

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 12

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte YU-WEN CHANG, ELMER FREIBERGS and LOTHAR WANDINGER

Appeal No. 1998-1094
Application 08/497,064

ON BRIEF

Before BARRETT, HECKER and LALL, Administrative Patent Judges.
LALL, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the final rejection of claims 1 and 3 to 20, all the pending claims in the application.

The invention relates to an improved multi-mode antenna capable of simultaneously transmitting and/or receiving

radiation over at least two frequency bands. The invention uses a unique common-aperture antenna system having first and second beam antennas. The first beam antenna has a parabolic reflector and the second beam antenna has an aperture which goes entirely through the reflector. The invention is further illustrated below by claim 1.

1. A multi-mode, common-aperture antenna system comprising:

a first beam antenna having a first antenna feed and a first beam-forming means for producing a first radiation pattern along a first beam axis, wherein said first beam-forming means includes a first radiation-focusing device having a focal axis and an aperture creating an open space entirely through said first radiation-focusing device, said aperture being spaced from a point where said focal axis intersects the first radiation-focusing device;

a second beam antenna having a second antenna feed and a second beam-forming means for producing a second radiation beam pattern along a second beam axis which is spaced from said first beam axis and which passes through said aperture of the first radiation-focusing device; and

radiation energy means connected to said first antenna feed for feeding radiation in a first frequency band, and connected to said second antenna feed for feeding radiation in a second frequency band different from said first frequency band.

The Examiner relies on the following references:

Dupressoir	4,284,991	Aug. 18, 1981
Neff et al. (Neff)	DE4110242-A	Oct. 2, 1991

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(German Patent Application)

Admitted Prior Art, Figs. 1 to 3 of the specification (APA)¹

Claims 1, 3 and 4 stand rejected under 35 U.S.C. § 102 over Dupressoir.

Claims 1, 3 to 5 and 7 to 13 stand rejected under 35 U.S.C. § 102 over Neff.

Claims 5 to 20 stand rejected under 35 U.S.C. § 103 over Dupressoir in view of APA.

Claim 14 stands rejected under 35 U.S.C. § 103 over Neff.

Rather than repeat the positions and the arguments of Appellants and the Examiner, we make reference to the brief and the answer for their respective positions.

OPINION

We have considered the rejections advanced by the

¹ The Examiner does not list APA as a reference relied on in the answer, however, it is relied on in the final rejection [paper no. 5]. Since the answer incorporates the final rejection by reference, APA is considered among the references relied on.

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Examiner. We have, likewise, reviewed Appellants' arguments against the rejections as set forth in the brief.

It is our view, after consideration of the record before us, that the rejections under 35 U.S.C. § 102 and under 35 U.S.C.

§ 103 are not proper. Accordingly, we reverse.

At the outset we note that Appellants have elected [brief, page 4] claims 1 and 3 to 14 as one group, and claims 15 to 20 as another group. We now consider the various rejections.

Rejections under 35 U.S.C. § 102

There are two sets of section 102 rejections over two separate references. But before we discuss them, we review the pertinent case law.

We note that a prior art reference anticipates the subject of a claim when the reference discloses every feature of the claimed invention, either explicitly or inherently. (See Hazani v. Int'l Trade Comm'n, 126 F.3d 1473, 1477, 44 USPQ2d 1358, 1361 (Fed. Cir. 1997); RCA Corp. v. Applied Digital Data Systems, Inc., 730 F.2d 1440, 1444, 221 USPQ 385,

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388 (Fed. Cir. 1984).

Claims 1, 3 and 4 and Dupressoir

We take claim 1 of this group. After considering Appellants' arguments [brief, pages 6 to 9] and Examiner's position [final rejection, page 2 and answer, pages 4 to 6], we are persuaded by Appellants that Dupressoir does not show the limitations recited in claim 1. We find that the Examiner is correct in asserting that the Dupressoir's antenna can be considered as a multi-mode antenna and is capable of processing waves of two different frequencies contrary to Appellants' arguments that Dupressoir is designed for a different purpose and that the second signal, though at a different frequency, is used only for interrogation purposes. However, we are persuaded by Appellants that Dupressoir does not show the claimed limitation of "an aperture creating an open space entirely through said first radiation-focusing device, said aperture being spaced from a point where said focal axis intersects the first radiation-focusing device." We find that the surface with mesh 4 in Dupressoir continues on to the back of cavity 5 (col. 4, lines 1 to 15). Thus, the Examiner's assertion that cavity 5 goes entirely through

surface 4 is incorrect. Therefore, we do not sustain the anticipation rejection of claim 1 and its dependent claims 3 and 4 over Dupressoir.

Claims 1, 3 to 5 and 7 to 13 and Neff

Again, we take claim 1 as the representative claim. We have evaluated the Appellants' arguments [brief, pages 9 to 11] and the Examiner's position [final rejection, pages 2 to 3 and answer, pages 6 to 7]. We find that Neff does not disclose the claimed feature of "an aperture creating an open space entirely through said first radiation-focusing device, said aperture being spaced from a point where said focal axis intersects the first radiation-focusing device." The Examiner asserts [answer, pages 6 to 7] that "[a]lthough the reflective surface 7 [in Neff] contains a metallic film over the aperture 4, this is incidental to the structure that is formed and defined in the claims at hand." We disagree. Clearly, Neff shows a metallic web 8 and another material 6 (albeit, optically transparent) over the asserted aperture 4. Thus, there is no aperture having the claimed structure in Neff. Therefore, we do not sustain the anticipation rejection of claim 1 and its dependent claims 3 to 5 and 7 to 13 over Neff.

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Rejections under 35 U.S.C. § 103

There are two separate sets of claims rejected on two separate grounds. However, we first outline the criteria for a rejection under 35 U.S.C. § 103. As a general proposition in an appeal involving a rejection under 35 U.S.C. § 103, an Examiner is under a burden to make out a prima facie case of obviousness. If that burden is met, the burden of going forward then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976).

Now we analyze the two sets of claims separately.

Claims 5 to 20

These claims are rejected over Dupressoir and APA. We

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find that APA does not cure the deficiency noted above in the discussion of claim 1 and Dupressoir under 35 U.S.C. § 102. That is, APA does not show or suggest the modification to meet the claimed limitation of "an aperture creating an open space entirely through said first radiation-focusing device, said aperture being spaced from a point where said focal axis intersects the first radiation-focusing device." Therefore, we do not sustain the obviousness rejection of claims 5 to 20 over Dupressoir and APA.

Claim 14

This claim is rejected as being obvious over Neff. By virtue of its dependence on claim 1, it contains, besides other limitations, the claimed limitation of "an aperture creating an open space entirely through said first radiation-focusing device, said aperture being spaced from a point where said focal axis intersects the first radiation-focusing device." We noted above that Neff does not have that feature. The Examiner has not presented any additional evidence which would cure that deficiency.

Therefore, we do not sustain the obviousness rejection of

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claim 14 over Neff.

In conclusion, we reverse the Examiner's final rejection under 35 U.S.C. § 102 of claims 1, 3 and 4 over Dupressoir, and of claims 1, 3 to 5 and 7 to 13 over Neff. We also reverse the final rejection under 35 U.S.C. § 103 of claims 5 to 20 over Dupressoir and APA, and of claim 14 over Neff.

REVERSED

LEE E. BARRETT)	
Administrative Patent Judge)	
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)	
STUART N. HECKER)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
)	
)	
PARSHOTAM S. LALL)	
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