

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. 33

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte STANLEY PODLASECK, GENE P. SHUMAKER,
PAUL D. RIMER and ROGER A. PURCELL

Appeal No. 1996-3533
Application 08/203,624

HEARD: February 9, 2000

Before PAK, WARREN and WALTZ, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

On Request For Rehearing

Appellants request rehearing under 37 CFR § 1.197(b) (1997) of our decision dated February 29, 2000 (Paper No. 27) affirming the examiner's rejection of appealed claims 1 through 20 under 35 U.S.C. § 103 as being unpatentable over Gamble in view of Morgan. Appellants contend (1) that our opinion includes new grounds of rejection of (a) claims 5 and 6, because the examiner "did not rely on 'admitted prior art' to reject" these claims, and (b) of claim 18, because the examiner "did not rely on 'overlapping subject matter' to reject" this claim, that were not designated as such under 37 CFR § 1.196(b) (1997); and (2) that we must reverse the ground of rejection of record because we gave "the claimed phrase 'in a resin' . . . an unreasonable interpretation" in our opinion (request, page 1).

Appellants submit, with respect to their first contention, that the “Courts have recognized Appellants’ right to respond to new grounds of rejection advanced for the first time in a decision on appeal” (*id.*, page 2). We agree with appellants that this is the case if a new ground of rejection was in fact made in a decision on appeal. Indeed, the issue presented here is whether our opinion in support of our affirmance of claims 5 and 6 and of claim 18 included a new ground of rejection of these two groups of claims. With respect to whether a new ground of rejection was in fact made in a decision on appeal, the predecessor court to our reviewing court set forth the general proposition that “the ultimate criterion of whether a rejection is considered ‘new’ in a decision by the board is whether appellants have had fair opportunity to react to the thrust of the rejection.” *In re Kronig*, 539 F.2d 1300, 1302-03, 190 USPQ 425, 426-427 (CCPA 1976) (“In affirming, the board used the same basis, but without disagreeing with the examiner’s approach, limited its discussion to the evidence contained” in three of the four cited references, relying thereon for the same evidence used by the examiner, such that “[h]aving compared the rationale of the rejection advanced by the examiner and the board on this record, we are convinced that the basic thrust of the rejection at the examiner and the board level was the same.”); *see also In re Boon*, 439 F.2d 724, 727-28, 169 USPQ 231, 234 (CCPA 1971) (Even though the board’s opinion included “amplified reasons” in support of the affirmance of the examiner’s rejection that were based on “additional facts, not previously in the record, of which the board took notice[,] . . . we are satisfied from our review of the record that, even when such facts are included, the ‘evidentiary scheme’ supporting the board’s position on this rejection does not differ in substance from that of the examiner,” as “the fact so noticed plays a minor role, serving only ‘to fill in the gaps’ which might exist in the evidentiary showing made by the examiner [In *re Ahlert*, 424 F.2d 1088, 165 USPQ 418 ([CCPA] 1970)]. Under such circumstances, as we held in *Ahlert*, an applicant must be given the opportunity to challenge either the correctness of the fact asserted or the notoriety or repute of the reference cited in support of the assertion,” which challenge must “contain adequate information or argument so that on its face it creates a reasonable doubt regarding the circumstances justifying the judicial notice.”).

With respect to claims 5 and 6, appellants submit that our reliance on admitted prior art set forth in appellants’ specification in affirming the examiner’s ground of rejection constituted “a different

rationale and different evidence” than advanced by the examiner in the answer because the examiner relied “only on Gamble combined with Morgan throughout the prosecution “without any mention of any alleged prior art admissions” (request, pages 3-5). While we agree that the examiner did not rely on admitted prior art in the ground of rejection, we cannot agree that appellants’ analysis adequately reflects the record.

Appealed claim 5 modifies “[t]he method of claim 1, wherein the applying step comprises spraying the coating material on the substrate” while claim 6 modifies “[t]he method of claim 1, wherein the applying step is carried out with an air nozzle spray gun.” In explaining the ground of rejection in the answer (pages 4-5), the examiner stated that “Morgan teaches that resin/fiber mixtures used as EMI shields can be applied by spraying” in taking the position that one of ordinary skill in this art would have reasonably expected “that the *resin/fiber mixture of Gamble could be successfully applied by spraying based on the combined teachings of Gamble and Morgan*” (emphasis supplied). In response to appellants’ arguments in their principal brief specifically directed to claims 5 and 6, i.e., “Morgan fails to provide the necessary incentive or motivation to modify Gamble in a manner which would result in a coating applied to a substrate much less applying the coating by spraying,” (page 14), the examiner stated (answer, page 9; emphasis supplied):

Claim 5 recites spraying. Morgan clearly teaches spraying.

Claim 6 recites that the applying step is carried out using an air nozzle spray gun. Morgan is silent regarding the type of spray gun to be used. Since Morgan is silent with respect to the type of spray gun to be used, the skilled artisan would have to turn to the prior art to find a suitable spray gun to use. *Air nozzle spray guns are conventional and commonplace in the coating art and the skilled artisan would have had a reasonable expectation that an air nozzle spray gun would successfully function as the generic spray gun of Morgan.*

In their reply brief (page 9), appellants point out in argument with respect to claims 3 and 4 that “the fact that Morgan fails to disclose how the spraying is performed cannot possibly be a disclosure of pressurizing a container,” and state that “[t]he same reasoning applies to Claim 6 which recites that the applying step is carried out with an air nozzle spray gun, a feature not taught or suggested by Morgan.” The examiner stated in the supplemental answer (page 3), that the limitations of claim 6 “were

thoroughly addressed” in the section of the answer we set forth above. Appellants did not respond further with respect to this matter in their supplemental reply brief.

In considering claims 5 and 6, we stated in our original opinion (pages 10-11):

With respect to claims 5 and 6, we find that appellants admit that coating material compositions comprising at least fibers contained in a resin matrix were known in the art to be applied to a substrate by “spraying” with an “air nozzle spray gun” in disclosing that

standard top-feed pressure-pot spray systems with either *external- or internal-mix needle valve spray guns* have been found to promote fiber clumping and breakage since they do not provide a smooth, unrestricted passage for the fiber containing matrix. [Page 4, lines 7-10; emphasis supplied.]

We point out with respect to this disclosure that there is no limitation in the appealed claims which specifies the condition of the fibers in the spray nozzle during the spraying action (*see supra* pp. 5-6). Even if the claims contained such a limitation, the selection of solvents which facilitate spraying of an EMI coating composition that can contain conductive fibers was within the ordinary skill in the art as seen from the teachings of Morgan (e.g., col. 4, line 45, col. 5, lines 26-42, col. 6, lines 7-15 and 30-44).

Furthermore, in addition to appellants’ admission, we find that Morgan would have reasonably suggested to one of ordinary skill in this art that coating material compositions, such as those taught in Gamble, can be applied to a substrate by spraying because Morgan teaches that this method is one of a number of conventional coating techniques which can be used with coating compositions containing fibers and resin (e.g., col. 4, line 45, and col. 6, lines 7-11) and, as we found above, discloses that the solvent used in the compositions should be selected accordingly. Indeed, Gamble does not limit the manner in which the compositions disclosed therein can be applied to a substrate and further discloses that “[v]arious chemical additives” can be added to these compositions “for their art-recognized purposes” (col. 6, lines 35-40). Thus, the compositions of Gamble can contain the same solvents as contained by the compositions of Morgan, which compositions would fall within those used in the claimed methods of the appealed claims. Accordingly, one of ordinary skill in this art following the combined teachings of Gamble and Morgan in light of the knowledge in the art as admitted by appellants, *prima facie*, would have applied the compositions of Gamble to a substrate using conventional spraying methods with the reasonable expectation of forming a coating on the substrate. [Citations omitted.]

In considering appellant’s arguments, we referred to the limitation “to a specific type of spray gun (claim 6, dependent on claim 1) (see reply brief, page 9)” (opinion, page 12).

On this record, it is apparent that the issue of whether the “applying step is carried out with an air nozzle gun” is limited to claim 6 as this limitation does not appear in claim 5. It is further apparent

from the record that issues raised by the examiner of whether “[a]ir nozzle spray guns are conventional and commonplace in the coating art” and whether “the skilled artisan would have had a reasonable expectation that an air nozzle spray gun would successfully function as the generic spray gun of Morgan” also were made with respect to claim 6 and were at least noticed by appellants in their reply brief with respect to claim 6. Thus, these issues were placed squarely before appellants in the answer and in the supplemental answer, providing appellants with the opportunity to respond to the examiner’s findings in the answer in their reply brief *and* in their supplemental brief. Appellants did not challenge the examiner’s findings in either of these briefs, noting only in the former that the limitation of claim 6 is “a feature not taught or suggested by Morgan.” Because appellants did not take either opportunity to challenge the examiner’s notice that “[a]ir nozzle spray guns are conventional and commonplace in the coating art,” we considered the examiner’s findings to be conclusive, although we did not expressly so state in our opinion. *See generally, In re Ahlert*, 424 F.2d 1088, 1091-92, 165 USPQ 418, 420-21 (CCPA 1970).

Following the lead of the examiner that “[a]ir nozzle spray guns are conventional and commonplace in the coating art,” we pointed out in the section of our original opinion set forth above, to the admission in appellants’ specification that “coating material compositions comprising at least fibers contained in a resin matrix were known in the art to be applied to a substrate by ‘spraying’ with an ‘air nozzle spray gun.’” We then separately discussed the issue of whether “Morgan would have reasonably suggested to one of ordinary skill in this art that coating material compositions, such as those taught in Gamble, can be applied to a substrate by spraying,” and concluded on the combined teachings of Gamble and Morgan, along with the admission as to claim 6, that “*prima facie*, would have applied the compositions of Gamble to a substrate using conventional spraying methods with the reasonable expectation of forming a coating on the substrate,” which did not emphasize the issue of the conventionality of “air nozzle spray guns.”

Thus, while we recognized that appellants’ disclosure contained an acknowledgement that “air nozzle spray guns” were known in the art, as noticed by the examiner, it is apparent that the position advanced by the examiner was indeed the basis for the ground of rejection on appeal with respect to claims 5 and 6 and our affirmance thereof with respect to these claims. Therefore, we did no more in

our opinion than further note the conventionality of “air nozzle spray guns” with the additional particularity of pointing to the admission in appellants’ specification.

Thus, upon reconsideration of our decision to affirm the examiner’s ground of rejection with respect to claims 5 and 6 in light of appellants’ arguments and authority advanced in their request, on this record, we cannot discern that we have changed the thrust of the examiner’s ground of rejection, or, in other words, the evidentiary scheme that we have described in our opinion with the amplified reasoning set forth therein based on facts of record does not differ in substance from that set forth by the examiner in his answer. Indeed, it is apparent that appellants had ample “fair opportunity” to react to the thrust or evidentiary scheme of the rejection with respect to claim 6 based on the examiner’s notice of the conventionality of “air nozzle spray guns” even in view of our opinion. *Kronig, supra; cf. Boon, supra; In re Waymouth*, 486 F.2d 1058, 1060-61, 179 USPQ 627, 629 (CCPA 1973).

Accordingly, we decline to designate our affirmance of the examiner’s rejection of claims 5 and 6 as a new ground of rejection under 37 CFR § 1.196(b) (1997).

With respect to claim 18, appellants submit that “it is clear [from the answer] that the Examiner did not reject claim 18 on the basis of ‘overlapping subject matter’ between the claimed range and the range disclosed in Gamble” and “it is clear [from the answer and supplemental answer] that the Examiner considered the range set forth in claim 18 to be different from, not overlapping, the range in Gamble” while we stated in our opinion that the teachings of Gamble “overlaps” the range specified in this claim. Thus, appellants argue that “the Board adopted a different line of reasoning than the Examiner in affirming the rejection of claim 18 (request, pages 5-7). We cannot subscribe to appellants’ position.

Claim 18 modifies “[t]he method of claim 1, wherein the fibers comprise less than 0.2% by weight of the coating.” In the answer, the examiner, in considering claim 7, stated that “Gamble teaches that the fibers make up 1 to 45% of the coating” (page 9) and, found with respect to claim 18 that “[i]t would have been obvious to the skilled artisan, in the absence of a showing of criticality, to have determined the optimum amount of fibers to be added to the resin through routine experimentation” (pages 10-11). After urging the separate patentability of claim 18 solely on the basis that “the fibers comprise less than 0.2% by weight of the coating” in the principal brief (pages 14-15), appellants argue

in their reply brief that “Gamble prefers 2 to 20%” and thus “teaches away from the claimed invention since the unpreferred 1% lower limit of Gamble’s fibers is still 500% greater than the upper limit recited in claim 18” (page 10). The examiner points out in the supplemental answer that “the actual difference between the two values is 0.8 wt % and this small difference is considered to be an obvious modification of [Gamble] in the absence of a showing of criticality” (page 4). In their supplemental reply brief, under the heading “Absence of overlapping subject matter negates Examiner’s requirement for ‘showing of criticality’” (page 1), appellants argue that “[t]he Examiner has provided absolutely no reasoning to support the assertion that it would have been obvious to lower the lower limit of the fiber content in the composite of Gamble to within the range set forth in Claim 18” and thus “has failed to establish a prima facie case of obviousness with respect to” this claim (page 5).

In considering claim 18, we stated in our original opinion (pages 14-15; *italic emphasis in original; underline emphasis supplied*):

As we set forth above (*see supra* p. 11), Gamble would have taught one of ordinary skill in this art that the selection of these materials is based on the desired EMI characteristics of the shield to be prepared. We are not persuaded otherwise by the limitations with respect to the amount of fiber which is specified in unrelated dependent claims 7^[1] and 18. In this respect, we fail to find any teaching in Gamble which would place a lower limit on the amount of fibers, conductive (claims 7 and 18) and non-conductive (claim 18), that can be dispersed in the resin matrix. Indeed, Gamble discloses that the conductive fiber, such as those specified in claim 7 (col. 4, line 30, and col. 4, line 30, to col. 5, line 5), “advantageously comprises . . . *about* 1 . . . percent by weight of the EMI shield” (col. 5, lines 9-11; *emphasis supplied*), which disclosure in view of the term “about” would have been considered one of by ordinary skill in this art to reasonably encompass fiber “in an amount *less than* 1 wt % of the coating” as specified in claim 7. We are further of the opinion that this disclosure of Gamble along with the further teaching that any amount of non-conductive fiber could be used (col. 6, lines 46-54), would also have suggested to one of ordinary skill in this art that an even smaller amount of fibers may be present, including a content of “less than 0.2% by weight of the coating” as specified in claim 18. Thus, we agree with the examiner that the range of the percent by weight of fiber, conductive and non-conductive, which can be contained in the compositions of the claims, overlaps with the range of such fibers in Gamble. Indeed, in

¹ We observe that claim 7, which was not include in the request, modifies “[t]he method of claim 1, wherein . . . the fibers comprising metal-coated dielectric or semiconductive fibers in an amount of less than 1 wt % of the coating” and thus would encompass methods that utilize at least part of the types of fibers and the amount thereof as specified for methods encompassed by claim 18.

view of the teaching in the reference that the amount of fiber employed depends on the desired properties, the absence of a lower limit for the fiber in Gamble would have reasonably suggested to one of ordinary skill in the art that the fibers can be used in an amount which encompasses the claimed ranges. Under these circumstances, the burden is on appellants to demonstrate the criticality of the claimed ranges. *In re Geisler*, 116 F.3d 1465, 1470, 43 USPQ2d 1362, 1365 (Fed. Cir. 1997); *In re Woodruff*, 919 F.2d 1575, 1577-78, 16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990); *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

We must agree with appellants that we incorrectly attributed to the examiner our finding that the teachings of Gamble “overlaps” with the methods of claim 18. In addition to this characterization of the teachings of Gamble vis-à-vis the methods of claim 18, we also expressed the opinion that “in view of the teaching in the reference that the amount of fiber employed depends on the desired properties, the absence of a lower limit for the fiber in Gamble would have reasonably suggested to one of ordinary skill in the art that the fibers can be used in an amount which encompasses the claimed ranges.” While our findings present a more comprehensive review of the teachings of Gamble vis-à-vis the methods of claim 18 than that presented by the examiner in stating that Gamble teaches that the fibers can be present in an amount of 1 wt %, we consider our finding that the teachings of “Gamble would have reasonably suggested to one of ordinary skill in the art that the fibers can be used in an amount which encompasses the claimed ranges” to be essentially the same as the examiner’s findings that one of ordinary skill in the art would “have determined the optimum amount of fibers to be added to the resin through routine experimentation” and that “the actual difference between [1 wt % and less than 0.2 wt %] is 0.8 wt % and this small difference is considered to be an obvious modification of [Gamble].” We agreed with the examiner that the finding of *prima facie* obviousness of the amount of “fibers comprising less than 0.2% by weight of the coating” in claim 18 over the teachings of Gamble, which does not disclose that amount *per se*, was such as to shift the burden to appellants to demonstrate the criticality of the amount of fibers specified in that claim.

On this record, it is apparent that our affirmance of the examiner’s ground of rejection with respect to claim 18 was not based solely on the finding of an “overlap” between the amount of fibers according to the teachings of Gamble and the amount specified in claim 18. Indeed, we know of no authority which holds that a *prima facie* case of obviousness is established *only* when there is an

“overlap” in the claimed and prior art ranges of a particular process parameter or ingredient. Rather, a *prima facie* case of obviousness is dependent on whether one of ordinary skill in the art would have reasonably expected that the proportion or range of the claimed invention encompassed by the appealed claims would result in the same properties or achieve the same results as the proportion or range of the applied prior art. *See generally, Haynes Int’l, Inc. v. Jessop Steel Co.*, 8 F.3d 1573, 1577 n.3, 28 USPQ2d 1652, 1655 n.3 (Fed. Cir. 1993) (“The Board’s position was consonant with this court’s precedent holding that when the difference between the claimed invention and the prior art is the range or value of a particular variable, then a *prima facie* rejection is properly established when the difference in range or value is minor. *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990); *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775,783, 227 USPQ 773, 779 (Fed. Cir. 1985).”).

Thus, upon reconsideration of our decision to affirm the examiner’s ground of rejection with respect to claim 18 in light of appellants’ arguments advanced in their request, on this record, we find that we cannot discern that we have changed the thrust of the examiner’s grounds of rejection, or, in other words, the evidentiary scheme that we have described in our opinion with the amplified reasoning set forth therein based on facts of record does not differ in substance from that set forth by the examiner in the answer. Indeed, it is apparent that appellants had ample “fair opportunity” to react to the thrust or evidentiary scheme of the rejection with respect to claim 18 based on the examiner’s finding that the differences between the teachings of Gamble and the limitation of claim 18 was such as to require appellants to establish the criticality of the claimed amount of fibers even in view of our opinion.

Kronig, supra; cf. Boon, supra; In re Waymouth, supra.

Accordingly, we decline to designate our affirmance of the examiner’s rejection of claim 18 as a new ground of rejection under 37 CFR § 1.196(b) (1997).

Appellants’ second contention is that we must reverse the ground of rejection of record because we gave “the claimed phrase ‘in a [sic, the] resin’ . . . an unreasonable interpretation by reading the claimed phrase on an aqueous suspension of fibers and powder resin” in our opinion (request, pages 1 and 7-10). The subject phrase appears in the first and second specified steps of the claimed method encompassed by claim 1 (emphasis supplied):

1. A method of dispersing fibers in an electromagnetic-attenuating coating and applying the coating to a substrate, comprising steps of:

mixing a coating material comprising fibers and resin in a container by shaking the container *such that the fibers are uniformly dispersed in the resin* without breaking the fibers;

feeding the coating material from the container while *maintaining the fibers uniformly dispersed in the resin* and without breaking the fibers; and

applying the coating material to the substrate.

According to appellants, we improperly read “the claimed phrase on an aqueous suspension of fibers and powder resins” and thus “on Gamble’s ‘papermaking’ process” shown in Gamble Example I” that involves “stirring a slurry of . . . aluminum coated glass fibers and . . . high density polyethylene powders in . . . water,” which “mixes fibers in water, not **in a resin**, as claimed” (request, page 7). Appellants contrast this result with the “method wherein the fibers are mixed **in a molten resin**,” citing Gamble, col. 7, lines 14-25, which process they also describe as “dispersing fibers in a **resin matrix**,” citing Gamble, col. 5, lines 6-15 (*id.*, page 8). In other words, appellants allege that “the Board confuses ‘mixing fibers in an aqueous slurry’ with ‘mixing fibers in a resin’” (*id.*, n.4; see also page 9). Thus, the issue of claim interpretation involves essentially the first stated step of the claimed method encompassed by claim 1.

The difficulty that we have with appellants’ position is that (1) they have not stated why our interpretation of the terms of claim 1 which lead us to apply the teachings of Gamble thereto as set forth in our original opinion is unreasonable in light of the specification as it would be interpreted by one of ordinary skill in this art; (2) they have not expressly stated their interpretation of the cited claimed phrase in the context in which it appears in claim 1 but imply in their argument only that under their definition, the fibers can be uniformly dispersed by shaking “in a molten resin” or “in a resin matrix,” the latter term undefined, but not in a resin when slurried with other ingredients in an aqueous medium; and (3) they have not expressly stated the basis for the interpretation implied in their argument in their specification as it would be interpreted by one of ordinary skill in this art.

As we recognized in our original opinion (page 3), the interpretation of the scope of the appealed claims requires that the broadest reasonable interpretation must be given to the terms thereof consistent with appellants’ specification as it would be interpreted by one of ordinary skill in this art, *see*

In re Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997) (“[T]he PTO applies to the verbiage of the proposed claims the broadest reasonable meaning of the 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 the written description contained in the applicant’s specification.”), without reading into these claims any limitation or particular embodiment which is disclosed in the specification. *See In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989), citing *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969); *In re Priest*, 582 F.2d 33, 37, 199 USPQ 11, 15 (CCPA 1978), citing *Prater*, 415 F.2d at 1405, 162 USPQ at 551. Thus, the terms in the appealed claims must be given their ordinary meaning unless another meaning is intended by appellants as established in their specification. *See, e.g., Morris, supra; Zletz, supra* (“During patent prosecution the pending claims must be interpreted as broadly as their terms reasonably allow. When the applicant states the meaning that the claim terms are intended to have, the claims are examined with that meaning, in order to achieve a complete exploration of the applicant’s invention and its relation to the prior art. [Citations omitted.]”). When the specification does not contain an express definition, we can arrive at a reasonable, supported interpretation of the appealed claims that differs from that urged by applicants and determine the patentability of the claims on that basis. *Morris*, 127 F.3d at 1055-56, 44 USPQ2d at 1028-30 (“Absent an express definition in their specification, the fact that appellants can point to definitions or usages that conform to their interpretation does not make the PTO’s definition unreasonable when the PTO can point to other sources that support its interpretation.”). Therefore, “[i]t is the applicants’ burden to precisely define the invention, not the PTO’s. See 35 U.S.C. § 112 ¶ 2 [statute omitted].” *Morris, supra*.

We did not specifically interpret all or any part of the phrase “fibers are uniformly dispersed *in the resin*” (emphasis supplied) appearing in the first specified step of claim 1 in our original opinion. We did interpret the transitional term “comprising” in the preamble to “open the claimed method to include other steps,” on the authority of *In re Baxter*, 656 F.2d 679, 686-87, 210 USPQ 795, 802-03 (CCPA 1981) (opinion, page 4). We further interpreted the phrase “coating material comprising fibers and resin” in view of the open-ended term “comprising” to

further include any manner of ingredients, such as viscosity modifiers, solvents or flocculating agents, *which would facilitate or otherwise affect the uniform distribution of any fiber in the resin* and/or the application of the mixed coating material composition on a substrate (specification, e.g., page 4, lines 16-19, and page 6, lines 17-24). *Baxter, supra.* [*Id.*; emphasis supplied.]

Thus, we found that mixing fibers with resin in water in Gamble Example I resulted in a uniform distribution of fibers in the resin (*id.*, pages 6-9).

We have not found a definition for the claim phrase “fibers are uniformly dispersed in the resin” *per se* in our review of appellants’ specification. Nor have we found any disclosure which would provide a definition for any part thereof, including “in the resin” and “resin.” The disclosure which appears to pertain to the first step of the claimed method encompassed by claim 1 is that “[t]he successful utilization of artificial dielectric coatings requires a uniform dispersion of fibers in a resin matrix and then applying the fiber-containing resin matrix onto a substrate in such manner as to provide random fiber placement and uniform thickness control” (page 3). It would thus appear that the art recognized requirement is “a uniform dispersion of fibers in a resin matrix” which can be applied to a substrate in a “manner as to provide random fiber placement and uniform thickness control.” Indeed, the specification (e.g., pages 4-6) provides no further processing information other than the nature of the fibers, the physical manipulation by which the fibers and resin are mixed and, with respect to the “resin,” that

[t]he fibers are uniformly dispersed in a lightly loaded dielectric matrix material. The matrix material comprises a resin material which preferably is a non-thermoplastic material. For instance, the resin can comprise a thermosetting polymer material such as silicone. [*Id.*, page 6.]

There is no definition of “matrix” in the specification. The specification concludes with a statement that the disclosure is non-limiting (*id.*).

On this record, we interpret the bare term “resin” in appealed claim 1 to have the customary, ordinary meaning of a polymeric resinous material recognized in the art of electromagnetic-attenuating coatings. We further find that the polymeric resinous material must be capable of forming a “matrix,” as this term is ordinarily defined, within which fibers can be contained in a coating material such that the coating material will form a coating containing the fibers when applied to a substrate. There is no limitation in claim 1 which would limit the “resin” other than its capability to form the stated coating.

Thus, we arrive at the point where our interpretation of claim 1 differs from that apparently urged by appellants. The ordinary meaning of “matrix” is “A . . . surrounding substance within which something originates, develops or is contained.” *See, e.g., The American Heritage Dictionary Second College Addition 772-73* (Boston, Houghton Mifflin Company, 1982). We have found *no* ordinary definition of the term “matrix” which requires that the “surrounding substance” must necessarily be a solid. The interpretation apparently urged by appellants is that the resin would form a solid “matrix,” but they have not pointed to the basis in the specification as it would be interpreted by one of ordinary skill in the art or elsewhere for their interpretation.

Therefore, on this record, we find it reasonable to interpret the claim phrase “fibers are uniformly dispersed in the resin” to encompass fibers uniformly dispersed in a resin matrix wherein the resin surrounding the fibers is in particulate form. Indeed, such a mixture of fibers uniformly dispersed in a matrix of particulate resin would form a coating or sheet in which the fibers would be randomly oriented in the manner required for “successful utilization of artificial dielectric coatings” as stated in appellants’ specification (page 3), and, in our view, as shown by Gamble (e.g., col. 2, line 64, to col. 3, line 7, col. 6, line 60, to col. 7, line 5, and Example 1). We are not persuaded otherwise by the use of water by Gamble to disperse the fibers in a resin matrix. Indeed, as we noted above, we interpreted the claimed phrase “coating material comprising fibers and resin” in our original opinion to further comprise any material “which would facilitate or otherwise affect the uniform distribution of any fiber in the resin.” This would include water.

Accordingly, because appellants have not established that, on this record, our interpretation of the claim terms of claim 1 is unreasonable, *Morris, supra*, we decline to reverse our affirmance of the examiner’s ground of rejection.

We have granted appellant's request to the extent that we have reconsidered our decision of February 29, 2000, but we deny the request with respect to making any changes therein.

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

DENIED

Appeal No. 96-3533
Application 08/203,624

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