

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte RICHARD C. E. DURRANT
and MAURICE FITZGIBBON

Appeal 2008-2825
Application 10/816,749
Technology Center 2800

Decided: September 24, 2008

Before MAHSHID D. SAADAT, JOHN A. JEFFERY, and
THOMAS S. HAHN, *Administrative Patent Judges*.

HAHN, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 from the Examiner's rejection of claims 11, 13, 15, 17, and 19. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

STATEMENT OF THE CASE

Appellants invented an improvement for identifying interconnected fiber optic cables. To this end, a transponder stores an identifying fiber optic cable characteristic associated with a corresponding fiber optic cable, and a transceiver associated with a host device panel activates and interrogates the transponder. Specifically, a particular fiber optic cable characteristic is included in a transponder that is attached to an associated fiber optic cable connector.¹ Claim 11 is illustrative:

11. A device comprising:

a fiber optic cable having a fiber optic connector;

a transponder attached to the fiber optic connector;

a substrate adapted for attachment to a panel of a host device;

an antenna attached to the substrate; and

a transceiver electrically connected to the antenna so as to form a reader which is capable of activating and interrogating the transponder when the transponder is sufficiently close to the antenna, and wherein

the fiber optic cable has a length, and wherein

the transponder includes information related to the length of the fiber optic cable.

¹ See generally Spec. ¶¶ 0030 – 38.

The Examiner relies on the following prior art references to show unpatentability:

Stoy	US 5,066,091	Nov. 19, 1991
Renzoni	US 6,745,971 B1	Jun. 8, 2004 (filed Sep. 20, 2001)
Stanescu	US 6,784,802 B1	Aug. 31, 2004 (filed Nov. 6, 2000)

Claims 11, 13, 15, 17, and 19 stand rejected under 35 U.S.C. §103(a) as unpatentable over Stanescu and Renzoni.²

Rather than repeat the arguments of Appellants or of the Examiner, we refer to the Brief and the Answer³ for their respective details. In this decision, we have considered only those arguments actually made by Appellants. Arguments that Appellants could have made but did not make in their Brief have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

² Although the Examiner refers to Stoy in connection with the rejection of claims 15 and 19 (Ans. 7, 11), and Appellants present arguments pertaining to this reference (Br. 18-19), the Examiner does not include the Stoy reference in the statement of the rejection. *See In re Hoch*, 428 F.2d 1341, 1342 n. 3 (CCPA 1970) ("Where a reference is relied on to support a rejection, whether or not in a 'minor capacity,' there would appear to be no excuse for not positively including the reference in the statement of the rejection."). We therefore presume that the Examiner referred to Stoy merely as extrinsic evidence.

³ Appellants did not file a Reply Brief. We, therefore, refer to: (1) the Amended Appeal Brief filed April 4, 2006, and (2) the Answer mailed August 30, 2007 throughout this opinion.

All appealed claims are independent and recite the following common limitations (hereafter “the common limitations”):

A device comprising:

- a fiber optic cable having a fiber optic connector;
- a transponder attached to the fiber optic connector;
- a substrate adapted for attachment to a panel of a host device;
- an antenna attached to the substrate; and
- a transceiver electrically connected to the antenna so as to form a reader ... capable of activating and interrogating the transponder ...(Br., Claims App.).

Additionally, each appealed claim recites a different characteristic of the fiber optic cable,⁴ and that “the transponder includes information related to” that particular characteristic (hereafter “the named characteristics”).

Every appealed rejection is premised on the repeated common limitations being taught in Stanescu (Ans. 5-6). Appellants do not dispute the Examiner’s factual findings that these common limitations are taught in Stanescu. Instead, Appellants argue that Stanescu fails to disclose the

⁴ These recited characteristics are: (1) “the fiber optic cable has a length” (claim 11); (2) “the fiber optic connector conforms to an industrial standard” (claim 13); (3) “the optical fiber conforms to a predetermined optical fiber grade” (claim 15); (4) “the fiber optic cable was purchased on a specified date” (claim 17); and (5) “the fiber optic cable was purchased pursuant to a warranty” (claim 19).

named characteristics as set out in each of the rejected claims. For example, concerning claim 11 Appellants argue:

The final rejection argues that [Stanescu] discloses every feature of Appellants' invention as recited in Claim 11 except for "fiber length." The [Stanescu] reference fails to disclose the length of an optical fiber, and the inclusion of that information in a transponder. ... Therefore, the [Stanescu] reference is not believed to in any way anticipate or render obvious the present invention as recited in Claim 11. (Br. 13; *See also* Br. 15, 17, and 19-22).

The Examiner finds that the named characteristics of claims 11, 13, and 17 are all taught by Renzoni (Ans. 6-7). Appellants do not dispute the Examiner's findings concerning what is disclosed in Renzoni. Instead, Appellants argue that Renzoni fails to teach the common limitations that the Examiner finds taught in Stanescu (Br. 13-17, 20, and 21).

With respect to claim 15, the Examiner refers to Stoy as an example of the importance of grade matching in a fiber optic system, and, therefore, as evidence of the prior known importance for having an "optical fiber conform[ing] to a predetermined optical fiber grade" (Ans. 7). Appellants again do not dispute the Examiner's findings concerning what is disclosed in Stoy, but instead argue that this reference fails to teach the common limitations that the Examiner finds taught in Stanescu (Br. 18-19).

Regarding claims 15 and 19, the Examiner finds that, in light of the collective teachings of the cited references, skilled artisans would have reasonably stored information commensurate with the named characteristics recited in these two claims in the transponder (Ans. 7-8). Appellants do not dispute these findings by the Examiner. Instead, Appellants' arguments concerning the named characteristics in these two claims are premised on the

Examiner's acknowledgement that Stanescu does not expressly disclose the named characteristics (Br. 17-19 and 21-23).

ISSUE

The issue before us is whether Appellants have shown that the Examiner erred in finding that the claimed invention would have been rendered obvious under 35 U.S.C. §103(a) over the collective teachings of the cited prior art.

FINDINGS OF FACT

The following Findings of Fact (FF) are relevant to the issue involved and are supported by a preponderance of the evidence on the record before us:

1. As noted *supra*, the Examiner's factual findings regarding Stanescu's teachings and suggestions pertaining to the repeated common limitations of the appealed claims (Ans. 5-6) are undisputed.
2. Stanescu discloses a system and method for real time identification and connectivity management for a multiple cable system, e.g., a system of "fiber optic" patch cords or cables, using transponders (tags) attached to connector jacks with electronic tag readers having antennas (Stanescu, Abstract; col. 1, ll. 49-51; col. 3, ll. 13-23, and 37-46; col. 5, ll. 46-65; col. 6, ll. 4-16; Fig. 1).
3. A Stanescu transponder is attached to an end, i.e., plug or connector, of a fiber optic cable (Stanescu, col. 5, ll. 52-55; Fig.1).

4. Stanescu electronic tag readers include sensors and interconnected antennas that are attached to jacks with the jacks mounted above ports on a patch panel or embedded in the patch panel (Stanescu, col. 6, ll. 5-11; Fig 1).
5. Stanescu discloses transmitting radio-frequency signals from electronic tag reader antennas to interrogate transponders attached to fiber optic cable connectors that, in response, are triggered to send identifying radio messages that include information about the fiber optic cables (Stanescu, col. 3, ll. 37-46; col. 5, ll. 61-63).
6. Renzoni discloses an optical fiber spooling device for an optical fiber jumper cable usable for connecting between fiber optic cables, fiber optic cables and transmitters or receiving equipment, or between fiber optic cables and test equipment (Renzoni, col. 1, ll. 14-19).
7. To select a stored fiber optic cable, Renzoni discloses that the “spooling device can be labeled as to ... connector types, fiber type, fiber length, purchase date, serial number, and other pertinent information to assist the user in selecting the appropriate optical fiber jumper cable...” (Renzoni, col. 4, ll. 40-44).
8. Stoy discloses an apparatus and method for precise positioning and/or alignment of one or more articles – such as optical fibers, tubes for fluid transport, electrical connectors – with respect to the apparatus (Stoy, col. 2, ll. 50-53; col. 4, ll. 40-46).
9. When the Stoy device is used as an optical fiber connector, Stoy discloses that a fiber can be removed from the device and

“replaced by another piece of the same grade of optical fiber”
(Stoy, col. 14, ll. 63-65).

12. As noted *supra*, the Examiner’s factual findings regarding what one of ordinary skill in the art at the time the invention was made would recognize on reading Stanescu concerning named characteristics recited in claims 15 and 19 (Ans. 17-19 and 21-23) are undisputed.

PRINCIPLES OF LAW

Obviousness is a question of law premised from underlying factual determinations. Therefore, to support a legal conclusion of obviousness in rejecting claims under 35 U.S.C. § 103, the Examiner is required to establish factual bases. *See In re Fine*, 837 F.2d 1071, 1073 (Fed. Cir. 1988). The required factual determinations are set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). This continues to be the required analysis under § 103. *KSR Int’l v. Teleflex, Inc.*, 127 S. Ct. 1727, 1734 (2007).

The scope and content of prior art relevant to an obviousness determination includes not only art that is the same as the art of the invention, but also those arts logically related to the inventor’s concern. *In re GPAC, Inc.*, 57 F.3d 1573, 1577-79 (Fed. Cir. 1995). Addressing what is acceptable combinations of elements from prior art, the U.S. Supreme Court explains:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability. For the same reason, if a technique

has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. *Sakraida* [v. *AG Pro, Inc.*, 425 U.S. 273 (1976)] and *Anderson-Black Rock[, Inc. v. Pavement Salvage Co.*, 396 U.S. 57 (1969)] are illustrative – a court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions. *KSR*, 127 S. Ct. at 1740.

It could be found that there are interrelated teachings in the prior art supporting a holding of obviousness despite ascertained differences. This situation could arise when “there was an apparent reason to combine the known elements in the fashion claimed.” *Id.* at 1740-41. The needed showing to so find obviousness requires that:

“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” [quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)] ... [T]he analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ. (*KSR*, 127 S. Ct. at 1741).

An example for when taking account of inferences and creative steps as referenced here could arise include identification of a prior art disclosed device or process that differs from claimed subject matter by the substitution of some component or step with a different component or step.

Additionally, for this example, it needs to be appreciated that one skilled in the art could substitute a prior art disclosed component or step for another and the results of the substitution would be predictable.

[W]hen a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result. *Id.* at 1740 (citing *United States v. Adams*, 383 U.S. 39, 50-51 (1966)).

In the circumstance of properly combined references, the analysis must be addressed to the combined references as a whole and not to separate consideration of the references without the combination being addressed. *In re Keller*, 642 F.2d 413 (CCPA 1981); *In re Merck & Co., Inc.*, 800 F.2d 1091 (Fed. Cir. 1986).

Whether claimed descriptive material distinguishes over prior art that otherwise renders claims unpatentable can depend on the recited matter being functional or non-functional descriptive material. The answer in the context of claimed electronic systems having stored functional descriptive material turns on whether the stored material structurally or functionally limits claimed subject matter. If the claimed functional descriptive material so limits claims, then it might distinguish over prior art that otherwise renders claims unpatentable.⁵ Alternatively, non-functional descriptive material is subject matter that neither structurally nor functionally limits claims. Therefore,

⁵ *In re Lowry*, 32 F.3d 1579, 1583-84 (Fed. Cir. 1994) (discussing patentable weight of data structure limitations in the context of a claim to a data structure stored on a computer readable medium that increases computer efficiency).

claimed nonfunctional descriptive material does not patentably distinguish over prior art that otherwise renders claims unpatentable.⁶

In conclusion, there is a production of evidence burden that begins with the Examiner in cases under § 103, and a shift in this burden is triggered when a prima facie obviousness case is established. *See In re Rinehart*, 531 F.2d 1048 (CCPA 1976). The Examiner, thus, bears an initial burden of factually supporting any prima facie conclusion of obviousness. The burden then shifts to the Appellants to rebut the Examiner's prima facie case with opposing evidence and arguments. *See In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

ANALYSIS

Stanescu Teaches the Common Limitations of the Appealed Claims

As we indicated previously, all appealed claims are (1) independent, and (2) recite the common limitations.⁷ Appellants do not dispute that Stanescu teaches the common limitations recited in all appealed claims (FF 1). Instead Appellants argue that Stanescu fails to disclose recited named characteristics that the Examiner indicated were taught or suggested by Stanescu (*see e.g.*, Ans. 6, 8; *see also* Br. 13, 15, 17, 19-22).

Stanescu discloses a device for identification and connectivity management for a multiple fiber optic cable system using transponders (FF 2). The appealed claimed subject matter is a device with a fiber optic cable

⁶ *See In re Ngai*, 367 F.3d 1336, 1339 (Fed. Cir. 2004); *see also Ex Parte Nehls*, No. 2007-1823, 2008 WL 258370 (BPAI 2008) (precedential), at *6-10 (discussing cases pertaining to non-functional descriptive material).

⁷ *See* p. 3-4, *supra*, of this opinion.

including a transponder attached to a fiber optic cable connector for identifying cable information (e.g., see reproduced claim 11 above). This appealed claimed subject matter and Stanescu disclosures as identified by the Examiner (Ans. 5-6) are in a common field of endeavor. The Examiner concludes that Stanescu teaches all of the common limitations in the same field of endeavor as recited in the appealed claims. Appellants do not dispute these conclusions of the Examiner (FF 1). On the record before us, we concur with the Examiner that Stanescu teaches the common limitations of the claims on appeal (FF 1-5).

Claims 11, 13 and 17

Appellants argue that Stanescu fails to disclose including information in a transponder regarding the “length of the optical cable” (claim 11), a “fiber optic cable connector conform[ing] to an industrial standard” (claim 13), or “the specific purchase date of the fiber optic cable” (claim 17) (Br. 13, 15 and 19). Further, Appellants argue Renzoni fails to disclose the common limitations in combination with a transponder having information related to the “length of the fiber optic cable,” “industrial standard to which the fiber optic connector conforms”, or “specific purchase date of the fiber optic cable” (Br. 13-14, 16 and 20).

In essence, Appellants argue that Renzoni is deficient because it does not disclose the common limitations, and Stanescu is deficient because it does not disclose the recited named characteristics combined with the common limitations. Thus, as the Examiner indicates (Ans. 9), Appellants’ arguments, in effect, separately address Stanescu and Renzoni as to whether each reference *individually* teaches all subject matter recited in the appealed

claims. The Appellants' arguments, however, do not persuasively rebut the Examiner's prima facie case of obviousness based on the collective teachings of Stanescu and Renzoni (i.e., the references' teachings considered as a whole). The Examiner's stated reason to combine these teachings has a rational underpinning to support the legal conclusion of obviousness. We therefore find no error in this approach.

Renzoni discloses a spooling (i.e., storage) device for optical fiber jumper cables that can be used to interconnect other fiber optic cables, or interconnect transmitters and receiving or test equipment between fiber optic cables (FF 6). Renzoni further teaches that the spooling devices "can be labeled as to ... connector types, fiber type, fiber length, purchase date, serial number, and other pertinent information to assist the user in selecting the appropriate optical fiber jumper cable..." (FF 7). We find no error in the Examiner's combining these teachings with Stanescu in light of the knowledge generally available to ordinarily skilled artisans. As the Examiner indicates (Ans. 7), this information would have been at least relevant to implementing a fiber optic network.⁸ Further, the Examiner states:

⁸ In context for such conclusion, the Examiner also later points out: "Motivation does not even have to be explicitly recited in the reference. MPEP Section 706.02(j) states, 'to establish a prima facie case of obviousness...there must be some suggestion or motivation, either in the references themselves *or in the knowledge generally available to one of ordinary skill in the art*, to modify the reference or to combine reference teachings.'" (Ans. 10, citation omitted, emphasis added by the Examiner) *See also KSR*, 127 S. Ct. at 1741 ("[A] court can take account of the inferences ... a person of ordinary skill in the art would employ").

Stanescu states that “the transponder corresponding to each plug stores information about the cable” but leaves open what can be “information about the cable.” Renzoni clearly fills some of these blanks: connector type, fiber length, and purchase date. (Ans. 9)

We note, in conclusion, that the named characteristics in claims 11, 13 and 17 merely recite information descriptive of optical cables. In our view, including these named characteristics in transponders does not further limit the claimed invention either functionally or structurally. Therefore, these named characteristics constitute non-functional descriptive material. Such non-functional descriptive material does not patentably distinguish over prior art that otherwise renders claims unpatentable.⁹

For the foregoing reasons, Appellants have not persuaded us of error in the Examiner’s obviousness rejection of claims 11, 13, and 17. Accordingly, we will sustain the Examiner’s rejection of those claims.

Claim 15

In addition to reciting the common limitations (*see* p. 3-4, *supra*), claim 15 further recites that “the fiber optic cable includes an optical fiber ... conform[ing] to a predetermined optical fiber grade, and ... the transponder includes information related to the predetermined optical fiber grade...”

⁹ *See In re Ngai*, 367 F.3d 1336, 1339 (Fed. Cir. 2004); *see also Ex Parte Nehls*, No. 2007-1823, 2008WL 258370 (BPAI 2008) (precedential), at *6-10 (discussing cases pertaining to non-functional descriptive material).

Similar to the arguments discussed *supra* with respect to claims 11, 13, and 17, Appellants argue Stoy is deficient because it does not disclose the common limitations, and Stanescu is deficient because it does not disclose the named characteristic combined with the common limitations. These arguments, however, separately attack the references individually, and therefore fail to persuasively rebut the Examiner's prima facie case of obviousness based on the collective teachings of the cited references.

Stoy discloses a positioning and/or alignment apparatus and method usable as a connector with optical fibers (FF 8). Further, Stoy discloses that an optical fiber can be removed from their connector and replaced with another optical fiber of the "same grade" (FF 9). Based on these teachings, the Examiner concludes that "[f]iber grade matching is important in building a fiber-optic network because one would not want to spoil a high grade network with a low grade fiber" (Ans. 7).

The Examiner notes that Stanescu discloses a "transponder ... stor[ing] information about the cable..." (Ans. 5). Relying on Stanescu the Examiner finds:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include ... grade ... information in the transponder of Stanescu along with the various other information that is already present because all of these pieces of information are relevant in building and maintaining an optical fiber network. (Ans. 7-8).

Based on the record before us, we concur with the Examiner that skilled artisans would have recognized that fiber grade is at least relevant information about a fiber optic cable for storing in a transponder that is

interrogated for an optical fiber network identification and management system. In this context, the Supreme Court directs that:

[T]he analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ. *KSR*, 127 S. Ct. at 1741.

Stanescu is directed to identification and connectivity management for a multiple fiber optic cable network (FF 2). Therefore, absent evidence to the contrary, we find that identification and storage of optical fiber grades would have at least been relevant information for effectively maintaining interconnected cables. Stanescu discloses storing information about network interconnected fiber optic cables in transponders (FF 5). In our view, including such information in Stanescu's system for managing optical fiber interconnections would have been reasonably within the level of ordinarily skilled artisans in light of the inferences or creative steps that skilled artisans would draw from these teachings.

Appellants are correct that Stanescu does not disclose fiber grade as identified information for storage in a transponder (Br. 17). Appellants, however, have not disputed the Examiner's factual findings (Ans. 7-8) that a person of ordinary skill would recognize, based on the totality of the evidence on this record and the state of the art, that fiber grade would have been relevant optical fiber cable information storable in an associated transponder (FF 10).

We note, in conclusion, that the named characteristic in claim 15 merely recites information descriptive of an optical cable. In our view, including this descriptive material in a transponder does not further limit the

claimed invention either functionally or structurally. Therefore, the named characteristic constitutes non-functional descriptive material. Such non-functional descriptive material does not patentably distinguish over prior art that otherwise renders the claim unpatentable.¹⁰

For the foregoing reasons, Appellants have not persuaded us of error in the Examiner's obviousness rejection of claim 15. Accordingly, we will sustain the rejection of that claim.

Claim 19

In addition to reciting the common limitations (*see* p. 3-4 *supra*), claim 19 further recites that "the fiber optic cable was purchased pursuant to a warranty, and ... the transponder includes information related to the warranty."

Most to the point as to what is obvious from Stanescu on this matter concerning warranty information is the Examiner's reasoning: "Warranty information is also understood in the art to be useful when maintaining a fiber optic network because if a fiber in the network is under warranty, it might be possible to recoup its costs." (Ans. 7) This reasoning is undisputed by Appellants.

As discussed *supra*, Stanescu is directed to identification and connectivity management for a multiple fiber optic cable network (FF 2). Therefore, identification of optical fiber warranty information indeed would be recognized by one of ordinary skill as at least relevant and useful constituent information in maintaining a fiber optic network. As the

¹⁰ *See supra* n. 10.

Examiner indicates, such warranty information would provide information that is useable for recouping warranted costs in the event of optical cable failure. Further, warranty information can be referenced for deciding when the cables should be replaced. We therefore find that the Examiner's case has a rational underpinning to support the legal conclusion of prima facie obviousness.

In our view, applying the *KSR* standard, including optical fiber cable warranty information in Stanescu's system for managing optical fiber interconnections would have been reasonably within the level of ordinarily skilled artisans in light of the inferences or creative steps that skilled artisans would draw from these teachings.

We note, in conclusion, that the named characteristic in claim 19 merely recites information descriptive of an optical cable. In our view, including this descriptive material in a transponder does not further limit the claimed invention either functionally or structurally. Therefore, the named characteristic constitutes non-functional descriptive material. Such non-functional descriptive material does not patentably distinguish over prior art that otherwise renders the claim unpatentable.¹¹

For the foregoing reasons, Appellants have not persuaded us of error in the Examiner's obviousness rejection of claim 19. Accordingly, we will sustain the Examiner's rejection of that claim.

¹¹ See *supra* n.10.

CONCLUSION OF LAW

Appellants have not shown that the Examiner erred in rejecting claims 11, 13, 15, 17, and 19 under § 103 based on the collective teachings of the cited prior art.

DECISION

We have sustained the Examiner's rejections with respect to all claims on appeal. Therefore, the Examiner's decision rejecting claims 11, 13, 15, 17, and 19 is affirmed.

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

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