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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte HANS L. TRAUTENBERG

Appeal 2017-008805
Application 13/524,227
Technology Center 3600

Before WILLIAM A. CAPP, GEORGE R. HOSKINS, and LEE L. STEPINA, *Administrative Patent Judges*.

CAPP, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant[1] seeks our review under 35 U.S.C. § 134(a) of the final rejection of claims 1–6 under 35 U.S.C. § 101 as directed to unpatentable subject matter;[2] claims 1–4 and 7 as unpatentable under 35 U.S.C. § 103(a) over Moudrak, *Timing Aspects of GPS-Galileo Interoperability: Challenges and Solutions*, 36th Annual Precise Time Interval (PTTI) Meeting, 279–92 (2004); and claims 5, 6, and 8–20 over Moudrak and Horkin (US 5,619,211, iss. Apr. 8, 1997). We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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[1] Appellant identifies Astrium GmbH as the real party in interest. Appeal Br. 2.

[2] A rejection of claims 7–20 under Section 101 is withdrawn. Ans. 17.

THE INVENTION

Appellant's invention relates to satellite navigation systems. Spec. ¶ 2. Claim 1, reproduced below, is illustrative of the subject matter on appeal.

> 1. A method for improving a combined use of a plurality of different satellite navigation systems, in which each of the plurality of different satellite navigation systems includes a constellation of at least one satellite, the method comprising:
>
> broadcasting from each satellite of the constellation of a first satellite navigation system the clock models for all satellites of the constellation of a second satellite navigation system.

OPINION

Unpatentable Subject Matter

Appellant argues claims 1–6 as a group. Appeal Br. 10–13. We select claim 1 as representative. *See* 37 C.F.R. § 41.37(c)(1)(iv).

The Supreme Court has set forth "a framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts." *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2355 (2014) (citing *Mayo Collaborative Servs. v. Prometheus Labs, Inc.*, 566 U.S. 66, 72–73 (2012)). According to the Supreme Court's framework, we must first determine whether the claims at issue are directed to one of those concepts. *Id.* This first, or "abstract idea" step of the inquiry calls upon us to look at the "focus of the claimed advance over the prior art" to determine if the claim's "character as a whole" is directed to excluded subject matter. *Affinity Labs of Texas, LLC v. DirectTV, LLC*, 838 F.3d 1253, 1257 (Fed Cir. 2016).

If the first step is satisfied, we proceed to the second or "inventive concept" step. *Id.* The "inventive concept" step requires us to look with

more specificity at what the claim elements add, in order to determine "whether . . . they identify an 'inventive concept' in the application of the ineligible matter" to which the claim is directed. *See Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016); *see also Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016). The Supreme Court characterizes the second step of the analysis as a search for an element or combination of elements that is sufficient to ensure that the claim amounts to significantly more than the ineligible concept itself. *Alice*, 134 S. Ct. at 2355 (quoting *Mayo*, 566 U.S. at 72).

With respect to the first step, the Examiner determines that the claims are directed to the abstract idea of organizing, storing, and transmitting information. Final Action 2.

With respect to the second step of the *Alice/Mayo* analysis, the Examiner finds that the claims do not include additional elements that are sufficient to amount to significantly more than the judicial exception because the abstract idea amount(s) to no more than mere instructions to implement the idea on a computer that are well-understood, routine, and conventional activities previously known to the pertinent industry and to generally linking the use of the judicial exception to a particular technological environment or field of use (i.e. intending to be used to improve a combined use of a plurality of different satellite navigation systems). Ans. 3–4.[3]

[3] "Viewed as a whole, these additional claim element(s) do not provide meaningful limitation(s) to transform the abstract idea into a patent eligible application of the abstract idea such that the claim(s) amounts to significantly more than the judicial exception." *Id.*

Appellant argues that claim 1 is not directed to an abstract idea. Appeal Br. 10–12. Appellant characterizes the claim as directed to a method implemented between a plurality of different satellite navigation systems, in which each of the plurality of different navigation systems includes a constellation of at least one satellite. *Id.* at 13. Appellant contends that this concept is distinct from the Examiner's characterization of merely organizing, storing, and transmitting information. *Id.*

In response, the Examiner analogizes the abstract idea in the instant case to that of *Affinity Labs, supra.* Ans. 18. The Examiner states that, as in *Affinity Labs*, the instant claim merely relates to broadcasting signals and information in the form of clock models. *Id.*

In reply, Appellant analogizes the instant case to *Enfish, supra.*[4] "In the present application and similar to the ultimate decision in *Enfish*, the claims do not merely perform a known task in a conventional way, but instead are directed to improving the operation of the satellite navigation system." Reply Br. 6.

We agree with the Examiner's position that the invention is directed to an abstract idea. Information as such is intangible and hence abstract. *See Elec. Power*, 830 F.3d at 1353. Collecting information and analyzing it by mathematical algorithms is similarly abstract. *Id.* at 1354. Merely presenting the results of the collection and analysis of information, without more (such as identifying a particular tool for presentation), is abstract as an ancillary part of such collection and analysis. *Id.* In the instant case, the

[4] Appellant provides no legal reporter citation for the *Enfish* decision and repeatedly and erroneously refers to it as a "recent Supreme Court decision." Appeal Br. 16, 17; Reply Br. 6, 7.

"presentation" of the analyzed information is via "broadcasting." Claims App., claim 1. Thus, the recited step of broadcasting clock models of a first system to a second system is an abstract idea. *See Affinity Labs*, 838 F.3d at 1258 (information distribution through signal broadcast is an abstract and familiar concept). Although being confronted by the Examiner's reasoning regarding broadcasting information as an abstract idea in light of *Affinity Labs*, Appellant makes no attempt to discuss or distinguish *Affinity Labs*. *See generally* Reply Br.

Appellant's arguments are not persuasive. Satellite navigation systems are well-known to measure elapsed time between a satellite transmission and its reception by a user/receiver device (e.g., an automobile Garmin™ device). Geographic position is then calculated by converting signal transmission elapsed time to distance and then resolving such distances from a plurality of satellites. The issue addressed by Appellant is that the United States' Navstar-GPS system uses a different time standard than, for example, the Russian GLONASS system. Spec. ¶¶ 3–4. Essentially, the idea underlying Appellant's invention is for the various satellite navigation systems to share information about each other's clock system through broadcast distribution of the information. The shared/combined information is then broadcast to users, so that a user/receiver device can navigate using information from satellites that are associated with a plurality of different navigation systems.

Satellite navigation technology is known. Spec. ¶¶ 3, 4; Horkin, Abstract; Moudrak 279. The concept of converting data from one information system so that it can be understood and used by another system is similarly old and familiar and quite abstract. Merely limiting the idea of

converting and transmitting data to a particular technological environment, such as satellite navigation, does not render the idea any less abstract. *See Affinity Labs*, 838 F.3d at 1259 ("merely limiting the field of use of the abstract idea to a particular existing technological environment does not render the claims any less abstract"). Here, the claim's character as a whole is directed to an abstract idea.

With respect to step 2 of the *Mayo/Alice* analysis, Appellant argues that the claim improves the functionality of the underlying computer/ analysis and, as a result, adds "significantly more" so as to transform the claim into patent-eligible subject matter. Appeal Br. 17. Appellant points to claim 1 as improving a combined use of a plurality of different satellite navigation systems. *Id.* at 18. Appellant argues that "the receiver and the system result in the ability of each satellite navigation system to broadcast clock models for the satellites *of the other system* to increase the precision of a position solution with a combined use of the different satellite systems." *Id.* at 19.

> Appellant submits that the broadcasting of clock model data *for all satellites of a second satellite system* from *each satellite in a first satellite system* would not have been reasonably understood by those ordinarily skilled in the art as a routine or conventional activity known in the industry, as alleged by the Examiner.

Id.

In response, the Examiner reiterates that the claim does not include additional elements that are sufficient to amount to significantly more than the judicial exception because "the additional elements amount to no more than appending well-understood, routine, and conventional activities

previously known to the pertinent industry as stated in the rejection above." Ans. 18.

In reply, Appellant insists that the claims do not merely perform a known task in a conventional way, but instead "improve the functionality of the underlying computer/apparatus." Reply Br. 7. Appellant cites *Thales Visionix Inc. v. United States*, 850 F.3d 1343 (Fed. Cir. 2017) as an example of purportedly analogous technology that is patent eligible subject matter. *Id.* at 10.

However, *Thales* does not apply to the case before us. The *Thales* court determined that a particular configuration of inertial sensors was not, in the first instance, directed an abstract idea. *Thales*, 850 F.3d at 1349. Thus, *Thales* did not even address the issue of whether it involved "something more" under step two of the *Mayo/Alice* analysis. *Id.* at 1346.

Otherwise, Appellant's arguments under step 2 of the *Mayo/Alice* analysis framework are off the mark because they persistently refer to the step 1 abstract idea itself as the "something more" under step 2. Essentially, Appellant argues that, because implementation of the abstract idea results in an improved navigation system, the claim presents patentable subject matter. This argument fails. Even if claims are groundbreaking, innovative, or brilliant, that is not enough for eligibility. *See Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 591 (2013). The claims here are ineligible because their innovation is an innovation in the ineligible subject matter. *See SAP America, Inc., v. InvestPic, LLC*, _ F.3d _, 2018 WL 2207254, *1 (Fed. Cir. May 15, 2018). "[A] claim for a new abstract idea is still an abstract idea. The search for a § 101 inventive concept is thus distinct from demonstrating § 102 novelty." *Synopsys, Inc. v. Mentor*

Graphics Corp., 839 F.3d 1138, 1151 (Fed. Cir. 2016); *see also Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1315 (Fed. Cir. 2016) (same for § 103 obviousness).

Here, Appellant confuses step 1 with step 2 of the analysis. Claim 1 contains a single step – "broadcasting" information. Claims App., claim 1. The information that is broadcast is data related to "clock models." *Id.* The data is broadcast "from each satellite" of a first navigation system. *Id.* The data relates to "all satellites" of a second navigation system. *Id.* This is the abstract idea itself. However, the question now before us turns on whether actual implementation of the abstract idea involves "something more." We agree with the Examiner that it does not. *Alice*, 134 S. Ct. at 2358 (citing *Mayo*, 566 U.S at 78) (simply appending conventional steps, specified at a high level of generality, to a well-known method is not enough to supply an inventive concept).

Appellant's Specification discloses satellites 10 and 12 that belong to a first navigation system and satellites 14 and 16 that belong to a second navigation system. Spec. p. 8, ¶ 25. Monitoring stations 22 and 24 communicate with the satellites via "communication connections." *Id.* The monitoring stations also communicate with a central unit 26 that "coordinates" the broadcast of clock model data. *Id.* Appellant also discloses a receiver system 28 that has a receiver unit that can receive navigation signals from the satellites. *Id.* p. 10, ¶ 29. The receiver has an antenna and also has a signal processor for correlating and decoding signals from the satellites. *Id.* The processor is configured by firmware that calculates the position, time, etc. based on data transmitted by the satellites.

Id. The processor "takes into account" the clock models contained in the data from the respective satellite systems. *Id.*

We have reviewed Appellant's Specification. The various pieces of equipment and their configuration are described at a very high level of generality. The Specification is written in a manner that presumes that a person of ordinary skill in the art is already familiar with what equipment to use and how the equipment should be configured and programmed. A patent applicant is required to describe an invention in "full, clear, concise, and exact terms." 35 U.S.C. § 112(a). A specification demonstrates the well-understood, routine, conventional nature of additional elements when it describes them in a manner that indicates that the additional elements are sufficiently well-known that the specification does not need to describe them with particularity to satisfy section 112(a). Furthermore, a patent specification "shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention." 35 U.S.C. § 112(b). Thus, where, as here, a patent applicant fails to describe and claim implementation of an abstract idea that includes an inventive concept beyond that which is routine and conventional, the Examiner and the Board cannot be expected to do more than recognize such absence.

Under the second prong of the *Alice/Mayo* test, we have considered whether the claim elements, both individually and "as an ordered combination," "'transform the nature of the claim' into a patent-eligible application." *See Alice*, 134 S. Ct. at 2355. We are not persuaded that using conventional computer technology to coordinate clock model data between navigation systems and using conventional radio transmission technology to

broadcast the coordinated clock signals satisfies the "significantly more" criteria under the second prong of *Alice/Mayo*. *Id.* at 2359.

Accordingly, for the foregoing reasons, we sustain the Examiner's Section 101 rejection of claims 1–6.

Unpatentability of Claims 1–4 and 7 over Moudrak

Claim 1

The Examiner finds that Moudrak discloses the invention substantially as claimed except that each satellite of the Galileo constellation broadcasts a GPS-Galileo time offset. Final Action 4. The Examiner concludes that it would have been obvious to a person of ordinary skill in the art at the time of the invention was made for Moudrak to broadcast from each satellite of the constellation of a first satellite navigation system (Galileo) the clock models for all satellites of the constellation of a second satellite navigation system (GPS). *Id.* at 4–5. According to the Examiner, a person of ordinary skill in the art would have done this because it improves the reliability in the combined use the navigation systems. *Id.* at 5.

Appellant traverses the Examiner's rejection by arguing that the actual broadcasting of clock model information in the claimed invention is patentably distinguishable from broadcasting a time offset as taught by Moudrak. Appeal Br. 23. Appellant argues that Moudrak merely broadcasts a "prediction" of an actual time offset. *Id.* at 23–24.

> [B]ecause GGTO, as described by MOUDRAK, is merely a prediction, MOUDRAK discloses that *there are errors that require resolving, and additional errors arise due to calibration errors in calculating the GGTO*. Thus, this derivation of other clock models in MOUDRAK is fraught with errors, which the

> claimed embodiments obviate by broadcasting the actual clock models of the other system.

Id. at 24. Appellant contends that Moudrak merely describes the known art that Appellant's claimed embodiments sought to improve. *Id.* at 25.

In response, the Examiner states that Moudrak broadcasts its own clock model, Galileo System Time or "GST", and also broadcasts a GPS-Galileo Time Offset, which, according to the Examiner, is a GPS clock model because it provides an offset between its own clock model and the GPS system clock model. Ans. 19. "By knowing a clock model of one navigation system, knowing the time offset between a navigation system and another navigation system basically results in the clock model of another navigation system." *Id.*

In reply, Appellant argues that the offset of Moudrak is not really a "clock model." Reply Br. 12. Appellant reiterates that Moudrak does not teach or suggest broadcasting "***the clock model***" of the GPS satellites from Galileo satellites. *Id.* at 13.

We do not find Appellant's arguments persuasive. Appellant points to a difference between Moudrak's broadcasting a clock model offset and broadcasting the actual clock model of the second navigation system. What Appellant fails to do, however, is explain why this difference is a non-obvious difference over the prior art. The obviousness statute contemplates that an invention may be unpatentable over the prior art despite differences between the prior art and the claimed invention. *See* 35 U.S.C. § 103(a); *see also CRFD Research, Inc. v. Matal*, 876 F.3d 1330, 1349 (Fed. Cir. 2017) (PTAB reversed for failing to find obviousness over a single, non-anticipating reference). The question before us is whether the differences are such that the claimed invention, as a whole, would have been obvious to

a person of ordinary skill in the art. *Id.* We answer that question in the affirmative.

Appellant's argument, in essence, is that is the claimed invention is a patentable improvement over Moudrak because broadcasting actual clock model data results in improved performance over broadcasting predicted clock model data based on an offset. This argument does not reflect the correct standard for an obviousness analysis as it is well settled that improved performance, alone, is not sufficient. *See In re Huang*, 100 F.3d 135, 139 (Fed. Cir. 1996) ("even though applicant's modification results in great improvement and utility over the prior art, it may still not be patentable if the modification was within the capabilities of one skilled in the art").

Moudrak demonstrates that it was known for a navigation system to navigate based on data broadcast from a plurality of different satellite systems. Moudrak merely discloses an alternative means for accounting for the differences in the clock models used by the different systems. By broadcasting actual, rather than predicted, clock model data, Appellant teaches what, at best, may be considered a predictable variation of the prior art. However, it is well settled that when a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007). If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. *Id.* Here, Appellant presents neither evidence nor persuasive technical reasoning that implementation of the claimed invention requires more than ordinary skill. Indeed, as we have previously discussed under the Section 101 grounds of rejection, Appellant's Specification describes implementation of the

invention at such a high level of generality that it presumes that it can be accomplished using no more than ordinary skill.

We sustain the Examiner's unpatentability rejection of claim 1 over Moudrak.

Claims 2–4

Appellant's arguments for the separate patentability of claims 2–4 largely amount to a recitation of the claim elements and a naked assertion that the elements are not met by the prior art. Appeal Br. 29–31. This is not sufficient to set forth a separate argument for patentability of a claim under our rules. 37 C.F.R. § 41.37(c)(1)(iv) ("A statement which merely points out what a claim recites will not be considered an argument for separate patentability of the claim"); *see also In re Lovin*, 652 F.3d 1349, 1357 (Fed. Cir. 2011) (Rule 41.37 requires more than recitation of the claim elements and a naked assertion that the elements are not found in the prior art).

As to claim 3, Appellant asserts Moudrak "does not disclose[] two different satellite navigation systems," so Moudrak cannot be understood to suggest application to the Galileo system and the NAVSTAR-GPS system. Appeal Br. 30. We, however, agree with the Examiner's finding that Moudrak discloses the two satellite navigation systems recited in claim 3. *See* Final Action 5.

We sustain the Examiner's unpatentability rejection of claims 2–4.

Claim 7

Claim 7 is an independent claim that is substantially similar in scope to claim 1. Claims App. In traversing the rejection, Appellant essentially just repeats the same arguments that we previously considered in connection with the unpatentability rejection of claim 1 and found unpersuasive and

which we find equally unpersuasive here. Thus, for the reasons discussed with respect to claim 1 above, we are not apprised of error in the Examiner's unpatentability rejection of claim 7. Accordingly, we sustain the unpatentability rejection of claim 1.

Unpatentability of Claims 5, 6, and 8–20 over Moudrak and Horkin[5]

Claim 11

The Examiner finds that Horkin discloses the invention substantially as claimed except for receiving clock models for all satellites of a second navigation system. Final Action 12. The Examiner relies on Moudrak, as modified in accordance with the rejection of claim 1, as disclosing clock models from two satellite navigation systems. *Id.* at 13. The Examiner concludes that it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Horkin and Moudrak to achieve the claimed invention. According to the Examiner, a person of ordinary skill in the art would have done this to improve the accuracy of the location determination. *Id.*

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[5] The rejection of claims 5, 6, 8–10, and 15–20 cites Moudrak as the primary reference and Horkin as the secondary reference. Final Action 7. The rejection of claims 11–14 cites Horkin as the primary reference and Moudrak as the secondary reference, i.e., the order of the references is reversed in the rejection of claims 11–14. *Id.* at 12. We view this reversal of order of Moudrak and Horkin as insignificant. *In re Bush*, 296 F.2d 491, 496 (CCPA 1961) ("where a rejection is predicated on two references each containing pertinent disclosure which has been pointed out to the applicant, we deem it to be of no significance, but merely a matter of exposition, that the rejection is stated to be on A in view of B instead of on B in view of A, or to term one reference primary and the other secondary.")

In traversing the rejection, Appellant offers a naked assertion that Horkin and Moudrak do not teach or suggest the claimed invention. Appeal Br. 40–42. For example, "there is no discernible teaching in the applied art suggesting a modification of HORKIN in view of MOUDRAK that would have been understood to have rendered obvious the claimed embodiments of at least independent claim 11." *Id.* at 41.

Horkin is directed to an aircraft navigation system and associated air traffic control system. Horkin, col. 1, l. 7–col. 2, l. 5. As found by the Examiner, Horkin discloses the use of two different satellite constellations. *See* Final Action 12 (citing to multiple Figures and passages from Horkin). A person of ordinary skill in the art would understand that Horkin's aircraft GPS device 82 (NAV DATA receiver) corresponds to the "receiver" of claims 11 and 12. Horkin, col. 6, l. 18. As discussed previously in connection with claim 1, Moudrak discloses navigation using information from two different navigation satellite systems. The Appellant's abbreviated and conclusory arguments do not apprise us of error with respect to the rejection of claim 11.

We sustain the Examiner's unpatentability rejection of claim 11.

Claims 12–14

As with claims 2–4, Appellant's arguments for the separate patentability of claims 12–14 amounts to a recitation of the claim elements and a naked assertion that the elements are not met by the prior art. Appeal Br. 42–44. As previously discussed, this is not sufficient to set forth a separate argument for patentability. 37 C.F.R. § 41.37(c)(1)(iv); *Lovin*, 652 F.3d at 1357. Consequently, we sustain the Examiner's unpatentability rejection of claims 12–14.

Claims 5 and 6

Claim 5 depends directly from claim 2 and indirectly from claim 1. Claims App. Claim 6 depends directly from claim 5 and indirectly from claim 1. *Id.* The Examiner relies on Horkin as disclosing the limitations of claims 5 and 6. Final Action 10.

As with claims 2–4 and 12–14, Appellant's arguments for the separately patentability of claims 5 and 6 amounts to a recitation of the respective claims and a naked assertion that the claim elements are not met by the prior art. Appeal Br. 36. For the same reasons, we sustain the unpatentability rejection of claim 6. 37 C.F.R. § 41.37(c)(1)(iv); *Lovin*, 652 F.3d at 1357.

Claim 8

Claim 8 depends from claim 7 and adds the limitation: "further comprising at least one first monitoring station of a first ground segment of the first satellite navigation system that is structured and arranged to monitor the broadcasting of clock models of the at least one first satellite." Claims App. The Examiner relies on Horkin as disclosing a ground segment. Final Action 11.

As with claims 2–6 and 12–14, Appellant's arguments for the separately patentability of claim 8 amounts to a recitation of the claim and a naked assertion that the claim elements are not met by the prior art. Appeal Br. 36–37. We sustain the Examiner's unpatentability rejection of claim 8. 37 C.F.R. § 41.37(c)(1)(iv); *Lovin*, 652 F.3d at 1357.

Claim 9

Claim 9 depends from claim 8 and adds the limitation: "further comprising at least one second monitoring station of the second ground

segment of the second satellite navigation system that is structured and arranged to monitor the broadcasting of the clock models of the at least one second satellite." Claims App. The Examiner concedes that Moudrak and Horkin do not explicitly disclose at least one first monitoring station of a first ground segment of the first satellite navigation system and at least one second monitoring station of the second ground segment of the second satellite navigation system for monitoring the broadcasting of clock models of the at least one satellite in the respective satellite navigation system and to coordinate the broadcast of the clock models via the at least one first and second monitoring stations. Final Action 11. The Examiner does find, however, that the combination of Moudrak and Horkin suggests a master base station as the monitoring station that monitors the broadcasting of clock models of a satellite in each constellation and coordinates the broadcast of the clock models. *Id.* (citing Horkin, col. 7, ll. 5–14, col. 9, ll. 23–35, col. 9, l. 60–col. 10, l. 9). The Examiner concludes that it would have been obvious to a person of ordinary skill in the art at the time the invention was made to utilize different monitoring stations for the different satellite navigation systems as claimed. *Id.*

In traversing the rejection, Appellant concedes that Horkin discloses transmitting navigation data from a satellite to a ground station and correcting an on-board clock. Appeal Br. 32–33. As with claims 2–6, 8, and 12–14, Appellant's arguments for the separately patentability of claim 9 amounts to a recitation of the claim and a naked assertion that the claim elements are not met by the prior art. Appeal Br. 37. For reasons previously given, we sustain the Examiner's unpatentability rejection of claim 9. 37 C.F.R. § 41.37(c)(1)(iv); *Lovin*, 652 F.3d at 1357.

Claim 10

Claim 10 depends from claim 9 and adds the limitation: "further comprising a central unit structured and arranged to control the at least one first monitoring station and the at least one second monitoring station and to coordinate the broadcast of the clock models via the at least one first and second monitoring stations." Claims App. The Examiner relies on the same findings of fact and conclusions of obviousness for the rejection of claims 9 and 10. Final Action 11.

Appellant's traversal of the rejection of claim 10 suffers from the same infirmity that we identified in connection with the rejection of claims 2–4, 8, 9, and 12–14. We sustain the Examiner's unpatentability rejection of claim 10 for essentially the same reasons. 37 C.F.R. § 41.37(c)(1)(iv); *Lovin*, 652 F.3d at 1357.

Claim 15

With respect to independent claim 15, the Examiner finds that claim 15 is rejected for the same reasons as with claims 7–10. Final Action 12.

In traversing the rejection, Appellant concedes that Horkin discloses transmitting navigation data from a satellite to a ground station and correcting an on-board clock. Appeal Br. 32–33. Appellant argues, however, that there is no teaching of a second grounding segment monitoring station associated with a second satellite navigation system as claimed. *Id.*

Appellant's argument is not persuasive. Horkin discloses ground stations 26 that receive NAV DATA signals from GPS satellites. Horkin, col. 5, ll. 26–40.

> [M]aster clock 96 is used to periodically correct or compensate on-board clock 76 of each satellite 40. In general, multiple base stations 26 are provided. Of these, one base station is selected to act as master base station 26 whose clock 96 acts as the master 10 clock for the entire base station-satellite system.

Id. at col. 7, ll. 6–11. As previously discussed, Moudrak discloses navigation using data from two different satellite navigation systems. In our discussion of the unpatentability rejection of claim 1, we previously explained why it would have been obvious to a person of ordinary skill in the art to broadcast actual clock model data in lieu of predicted clock model data based on an offset. In our view, facilitating the broadcast of the actual clock model through a second ground station is an obvious and logical extension of Horkin's teaching referenced above in this paragraph and applied to a second, but different, satellite system.

As explained by the Supreme Court, the diversity of inventive pursuits and of modern technology counsels against confining the obviousness analysis by overemphasizing the importance of published articles and the explicit content of issued patents. *KSR*, 550 U.S. at 402. This follows, in part, from the established principle that the combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. *Id.* at 416. Accordingly, "the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR*, 550 U.S. at 418.

As we recognized in connection with the rejection of claim 1, there may be differences between the prior art and the claimed invention, but such differences do not render the subject matter, as a whole, non-obvious.

Whatever differences exist between the combination of Moudrak and Horkin compared to the subject matter of claim 15, we are persuaded that such differences would have been readily overcome by the exercise of no more than ordinary skill. The absence of any detailed enabling disclosure in Appellant's Specification strongly corroborates the Examiner's position that achieving the claimed invention requires no more than ordinary skill. Given the combined teachings of Moudrak and Horkin, merely adding a second ground station to transmit clock model data amounts to no more than a predictable variation of the prior art. *KSR*, 550 U.S. at 417 (if a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability).

Accordingly, we sustain the Examiner's unpatentability rejection of claim 15.

Claims 16–20

Claims 16–20 depend, directly or indirectly, from claim 15. The Examiner rejects these claims for the same reasons with claims 7–10 based on their obvious variants in broadcasting and monitoring the clock models/signals. Final Action 12.

As with claims 2–6, 8, 10, and 12–14, Appellant's arguments for the separately patentability of claims 16–20 amount to a recitation of the claim and a naked assertion that the claim elements are not met by the prior art. Appeal Br. 38–40. For reasons previously given, we sustain the Examiner's unpatentability rejection of claims 16–20. 37 C.F.R. § 41.37(c)(1)(iv); *Lovin*, 652 F.3d at 1357.

DECISION

The decision of the Examiner to reject claims 1–20 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED