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Table with columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO., EXAMINER, ART UNIT, PAPER NUMBER, NOTIFICATION DATE, DELIVERY MODE. Includes application details for Vincenzo Boffa and Dr. Mark M. Friedman.

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte VINCENZO BOFFA, SIMONE GERMANI, STEFANO PASSI,
FABRIZIO RICCI, and ROBERTO VALLAURI

Appeal 2019-000912
Application 12/311,429
Technology Center 2600

Before ROBERT E. NAPPI, ERIC S. FRAHM, and
JUSTIN BUSCH, *Administrative Patent Judges*.

NAPPI, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant¹ appeals under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 28, 29, 31 through 47, 49 and 55 through 57. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

¹ We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). According to Appellant, Advanced Digital Broadcast S.A. is the real party in interest. Appeal Br. 3.

INVENTION

Appellant's invention is directed to an antenna comprising at least one resonator element cooperating with the casing of a wireless transceiver station and having a shape with a low aspect ratio so as to be conformal with said casing. Abstract. Claim 28 is illustrative of the invention and is reproduced below.

28. A method for controlling the transmission and/or reception of a radio signal, comprising:
- (a) providing a wireless transceiver station with a casing and with at least one antenna device including:
 - (i) a groundplane; and
 - (ii) at least one resonator element, said at least one resonator element:
 - (A) cooperating with said casing,
 - (B) including composite material,
 - (C) being shaped so as to have a low aspect ratio with respect to said casing, and
 - (D) being shaped so as to be conformal with said casing, wherein conformal includes an outer surface of said at least one resonator device forming a portion of said casing;
 - (E) supported by said groundplane; and
 - (b) coupling the radio signal so as to resonate therein a resonant mode of a $TM_{0,n,\delta}$ class of resonant modes.

EXAMINER'S REJECTIONS²

The Examiner rejected claims 28, 29, 31, 35, 43 through 45, 56 and 57 under 35 U.S.C. § 103 as being unpatentable over Nysen (US 2002/0180647 A1), published Dec. 5, 2002; Thill (US 6,087,990), issued July 11, 2000;

² Throughout this Decision we refer to the Appeal Brief filed May 29, 2018 ("Appeal Br."); Reply Brief, filed November 13, 2018 (Reply Br.); Final Office Action mailed November 30, 2017 ("Final Act."); and the Examiner's Answer mailed September 12, 2018 ("Ans.").

and Durso (US 2006/001584 A1), published Jan. 5, 2006. Final Act. 2–9.

The Examiner rejected claims 29, 31 through 38, 46, 47, 49 and 55 under 35 U.S.C. § 103 as being unpatentable over Tassoudji (US 6,147,647), issued Nov. 14, 2000; Colburn (US 2005/0162321 A1), published July 28, 2005; Thill; and Durso. Final Act. 10–16.

The Examiner rejected claims 39 through 42 and 55 under 35 U.S.C. § 103 as being unpatentable over Tassoudji; Colburn; Thill; Durso; and Chen (US 2007/0164420 A1), published July 19, 2007. Final Act. 16–18.

ANALYSIS

We have reviewed Appellant’s arguments in the Briefs, the Examiner’s rejections, and the Examiner’s response to Appellant’s arguments. Appellant’s arguments have persuaded us of error in the Examiner’s rejection of all of the disputed claims under 35 U.S.C. § 103.

Obviousness rejection based upon Nysen, Thill and Durso

Appellant presents several arguments asserting the Examiner’s rejection of independent claims 28 and 29 based upon the combination of Nysen, Thill and Durso is in error. Appeal Br. 11–16, Reply Br. 7–9. The dispositive issue presented by these arguments is did the Examiner err in finding the combination of the references teaches the resonator element being shaped to be conformal with the casing, where the outer surface of the resonator forms a portion of the casing.

The Examiner, in rejecting independent claims 28 and 29, makes the confusing finding that Nysen teaches an antenna with a resonator being shaped to have a low aspect ratio and being shaped to be conformal with the casing, but does not teach that the resonant element is conformal with the

casing. Final Act. 2, 3 (citing Nysen para. 29, 52, Fig. 9). The Examiner further finds that the combination of Nysen and Thrill does not teach the resonant element includes an outer surface forming a portion of the casing and relies upon Durso as teaching this limitation. Final Act. 4–5 (citing the radome layer of Durso discussed in para. 7). In response to Appellant’s arguments, the Examiner equates Durso’s disclosure of the radome layer to the casing and states “the adjoining surface of the antenna to the second surface of the radome reads on wherein conformal includes an outer surface of said at least one resonator device forming a portion of said casing.” Answer 18–19.

Appellant’s arguments have persuaded us of error in the Examiner’s rejection of independent claims 28 and 29, and the claims which depend thereupon. Both claims 28 and 29 recite a wireless transceiver with a casing and the resonator element being shaped so to be conformal with the casing, where the outer surface of the resonator forms a portion of the casing. We have reviewed the teachings of Nysen, Thill and Durso and do not find that they individually or collectively teach the resonator element where the outer surface of the resonator forms a portion of the casing. While we concur with the Examiner that Durso teaches that the radome (item 210 in Fig. 2) is conformal to the housing, we do not find that Durso teaches the resonator, i.e., antenna (item 220 or its surfaces 220a, 220b), forms part of the housing. Durso teaches that the radome (item 210) has an outer surface (item 210a) which attaches to an article of clothing (which further includes the transmitter/ receiver). *See* para. 13. Further Durso teaches the radome (item 201) envelopes the antenna and provides protection for the antenna. *See* para. 14–15. Thus, in Durso the antenna is inside the radome and does not

form part of the casing for the wireless transceiver as recited in each of the independent claims. Accordingly, we do not sustain the Examiner's rejection of independent claims 28 and 29 or dependent claims 31, 35, 43 through 45, 56 and 57 based upon the combination of Nysen, Thill and Durso.

Obviousness rejections based upon Tassoudji, Colburn, Thill, and Durso

Appellant presents several arguments asserting the Examiner's rejection of independent claims 29 and 55 based upon the combination of Tassoudji, Colburn, Thill and Durso is in error. Appeal Br. 16–30. Similar to our discussion above, the dispositive issue presented by these arguments is did the Examiner err in finding the combination of the references teaches the resonator element being shaped so to be conformal with the casing, where the outer surface of the resonator forms a portion of the casing.

The Examiner, in rejecting independent claim 29, makes the confusing finding that Tassoudji teaches an antenna cooperating with the casing, having a low aspect ratio, and being shaped to be conformal with the casing. Final Act. 2, 3 (citing Tassoudji para. 5 and 23)³. The Examiner further states that the combination of Tassoudji, Colburn and Thill does not teach the resonant element includes an outer surface forming a portion of the casing and relies upon Durso as teaching this limitation. Final Act. 13 (citing the radome layer of Durso discussed in para. 7). In the Final Rejection, the Examiner does not provide a rationale as to how the teachings

³ We note that Tassoudji does not have numbered paragraphs and as such the citation is ambiguous. Nonetheless we have reviewed the entire document.

of Tassoudji, Colburn, Thill and Durso apply to claim 55. The Examiner does not directly address Appellant's arguments in the Answer except as discussed above, equating Durso's disclosure of the radome layer to the claimed casing. Answer 18–19.

We have reviewed the teachings of Tassoudji, Colburn and Thill and concur with the Examiner that they do not teach the resonant element includes an outer surface forming a portion of the casing. As discussed above claim 29 includes a limitation directed to this feature. Claim 55 also includes a limitation directed to the resonant element including an outer surface forming a portion of the casing. As discussed above we do not find that Durso teaches this feature. Thus, we similarly do not sustain the Examiner's rejection of independent claims 29 and 55 or dependent claims 31 through 38 and 46 through 49 based upon the combination of Tassoudji, Colburn, Thill and Durso.

Obviousness rejections based upon Tassoudji, Colburn, Thill, Durso and Chen

Appellant argues that the Examiner's rejection of dependent claims 39 through 42 is in error as the additional teachings of Chen do not make up for the deficiencies discussed with respect to the rejection of the independent claims from which they depend. Further, Appellant argues that the combination of references does not teach the resonator element where the outer surface of the resonator forms a portion of the casing as recited in independent claim 55.

The Examiner's rejection does not cite to Chen as teaching a resonator

element where the outer surface of the resonator forms a portion of the casing. Final Act. 17. Accordingly, we concur with Appellant and do not sustain the Examiner’s rejection of claims 39 through 42 and 55 based upon Tassoudji, Colburn, Thill, Durso and Chen for the same reasons discussed with respect to the Examiner’s rejection based upon Tassoudji, Colburn, Thill and Durso.

CONCLUSION

We reverse the Examiner’s rejections of claims 28, 29, 31 through 47, 49 and 55 through 57 under 35 U.S.C. § 103.

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
28, 29, 31, 35, 43–45, 56, 57	103	Nysen, Thill, and Durso		28, 29, 31, 35, 43–45, 56, 57
29, 31–38, 46–49, 55	103	Tassoudji, Colburn, Thill, and Durso		29, 31–38, 46–49, 55
39–42, 55	103	Tassoudji, Colburn, Thill, Durso, and Chen		39–42, 55
Overall Outcome				28, 29, 31–47, 49, 55–57

REVERSED