

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 25

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KOUICHI NAGAOKA, ATSUSHI MATSUNAGA
AND NORIKO YOSHIDA

Appeal No. 2003-0060
Application 09/236,718

ON BRIEF

Before OWENS, KRATZ and POTEATE, *Administrative Patent Judges*.
OWENS, *Administrative Patent Judge*.

DECISION ON APPEAL

This appeal is from the final rejection of claims 8-13, which are all of the claims remaining in the application.

THE INVENTION

The appellants claim a staple fiber nonwoven fabric comprising polyamide and polyester split fibers and water absorptive staple fibers. Claim 8 is illustrative:

8. A staple fiber non-woven fabric comprising:

three-dimensionally entangled constituent fibers including first and second split staple fibers, the first split staple fibers formed from a polyamide, second split staple fibers formed from polyester and water absorptive staple fibers;

wherein the first and second split staple fibers have a fineness of not greater than 0.5 denier per fiber and a splitting degree of at least 85%.

THE REFERENCES

Pike et al. (Pike)	5,759,926	Jun. 2, 1998
Nakamura et al. (Nakamura) ¹ (Japanese kokai)	6-101148	Apr. 12, 1994

THE REJECTION

Claims 8-13 stand rejected under 35 U.S.C. § 103 as being unpatentable over Nakamura in view of Pike.

OPINION

We affirm the aforementioned rejection.

The appellants indicate that the claims stand or fall together (brief, page 3). We therefore limit our discussion to one claim, i.e., claim 8. See *In re Ochiai*, 71 F.3d 1565, 1566 n.2, 37 USPQ2d 1127, 1129 n.2 (Fed. Cir. 1995); 37 CFR § 1.192(c)(7) (1997).

¹ Citations herein to Nakamura are to the English translation thereof appended to the appellants' brief.

Nakamura discloses a staple fiber nonwoven fabric comprising three-dimensionally entangled constituent fibers including first and second oleophilic split fibers of not more than 0.5 d, and hydrophilic cotton or rayon staple fibers (pages 4-5). The teaching that the fibers are split either indicates that the fibers are completely split or would have fairly suggested, to one of ordinary skill in the art, splitting the fibers completely or nearly completely, i.e., to a degree of at least 85%. The first and second split staple fibers are fibers which have poor adherence to each other, i.e., are incompatible, such as polypropylene and polyester (page 6). Nakamura teaches that his nonwoven fabric has softness, excellent drapability, good feel to the hands, and improved sheet strength, and is useful as a wiper cloth (pages 3 and 5).

Nakamura does not exemplify other fibers which have poor adherence to each other. Thus, one of ordinary skill in the art would have looked to other references for combinations of incompatible fibers which provide a nonwoven fabric having the properties and utility desired by Nakamura.

One such reference is Pike. This reference discloses a splittable fiber containing at least two incompatible component polymers, at least one of which is inherently hydrophilic or is

modified to be hydrophilic (col. 3, lines 23-31). The split fibers can be used to make woven and nonwoven fabrics (col. 3, lines 21-22). These fabrics have softness, drapability, good feel to the hands, and strength (col. 5, lines 30-41; col. 10, lines 17-25), and can be used as wiper cloths (col. 10, lines 55-63). The particularly desirable pairs of incompatible polymers disclosed by Pike include polyolefin-polyester and polyamide-polyester (col. 7, line 60 - col. 8, line 10). Polyamides and polyesters are disclosed as being hydrophilically modifiable (col. 6, lines 7-9), i.e., in the absence of this modification they are oleophilic.

Because Pike teaches that both polyolefin-polyester and polyamide-polyester incompatible polymer pairs are suitable for making nonwoven fabrics having the properties and utility desired by Nakamura, Pike would have fairly suggested, to one of ordinary skill in the art, using a polyamide-polyester incompatible polymer pair as one of the alternatives to Nakamura's exemplified polyolefin-polyester incompatible polymer pair for making Nakamura's nonwoven fabric.

The appellants argue that Nakamura's fibers, but not polyamide-polyester fibers, are so easily split that they are

split during carding, which is undesirable (brief, pages 3-4).² This argument is not well taken because it is limited to one reference when the rejection is based on a combination of references. See *In re Keller*, 642 F.2d 413, 426, 208 USPQ 871, 882 (CCPA 1981); *In re Young*, 403 F.2d 754, 757-58, 159 USPQ 725, 728 (CCPA 1968). As discussed above, Pike would have fairly suggested, to one of ordinary skill in the art, using polyamide-polyester as an alternative to the polyolefin-polyester exemplified by Nakamura. If anything, the appellants' argument provides a reason why one of ordinary skill in the art would have been led by the applied references to use an alternative to Nakamura's exemplified polyolefin-polyester combination.

The appellants argue that Nakamura's polyolefin-polyester fibers generate a relatively high degree of static electricity which causes the fibers to converge into lumps rather than open during the carding process and, therefore, sink toward the peripheral surface of the cylinder of the carding machine, resulting in a product which may have poor appearance (brief, page 4; reply brief, page 3). The appellants, however, provide

² This argument has support in the appellants' specification (pages 2-3).

no evidentiary support for this argument, and arguments of counsel cannot take the place of evidence. See *In re De Blauwe*, 736 F.2d 699, 705, 222 USPQ 191, 196 (Fed. Cir. 1984); *In re Payne*, 606 F.2d 303, 315, 203 USPQ 245, 256 (CCPA 1979); *In re Greenfield*, 571 F.2d 1185, 1189, 197 USPQ 227, 230 (CCPA 1978); *In re Pearson*, 494 F.2d 1399, 1405, 181 USPQ 641, 646 (CCPA 1974). Also, the argument is not well taken for the reasons given in the previous paragraph.

The appellants argue that Pike discloses that his fibers are instantaneously splittable upon contact with water, and that this teaching would not have motivated one of ordinary skill in the art to solve the problem of inefficient carding or poor nonwoven fabric appearance caused by buildup of static electricity (brief, page 4).³ The appellants also argue that there is no teaching in Pike to select polyamide-polyester to improve water absorptiveness (reply brief, pages 2-3). These arguments are not persuasive because to establish a *prima facie* case of obviousness, references need not be combined for the purpose of solving the problem solved by the appellants. See *In re Kemps*,

³ Pike teaches that his splitting process requires short treatment with a hot aqueous medium such as hot water or steam (col. 4, lines 8-9; col. 8, lines 33-46).

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97 F.3d 1427, 1430, 40 USPQ2d 1309, 1311 (Fed. Cir. 1996); *In re Beattie*, 974 F.2d 1309, 1312, 24 USPQ2d 1040, 1042 (Fed. Cir. 1992); *In re Dillon*, 919 F.2d 688, 693, 16 USPQ2d 1897, 1901 (Fed. Cir. 1990) (*en banc*), *cert. denied*, 500 U.S. 904 (1991).

As discussed above, Nakamura's teaching that incompatible polymer combinations "such as" polyolefin-polyester are suitable, and Pike's teaching that both polyolefin-polyester and polyamide-polyester provide a fabric having the properties and utility desired by Nakamura, would have fairly suggested, to one of ordinary skill in the art, use of polyamide-polyester as one of Nakamura's incompatible polymer combinations.

The appellants argue that "[t]he process of the invention involves an extraneous mechanical agitation" (brief, page 6), whereas "[t]he disclosure of Pike clarifies that its conjugate fibers are to be split without any mechanical agitation." *Id.* The appellants' claimed invention, however, is a nonwoven fabric, not a process. In their argument (brief, pages 5-7) the appellants have not explained why the appellants' fiber splitting method would cause their claimed nonwoven fabric to be unobvious over the nonwoven fabrics obtained according to the combined teachings of Nakamura and Pike. Moreover, the mechanical agitation referred to by the appellants is impact of a high

pressure liquid stream which causes the fibers to become entangled (specification, page 16). Pikes' methods for splitting the fibers include spraying the fibers with hot water or steam such that the hot water or steam is rapidly applied to the fibers, and Pike teaches that the fibers can be hydroentangled to form a nonwoven fabric (col. 8, lines 33-38 and 45-46; col. 9, lines 33-39 and 43-46). Thus, it reasonably appears that Pike's entangled polyamide-polyester fibers are the same or substantially the same as those of the appellants.

The appellants argue that Nakamura teaches that his fibers are split using a high pressure water stream, and that this disclosure teaches away from combining Nakamura and Pike (brief, page 7). Nakamura teaches that his fibers are split using "high-pressure jet sprays of water or the like" (page 4). As discussed above, Pike teaches that his fibers can be split by rapidly spraying hot water or steam onto the fibers. Thus, the references would have indicated, to one of ordinary skill in the art, that the incompatible polymer combinations used by Pike would be suitable for making Nakamura's nonwoven web using Nakamura's fiber splitting method.

The appellants argue that Pike provides no motivation to select polyamide-polyester from his disclosed laundry list of particularly desirable pairs of incompatible polymers (brief, page 8). Pike's "laundry list" includes only three pairs of polymer combinations: polyolefin-polyamide, polyolefin-polyester, and polyamide-polyester (col. 7, line 60 - col. 8, line 10). Selection of polyamide-polyester from these three combinations clearly would have been fairly suggested to one of ordinary skill in the art by the reference.

The appellants argue that Pike teaches that polyamides and polyesters are both inherently hydrophilic and hydrophilically modifiable, and that one of ordinary skill in the art, therefore, would not be able to use the disclosed polyamide-polyester pair (brief, pages 8-9). The inherently hydrophilic polymers disclosed by Pike are copolymers of poly(oxyethylene) and polyamide or polyester, not polyamide or polyester homopolymers (col. 5, line 63 - col. 6, line 6). Polyamide and polyester homopolymers are disclosed as being hydrophilically modifiable (col. 6, lines 7-10). Moreover, Pike recites the polyamide-polyester combination in a claim (4). The appellants, therefore, are arguing that a claim of a U.S. patent is not enabled. Such an argument must be supported by clear and convincing evidence,

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and the appellants have not provided such evidence. *See Northern Telecom Inc. v. Datapoint Corp.*, 908 F.2d 931, 941, 15 USPQ2d 1321, 1329 (Fed. Cir. 1990) ("Invalidity for lack of enablement is a conclusion of law and must be supported by facts proved by clear and convincing evidence, for the grant of the patent by the PTO carries with it the presumption of validity including compliance with § 112.")

The appellants argue that Nakamura teaches that polypropylene is critical to the disclosed invention (brief, page 10; reply brief, page 4). What Nakamura discloses as being significant is that the highly hydrophilic cotton or rayon fibers and the highly oleophilic polypropylene are entangled and blended so that a nonwoven fabric having an excellent wiping property in both the wet and dry states is obtained (page 5), not that the oleophilic polymers include polypropylene. Nakamura teaches that two kinds of incompatible oleophilic polymers "such as" polypropylene and polyester can be used (page 6).

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For the above reasons we conclude that the examiner has established a *prima facie* case of obviousness which has not been effectively rebutted by the appellants. Accordingly, we affirm the examiner's rejection.

DECISION

The rejection of claims 8-13 under 35 U.S.C. § 103 over Nakamura in view of Pike is affirmed.

AFFIRMED

TERRY J. OWENS)	
Administrative Patent Judge)	
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