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JOHN B. LINDSAY
11700 Preston Rd Ste 660-167
Dallas, TX 75230

EXAMINER	
LAMBERT, DAVID W	

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JOHN LINDSAY

Appeal 2018-007291
Application 14/710,553
Technology Center 2600

Before JEAN R. HOMERE, JAMES B. ARPIN, and HUNG H. BUI, *Administrative Patent Judges.*

HOMERE, *Administrative Patent Judge.*

DECISION ON APPEAL

I. STATEMENT OF THE CASE[1]

Pursuant to 35 U.S.C. § 134(a), Appellant appeals from the Examiner's decision to reject claims 1–21.[2] Claims App. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

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[1] We refer to the Specification, filed May 12, 2015 ("Spec."); the Final Office Action, mailed Oct. 30, 2017 ("Final Act."); the Appeal Brief, filed Feb. 7, 2018 ("Appeal Br"); the Examiner's Answer, mailed May 9, 2018 ("Ans."); and the Reply Brief, filed July 9, 2018 ("Reply Br.").

[2] We use the word "Appellant" to refer to "[A]pplicant" as defined in 37 C.F.R. § 1.42(a). Appellant identifies John Lindsay as the real party-in-interest. Appeal Br. 2.

II. CLAIMED SUBJECT MATTER

According to Appellant, the claimed subject matter relates to vehicle-to-vehicle communication system (10) for relaying in a timely manner electromagnetic signals including a longitudinal beam distance with GPS or other relevant position data between a chain of vehicles (08) to minimize driver reaction time within each vehicle (08). Spec. ¶¶ 2, 8, 17. Figures 1 and 3, reproduced below, are useful for understanding the claimed subject matter:

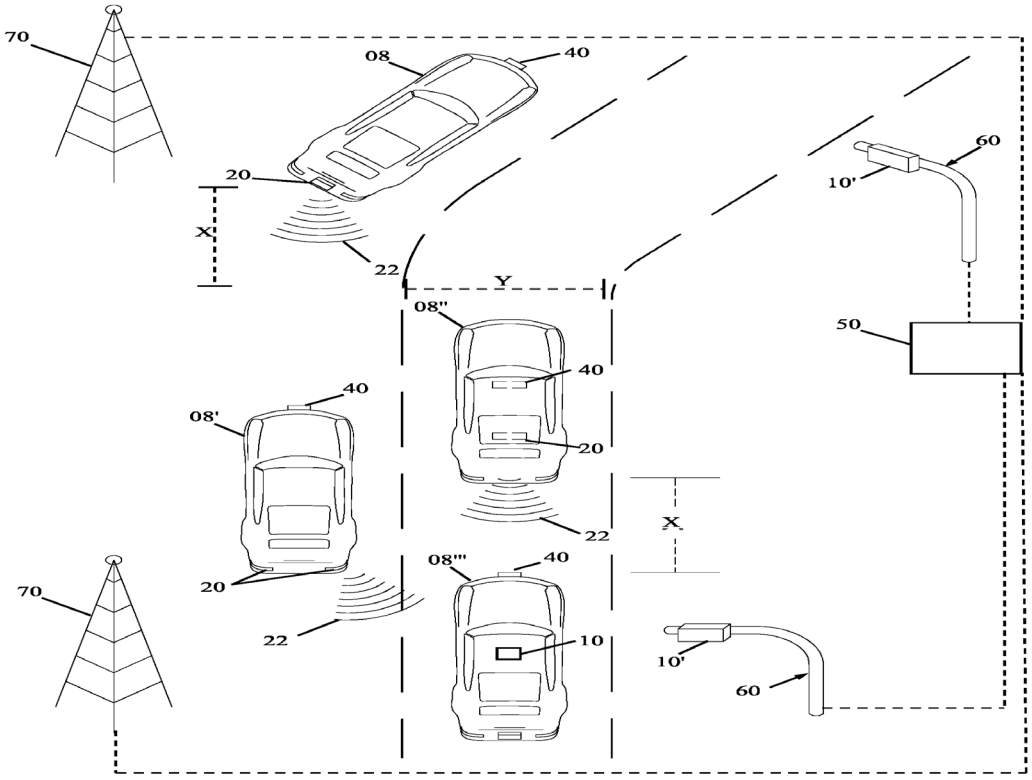

Fig. 1

Figure 1 illustrates vehicles (08) equipped with vehicle-to-vehicle communications system (10). Spec. ¶ 17.

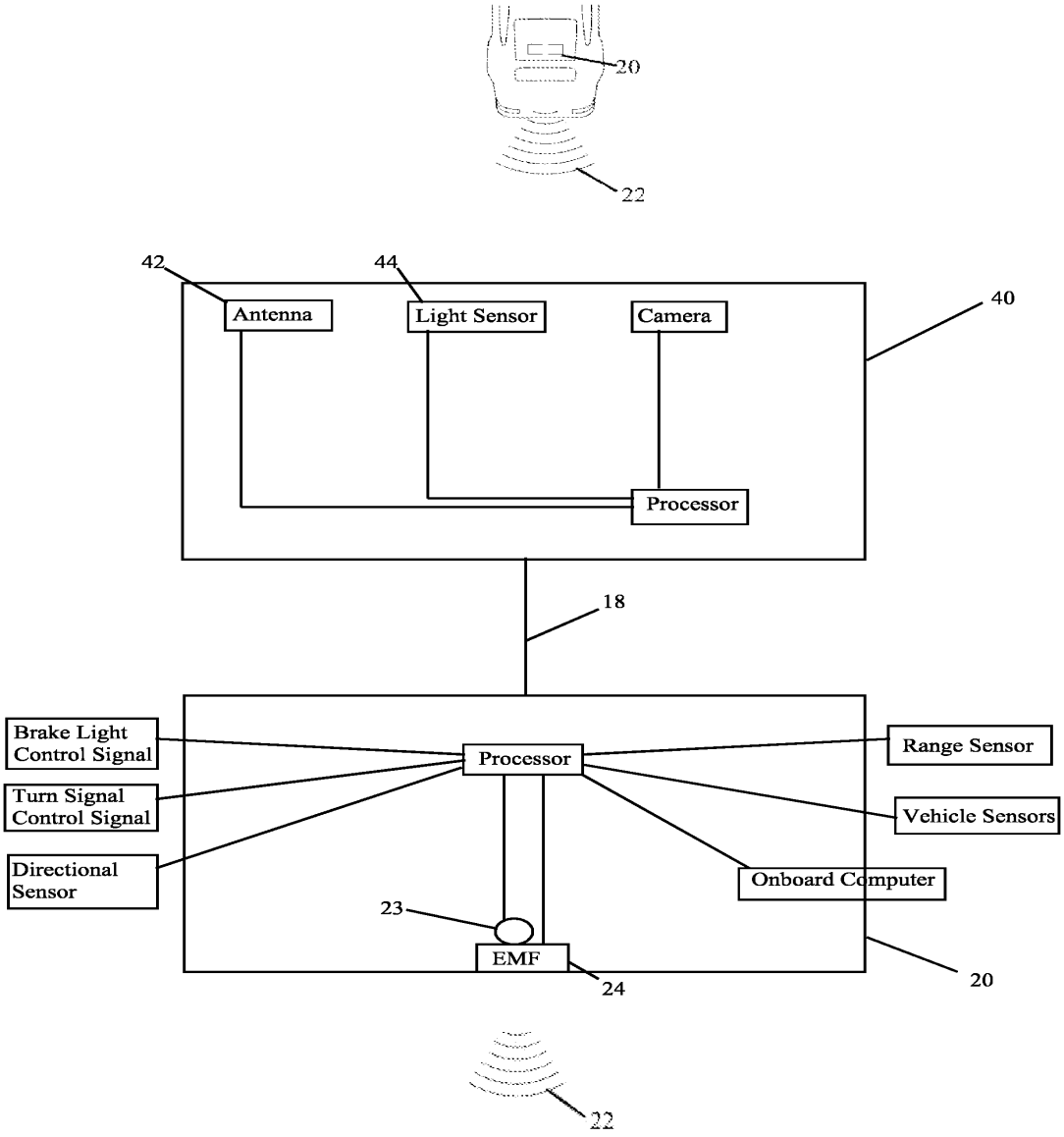

Fig. 3

Figure 3 illustrates communication system (10) deployed within each vehicle (08) in a chain of vehicles. *Id.* ¶ 18.

As depicted in Figure 1 above, communication system (10) mounted on each vehicle (08) includes receiver (40) relaying a signal use condition of the vehicle to spatially locate emitter (20), which in turn transmits to a

trailing vehicle via EMF source (24) a directional beam distal having less than a preconfigured signal strength outside a configured width. *Id.* ¶ 18.

Claims 1, 9, 18, and 21 are independent. Claim 1, reproduced below, is illustrative of the claimed subject matter:

> 1. A system for vehicle to vehicle communication, said system comprising:
>
> an emitter and receiver adapted for attachment to a vehicle;
>
> said emitter having an emf source configured to transmit a directional beam distal to said vehicle, wherein said beam is transmitted such that it has less than a pre-configured signal strength outside a configured width, controlling said beam width to transmit at said target pre-configured beam width; and
>
> said receiver in communication with said emitter, said emitter configured to transmit said beam to a second vehicle to vehicle communication system in response to signal receipt from a third vehicle to vehicle communication system at said receiver of said vehicle, transmitting said beam distal to said third vehicle to vehicle communication system, whereby said vehicle to vehicle communication system relays signal between vehicle to vehicle systems.

Appeal Br. 11 (Claims Appendix).

III. REFERENCES

The Examiner relies upon the following references.[3]

Name	Number	Filed	Publ'd/Issued
Flaherty	US 6,014,236	Feb. 4, 1997	Jan. 11, 2000
Nagai	US 2003/0043436 A1	Dec. 12, 2001	Mar. 6, 2003
Wilsey	US 2005/0129410 A1	Oct. 14, 2004	June 16, 2005
Chen	US 2011/0010446 A1	July 10, 2009	Jan. 13, 2011
Yoshida	US 2012/0299373 A1	May 14, 2012	Nov. 29, 2012

[3] All reference citations are to the first named inventor only.

IV. REJECTIONS

The Examiner rejects the claims on appeal as follows:

1. Claims 1–21 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Final Act. 10–12.
2. Claims 1, 6, 9, 10, 15, 18, and 19 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Wilsey. *Id.* at 12–15.
3. Claims 5 and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combined teachings of Wilsey and Yoshida. *Id.* at 16–17.
4. Claims 2, 3, 11, and 12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combined teachings of Wilsey and Flaherty. *Id.* at 18–19.
5. Claims 4 and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combined teachings of Wilsey and Nagai. *Id.* at 19–21.
6. Claims 7, 8, 16, 17, and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combined teachings of Wilsey and Chen. *Id.* at 21–24.
7. Claim 21 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over the combined teachings of Wilsey, Nagai, and Chen. *Id.* at 25–27.

V. ANALYSIS

1. Indefiniteness and Anticipation Rejections

Although Appellant has acknowledged the Examiner's indefiniteness and anticipation rejections as set forth above, Appellant has not presented any substantive arguments to rebut or challenge the correctness of the Examiner's prima facie cases of those rejections. Appeal Br. 7; *see* Ans. 2–8. Therefore, Appellant has waived such arguments.[4] Consequently, we summarily affirm the Examiner's indefiniteness rejection of claims 1–21. We also summarily affirm the Examiner's rejection of claims 1, 6, 9, 10, 15, 18, and 19 as anticipated by Wilsey.

2. Obviousness Rejections

a. Claims 4, 13, and 21

Appellant argues that the Examiner erred in finding that the combination of Wilsey and Nagai teaches or suggests "wherein said emitter transmits said beam with a signal strength such that it has less than a pre-configured signal strength outside a pre-configured distance, controlling said beam distance to transmit at said target pre-configured beam distance," as

[4] Appellant may not reserve arguments for some later time. Arguments not made are considered waived. *See* 37 C.F.R. § 41.37(c)(1)(iv). *See Hyatt v. Dudas*, 551 F.3d 1307, 1314 (Fed. Cir. 2008) ("When the appellant fails to contest a ground of rejection to the Board, section 1.192(c)(7) [(now section 41.37(c)(1)(iv))] imposes no burden on the Board to consider the merits of that ground of rejection. . . . [T]he Board may treat any argument with respect to that ground of rejection as waived."). *See also In re Guess*, 347 Fed.Appx. 558, 559 (Fed. Cir. 2009) ("Appellants failed to argue that any limitations unique to [the claims] survive [the rejection]. Appellants have therefore waived any such arguments on appeal.") (citing *In re Watts*, 354 F.3d 1362, 1367 (Fed. Cir. 2004)).

recited in dependent claim 4. Appeal Br. 7. In particular, Appellant argues Wilsey and Nagai are non-analogous art, which are improperly combined to teach the disputed limitations. *Id.* at 7–11. According to Appellant, Nagai is not concerned with vehicular communication, and instead pertains to stabilizing communications between two fixed devices (with limited mobility), whereas the claimed subject matter pertains to dynamic spatial positioning of travelling vehicles. *Id.* at 10. More particularly, Appellant argues that Nagai's disclosure of optical wireless communication devices at fixed locations to measure the distance and adjust the laser light at predetermined time intervals is inapplicable to the problem with which the claimed subject matter is concerned. *Id.* at 11 (citing Nagai ¶¶ 6, 7, 60). That is, Nagai's purpose of ensuring a proper beam for various transmission distances and helping to prevent damages to reception devices is not reasonably pertinent to the claimed longitudinal beam distance control indicating signal relevance through the chain of vehicles. *Id.*

Further, Appellant argues that the Examiner's articulated motivation is insufficient to support the proposed combination of Wilsey and Nagai. *Id.* at 12. In particular, Appellant argues that Nagai's stated purpose of stabilizing transmission between communication devices would be inapposite to the vehicle-to-vehicle communication of the claimed subject matter because it would reduce additional processing and unwarranted alerts of driving events down the chain. *Id.* at 13.

We are not persuaded by Appellant's argument that Nagai is non-analogous art, and, therefore, cannot be properly used in the proffered combination. "Whether a reference in the prior art is 'analogous' is a fact

question." *In re Clay*, 966 F.2d 656, 658 (Fed. Cir. 1992) (citing *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1568 n.9 (Fed. Cir. 1987)).

> Two criteria have evolved for answering the analogous art question: (1) whether the art is from the same field of endeavor, regardless of the problem addressed, and (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved.

Id. at 658–59 (citing *In re Deminski*, 796 F.2d 436, 442 (Fed. Cir. 1986); *In re Wood*, 599 F.2d 1032, 1036 (CCPA 1979)).

We agree with the Examiner that Nagai is within the same field of endeavor as Appellant's claimed subject matter. Ans. 22. As correctly noted by the Examiner, both Appellant's claimed subject matter and Nagai are in the field of optical wireless communication employing laser light. *Id.* Nagai's field of invention section states "[t]he present invention relates to an optical wireless communication device and a laser light adjustment method." Nagai ¶ 3. Likewise, Appellant's field of invention indicates that the invention relates generally to "optical wireless communication," albeit particularly applied in vehicular communication. Spec. ¶ 8. Because Nagai's system is within the same field of endeavor as Appellant's, it is immaterial whether Nagai's invention pertains to the particular problem with which Appellant's invention is involved. We, thus, are satisfied that Nagai qualifies as analogous art.

Further, we are not persuaded by Appellant's argument that the Examiner's proposed reason to combine Nagai with Wilsey is insufficient, thereby rendering the proposed combination improper. The U.S. Supreme Court has held "[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 Int'l Co. v. Teleflex, Inc*., 550 U.S. 398, 416 (2007). The Court further instructs that:

> Often, it will be necessary for a court to look to interrelated teachings of multiple patents; . . . and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.

Id. at 418.

The Court also instructs that:

> "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness". . . . [H]owever, 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.

Id. (citation omitted).

In addition, the Court instructs, "if 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." *Id*. at 417.

This precedent controls, and the application of the cited legal principles to the facts of this appeal provide us with the necessary guidance in affirming this obviousness rejection. First, as noted by the Examiner, Wilsey is relied upon to teach a vehicle-to-vehicle communication system using optical communication devices attached to each of the vehicles capable of receiving and transmitting a directional distal beam. Ans. 27 (citing Wilsey ¶¶ 23–30, Fig. 1). Nagai is relied upon to teach "an optical

communication system wherein an emitter transmits a beam with a signal strength such that it has less than a pre-configured signal strength outside a preconfigured distance, said emitter controlling said beam distance to transmit at said target pre-configured beam distance." *Id*. (citing Nagai ¶¶ 6, 7, 58, 60, 70, 72). In particular, the Examiner finds that Nagai's system teaches adjusting signal strength based on the distance of a target receiver as a way to optimize communication in an optical system. *Id.* at 27–28. Accordingly, the Examiner concludes that, at the time of invention, combining Nagai's teaching with that of Wilsey's disclosure would have been obvious to the ordinarily skilled artisan because it would have helped optimize the signal range of Wilsey's system to ensure proper reception of optical signals within the vehicular communication system. *Id.* at 28. We agree with the Examiner that the proposed combination of the teachings of Nagai and Wilsey is supported by a preponderance of the evidence, and the ensuing conclusion of obviousness is consistent with controlling authorities.

We find the ordinarily skilled artisan, being a creative individual, would have been able to fit the cited teachings of Nagai and Wilsey together like pieces of a puzzle to predictably result in the vehicle-to-vehicle communication system, as recited in the rejected claims. Further, although it may be necessary for an Examiner to identify a reason for modifying the familiar elements obtained from the prior art in establishing a prima facie case of obviousness, so long as the Examiner provides an articulated reasoning with some rational underpinning to substantiate the obviousness rejection, such a conclusion is proper. In this case, the afore-cited rationale provided by the Examiner is more than just a mere conclusory statement. In our view, such a statement suffices as an articulated reason with a rational

underpinning to support the proffered combination. As noted above, the case law allows the Examiner to look to the state of the prior art, including the knowledge of the ordinarily skilled artisan, to arrive at such a reason for combining the known elements of the prior art. Consequently, the Examiner's reliance upon available knowledge to arrive at an articulated reason with a rational underpinning to support the proffered combination is proper in rejecting claim 4. Accordingly, we are not persuaded of reversible error in the Examiner's rejection of claim 4.

Regarding the rejections of claims 13 and 21, because Appellant has either not presented separate patentability arguments or has reiterated substantially the same arguments as those previously discussed for patentability of claim 4 above; claims 13 and 21 fall with claim 4. *See* 37 C.F.R. § 41.37(c)(1)(iv) (2017).

b. *Claims 5 and 14*

Regarding claims 5 and 14, Appellant argues that the Examiner erred in finding that the combination of Wilsey and Yoshida teaches or suggests "*said beam director altering the beam direction proportionally in response to received vehicle direction information*" (emphasis added), as recited in dependent claim 5. Appeal Br. 14. In particular, Appellant argues that Yoshida's disclosure of orienting an antenna based on position information to oppose the antenna of another vehicle does not teach the disputed limitations. *Id.* at 15–16. This argument is not persuasive. As an initial matter, Appellant does not challenge or dispute the Examiner's interpretation of "proportionally" to mean "by a corresponding degree." Ans. 33. Consequently, we agree with the Examiner that Yoshida's disclosure of adjusting the vertical/horizontal orientation of an antenna to

achieve an angle corresponding to the direction of the other vehicle's antenna teaches the disputed limitation. *Id.* at 32–34 (citing Yoshida ¶¶ 52, 53, 69–72). Accordingly, we are not persuaded of reversible error in the Examiner's rejection of claims 5 and 14.

c. *Claims 7, 8, 16, 17, 20, and 21*

Regarding claims 7, 8, 16, 17, 20, and 21, Appellant argues that the Examiner erred in finding that the combination of Wilsey and Chen teaches or suggests "said emitter is configured to encode data in said beam, said data selected from at least one of the following: total relay count and active relay count," as recited in dependent claim 7. Appeal Br. 17. In particular, Appellant argues that Chen's disclosure of introducing delays in vehicle-to-vehicle transmissions as integral to prevent signal collision would render Wilsey inoperable for its intended purpose. *Id.* at 19–21. According to Appellant, Chen's teaching of introducing delay in the vehicle-to-vehicle communication system would increase the reaction time and would increase the likelihood that the vehicles would not receive information in a timely manner. *Id.* at 22. This argument is not persuasive.

The argument that the proposed combination of references would render one of the references unsuitable for its intended purpose, or would change its principle of operation, is a teaching away argument. *In re Gordon*, 733 F.2d 900, 902 (Fed. Cir. 1984) (The court concluded that in effect, "French teaches away from the board's proposed modification" because "if the French apparatus were turned upside down, it would be rendered inoperable for its intended purpose"). "If references taken in combination would produce a 'seemingly inoperative device,' . . . such references teach away from the combination and thus cannot serve as

predicates for a prima facie case of obviousness." *McGinley v. Franklin Sports, Inc*., 262 F.3d 1339, 1354 (Fed. Cir. 2001) (citation omitted); *see also In re ICON Health & Fitness, Inc.*, 496 F.3d 1374, 1382 (Fed. Cir. 2007) ("a reference teaches away from a combination when using it in that combination would produce an inoperative result," but the obviousness analysis must account for "modifications that one skilled in the art would make to a device borrowed from the prior art"). Appellant's Specification indicates "[the] total relay count is the number of vehicles that have relayed a signal ([i.e.,] a 'hop count')." Spec. ¶ 25. While acknowledging that Chen's introduction of delays in the vehicle-to-vehicle communication system serves the purpose of preventing packet collision, Appellant contends that such delay cuts against keeping the reaction time, such that the vehicles would receive information timely. Appeal Br. 22. As noted by the Examiner, Chen's teaching of introducing delays in the vehicle-to-vehicle communication system is not a criticism nor does it discredit the timely exchange of messages between the vehicles. Ans. 35. Instead, it is intended to prevent packet collision, which would otherwise congest the communications system, and negatively impact the driver's reaction time. *Id.* Because Chen's teaching of introducing delay serves to regulate packet traffic in the vehicle-to-vehicle communication system, it does not teach away from timely communication, and would not render Wilsey inoperable for its intended purpose.

Next, Appellant argues that the proposed combination of Wilsey and Chen is not supported by sufficient motivation. Appeal Br. 23. According to Appellant, the proposed motivation does not employ relay count functionality with vehicle-to-vehicle functionality. *Id.* at 24. This argument

is not persuasive. As noted above, Chen's teaching of a delayed release of packets would help avoid packet collision, and congestion within the Wilsey's vehicle-to-vehicle communication system. Thus, on this record, we find sufficient rationale to support the proposed combination of references. Accordingly, we are not persuaded of reversible error in the Examiner's rejection of claims 7, 8, 16, 17, 20, and 21.

d. Claims 2, 3, 11, and 12

Appellant has not presented any substantive arguments to rebut or challenge the correctness of the Examiner's prima facie rejection of claims 2, 3, 11, and 12 as unpatentable over the combination of Wilsey and Flaherty. Therefore, Appellant has waived such arguments. Consequently, we summarily affirm the Examiner's obviousness rejection of claims 2, 3, 11, and 12, as set forth above.

VI. CONCLUSION

We affirm *pro forma* the Examiner's indefiniteness rejections of claims 1–21 under 35 U.S.C. § 112, second paragraph. Likewise, we affirm *pro forma* the Examiner's anticipation rejection of claims 1, 6, 9, 10, 15, 18, and 19 under 35 U.S.C. § 102(b). Additionally, we affirm the Examiner's obviousness rejections of claims 2–5, 7, 8, 11–14, 16, 17, 20, and 21 under 35 U.S.C. § 103(a).

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–21	112, second paragraph	Indefiniteness	1–21	
1, 6, 9, 10, 15, 18, 19	102(b)	Wilsey	1, 6, 9, 10, 15, 18, 19	
5, 14	103(a)	Wilsey, Yoshida	5, 14	
2, 3, 11, 12	103(a)	Wilsey, Flaherty	2, 3, 11, 12	
4, 13	103(a)	Wilsey, Nagai	4, 13	
7. 8. 16, 17, 20	103(a)	Wilsey, Chen	7. 8. 16, 17, 20	
21	103(a)	Wilsey, Nagai, Chen	21	
Overall Outcome			1–21	

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

AFFIRMED