

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte CARL E. GABRIELSON, JR.,
JAMES E. HOLBROOK, DALE M. TERRIEN,
and GARY GOTTLIEB

Appeal 2007-0636
Application 10/351,016
Technology Center 2600

Decided: May 3, 2007

Before JOSEPH L. DIXON, ALLEN R. MACDONALD,
and JEAN R. HOMERE, *Administrative Patent Judges*.

HOMERE, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134 from the Examiner's Final Rejection of claims 1 through 32. We have jurisdiction under 35 U.S.C. § 6(b) to decide this appeal.

Appellants invented a method and system for using digital subscriber lines (DSL) or digital system cross-connect (DSX) ports in a legacy chassis having a backplane made for DSX applications. (Specification 3).

Claims 1, 7 and 22 are illustrative and representative of the claimed invention. They read as follows:

1. A line card for a telecommunication system, the line card comprising:

functional circuitry to interface first type ports with second type ports;

line card connector contacts adapted to be selectively coupled to a backplane of a chassis; and

a termination resistor adapted to terminate signal lines when the line card is connected to a backplane without a termination resistor.

7. A telecommunication system comprising:

a chassis having a backplane without a termination resistor, the backplane having a plurality of backplane connectors electrically coupled to the backplane; and

one or more line cards, each of the one or more line cards having a plurality of electrical card connection contacts adapted to be selectively coupled to an associated backplane connector, at least one or more line cards further comprising,

functional circuitry to interface DSX-1 or DSL ports with other ports, and

a line card termination resistor adapted to terminate DSX-1 lines by a jumper coupled across select electrical line card connector contacts, the line card further adapted to not terminate DSX-1 lines when it is coupled to a backplane having a termination resistor.

22. A method of terminating signal lines, the method comprising:
- coupling signal lines to a chassis;
- when a backplane of the chassis includes a backplane termination resistor, terminating signals with the backplane termination resistor; and
- when the backplane of the chassis does not include a backplane termination resistor, terminating the signals with a line card termination resistor contained on a line card.

In rejecting the claims on appeal, the Examiner relied upon the following prior art:

Dewey	US 5,199,878	Apr. 6, 1993
Louwagie	US 5,582,525	Dec. 10, 1996

The Examiner rejected the claims on appeal as follows:

- A. Claims 1 through 4, 7, 10 through 13, 15 through 19, 22 through 24, 29, 30 and 32 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Louwagie.
- B. Claims 5, 6, 8, 9, 14, 20, 21, 25 through 28 and 31 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Louwagie and Dewey.¹

Appellants contend² that Louwagie does not anticipate claims 1 through 4, 7, 10 through 13, 15 through 19, 22 through 24, 29, 30 and 32.

¹ We note that Louwagie incorporates by reference the teachings of Dewey. See Louwagie at col. 2, ll. 44 through 47.

² This decision considers only those arguments that Appellants submitted in the Appeal and Reply Briefs. Arguments that Appellants could have made but chose not to make in the Briefs are deemed to have been waived. See 37 C.F.R. § 41.37(c)(1) (vii)(eff. Sept. 13, 2004). See also *In re Watts*, 354 F.3d 1362, 1368, 69 USPQ2d 1453, 1458 (Fed. Cir. 2004).

Particularly, Appellants contend that Louwagie does not fairly teach or suggest a termination resistor or impedance network adapted to terminate signal lines when the line card is connected to a backplane without a termination resistor, as recited in independent claims 1 and 15. (Br. 7, 10 and 11; Reply Br. 1). Further, Appellants contend that Louwagie does not fairly teach or suggest a termination resistor adapted to terminate signal lines by a jumper when coupled across the line card connector contacts when the line card is connected to a backplane that has a built in termination resistor, as recited in representative claim 7. (Br. 9) Additionally, Appellants contend that Louwagie does not fairly teach or suggest coupling the signal lines to a chassis when a backplane of the chassis includes a backplane termination resistor, as recited in representative claims 22 and 29. (Br. 10 and 11). For these same reasons, Appellants further contend that Louwagie and Dewey do not render dependent claims 5, 6, 8, 9, 14, 20, 21, 25 through 28 and 31 unpatentable. (Br. 12).

The Examiner, in contrast, contends that Louwagie teaches the cited limitations of representative claims 1, 7 and 22 as a termination resistor used in a jack spring contact tip of a DSX card to couple the card with backplane of a chassis. (Answer 3 and 8). The Examiner therefore concludes that Louwagie anticipates representative claims 1 through 4, 7, 10 through 13, 15 through 19, 22 through 24, 29, 30 and 32. Further, the Examiner concludes that it would have been obvious to combine Louwagie and Dewey to yield the invention as recited in claims 5, 6, 8, 9, 14, 20, 21, 25 through 28 and 31. (Answer 7).

We affirm-in-part.

ISSUES

The *pivotal* issues in the appeal before us are as follows:

- (1) Have Appellants shown that the Examiner has failed to establish that the disclosure of Louwagie anticipates the claimed invention under 35 U.S.C. § 102(b), when Louwagie teaches a line card having a resistor coupled to a backplane chassis or a jumper coupled across signal lines?
- (2) Have Appellants shown that the Examiner has failed to establish that one of ordinary skill in the art, at the time of the present invention, would have found that the combined disclosures of Louwagie and Dewey render the claimed invention unpatentable under 35 U.S.C. § 103(a)?

FINDINGS OF FACT

The following findings of fact are supported by a preponderance of the evidence.

The invention

1. Appellants invented a method and system for using a line card in any chassis that has a termination resistor³ built in the backplane of the chassis,

³ For proper operation of a DSX system, DSX lines must be coupled with a termination resistor in the backplane of the chassis. Therefore, a legacy chassis including a backplane with a built in resistor is generally used for DSX applications. If such backplane does not have a built in resistor, a termination resistor of a coupling line card is used to enable such applications to properly operate. However, DSL lines do not require the use of such a termination resistor. In any event, whenever a termination resistor is deemed to be unnecessary for a DSL or DSX application to run properly, a jumper is used across connector contacts in the line card to bypass such

as well as any chassis that does not have a termination resistor built into the backplane. (Specification 4).

2. As depicted in Figures 1, 2 and 5, a line card (100) includes a chassis (200) containing a backplane (202) that does not have a built in termination resistor. (Id.)

3. The line card further includes a functional circuitry (104) that interfaces DSX or DSL ports with backplane ports via backplane connectors (204) and connection contacts C8 and C9, designated as line card connector contacts 106. (Id.)

4. The line card additionally includes a termination resistor (102) or an impedance network (602) coupled with the no built-in resistor backplane (202) to terminate the backplane (202). (Specification 4 through 6). [e.g., claims 1, 15]

5. In another embodiment, as depicted in Figures 3 and 4, where the line card (100) includes a backplane (406) with a termination resistor (502) built into its chassis (500), the line card couples a jumper (300) across line connector contacts (106) when they are interfaced with backplane contacts (302 and 304) to bypass termination resistor (102) of a DSX line. (Specification 5). [e.g., claim 7]

6. In another embodiment, as depicted in Figures 3 and 4, where the line card (100) includes a backplane (406) with a termination resistor (502) built into its chassis (500), the signal DSX lines are coupled directly to the chassis to terminate the signals with the backplane termination resistor (502). (Specification 5 and 6). [e.g., claims 22, 29 and 32]

resistor or the line card termination resistor remains open (Specification 1, 5 and 6).

The Prior Art Relied upon

7. Louwagie discloses a DSX line card (10) for insertion in a telecommunication chassis (16), the card (10) having an electric circuit (30) for interfacing two sets of ports (16, 18) via their respective connector contacts. (Abstract, col. 2, ll. 49-50; col. 3, ll. 25-38).
8. As depicted in Figure 4, Louwagie teaches that the line card (10) includes a first plurality of resistors (80b, 81b) that respectively terminate tip and ring spring contacts (80 and 62, 81 and 63) positioned to engage a plug inserted within monitor 20, while another plurality of resistors (80b', 81b') respectively terminate tip and ring spring contacts (80' and 62', 81' and 63') to engage a plug inserted within monitor 20'. (col. 4, ll.15-30).
9. As depicted in Figure 4, Louwagie teaches a line card (10) having a plurality of jumpers designated by a plurality of paths (e.g., 62 and 40, 63 and 42) coupled across the electrical card connectors. (col. 4, ll.48-54).
10. Dewey discloses a plug jack card for normally closed contacts in a telecommunications network (col. 1, ll. 40-48).
11. As depicted in Figure 1, Dewey teaches a frame (12) that includes a chassis (16) and a plurality of connector assemblies (18). (col. 2, ll. 45-50).
12. Dewey teaches that the chassis (16) is made up of side walls (20) with side flanges (28) mounted thereon, a forward top and bottom panels (24, 26). (col. 2, ll. 52-58).
13. As shown in Figures 4, 4A, 12, 13, 18, 19, Dewey teaches a circuit card for insertion into chassis (16), where the circuit card has a plurality of termination resistors connecting ring and tip contacts to engage a plug inserted within a monitor. (col. 3, ll. 53-66).

PRINCIPLES OF LAW

1. ANTICIPATION

It is axiomatic that anticipation of a claim under § 102 can be found only if the prior art reference discloses every element of the claim. *See In re King*, 801 F.2d 1324, 1326, 231 USPQ 136, 138 (Fed. Cir. 1986) and *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1458, 221 USPQ 481, 485 (Fed. Cir. 1984).

In rejecting claims under 35 U.S.C. § 102, a single prior art reference that discloses, either expressly or inherently, each limitation of a claim invalidates that claim by anticipation. *Perricone v. Medicis Pharmaceutical Corp.*, 432 F.3d 1368, 1375-76, 77 USPQ2d 1321, 1325-26 (Fed. Cir. 2005), citing *Minn. Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1565, 24 USPQ2d 1321, 1326 (Fed. Cir. 1992). Anticipation of a patent claim requires a finding that the claim at issue “reads on” a prior art reference. *Atlas Powder Co. v. IRECO, Inc.*, 190 F.3d 1342, 1346, 51 USPQ2d 1943, 1945 (Fed. Cir. 1999) (“In other words, if granting patent protection on the disputed claim would allow the patentee to exclude the public from practicing the prior art, then that claim is anticipated, regardless of whether it also covers subject matter not in the prior art.”) (internal citations omitted).

2. OBVIOUSNESS

In rejecting claims under 35 U.S.C. § 103, the Examiner bears the initial burden of establishing a prima facie case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). *See also In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir.

1984). The Examiner can satisfy this burden by showing that some objective teaching in the prior art or knowledge generally available to one of ordinary skill in the art suggests the claimed subject matter. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Only if this initial burden is met does the burden of coming forward with evidence or argument shift to the Appellants. *Oetiker*, 977 F.2d at 1445, 24 USPQ2d at 1444. *See also Piasecki*, 745 F.2d at 1472, 223 USPQ at 788. Thus, the Examiner must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the Examiner's conclusion.

ANALYSIS

A. 35 U.S.C. § 102(b) REJECTION

As set forth above, representative claim 1 recites a line card that includes a termination resistor adapted to⁴ terminate signal lines when the card is connected to a backplane without a termination resistor. Similarly, claim 15 recites an impedance network adapted to terminate the signal lines when connected to the no-termination resistor backplane. As detailed in the findings of fact section above, we have found that Louwagie discloses a DSX line card having a circuit including at least a resistor that terminates contact points when the card is inserted into a chassis that does not have a

⁴ We note that the statement “*adapted to* terminate signal lines when the line card is connected to a backplane without a termination resistor” is not a structural limitation. Here, it merely implies having the capability to terminate the signal lines, but not actually terminating said lines. This language therefore does not limit the claimed resistor to a particular structure. See MPEP 2111.4.

termination resistor. (findings of fact 7 and 8). In light of these findings, it is our view that Louwagie teaches the limitation of using a termination resistor when a card is inserted into a chassis with no termination resistor, as recited in claim 1. We note that an impedance network, broadly construed, can be interpreted as being a resistor. Therefore, we find for the same reasons that Louwagie teaches the limitations of claim 15. It follows that the Examiner did not err in rejecting claims 1, 15 as being anticipated by Louwagie. Appellants did not provide separate arguments with respect to the rejection of dependent claims 2 through 4 and 16 through 19 as being anticipated by Louwagie. Therefore, they fall together with claims 1 and 15 respectively. *See* 37 C.F.R. § 41.37(c)(1)(vii)(2004).

Now, we turn to the rejection of claims 7, 10 through 13 and 32. As set forth above, representative claim 7 recites a termination resistor adapted to terminate signal lines by a jumper when coupled across the line card connector contacts when the line card is connected to a backplane that has a built in termination resistor. Similarly, independent claim 32 recites a termination resistor adapted to not terminate signal lines when the associated backplane has a termination resistor.⁵ Pursuant to our discussion above, the limitation following the expression “adapted to” does not limit these claims to any particular structure. Thus, representative claim 7 merely requires a line card termination resistor being able to terminate DSX lines by a jumper cable when the backplane is without a termination resistor, and the card being able not to terminate the DSX lines when the backplane has a termination resistor. As detailed in the findings of fact section above, we

⁵ See *supra* note 4.

have found that Louwagie discloses a jumper, as well as a resistor for terminating the signal lines (findings of fact 8 and 9). In light of these findings, it is our view that Louwagie teaches the limitation of a jumper or a termination resistor having the capability to terminate the signal lines, as recited in claims 7 and 32. It follows that the Examiner did not err in rejecting claims 7 and 32 as being anticipated by Louwagie. Appellants did not provide separate arguments with respect to the rejection of dependent claims 10 through 13 as being anticipated by Louwagie. Therefore, they fall together with claim 7. *See* 37 C.F.R. § 41.37(c)(1)(vii)(2004).

Now, we turn to the rejection of claims 22 through 24, 29 and 30. As set forth above, representative claim 22 requires coupling the signal lines to a chassis when a backplane of the chassis includes a backplane termination resistor. Similarly, independent claim 29 requires terminating DSX-1 signals with the backplane termination resistor included in a backplane. We find that Louwagie does not teach a backplane with a termination resistor. It is therefore our view that the Examiner erred in rejecting claims 22 through 24, 29 and 30 as being anticipated by Louwagie.

B. 35 U.S.C. § 103(a) REJECTION

Now, we turn to the rejection of claims 5, 6, 8, 9, 14, 20, 21, 25 through 28 and 31 as being unpatentable Louwagie in combination with Dewey. We note that dependent claims 5, 6, 8, 9, 14, 20 and 21 require a resistor or a jumper having the ability to couple signal lines. As detailed in the discussion of independent claims 1, 7, 15 and 32 above, we have found that Louwagie teaches such limitations. In light of these findings, it is our

view that one of ordinary skill in the art would have found it obvious to combine the teachings of Louwagie and Dewey to yield the invention as claimed. Therefore, it follows that the Examiner did not err in rejecting claims 5, 6, 8, 9, 14, 20 and 21 as being unpatentable over the combination of Louwagie and Dewey.

Next, we note that claims 25 through 28 and 31 require coupling the signal lines to a chassis when a backplane of the chassis includes a backplane termination resistor. As detailed in the discussion of independent claims 22 through 24, 29 and 30 above, we have found that Louwagie does not teach such limitations. In light of these findings, it is our view that one of ordinary skill in the art would not have found it obvious to combine the teachings of Louwagie and Dewey to yield the invention as claimed. Therefore, it follows that the Examiner erred in rejecting claims 25 through 28 and 31 as being unpatentable over the combination of Louwagie and Dewey.

CONCLUSION OF LAW

On the record before us, Appellants have not shown that the Examiner has failed to establish that Louwagie anticipates claims 1 through 4, 7, 10 through 13, 15 through 19, and 32 under 35 U.S.C. § 102(b). Further, Appellants have not shown that the Examiner has failed to establish that the combination Louwagie and Dewey renders claims 5, 6, 8, 9, 14, 20 and 21 unpatentable under 35 U.S.C. § 103(a). However, Appellants have shown that the Examiner has failed to establish that Louwagie anticipates claims 22 through 24, 29 and 30 under 35 U.S.C. § 102(b). Further, Appellants have shown that the Examiner has failed to establish that the combination

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Louwagie and Dewey renders claims 25 through 28 and 31 unpatentable under 35 U.S.C. § 103(a).

DECISION

We have affirmed the Examiner's decision to reject claims 1 through 21, and 32. We have reversed the Examiner's decision rejecting claims 22 through 31.

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

AFFIRMED-IN-PART

KIS

FOGG & POWERS, L.L.C.
10 SOUTH FIFTH STREET
SUITE 1000
MINNEAPOLIS, MN 55402