

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SOREN SVEN ERIKSSON, TORD GUSTAV GUSTAVSSON,
and ANDERS TOMMY LINDEN

Appeal 2008-2407
Application 10/331,112
Technology Center 3600

Decided: October 31, 2008

Before JENNIFER D. BAHR, LINDA E. HORNER, and
STEVEN D.A. McCARTHY, *Administrative Patent Judges*.

HORNER, *Administrative Patent Judge*.

DECISION ON APPEAL
STATEMENT OF THE CASE

Soren Sven Eriksson et al. (Appellants) seek our review under 35 U.S.C. § 134 of twice-rejected claims 1-18 and 20-22. Claim 19 has been canceled. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

SUMMARY OF DECISION

We REVERSE.

THE INVENTION

The Appellants' claimed invention relates to reeling a paper web in a reel-up in a paper machine (Spec. 1:9-10). Claim 1, reproduced below with some paragraphing added, is representative of the subject matter on appeal.

1. A reel shaft for reeling a paper web in a reel-up in a paper machine, which reel-up includes
 - at least one unit that is mobile in a longitudinal direction of the paper machine and supports a pair of opposite engagement members each of which includes an engagement part,
 - the engagement parts being arranged for rotatably carrying and detachably engaging the reel shaft during reeling,
 - wherein the reel shaft is free of a support shaft and comprises a self-supporting, tubular sleeve substantially formed of fiber-reinforced plastic,
 - the sleeve having an envelope surface on which initial wrapping of the paper web shall be performed, and also an internal surface defining an axial channel through the sleeve,
 - the axial channel terminating in axial openings at the ends of the reel shaft,
 - the reel shaft being arranged to receive the engagement parts in said axial openings to allow formation of said detachable engagement.

THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability:

De Bin	US 5,337,968	Aug. 16, 1994
Kole	US 5,810,281	Sep. 22, 1998
Czuprynski	US 5,857,643	Jan. 12, 1999
Tsujimoto	EP 0 327 048 A2	Aug. 9, 1989

The following rejections are before us for review:

1. Claims 1-3, 10-13, 18, 21, and 22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Tsujimoto and Czuprynski.
2. Claims 4-7, 14, 15, and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Tsujimoto, Czuprynski, and De Bin.
3. Claims 8, 9, 16, and 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Tsujimoto, Czuprynski, and Kole.

ISSUES

The issues before us include whether the Appellants have shown that the Examiner erred in concluding that the subject matter of claims 1-3, 10-13, 18, 21, and 22 would have been obvious over Tsujimoto and Czuprynski; the subject matter of claims 4-7, 14, 15, and 20 would have been obvious over Tsujimoto, Czuprynski, and De Bin; and the subject matter of claims 8, 9, 16, and 17 would have been obvious over Tsujimoto, Czuprynski, and Kole. These issues turn on whether the Examiner has articulated reasoning with some rational underpinning as to why one having ordinary skill in the art at the time of the invention would have modified the winding core tube

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of Tsujimoto to form it substantially of fiber-reinforced plastic in view of the teaching of the prior art.

FINDINGS OF FACT

We find that the following enumerated findings are supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

1. Tsujimoto relates to a winding apparatus for sheet-shaped molding material, such as a glass fiber impregnated with resin (Tsujimoto, col. 1, ll. 6-13).
2. The object of Tsujimoto is to provide a winding apparatus for a sheet-shaped molding material, which is capable of positively preventing winding slip from being caused during the winding operation, thereby making it possible to increase the winding weight (Tsujimoto, col. 2, ll. 31-36).
3. The winding weight for which Tsujimoto's winding apparatus is designed may be up to 1,000 kg (Tsujimoto, col. 3, ll. 24-25).
4. Tsujimoto discloses a winding apparatus 7 having a pair of winding core tubes 21A and 21B, but it does not disclose the material used to construct the winding core tubes (Tsujimoto, col. 5, ll. 33-36).
5. Czuprynski discloses a winding core for winding webs of deformable material having edge portions which are thicker than a

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- center portion, such as webs of base material for photographic film having knurled edges (Czuprynski, col. 1, ll. 14-18 and 39-62).
6. Czuprynski is concerned with avoiding embossing in the turns of a web wound on a core and avoiding inward collapse of the wound web from the thicker edges (Czuprynski, col. 2, ll. 39-43).
 7. As such, the core of Czuprynski is formed of a central member 16 having a rigid cylindrical member 24 covered by a deformable cover 26 (Czuprynski, col. 4, ll. 26-28 and 33-35). The core also includes first and second members 18, 20 which mate with the central member 16 (Czuprynski, col. 4, ll. 50-52).
 8. Czuprynski discloses that the rigid member 24 can be formed of fiber-reinforced plastic (Czuprynski, col. 4, l. 31).
 9. Czuprynski also discloses that the rigid member 24 can be formed of other materials including cardboard or resin-reinforced paper (Czuprynski, col. 4, ll. 31-32).

PRINCIPLES OF LAW

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1734 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the

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prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). *See also KSR*, 127 S. Ct. at 1734 (“While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”)

The Supreme Court stated that in cases involving more than the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement, it will be necessary to “determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *Id.* at 1740-41. The Court noted that “[t]o facilitate review, this analysis should be made explicit.” *Id.* (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (“[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”)).

ANALYSIS

Rejection of claims 1-3, 10-13, 18, 21, and 22 as unpatentable over Tsujimoto and Czuprynski

Each of independent claims 1, 11, and 22 recites a reel shaft comprising a self-supporting, tubular sleeve “substantially formed of fiber-reinforced plastic.” Independent claim 18 recites a method which includes

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supplying, to a reel-up, a reel shaft comprising a self-supporting, tubular sleeve “substantially formed of fiber-reinforced plastic.”

The Examiner found that Tsujimoto teaches all the elements of independent claims 1, 11, 18, and 22 except that it does not disclose the tubular sleeve being formed of fiber-reinforced plastic (Ans. 3-4). The Examiner relied on Czuprynski to teach fiber-reinforced plastic material and concluded that it would have been obvious “to modify the apparatus of Tsujimoto to form a tubular member into a fiber-reinforced plastic material as taught by Czuprynski et al to provide strength and durability to the tubular member” (Ans. 4).

The Appellant argues that the Examiner erred in rejecting these claims because “it is not seen how Czuprynski can be considered as teaching the desirability of modifying Tsujimoto’s winding core, in view of the entirely different fields of endeavor and the entirely different nature of the problems involved in these two references” (App. Br. 6).

We find the Examiner’s purported reason for modifying the winding core of Tsujimoto to make it of fiber-reinforced plastic “to provide strength and durability to the tubular member” deficient in this case because the winding core of Czuprynski is for use on a machine of a different scale from the winding core of Tsujimoto. The winding core of Tsujimoto is used to wind sheet-shaped molding material having a winding weight of up to 1,000 kg, while the winding core of Czuprynski is used to wind base material for photographic film (Facts 1-3 and 5). The Examiner has not, for example, explained why one having ordinary skill in the art would have considered

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the fiber-reinforced plastic material disclosed in Czuprynski to be suitable for use in a winding core used for winding the sheet-shaped molding material of Tsujimoto. As noted by the Appellants, the winding roll of Czuprynski does not appear to require a material of great strength as Czuprynski discloses alternatives to fiber-reinforced plastic to include cardboard and resin-reinforced paper (Fact 9).

Further, the Examiner has not pointed to any need or problem known in the field of endeavor at the time of the invention as a basis for a reason for combining the elements in the manner claimed. *See KSR*, 127 S. Ct. at 1742. Rather, Tsujimoto and Czuprynski are directed to entirely different problems (Facts 2 and 6). As such, the Examiner has failed to set forth a prima facie case of obviousness of the subject matter of independent claims 1, 11, 18, and 22. We will not sustain the rejection of claims 1, 11, 18, and 22 or their dependent claims 2, 3, 10, 12, 13, and 21. *See In re Fine*, 837 F.2d 1071, 1076 (Fed. Cir. 1988) (If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim dependent therefrom is nonobvious).

Rejection of claims 4-7, 14, 15, and 20 as unpatentable over Tsujimoto, Czuprynski, and De Bin

Claims 4-7, 14, 15, and 20 depend ultimately from claims 1, 11, and 18. As noted *supra*, we do not sustain the Examiner's conclusion that the subject matter of claims 1, 11, and 18 would have been obvious from the combined teachings of Tsujimoto and Czuprynski. The Examiner cites De Bin solely for the disclosure of the use of through-holes and a vacuum

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system to create a negative pressure inside a reel shaft to assist in initial winding (Ans. 6). The Examiner does not articulate an apparent reason with a rational underpinning as to why the combined teachings of Tsujimoto, Czuprynski, and De Bin would have led one having ordinary skill in the art to modify Tsujimoto's winding core to be made from fiber-reinforced plastic. On the record before us, the Appellants have shown that the Examiner erred in rejecting claims 4-7, 14, 15, and 20 under § 103(a).

Rejection of claims 8, 9, 16, and 17 as unpatentable over Tsujimoto, Czuprynski, and Kole

Claims 8, 9, 16, and 17 depend ultimately from claims 1 and 11. As noted *supra*, we do not sustain the Examiner's conclusion that the subject matter of claims 1 and 11 would have been obvious from the combined teachings of Tsujimoto and Czuprynski. The Examiner cites Kole solely for the disclosure of two tubes connected by a connection arrangement (Ans. 7). The Examiner does not articulate an apparent reason with a rational underpinning as to why the combined teachings of Tsujimoto, Czuprynski, and Kole would have led one having ordinary skill in the art to modify Tsujimoto's winding core to be made from fiber-reinforced plastic. On the record before us, the Appellants have shown that the Examiner erred in rejecting claims 8, 9, 16, and 17 under § 103(a).

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CONCLUSIONS

We conclude the Appellants have shown that the Examiner erred in rejecting under 35 U.S.C. § 103(a) claims 1-3, 10-13, 18, 21, and 22 over Tsujimoto and Czuprynski; claims 4-7, 14, 15, and 20 over Tsujimoto, Czuprynski, and De Bin; and claims 8, 9, 16, and 17 over Tsujimoto, Czuprynski, and Kole.

DECISION

The decision of the Examiner to reject claims 1-18 and 20-22 is reversed.

REVERSED

vsh

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