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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/750,648	01/25/2013	Kevin Wesling	IP 161.1	4587

23470 7590 01/27/2020

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EXAMINER
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ART UNIT	PAPER NUMBER
3662	

NOTIFICATION DATE	DELIVERY MODE
01/27/2020	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte KEVIN WESLING

Appeal 2019-001899
Application 13/750,648
Technology Center 3600

Before BIBHU R. MOHANTY, JAMES A. WORTH, and KENNETH G. SCHOPFER, *Administrative Patent Judges*.

SCHOPFER, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from the Examiner's decision to reject claims 1–29 and 32. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM IN PART.

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[1] We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as "SRAM, LLC." Appeal Br. 2.

BACKGROUND

The Specification discloses that "the invention is directed to systems including wirelessly enabled controllers for bicycle gear changers and/or bicycle suspensions and other bicycle components and systems." Spec. ¶ 1.

CLAIMS

Claims 1, 12, and 22 are the independent claims on appeal. Claim 1 is illustrative of the appealed claims and recites:

> 1. A control device wearable by a bicycle rider, the control device comprising:
>
> at least one worn control sensor generating a plurality of non-zero value input signals when actuated;
>
> a control processor in communication with the at least one control sensor generating control signals responsive to the input signals to operate a component of a bicycle only when an input signal of the plurality of input signals meets a component actuation control threshold;
>
> a wireless transmitter transmitting the control signals; and
>
> a power source connected to the control processor and the wireless transmitter.

Appeal Br. 26.

REJECTIONS

1. The Examiner rejects claims 1–6, 8, and 9 under 35 U.S.C. § 103(a) as unpatentable over Yuen[2] in view of Ulmen[3] and Takebayashi.[4]

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[2] Yuen, US 2012/0266358 A1, pub. Oct. 25, 2012.
[3] Ulmen et al., US 2013/0081891 A1, pub. Apr. 4, 2013.
[4] Takebayashi, US 2009/0102628 A1, pub. Apr. 23, 2009.

2. The Examiner rejects claims 7, 10, and 11 under 35 U.S.C. § 103(a) as unpatentable over Yuen in view of Ulmen, Takebayashi, and Chen.[5]
3. The Examiner rejects claims 12–16 under 35 U.S.C. § 103(a) as unpatentable over Takebayashi in view of Ulmen.
4. The Examiner rejects claims 22–25 and 32 under 35 U.S.C. § 103(a) as unpatentable over Takebayashi in view of Ulmen and Schifferdecker.[6]
5. The Examiner rejects claims 18, 19, 27, and 28 under 35 U.S.C. § 103(a) as unpatentable over Takebayashi in view of Ulmen and Yuen.
6. The Examiner rejects claims 17, 20, 21, 26, 29, and 30 under 35 U.S.C. § 103(a) as unpatentable over Takebayashi in view of Ulmen and Chen.

DISCUSSION

Rejection over Yuen, Ulmen, and Takebayashi

With respect to claim 1, the Examiner finds that Yuen teaches a wearable control device for a bicycle rider as claimed except that Yuen does not teach the use of an actuation control threshold or that the wearable device is used to control operation of the bicycle. Final Act. 2–4. Regarding these claim requires, the Examiner relies on Ulmen and Takebayashi, respectively. *Id.* at 3–4.

We agree with and adopt the Examiner findings and conclusion with respect to the rejection of claims 1. *See id. at 2–4*; *see also* Ans. 3–8. As discussed below, we are not persuaded of error in the rejection of claim 1 by Appellant's arguments.

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[5] Chen et al., WO 2011/020219 A1, pub. Feb. 24, 2011.
[6] Schifferdecker et al., US 2011/0285619 A1, pub. Nov. 24, 2011.

Appellant argues that none of the references teach actuating bicycle components only when a control threshold is met. Appeal Br. 8. Regarding Yuen, Appellant asserts that Yuen only teaches controlling "external or ancillary devices" that do not constitute controlling a bicycle. *Id.* at 9. Appellant contends that "[c]controlling a bicycle involves controlling components of the bicycle that are operational during use, wherein a failure of that control could result in a dangerous situation for a rider." *Id.* Similarly, Appellant argues that Ulmen does not teach controlling a bicycle. *Id.* at 10.

We are not persuaded of error to the extent that Appellant argues that neither Yuen nor Ulmen individually teach controlling a component of a bicycle during operational use. As the Examiner notes, the rejection relies on Takebayashi regarding this claim limitation. Ans. 3. Further, to the extent Appellant generally argues that no reference discloses "actuation of a bicycle only when a control threshold is met," that argument is not commensurate with the rejection before us, which relies on the combination of references, and not any individual reference, to show that this claim requirement would have been obvious.

Appellant further argues that Ulmen does not teach "any threshold with relation to a worn control sensor." Appeal Br. 11. Appellant acknowledges that Ulmen disclose "pressure-sensitive apparel," but Appellant asserts that "Ulmen does not disclose any threshold with relation to its pressure-sensitive apparel" because "the threshold disclosed in Ulmen is not applicable to the pressure-sensitive apparel disclosed in Ulmen." *Id.* Appellant further argues "[t]he two embodiments in Ulmen are irreconciled

[sic] and thus features from one may not be mechanically inserted into the other." *Id.* at 13.

We are not persuaded by Appellant's arguments in view of the reasoning provided by the Examiner, which is supported by the evidence of record. *See* Ans. 4–6; *see also* Final Act. 3. We disagree that the embodiments referred to by Appellant cannot be reconciled. Ulmen discloses using a control input 800 to provide a signal 802 to a processor 600 that adjusts motor operation of a personal transport vehicle. *See* Ulmen ¶¶ 23, 40, 41. Ulmen teaches an embodiment in which a pressure sensor is used to measure pressure on a device to determine whether a pressure threshold has been met. *Id.* at 47. The processor 600 "compares the total measured force to a force threshold" to determine whether the pressure is indicative of an acceleration signal, a deceleration signal, or a cruising signal. *Id.* Ulmen further discloses that "any other suitable input device, such as a touchscreen slider, one or more stomp pads, or pressure-sensitive apparel (e.g. gloves) can be used as the control input 800." *Id.* at 48.

Although Ulmen does not specifically disclose the use of pressure sensitive gloves to control operation via a pressure threshold, we agree with the Examiner that "the force threshold taught by Ulmen is utilized in order to distinguish commands given by the user" and "one of ordinary skill in the art would recognize that an analogous pressure threshold would be necessary for distinguishing commands given by the user from other hand movements" when pressure sensitive gloves are used. Ans. 5. Further, we agree with the Examiner that one of ordinary skill in the art would understand that the processor 600 is similarly configured between the embodiments disclosed and that Ulmen is reasonably disclosing the pressure-sensitive deck and

pressure-sensitive gloves as recognized alternatives. *See id.* at 5–6. Thus, we are not persuaded that the Examiner must provide some other motivation to combine embodiments in Ulmen. *See* Reply Br. 2.

Further, we are not persuaded of error to the extent Appellant argues that "[t]he threshold of Ulmen applied to gloves used as the control input defeats the stated purpose of Ulmen's threshold" because "[a] threshold of a glove control input to a skateboard does not account for weight distribution of a user operating a skateboard." Appeal Br. 11. This argument seems to imply that one would simply substitute the pressure-platform for pressure-sensitive gloves without alteration. As noted by the Examiner, one of ordinary skill in the art would understand that the same principles could be applied to pressure-sensitive apparel without requiring the specific threshold values of a pressure-sensitive platform, i.e., one of ordinary skill in the art would understand "that an analogous pressure threshold would be necessary for distinguishing commands given by the user from other hand movements." Ans. 5.

Next, Appellant argues that there is no disclosure in the references of "a worn control sensor for controlling a bicycle, as claimed." Appeal Br. 13. Appellant then asserts that "[t]here must be some underlying pieces of evidence within the record that are the 'rational underpinnings' for the reason to combine in the manner presented in the obviousness rejection." *Id.* However, this argument is directed to Yuen and Ulmen without reference to Takebayashi and fails to consider the rejection as a whole, which relies on the combination of these three references and provides for reasons why the references would be so combined. *See* Final Act. 2–4. Thus, we are not persuaded of error.

As a corollary to the argument above, Appellant further argues that "the Examiner's conclusions are drawn on hindsight of knowledge of the present invention." Appeal Br. 14. However, as discussed above, Appellant's argument fails to address the full scope of the rejection before us, and Appellant does not identify any knowledge relied upon by the Examiner that is found only in Appellant's disclosure. *See In re McLaughlin*, 443 F.2d 1392, 1395, (CCPA 1971).

Finally, with respect to Takebayashi, Appellant argues

> Takebayashi discloses control switches attached to the handlebar. (*See* Takebayashi, Fig 2). The Examiner fails to explain why it would have been obvious to one of ordinary skill in the art to combine the teaching of a wearable device allowing control of an ancillary component of a bicycle with the teaching of a control system coupled to the handlebar of a bicycle.

Appeal Br. 18. We are not persuaded of error because this argument fails to address the findings and reasoning provided by the Examiner in the rejection. *See* Final Act. 3–4; *see also* Ans. 7.

Based on the foregoing, we sustain the rejection of claim 1. Because Appellant does not raise separate arguments regarding the dependent claims, we also sustain the rejection of claims 2–6, 8, and 9.

Rejection over Takebayashi and Ulmen

With respect to independent claim 12, Appellant relies on similar arguments to those addressed with respect to claim 1. *See* Appeal Br. 19. Specifically, Appellant asserts that "Takebayashi and Ulmen are described above and do not disclose" the claim limitations reciting a worn shift control sensor and a shift control processor. *Id.* We are not persuaded of error in the rejection because Appellant's argument only addresses the references individually and does not address the full scope of the rejection before us,

which relies on the proposed combination of references to show that a worn shift control sensor and processor would have been obvious. *See* Final Act. 7–9. Appellant does not identify, with specificity, what the alleged error in this rejection is.

Based on the foregoing, we are not persuaded of error in the rejection of claim 12. Accordingly, we sustain the rejection of claim 12, and because Appellant does not raise separate arguments regarding the dependent claims, we also sustain the rejection of dependent claims 13–16 for the same reasons.

Rejection over Takebayashi, Ulmen, and Schifferdecker

Appellant argues that the Examiner erred in relying on Schifferdecker as teaching a "component control threshold based at least in part on a time between the input signal and another of the plurality of input signals." Appeal Br. 21. Appellant asserts that "Schifferdecker discloses a grouping of signals [that] is not a component control threshold, as claimed." *Id.* Appellant further asserts that "Schifferdecker fails to disclose the generation of control signals only when a threshold, based at least in part on a time, is met." *Id.*

We are not persuaded of error by this argument. In the rejection, the Examiner explains that "determining the response time for future consecutive input signals which 'belong together' as a function of the time interval between the first input signal and the second input signal, so that a predefined response time must be assumed only between the first two input signals." Final Act. 11–12 (citing Schifferdecker ¶ 3)(emphasis omitted). By determining whether two clicks belong together based on the time interval between clicks, we agree with the Examiner that Schifferdecker

discloses the use of time threshold in determining whether those clicks belong together, e.g., if a second click follows a first click in a time below the threshold, then those clicks are grouped together.

Appellant also argues that one "would not combine the threshold of Ulmen with the determination of consecutive input signals which belong together taught in Schifferdecker" because "a threshold applicable to determining which input signals of a sequence belong together based on time is inapplicable to the threshold of Ulmen." Appeal Br. 21–22. And, Appellant argues that "[t]he Examiner fails to explain why one in the art would combine the threshold in Ulmen with the determination of consecutive input signals which belong together taught in Schifferdecker." *Id.* at 22.

We are not persuaded of error by these arguments for the reasons set forth by the Examiner. *See* Ans. 9. Specifically, we first note that the rejection proposes a combination of Takebayashi, Ulmen, and Schifferdecker. Appellant's arguments do not address this combination and only focus on the compatibility of combining Ulmen and Schifferdecker. Further, the Examiner reasons that one of ordinary skill in the art would combine the references as proposed "in order to distinguish separate intended gestures made by the user for controlling a device." *Id.* Schifferdecker discloses that measuring a time interval between clicks, or gestures, makes it "possible to filter out false input signals and thus to increase the accuracy of the identification of input signals." Schifferdecker ¶ 3. We agree with the Examiner that one of ordinary skill in the art would see the applicability of this disclosure to the proposed combination of Takebayashi and Ulmen, i.e., one would recognize that using a time

threshold as taught by Schifferdecker in the modified device of Takebayashi would allow the system to filter out false input signals and distinguish between intended gestures.

Based on the foregoing, we are not persuaded of error in the rejection of claim 22. Accordingly, we sustain the rejection of claim 22. Because Appellant does not raise arguments with respect to the dependent claims, we also sustain the rejection of claims 23–25 and 32.

Rejections Incorporating Chen

Claims 7, 17, and 26

Appellant argues that the Examiner has improperly relied on *In re Japikse*, 181 F.2d 1019 (CCPA 1950) for the reasoning to combine Chen with the other references. Appeal Br. 23–24. We agree that the Examiner erred in relying solely on *In re Japikse* in determining that the placement of the shift control sensor would have been obvious in view of Chen with respect to the requirements of claims 7, 17, and 26. *See* Final Act. 6, 15–17. Specifically, although the Examiner determines that moving a sensor to the tip of a glove would have involved only routine skill in the art, the Examiner provides no explanation why one of ordinary skill in the art would have had a reason to do so. *See In re Kahn*, 441 F.3d 977, 986 (Fed. Cir. 2006) ("[M]ere identification in the prior art of each element is insufficient to defeat the patentability of the combined subject matter as a whole," and the Office must "explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious"). Thus, we do not sustain the rejections of claims 7, 17, and 26, each of which require the placement of a sensor at or near the tip of a glove.

Claims 10, 11, 20, 21, and 29

With respect claims 10, 11, 20, 21, and 29, Appellant's argument regarding the Examiner's reliance on *In re Japikse* is inapplicable as the Examiner does not rely on the mere rearrangement of parts in determining that these claims would have been obvious. Thus, to the extent Appellant relies on the same arguments here, we are not persuaded. The only other argument Appellant raises with respect to the Examiner's reliance on Chen is that "Chen does not disclose control as it relates to actual bicycle components [and] Chen is silent on thresholds generally, and bicycle component actuation or control thresholds specifically." Appeal Br. 23. However, we are not persuaded by these contentions because the rejection does not rely on Chen with respect to the claim limitations related to controlling a bicycle or actuation control thresholds. Rather, the rejection relies on Chen only insofar as Chen discloses a wearable input device with an input at the tip of a finger of the device. *See* Final Act. 6 (citing Chen ¶ 10).

Based on the foregoing, we are not persuaded of error in the rejections of claims 10, 11, 20, 21, and 29. Accordingly, we sustain the rejections of these claims.

CONCLUSION

We AFFIRM the rejections of claims 1–6, 8–16, 18–25, 27–29, and 32. We REVERSE the rejections of claims 7, 17, and 26.

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)(l)(iv).

In summary:

Claims Rejected	35 U.S.C. §	Basis	Affirmed	Reversed
1–6, 8, 9	103(a)	Yuen, Ulmen, Takebayashi	1–6, 8, 9	
7, 10, 11	103(a)	Yuen, Ulmen, Takebayashi, Chen	10, 11	7
12–16	103(a)	Takebayashi, Ulmen	12–16	
22–25, 32	103(a)	Takebayashi, Ulmen, Schifferdecker	22–25, 32	
18, 19, 27, 28	103(a)	Takebayashi, Ulmen, Yuen	18, 19, 27, 28	
17, 20, 21, 26, 29, 30	103(a)	Takebayashi, Ulmen, Chen	20, 21, 29, 30	17, 26
Overall Outcome			1–6, 8–16, 18–25, 27–29, 32	7, 17, 26

AFFIRMED IN PART