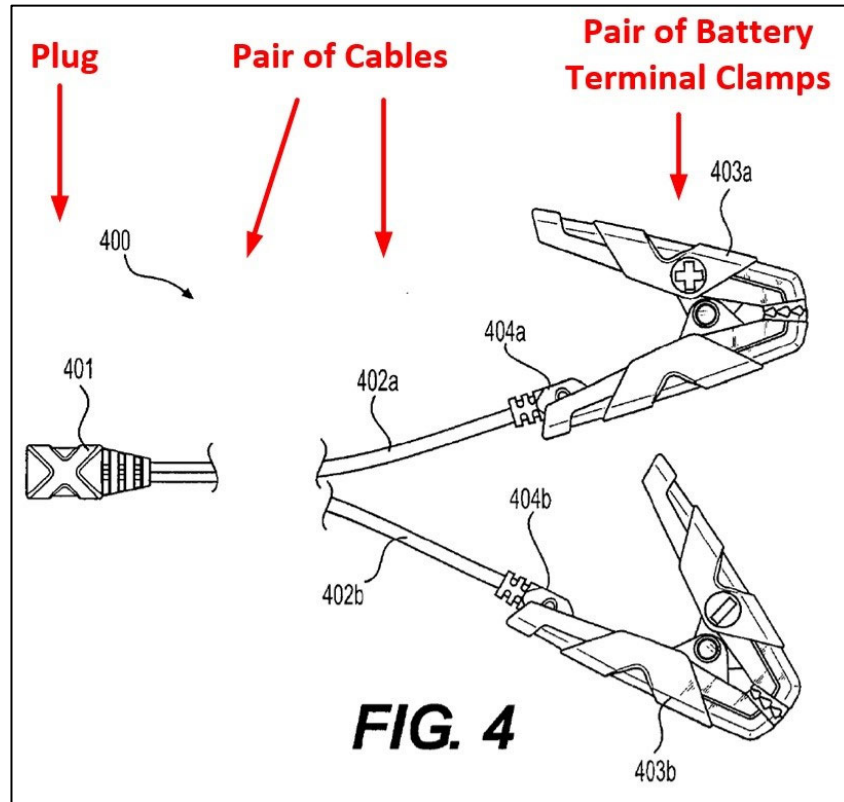
“[A]s a general rule preamble language is not treated as limiting.” *Aspex Eyewear, Inc. v. Marchon Eyewear, Inc.*, 672 F.3d 1335, 1347 (Fed. Cir. 2012). This is especially true where the claim “defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention.” *Neapco Drivelines LLC v. Am. Axle & Mfg.*,

Inc., 847 F. App'x 856, 858 (Fed. Cir. 2021) (quoting *Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002)). Here, a POSITA would not understand the preambles of the Cable Patents to be limiting, because they provide at most an intended use for the structurally complete cable devices recited in the body of the claims.

The Cable Patent claims are all apparatus claims. Each Cable Patent claims recites either a jumper cable device or a battery jumper cable device: “A jumper cable device . . . comprising:” (’992 patent, claims 1 and 14; ’808 patent, claims 1 and 15); and “A battery jumper cable device . . . comprising:” (’808 patent, claims 16 and 17). Hence, the patentability of these claims turns on their “claimed structure, and not the use or purpose of that structure.” *Marrin v. Griffin*, 599 F.3d 1290, 1294 (Fed. Cir. 2010).

The preambles of the Cable Patent claims are not limiting because the body of the claims recite ***structurally complete*** jumper cable devices. “[A] preamble is not limiting ‘where a patentee defines a structural complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention.’” *Catalina Mktg. Int'l, Inc.*, 289 F.3d at 808 (quoting *Rowe v. Dror*, 112 F.3d 473, 478 (Fed. Cir. 1997)). Each Cable Patent claim recites the structural elements of the claimed jumper cable device, including either “a single plug” (’992 patent, claims 1 and 14; ’808 patent, claims 1, 15, and 17) or “a single rectangular-shaped plug” (’808 patent, claim 16). Each recites the structural elements of two cables, either “a pair of cables” (’992 patent, claims 1 and 14), “a pair of battery cables” (’808 patent, claims 1 and 15), or “a positive battery cable and a negative battery cable” (’808 patent, claims 16 and 17). One claim additionally recites “a pair of battery terminal clamps.” ’992 patent, claim 14. The Cable patent only illustrate the structures required by the jumper cable devices in their respective Figures 4. As illustrated in Figure 4 of the ’992 patent below, these three structural elements recited in the Cable Patent claims constitute the complete structure of the claimed jumper cable

devices.



'992 patent, Fig. 4 (red annotations by Respondents). A POSITA would have understood these features recited in the body of the claims to constitute the complete claimed cables. Ex. A, Declaration of David Ricketts in Support of Respondents' Opening Claim Construction Brief, ¶¶37–43.)

The additional language in the preambles is not limiting, because it is by its explicit language an intended use of the claimed jumper cable devices. It is well-settled that “preambles describing the use of an invention generally do not limit the claims because the patentability of apparatus or composition claims depends on the claimed structure, not on the use or purpose of that structure.” *Catalina Mktg. Int'l, Inc.*, 289 F.3d at 809. Beyond recitation of the claimed jumper cable devices, each preamble merely recites an intended use of that device:

1. A jumper cable device **for use with** a handheld battery charger booster device for

charging a battery, the jumper cable device comprising:

14. A jumper cable device *for use with* a handheld battery charger booster device for charging a battery, the jumper cable device comprising:

1. A jumper cable device *for use with* a jump starter having an internal power supply and an output port for connecting with the jumper cable device, the jumper cable device comprising:

15. A jumper cable device *for use with* a jump starter having a power supply or battery and an output port for connecting with the jumper cable device, the jumper cable device comprising:

16. A battery jumper cable device *for use with* a jump starter having a power supply or battery and an output port for for [sic] connecting to the jumper cable device, the jumper cable device comprising:

17. A battery jumper cable device *for use with* a jump starter having a power supply or battery and a single output port for connecting to the jumper cable device, the jumper cable device comprising:

'992 patent, claims 1 and 14; '808 patent, claims 1, 15, 16, and 17. Thus, beyond the recitation of the claimed apparatus, the preambles recite only non-limiting intended uses for those apparatuses.

Notwithstanding other facts, a preamble may still be found limiting if the applicant relies on the preamble during prosecution to obtain allowance of the claims. "Clear reliance on a preamble during prosecution can distinguish a claimed invention from the prior art and render the preamble a claim limitation." *Marrin*, 599 F.3d at 1294.

However, NOCO did not rely on the preambles in the Cable Patents to obtain allowance of the claims, but rather on *the structure of the jumper cable devices themselves*. During

prosecution of the '992 patent, the examiner rejected the claims over the combination of prior art references “Brown” and “Waldron.” Ex. D, April 11, 2017 Amendment and Response, p. 11 (office action response identifying examiner’s rejections). In order to overcome that rejection, NOCO did not rely on the preamble at all. Rather, NOCO relied on the claim language reciting “a body of the single plug has a uniform width . . . [.]” *Id.* at 11–13. As explained above, the “plug” is one of the structural elements of the jumper cable device itself. This characterization of the plug structure was the only distinction that NOCO made over the Brown and Waldron references, (*id.*), and the examiner allowed the claims on that basis. During prosecution of the '808 patent, NOCO again distinguished the prior art based on the shape of the plug and whether the cited prior art disclosed a jumper cable device at all. Ex. E, December 11, 2018 Amendment, pp. 11–18.) NOCO’s reliance on structure of the jumper cable device rather than the intended use statement in the preamble further confirms that the latter is not limiting on the claims.

Complainant is likely to argue that the intended use statement in the preambles is limiting because it provides antecedent basis for language in the bodies of the claims. But while antecedent basis can “evince an inventor’s intent that the preamble limit the scope of the claim,” “antecedent basis alone is not determinative of whether a preamble is limiting.” *Shoes by Firebug LLC v. Stride Rite Children’s Grp., LLC*, 962 F.3d 1362, 1368 (Fed. Cir. 2020). Here it is not even true that the preamble provides antecedent basis for the body of every claim. For example, claim 14 of the '992 patent recites anew “a handheld battery charger booster device” in the body of the claim, despite having already recited that language in the preamble. '992 patent, 9:20–21. But even for the claims where the preamble does provide antecedent basis, that issue is not determinative. *Firebug*, 952 F.3d at 1358.

This is true, for instance, in cases like this one where the preamble recites a physical structure with which the claimed apparatus interacts. In *Intirtool, Ltd. v. Texar Corp.*, 369 F.3d

1289 (Fed. Cir. 2004), the claims “hand-held punch pliers” (the claimed apparatus) “for simultaneously punching and connecting overlapping sheet metal such as at the corners of overlapping ceiling tile grids” (the intended use). *Id.* at 1292. Even though the preamble provided antecedent basis for four subsequent recitations of “said sheet metal” or “the sheet metal” in the body of the claim, *id.* at 1292–1293, the court found the preamble non-limiting because it recited a structurally complete apparatus and there was no reliance on the preamble during prosecution, *id.* at 1294–1296.

So too here, notwithstanding the fact that the preamble in some of the Cable Patent claims provides antecedent basis for later parts of the claim, the preamble should be found non-limiting when taken in the context of the claimed apparatus and the prosecution history.

B. body of the single plug has a uniform width - '992 patent claims 1 and 14

NOCO's Proposed Construction	Respondents' Proposed Construction	Staff's Proposed Construction
a portion of the single plug that is arranged to fit into the single output port has a uniform width	body of the single plug has an unvarying, exactly same width	the shell of the single plug excluding the cable connections has a constant and unchanging width

A POSITA would have understood this term means “body of the single plug has a constant and unchanging width.” First, the word “body” is used consistently with its ordinary, meaning and requires no construction. Second, a POSITA would have understood the word “uniform” means “constant and unchanging” in the context of the claim language, and consistent with the intrinsic evidence.

1. The word “body” requires no construction.

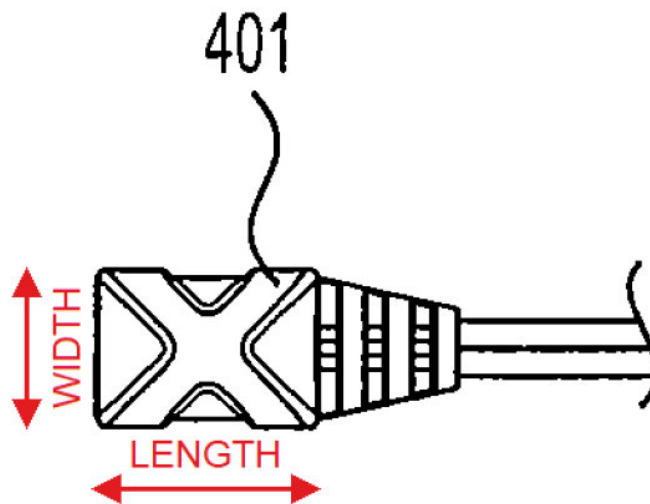
No construction is necessary for the word “body,” particularly not one that replaces one word of the actual claim language and adds ten more as NOCO proposes. The word “body”

already describes this claimed portion of the single plug in plain English, and in non-technical language—i.e., the physical whole of an object. (*See* Ex. F, p. 79 (CAR-NOCO-ITC_II-017851, definition of “body”) (Merriam-Webster Dictionary); *see also* Ex. A, ¶54.) Nothing in the specification or prosecution history contradicts the plain meaning of the word “body.”

2. NOCO’s proposed construction of the word “body” contradicts the intrinsic evidence.

On the other hand, a POSITA would not have understood the word “body” to mean “a portion of the single plug that is arranged to fit into the single output port” proposed by NOCO. Indeed, even NOCO’s own expert Dr. Fayed disagrees with NOCO’s proposed construction. Specifically, Dr. Fayed states:

[A] POSA would have understood the width and *length of the plug 401* to be the respective width and *length dimensions shown by the red arrows and labels* in the image below:



I understand that the parties have generally agreed that the ‘width’ and ‘*length of the body of the plug*’, as recited in the ’992 patent claims, *correspond to the dimensions I have featured above using the red arrows* with reference to Figure 4 of the ’992 patent.

Ex. C, ¶¶50–51 (emphasis added). Thus, Dr. Fayed opines that the body of plug 401 extends

from one end of the plug to the other end, as indicated by the “LENGTH” label and the corresponding red arrow in Figure 4 (above) annotated by Dr. Fayed. Therefore, according to NOCO’s own expert, the body of the single plug is *not* just “a portion of the single plug that is arranged to fit into the single output port” proposed by NOCO, but covers the entire length of the plug. *See id.*

In addition, NOCO’s proposed construction of the word “body” contradicts the specification and prosecution history. Specifically, nowhere does the ’992 patent disclose what would constitute this purported “portion of single plug that is arranged to fit into the single output port.” Indeed, Figure 3 (reproduced below) shows an output port labeled as 303, and Figure 4 (reproduced below) depicts a plug labeled 401. However, neither figure nor the specification clarifies which part of the single plug is designed to fit into the single output port. Additionally, there’s no depiction or explanation of 303 in a manner that would allow a POSITA to understand where this “portion of a single plug that is arranged to fit into a single output port” is located.

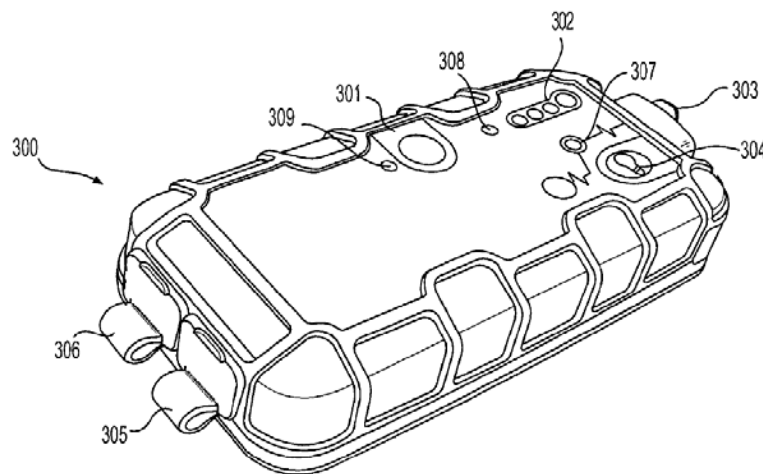
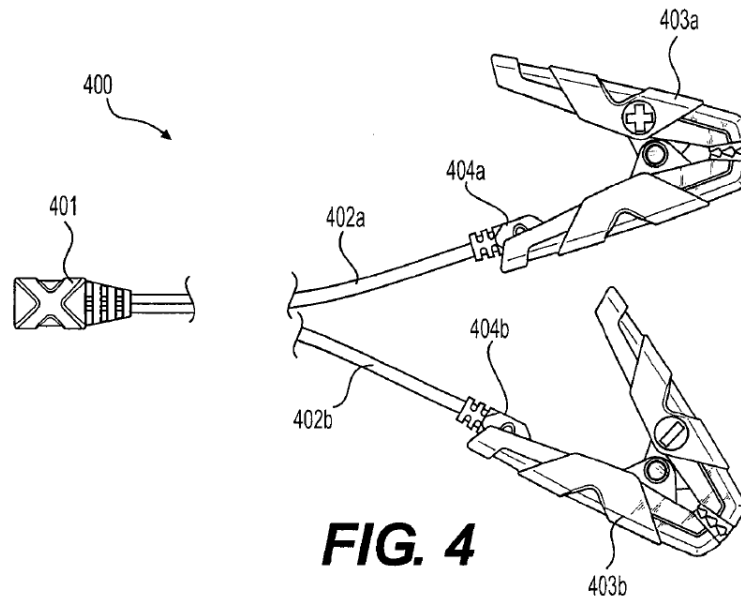


FIG. 3

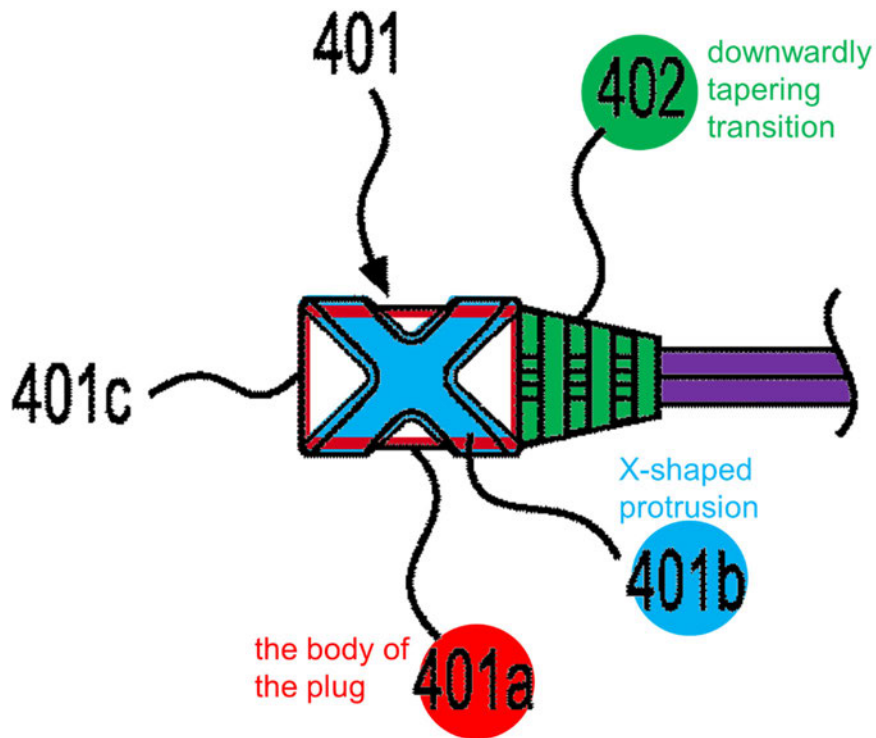
**FIG. 4**

Moreover, the specification of the '808 patent, which is deemed to share the same disclosure of the '992 patent,⁴ provides:

The plug 401 (FIG. 4) comprises a **plug body 401a** having a uniform or substantially uniform width W along the length of the plug body 401a, as shown in FIG. 4. The plug body 401a of the plug 401 is provided with a surface **protrusion 401b** (e.g. **X-shaped surface protrusion**) extending above the outer surface of the plug body 401a of the plug 401. *The plug body 401a is a continuous plug body along the length and width of the plug body, and rectangular-shaped.* A **downwardly tapering transition 402** is provided between the plug body 401a and the pair of **cables 402a** and 402b.

('808 patent, 8:14–24 (emphasis added).)

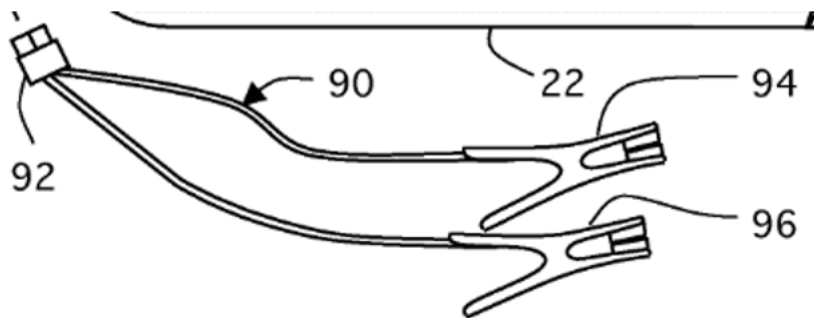
⁴ The '808 patent issued from a **continuation** application of U.S. Application No. 14/619,655, which led to the '992 patent, not a continuation-in-part. '808 patent, Field (60) (Related U. S. Application Data).



'808 patent, Fig. 4 (excerpted and annotated by Respondents).

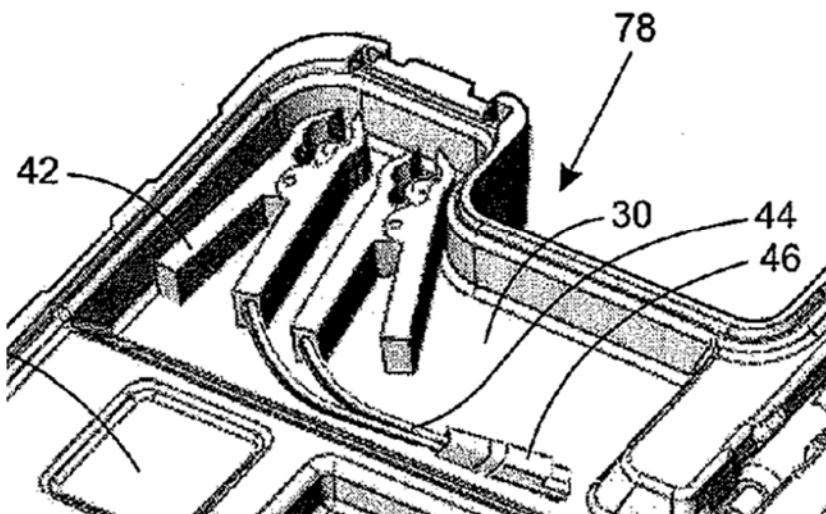
Based on these disclosures, a POSITA would understand that the “body” is not merely the “portion of the single plug that is arranged to fit into the single output port” (as NOCO proposes), but rather the entire body of the plug from one end to the other, along the length of the plug. *See* Ex. B, ¶56.) And as explained above, NOCO’s expert agrees. *See* Ex. C, ¶¶50–51.)

NOCO’s proposed construction of the word “body” also contradicts the prosecution history. Specifically, during the prosecutions of the ’808 and ’992 patents, to overcome several rejections and prior art references, NOCO made arguments regarding what was and what was not a “uniform” plug width. For instance, during the ’992 patent prosecution, NOCO argued that U.S. Patent No. 8,076,900 (“Brown”; an excerpt of FIG. 1 of Brown is reproduced below) did not have a “uniform” plug width because “the body of the plug 92 of Brown . . . has a smaller width free end leading to a larger width opposite end having a ‘stepped’ configuration unlike the claimed subject matter.” (Ex. D, p. 12.)



Brown, FIG.1 (excerpt).

Similarly, NOCO argued that U.S. Patent Application Publication No. 2011/0068734 (“Waldon”; an excerpt of FIG. 1 of Waldon is reproduced below) did not have a “uniform” plug width because “the body of the quick connect connector 46 of Waldron . . . has a smaller width free end leading to a larger width opposite end having a ‘stepped’ configuration unlike the claimed subject matter.” (Ex. D, p. 13.)

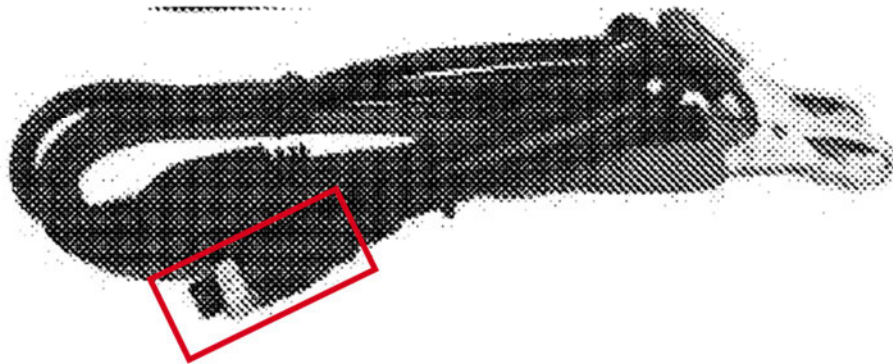


Waldon, FIG. 1 (excerpt).

A third prior art reference was traversed during the prosecution of the ’808 patent, which illustrates how NOCO’s current proposed construction is inconsistent with statements during

prosecution. The examiner rejected the pending claims, finding that the plug shown in “Ref. 1” (Ex-1008 to the Petition for *Inter Partes* Review of U.S. Patent No. 9,007,015 (Case No. PTAB-IPR2018-00503)) has a uniform or substantially uniform width. *See* Ex. E, p. 11 (office action response identifying prior art rejection). Pictures of the plug disclosed in Ref. 1 are reproduced below.

The plug of **Ref. 1** is shown below:



Ex. E, p. 14 (annotated by Respondents).



Ex. G, CAR-NOCO-ITC_II-017856, p. 3.

To traverse this rejection and Ref. 1, NOCO argued that “the end of the plug [of Ref. 1]

has a smaller diameter than the rest of the plug (i.e. silver metal ring and black plug portion connected to wires)” and “[t]hus, the plug of *Ref. 1* does not disclose the claimed subject matter, ‘wherein a body of the single plug has a uniform or substantially uniform width along a length of the body.’” (Ex. E, p. 15 (emphasis in original).)

NOCO’s arguments show that when attempting to overcome the prior art references of record, NOCO considered the *entire* plug—i.e., the end of the plug, the silver ring, and black plug portion connected to the wires—to be the plug body, not just the end portion of the plug that inserted into the testing device. Thus, NOCO’s proposed claim construction directly conflicts with its arguments made to the Patent Office to traverse this prior art reference.

Further, under NOCO’s proposed construction, the end of the plug of Ref. 1 that has “a smaller diameter” would constitute the claimed “body of the single plug,” because that end of the plug of Ref. 1 is “arranged to fit into the single output port.” But if this was the body of the single plug, the body of the plug of Ref. 1 would have a uniform width, and thus the claims of the ’808 patent (and the ’992 patent) would have been invalid under this construction. Therefore, at least for this additional reason, NOCO’s proposed construction should be rejected. *Tate Access Floors, Inc. v. Interface Architectural Res., Inc.*, 279 F.3d 1357, 1369 (Fed. Cir. 2002) (“[I]f possible, claims are construed to preserve validity.”).

3. The term “uniform width” means “constant and unchanging width,” as agreed by both Staff and Respondents.

A POSITA would have understood the word “uniform” means “constant and unchanging” in the context of the claim language. *See* Ex. F p. 785 (definition of “uniform”) (Merriam-Webster Dictionary). This construction is also consistent with the specification and prosecution histories. For example, the ’992 and ’808 patents disclose only one embodiment of the plug, described with respect to Figure 4. Ex. C, ¶55 (agreeing this is the only embodiment). In that

embodiment, the plug body “is . . . *rectangular-shaped*” and “is a *continuous* plug body along the length.” ’808 patent, 8:20–22 (emphasis added). A continuous, rectangular shape is consistent with the proposed construction of “constant and unchanging.”

C. *substantially uniform* - ’808 patent, claims 1, 15, 16, and 17

NOCO’s Proposed Construction	Respondents’ Proposed Construction	Staff’s Proposed Construction
substantially consistent	Indefinite	Indefinite

This phrase, “substantially uniform,” renders claims 1, 15, 16, and 17 of the ’808 patent indefinite because neither the claims, nor the specification, provide any objective criteria by which to determine if the width of the single plug/the body of the single plug is “substantially” uniform. *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1350 (Fed. Cir. 2005) (abrogated on other grounds in *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 907 (2014)) (term indefinite if “completely dependent on a person’s subjective opinion”). Put differently, two POSITAs looking at the exact same plug could reach opposite conclusions on whether the width of the single plug/the body of the single plug is “substantially uniform” or not.

While terms of degree—like “substantially”—are not inherently indefinite, *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1370 (Fed. Cir. 2014), the “claims, when read in light of the specification and the prosecution history, must provide objective boundaries for those of skill in the art,” *id.* at 1371. Here the claims, the specification, and the prosecution history provide no such objective boundaries, so the term “*substantially* uniform” is indefinite.

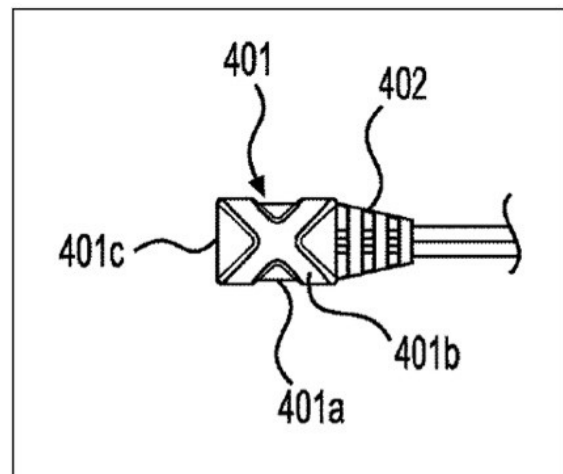
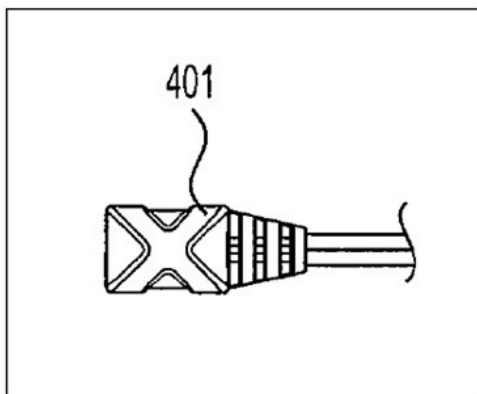
The claims do not provide any objective boundaries, and in fact only highlight the undefined nature of the “substantially” modifier. In the ’992 patent, independent claims 1 and 14 both recite that the plug has “has a *uniform* width.” In the ’808 patent, claims 1, 15, 16, and 17

each recites that the plug “[has/having] a *uniform or substantially uniform* width.” Hence, either based on the internal disjunctive in the ’808 patent claims, or in comparison to the claims of the ’992 patent, it is clear that “substantially uniform” is distinct from “uniform.” The claims do not themselves provide any guidance on determining when the plug is “substantially” uniform or not.

The specification too fails to provide any objective boundaries for “substantially” uniform. The ’992 and ’808 patents only disclose a single embodiment of the plug, which they do with respect to Figure 4. Ex. C, ¶55 (agreeing there is only embodiment). As shown in the excerpts of Figure 4 below, both patents show the exact same plug, with the only differences being addition numerical labels in the ’808 patent drawing. The ’992 patent describes the singular plug embodiment in Figure 4 in the following way:

The plug 401 (FIG. 4) has a *uniform* width along its body, as shown in FIG. 4. ’992 patent, 8:12–13 (emphasis added). The ’808 patent describes the exact same singular plug embodiment in Figure 4 in the following way:

The plug 401 (FIG. 4) comprises a plug body 401a having a *uniform or substantially uniform* with W along the length of the plug body 401a, as shown in FIG. 4. ’808 patent, 8:14–17 (emphasis added).



'992 patent, Fig. 4 (excerpted, Left); '808 patent, Fig. 4 (excerpted, Right).

The result of this description in the specification is that there is no guidance whatsoever on what qualifies as “substantially” uniform. In particular, the '992 patent and the '808 patent both indicate that the embodiment of Figure 4 is uniform. '992 patent, 8:12–13; '808 patent, 8:14–17. The '808 patent then says that the embodiment of Figure 4 is also “substantially” uniform. '808 patent, 8:14–17. “Substantially uniform” is presumably something less exacting than completely “uniform.” But by only providing an example that is completely uniform, the specification provides no guidance at all on an objective boundary for “substantially uniform.”

The prosecution history likewise is devoid of any such objective guidance. In the prosecution of the '992 patent claims, NOCO distinguished prior art references that allegedly did not have “uniform” widths. (Ex. D, pp. 10–13.) In prosecution of the '808 patent claims, NOCO made the same arguments with respect to other prior art references. Ex. E, pp. 11–18. Instead of distinguishing prior art based on the art failing to be “substantially uniform” in particular, NOCO simply argued that the prior art did not disclose plugs that were “uniform or substantially uniform.” *Id.* By failing to distinguish what is uniform versus merely “substantially” uniform, the prosecution history fails to provide any guidance on the boundaries of the latter.

NOCO’s construction—“substantially consistent”—does not resolve the issues caused by the word “substantially” explained above. In particular, the indefiniteness created by the modifier “substantially” is still present in NOCO’s proposed construction of “substantially consistent.” Changing “uniform” to “consistent” only further obscures the meaning of the claim; “uniform” at least is recited in the specification while “consistent” is not.

Therefore, “a skilled artisan could not discern the boundaries of the claim based on the claim language, the specification, and the prosecution history, as well as her knowledge of the relevant art area,” *Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1249–50 (Fed. Cir.

2008) and the claims are indefinite. Because claims 1, 15, 16, and 17 fail to “inform, with reasonable certainty, those skilled in the art about the scope of the invention,” *Nautilus*, 572 U.S. at 901, they should be found indefinite.

VII. CLAIM TERMS FOR CONSTRUCTION – USB PATENTS

A. *USB input circuit/USB charge circuit - claims 1, 39, 42, 47, and 54 of the '023 patent and claims 1, 53, and 57 of the '243 patent.*

NOCO's Proposed Construction	Respondents' Proposed Construction	Staff's Proposed Construction
a circuit arranged to convert power received through a USB port to charge voltage and current for charging the power supply	A USB input circuit separate from a USB output circuit/ a USB charge circuit separate from a USB output circuit	plain and ordinary meaning alternatively, a circuit that allows for the power supply to be charged from an external power source with a USB charger

The parties' dispute with respect to the “USB input circuit/USB charge circuit”⁵ terms is limited, but highly consequential. Respondents do not dispute that NOCO and Staff's proposed constructions adequately describe the basic function of the USB input circuit. Where these proposed constructions fail, however, is in encompassing a feature that the USB Patents did not disclose or contemplate, and that a POSITA reading the specification of the USB Patents would not understand the claims to cover. Specifically, a POSITA would not understand a “USB input circuit” to have bidirectional charging capabilities and thus be capable of acting both as input charging circuit (to charge the battery of the jump starter) and an output charging circuit (to provide power to external devices). Respondents' proposed constructions, in contrast, make clear that a USB input circuit only works one way, and thus must be distinct from any charging circuit. This construction is consistent with the meaning a POSITA would give to the claim term because (1) that is the only configuration disclosed or suggested in the USB patents and (2) that is how

⁵ Since the parties agree that the terms “USB input circuit” and “USB charge circuit” should have the same construction, Respondents use the terms interchangeably in this brief.

standard USB equipment worked as of the July 3, 2014 claimed priority date of the USB Patents.

The terms “USB input circuit” or “USB charge circuit” appear in every asserted independent claim of the USB Patents.⁶ As Dr. Ricketts explains, the only structure corresponding to the USB input circuit or USB charge circuit limitation is “USB charge circuit 52,” which is *strictly unidirectional* and which the specification describes as distinct from the disclosed USB output 56:

The specification further specifically describes the claimed USB charge circuit. “USB charge circuit 52 converts power from any USB charger power source, charge voltage and current for charging the lithium battery pack 32.” ‘023 patent at col. 5 at lines 15-17. **Fig. 1 shows the USB input charger 52 separate and distinct from the USB output 56.** In addition, a POSITA would also understand from Fig. 2 that the USB input is separate and distinct from the USB output. **Item 48 in Fig. 2 would be understood by a POSITA to be a USB input (and only an input), owing to the unidirectional circuitry disclosed in the schematic.** Specifically diode D1 and D3 only allow current to flow from 48 to the node LA+, which ultimately connects to the battery. Item 58 would be understood by a POSITA to be a USB output (and only an output), owing to the XL4001 buck converter which is a “step down” converter. It converts the input voltage at the pin VIN (labeled 7.8 in Fig. 2 of the ‘023) to a lower voltage on capacitor EC2 through the inductor L2. **It is a unidirectional circuit where power flows from VIN of XL4001 (which is coupled to the internal battery through LA+). Power can only flow into 48 and power can only flow out of 58.**

Ex. A, ¶83.

This unidirectionality is exactly what a POSITA in July 2014 would have expected. Dr. Ricketts further explains that the specification makes abundantly clear that the invention described and claimed in the USB patents uses only “standard” USB equipment, and standard USB at the time—as reflected in the then-operative USB 3.1 specification and its predecessor specifications—only allowed for power flows in one direction:

A USB output 56 circuit (FIG. 2C) is included to provide a USB output for charging portable electronic devices such as smartphones from the internal lithium battery pack 32. Control circuit 57 from the microcontroller 1 allows the USB Out 56 to be turned on and off by software control to prevent the internal lithium battery getting too low in capacity.

⁶ The asserted independent claims are claims 1, 39, 42, 47, and 54 of the ‘023 patent and claims 1, 53, and 57 of the ‘243 patent.

The USB output is brought to the outside of the device on a **standard USB connector 58**, which includes the **standard voltage divider** required for enabling charge to certain smartphones that require it.

The USB charge circuit 52 allows the internal lithium battery pack 32 to be charged using a **standard USB charger**. **This charge input uses a standard micro-USB connector 48 allowing standard cables to be used.** The 5V potential provided from **standard USB chargers** is up-converted to the 12.4 VDC voltage required for charging the internal lithium battery pack using a DC-DC converter 49. The DC-DC converter 49 can be turned on and off via circuit 53 by an output from the microcontroller 1.

'243 patent at 7:32-48 (emphasis added); *see also* Ex. B, ¶¶ 27-31 (explaining how the USB 3.1 specification establishes that standard USB connections in July 2014 only allowed for power to flow in one direction).

On these core factual issues—the specification’s invocation of “standard” USB technology and the unidirectional nature of standard USB as of July 2014—the parties’ experts fully agree. NOCO’s expert Dr. Fayed expressly states that “[t]he ’023 and ’243 patents reference USB standards, and a POSA would have understood [sic] USB standards were as of the July 3, 2014 filing date of the ’023 and ’243 patents.” Ex. C, ¶150. Dr. Fayed goes on to aver that “the USB standard started with supporting only unidirectional power delivery,” and that “[t]he unidirectionality of the power flow in the USB standard was enforced through the use of USB type A connectors for the Host device (source of power) and USB type B connectors for the peripherals (receptor of power), which ensures that USB cables can only be connected in one way, i.e. between a host and a peripheral.” Ex. C, ¶¶153-154. This unidirectionality by design continued, according to Dr. Fayed, up until the publication of the USB Type-C specification in *August 2014*:

Subsequently, the release of USB type C connectors and cables specifications allowed bidirectional power delivery where devices can charge each other using a USB type C cable and where the cable itself can be connected to either device since the type C connector is used in both ends of the cable. The USB Type-C Specification 1.0 was published by the USB Implementers Forum (USB-IF) and was ***finalized in August 2014***. Exhibit 12 (<https://www.anandtech.com/show/8377/usb-typec-connector-specifications->

finalized). ***It was only then that the same USB port could be used as an input or as an output from the perspective of power flow.*** Exhibit 10 (<https://www.electronicdesign.com/technologies/components/interconnects/article/21801531/introduction-to-usb-power-delivery>); Exhibit 11 (<https://teamandroid.com/usb-power-delivery-explained/>).

Ex. C, ¶155 (emphasis added).

It is thus undisputed that the USB patents use standard USB technology, and that standard USB technology as of the July 3, 2014 claimed effective filing date allowed only for unidirectional charging. Under these circumstances, the best—and indeed only reasonable—construction of “USB input circuit” is one that reflects the undisputed standard characteristics of USB at the time. *See, e.g., Chimie v. PPG Indus., Inc.*, 402 F.3d 1371, 1378 (Fed. Cir. 2005) (“Because the only measurement of the dust produced by Examples 5 and 10 was articulated in terms of the DIN 53 583 standard, the district court properly incorporated that articulation into its construction of the term ‘dust-free and non-dusting.’”); *Advanced Media Networks, LLC v. AT&T Mobility LLC*, 748 F. App’x 308, 311 (Fed. Cir. 2018) (approving construction of “‘ethernet packet switching protocol’ to mean ‘a packet switching protocol defined by the IEEE 802.3 and draft IEEE 802.11 standards as of the filing date of the Patent.’”). The patentee here chose to define the alleged invention with reference to standard implementations of a particular protocol (USB), and standard implementations of that protocol as of July 3, 2014 permitted only unidirectional charging. That USB ***later*** evolved to include standard bidirectional charging (through the introduction of USB-C)—developments that the inventors of the USB Patents had nothing do with—does not change the scope of the claims. The scope of the claims is determined based on how a POSITA would interpret them as of the effective filing date. *See Schering Corp. v. Amgen Inc.*, 222 F.3d 1347, 1353–54 (Fed. Cir. 2000) (stating that “this court interprets the claim at issue to cover no more than what the specification supported at the time of filing” and holding that “[b]ecause, at the time of the '901 application, neither Dr. Weissmann nor others

skilled in the art knew of the existence of, let alone the identity of, the specific polypeptides now identified as subtypes of IFN- α , those subtypes cannot be within the scope of the claims... [t]o grant broader coverage would reward Dr. Weissmann for inventions he did not make.”). And at that time, a POSITA would have interpreted a USB charging circuit to be unidirectional.

None of Dr. Fayed’s—and presumably NOCO’s—arguments to the contrary are persuasive. Dr. Fayed acknowledges that the specification discloses only separate and distinct USB input and USB output circuits, Ex. C, ¶189. Dr. Fayed nonetheless contends that “nothing in this part of the specification, or anywhere else in the specification, categorically excludes additional functionality from the ‘USB input circuit’ limitation, including USB output functionality.” Ex. C, ¶189. This misses the point. Undisputed evidence shows that: (1) a POSITA would have understood a standard USB input circuit in July 2014 to be strictly one-way; (2) the only embodiment in the specification is strictly one-way and separate from the disclosed USB output circuit; and (3) there is no statement or suggestion anywhere in the specification that the patentee contemplated—much less described or enabled—any bidirectional input or charging circuit. Under these circumstances, it is NOCO’s (and Staff’s) burden to show “USB input circuit” refers to something broader than standard USB implementations as of July 2014. They cannot meet that burden because the specification expressly and repeatedly describes the USB technology used as “standard.” ’243 patent at 7:32-48.

Dr. Fayed’s claim differentiation arguments, to the extent they can be understood,⁷ do not

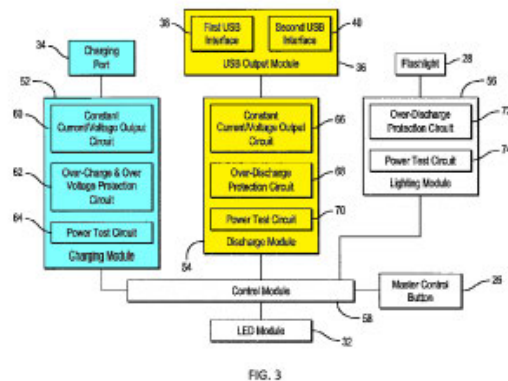
⁷ Dr. Fayed argues that Respondents’ construction *excludes* USB output functionality from the independent claims, while only paragraphs later he takes the position that Respondents’ construction *requires* that the independent claims include such output functionality. *Compare, e.g.,* Ex. C, ¶179 (“...if we were to read claim 1 the way Respondents propose, and specifically exclude USB output circuits from the device recited in claim 1...) *with id.* at ¶182 (“A POSA would have understood that other dependent claims are written to cover devices that have a USB input circuit and a separate USB output circuit, which is the same configuration that Respondents appear to be trying to write into the independent claims.”). Neither statement is true.

change the analysis. *See, e.g.*, Ex. C, ¶¶179-185. Most of those arguments focus not on the technical merits but on the alleged awkwardness of inserting Respondents’ primary proposed construction into the claim language—an issue that is completely resolved by adopting Respondents’ alternative construction. As for Dr. Fayed’s reliance on later-developed accused products that use USB-C to inform his claim construction analysis (*see* Ex. C, ¶186), it (1) is legally improper, *see SRI Int’l v. Matsushita Elec. Corp. of Am.*, 775 F.2d 1107, 1118 (Fed. Cir. 1985) (“A claim is construed in the light of the claim language, the other claims, the prior art, the prosecution history, and the specification, ***not in light of the accused device.***”), and (2) underscores the fundamental defect in NOCO’s and Staff’s constructions. The proposed constructions encompass a new type of USB connection (USB-C) that, by Dr. Fayed’s own admission, did not exist as of July 3, 2014 and that the inventors of the USB Patents did not invent, disclose, or even contemplate in their patent application.

The prosecution history Dr. Fayed relies on does not indicate that the patentee intended the USB input circuit to encompass undisclosed bidirectional circuits or that the invention encompassed circuits that could work with both USB inputs and outputs. To the contrary, as the excerpt from his report below demonstrates, the prosecution history shows that the patentee understood the distinction between USB inputs and USB outputs and relied on that distinction in obtaining its claims over the prior art:

194. On May 10, 2021, the applicant responded and distinguished the cited combination of Richardson and Xinfang from the pending claims. NOCO-ITC1359-00001925.

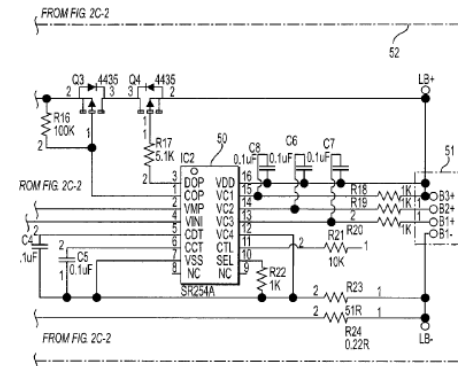
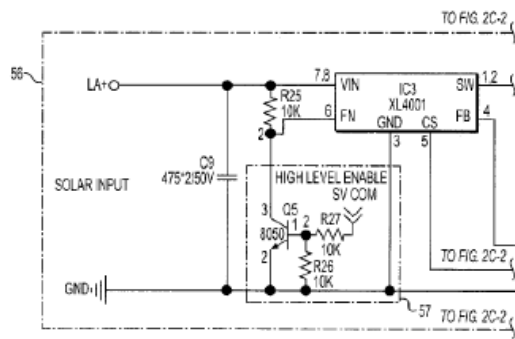
The applicant explained that Xinfang's "USB interfaces 38, 40 ... are output ports for charging external devices, and not for charging the internal battery 42 ... of the jump starter." NOCO-ITC1359-00001942. Figure 3 of Xinfang, reproduced below, shows that the first and second USB interfaces (38 and 40) are part of USB Output Module 36 and Discharge Module 54 (yellow) but separate from Charging Port 34 and Charging Module 52 (blue):



Ex. C, ¶194.

Dr. Fayed also ignores a highly probative portion of the prosecution history of the '015 patent—a patent to which the USB patents claim priority and which shares a substantially identical specification—in which NOCO represented to the Patent Office that the USB input/charging function and the USB output function described in the '015 patent were “achieved through two separate circuits”:

The specification of the '015 Patent also provides that the preferred embodiment of the invention includes not only a USB output – for charging devices such as mobile phones and laptops from the jump starter – but also a USB charging port, so that the jump starter itself can be charged from a USB power source, such as a wall charger. ***These two function are achieved through two separate circuits: a USB output circuit 56, and a USB charging circuit 52***, as shown in Figures 2C-1 and 2C-3 of the patent:



Ex. H, IPR2020-00944, Patent Owner Response at pp. 5-7. Thus the patentee not only acknowledged that the specification only describes two separate circuits, the patentee affirmatively represented that, with regard to the same specification at issue here, output and input “functions” were performed by separate circuits. The patentee went on to distinguish prior art that disclosed a USB output on the basis of the distinction between USB outputs and USB inputs. *Id.* at 37-41. Thus even if dual input/output circuits were otherwise within the scope of the claims (they are not), NOCO has disclaimed them. *Accord Aylus Networks, Inc. v. Apple Inc.*, 856 F.3d 1353, 1362 (Fed. Cir. 2017) (“[S]tatements made by a patent owner during an IPR proceeding, whether before or after an institution decision, can be considered for claim construction and relied upon to support a finding of prosecution disclaimer.”).

Taken as a whole, the prosecution history shows that NOCO repeatedly told the Patent Office that a POSITA would treat USB inputs and outputs as completely distinct functionalities, and that a POSITA would not have understood that a disclosure of one amounted to (or even rendered obvious) a disclosure of both. Yet NOCO's position now is that a POSITA would have understood that a USB input could be bidirectional—i.e., be both an input and an output—a directly contrary position. In short, NOCO is attempting precisely what Federal Circuit precedent forecloses—twisting the claims in one direction to avoid prior art and another way for

infringement. *CommScope Techs. LLC v. Dali Wireless Inc.*, 10 F.4th 1289, 1299 (Fed. Cir. 2021) ([A] patent may not, like a nose of wax, be twisted one way to avoid anticipation and another to find infringement.” (citation omitted)).

In sum, there is simply no intrinsic or extrinsic evidence indicating that the USB Patents disclose bidirectional USB charging or dual-purpose USB input/outputs, or indicating that POSITA in 2014 would have understood the patentees in July 2014 to have been in possession of such a capability. As a result, if NOCO or Staff’s construction is adopted, the asserted USB Patent claims cannot satisfy the written description requirement. *See Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (to comply with the written description requirement of 35 USC § 112 “the specification must describe an invention understandable to that skilled artisan and show that the inventor actually invented the invention claimed”); *see also id.* at 1353–54 (“As this court has repeatedly stated, the purpose of the written description requirement is to ensure that the scope of the right to exclude, as set forth in the claims, does not overreach the scope of the inventor’s contribution to the field of art as described in the patent specification.” (citation omitted)).

Here, the inventors of the USB Patents did not invent—and do not purport to have invented—a bidirectional USB charging circuit, or a jump starter that employs such a capability, and thus the claims should not be construed to cover such devices. Instead, one of Respondents’ proposed constructions, which reflect and embody what a POSITA would actually understand a “USB input circuit” to mean in view of the specification as of July 3, 2014, should be adopted.

B. Preambles – USB Patents

Respondents do not believe that the parties have a material dispute with respect to the relevant preambles of the USB patents, and informed NOCO and Staff of that prior to the filing of the parties’ Joint Claim Construction Chart. NOCO and Staff nonetheless felt that a significant

dispute existed and asked that the term be included in the chart. Respondents note that, under the Federal Circuit case law cited above, preambles are generally presumed to be non-limiting, and otherwise take no position with respect to the whether the preambles of the USB Patents are limiting.

VIII. CLAIM TERMS FOR CONSTRUCTION – CELL EQUALIZATION PATENTS

A. Preambles - Claim 1 of the '452 Patent, and Claim 1 of the '213 Patent

NOCO's Proposed Construction	Respondents' Proposed Construction	Staff's Proposed Construction
Limiting	Independent claim preambles are not limiting	Limiting

As noted above, “as a general rule preamble language is not treated as limiting.” *Aspex Eyewear, Inc.*, 672 F.3d at 1347. Further, it is well-settled that “preambles describing the use of an invention generally do not limit the claims because the patentability of apparatus or composition claims depends on the claimed structure, not on the use or purpose of that structure.” *Catalina Mktg. Int'l, Inc.*, 289 F.3d at 809. Here, a POSITA would not understand the preambles of claim 1 of the Cell Equalization Patents to be limiting for precisely this reason—they provide at most an intended use for the battery cell equalization circuit recited in the claims.

The two independent claims at issue are reproduced in the table below:

Claim 1 of the '452 Patent	Claim 1 of the '243 Patent
1. A portable or hand held jump starting apparatus, comprising: a battery comprising a plurality of individual battery cells connected together in series; a battery cell equalization circuit connected to the battery, the battery cell equalization circuit comprising:	1. A portable or hand held jump starting apparatus, comprising: a battery comprising a plurality of individual battery cells connected in series; a battery cell equalization circuit connected to the battery, the battery cell equalization circuit comprising:

an individual battery cell equalization circuit provided for each of the plurality of individual battery cells; and a load resistor provided for each of the individual battery cell equalization circuits, wherein the individual battery cell equalization circuits are configured to discharge a respective individual battery cell using a respective load resistor upon the respective individual battery cell reaching a cell voltage exceeding a pre-determined upper voltage threshold until the respective cell reaches a pre-determined lower voltage level below the upper voltage threshold or until the battery charging process is terminated, and wherein the individual battery cell equalization circuits are configured to charge lower voltage individual battery cells at a higher rate allowing lower voltage individual battery cells to catch up in voltage to an individual battery cell having a highest voltage.	a plurality of individual battery cell equalization circuits each provided for each respective battery cell; and a plurality of load resistors each provided for each respective battery cell, wherein the individual battery cell equalization circuits are configured to discharge an individual battery cell by its particular load resistor upon the individual battery cell reaching a cell voltage exceeding a pre-determined upper voltage threshold until the individual battery cell reaches a pre-determined lower voltage level below the upper voltage threshold or until the individual battery cell charging process is terminated.
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As depicted above, each claim begins with a preamble that contains this language: “[a] portable or hand held jump starting apparatus, comprising.” And in each claim the body of the claim that follows recites two core limitations: a “battery” with particular claimed characteristics, and a “battery cell equalization circuit” having certain claimed characteristics. Neither limitation in the body of the claims references the “portable or hand held jump starting apparatus” either directly or indirectly. And neither limitation states or suggests that any aspect of what is claimed is limited to a jump starter. Instead, the claims are directed solely to describing the boundaries and characteristics of what a POSITA would understand is the invention the patentee intended to claim—the combination of an allegedly novel battery cell equalization circuit with a multicell battery. Ex. A, ¶47.

The specification of the Cell Equalization Patents confirms as much. To be sure the specification describes a preferred embodiment in which the battery/battery equalization circuit is

implemented in a jump starter. But the specification also recites numerous other potential applications for the battery/battery equalization circuit combination, including electric cars, electric buses, scooters, electronic tools, and radio-controlled toys:

The present invention also provides a battery cell equalization circuit for an electronic device or apparatus having multiple battery cells (e.g. Li-ion batteries) or a battery pack having multiple battery cells (e.g. Li-ion battery cells). For example, the batteries or battery pack can comprise or consist of multiple batteries connected to a battery cell equalization circuit. The battery cell equalization circuit (e.g. circuit board) can be packaged internally with the batteries or battery pack, or can be an electronic circuit or component separate from the battery pack installed in the electronic device or apparatus powered by the battery pack (e.g. circuit board within electronic device, but not packaged with battery pack). The batteries or battery packs can be rechargeable using lithium-ion, nickel cadmium, or rechargeable batteries or battery cells.

The battery cell equalization circuit according to the present invention, for example, can be applied or implemented in a rechargeable electronic device or apparatus such as a tool, portable or hand-held vehicle jump starter, vehicle, electrical vehicle (e.g. electric car, electric truck, electric bus, electric golf cart, electric utility cart, motorcycle, mini bike, scooter, go kart), radio, electronic player, radio controlled device, radio controlled toy (e.g. R/C airplane, R/C boat, R/C car, R/C truck), game, or other numerous other rechargeable electronic devices, apparatus, or applications.

'452 patent at 4:4-64 (emphasis added). The specification thus shows that the applicant understood the cell equalization to be a distinct invention that was broadly applicable to *any* “electronic device or apparatus having multiple battery cells (e.g. Li-ion batteries) or a battery pack having multiple battery cells (e.g. Li-ion battery cells).” *Id.* at 4:40-43; *see also id.* at 1:21 (“The present invention relates generally to an electronic device or apparatus having multiple batteries or a batter pack having multiple battery cells provided with a batter cell equalization circuit.”).

Further, the specification and claims of the Cell Equalization Patents show that when the patentee intended to describe or claim a jump starting apparatus specifically, it did so by expressly reciting the structural elements of the device in the body of the claim. For example, the specification states that “[i]n accordance with one aspect of the invention, an electronic device or

apparatus is provided for jump starting a vehicle engine,” and then proceeds to list 25 lines worth of structural components that are included in the jump starting device, such as an output port with positive and negative polarity outputs, multiple sensors, a microcontroller, and a “power FET switch.” ’452 patent at 4:6-28. Similarly, claim 8 of the ’452 patent and claim 9 of the ’213 patent recite structural elements of a jump starting device that are wholly missing from claim 1 of either patent—thus leading to an inference that none of the structural elements of a jump starter are present in the (more broad) independent claim.

For further confirmation that the patentee understood the cell equalization circuit to be the invention claimed in the Cell Equalization Patents, one need look no further than NOCO’s own interrogatory responses in this litigation. Specifically, in answering an interrogatory regarding conception and reduction to practice of the alleged invention claimed in the Cell Equalization Patents, [REDACTED]

[REDACTED] Ex. I, NOCO July 28, 2023 Objections and Second Supplemental Responses to Respondents’ First Set of Interrogatories at 11. NOCO went on to represent that “[REDACTED]” *Id.* at 12. Accordingly, NOCO agrees should not be heard to dispute that the battery cell equalization circuit is the alleged invention “described and claimed in the ’452 and ’213 patents.”

The unrebutted expert testimony of Dr. Ricketts corroborates and confirms Respondents’ position that the cell equalization circuit is the claimed invention and that the preamble is accordingly non-limiting. As Dr. Ricketts explains, the “body of each claim recites a structurally complete version of what a POSITA would understand the patentee to have intended to claim as his invention—the combination of a multi-cell battery, with cells or groups of cells connected in

series, and a “cell equalization circuit connected to the battery” that has particular claimed characteristics that allow it to balance the series-connected cells or groups of cells.” Ex. A, ¶47. This is true not only because of the specification disclosures cited above, but because the figure depicting the battery equalization circuit (Figure 5) “does not connect or interact with any other part of the embodiment” other than a control circuit. *Id.* ¶49. Consequently, a POSITA would understand “that the cell equalization circuit connected to the battery is a structurally complete version of the claimed invention.” *Id.* Under Federal Circuit precedent, this is a strong indication that the preamble is not limiting. *Am. Med. Sys., Inc. v. Biolitec, Inc.*, 618 F.3d 1354, 1358–59 (Fed. Cir. 2010) (“A preamble is not regarded as limiting, however, when the claim body describes a structurally complete invention such that deletion of the preamble phrase does not affect the structure or steps of the claimed invention.” (internal quotation omitted)).

Further, as Dr. Ricketts explains, “if the preamble were to be considered a limitation, then the claimed invention would *not* be structurally complete” since a multi-cell battery and cell equalization circuit standing alone cannot be understood to make a structurally complete jump starting apparatus. Ex. A, ¶47. Indeed, “[c]laiming a jump starting apparatus ‘comprising’ a battery and battery cell equalization circuit would make no sense to a POSITA, just as it would make no sense to claim an ‘electric truck,’ ‘electric car,’ ‘electric bus,’ or one of the many other proposed applications for the cell equalization circuit listed in the specification while reciting only limitations relating to the battery and battery cell equalization circuit.” *Id.* Ex. A, ¶51. That treating the preamble as a limitation would result in a structurally incomplete device counsels strongly against such an interpretation. *See Talbert Fuel Sys. Pats. Co. v. Unocal Corp.*, 275 F.3d 1371, 1376 (Fed. Cir.), *judgment vacated on other grounds*, 537 U.S. 802, 123 (2002) (“We agree that a construction that renders the claimed invention inoperable should be viewed with extreme skepticism.”).

Further, treating the preamble as a limitation would introduce substantial ambiguity into the claims by raising the question—unanswered by the claims, specification, or prosecution history—of what additional structure (if any) the term “portable or hand held jump starting apparatus” adds to the claims. The Cell Equalization Patents do not define the term “jump starting apparatus,” and the only embodiment described in the specification includes a host of limitations (referenced above) that appear nowhere in either of the claims at issue. If “jump starting apparatus” is a limitation, does the “apparatus” include all of the structural elements of the preferred embodiment? Does “jump starting apparatus” include all of the structural elements of the jump starter device “disclosed in U.S. Pat. No. 9,007,015,” into which the Cell Equalization Patents state “the battery cell equalization circuit 110 can be applied or installed?” If not, which, if any, structural elements does it include? The specification provides no answers. Consequently, interpreting the preamble as a limitation would create a host of unresolved claim construction and validity concerns.

The Court can avoid those issues altogether, however, by holding what the intrinsic and extrinsic evidence shows is correct—that the preamble is non-limiting. None of the factors that the Federal Circuit has identified as probative weigh in favor of treating the preamble as a limitation are present here—the preamble provides no antecedent basis for any claim term, the body of the claims already recite a structurally complete version of what the applicant regarded as the invention, and the preamble does not add “life” or “vitality” of the claims because it adds no defined structure and would instead inject ambiguity into the claims if treated as a limitation. At most, it provides one intended use—among many recited in the specification—for the standalone battery/battery equalization circuit combination recited in the claims. Such preambles are not limiting.

- B. configured to discharge . . . or until the individual battery cell charging process is terminated / configured to discharge ... or until the particular individual battery cell charging process is terminated / configured to discharged ... or until the battery charging process is terminated - '213 patent claims 1 and 16/'452 patent claims 1, 15, and 16*

NOCO's Proposed Construction	Respondents' Proposed Construction	Staff's Proposed Construction
arranged to discharge a respective individual battery cell using a respective load resistor upon the respective individual battery cell reaching a cell voltage exceeding a predetermined upper voltage threshold until either (1) the respective cell reaches a predetermined lower voltage level below the upper voltage threshold or (2) the charging current or voltage are removed	configured to discharge... and configured to stop the discharge of an individual battery cell when the cell charging process is terminated	configured to discharge... and configured to stop the discharge of an individual battery cell when the cell charging process is terminated

For ease of reference, the relevant language of Claim 1 of the '213 patent is shown next to Respondents' proposed construction. Claim 16 of the '213 patent and Claims 1, 15, and 16 of the '452 patent vary to a limited degree, but the relevant provisions are substantially the same.

Claim 1 of the '213 patent reads in part:	Respondents' Proposed Construction
wherein the individual battery cell equalization circuits are configured to discharge an individual battery cell by its particular load resistor upon the individual battery cell reaching a cell voltage exceeding a pre-determined upper voltage threshold until the individual battery cell reaches a pre-determined lower voltage level below the upper voltage threshold or until the individual battery cell charging process is terminated	wherein the individual battery cell equalization circuits are configured to discharge an individual battery cell by its particular load resistor upon the individual battery cell reaching a cell voltage exceeding a pre-determined upper voltage threshold until the individual battery cell reaches a pre-determined lower voltage level below the upper voltage threshold and configured to stop the discharge of an individual battery cell when the cell charging process is terminated

Respondents understand the parties to be in agreement on many material aspects of this construction based on the expert report of Dr. Fayed and the expert declarations of Dr. Ricketts.

Ex. B, ¶18-20. To the extent NOCO's proposed construction requires the circuit to be capable of responding to only one scenario and not the second scenario, (hence reading out the preferred embodiment, among other problems) the parties are not in agreement. Respondents' and the Staff's proposed construction makes clear that the individual battery cell equalization circuits must be capable of performing the functions of discharging an individual battery cell upon the cell reaching a pre-determined upper voltage until the cell reaches a pre-determined lower voltage and to stop discharging an individual battery cell when the charging current is removed.

Ex. A, ¶66. The specification and preferred embodiment support this construction.

A standard rule of claim construction is that "a term can be defined only in a way that comports with the instrument as a whole." *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 389 (1996). "Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Phillips*, 415 F.3d at 1313. The specification is always relevant to claim construction and is the "single best guide" for a disputed term. *Vitronics Corp.*, 90 F.3d at 1582.

In this case, the '213 and '452 specifications teach that the battery cell equalization circuits are designed to avoid both unequal charging and over-charging. Ex. A, ¶67-69. For example, the specification of the '213 patent teaches:

In this way, the microcontroller software can turn the charge off if the battery voltage is measured to be too high by the A/D input 22. Additional safety is provided for helping to eliminate overcharge to the internal lithium battery using a lithium battery charge controller 50 that provides charge balance to the internal lithium battery cells 51. This controller also provides safety redundancy for eliminating over discharge of the internal lithium battery.

'213 patent at 8:49-56. The specification further provides:

The battery cells are "equalized" using the principle that if any cell voltage exceeds a certain pre-determined upper voltage threshold, it will be discharged through its own load

resistor (R5, R15, and R25), until it reaches a certain pre-determined level below that threshold or until the battery charging process is terminated.

Id. at 9:35-40.

These passages support Respondents' proposed construction requiring that each equalization circuit is configured to perform the functions of (1) discharging an individual battery cell upon the cell reaching a pre-determined upper voltage threshold until the cell reaches a pre-determined lower voltage threshold and (2) to stop discharging an individual battery cell when the charging current is removed. In other words, the circuit must be able to respond to both scenarios to be covered by the claim. Nowhere in the specification are these conditions described as anything other than two independent reasons that voltage is discharged to achieve claimed equalized battery cells.

As stated in Dr. Ricketts' Declaration, Respondents' proposed construction aligns with the fact that a POSITA would understand the "or" in this claim as a logical OR.

A POSITA would understand the "or" to be a logical OR⁸, where two input states exist, the first is when the battery voltage is below a threshold and the second is when the battery charging is terminated. The output of the logical OR is the signal to terminate discharge. **As a logical OR, the circuit needs to be configured to respond to both inputs, and the output is a logical OR function of the state of both inputs.**

Ex. A, ¶¶67-69 (emphasis added). Replacing "or" with "and configured to" as proposed by Respondents and Staff defines the claim to require the circuit to be capable of responding to both scenarios in the "or" statement. *See, e.g., Ameranth, Inc. v. Menusoft Sys. Corp.*, No. CIVA 2-07-CV-271, 2010 WL 1610079, at *5 (E.D. Tex. Apr. 21, 2010) (construing the term "application software for...transmitting....to a wireless handheld computing device or Web page" to mean "application software, which is capable of transmitting to both wireless handheld computing

⁸ A POSITA would understand Boolean logic, such as the logical OR function. The Truth table is (1- True, 0- False): 1 OR 0 = 1, 0 OR 1 = 1, 1 OR 1=1, 0 OR 0=0, where = is the result of the logical OR function.

devices and Web pages” based on the specification). Dr. Fayed misunderstands Respondents proposed construction when he argues that it somehow requires both scenarios to be satisfied before discharging of the cell stops. Ex. C, ¶¶94, ¶ 117 and Ex. B, ¶¶16-17. Respondents’ construction merely requires what Dr. Fayed states is the requirement for the circuit, that is, “... a POSA would have understood that a circuit that is configured to stop discharging given *either condition (1) or (2)* recited in the claims satisfies the claim language. Ex. C, ¶91 (emphasis in the original).

By contrast, NOCO’s proposed construction could be interpreted as an exclusive OR.⁹ This interpretation conflicts with the fact that all the experts agree that a POSITA would have understood this claim limitation to mean the circuit must be configured to stop discharging the battery when condition 1 is met, or when condition 2 is met, or when both are met. Ex. B, ¶20. To the extent NOCO’s proposed construction covers a circuit that is only capable of stopping discharge in one scenario and not the other, such a construction would defy both the understanding of a POSITA as well as the teachings of the patent specification. As Dr. Ricketts opined:

For example, in my opinion, a circuit that would only stop discharging when “the charging current or voltage are removed,” but not consider the voltage at a lower threshold, even if it was below a lower threshold, is not how a POSITA would construe the claim language. Such a circuit could dangerously discharge a battery well below a safe level as the circuit waited for the charger to be removed. I believe that Dr. Fayed would agree with me.

Ex. B, ¶19.

Further, claim construction should not read out a preferred embodiment. *Vitronics Corp.*, 90 F.3d at 1583 (“Such an interpretation is rarely, if ever, correct and would require highly persuasive evidentiary support...”). An exclusive OR would read out NOCO’s preferred

⁹ Meaning A and not B or B and not A.

embodiment seen in Figure 5 and the associated parts of the specification. As described in the patent specification, “FIG. 5 is a schematic circuit diagram of a battery cell equalization circuit according to the present invention.” [col. 5 lines 18-19 of ’213 patent]. Figure 5 contains both a battery cell equalization circuit and an enable/disable control circuit. As Dr. Ricketts stated:

A POSITA would not design a battery equalization circuit that performed only one of these functions. Figure 5 (as well as the associated portions of the specification) make clear that NOCO’s preferred embodiment includes both a battery cell equalization circuit 114 (which is primarily concerned with condition/scenario (1)) and a separate enable/disable control circuit 116 (which is primarily concerned with condition/scenario (2)). To excise one of the two conditions/scenarios as NOCO attempts to do would read out NOCO’s preferred embodiment and render the circuitry depicted in Figure 5 non-functional for the preferred functions described in the specification.

Ex. A, ¶71.

For these reasons, Respondents’ and Staff proposed construction should be adopted.

C. “load resistor”/ “load resistors”

NOCO’s Proposed Construction	Respondents’ Proposed Construction	Staff’s Proposed Construction
an electrical element arranged to set the voltage and current in a circuit	A resistor with resistance less than a high-valued resistor connected and used as a load in a circuit	a resistor used to drain charge from a battery cell

NOCO’s proposed construction for the term “load resistor,” which appears in claims 1, 6, and 16 of the ’213 patent and claims 1, 6, 14, and 16 of the ’452 patent, is so broad that it would cause the “highly disfavored” result of rendering the claim term “load” completely superfluous. *See Intel Corp. v. Qualcomm Inc.*, 21 F.4th 801, 810 (Fed. Cir. 2021) (“It is highly disfavored to construe terms in a way that renders them void, meaningless, or superfluous.” (citation omitted)). Not only that, NOCO’s construction would encompass electrical elements that a POSITA would not understand to be “resistors” at all, let alone “load resistors.” Staff’s construction suffers from

some of the same flaws. In contrast, Respondents’ proposed construction—“a resistor with resistance less than a high-valued resistor connected and used as a load in a circuit”—accords with a POSITA’s understanding of the term based on its usage in the specification and claims.

As Dr. Ricketts explains, the Cell Equalization Patents distinguish between “load resistors” and other types of resistors, including ordinary “resistors,” “voltage divider resistors,” and “high-valued resistors”:

In the specification of the ‘213 patent, “load resistors” are identified separately from “resistors” and “voltage divider resistors. For example, the specification describes how “battery cells are ‘equalized’ using the principle that if any cell voltage exceeds a certain pre-determined upper voltage threshold, it will be discharged through its own load resistor (R5, R15, and R25), until it reaches a certain pre-determined level below that threshold or until the battery charging process is terminated.” Col. 9, lines 35-40. In describing the operation of the battery cell equalization circuit, the patent describes “turning ON the MOSFET switches Q2, Q4, Q6, electrically connecting the voltage divider resistors (R3, R4), (R13, R14) and (R23, R24) that scale down the individual cell voltages and feed them to the non-inverting inputs of their respective comparators, allowing them to sense the individual cell voltages.” Col. 9, lines 58-63. The specification continues in that same paragraph to note that “[d]isabling the equalization circuit turns OFF MOSFET switches Q2, Q4, Q6, disconnecting the resistors (R3, R4), (R13, R14) and (R23, R24) and preventing the cell voltages reaching the comparators’ non-inverting inputs. That essentially presents zero voltage to the comparators’ non-inverting inputs, causing their output voltages to be zero, which prevents the load resistors R5, R15, R25 from being connected across the cells.”

The patent further calls out “high-valued resistors”: “High valued resistors R6, R16, R26 have been added between the output of comparator U1 (or U2, U3) and the switches Q1, Q3, Q5 to limit the amount of current through each cell to a safe value, in the case when somehow the output of U1 (or U2, U3) gets clamped to its cell voltage and the gate-source terminals of Q1 (or Q3, Q5) get short-circuited.” Col. 10, lines 39-45. *See also* col. 11, lines 39-44 (“Large valued resistors R9, R19 act as another layer of safety by further introducing electrical resistance between the individual battery cells 112 as well as between the battery and the control voltage source by limiting fault current in case of short circuits across multiple components of the circuit”). This is consistent with a POSITA’s knowledge that a resistor with a high value limits current. The current through a resistor is $I=V/R$, where if R is large, the current is kept small or limited.

Ex. A, ¶¶74-75. This distinction between different types of resistors is also reflected in the claims. *See, e.g.* ‘213 patent claim 1 (claiming only “load resistors”) and claim 5 (further

specifying that the circuit includes “voltage divider resistors”). Plainly, the Cell Equalization Patents contemplate different types of resistors that perform different functions. Respondents’ construction recognizes the differing roles played by different types of resistors, and is tailored to the specific role the specification assigns to load resistors—applying a load on the circuit to discharge the battery without adding as much resistance as a “high-valued resistor.” *See* Ex. A, ¶¶74-77.

NOCO’s construction fails to account for or even acknowledge the differing roles the specification assigns to different types of resistors and fails for that reason alone. It effectively reads the term “load” out of the claim by conflating a “load resistor” with an ordinary resistor. *See* Ex. J, (defining “resistor” as “[a]n element with a circuit that has specified resistance value designed to restrict the flow of current”); *Intel Corp.*, 21 F.4th at 810 (collecting cases for proposition that claim terms should not be construed in manner that renders claim language superfluous). Not only that, as Dr. Ricketts explains, NOCO’s construction arguably encompasses electrical elements that are not resistors at all, because virtually all components of a circuit—wires, resistors, switches, LED lights—provide some resistance that plays a role in establishing the voltage in a circuit. Ex. A, ¶77.

Dr. Fayed’s report provides no reason to adopt this overbroad construction. To the contrary, Dr. Fayed effectively confirms that NOCO’s construction involves treating the load resistor the same as any other resistor. Ex. C, ¶¶125-127. Dr. Fayed attempts to explain away the word “load” because “the *battery cell sees its resistor as a load* when it is in a discharging state,” with the result that “*from the battery cell’s perspective* in its discharging state, the ‘load resistor’ is simply an electrical element arranged to set the voltage and current in a circuit, consistent with NOCO’s construction.” *Id.* ¶126. This contorted explanation, which apparently hinges on interpreting the claims from the subjective perspective of a “battery cell,” does not account for

the reality that *any* resistor provides a load. It is thus little more than a long-winded way of reading “load” out of the claim language. Dr. Fayed goes on to simply assert, in conclusory fashion, that “[a] POSA would have understood that the load resistor’s resistance, in ohms, is what sets the voltage and current in the circuit that include the load resistor, the battery, and the switch.” Ex. C, ¶127. He fails to acknowledge, however, that *all* components of a circuit contribute to the resistance and thus—by virtue of the very Ohm’s Law equation he relies on—play a role in setting voltage and current in the circuit.

Staff’s construction is better than NOCO’s in many respects, but still does not adequately account for the specification’s description of the role played by the “load resistor,” and still is almost indistinguishable from a construction that would encompass any resistor. To avoid this improper result, the Court should adopt Respondents’ construction, which accords with the description of the invention in the specification and gives meaning to all words in the claim term.

IX. CONCLUSION

For all the foregoing reasons, Respondents respectfully ask the Court to adopt Respondents’ proposed constructions for each term discussed above.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing *PUBLIC VERSION OF RESPONDENTS' OPENING CLAIM CONSTRUCTION BRIEF* was served to the parties, in the manner indicated below, this 29th day of September 2023.

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