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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte STEVEN J. YOUNG, MARCO KENNETH DELLA TORRE,
YURI ZHOVNIROVSKY, and RICHARD V. RIFREDI

Appeal 2018-005156
Application 13/035,397
Technology Center 3700

Before JENNIFER D. BAHR, LINDA E. HORNER, and
MICHELLE R. OSINSKI, *Administrative Patent Judges*.

OSINSKI, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant¹ appeals under 35 U.S.C. § 134(a) from the Examiner’s decision rejecting claims 1–10, 24, 25, and 29–32.² An oral hearing was held on January 7, 2020.³ We have jurisdiction over the appeal under 35 U.S.C. § 6(b).

¹ We use the term “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real parties in interest as Sleep Number Corporation (fka Select Comfort Corporation) and SleepIQ Labs Inc. Appeal Br. 1.

² Claims 11–23 and 26–28 are cancelled. Appeal Br. 12 (Claims App.).

³ The record includes a transcript of the oral hearing (“Tr.”).

We AFFIRM.

THE CLAIMED SUBJECT MATTER

Claims 1 and 32 are independent. Claim 1 is reproduced below.

1. A device for touchless monitoring of a subject at rest comprising:

- a sensing unit having a fluid-filled bladder configured to be placed under a substrate on which the subject lays and a sensor in fluid communication with the bladder, wherein the sensor is configured to sense pressure variations within the bladder and a change in static pressure within the bladder with no contact with the subject;

- a processor configured to:

- when the subject rests on the bladder:

- receive signals from the sensor representing the pressure variations and the changes in static pressure;

- determine, based on the received signals, that the subject is laying on the substrate;

- generate a plurality of measures from the signals, each of the measures representing a biological aspect of the subject;

- determine, from the plurality of measures, an identity of the subject;

- determine an assigned subject, wherein the assigned subject is assigned to the device; and

- determine that the identified subject is the assigned subject based on the determined identity that was determined from the generated measures that each represent a biological aspect of the subject; and

- an external device configured to display an indication that the assigned subject is laying on the substrate, based on a determination that the identified subject is the assigned subject.

EVIDENCE

The Examiner relied on the following evidence in rejecting the claims on appeal:

Wridge	US 4,995,124	Feb. 26, 1991
Chaco	US 5,291,399	Mar. 1, 1994
Toms	US 6,036,660	Mar. 14, 2000
Wiederhold	US 2003/0135097 A1	July 17, 2003
Sullivan	US 2004/0111045 A1	June 10, 2004
Partin	US 2005/0022606 A1	Feb. 3, 2005
Sotos	US 2006/0020178 A1	Jan. 26, 2006
Higgins	US 2006/0206011 A1	Sept. 14, 2006

REJECTIONS⁴

- I. Claims 1–3, 6, 7, 24, 25, 29, 30, and 32 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Sullivan, Partin, Wiederhold, and Chaco. Final Act. 4–10.
- II. Claims 4 and 5 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Sullivan, Partin, Wiederhold, Chaco, and Toms. *Id.* at 11–12.
- III. Claims 8 and 9 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Sullivan, Partin, Wiederhold, Chaco, and Higgins. *Id.* at 12–14.
- IV. Claim 10 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Sullivan, Partin, Wiederhold, Chaco, Higgins, and Sotos. *Id.* at 14.

⁴ A rejection of claims 1–10, 24, 25, and 29–32 under 35 U.S.C. § 112, second paragraph as being indefinite (Final Act. 2–3) has been withdrawn and is not before us on appeal (Ans. 2).

- V. Claim 31 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Sullivan, Partin, Wiederhold, Chaco, and Wridge. *Id.* at 15–16.

OPINION

Rejection I

Appellant argues independent claims 1 and 32 as a group, and does not present any separate arguments for dependent claims 2, 3, 6, 7, 24, 25, 29, and 30. Appeal Br. 4–8. We select claim 1 as the representative claim, and claims 2, 3, 6, 7, 24, 25, 29, 30, and 32 stand or fall therewith.

37 C.F.R. § 41.37(c)(1)(iv).

The Examiner relies on Sullivan for teaching many of the limitations of independent claim 1, including, among other things, a sensing unit having sensors configured to sense pressure variations and a change in static pressure with no contact with a subject; a processor configured to receive signals from the sensors, determine that the subject is lying on a substrate, and generate a plurality of measures representing a biological aspect of the subject; and an external device configured to display an indication pertaining to the subject. Final Act. 4–5 (citing Sullivan ¶¶ 11, 16, 25, 26, 44, 48, 70).

The Examiner acknowledges that Sullivan does not teach the sensing unit comprises a fluid-filled bladder and that the sensors are in fluid communication with the bladder. Final Act. 6. The Examiner turns to Partin for teaching “a similar device for touchless monitoring of a subject at rest comprising: a sensing unit having a fluid-filled bladder (bladder 12) configured to be placed under a substrate on which the subject lays.” *Id.* (citing Partin ¶¶ 5, 10). The Examiner concludes that it would have been obvious to modify Sullivan’s device to have the sensing unit comprise a

fluid-filled bladder and have the sensors be in fluid communication with the bladder “as taught/suggested by Partin in order to utilize a predictable alternative/additional means for identifying pressure variations representative of physiological parameters . . . and/or to increase the surface area capable of being measured by a single sensor element, thereby permitting a small number of sensors to cover a large area of a surface on which the subject is positioned.” *Id.* (citing Partin Abstract).

The Examiner acknowledges that Sullivan/Partin “does not expressly disclose the processor is . . . configured to determine, from the plurality of measures [representative of biological aspects of a subject], an identity of the subject.” Final Act. 7. The Examiner finds that “Wiederhold teaches a device comprising a processor . . . configured to determine, from a plurality of monitored measures, an identity of a subject by comparing data including the plurality of measures with data that uniquely identifies the subject.” *Id.* (citing Wiederhold ¶¶ 45, 52, 81–85). The Examiner concludes that it would have been obvious to further modify the device of Sullivan/Partin such that the processor is “further configured to determine, from the plurality of measures, an identity of the subject by comparing data including the plurality of the measures with data that uniquely identifies the subject as taught/suggested by Weiderhold [sic] in order to accurately confirm the identity of the subject currently being monitored via the sensing unit.” *Id.* (citing Wiederhold ¶ 44). The Examiner explains that Sullivan teaches the device can be used in a nursing home or long-term care facility “in which said device is accessible by multiple individuals or subjects” (*id.* at 6–7), and the further modification based on the teachings of Wiederhold would help

ensure that the “monitored data can be appropriately associated with the correct subject and this data provided to a health care professional” (*id.* at 7).

Although the Sullivan/Partin/Wiederhold device is described by the Examiner as being configured to determine the identity of the subject from the plurality of measures (e.g., through comparison of measured data with biometric data in an established data collection), the Examiner acknowledges that Sullivan/Partin/Wiederhold is not necessarily configured to determine whether the identified subject is an assigned subject (i.e., a subject that has been assigned to the device). Final Act. 7. The Examiner finds that Chaco teaches or suggests “determin[ing] an assigned subject, wherein the assigned subject is assigned to the device . . . and determin[ing] that the identified subject is the assigned subject.” *Id.* at 8 (citing Chaco 5:11–19; 14:1–12). Specifically, the Examiner points out that Chaco teaches “means for conveying any mismatch between the information [i.e., scanned identifying information and stored identifying information]. . . , where if the data is correct/matches, it is acknowledged with a beep and if the data is incorrect/does not match, an alarm is sounded or error message displayed.” *Id.* (citing Chaco 5:11–19, 14:13–36).

More specifically, Chaco describes, with respect to medication, that a nurse may scan a patient arm band and then compare the scanned data to identification data stored on a patient’s memory card. According to Chaco, “[i]f these two codes do not match then either the patient is in the wrong bed or the wrong memory card is inserted in the call station.” Chaco 14:6–12. With respect to “radiographic images, food trays and other material that is simply to be delivered to the patient’s bed,” Chaco describes that “a bar-code identifying the patient is scanned from the image, tray or other

material” and if the scanned data matches data stored on a patient’s memory card, “the scan is acknowledged with a beep” or “[o]therwise[,] the alarm is sounded and an error message is sent.” *Id.* at 14:28–34.

The Examiner concludes that it would have been obvious to determine that the identified subject (who has been identified by the generated measures, as discussed above [i.e., the measures of Sullivan/Partin/Wiederhold] is or is not the assigned subject and the external device being configured to provide an indication that the assigned subject is laying on the substrate as taught/suggested by Chaco in order to determine whether or not the identified subject is in/on the correct substrate (*e.g.*, in the correct, assigned bed), and relay this information to a user.

Final Act. 8 (citing Chaco 14:1–12). The Examiner explains that:

[o]ne of ordinary skill in the art would recognize that the subject ID determination made by the device of Sullivan as modified could be utilized as disclosed/suggested by Chaco (comparing the subject ID to assigned ID to determine a match/mismatch) to provide the same advantage or benefit, *i.e.*, to determine whether or not the identified subject is in/on the correct substrate (*e.g.*, in the correct, assigned bed), and provide this information to a user.

Id. at 17 (citing Chaco 14:1–12).

In other words, Sullivan/Partin/Wiederhold “utilizes an alternative ID determining element (*i.e.*, the sensing unit and associated processor)” (Ans. 3), and the Examiner is relying on Chaco, not for its ID determining element *per se*, but rather solely for the idea that the ID determining element already existing in Sullivan/Partin/Wiederhold could be used to “verify[] [that] the correct subject is associated with/on the correct substrate/sensing unit” (*id.*). That is, “the proposed modification is to utilize the subject identification data determined by Sullivan as modified (by Partin and Wiederhold) in the manner Chaco discloses utilizing subject ID data, *e.g.*, to

ensure . . . the correct subject is lying in the correct substrate/bed.” *Id.* at 2–

3. The Examiner further explains in the Answer that:

Sullivan suggests use of the system in environments in which a plurality of subjects would have access to the system, *e.g.*, a hospital, long-term care facility, nursing home, etc. (¶ [0014]). Chaco teaches/suggests verifying the identity of subjects in such an environment (*e.g.*, a hospital) in order to identify when/if a patient is in the wrong bed, to ensure patients receive the correct medication, diagnostic information, etc. (col. 14, lines 1–12). Accordingly, one of ordinary skill in the art would recognize that utilizing the subject ID determination made by the device of Sullivan as modified in the manner taught and/or suggested by Chaco (*i.e.*, comparing the determined subject ID to an assigned ID associated with the sensor unit to determine a match/mismatch) would provide a similar, predictable advantage or benefit; in particular, determining whether or not the identified subject is in/on the correct substrate (*e.g.*, in the correct, assigned bed), and providing this information to a user so that appropriate action may be taken, medication is delivered to the proper person, *etc.* in environments in which the system is intended for use.

Id. at 5.

Appellant argues that “the present claims are unobvious because they retain the function of Chaco relied upon in the Office Action, but they eliminate the element of Chaco, that is, the arm band scanning.” Appeal Br. 5 (emphasis omitted); *see also id.* (referencing MPEP § 2144.04(II)(B) entitled “Omission of an Element with Retention of the Element’s Function is an Indicia of Unobviousness” and *In re Edge*, 359 F.2d 896 (CCPA 1966) cited therein). Appellant’s reliance on MPEP § 2144.04(II)(B) and *Edge* is misplaced. The Examiner’s combination of Sullivan, Partin, Wiederhold, and Chaco does not retain the functionality of Chaco and at the same time eliminate Chaco’s arm band scanning. Instead, the Examiner’s proposed

modification never utilizes Chaco’s arm band scanning at all, but merely the idea of determining whether an identified patient is an assigned patient—i.e., a patient assigned to an item. In other words, the Examiner’s rejection is based on the sensing unit and associated processor of Sullivan/Partin/Wiederhold, which already determines an identity of a subject, being “modifi[ed] in view of Chaco . . . to utilize this determined identify information in the manner Chaco utilizes determined identity information, *i.e.*, compare the determined subject ID to an assigned subject ID to determine if the IDs match.” Ans. 3.

Appellant argues that “[t]he Examiner does not contend that Sullivan, Partin, or Wiederhold teach the element that provides the functionality of Chaco—which is why the Examiner looked to find Chaco to add to the combination.” Appeal Br. 5. We disagree that the Examiner relied on Chaco for an element that provides the functionality of Chaco. Instead, the Examiner finds that the apparatus of Sullivan/Partin/Wiederhold is capable of the functionality of Chaco, namely, determining if an identified individual is an assigned individual, and Chaco is merely used to suggest the desirability of the functionality that Sullivan/Partin/Wiederhold is already capable of, not to enable such functionality. We have also considered Appellant’s argument that “the process recognizable by Sullivan as modified by Chaco would be the use of the technology of . . . Chaco—an arm band scan to determine if a user is or is not on the correct substrate.” *Id.* at 6. We do not find this argument persuasive in that the Examiner has already explained how Sullivan/Partin/Wiederhold is configured to determine an identity of a subject in a way that does not involve scanning of an armband. Further modification to determine whether the subject that has been so

identified is in the correct, assigned bed for the purpose of “providing this information to a user so that appropriate action may be taken, medication . . . delivered to the proper person, *etc.* in environments in which the system is intended for use” (Ans. 5) has rational underpinnings.

Appellant argues that the advantage of “a medical facility . . . ensur[ing] that a patient is on the proper substrate” “is an advantage drawn from Appellant’s own [S]pecification” and “not an advantage the Examiner draws from the prior art.” Reply Br. 2. We do not find this argument to be persuasive in that Chaco explicitly references the desirability of “conveying any mismatch between” scanned identifying information and stored identifying information, and specifically in the context of providing medication, suggests that such a mismatch can be indicative of the patient being in the wrong bed, and suggests providing the medication to the patient only if there is no mismatch. Chaco 5:11–19, 14:1–12.

Appellant also argues that “the Examiner is engaging in impermissible hindsight reasoning and using [Appellant’s] own [S]pecification and claims as a roadmap to construct a rejection using not the information from the cited references, but information learned from reading [Appellant’s] own application.” Appeal Br. 6. More specifically, Appellant argues that “[t]he only way in which any of the combined references determine the identi[t]y of a person on a substrate is through the use of a device attached to the subject.” *Id.* Although Appellant contends that the Examiner has engaged in impermissible hindsight, Appellant does not address with any specificity the reasoning provided by the Examiner to modify Sullivan with each of Partin, Wiederhold, and Chaco. Final Act. 4–8; Ans. 2–5; *see also In re Cree, Inc.*, 818 F.3d 694, 702 n.3 (Fed. Cir. 2016) (viewing an

“impermissible hindsight” argument as “essentially a repackaging of the argument that there was insufficient evidence of a motivation to combine the references”). By not addressing the reasoning provided, Appellant has not shown error in the relevant findings or the conclusion as to obviousness, which we determine to be supported by rational underpinnings.⁵

As to the argument that the only way any of the combined references determines the identity of a person on a substrate is through a device attached to the subject, we find such an argument unpersuasive in that it attacks the references individually. That none of the cited references alone teaches determining the identity of a person on a substrate without the use of a device attached to the subject does not address the Examiner’s findings and reasoning for the conclusion of the obviousness of such a feature presented in the rejection. *See, e.g.*, Final Act. 7 (modifying the sensing system of Sullivan/Partin which senses without contacting the subject so that the processor identifies the subject based on the sensed measurements as taught by Wiederhold). “Nonobviousness cannot be established by attacking

⁵ Appellant’s representative at the oral hearing advanced a new argument that had not been presented to the Examiner in the Appeal Brief or Reply Brief. In particular, Appellant’s representative argued specifically against the Examiner’s stated rationale for modifying Sullivan with Partin’s teaching of a fluid-filled bladder and sensor in fluid communication with the bladder—namely, “to increase the surface area capable of being measured by a single sensor element.” Tr. 13:10–14:11. We need only consider arguments presented by Appellant in the briefs. *See* 37 C.F.R. § 41.47(e)(1). Even if we were to consider the argument, we do not find it persuasive because it does not address the Examiner’s additional stated rationale of “utiliz[ing] a predictable alternative/additional means for identifying pressure variations representative of physiological parameters.” Final Act. 6 (citing Partin Abstract).

references individually where the rejection is based upon the teachings of a combination of references.” *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) (citing *In re Keller*, 642 F.2d 413, 425 (CCPA 1981)). Moreover, we note Wiederhold’s teaching that “[t]he illustrative biometrics disclosed herein . . . may be measured at a distance (using standoff techniques), providing the potential for non-intrusive means of identifying individuals.” Wiederhold ¶ 44. Thus, Wiederhold contemplates obtaining biometric data for use in identifying individual subjects “either from contact sensors or at a distance.” *Id.* at Abstract.

We have also considered Appellant’s argument that “the mere fact that the Examiner has plucked four different references each related to different technology for combination is further evidence of hindsight.” Appeal Br. 7. As an initial matter, this argument does not apprise us of error in the rejection, because the number of references applied is not relevant to the propriety of the combination of references. *In re Gorman*, 933 F.2d 982, 986 (Fed. Cir. 1991). Moreover, the presence of differences between the references does not necessarily undermine a prima facie case of obviousness. *See In re Beattie*, 974 F.2d 1309, 1312–13 (Fed. Cir. 1992).

For the foregoing reasons, Appellant does not apprise us of error in the Examiner’s determination that Sullivan/Partin/Wiederhold/Chaco renders obvious the subject matter of independent claim 1. Accordingly, we sustain the rejection of claim 1, and claims 2, 3, 6, 7, 24, 25, 29, 30, and 32 falling therewith, under 35 U.S.C. § 103(a) as unpatentable over Sullivan, Partin, Wiederhold, and Chaco.

Rejections II–V

Appellant relies on the same arguments and reasoning we found unpersuasive in connection with independent claim 1 as the basis for seeking reversal of the rejections of claims 4, 5, 8–10, and 31. Appeal Br. 9. Accordingly, for the same reasons discussed above in connection with the rejection of claim 1, we also sustain the rejections, under 35 U.S.C. § 103(a), of claims 4 and 5 as unpatentable over Sullivan, Partin, Wiederhold, Chaco, and Toms; claims 8 and 9 as unpatentable over Sullivan, Partin, Wiederhold, Chaco, and Higgins; claim 10 as unpatentable over Sullivan, Partin, Wiederhold, Chaco, Higgins, and Sotos; and claim 31 as unpatentable over Sullivan, Partin, Wiederhold, Chaco, and Wridge.

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–3, 6, 7, 24, 25, 29, 30, 32	103(a)	Sullivan, Partin, Wiederhold, Chaco	1–3, 6, 7, 24, 25, 29, 30, 32	
4, 5	103(a)	Sullivan, Partin, Wiederhold, Chaco, Toms	4, 5	
8, 9	103(a)	Sullivan, Partin, Wiederhold, Chaco, Higgins	8, 9	
10	103(a)	Sullivan, Partin, Wiederhold, Chaco, Higgins, Sotos	10	
31	103(a)	Sullivan, Partin, Wiederhold, Chaco, Wridge	31	

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Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
Overall Outcome			1-10, 24, 25, 29-32	

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