

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

Paper No. 21

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ULRICH EICKEN, RAYMOND MATHIS and NORBERT BIALAS

Appeal No. 1997-3589
Application No. 08/117,013

ON BRIEF

Before KIMLIN, JOHN D. SMITH and TIERNEY, *Administrative Patent Judges*.
TIERNEY, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 11-28, which are all of the claims pending in this application.

We Reverse.

The Invention

The appellants' invention relates to a spin finish composition for lubricating synthetic filament fibers (specification, p. 1). A copy of the claims under appeal is set forth in the appendix to the appellants' brief. Independent claim 11 is illustrative of the invention and reads as follows:

11. A spinning finish composition for synthetic filament fibers containing a lubricant component having improved biodegradability, said lubricant component consisting of a block copolyester prepared from the blocks A) and B) wherein,

block A) consists of a hydrophilic polyethylene glycol having a weight average molecular weight of 450 to 20,000,

block B) consists of a hydrophobic diol selected from the group consisting of polypropylene glycols, polytetrahydrofurans, polycaprolactone diols, hydrogenation products of ricinoleic acid esters, and dimeric diols, and wherein said block A) and said block B) are interconnected with aliphatic C₂₋₃₆ dicarboxylic acids, anhydrides thereof, or esters thereof with lower C₁₋₈ alcohols, or carbonic acid diesters of lower C₁₋₈ alcohols.

In addition to claiming spinning finish composition, appellants' also claim a process of lubricating a synthetic filament comprising contacting the filament with a lubricant component. See, *e.g.*, claim 19.

The References

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Yanai et al. (Yanai)	4,725,500	Feb. 16, 1988
Fujita et al. (Fujita)	4,968,776	Nov. 6, 1990

The Rejections

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(1) Claims 11, 12, 16-18 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Yanai, U.S. Patent No. 4,725,500.

(2) Claims 13-15 stand rejected under 35 U.S.C. § 103 as being unpatentable over Yanai, U.S. Patent No. 4,725,500.

(3) Claims 19-28 stand rejected under 35 U.S.C. § 103 as being unpatentable over Yanai, U.S. Patent No. 4,725,500 in view of Fujita, U.S. Patent No. 4,968,776.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellant regarding the above-noted rejections, we make reference to the answer (Paper No. 19, mailed February 25, 1997) for the examiner's complete reasoning in support of the rejections, and to the brief (Paper No. 18, filed December 19, 1996) for the appellants' arguments thereagainst.

Opinion

We have carefully considered all of the arguments advanced by appellants and the examiner and agree with appellants that the aforementioned rejections are not well founded. Accordingly, we reverse these rejections.

As discussed in detail below, the prior art fails to teach or suggest appellants' claimed spin finish composition containing a lubricant. Specifically, the claim as properly construed requires a lubricant component that provides filaments with a necessary slip. As the prior art fails to teach or suggest such

a lubricant component, the examiner has failed to establish that the references anticipate or form a prima facie case of obviousness for the subject matter defined by the appealed claims.

Claim Construction

Appellants' claimed invention relates to a spinning finish composition which contains a lubricant component having improved biodegradability. See, e.g., claim 11. Appellants' claimed invention also relates to a process for lubricating a synthetic filament fiber comprising contacting the filament fiber with a spinning finish composition containing the same lubricant component as recited in claim 11. See, e.g., claim 19.

Spin Finish Composition

To properly determine the patentability of the claims, one must first analyze and construe the claims. In the present application, appellants' spin finish composition “contains” a lubricant component. The use of the transitional word “contains” renders the spin finish composition open to the presence of additional, unrecited elements. *Moleculon Research Corp. v. CBS, Inc.* 793 F.2d 1261, 229 USPQ 805 (Fed. Cir. 1986); *Ex parte Davis*, 80 USPQ 448, 450 (Bd. App. 1948). Accordingly, compositions having the recited lubricant and an additional component are within the scope of the presently claimed spin finish compositions.

Lubricant

Appellants' claimed lubricant component is stated to have improved biodegradability and consists of a block copolyester prepared from blocks A) and B). To properly interpret the term "lubricant" we look toward the specification as the specification acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication. *In re Morris*, 127 F.3d 1048, 1054-1055, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997) ("... the PTO applies to the verbiage of the proposed claims the broadest reasonable meaning of words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by written description contained in applicant's specification."). In the present application, appellants have stated that: "The lubricants in spinning finishes are intended above all to provide the filaments with the necessary surface slip." (Specification, p. 1, lines 30-32). Further, appellants' specification states that:

... the lubricants would show good surface-slip properties by virtue of a hydrophobic component of the molecule and would readily be incorporable in water by virtue of a hydrophilic component of the molecule. The lubricants would also be readily removable from the fibers and would show high temperature stability. (Specification, p.3, lines 28-31).

Thus, lubricants of the claimed invention are those which provide treated fiber filaments with the necessary surface slip.

Block Copolyester

As the lubricant component “consists” of the copolyester, no additional unspecified ingredients may be present in the lubricant component other than the claimed copolyester. Specifically, the term “consisting of” in the body of a claim closes that particular element of the claim to the inclusion of additional components. *Mannesmann Demag Corp. v. Engineered Metal Products Co.*, 793 F.2d 1279, 230 USPQ 45 (Fed. Cir. 1986). Thus, the only ingredient in the lubricant component is the recited copolyester. Yet, the lubricant component copolyester being “prepared from” blocks A) and B) is not limited to a copolyester having only blocks A) and B). The term “prepared from” is interpreted as open ended terminology as the specification describes that the copolyesters are prepared from blocks A) and B) and that additional monomers may be present, such as polyethylene glycols having a molecular weight of from 62 to less than 450. (See specification, page 5, lines 8-12 and *Morris*, 127 F.3d at 1054-1055, 44 USPQ2d at 1027 (Fed. Cir. 1997). Accordingly, the claimed block copolyesters, being the sole ingredient of the lubricant component, are formed from blocks A) and B), the recited interconnectors and may be formed from additional unrecited monomers. Yet, the block copolyesters must provide filaments with the necessary surface slip.

The Prior Art

Yanai, U.S. Patent No. 4,725,500

Yanai relates to an aqueous sizing composition comprising a water-soluble acrylic sizing agent and a wax. The water-soluble acrylic sizing agent of Yanai is modified with a water-soluble saturated polyester resin. (Yanai, abstract). The water-soluble polyesters are formed from dicarboxylic acids and diols. The dicarboxylic acids may be saturated aliphatic, alicyclic or aromatic dicarboxylic acids, such as succinic and adipic acid. (Yanai, col. 5., lines 11-16). The diols contain polyethylene glycol as an essential ingredient and may be optionally combined with an aliphatic, alicyclic or aromatic diol, such as polypropylene glycol. (Yanai, col. 5., lines 26-34). Suitable molecular weights for the polyethylene glycol include 600 and 2000. (Yanai, col. 6. composition (b) and col. 7, example 1). Materials which may be treated with the sizing composition of Yanai include yarns such as polyester filament yarns. (Yanai, col. 6., lines 21-28). As is known in the art, textile sizes provide improved or increased strength, stiffness, smoothness or weight to filaments. Indeed, the composition of Yanai improved the weaving efficiency of treated filaments over conventional oiling agents. (Yanai, col. 7, lines 34-42). Yanai, however, lacks any mention or suggestion that the water-soluble acrylic sizing agent will lubricate the filaments and provide for the necessary slip.

Fujita, U.S. Patent No. 4,968,776

Fujita discloses sizing agents for glass fibers. The sizing agents contain a compound having a weight average molecular weight of not less than 20,000 prepared by reacting a polyhydroxy

compound and a polycarboxylic acid. The polyhydroxy compound has a molecular weight of not less than 1,000 and is prepared by an addition of polymerization of ethylene oxide or alkylene oxide. (Fujita, col. 1, lines 30-43). The glass fiber sizing agent provides superior film forming ability and gives a film even under highly humid conditions to prevent abrasion between filaments. (Fujita, col. 1, lines 25-30). In particular, the sizing agent is excellent in binder effect, fluff lay-down effect during weaving, *lubricity*, antistatic activity and the like. (Fujita, col. 2, lines 43-49, emphasis added). As recognized by the examiner, Fujita does not teach the presence of appellants' block B) hydrophobic diol.

Rejections over Yanai

The examiner contends that Yanai anticipates claims 11, 12 and 16-18 and renders obvious claims 13-15. According to the examiner, when choices are limited, such as for the hydrophobic portion of Yanai, the reference teaches the invention. Additionally, the examiner asserts that the claim preamble is directed to the intended use of the polyester and is given little patentable weight.

At the outset, it is recognized that anticipation is established only if each and every element of a properly construed claim is found, either expressly or inherently described, in a single prior art reference. *PPG Indus., Inc. v. Guardian Indus. Corp.*, 75 F.3d 1558, 1566, 37 USPQ2d 1496 (Fed. Cir. 1995). Furthermore, to establish a *prima facie* case of obviousness, the prior art reference

(or references when combined) must teach or suggest all the claim limitations. See *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

Yanai fails to anticipate or render obvious the claimed invention. As described above, appellants' claims require the presence of a lubricant component. Yanai, however, fails to teach or suggest the presence of a lubricant. Rather, Yanai teach a sizing composition containing a water-soluble acrylic. As stated by appellants, "a spinning finish composition is completely different from a sizing composition based on the fact that inclusion of a sizing agent in the claimed spinning finish would result in the fibers sticking to one another and breaking." (Brief on Appeal, p. 8). The examiner has failed to provide any scientific basis or reasoning as to how Yanai's water-soluble acrylic would provide filaments with the lubricant surface slip properties as required by the claimed invention.

Rejection over Fujita in view of Yanai

The examiner contends that Fujita in view of Yanai renders obvious claims 19-28. According to the examiner, it would have been obvious to use the polyesters of Yanai for lubricating fibers per Fujita because it would have been simpler to use commercially available polyethylene oxide diols and polypropylene oxide glycols to make polyesters.

Again, the examiner has failed to properly construe the language of the claims. As stated above, the claims require the presence of a lubricant component. The examiner has failed to demonstrate that the sizing composition of Yanai with its modified water-soluble acrylic sizing agent

would function as a filament lubricant. Furthermore, the examiner has failed to identify any suggestion to modify the water-soluble acrylic sizing agent such that it could improve the surface -slip properties of treated filaments. Thus, even if one of ordinary skill in the art were to employ the modified water-soluble acrylic as Fujita's sizing agent for glass fibers, there is no basis for the assumption that such a sizing agent would function as a lubricant for the glass fibers.

Fujita's high molecular sizing agent fails to render the invention obvious as Fujita's high molecular compound is not prepared from a hydrophobic diol, let alone appellants' claimed block b) hydrophobic diols. Furthermore, there is no suggestion in the references to prepare Fujita's high molecular sizing agent compounds from the optional hydrophobic diols of Yanai.

The mere fact that the references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Here, the references do not provide any support for the contention that one skilled in the art would use the intermediate, unmodified hydrophilic/hydrophobic polyesters of Yanai in a sizing composition, let alone that of Fujita. Furthermore, there is no teaching or suggestion in the references for modifying the polyesters of Fujita to have the claimed hydrophobic block B) diols. Accordingly, upon careful review of the record and the references themselves, it is apparent that the examiner has failed to support his burden of establishing a prima facie conclusion of obviousness.

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Observation

In the event of further prosecution of this application, we note that both claims 11 and 19 refer to “the” blocks A) and B) without proper antecedent basis. This discrepancy should be resolved upon further prosecution.

Conclusion

To summarize, the decision of the examiner to reject claims 11, 12, 16-18 under 35 U.S.C. §102(b), claims 13-15 under 103(a) over Yanai and claims 19-28 under 103(a) over Fujita in view of Yanai is Reversed.

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REVERSED

EDWARD C. KIMLIN)
Administrative Patent Judge)
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) BOARD OF PATENT
JOHN D. SMITH) APPEALS
Administrative Patent Judge) AND
) INTERFERENCES
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