

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

T-MOBILE USA, INC.,
Petitioner,

v.

TRAXCELL TECHNOLOGIES, LLC,
Patent Owner.

IPR2021-01552
Patent 9,918,196 B2

Before MIRIAM L. QUINN, PATRICK M. BOUCHER,
and NORMAN H. BEAMER, *Administrative Patent Judges*.

BEAMER, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

We instituted *inter partes* review of claims 1–30 of U.S. Patent No. 9,918,196 B2 (“the ’196 patent”; Ex. 1001), in response to a Petition (IPR669, Paper 1, “Pet.”)¹ filed by T-Mobile USA, Inc. (“Petitioner”). (Paper 16, “Inst. Dec.”). During the trial, Traxcell Technologies, LLC (“Patent Owner”) filed a Response to the Petition (Paper 20, “PO Resp.”),² and Petitioner filed a Reply (Paper 23, “Reply”). Patent Owner did not file a sur-reply.

An oral hearing was held on February 28, 2023, and a copy of the transcript was entered into the record. Paper 31 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 6. This Decision is a Final Written Decision under 35 U.S.C. § 318(a) as to the patentability of the claims on which we instituted trial. Based on the complete record, Petitioner has shown, by a preponderance of the evidence, that claims 1–30 of the ’196 patent are unpatentable.

¹ The Petition was initially filed in IPR2022-00669 (“IPR669”). Upon institution, Petitioner was joined to the present proceeding that was originally brought by Apple Inc. who was subsequently dismissed from this proceeding due to settlement. Inst. Dec. 36; Paper 2; Paper 19. Accordingly, the Decision to Institute was entered as Paper 16 herein. All references to papers and exhibits in this Decision are to filings in this proceeding, except the Petition, Patent Owner’s Mandatory Notice (IPR669, Paper 5), the Notice of Filing Date Accorded to Petition (IPR669, Paper 4), and Exhibit 1031 in IPR669.

² Patent Owner incorrectly titled its response as a “Preliminary Response.”

II. BACKGROUND

A. *The '196 Patent*

The '196 patent, titled “Internet Queried Directional Navigation System With Mobile And Fixed Originating Location Determination,” was filed on September 27, 2017, issued on March 13, 2018, and lists related continuation and continuation-in-part applications dating to September 24, 2002, and related provisional applications dating to October 4, 2001. Ex. 1001, codes (54), (22), (45), (63), (60).

The specification of the '196 patent spans 87 figures and 134 columns, a portion of which describes providing directional assistance in response to an Internet query, where “[t]he location of the querying device is . . . determined depending on whether the querying device is a wireless device such as a mobile telephone, or whether the device has a presumed fixed location, such as an ordinary telephone connected to a public-switched telephone network (PSTN).” Ex. 1001, code (57). A “Directional Assistance Network” (DAN) described in the '196 patent determines whether a user is calling from a “wireless communication device (WCD),” such as a cellular phone, a Personal Digital Assistant (PDA), or a wireless navigational system, or is calling from a PSTN. *Id.* at 100:15–16, 100:32–36, 101:1–3. A “hierarchy of user location methods (HULM)” is employed to select “the most accurate location method, from a programmable plurality of location methods,” for locating the user’s device. *Id.* at 6:36–41. If the user is calling from a wireless communication device, the location of the user is determined from a user location database, or from such methods as the Global Positioning System (GPS) capabilities of the WCD, or from triangulation methods based on mobile base station data handling the

communications from the WCD. *Id.* at 18:4–7, 18:46–55, 100:32–55, 124:44–48. If the user is calling from a PSTN, the location of the user is determined from a PSTN database. *Id.* at 101:1–9.

Once the location of the calling device is determined, and the destination location is provided, an Internet query to the DAN results in directional assistance to the user. Ex. 1001, code (57), Fig. 70, 101:21–44.

B. Illustrative Claim

Independent claim 1 is reproduced below.

1. A method of providing navigation assistance to a user of a communications device, the method comprising:

receiving, by a directional assistance service, an Internet query initiated at the communications device and directed via the Internet to initiate a request for navigational assistance to a destination;

responsive to receiving the Internet query, determining whether or not the communications device is a mobile wireless communications device;

responsive to determining that the communications device is the mobile wireless communications device, the directional assistance service determining and using a present location of the mobile wireless communications device as a location of the communications device;

responsive to determining that the communications device is not the mobile wireless communications device, obtaining a fixed location associated with the communications device to determine the location of the communications device; and

the directional assistance service providing navigation information to the communications device in response to the Internet query, wherein the navigation provides directions for proceeding from

the location of the communications device to a location of the destination.

Ex. 1001, 127:67–128:3.

C. References

Petitioner relies on the following references (Pet. 6):

- Bruce et al., US 6,539,080 B1. Ex. 1006 (“Bruce”).
- Hancock et al., US 6,202,023 B1. Ex. 1011 (“Hancock”).
- Meadows et al., US 6,716,101 B1. Ex. 1007 (“Meadows”).
- Knockeart et al., US 6,680,694 B1. Ex. 1008 (“Knockeart”).
- Moles et al., US 6,505,048 B1. Ex. 1005 (“Moles”).

Petitioner also filed the Declaration of Peter Rysavy in support of the Petition. Ex. 1031. Mr. Rysavy, and Petitioner, rely on the Declaration of Dr. Michael S. Braasch (Ex. 1003, hereafter, “Braasch Decl.”), originally filed by Apple Inc. in this proceeding. Ex. 1031 ¶ 19 (“I fully agree with, and hereby adopt, the opinions set forth in the Braasch Declaration as my own for the purposes of this proceeding”).

D. Asserted Grounds of Unpatentability

Petitioner challenges the patentability of claims 1–30 of the ’196 patent on the following grounds (Pet. 6):

Claims Challenged	35 U.S.C. §³	References
1, 4, 5, 7, 8, 10, 11	103	Bruce, Hancock
2, 3, 12, 29	103	Bruce, Hancock, Meadows
6, 9, 13, 14	103	Bruce, Hancock, Knockeart
15, 18–20, 22, 24, 25	103	Bruce, Hancock, Moles
16, 17, 26, 30	103	Bruce, Hancock, Meadows, Moles
21, 23, 27, 28	103	Bruce, Hancock, Knockeart, Moles

E. Real Parties in Interest

Petitioner identifies T-Mobile USA, Inc. and T-Mobile US, Inc. as real parties in interest. Pet. 1. Patent Owner identifies itself as the real party in interest. IPR669, Paper 5, 2.

F. Related Proceedings

The parties identify as related matters: *Google LLC v. Traxcell Technologies, LLC*, IPR2021-01004, filed June 16, 2021, institution denied December 7, 2021; *Traxcell Technologies, LLC v Google LLC.*, 6:21-cv-00023-ADA, filed January 12, 2021, dismissed without prejudice December

³ The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), included revisions to 35 U.S.C. § 103 that became effective as of March 16, 2013. Although the application for the ’196 patent was filed after March 16, 2013, it includes a priority claim to an application filed before this date. Ex. 1001, codes (22), (60), (63). Accordingly, we apply the pre-AIA version of 35 U.S.C. § 103.

16, 2021; *Traxcell Technologies, LLC v. Apple, Inc.*, 6:21-cv-00074, filed January 26, 2021, dismissed without prejudice December 16, 2021; *Traxcell Technologies, LLC v. Verizon Wireless Personal Communications, LP*, 6:21-cv-01175, filed December 21, 2020, withdrawn December 21, 2021; *Traxcell Technologies, LLC v. Nokia Solutions and Networks US, LLC*, 2-18-cv-00412, filed September 26, 2018, stayed; *Traxcell Technologies, LLC v. Huawei Technologies, USA, Inc.*, 2-18-cv-00354, filed August 13, 2018, dismissed; *Telenav, Inc. v. Traxcell Technologies, LLC*, 2-18-cv-00253, filed June 15, 2018; *Traxcell Technologies, LLC v. Sprint Communications Company, LP et al.*, 2-17-cv-00719, filed October 31, 2017; *Traxcell Technologies, LLC v. T-Mobile, USA, Inc.*, 2-17-cv-00720, filed October 31, 2017; *Traxcell Technologies, LLC v. Verizon Communications, Inc. et al.*, 2-17-cv-00721, filed October 31, 2017; *Traxcell Technologies, LLC v. Motorola Solutions, Inc.*, 2-17-cv-00043, filed January 12, 2017; and *Traxcell Technologies, LLC v. Samsung Electronics America, Inc.*, 2-17-cv-00045, filed January 12, 2017. Pet. 2; IPR669, Paper 5, 2–3.

III. ANALYSIS

A. Obviousness: Legal Standards

To prevail in its challenge, Petitioner must demonstrate by a preponderance of the evidence that the claims are unpatentable. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). “In an IPR, the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (2012) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports

the grounds for the challenge to each claim”). This burden of persuasion never shifts to the patent owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in *inter partes* review).

A patent claim is unpatentable under 35 U.S.C. § 103 if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when in evidence, objective indicia of non-obviousness (also called secondary considerations), such as commercial success, long-felt but unsolved needs, and failure of others.⁴ *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). We analyze grounds based on obviousness in accordance with the above-stated principles.

B. Level of Skill in the Art

Petitioner asserts:

A Person of Ordinary Skill in The Art (“POSITA”) in October 2001 would have had a bachelor’s degree in electrical or computer engineering, or an equivalent, and two years of professional experience relating to locating technologies, navigation systems, and wired and wireless communication

⁴ No evidence of secondary considerations appears in the record for us to consider.

devices Lack of professional experience can be remedied by additional education, and vice versa.

Pet. 10–11 (citing Braasch Decl. ¶ 22).

Patent Owner submits:

A person of ordinary skill in the art (“POSITA”) at the time of the filing would have at least a Master of Science (“MS”) Degree in Computer Science, Computer Engineering, Cartography, or equivalent work experience in the field of computer networks, along with knowledge of the general structure of networked communication systems, its hardware and software components and underlying communications technologies In addition, a POSITA would be familiar with the latest communications standards.

PO Resp. 4 (citing Ex. 2002 (Declaration of Robert Van Essen, hereafter, “Van Essen Decl.”), ¶ 27).

Either proposal is consistent with the level of ordinary skill in the art reflected by the prior art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). On this record, the level of ordinary skill is neither in dispute nor dispositive of any challenge. For purposes of this Decision, we apply Petitioner’s articulation, although the conclusions reached in the decision would be the same even if Patent Owner’s proposal was adopted.

C. *Claim Construction*

The Petition was accorded a filing date of March 4, 2022. IPR669, Paper 4, 1. In an *inter partes* review for a petition filed on or after November 13, 2018, a claim “shall be construed using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b).” 37 C.F.R. § 42.100(b) (2019). We apply

the claim construction standard from *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (*en banc*).

Claim terms need only be construed to the extent necessary to resolve the controversy. *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017).

Petitioner states, “[n]o claim term requires express construction.”
Pet. 11. Patent Owner does not propose any claim constructions.
PO Resp. 3–4. For purposes of this Decision, we do not construe any claim terms.

D. Ground 1: Obviousness of Claims 1, 4, 5, 7, 8, 10, and 11 Over Bruce and Hancock

Petitioner challenges claims 1, 4, 5, 7, 8, 10, and 11 as obvious over the combination of Bruce and Hancock. Pet. 11–39.

1. Bruce

Bruce, titled “Method And System For Providing Quick Directions,” was filed July 14, 1998, and issued March 25, 2003. Ex. 1006, codes (54), (22), (45). Bruce is directed to providing telephone caller information assistance such as driving directions from a starting location to a destination location, where an automatic location identification system determines the geographic location of the caller. *Id.* at code (57). Figure 1 of Bruce is reproduced below.

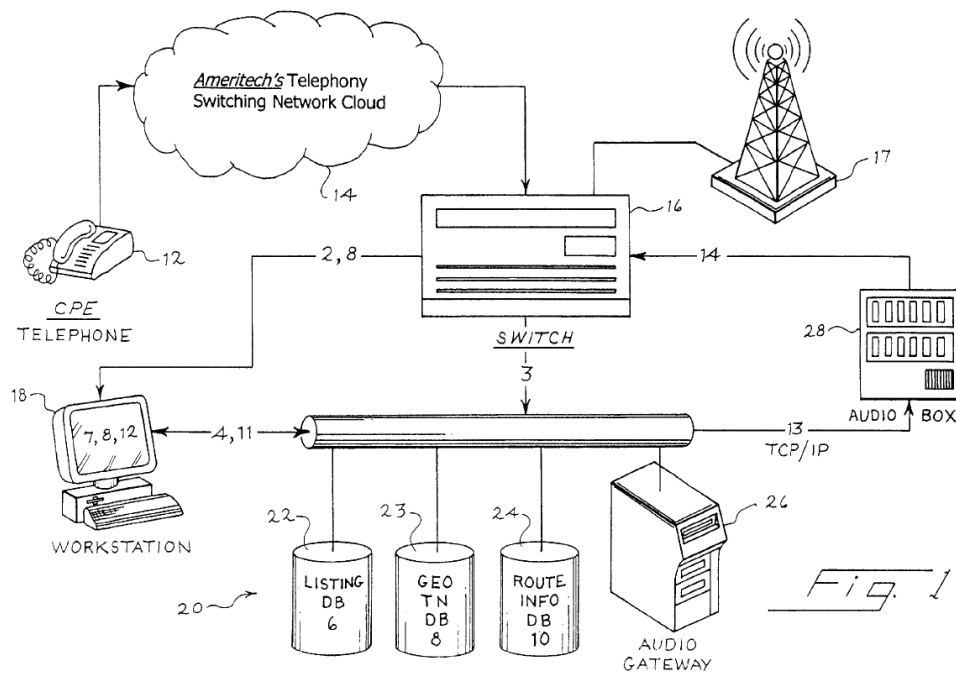


Figure 1 depicts telephone caller 12 accessing switching network 14 (for example, a PSTN provided by local telephone companies), which in turn accesses Switch 16, which routes the call to a TCP/IP network that includes Workstation 18 and databases 20. Ex. 1006, 3:13–29. Also depicted on the network is audio gateway 26, audio box 28, and caller location system 17. *Id.* at 3:29–41, 5:63–66.

In operation, telephone caller 12 can obtain travel directions from an operator at workstation 18 by calling, for example, “411,” and providing the operator with the desired destination, whereupon in turn the operator obtains the directions via an inquiry to the databases. Ex. 1006, Fig. 3, 3:43–53, 3:61–63, 4:5–8, 4:60–5:34, 7:42–45. Telephone calls can “originate[] from either traditional fixed location landline telephones or mobile wireless telephones.” *Id.* at 5:58–60. To assist the operator, the location of the caller can be determined and provided to the operator by “an appropriate caller location system 17.” *Id.* at 5:63–66. For landline telephones, the location

can be identified using the automatic number identification (“ANI”) of the originating calling telephone number to index into a directory listing database or “Name, Address and Telephone number Database (‘NATD’) 22.” *Id.* at 6:9–14. For mobile wireless telephones, an automatic location identification (“ALI”) technology can determine location by applying algorithms to the attributes of the wireless telephone radio frequency (“RF”) signals received at a base station of the wireless network, or other well-known techniques, including via GPS. *Id.* at 6:61–7:41.

As an alternative to having an operator interact with a caller, “a user may access the system using a computing device with a modem and a computer display.” Ex. 1006, 8:42–43. Preferably:

[T]he computing device is a portable computer such as a handheld or pa[lm]top computer which can be used by a caller who is traveling and away from the office These portable-computing devices can be used to access into the system on a dialup telephone line that can be provided to allow access by a computer terminal. Once accessed to the system, the user can operate the system through a computer interface, without requiring an operator.

. . . .

Callers accessing the system using a portable-computing device may download the route instructions to their computing device and review the instructions as necessary. The route instructions can be communicated over a telephone line using standard telephone modems, without requiring the interaction of an operator.

Id. at 8:43–60, 10:1–6.

2. *Hancock*

Hancock, titled “Internet Based Geographic Location Referencing System and Method,” was filed February 25, 1999, and issued

March 13, 2001. Ex. 1011, codes (54), (22), (45). Hancock is directed to automatically providing services over a computer network, such as the Internet, for users in a mobile environment based on their geographic location. *Id.* at code (57). For example, the “[t]he subject invention may be used for general vehicular navigation,” or “to direct local traffic to a particular point of interest.” *Id.* at 17:35–36, 17:52–53. Figure 13 of Hancock is reproduced below.

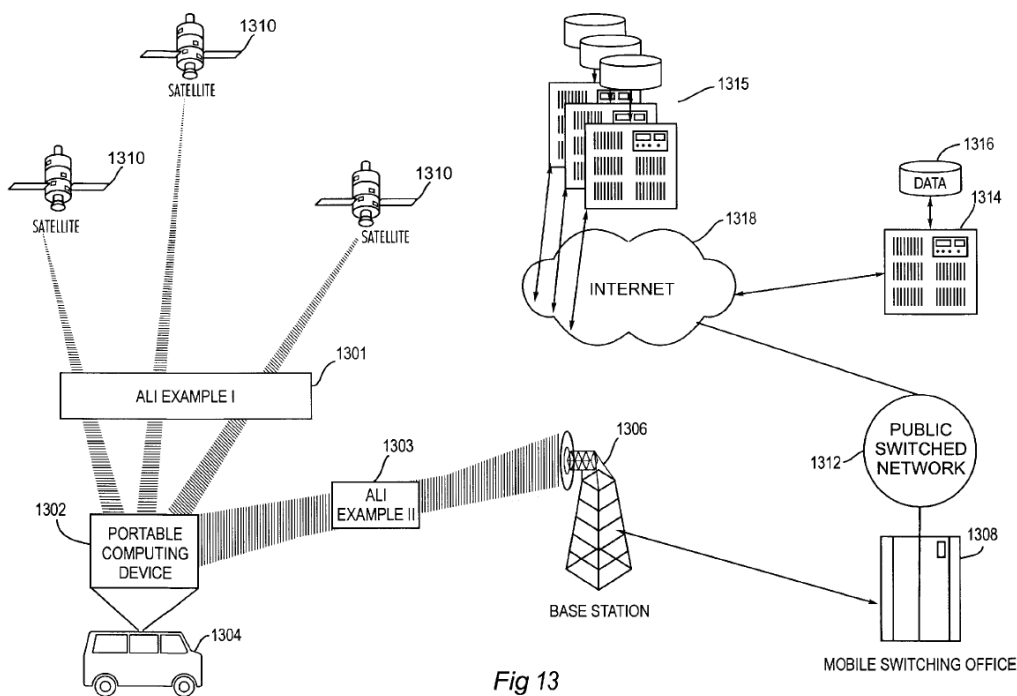


Fig 13

Figure 13 depicts portable-computing device 1302 installed in mobile unit 1304, in which is installed an ALI device that automatically determines the location of the device. Ex. 1011, 3:4, 3:16–20, 23:44–45. Two different embodiments of ALI examples are depicted in Figure 13: ALI Example I (item 1301) and ALI Example II (item 1303). For ALI Example I, the device receives data from Global Positioning System (GPS) satellites 1310 for location identifying purposes. *Id.* at 23:52–57. In the alternative embodiment of ALI Example II, the device location is automatically

determined via a cellular transmission using triangulation techniques in conjunction with at least two cellular base stations, or distance measuring techniques from three cellular base stations, such as base station 1306. *Id.* at 23:57–65. An additional alternative embodiment of an ALI, not shown in Figure 13, is the use of automatic identification signals commonly used in land-line telephonic devices (*e.g.*, ANI) in conjunction with a database lookup table to identify a caller's fixed location. *Id.* at 24:1–4.

As shown in Figure 13, portable-computing device 1302 is connected to Internet 1318 via base station 1306, mobile Switching office 1308, and public switched telephone network 1312. *Ex.* 1006, 24:25–38. Primary server 1314 is also coupled to Internet 1318, and interfaces with portable-computing device 1302, and is also coupled to enhanced servers 1315, which provide location specific data to portable-computing device 1302. *Id.* at 24:39–46. An application program installed on portable-computing device 1302, which determines the current location of the device via the ALI, obtains from the user the desired destination location, and formulates a query sent to primary server 1314 via Internet 1318. *Id.* at Figs. 15, 16, 26:24–29, 27:19–28:2. The results from the query are then retrieved via enhanced servers 1315, and sent to the client. *Id.* at Fig. 16, 28:3–8.

3. The Combination of Bruce and Hancock

Petitioner argues that one of ordinary skill would have been motivated to combine the geographic location-based systems of Bruce and Hancock, resulting in a combination that would have rendered obvious, for example, independent claim 1. *Pet.* 14–19. Petitioner first argues that one of ordinary skill would have been motivated to add to the Bruce system, the capability of accessing routing information via the Internet, as disclosed in Hancock.

Pet. 15–17. Petitioner cites the fact that one embodiment of Bruce uses a computer with a modem to allow a user to obtain directions from the system, and that providing such access via the Internet, as disclosed in Hancock, would have provided well-known advantages of higher data rates, storage capacity, and additional Internet services. *Id.* (citing Ex. 1005, 1:38–40; Ex. 1008, 42:38–42; Ex. 1011, 24:16–19, 25:1–7, 27:39–67, 32:32–41; Braasch Decl. ¶¶ 46–49).

Petitioner also argues that one of ordinary skill would have been motivated to improve Bruce by providing more flexibility and variety in the ways for entering a destination, for which directions are requested, as disclosed in Hancock. Pet. 17–18. For example, Hancock discloses the ability to enter the names of businesses, to specify specific distances to destinations, and to use menus of possible destination locations. *Id.* (citing Ex. 1006, 2:40–43, 8:2–3; Ex. 1011, 8:66–9:3, 13:7–15, 28:49–29:1, 30:12–14; Braasch Decl. ¶¶ 50–51). Petitioner further argues that one of ordinary skill would have been motivated to improve Bruce by using Hancock’s improved methods of formatting requests for directions via the use of data packets. Pet. 18–19 (citing Ex. 1011, 27:27–39, 27:64–67, 28:58–65; Braasch Decl. ¶¶ 52–54).

Patent Owner does not specifically respond to these arguments. *See generally* PO Resp.

We have considered Petitioner’s arguments and evidence summarized above (which we adopt) and determine that Petitioner has provided sufficiently articulated reasoning with rational underpinnings for the proffered combination of Bruce and Hancock, and the preponderance of the

evidence establishes that a person of ordinary skill would have been motivated to make that combination.

4. Claim 1

a) Preamble

The preamble of claim 1 specifies “[a] method of providing navigation assistance to a user of a communications device.” Ex. 1001, 127:46–47. Petitioner relies on the disclosure in Bruce of the ability to provide driving directions from a starting location to a destination location. Pet. 19 (citing Ex. 1006, 3:44–45, 8:44–45; Braasch Decl. ¶¶ 56–57). Patent Owner does not specifically address the preamble of claim 1. *See generally* PO Resp. We find that Petitioner has proved by a preponderance of the evidence that Bruce teaches the subject matter of the preamble of claim 1.⁵

b) First Element

The first element of claim 1 requires: “receiving, by a directional assistance service, an Internet query initiated at the communications device and directed via the Internet to initiate a request for navigational assistance to a destination.” Ex. 1001, 127:48–51. In regard to the requirement of receiving an “Internet query . . . directed via the Internet,” Petitioner relies on the above-described embodiment of Bruce which provides for obtaining directions to a destination using a computer connected to a modem, and cites a reference in Bruce to the fact that “map routing software . . . can be

⁵ Although we find the evidence supports that the prior art teaches the preamble, we make no determination that the preamble of claim 1 is limiting.

accessed using the ‘Internet.’” Pet. 20–21 (citing Ex. 1006, Fig. 1, 3:20–48, 5:8–11, 8:42–43, 8:59–60, 9:12–15; Braasch Decl. ¶¶ 59–61).

In the alternative, Petitioner relies on the combination of Bruce with Hancock, in which, as discussed above in Section III.D.3, one of ordinary skill applies the Internet query approach of Hancock to the Bruce system. Pet. 22–23 (citing Ex. 1011, Fig. 1, 23:44–50, 24:14–18, 24:44–46, 26:25–29, 27:39–40, 27:65–66, 28:1–6; Braasch Decl. ¶¶ 62–66); Reply 3–4.

Patent Owner argues that the combination of Bruce and Hancock does not teach “an Internet query . . . directed via the Internet,” given that Bruce discloses a user calling a telephone service for directions that are provided by an operator, and that any combination with Hancock would still provide only “audible driving instructions over the internet.” PO Resp. 12–13 (citing Van Essen Decl. ¶¶ 47–52). Patent Owner contrasts that with the ’196 patent, which “describes near to full navigation functionality, including continuous positioning and quasi real-time route guidance.” *Id.* at 13 (citing Van Essen Decl. ¶ 51; Ex. 1001, Fig. 79, col. 109).

We agree that Petitioner’s reliance on Bruce alone is insufficient — there is no suggestion in Bruce that the use of a computer with a modem is used to initiate an Internet query. The reference to map routing application software on the Internet appears to be citing a source of such software, not a suggestion that the system uses the Internet for obtaining travel directions. Ex. 1006, 9:12–15. However, as discussed above in Section III.D.3, we agree that one of ordinary skill would have been motivated to improve the Bruce system with the capability of accessing routing information via the Internet, as disclosed in Hancock. Such a combination of teachings supports Petitioner’s contention that the subject matter of this element of claim 1

would have been obvious. Patent Owner’s arguments contrasting the capabilities of the ’196 patent with a possible result of the Bruce/Hancock combination are unpersuasive because they improperly attempt to limit claim 1 to an embodiment disclosed in the ’196 patent, and are not commensurate with the claim requirement. Reply 4–5. In addition, as discussed above, we note that Bruce discloses an embodiment in which callers accessing the system can download route instructions and avoid any interaction of an operator. Ex. 1006, 10:1–6; Reply 5. Such a teaching contradicts Patent Owner’s contention that the combination of Bruce and Hancock would produce only audible driving directions as Bruce does not limit the download of the route instructions in the manner argued by Patent Owner.

We have considered Petitioner’s arguments and evidence summarized above (which we adopt) and we find that Petitioner has proved by a preponderance of the evidence that the combination of Bruce and Hancock teaches the subject matter of the first element of claim 1.

c) Second Element

The second element of claim 1 requires: “responsive to receiving the Internet query, determining whether or not the communications device is a mobile wireless communications device.” Ex. 1001, 127:52–54. Petitioner relies on the disclosure in Bruce that telephone calls can “originate[] from either traditional fixed location landline telephones or mobile wireless telephones,” and that the location of the caller can be determined and provided to the operator by “an appropriate caller location system 17” that can accommodate both types of calls. Pet. 23–25 (citing Ex. 1006, 5:57–6:14, 6:64–66; Braasch Decl. ¶¶ 68–72) (emphasis omitted); Reply 6–9. In

particular, Petitioner argues that a person of ordinary skill would have recognized that to select an appropriate location system for a communication received over a landline or wireless network, the switch 16 or the location system 17 (of Bruce Figure 1, reproduced above) would first identify whether a request was made from a landline or wireless device. Pet. 24 (citing Braasch Decl. ¶ 70).

Patent Owner argues that Petitioner misreads the disclosure in Bruce, because Bruce only discloses separate embodiments, any one of which is limited to either accommodating communications received over a landline or communications received over a wireless network — *i.e.*, each separate embodiment used in the Bruce system is specifically designed for landline or wireless. PO Resp. 13–15 (citing Van Essen Decl. ¶ 55). Therefore, argues Patent Owner, there is no teaching in Bruce, alone or in combination with Hancock, of the required determination of whether or not the communications device is a mobile wireless communications device. *Id.*⁶

Although Bruce does not explicitly disclose determining whether or not a communications device is a mobile wireless communications device, the reference states that the system can be used with a “landline or a mobile cellular telephone subscriber.” Ex. 1006, 3:49; *see also* Ex. 1006, 5:58–60 (“[t]elephone calls are primarily originated from either traditional fixed location landline telephones or mobile wireless telephones”); Ex. 1006, 5:66–6:3 (“[t]o identify the geographical location of the caller . . . several

⁶ Patent Owner argues that Hancock does not teach this claim requirement, and we have previously found that Hancock does not so teach. PO Resp. 15 (citing Van Essen Decl. ¶ 56); *Google LLC v. Traxcell Techs., LLC*, IPR2021-01004, Paper 7 at 18 (PTAB Dec. 7, 2021).

techniques can be used depending on the particular telephone (i.e., landline or mobile telephone) originating the call”). The same system is used in Bruce for both fixed and mobile devices, and the same telephone number (411) is used whether fixed or mobile. Reply 7 (citing Ex. 1006, Fig. 1, 3:63–66, 5:56–58, 5:63–67; Braasch Decl. ¶ 60). We are persuaded by Petitioner’s reliance on a patent to Karp, *et al.* as background art, to confirm that it was well known that the phone number of a caller is used to identify whether or not a call is on a mobile phone, and that the use of Automatic Number Identification (ANI) is not limited to fixed landlines. Pet. 24 (citing Ex. 1009, Fig. 11B, 12:20–22; Braasch Decl. ¶ 70); Reply 8–9 (citing Ex. 1009, 1:39–44, 12:24–27).⁷ The record further includes support for Petitioner’s contention in the form of declarant testimony that explains, “[a] POSITA would have recognized that to select an appropriate location system 17 for a communication received over a landline or wireless network, the switch 16 or the location system 17 would first identify whether a request was made from a landline or a wireless device.” Braasch Decl. ¶ 70 (cited in the Petition at page 24); *see also id.* ¶ 71 (explaining that the determination would be made even if the incoming call uses a landline or a modem). We are persuaded by this evidence and credit the Braasch testimony in this regard.

⁷ Patent Owner distinguishes Karp as designed for visit verification, not for navigation assistance. PO Resp. 15. However, we consider Karp as pertinent background art that confirms well-known techniques for identifying call information. *See* Reply 8, n.1.

Accordingly, we find that Petitioner has proved by a preponderance of the evidence that one of ordinary skill would have understood that Bruce teaches the subject matter of the second element of claim 1.

d) Third Element

The third element of claim 1 requires: “responsive to determining that the communications device is the mobile wireless communications device, the directional assistance service determining and using a present location of the mobile wireless communications device as a location of the communications device.” Ex. 1001, 127:55–60. Petitioner relies on the disclosure in Bruce of the use of such techniques as applying algorithms to the RF signals received at a base station in order to determine the location of a wireless device. Pet. 25–26 (citing Ex. 1006, Fig. 1, 6:64–7:4; Braasch Decl. ¶¶ 73–77).

Patent Owner alleges that this element of claim 1 requires the ability to handle any Internet service provider regardless of which network is subscribed to, and that Bruce does not have this ability. PO Resp. 16–17 (citing Van Essen Decl. ¶¶ 61–62). Patent Owner also argues that the caller location system 17 shown in Figure 1 of Bruce is a separate component from workstation 18, whereas claim 1 requires a single component to determine location and provide navigational assistance. *Id.* at 17–18 (citing Van Essen Decl. ¶¶ 63–65). Patent Owner makes a similar argument for Hancock. *Id.* at 18 (citing Van Essen Decl. ¶ 66).

Patent Owner’s arguments are unpersuasive as directed to features not commensurate with the scope of the claim — the claim does not recite any requirements as to varieties of Internet service providers, or require the claimed directional assistance service to be integrated into a single

component. Reply 9–12. Moreover, Patent Owner focuses on the disclosures of Bruce and Hancock individually, whereas Petitioner relies on the combination of Bruce and Hancock. *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986); *In re Keller*, 642 F.2d 413, 425 (CCPA 1981) (“the test for obviousness is whether the combination of references, taken as a whole, would have suggested the patentee’s invention to a person having ordinary skill in the art”). As discussed, Petitioner relies on the combination, which results in the Bruce system having the capability to handle Internet queries as taught by Hancock, *supra*, Section III.D.4.b). In addition, as discussed, Bruce is not limited to the use of an operator handling queries at a workstation, but also provides for access to the system using a computing device with a modem, without operator assistance. Ex. 1006, 8:42–60, 10:1–6.

Accordingly, we find that Petitioner has proved by a preponderance of the evidence that the combination of Bruce and Hancock teaches the subject matter of the third element of claim 1.

e) Fourth Element

The fourth element of claim 1 requires: “responsive to determining that the communications device is not the mobile wireless communications device, obtaining a fixed location associated with the communications device to determine the location of the communications device.” Ex. 1001, 127:61–65. Petitioner relies on the disclosure in Bruce of using the ANI to identify the calling telephone number and then using the NATD database to determine the location of a landline device. Pet. 27 (citing Ex. 1006, 6:8–14, 6:44–48; Braasch Decl. ¶¶ 78–80).

Patent Owner again argues that “in Bruce . . . the location database, server, PSTN, etc., all are placed on different locations; wherein in the ’196 Patent, the DAN, in various embodiments, includes all the units in one place.” PO Resp. 19–20 (citing Van Essen Decl. ¶¶ 72–73). This argument is unpersuasive for the reasons discussed above in the previous section. See Reply 12–13.

Accordingly, we find that Petitioner has proved by a preponderance of the evidence that Bruce teaches the subject matter of the fourth element of claim 1.

f) Fifth Element

The fifth element of claim 1 requires: “the directional assistance service providing navigation information to the communications device in response to the Internet query, wherein the navigation provides directions for proceeding from the location of the communications device to a location of the destination.” Ex. 1001, 127:66–128:3. Petitioner relies on the above-discussed combination of Bruce and Hancock, such that Bruce includes the ability to handle an Internet query to provide driving instructions from the caller location to a destination. Pet. 27–28 (citing Ex. 1006, 2:46–61; Ex. 1011, 28:3–7; Braasch Decl. ¶¶ 81–87).

Patent Owner argues that the triangulation location techniques disclosed in Bruce and Hancock do not have the “precision, accuracy, and degree of granularity” required by the claim. PO Resp. 20–21 (citing Van Essen Decl. ¶¶ 75–80). Again, this argument is not commensurate with the scope of the claim because the claim does not require any specific degree of granularity as Patent Owner argues. See Reply 13–14.

Accordingly, we find that Petitioner has proved by a preponderance of the evidence that the combination of Bruce and Hancock teaches the subject matter of the fourth element of claim 1.

g) Claim 1 Conclusion

We determine that Petitioner has proved by a preponderance of the evidence that claim 1 is unpatentable under 35 U.S.C. § 103(a) over the combination of Bruce and Hancock.

5. Claims 4, 5, 7, 8, 10, and 11

Claim 4 adds the requirement of retrieving the fixed location of a device from a database, and claim 5 further requires use of a query to a PSTN. Ex. 1001, 128:23–27. Petitioner relies on the disclosure in Bruce of the using ANI to identify the calling telephone number and then using the NATD database to determine the location of a landline device, which is done through a PTSN. Pet. 28–29 (citing Ex. 1006, 3:51–54, 6:9–23; Braasch Decl. ¶¶ 89–94).

Claim 7 additionally requires a destination address to be input by the user, included in the Internet query, and determinative of the destination location, and claim 8 specifies a like requirement for a business name. Ex. 1001, 128:34–45. Petitioner relies on the disclosures in Bruce and Hancock of formulating queries based on destination addresses and business names. Pet. 29–34 (citing Ex. 1006, 2:34–43, 4:61–5:1, 8:7–9; Ex. 1011, 8:66–9:3, 10:24–27, 13:7, 28:3–7, 28:52–59, 29:35–36, 30:20–21; Braasch Decl. ¶¶ 95–121).

Claim 10 additionally requires an option prompting the user to provide a selection of suggested nearby business designations, and sending a query including an identifier of a selected business. Claim 11 further

requires providing the option of specifying a category of nearby businesses, and receiving suggestions of matching businesses in response. Ex. 1001, 128:63–129:20. Petitioner relies on the disclosures in Bruce and Hancock of formulating queries based on user selection of business names, and, in particular, of the disclosure in Hancock of menu choices including, for example, “finding all fast-food restaurants within a five-mile radius,” and the disclosures in Bruce and Hancock of category searches. Pet. 34–39 (citing Ex. 1006, 2:37–42, 6:64–65, 8:2–6, 8:20–25, 8:31–36, 8:42–46, 8:56–60; Ex. 1011, 8:56–9:15, 17:46–48, 27:28–41, 28:50–51, 28:58–29:14; Braasch Decl. ¶¶ 125–154).

As to the above claims, Patent Owner repeats its arguments with respect to claim 1 (which, as discussed above, are not persuasive), and submits additional arguments directed to claims 5, 10, and 11. PO Resp. 21–23. In regard to claim 5, Patent Owner argues that “PSTN” in the claims means “a plurality of PSTNs which service to provide location of fixed location phones,” and that Bruce provides only one PSTN. *Id.* at 22 (citing Van Essen Decl. ¶ 83). This argument is unpersuasive as not commensurate with the scope of the claim. Reply 15. For claims 10 and 11, Patent Owner argues that the disclosure in Bruce providing for searches for establishments “in the proximity of the caller” is not a teaching of searches for nearby businesses because “[t]he caller is distinct from ‘business.’” *Id.* at 23 (citing Van Essen Decl. ¶¶ 85–86) (emphasis omitted). We are unpersuaded by this argument, because a nearby business is within the proximity of a caller. Reply 16.

We have considered Petitioner’s arguments and evidence summarized above (which we adopt) and we determine that Petitioner has proved by a

preponderance of the evidence that claims 4, 5, 7, 8, 10, and 11 are unpatentable under 35 U.S.C. § 103(a) over the combination of Bruce and Hancock.

E. Ground 2: Obviousness of Claims 2, 3, 12, and 29 Over Bruce, Hancock, and Meadows

Petitioner challenges claims 2, 3, 12, and 29 as obvious over the combination of Bruce, Hancock, and Meadows. Pet. 40–55.

Meadows, titled “System And Method For Monitoring The Location Of Individuals Via The World Wide Web Using A Wireless Communications Network,” was filed June 28, 2000, and issued April 6, 2004.

Ex. 1007, codes (54), (22), (45). Meadows is directed, *inter alia*, to monitoring the geographical location of a mobile cellular telephone, with a database that stores the location information. *Id.* at code (57), 3:42–44, 3:59–67.

Petitioner argues that one of ordinary skill would have been motivated to combine the systems of Bruce and Hancock with the monitoring and database features of Meadows, given the improvements provided by Meadows in the ability to determine locations of mobile devices, and to store location information in a database. Pet. 40–46 (citing Braasch Decl. ¶¶ 159–168). Patent Owner does not specifically respond to this argument. *See generally* PO Resp. We have considered Petitioner’s arguments and evidence (which we adopt), and determine that Petitioner has provided sufficiently articulated reasoning with rational underpinnings for the proffered combination of Bruce, Hancock, and Meadows, and the preponderance of the evidence establishes that a person of ordinary skill would have been motivated to make that combination.

Claim 2 additionally requires querying an external database to determine device location; and claim 3 requires querying a switch or base station controller to determine device location, and storing the result in an internal database. Ex. 1001, 128:4–21. For these additional requirements, Petitioner relies on the disclosure in Meadows of the use of a “geographical location database.” Pet. 46–50 (citing Ex. 1007, Fig. 1, 3:47–54, 3:60–67, 4:1–17, 4:23–27; Braasch Decl. ¶¶ 178–193).

Claim 12 additionally requires providing the option of tracking another mobile device, and responsive to the selection sending a query with an identifier of the device. Ex. 1001, 129:21–31. For this additional requirement, Petitioner relies on the disclosure in Meadows of tracking mobile devices. Pet. 50–53 (citing Ex. 1007, Fig. 4a, 3:40–45, 3:60–67, 5:32–36, 5:58–64; Braasch Decl. ¶¶ 195–205).

Independent claim 29 aggregates requirements of claim 1 and additional requirements tracking those of dependent claims 3, 5, 7 and 10, directed to selecting nearby business destinations, using a PSTN for fixed locations, and using an internal database. Ex. 1001, 132:52–133:29. Petitioner’s challenge to this claim incorporates and repeats arguments directed to those referenced claims. Pet. 53–55.

As to the above claims, Patent Owner repeats its arguments with respect to claim 1 (which, as discussed above, are not persuasive). PO Resp. 24–30. Patent Owner additionally argues that Meadows only discloses wireless devices, and therefore does not need to determine whether the device is wireless, as required by claim 1. *Id.* at 24–25. However, Petitioner relies on the combination of Bruce and Hancock for this requirement, and so this argument is unpersuasive. Reply 16.

Patent Owner further argues that claim 12 requires an “identifier” that identifies both the device itself and the wireless device network the device is on, and that Petitioner’s asserted identifier (the name of the device owner as disclosed in Meadows) does not meet this requirement. *Id.* at 25–26 (citing Van Essen Decl. ¶¶ 95–97). However, Patent Owner’s argument is unpersuasive because it improperly attempts to limit claim 12 to an embodiment disclosed in the ’196 patent. Reply 17–18. For claim 29, in addition to referencing its arguments directed to claim 1, Patent Owner relies on arguments made with respect to claims 3 and 10. *Id.* at 28–30. As discussed above, these arguments are unpersuasive.

Accordingly, we determine that Petitioner has proved by a preponderance of the evidence that claims 2, 3, 12, and 29 are unpatentable under 35 U.S.C. § 103(a) over the combination of Bruce, Hancock, and Meadows.

F. Ground 3: Obviousness of Claims 6, 9, 13, and 14 Over Bruce, Hancock, and Knockeart

Petitioner challenges claims 6, 9, 13, and 14 as obvious over the combination of Bruce, Hancock, and Knockeart. Pet. 55–62.

Knockeart, titled “Vehicle Information System,” was filed August 19, 1998, and issued January 20, 2004. Ex. 1008, codes (54), (22), (45). Knockeart is directed, *inter alia*, to navigation systems that access information over a cellular telephone system that allows “the operator to specify a destination” using a “telephone number of the destination.” *Id.* at code (57), 25:23–35.

Petitioner argues that one of ordinary skill would have been motivated to combine the systems of Bruce and Hancock with the use of a telephone

number to specify a destination as disclosed in Knockeart, given that this would increase the flexibility for entering destinations. Pet. 56–58 (citing Braasch Decl. ¶¶ 221–226). Patent Owner does not specifically respond to this argument. *See generally* PO Resp. We have considered Petitioner’s arguments and evidence (which we adopt) and determine that Petitioner has provided sufficiently articulated reasoning with rational underpinnings for the proffered combination of Bruce, Hancock, and Knockeart, and the preponderance of the evidence establishes that a person of ordinary skill would have been motivated to make that combination.

Claim 6 additionally requires the use of a telephone number in a query to specify the destination, and claim 9 additionally requires the option of using the telephone number in the query. Ex. 1001, 128:28–38, 128:46–62. For these additional requirements, Petitioner relies on the disclosure in Knockeart of using a telephone number to specify a destination. Pet. 58–62 (citing Ex. 1008, 25:23–35, 27:7–14; Braasch Decl. ¶¶ 229–260).

Claim 13 aggregates requirements of claim 1 and additional requirements tracking those of claims 6, 7, 10, 11, and 29. Ex. 1001, 129:32–65. Claim 14 further tracks requirements of claims 6 and 12. *Id.* at 129:66–130:15. Petitioner’s challenge to these claims incorporates and repeats arguments directed to those referenced claims. Pet. 62.

As to the above claims, Patent Owner repeats its arguments with respect to claim 1 (which, as discussed above, are not persuasive). PO Resp. 30–32. Patent Owner additionally argues that Knockeart only discloses wireless devices, and therefore does not need to determine whether the device is wireless, as required by claim 1. *Id.* at 31. However, Petitioner

relies on the combination of Bruce and Hancock for this requirement, and so this argument is unpersuasive. Reply 18.

Accordingly, we determine that Petitioner has proved by a preponderance of the evidence that claims 6, 9, 13, and 14 are unpatentable under 35 U.S.C. § 103(a) over the combination of Bruce, Hancock, and Knockeart.

G. Ground 4: Obviousness of Claims 15, 18–20, 22, 24, and 25 Over Bruce, Hancock, and Moles

Petitioner challenges claims 15, 18–20, 22, 24, and 25 as obvious over the combination of Bruce, Hancock, and Moles. Pet. 63–68.

Moles, titled “Location Privacy Feature For Wireless Mobile Stations And Method Of Operation,” was filed December 30, 1999, and issued January 7, 2003. Ex. 1005, codes (54), (22), (45). Moles is directed, *inter alia*, to a wireless network with base stations, with disclosures of details regarding a “base transceiver station[]” with RF transceivers and antennas. *Id.* at code (57), 4:42–63.

Petitioner argues that one of ordinary skill would have been motivated to combine the systems of Bruce and Hancock with the wireless transmission details of Moles, because Moles describes that base stations and mobile devices communicate using RF transceivers and antennas in “accordance with well known principles,” that one of ordinary skill would have recognized as useful to the Bruce/Hancock combination. Pet. 63–65 (citing Ex.1005, 4:61–5:3, 5:57–62; Braasch Decl. ¶¶ 282–287). Patent Owner does not specifically respond to this argument. *See generally* PO Resp. We have considered Petitioner’s arguments and evidence (which we adopt) and determine that Petitioner has provided sufficiently articulated

reasoning with rational underpinnings for the proffered combination of Bruce, Hancock, and Moles, and the preponderance of the evidence establishes that a person of ordinary skill would have been motivated to make that combination.

Independent claim 15 specifies the use of multiple radio-frequency transceivers and associated multiple antennas in a wireless communication network to implement the steps set forth in independent method claim 1. Ex. 1001, 130:16–48. For these network requirements, Petitioner relies on the network disclosures in Moles, disclosures which we agree teach the specific claim 15 use of the recited transceivers and antennas. Pet. 65–68 (citing Ex. 1005, Figure 1, 4:42–44, 5:1–2, 5:13–16, 5:57–62; Braasch Decl. ¶¶ 292–302).

Claims 18–20, 22, and 24 depend from claim 15 and are substantially similar to respective claims 4, 5, 7, and 8, and claim 25 depends from claim 24 and is substantially similar to claims 6, 7, and 11. Pet. 68. Petitioner’s challenge to these claims incorporates and repeats the arguments and evidence directed to those referenced claims, which we addressed above and found persuasive. *Id.*

As to the above claims, Patent Owner repeats its arguments with respect to claim 1 (which, as discussed above, are not persuasive). PO Resp. 34–35. Patent Owner additionally argues that Moles only discloses wireless devices, and therefore does not need to determine whether the device is wireless, as required by claim 1. *Id.* at 34–35. However, Petitioner relies on the combination of Bruce and Hancock for this requirement, and so this argument is unpersuasive. Reply 18–19.

Accordingly, we determine that Petitioner has proved by a preponderance of the evidence that claims 15, 18–20, 22, 24, and 25 are unpatentable under 35 U.S.C. § 103(a) over the combination of Bruce, Hancock, and Moles.

H. Grounds 5 and 6: Obviousness of Claims 16, 17, 26, and 30 Over Bruce, Hancock, Meadows, and Moles, and Obviousness of Claims 21, 23, 27, and 28 Over Bruce, Hancock, Knockeart, and Moles,

The claims challenged in Ground 5 and 6 are combinations of claims discussed above, and the parties’ arguments incorporate arguments discussed above. Pet. 69–71; PO Resp. 36–40. Accordingly, and for the reasons already provided above, we determine that Petitioner has proved by a preponderance of the evidence that claims 15, 18–20, 22, 24, and 25 are unpatentable under 35 U.S.C. § 103(a) over the combination of Bruce, Hancock, Meadows, and Moles, and that claims 21, 23, 27, and 28 are unpatentable under 35 U.S.C. § 103(a) over the combination of Bruce, Hancock, Knockeart, and Moles.

IV. CONCLUSION⁸

For the foregoing reasons, we are persuaded that Petitioner establishes by a preponderance of the evidence that claims 1–30 of the ’196 patent are unpatentable.

⁸ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner’s attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent

In summary:

Claims	35 U.S.C. §	Reference(s)/Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1, 4, 5, 7, 8, 10, 11	103	Bruce, Hancock	1, 4, 5, 7, 8, 10, 11	
2, 3, 12, 29	103	Bruce, Hancock, Meadows	2, 3, 12, 29	
6, 9, 13, 14	103	Bruce, Hancock, Knockeart	6, 9, 13, 14	
15, 18–20, 22, 24, 25	103	Bruce, Hancock, Moles	15, 18–20, 22, 24, 25	
16, 17, 26, 30	103	Bruce, Hancock, Meadows, Moles	16, 17, 26, 30	
21, 23, 27, 28	103	Bruce, Hancock, Knockeart, Moles	21, 23, 27, 28	
Overall Outcome			1–30	

V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 1–30 of U.S. Patent No. 9,918,196 B2 have been shown to be unpatentable under 35 U.S.C. § 103(a); and

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

Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. §§ 42.8(a)(3), (b)(2).

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