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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MARTIN C. ALLES, NAVIN SRINIVASAN,
THOMAS B. GRAVELY and ANDREW BECK

Appeal 2018-002375
Application 14/646,907
Technology Center 2600

Before ALLEN R. MacDONALD, JON M. JURGOVAN, and
PHILLIP A. BENNETT, *Administrative Patent Judges*.

MacDONALD, *Administrative Patent Judge*.

DECISION ON APPEAL¹

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from a final rejection of claims 1–51. We have jurisdiction under 35 U.S.C. § 6(b). We AFFIRM.

¹ Appellants indicate the real party in interest is CommScope Technologies LLC. App. Br. 1.

Illustrative Claims

Illustrative claims 1 and 10 under appeal read as follows (emphasis, formatting, and bracketed material added):

1. A method for determining intermodulation distortion, the method comprising the steps of:

(a) searching a predetermined frequency band for a radio frequency (RF) product signal, wherein said RF product signal is a product of a first RF signal raised to the power of a first integer and a second RF signal raised to the power of a second integer, and wherein the first RF signal is at a first frequency, the second RF signal is at a second frequency, and the RF product signal is at a third frequency;

(b) applying a predetermined *cyclostationarity detection*² *technique* to the RF product signal; and

(c) identifying the RF product signal as an intermodulation distortion signal from the application of the predetermined cyclostationarity detection technique to the RF product signal.

10. The method of claim 1 wherein the first and second RF signals each include a cyclic prefix having a predetermined length and the first and second RF signals are synchronized to within at least 75% of the predetermined length of the cyclic prefix.

*References*³

Maeda et al.	US 2007/0281649 A1	Dec. 6, 2007
Gaal et al.	US 2011/0158211 A1	Jun. 30, 2011

² Also referred to as “cyclostationary analysis.” Spec. ¶ 64.

³ All citations herein to these references are by reference to the first named inventor only.

*Rejections*⁴

A.

The Examiner provisionally rejected claim 1–51 on the ground of nonstatutory obviousness-type double patenting as not being patentably distinct from claims 1–21 of copending Application 14/646,893; and claims 1–27 of copending Application 14/646,924. Final Act. 6–8.

“An appeal, when taken, is presumed to be taken from the rejection of all claims under rejection.” 37 C.F.R. § 41.31(c). Because Appellants do not identify any error in Examiner’s rejection of claims 1–51 under non-obviousness-type double patenting, we summarily sustain this rejection in this proceeding. Except for our ultimate decision, we do not discuss this rejection of these claims further herein.

B.

The Examiner rejected claims 1–51 under 35 U.S.C. § 101 because “[t]he claimed invention is directed to a judicial exception (i.e., a law of nature, a natural phenomenon, or an abstract idea) without significantly more,” i.e., because the claimed invention is directed to patent-ineligible subject matter. Final Act. 5–6.

We select claim 1 as representative. Appellants do not separately argue claims 2–51. Except for our ultimate decision, we do not discuss the § 101 rejection of claims 2–51 further herein.

⁴ All citations to the “Final Action” are to the Final Action mailed on September 1, 2016.

C.⁵

The Examiner rejected claims 1–9, 11–26, 28–43, and 45–51 under 35 U.S.C. § 103 as being unpatentable over the combination of Maeda and Gaal. Final Act. 8–15.

We select claim 1 as representative. Appellants do not present separate arguments for claims 2–9, 11–26, 28–43, and 45–51. Except for our ultimate decision, we do not discuss the § 103 rejection of claims 2–9, 11–26, 28–43, and 45–51 further herein.

Issues on Appeal

Did the Examiner err in rejecting claim 1 as being directed to patent-ineligible subject matter?

Did the Examiner err in rejecting claim 1 as being obvious?

ANALYSIS

We have reviewed the Examiner’s rejections in light of Appellants’ arguments (Appeal Brief and Reply Brief) that the Examiner has erred. We disagree with Appellants. We concur with the conclusions reached by the Examiner. We highlight the following points.

⁵ Contrary to the statement of the § 103 rejection (Final Act. 9), claims 10, 27, and 44 are not rejected under 35 U.S.C. § 103. Rather, “[c]laims 10, 27, and 44 are objected to as being dependent upon a rejected base claim, but would be allowable [under 35 U.S.C. § 103] if rewritten in independent form including all of the limitations of the base claim and any intervening claims.” Final Act. 15.

A. *Section 101*

An invention is patent-eligible if it claims a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101. However, the Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: “[l]aws of nature, natural phenomena, and abstract ideas” are not patentable. *E.g.*, *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014).

In determining whether a claim falls within an excluded category, we are guided by the Supreme Court’s two-step framework, described in *Mayo* and *Alice*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine what concept the claim is “directed to.” *See Alice*, 573 U.S. at 219 (“On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk.”); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) (“Claims 1 and 4 in petitioners’ application explain the basic concept of hedging, or protecting against risk.”).

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 69 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as “molding of rubber products” (*Diamond v. Diehr*, 450 U.S. 175, 192 (1981)); “tanning, dyeing, making waterproof cloth, vulcanizing India rubber, smelting ores” (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S.

252, 267–68 (1854)); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Supreme Court held that “[a] claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula.” *Diehr*, 450 U.S. at 187; *see also id.* at 191 (“We view respondents’ claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula.”). Having said that, the Supreme Court also indicated that a claim “seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, . . . and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment.” *Id.* (citation omitted) (citing *Benson* and *Flook*); *see, e.g., id.* at 187 (“It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”).

If the claim is “directed to” an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where “we must examine the elements of the claim to determine whether it contains an ‘inventive concept’ sufficient to ‘transform’ the claimed abstract idea into a patent-eligible application.” *Alice*, 573 U.S. at 221 (quotation marks omitted). “A claim that recites an abstract idea must include ‘additional features’ to ensure ‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].’” *Id.* (alterations in original) (quoting *Mayo*, 566 U.S. at 77). “[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention.” *Id.*

B. *USPTO Section 101 Guidance*

The United States Patent and Trademark Office (USPTO) recently published revised guidance on the application of § 101. USPTO’s January 7, 2019 Memorandum, *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (“Memorandum”). Under that guidance, we first look to whether the claim recites:

- (1) (*see* Memorandum Step 2A – Prong One) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes); and
- (2) (*see* Memorandum Step 2A – Prong Two) additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h)).⁶

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look to whether the claim:

- (3) adds a specific limitation beyond the judicial exception that is not “well-understood, routine, conventional” in the field (*see* MPEP § 2106.05(d)); or
- (4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

⁶ We acknowledge that some of these considerations may be properly evaluated under Step 2 of *Alice* (Step 2B of Office guidance). Solely for purposes of maintaining consistent treatment within the Office, we evaluate it under Step 1 of *Alice* (Step 2A of Office guidance). *See* USPTO’s January 7, 2019 Memorandum, “2019 Revised Patent Subject Matter Eligibility Guidance.”

See Memorandum Step 2B.

C. Examiner's § 101 Rejection - Alice/Mayo - Steps 1 and 2

C.1. USPTO Memorandum Step 2A – Prong One

Applying step 1 of the *Alice/Mayo* analysis, the Examiner concludes claim 1 is directed to an abstract idea.

Claim(s) 1-51 is/are directed to a ***mathematical algorithm*** (i.e. a cyclostationarity detection technique) for calculating the intermodulation distortion.

Final Act. 5 (emphasis added).

Step (b) [of claim 1] describe[s] applying a predetermined cyclostationarity detection technique to the RF product signal. This is an example of a mathematical algorithm, mathematical relationship, mathematical formula, and/or calculation. At least five cases have found that ***concepts relating to a mathematical relationship or formula*** are abstract ideas.

Ans. 8 (emphasis added).

C.2. USPTO Memorandum Step 2A – Prong Two

Applying step 2 of the *Alice/Mayo* analysis, the Examiner concludes:

[S]tep (a) is directed to searching for a RF product signal that is closely related to organizing information through mathematical correlations ***not tied to a specific structure or machine (Digitech)***.

Ans. 9 (emphasis added).

Step (c) does not do anything with the intermodulation distortion signal ***except to identifying if it has a characteristic***.

Ans. 10 (emphasis added).

C.3. USPTO Memorandum Step 2B

Further applying step 2 of the *Alice/Mayo* analysis, the Examiner concludes:

[C]laim [1] *does[] not include additional elements* that are sufficient to amount to significantly more than the judicial exception because the description of the RF product signal as an intermodulation detection signal *does not provide a meaningful limitations* [sic] such that any improvement in the art is realized. Therefore, the claim does not amount to significantly more than the abstract idea itself.

Final Act. 5–6 (emphasis added).

D. *Appellants' § 101 Arguments*

D.1.

As to claim 1, Appellants do not dispute the Examiner's determination that the claimed invention recites a judicial exception of "a mathematical algorithm (i.e. a cyclostationarity detection technique) for calculating the intermodulation distortion." Final Act. 5.

We know of no other basis to disagree with the Examiner. Therefore, on this record, it is undisputed that the "cyclostationarity detection technique" of claim 1 recites a judicial exception in the form of a mathematical concept (i.e., mathematical relationship, mathematical formula or equation, or mathematical calculation).

D.2.

Also as to claim 1, Appellants contend "the Final Office Action does not meet the burden of establishing a *prima facie* case of ineligibility." App. Br. 5. Appellants particularly contend:

While step (a) of claim 1 is addressed in the in the Response to Arguments section on page 2 of the Final Office Action, there is no reasoned rationale as to **why** step (a) has been determined to not provide "significantly more" than the identified abstract idea. The Examiner states that step (a) does not provide "significantly more" because "it only discloses 'searching . . . for the RF product signal.'" See page 2 of the Final Office Action. This is

a mere conclusory statement since the Examiner is citing the claim language itself as support.

App. Br. 5.

When considered **as a whole**, claim 1 covers “significantly more” than a mathematical algorithm (cyclostationarity detection technique). Claim 1 recites [step (a)] “searching a predetermined frequency band for a RF product signal . . . ;” [step (b)] “applying a predetermined cyclostationarity detection technique to the RF product signal;” and [step (c)] “identifying the RF product signal as an intermodulation distortion signal from the application of the predetermined cyclostationarity detection technique to the RF product signal.” These limitations recite concrete, tangible steps of a method related to communication networks and the combination of the features of claim 1 *solves a technical problem for communication networks*.

App. Br. 6 (emphasis added).

Rather than being directed to the identified abstract idea, the focus of the claims of the present application is on a specific novel *improvement for identifying intermodulation distortion, which is a known problem for communication networks*.

Reply Br. 2–3 (emphasis added).

Contrary to Appellants’ arguments that all the above argued functions of claim 1 are “significantly more,” we agree with the Examiner that claim 1 “does[] not provide a meaningful limitation[]” beyond generally linking the use of an abstract idea to a particular technological environment. Final Act. 5–6.

We conclude that step (a) and step (c) of claim 1 do not integrate the judicial exception into a practical application. Rather, these steps merely add insignificant extra-solution activity to the judicial exception. See MPEP 2106.05(g). Respectively, step (a) is mere data gathering to obtain information to which to apply the mathematical cyclostationarity detection

technique (step (b)); and step (c) is insignificant post-solution activity of identifying the result of the mathematical cyclostationarity detection technique at step (b). As to step (c) the Examiner correctly points out “[s]tep (c) does not do anything with the intermodulation distortion signal except to identifying if it has a characteristic.” Ans. 10.

Further, we disagree with Appellants that mathematically identifying distortion is a technical solution for a technical problem for communications networks. At best, Appellants’ claim 1 is analogous to a hypothetical *Diehr* claim (see *Diamond v. Diehr* 450 U.S. 175 (1981)) where the disclosure is as presented in *Diehr* (i.e., fully directed to ensuring the production of molded articles which are properly cured), but the hypothetical claim is directed only to solving the Arrhenius equation. In such a situation, the hypothetical claim would not be directed to an application of that mathematical equation to a known structure or process so as to be deserving of patent protection. See *Diehr* 450 U.S. at 188, n. 11 (“If there is to be invention from such a discovery, it must come from the application of the law of nature to a new and useful end.” (quoting *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130 (1948))). To summarize, Appellants’ claim 1 does not recite a technical solution to a technical problem. We conclude that when considered as a whole, Appellants’ claim 1 is silent as to any patent-eligible application.⁷

⁷ To the extent that Appellants’ application as filed may disclose a technological solution (e.g., removing distortion) to a technological problem, Appellants are not precluded from amending the claims to reflect fully that disclosure.

In view of Appellants' Specification, and consistent with the Examiner's determinations, we conclude that claim 1 does not integrate the judicial exception into a practical application. We determine claim 1 does not recite:

- (i) an improvement to the functioning of a computer;
- (ii) an improvement to another technology or technical field;
- (iii) an application of the abstract idea with, or by use of, a particular machine;
- (iv) a transformation or reduction of a particular article to a different state or thing; or
- (v) other meaningful limitations beyond generally linking the use of the abstract idea to a particular technological environment.

See MPEP §§ 2106.05(a)–(c), (e)–(h). We agree with the Examiner that claim 1 is *directed to* a judicial exception.

D.3.

As noted above, the Examiner determined that method claim 1 does not include additional elements that are sufficient to amount to significantly more than the judicial exception.

Typically, an examiner must determine whether additional specific method claim elements (e.g., “computer-implemented method” or “[step] performed by a processor”) are generic limitations similar to what the courts have recognized as well-understood, routine and conventional. An examiner then determines whether the claim recites “more” under step two of the *Alice/Mayo* analysis, and whether the “more” is patentably significant. See *Alice*, 573 U.S. at 227 (“[P]etitioner’s . . . media claims add nothing of

substance to the underlying abstract idea.”); *Fairwarning IP, Inc. v. Iatric Sys., Inc.*, 839 F.3d 1089, 1096 (Fed. Cir. 2016) (“Claims 15–17 . . . add nothing more than similar nominal recitations of basic computer hardware, such as ‘a non-transitory computer-readable medium with computer-executable instructions’ and a microprocessor.”).

Here, the Examiner determines that claim 1, in addition to the judicial exception, does not recite an additional element upon which to determine whether claim 1 recites only a well-understood, routine, conventional element/combination previously known in the industry. Therefore, we conclude there is no genuine issue of material fact regarding this portion of the *Alice/Mayo* analysis. Accordingly, in view of Appellants’ Specification, and consistent with the Examiner’s determinations, we determine claim 1 does not recite an additional specific limitation, and thus does not recite:

- (vi) a specific limitation other than what is well-understood, routine, conventional activity in the field or unconventional steps that confine the claim to a particular useful application.

See MPEP § 2106.05(d).

E. *Appellants’ § 103 Arguments*

E.1.

Appellants contend that the Examiner erred in rejecting claim 1 under 35 U.S.C. § 103(a) because:

Nothing in the cited portions of Maeda teaches or suggests “**searching** a predetermined frequency band **for a . . . product signal**” as claimed in claim 1. Instead, Maeda discusses shifting the frequency of a received signal by intentionally applying a rotator to **generate** “the received signal with a shifted center

frequency.” See, for example, paragraph [0201] of Maeda. Even assuming for the sake of argument that “the received signal with a shifted center frequency” is a “product signal,” the system in Maeda does not teach or suggest **searching** a predetermined frequency band **for** “the received signal with a shifted center frequency.” Instead, the system in Maeda **purposefully generates** “the received signal with a shifted frequency” by applying the rotator in order to facilitate extracting a portion of the received signal using a frequency window. See paragraphs [0199]-[0201] of Maeda. **Searching** a frequency band **for** a signal and **generating** a signal are different.

App. Br. 10.

The Examiner responds:

This point becomes moot because the secondary reference Gaal teaches intermodulation at ¶’s 29, 51-59, 63, 65-70, and 74-77. Specifically, ¶ 63 discloses intermodulation products which interfere with received signals. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system and method of Maeda to suppress the intermodulation products which interfere with received signals as taught by Gaal to facilitate interference reduction (Gaal ¶3). Each element merely performs the same function as it does separately as outlined by KSR Exemplary rationales that may support a conclusion of obviousness (A) Combining prior art elements according to known methods to yield predictable results. MPEP 2143.

Ans. 16. Appellants then further contend:

The *Examiner also took the position that* the above point is moot since *Gaal teaches intermodulation and specifically that intermodulation products interfere with received signals.* See page 16 of the Examiner’s Answer. Based on this teaching, the Examiner states that “it would have been obvious to modify the system and method of Maeda to suppress the intermodulation products which interfere with received signals as taught by Gaal to facilitate interference reduction. See page 16 of the Examiner’s Answer.

A generic disclosure of intermodulation distortion and that intermodulation products interfere with received signals ***does not teach, or even suggest***, the recited claim language.

Reply Br. 5 (emphasis added).

Further, contrary to the arguments presented by the Examiner, ***noise is not equivalent to intermodulation distortion***. Noise is a random fluctuation in an electrical signal and is present in all electronic circuits. Intermodulation distortion is caused by amplitude modulation of signals containing two or more frequencies that results from non-linearity in a system. See paragraph [0002] of the present application. Accordingly, one having ordinary skill in the art would not equate determining that a signal component is noise with determining that a signal as an intermodulation distortion signal.

...

The [Examiner's] statement that “intermodulation distortion is a ***specific type of interference*** which can be viewed as noise” amounts to an argument that a genus teaches a species, which is not proper. Further, the statement “to a receiver, signals that distort with the intended signal can be viewed as interfering noise regardless of whether they come from intermodulation distortion or some outside source” demonstrates the value of the claimed invention because ***application of a predetermined cyclostationarity detection*** technique to the product signal ***enables the identification*** of the product signal ***as intermodulation distortion signal specifically***, not noise generally.

App. Br. 12–13 (emphasis modified).

As to Appellants' arguments, we disagree. First, we agree with the Examiner that Appellants' initial Maeda argument is moot in light of Gaal.

Second, as to Appellants' Gaal “does not teach, or even suggest” argument, we are unpersuaded. Appellants acknowledge the Supreme Court's decision in *See KSR Int'l Co., v. Teleflex Co.*, 550 U.S. 398 (2007). However, Appellants overlook that the Supreme Court rejected the rigid

requirement of demonstrating a teaching, suggestion, or motivation in the references to show obviousness. *See KSR*, 550 U.S. at 415-16; *see also In re Ethicon, Inc.*, 844 F.3d 1344, 1350 (Fed. Cir. 2017) (“*KSR* directs that an explicit teaching, suggestion, or motivation in the references is not necessary to support a conclusion of obviousness.”). Instead, “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR*, 550 U.S. at 416.

Third, Appellants’ contention, differentiating the terms “distortion,” “interference,” and “noise,” is founded solely on attorney argument. Appellants do not point to the Specification or other sources to support particular meanings for these terms. Our review of the Specification and prosecution history does not find particular meanings set forth. Therefore, we turn to extrinsic evidence to determine the ordinary meanings of these terms.

We determine the ordinary meaning of the term “interference” in this field to be:⁸

Extraneous signal of any kind, usually noise or another radio signal, that contributes to the degradation of reduced intelligibility of the desired radio signal. *Radio Noise and Interference*.

We determine the ordinary meaning of the term “noise” in this field to be:⁹

Random unpredictable and undesirable signals, or changes in signals, that mask desired information content. *Radio Noise and Interference*.

⁸ Illustrated Encyclopedic Dictionary of Electronics, 2nd Ed.; John Douglas-Young; © Prentice-Hall, Inc. 1987.

⁹ *Id.*

We determine the ordinary meaning of the term “distortion” in this field to be:¹⁰

Departure of waveform from ideal shape. *Distortion*.

Appellants’ argument is not consistent with the normal meanings of these terms in this field. We conclude that an artisan would understand a “departure of waveform from ideal shape” (distortion) and a “random unpredictable and undesirable change in signal” (noise) to be reasonably equivalent. We conclude that an artisan would reasonably expect the “noise” technique of Maeda to be applicable to the “distortion” problem set forth in Gaal. That is, we conclude the Examiner’s rejection sets forth adequate reasoning for making the proposed combination. *See KSR*, 550 U.S. at 417 (“[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.”).

Further, Appellants have not presented evidence sufficient to show that combining the prior art was “uniquely challenging or difficult for one of ordinary skill in the art” or “represented an unobvious step over the prior art.” *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007) (citing *KSR*, 550 U.S. at 418–19).

E.2.

Further, Appellants contend that the Examiner erred in rejecting claim 1 under 35 U.S.C. § 103(a) because:

[N]othing in the cited portions of Gaal teaches or suggests “identifying the RF product signal as an

¹⁰ *Id.*

intermodulation distortion signal”, let alone “from *application of the predetermined cyclostationarity detection technique* to the RF product signal”.

App. Br. 14 (emphasis added).

Appellants do not address the actual reasoning of the Examiner’s rejection where the Examiner relied on Maeda as disclosing cyclostationarity detection. Final Act. 10. Instead, Appellants attack the Gaal reference singly for lacking an “application of the predetermined cyclostationarity detection technique” teaching that the Examiner relied on a combination of the Gaal and Maeda references to show. It is well-established that one cannot show non-obviousness by attacking references individually where the rejections are based on combinations of references. *See In re Keller*, 642 F.2d 413, 425 (CCPA 1981); *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). References must be read, not in isolation, but for what they fairly teach in combination with the prior art as a whole. *Merck*, 800 F.2d at 1097.

E.3.

Furthermore, Appellants contend that the Examiner erred in rejecting claim 1 under 35 U.S.C. § 103(a) because:

The Examiner provides no explanation of how the elements taught by Gaal, which are the intermodulation products, would be used to modify the system and method of Maeda. The cited portion of Gaal includes merely a generic discussion of intermodulation products. Appellant respectfully submits that is *not clear how the elements of Maeda and Gaal would be combined and perform the same function as the elements do separately*. . . . The Examiner also makes no assertion as to **why** the asserted combination of Maeda and Gaal would produce predictable results.

Even if the position of the Examiner were that the intermodulation products discussed in Gaal would take the place of the “product signal” in system and method of Maeda, such a ***combination would not be obvious to one having ordinary skill in the art.***

App. Br. 14–15 (emphasis added).

As discussed above, the Examiner responds:

This point becomes moot because the secondary reference Gaal teaches intermodulation at ¶’s 29, 51-59, 63, 65-70, and 74-77. Specifically, ¶ 63 discloses intermodulation products which interfere with received signals. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system and method of Maeda to suppress the intermodulation products which interfere with received signals as taught by Gaal to facilitate interference reduction (Gaal ¶3). Each element merely performs the same function as it does separately as outlined by KSR Exemplary rationales that may support a conclusion of obviousness (A) Combining prior art elements according to known methods to yield predictable results. MPEP 2143.

Ans. 16. The Examiner continues:

Regarding the applicant’s arguments that it is not obvious to combine Maeda and Gaal, both references are in the same field of wireless communications. The references have similar purposes of suppressing noise (Maeda ¶2) and reducing interference (Gaal ¶3). The examiner believes the combination of these references is reasonable. “The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art.” *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). *See also In re Sneed*, 710 F.2d 1544, 1550, 218 USPQ 385, 389 (Fed. Cir. 1983) (“[I]t is not necessary that the inventions of the references be physically combinable to render obvious the invention under review.”); and *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973) (“Combining the

teachings of references does not involve an ability to combine their specific structures.”).

Ans. 16–17 (emphasis added).

We agree with an the Examiner’s reasoning, and we conclude the Examiner has provided sufficient articulated reasoning to support the Examiner’s final conclusion that claim 1 would have been obvious to one of ordinary skill in the art at the time of Appellants’ invention.

E.4.

Also further, in the Reply Brief, Appellants contend that the Examiner erred in rejecting claim 1 under 35 U.S.C. § 103(a).

Appellant respectfully submits that neither Maeda nor Gaal teaches or suggests *suppressing* intermodulation products, so it is clear that each “element” from Maeda and Gaal is not performing the same function as it does separately.

Reply Br. 6 (emphasis added).

We are not persuaded by this argument. First, Maeda explicitly describes suppressing interference. Maeda ¶¶ 4–5, 53–54, 194. Second, Gaal explicitly describes reducing interference. Gaal ¶¶ 3, 9, 29. Third, Appellants’ claim 1 does not recite “suppressing” or any equivalent requirement. Therefore, we do not see the relevance of this argument to Appellants’ claim 1.

CONCLUSIONS

- (1) The Examiner has not erred in rejecting claims 1–51 under 35 U.S.C. § 101, as being directed to patent-ineligible subject matter.
- (2) The Examiner has not erred in rejecting claims 1–9, 11–26, 28–43, and 45–51 as being unpatentable under 35 U.S.C. § 103.
- (3) Claims 1–51 are not patentable.

DECISION

We **affirm** the Examiner's rejection of claim 1–51 on the ground of nonstatutory obviousness-type double patenting.

We **affirm** the Examiner's rejection of claims 1–51 under 35 U.S.C. § 101, as being directed to patent-ineligible subject matter.

We **affirm** the Examiner's rejections of claims 1–9, 11–26, 28–43, and 45–51 as being unpatentable under 35 U.S.C. § 103.

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