

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FEDEX CORPORATION,
Petitioner,

v.

TRANSCEND SHIPPING SYSTEMS, LLC,
Patent Owner.

IPR2022-01261
Patent 10,181,109 B2

Before CHARLES J. BOUDREAU, ELIZABETH M. ROESEL, and
FREDERICK C. LANEY, *Administrative Patent Judges*.

ROESEL, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

A. *Background and Summary*

FedEx Corporation (“Petitioner”) filed a Petition (Paper 2, “Pet.”) seeking an *inter partes* review of claims 1–10 and 12–20 (the “challenged claims”) of U.S. Patent No. 10,181,109 B2 (Ex. 1001, “the ’109 Patent”). Transcend Shipping Systems, LLC (“Patent Owner”) did not file a preliminary response.

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314 (2018); 37 C.F.R. § 42.4(a) (2022). An *inter partes* review may not be instituted “unless . . . the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a).

After considering the information presented in the Petition, we determine that Petitioner has shown a reasonable likelihood that it would prevail in showing that at least one of the challenged claims is unpatentable. Therefore, we grant institution of an *inter partes* review.

Our findings and conclusions below are based on the record developed thus far. This is not a final decision as to the patentability of any challenged claim. Any final decision will be based on the full record developed during trial.

B. *Related Matters*

The parties identify the following district court case as a related matter: *Transcend Shipping Systems, LLC v. DHL Express (USA), Inc.*, No. 2:22-cv-00190 (E.D. Tex.). Pet. 87; Paper 6, 1 (Patent Owner’s updated mandatory notices).

Patents related to the '109 Patent are being challenged by Petitioner in IPR2022-01117, IPR2022-01219, IPR2022-01252, and IPR2022-01314.

C. The '109 Patent (Ex. 1001)

The '109 Patent discloses an apparatus including a shipment conveyance device such as a shipping container, a pallet, or a piece of luggage, where the shipment conveyance device includes a receiver, a global positioning device, a processor for generating messages regarding a position or location of the shipment conveyance device, and a transmitter. Ex. 1001, code (57).

An embodiment is shown in Figure 2 reproduced below.

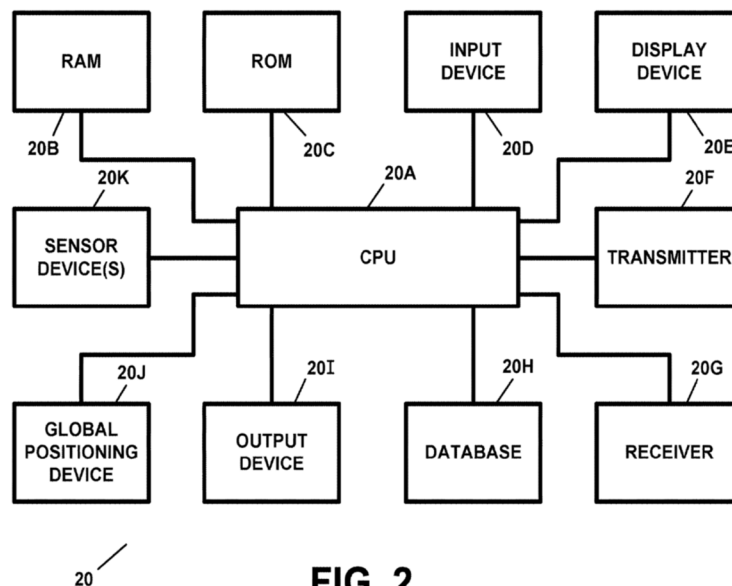


Figure 2 of the '109 Patent is a block diagram of shipment conveyance device computer 20 including central processing unit ("CPU") 20A, random access memory ("RAM") device(s) 20B, read only memory ("ROM") device(s) 20C, input device 20D, display device 20E, transmitter(s) 20F, receiver 20G, database 20H, output device 20I, global positioning device 20J, and sensor device 20K. Ex. 1001, 11:7–64, 14:11–15:12.

Figure 3 is reproduced below.

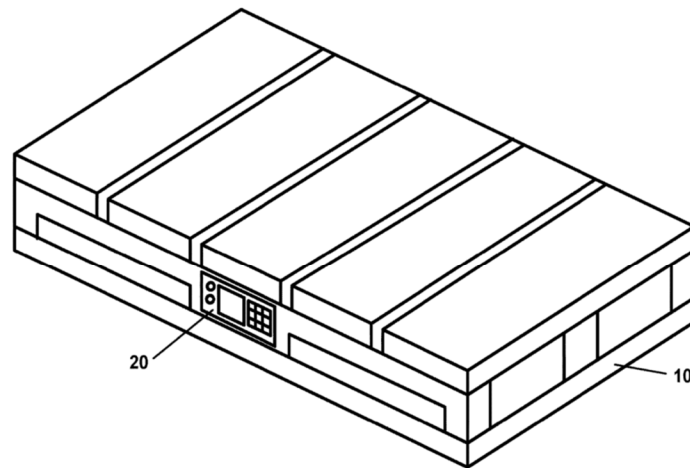


FIG. 3

Figure 3 of the '109 Patent shows pallet 10 with shipment conveyance device computer 20. Ex. 1001, 15:35–59.

The '109 Patent discloses that shipment conveyance device computer 20 “can be programmed to provide shipment location updates, shipment status updates, etc.” and “can generate status messages regarding its position or locations, stops made by the carrier, and/or the temperature of the shipment, impacts received by the shipment conveyance device 10, and/or other information.” Ex. 1001, 18:34–40; *see also id.* at Fig. 5 (step 503). According to the '109 Patent, the status messages can be generated and transmitted “at pre-designated time intervals, and/or upon the occurrence of a pre-specified event (i.e. a stop made by the carrier, an impact during an accident, an unusual stopping period, a shipment temperature change, and/or any other event or occurrence relating to the shipment).” *Id.* at 18:41–49.

D. Illustrative Claims

Petitioner challenges claims 1–10 and 12–20 of the '109 Patent. Claims 1 and 2 are illustrative and are reproduced below with Petitioner's bracketed claim element designations added and paragraphs adjusted.

1. [1pre] An apparatus, comprising:

[1a] a shipment conveyance device, wherein the shipment conveyance device is a shipping container, a pallet, or a piece of luggage;

[1b] a receiver;

[1c-1] a global positioning device, wherein the global positioning device is located in, on, or at, the shipment conveyance device, and

[1c-2] further wherein the global positioning device determines a position or location of the shipment conveyance device;

[1d] a processor, wherein the processor generates a message in response to an occurrence of the event or in response to a request for information regarding the shipment conveyance device, wherein the request for information is automatically received by the receiver, wherein the message contains information regarding a position or location of the shipment conveyance device; and

[1e-1] a transmitter, wherein the transmitter is located in, on, or at, the shipment conveyance device, and

[1e-2] further wherein the transmitter transmits the message to a communication device associated with an owner of the shipment conveyance device or an individual authorized to receive the message.

2. [2a] The apparatus of claim 1, further comprising: a memory, wherein the memory is located in, on, or at, the shipment conveyance device, and

[2b-1] further wherein the memory stores information regarding a description of a good, product, or item, being shipped

or transported via or which is contained in or on the shipment conveyance device, and

[2b-2] origination information, sender information, shipper information, destination information, receiver information, handling instruction information, delivery instruction information, invoice information, packing slip information, delivery time information, or payment instruction information, regarding the shipment conveyance device.

Ex. 1001, 24:2–37; Pet. vii–viii.

E. Asserted Challenges to Patentability and Evidence

Petitioner asserts the following challenges to patentability:

Claims Challenged	35 U.S.C. §¹	Reference(s)/Basis
1, 3, 6–8, 10, 14, 15	103(a)	Keillor ²
2, 5, 9, 13, 16–20	103(a)	Keillor, Morimoto ³
1, 3, 5, 8, 14–16	103(a)	Westerlage ⁴

¹ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C. § 103, effective March 16, 2013. Because the ’109 Patent has an effective filing date before that date, we refer to the pre-AIA version of § 103. Ex. 1001, code (63).

² Ex. 1004, US 5,917,433, issued June 29, 1999 (“Keillor”). Petitioner asserts that Keillor is prior art to the ’109 Patent under 35 U.S.C. § 102(b). Pet. 1.

³ Ex. 1005, US 7,035,856 B1, filed September 28, 2000 and issued April 25, 2006 (“Morimoto”). Petitioner asserts that Morimoto is prior art to the ’109 Patent under 35 U.S.C. § 102(e). Pet. 1.

⁴ Ex. 1006, US 5,826,195, issued October 20, 1998 (“Westerlage”). Petitioner asserts that Westerlage is prior art to the ’109 Patent under 35 U.S.C. § 102(b). Pet. 1.

Claims Challenged	35 U.S.C. § ¹	Reference(s)/Basis
2, 4, 10, 12, 13, 19	103(a)	Westerlage, Woolley ⁵

Pet. 1. Petitioner submits the declaration of Robert Akl, D.Sc. Ex. 1003.

II. ANALYSIS

A. Legal Standards

“In an [*inter partes* review], 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) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)); *see also* 37 C.F.R. § 42.104(b) (requiring a petition for *inter partes* review to identify how the challenged claim is to be construed and where each element of the claim is found in the prior art patents or printed publications relied upon).

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 based on 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 presented, objective evidence of

⁵ Ex. 1007, US 5,892,441, issued April 6, 1999 (“Woolley”). Petitioner asserts that Woolley is prior art to the ’109 Patent under 35 U.S.C. § 102(b). Pet. 1.

nonobviousness, i.e., secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

Additionally, the obviousness inquiry typically requires an analysis of “whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR*, 550 U.S. at 418 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (requiring “articulated reasoning with some rational underpinning to support the legal conclusion of obviousness”)). Petitioner cannot satisfy its burden of proving obviousness by employing “mere conclusory statements,” but “must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016).

B. Level of Ordinary Skill in the Art

Petitioner contends that a person of ordinary skill in the art (“POSITA”) would have had “at least a Bachelor’s degree in electrical engineering, computer engineering, computer science, or a related field, and 1–2 years of experience in the design or development of electronic devices or technology related to location management, or the equivalent.” Pet. 4.

The words “at least” result in an unbounded skill level. With the exception of those words and for purposes of this Decision, we apply Petitioner’s articulation of the level of ordinary skill in the art, which is consistent with the level of skill in the art at the time of the invention as reflected in the asserted prior art.

C. Claim Construction

In an *inter partes* review, we apply the same claim construction standard as would be used by a district court to construe a claim in a civil

action involving the validity or infringement of a patent. 37 C.F.R.

§ 42.100(b). Under that standard, claim terms are given their ordinary and customary meaning, as would have been understood by a person of ordinary skill in the art at the time of the invention, in light of the language of the claims, the specification, and the prosecution history of record. *Id.*; *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–19 (Fed. Cir. 2005) (en banc); *Thorner v. Sony Comput. Entm’t Am. LLC*, 669 F.3d 1362, 1365–66 (Fed. Cir. 2012). “The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’” *Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (quoting *Vivid Techs., Inc. v. Am. Sci. Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

Petitioner does not seek express construction of any claim terms. *See* Pet. 5. We determine that we do not need to provide an express construction for any claim terms for purposes of this Decision.

D. Petitioner’s Challenge based on Keillor

Petitioner challenges claims 1, 3, 6, 7, 8, 10, 14, and 15 as unpatentable and obvious based on Keillor. Pet. 5–32. We provide an overview of Keillor before turning to our claim analysis.

1. Keillor (Ex. 1004)

Keillor discloses an asset monitoring system including an asset monitor for providing a remotely located central station with information relating to a container, such as a shipping container. Ex. 1004, code (57), 1:5–13. Figure 1 is reproduced below.

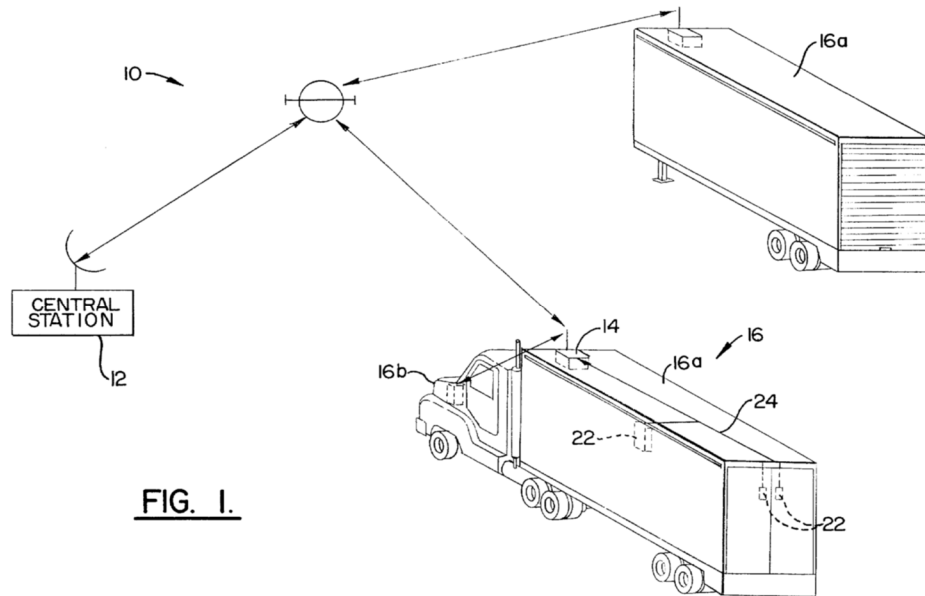


FIG. 1.

Keillor Figure 1 shows asset monitoring system 10 including central station 12 and asset monitors 14 associated with containers 16, which in this example are trailers 16a towed by tractors 16b. Ex. 1004, 4:60–62, 5:22–29. Figure 2 is reproduced below.

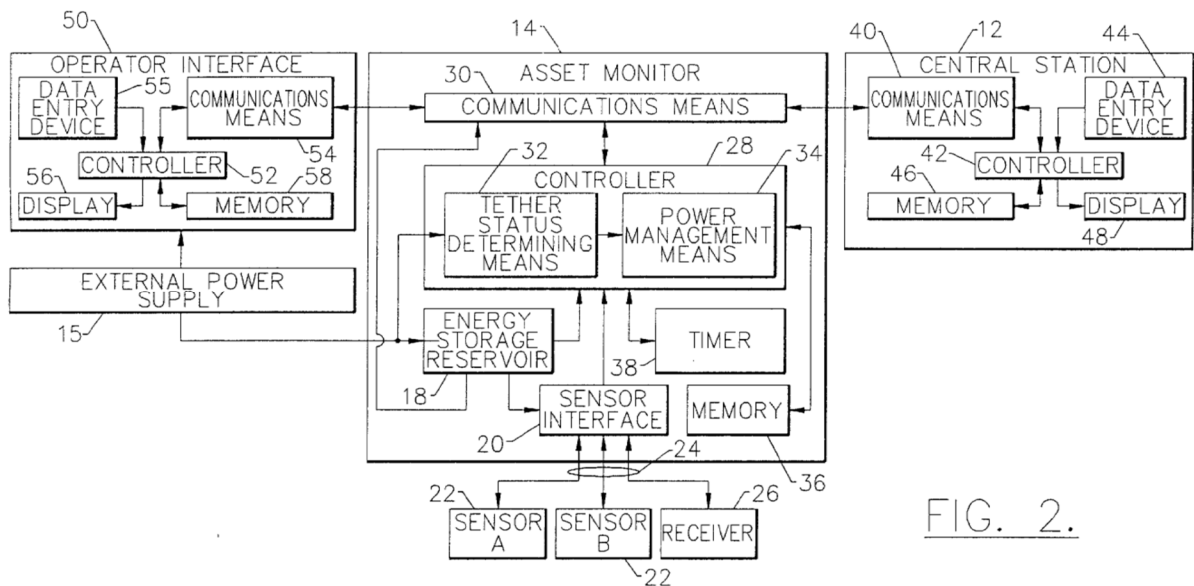


FIG. 2.

Keillor Figure 2 shows a block diagram of an asset monitoring system, including asset monitor 14, central station 12, operator interface 50, and external power source 15. Ex. 1004, 4:63–67, Fig. 2. As shown in Figure 2,

asset monitor 14 includes sensor interface 20 for communicating with sensors 22, such as temperature sensors or door position sensors, which are associated with trailer 16a and/or tractor 16b. *Id.* at 6:62–7:8. Asset monitor 14 also includes position determining means, such as global position system (“GPS”) receiver 26, for determining the position of container 16 based upon externally supplied location data and reporting the current position to the asset monitor. *Id.* at 7:66–8:18. Asset monitor 14 also includes controller 28 and communications means 30. *Id.* at 9:34–38, 10:5–13, Fig. 2.

2. *Claim 1*

Petitioner contends that Keillor discloses the structural limitations of claim 1. For example, Petitioner maps “a shipment conveyance device” (element [1a]) to Keillor’s containers 16. Pet. 8–9. Petitioner maps both “a receiver” (element [1b]) and “a transmitter” (element [1e-1]) to Keillor’s communication means 30. Pet. 9–10, 20–21. Petitioner maps “a global positioning device” (element [1c-1]) to Keillor’s GPS receiver 26. Pet. 10–12. Petitioner maps “a processor” (element [1d]) to Keillor’s controller 28. Pet. 13–14. Petitioner maps “a communication device” (element [1e-2]) to Keillor’s communications means 40 of central station 12. Pet. 22–23.

Claim 1 also recites a number of functional limitations. For example, element [1d] recites that “the processor generates a message . . . [that] contains information regarding a position or location of the shipment conveyance device.” Petitioner contends that “generating a message” would have been obvious in view of Keillor’s teachings concerning transmission of information, including position/location information, from the asset monitor

to the central station over a communications link. Pet. 14 (citing Ex. 1004, 3:45–54, 4:3–5, 4:23–32, 5:62–66, 8:19–38, 9:15–33, 10:47–11:38).

Element [1d] recites that the message is generated “in response to an occurrence of the event or in response to a request for information regarding the shipment conveyance device, wherein the request for information is automatically received by the receiver.” Petitioner contends that Keillor discloses both alternatives recited in the claim.

For the first recited alternative, Petitioner directs us to Keillor’s disclosure that sensors 22 “generate an interrupt [signal] upon the detection of a condition or event which falls outside of a predetermined accepted range,” for example, “if [a] sensed temperature falls outside of the predetermined range of acceptable temperatures.” Ex. 1004, 7:30–35, 11:14–17. Petitioner also relies on Keillor’s disclosure that, upon receiving an interrupt signal, “the asset monitor can then notify the central station 12, via the first communications link, of the interrupt and the location of the container at the time of the interrupt.” *Id.* at 11:22–25. Petitioner contends that these disclosures teach generating a message (notice to the central station) in response to an event (temperature falling outside a predetermined range). Pet. 19.

For the second recited alternative, Petitioner directs us Keillor’s disclosures that “the central station may request that the asset monitor identify its present position” or “may request an update on the status of the various sensors 22” and that, upon receiving such a request, “the asset monitor can transmit information to the central station” either identifying the present location of the asset monitor or relating to the condition or event that was sensed, such as the temperature of a refrigerated trailer. Ex. 1004, 10:56–11:11. Petitioner contends that these disclosures teach generating a

message in response to a request for information regarding the shipment conveyance device (upon receiving a request from the central station for position or sensor information). Pet. 19–20. In addition, Petitioner contends that a POSITA would have understood that Keillor’s “transceiver 30 (receiver) receives the communication signals (request) from the central station without human intervention—i.e., automatically.” Pet. 20 (emphasis omitted) (citing, *inter alia*, Ex. 1003 ¶ 105).

Based on the current record and without any opposition from Patent Owner, we determine that Petitioner’s arguments and evidence challenging claim 1 based on Keillor meet the threshold for institution.

3. *Claims 3, 6–8, 10, 14, and 15*

Claims 3, 6–8, 10, 14, and 15 depend from claim 1. Petitioner contends that the additional limitations of these claims are disclosed or rendered obvious by Keillor. Pet. 23–32. In view of the absence of a preliminary response and our determination that Petitioner’s challenge to claim 1 based on Keillor meets the threshold for institution, we do not provide a claim-by-claim analysis for dependent claims 3, 6–8, 10, 14, and 15 at this stage of the proceeding.

E. Petitioner’s Challenge based on Keillor and Morimoto

Petitioner challenges claims 2, 5, 9, 13, and 16–20 as unpatentable and obvious based on Keillor and Morimoto. Pet. 32–50. We provide an overview of Morimoto before turning to our claim analysis.

1. *Morimoto (Ex. 1005)*

Morimoto discloses an automated system and method for tracking and routing shipped goods. Ex. 1005, 1:7–10. According to Morimoto, the method “may be implemented using a system of specialized shipping

containers” that are “configured with attached or embedded memory devices for storing information about the item(s) being shipped.” *Id.* at 2:8–9, 2:50–54. “[T]he memory device may store routing and final destination information for the container, as well as other information.” *Id.* at 2:54–67. “[T]he memory device may be configured with a wireless interface . . . that allows the contents of the memory device to be read and updated.” *Id.* at 3:1–4. Figure 4 is reproduced below.

50A

60	Package/Item Tracking No.		51
61	Description of Goods		
	Weight		
	Special Shipping Information (e.g., temperature restrictions)		52
	Insurance amount, terms (e.g., deductible)		55
62	Ship Date	Arrival Deadline	63
53	Origination	Destination	54
64	Payment Terms		
65	Sender's Name	Sender's e-mail address	66
67	Sender's telephone	Sender's street address	68
69	Sender's Account Number		
70	Recipient's Name	Recipient's e-mail address	71
72	Recipient's telephone	Recipient's street address	73
74	Recipient's Account Number		
75	1st Intermediate Destination		
	1st Intermediate Destination Arrival Date		
	1st Intermediate Destination Ship Date		
	1st Intermediate Destination Shipper Info		
	2nd Intermediate Destination		76
	2nd Intermediate Destination Arrival Date		
	2nd Intermediate Destination Ship Date		
	2nd Intermediate Destination Shipper Info		
77	3rd Intermediate Destination		
	3rd Intermediate Destination Arrival Date		
	3rd Intermediate Destination Ship Date		
	3rd Intermediate Destination Shipper Info		

FIG. 4

Morimoto Figure 4 illustrates a data file stored in a memory device attached to a container or carrier for shipping packages. Ex. 1005, 3:55–57.

Morimoto describes the data file as including:

a unique item identification number (e.g., a package tracking number) 51, a description of the goods being shipped 60, the weight of the goods being shipped 61, any special shipping instructions (e.g., temperature, humidity, and vibration restrictions) 52, insurance terms (e.g., the insurance carrier, the policy number, the amount of insurance, and any deductible amounts) 55, the original shipping date 62, the arrival deadline 63, the origination location 53, the destination 54, any payment terms 64, information about the sender (e.g., sender's name 65, sender's email address 66, sender's telephone number 69, sender's street address 68, sender's shipping company account number 69), information about the recipient (e.g., recipient's name 65, recipient's email address 66, recipient's telephone number 69, recipient's street address 68, recipient's shipping company account number 69), and information about one or more intermediate destinations (75 through 77).

Id. at 9:31–51.⁶

2. *Claim 2*

Petitioner contends that it would have been obvious to combine Morimoto's teachings about data files and data types with Keillor's teaching of a memory providing storage within an asset monitor. Pet. 33 (citing Ex. 1003 ¶ 124). According to Petitioner, "[t]he POSITA would have recognized that this combination would enhance the information provided to users of Keillor's system looking to track and ensure delivery of shipments." Pet. 33–34. The Petition provides several reasons that Petitioner contends

⁶ We note that, in some instances, the reference numerals in the quoted description are inconsistent with the reference numerals in Morimoto Figure 4.

would have motivated a POSITA to make the Keillor-Morimoto combination and cites to teachings from both references and its declarant's testimony as support for those reasons. Pet. 34–37; Ex. 1003 ¶¶ 126–134.

Addressing the limitations of claim 2, Petitioner contends that Keillor teaches a “memory . . . located in, on, or at, the shipment conveyance device,” directing us to Keillor's memory device 36, which is part of asset monitor 14, which is located in or on container 16. Pet. 37–38 (citing Ex. 1004, 11:33–38, Figs. 1, 2). Petitioner contends that Keillor alone or in combination with Morimoto discloses the limitations of claim elements [2b-1] and [2b-2], which describe the types of information stored in the memory. Pet. 39–44.

Based on the current record and without any opposition from Patent Owner, we determine that Petitioner's arguments and evidence challenging claim 2 based on Keillor and Morimoto meet the threshold for institution.

3. Claims 5, 9, 13, and 16–20

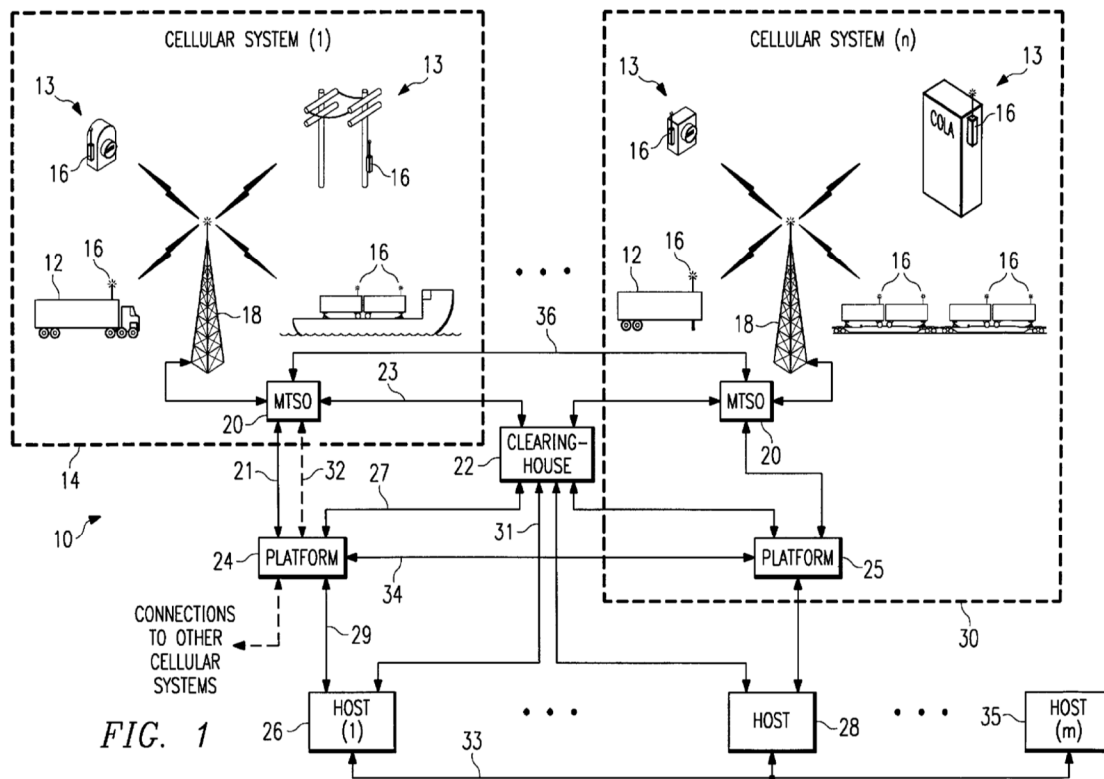
Claims 5, 9, and 13 depend from claim 1. Petitioner contends that the additional limitations of these claims would have been obvious in view of Keillor and Morimoto. Pet. 44–48. Petitioner relies on its contentions for claims 1, 2, 5, 6, and 7 to show obviousness for claims 16–20, asserting that the claim limitations are substantially similar. Pet. 48–50. In view of the absence of a preliminary response and our determination that Petitioner's challenge to claim 2 based on Keillor and Morimoto meets the threshold for institution, we do not provide a claim-by-claim analysis for claims 5, 9, 13, and 16–20 at this stage of the proceeding.

F. Petitioner’s Challenge based on *Westerlage*

Petitioner challenges claims 1, 3, 5, 8, and 14–16 as unpatentable and obvious based on Westerlage. Pet. 50–65. We provide an overview of Westerlage before turning to our claim analysis.

1. *Westerlage (Ex. 1006)*

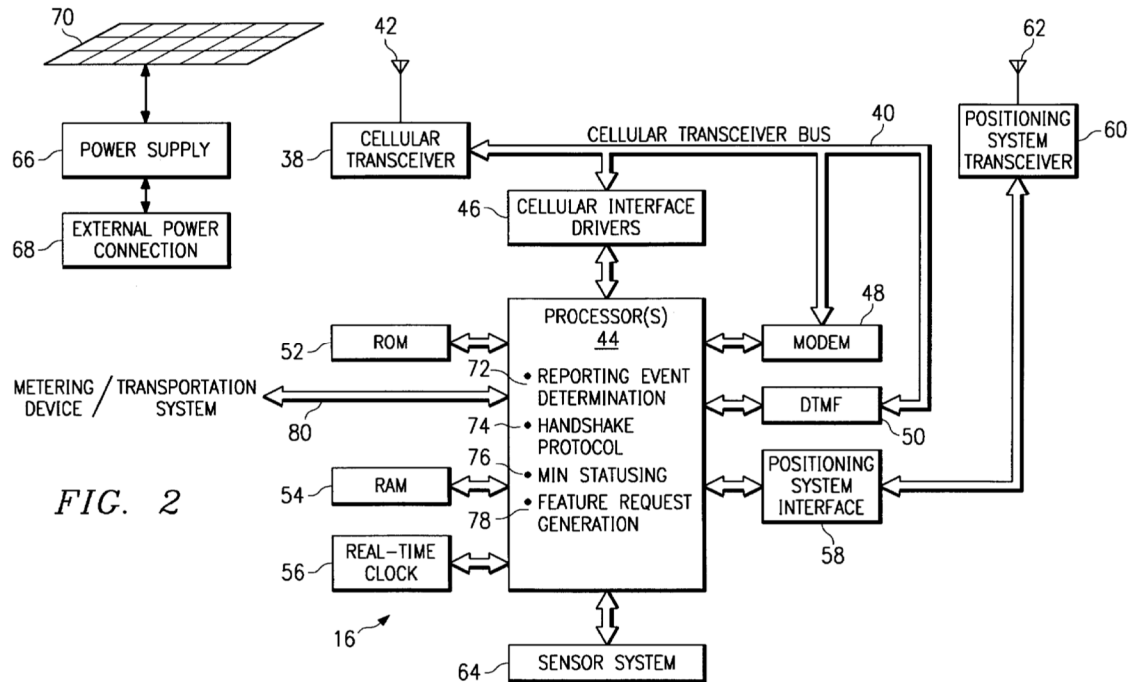
Westerlage discloses a monitoring system in which a messaging unit is attached to or associated with an item to be monitored, such as a truck trailer, and the messaging unit is used to communicate information on the current position and/or status of a fleet of truck trailers. Ex. 1006, code (57), 2:19–30. Figure 1 is reproduced below.



Westerlage Figure 1 shows communications network 10 including cellular system 14 in which truck trailer 12 is carried by a cab, barge, train, or other transportation system. Ex. 1006, 3:8–11. Truck trailer 12 is equipped with

messaging unit 16, which contains a cellular transceiver for sending and receiving data messages. *Id.* at 3:31–33. Cellular system 14 includes transmission tower 18 and mobile telecommunications switching office (“MTSO”) 20 coupled to transmission tower 18. *Id.* at 3:35–37.

Figure 2 is reproduced below.



Westerlage Figure 2 is a block diagram of messaging unit 16, which “may be attached to a mobile item, such as truck trailer 12, cargo container, other vehicle, or person.” Ex. 1006, 6:7–11. As shown in Figure 2, messaging unit 16 includes cellular transceiver 38, processor(s) 44, ROM 52, RAM 54, positioning system transceiver 60, and sensor system 64. *Id.* at 6:17–7:16. Westerlage discloses that positioning system transceiver 60 receives location information from, e.g., a GPS system, and provides that information to processor 44 via positioning system interface 58. *Id.* at 6:55–62.

Westerlage discloses that, “[i]n operation, messaging unit 16 generates a data message to be sent over . . . network 10 upon the occurrence

of a reporting event,” which is determined by reporting event determination module 72 of processor 44. Ex. 1006, 7:41–47, Fig. 2. According to Westerlage, “[u]pon the occurrence of a reporting event, processor 44 may immediately generate and transmit a data message or generate and store the data message for later transmission.” *Id.* at 7:47–50. Westerlage describes various reporting events that may trigger the generation of a message, including an external request from MTSO 20, clearinghouse 22, platform 24, or host 26 (*see* Figure 1 above); a signal from sensor system 64, such as an alarm signal indicating that “the cargo temperature in a refrigerated truck trailer exceeds a certain minimum or maximum level;” and geographical information, such as a truck trailer location determined by the positioning system that deviates from an expected location. *Id.* at 7:54–8:29.

2. *Claim 1*

Petitioner contends that Westerlage discloses the structural limitations of claim 1. For example, Petitioner maps “a shipment conveyance device” (element [1a]) to a cargo container, as disclosed by Westerlage. Pet. 52. Petitioner maps both “a receiver” (element [1b]) and “a transmitter” (element [1e-1]) to Westerlage’s cellular transceiver 38. Pet. 53, 60–61. Petitioner maps “a global positioning device” (element [1c-1]) to Westerlage’s positioning system transceiver 60. Pet. 53–55. Petitioner maps “a processor” (element [1d]) to Westerlage’s processor 44. Pet. 57. Petitioner maps “a communication device” (element [1e-2]) to modem 370 of central host 226, as disclosed by Westerlage. Pet. 61–62; *see* Ex. 1006, 16:35–41, 24:24–29, Figs. 5, 12.

Petitioner also contends that Westerlage discloses the functional limitations of element [1d]. For example, Petitioner contends that

Westerlage discloses that “the processor generates a message in response to an occurrence of the event,” as recited in element [1d], directing us to Westerlage’s disclosure that, “[u]pon the occurrence of a reporting event, processor 44 may immediately generate and transmit a data message.” Ex. 1006, 7:47–58; Pet. 58. Petitioner also contends that Westerlage discloses that “the message contains information regarding a position or location of the shipment conveyance device,” as recited in element [1d], directing us to Westerlage’s disclosure that “[t]he data messages may contain information that initiated the reporting event . . . and . . . other monitored information, such as the location of the truck trailer at the time of the reporting event.” Ex. 1006, 8:43–49; Pet. 58.

Based on the current record and without any opposition from Patent Owner, we determine that Petitioner’s arguments and evidence challenging claim 1 based on Westerlage meet the threshold for institution.

3. Claims 3, 5, 8, and 14–16

Claims 3, 5, 8, 14, and 15 depend from claim 1. Petitioner contends that the additional limitations of these claims are disclosed or rendered obvious by Westerlage. Pet. 62–65. Petitioner relies on its contentions for claims 1 and 5 to show obviousness for claim 16, asserting that the claim limitations are substantially similar. Pet. 65. In view of the absence of a preliminary response and our determination that Petitioner’s challenge to claim 1 based on Westerlage meets the threshold for institution, we do not provide a claim-by-claim analysis for dependent claims 3, 5, 8, and 14–16 at this stage of the proceeding.

G. Petitioner's Challenge based on Westerlage and Woolley

Petitioner challenges claims 2, 4, 10, 12, 13, and 19 as unpatentable and obvious based on Westerlage and Woolley. Pet. 66–81. We provide an overview of Woolley before turning to our claim analysis.

1. Woolley (Ex. 1007)

Woolley discloses monitoring an object in a moving vehicle by attaching an electronic tag to the object and using an electronic device to communicate with the tag and detect the presence of the object while it is being moved by the vehicle. Ex. 1007, code (57), 1:42–46. Woolley discloses tracking the location of the object, comparing its location to a planned route, and reporting any discrepancy to a user. *Id.* at 1:54–58. According to Woolley, “[e]ach tag stores a unique identification for the object, a description of the object, the object’s shipper and destination and a signature of each possessor of the object.” *Id.* at 2:4–6.

Figure 5 is reproduced below.

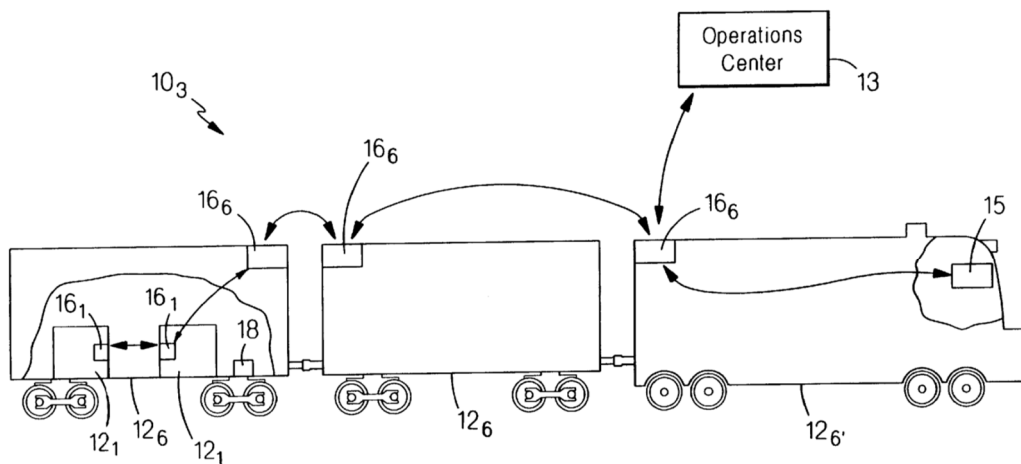


FIG. 5

Woolley Figure 5 illustrates a system for monitoring railway cargo by mounting tags 16₆ on each railway car 12₆ and on locomotive 12₆' and mounting tags 16₁ on each container 12₁ transported in the cars. Ex. 1007,

17:58–61. Sensors 18 are mounted in the railway cars, including a brake release sensor, a temperature sensor, and a fuel level sensor, and a GPS sensor is on the locomotive. *Id.* at 17:66–8:4; *see also id.* at 59:63–62:32 (description of railroad shipping application).

Figure 6 is reproduced below.

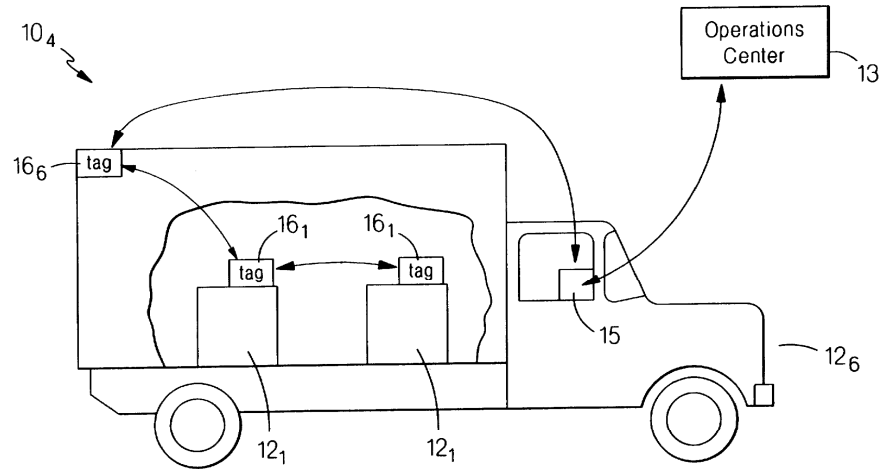


FIG. 6

Woolley Figure 6 illustrates a system for monitoring the transportation of hazardous waste or other materials by truck 12₆ by fixing tag 16₆ and tags 16₁ to each container 12₁ in the truck. Ex. 1007, 18:5–8; *see also id.* at 53:39–56:57 (description of hazardous waste transportation application).

2. Claim 2

Petitioner contends that it would have been obvious to combine Westerlage's messaging units with Woolley's teachings regarding data storage. Pet. 67 (citing Ex. 1003 ¶ 181). The Petition provides several reasons that Petitioner contends would have motivated a POSITA to make the Westerlage-Woolley combination and cites to teachings from both references and its declarant's testimony as support for those reasons. Pet. 68–70; Ex. 1003 ¶¶ 182–187. For example, Petitioner contends that

“Woolley’s teachings about storing a description of the contents of the container . . . would allow a freight customer using Westerlage’s system to determine which specific items are impacted by a particular reporting event, such as a temperature change.” Pet. 69 (citing Ex. 1003 ¶ 183; Ex. 1007, 2:4–11, 16:46–52, 24:34–42, 55:10–20).

Addressing the limitations of claim 2, Petitioner contends that Westerlage teaches a “memory . . . located in, on, or at, the shipment conveyance device,” directing us to Westerlage’s ROM 52 and RAM 54, which are part of messaging unit 16, which is located in or on truck trailer 12. Pet. 70–72 (citing Ex. 1006, 3:31–32, 6:45–54, 8:22–30, Figs. 1, 2). Petitioner contends that Westerlage alone or in combination with Woolley discloses the limitations of claim elements [2b-1] and [2b-2], which describe the types of information stored in the memory. Pet. 72–77.

Based on the current record and without any opposition from Patent Owner, we determine that Petitioner’s arguments and evidence challenging claim 2 based on Westerlage and Woolley meet the threshold for institution.

3. Claims 4, 10, 12, 13, and 19

Claims 4, 10, 12, and 13 depend from claim 1. Petitioner contends that the additional limitations of these claims would have been obvious in view of Westerlage and Woolley. Pet. 77–80. Petitioner relies on its contentions for claims 1 and 2 to show obviousness for claim 19, asserting that the claim limitations are substantially similar. Pet. 80–81. In view of the absence of a preliminary response and our determination that Petitioner’s challenge to claim 2 based on Westerlage and Woolley meets the threshold for institution, we do not provide a claim-by-claim analysis for claims 4, 10, 12, 13, and 19 at this stage of the proceeding.

III. CONCLUSION

We determine that the information presented in the Petition establishes a reasonable likelihood that Petitioner would prevail in showing that at least one of claims 1–10 and 12–20 of the ’109 Patent is unpatentable. Accordingly, we institute an *inter partes* review of all challenged claims on all grounds asserted in the Petition. 37 C.F.R. § 42.108(a). *See* Guidance on the Impact of SAS on AIA Trial Proceedings (April 26, 2018);⁷ *see also SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1359–60 (2018).

IV. ORDER

It is

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims of claims 1–10 and 12–20 of the ’109 Patent is instituted commencing on the entry date of this Decision; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of trial.

⁷ Available at <https://www.uspto.gov/patents-application-process/patent-trial-and-appeal-board/trials/guidance-impact-sas-aia-trial>.

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