

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte STEPHEN M. SANOCKI, LOYD R. HORNBACK III,
RICHARD P. MERRY, JOEL H. SABEAN,
and PAUL D. STROOM

Appeal 2008-2497
Application 10/652,838
Technology Center 1700

Decided: June 25, 2008

Before EDWARD C. KIMLIN, CATHERINE Q. TIMM, and
KAREN M. HASTINGS, *Administrative Patent Judges*.

HASTINGS, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1-3, 5, 6, 8, 13-15, 17, 18, and 20-36, which are the only claims pending in this application. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

I. BACKGROUND

The invention relates to a pollution control device (e.g., a catalytic converter; see Spec 1:10-12) and the mounting system for mounting a pollution control element within a housing of a pollution control device.

Representative claims 1, 27, and 33 read as follows:

1. A pollution control device comprising:
 - a housing;
 - a pollution control element disposed within the housing; and
 - a mounting system disposed in a gap between the pollution control element and the housing for positioning the pollution control element within the housing and for absorbing mechanical and thermal shock, the mounting system comprising:
 - an intumescent mounting mat, and
 - at least one resilient, flexible, fibrous non-intumescent insert that, independent of the intumescent mounting mat, can accommodate changes in the gap as the pollution control device is cycled between high and low temperatures.

27. A pollution control device comprising:
 - a housing;
 - a pollution control element disposed within the housing; and
 - a mounting system disposed in a gap between the pollution control element and the housing for positioning the pollution control element within the housing and for absorbing mechanical and thermal shock, the mounting system comprising:
 - a intumescent mounting mat; and
 - at least one resilient, flexible, fibrous non-intumescent insert that can accommodate changes in the gap as the pollution control device is cycled between high and low temperatures, wherein the insert and the mounting mat are positioned end-to-end with respect to each other.

33. A mounting system for mounting a pollution control element within a housing of a pollution control device, said mounting system having a lateral edge that is exposed to exhaust gases entering the pollution control device, when said mounting system is positioned in a gap between the

pollution control element and the housing, and said mounting system comprising:

an intumescent mounting mat; and
at least one resilient, flexible, fibrous non-intumescent insert that forms said lateral edge,
wherein said mounting system is suitable for absorbing mechanical and thermal shock when positioned in the gap between the pollution control element and the housing, and said insert can accommodate changes in the gap as the pollution control device is cycled between high and low temperatures.

The Examiner relies upon the following prior art as evidence of unpatentability:

Merry	4,929,429	May 29, 1990
Ten Eyck	4,999,168	Mar. 12, 1991
Stroom	EP 0 639 700 A1	Feb. 22, 1995

Claims 1-3, 6, 8, 13, 14, 17, 18, and 21-36 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Stroom.

Claims 5 and 15 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Stroom and Merry.

Claims 27-28 and 33-36 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Merry.

Claims 27-28 and 33-36 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Ten Eyck.

Appellants separately argue several of the individual claims, or claim groups, rejected under 35 U.S.C. § 102(b) over Stroom, namely, the claims 8, 13, and 18, and the group of claims 24-26, 28, 34, and 36 (Br. 17-20).

We therefore select claim 1 to represent the remaining claim grouping of

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claims 1-3, 6, 14, 17, 21-23, 27, 29-33, and 35 rejected under 35 U.S.C. § 102(b) over Stroom. We will address each claim separately argued by Appellants. We will likewise separately address the remaining rejections as argued by Appellants in the Appeal and Reply Briefs.

ISSUES ON APPEAL

The first issue is whether the Appellants have shown that the Examiner reversibly erred in rejecting claims 1-3, 6, 8, 13, 14, 17, 18, and 21-36 as anticipated by Stroom.

The second issue is whether Appellants have shown reversible error in the Examiner's determination that a person having ordinary skill in the art would have found it obvious to arrive at the claimed invention of claims 5 and 15 in view of Stroom and Merry.

The third issue is whether Appellants have shown that the Examiner reversibly erred in rejecting claims 27, 28, and 33-36 as anticipated by Merry.

The fourth issue is whether Appellants have shown that the Examiner reversibly erred in rejecting claims 27, 28, and 33-36 as anticipated by Ten Eyck.

OPINION

We have thoroughly reviewed each of Appellants' arguments for patentability, as well as the declaration evidence relied upon in support thereof. However, we find that the Examiner's rejections are well founded and supported by the prior art evidence relied upon. Accordingly, we will

sustain the Examiner's rejections for the reasons set forth in the Answer, and we add the following primarily for emphasis.

Principles of Law Relating to Anticipation

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *See Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987).

However, “[t]he law of anticipation does not require that the reference ‘teach’ what the subject patent teaches. Assuming that a reference is properly ‘prior art,’ it is only necessary that the claims under attack, as construed..., ‘read on’ something disclosed in the reference, i.e., all limitations of the claim are found in the reference, or ‘fully met’ by it.” *See Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 772 (Fed. Cir. 1983).

It is well established that while the features of an apparatus claim may be recited functionally, the apparatus must be distinguished from the prior art in terms of structure, rather than function. *See In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997). Further, where patentability rests upon a property (or function) of the claimed material (or structure) not disclosed within the art, the PTO often has no reasonable method of determining whether there is, in fact, a patentable difference between the prior art materials and the claimed material. Therefore, where the claimed and prior art products are identical or substantially identical, the PTO can require an applicant to prove that the prior art products do not necessarily possess the characteristics of his claimed product. *In re Best*, 562 F.2d 1252, 1255 (CCPA 1977); *see also In re Schreiber*, 128 F.3d at 1478.

The § 102 Rejection over Stroom

We choose claim 1 to represent the claim grouping of claims 1-3, 6, 14, 17, 21-23, 27, 29-33, and 35.

Applying the preceding legal principles to the factual findings in the record of this appeal, we determine that the Examiner has properly identified factual findings and reasoning for establishing a prima facie case of anticipation of claim 1 based on Stroom.

The Examiner correctly finds that all the structure set out in claim 1 is found in Stroom (Ans. 3-4, 8). Appellants, however, contend that Stroom does not disclose that the insert is “resilient, flexible” such that it “can accommodate changes in the gap as the pollution control device is cycled between high and low temperatures” and that “Stroom actually teaches to do just the opposite” (App. Br. 13-14; see also claim 1). We disagree.

Contrary to the Appellants’ assertions, we find that Stroom indeed describes that the edge protectant material (i.e., the insert) is “resilient” and “flexible” (Stroom, e.g., p. 3, ll. 20-28; p. 5, ll. 36-46). Further, we also agree with the Examiner that since the materials of the insert of Stroom are the same materials that Appellants describe as “resilient, flexible” in their own Specification (Ans. 8), the materials of the edge protectant 34C of Stroom must likewise be resilient and flexible. As explained in *In re Papesch*, 315 F.2d 381, 391 (CCPA 1963), “a compound and all its properties are inseparable; they are one and the same thing.”

Since Stroom describes materials for the edge materials (insert) that have the required properties of resiliency and flexibility, they also reasonably appear to possess the concomitant capability in accordance with representative claim 1. We also emphasize that it is axiomatic that during

examination proceedings, claims are given their broadest reasonable interpretation consistent with the specification. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). Appellants' Specification does not provide any specific definition of how many cycles the insert is required to "accommodate changes in the gap" thereto. Therefore, we interpret the claim such that the insert could accommodate changes in the gap for as few as two cycles.

Thus, given the structural identity and similarity of Stroom's apparatus to Appellants' apparatus as claimed and disclosed respectively, we determine that the Examiner was justified in concluding that the edge material (insert) of Stroom appears to reasonably possess the claimed capability as set forth in claim 1. *See, e.g., In re Schreiber*, 128 F.3d at 1478.

The burden then shifts to Appellants to prove that the claimed apparatus is not the same as the prior art (e.g., establish with evidence that Stroom will not inherently function as claimed). *See In re Best*, 562 F.2d 1252, 1255 (CCPA 1977) (the burden shifts to applicant to prove *lack* of a (i.e., a different) recited functional limitation if evidence shows products (including apparatus) or processes are the *same or similar*); *see also In re Swinehart*, 439 F.2d 210, 213 (CCPA 1971), and *In re Schreiber*, 128 F.3d at 1478.

Appellants have not provided any persuasive line of technical reasoning or evidence explaining why the insert of Stroom does not possess this capability. While Appellants have provided some evidence, in the form

of a declaration filed under 37 C.F.R. § 1.132 by Gary Howorth¹ (the Howorth Declaration), in an attempt to rebut the Examiner's finding of a prima facie case of anticipation, we determine that this evidence is not persuasive for the reasons below.

The Howorth Declaration tests only *one* example for the edge protectant material, Example 38, out of the many examples described in Stroom. Significantly, we determine that Example 38 does not even appear to be an appropriate edge material (i.e., insert material) according to Stroom. Stroom describes the edge material of Example 38 as exhibiting “some cracking” and being “loose” after the “Hot Shake Test” which tested the material for a duration of 10 cycles from 150° C to 950° C (Stroom, p. 14-15). On the other hand, for example only, Stroom describes that edge (insert) material Example 11 “exhibited very little cracking, *good flexibility*, and good performance in the [Hot Shake] test” and also describes Example 39 as having “a very good appearance with little or no cracking” when tested using the Hot Shake test for ten cycles (Stroom, p. 15; emphasis provided). Thus, other examples are described in Stroom as having the claimed properties, and superior results, compared to the material of Example 38.

While Appellants *may* have found an optimum material (SAFFIL OB as tested in the Howorth declaration) that exhibits the claimed capability throughout many cycles (e.g., ten cycles as tested), claim 1 is not limited to any specific material. We have determined that claim 1 encompasses a material that would accommodate “changes in a gap” as claimed for as few

¹ Gary Howorth is a co-inventor of Stroom (EP application 0 639 700 A1). The Applicant of this EP application is also the same as the assignee of the instant application before us on appeal (i.e., 3M Company).

as two cycles. We also emphasize that Stroom explicitly describes that the properties of flexibility and resiliency are desired properties for the edge insert material, and describes other examples with superior results than those of Example 38 when tested.

Thus, we do not find the Howorth Declaration persuasive, and the Examiner's 35 U.S.C. § 102 rejection based on Stroom of claim 1, as well as claims 2, 3, 6, 14, 17, 21-23, 27, 29-33, and 35, not separately argued by Appellants, is sustained.

Dependent claims 8, 18, and 13

Each of dependent claims 8 and 13 depend from independent claim 1. Claim 8 recites "wherein the insert is physically compressed before being disposed between the pollution control element and the housing". Claim 13 recites "wherein the insert comprises ceramic fiber derived from a sol-gel process". Claim 18 depends from independent claim 14 and recites "wherein the ... insert expands to fill the gap between the housing and the pollution control element".

We agree with the Examiner's findings of fact with respect to these claims (Ans. 4). Appellants' response asserts that the Examiner has not shown how each of the claimed features is present in the disclosure of Stroom so as to establish a prima facie case of anticipation. Our review of Appellants' arguments (Br. 17-18), however, reveals that Appellants have simply reiterated the features recited in these claims and drawn a conclusion, without more, that the features in Stroom identified by the Examiner do not correspond to such claimed features. Such arguments do not, in our view, satisfy Appellants' burden of providing evidence and/or arguments which

show how the Examiner has erred in presenting a prima facie case of anticipation.

In any event, each of these claims recites a de facto process step in the making of the product of claim 1 or 14.

It has been well established that, for a claim to a product, the patentability of the product defined by the claim, rather than the process for making it must be gauged in light of the prior art. *In re Wertheim*, 541 F.2d 257, 271, (CCPA 1976); *In re Brown*, 459 F.2d 531, 535 (CCPA 1972). Likewise it has long been held that “[i]f the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *SmithKline Beecham Corp. v. Apotex Corp.*, 439 F.3d 1312, 1317 (Fed. Cir. 2006) (*quoting In re Thorpe*, 777 F.2d 695, [697] (Fed. Cir. 1985)).

The resultant end product of Stroom appears to meet all the structure set out in Appellants’ claims 8, 13, and 18. Thus, we do not see how Appellants’ product claims patentably define over the prior art applied by the Examiner. In a case where patentability rests upon how the claimed product was made, the PTO has no reasonable ability to manufacture and determine whether there is, in fact, a patentable difference between the prior art product and the claimed product. Under the circumstances, it is reasonable to shift the burden to Appellants to show that the claimed product is, in fact, patentably different from the prior art product. *In re Thorpe*, 777 F.2d at 697; *see also In re Best*, 562 F.2d 1252, 1255 (CCPA 1977).

Appellants have provided no such evidence with respect to the limitations set forth in these dependent claims. Accordingly, the Examiner’s

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35 U.S.C. § 102 rejection based on Stroom of claims 8, 13, and 18, is sustained.

Dependent Claims 24-26, 28, 34, and 36

Appellants argue (Br. 19-20) that Stroom's edge protectant material does not seal the gap as required in these claims. We disagree. One of ordinary skill in the art would readily appreciate from the overall disclosure of Stroom, including Figures 2 and 8, that the edge material seals the gap. Further, Stroom explicitly discusses that the edge material serves to "minimize" (i.e., prevent) exhaust gas from bypassing the catalytic converter element (see, e.g., Stroom, p. 4, ll. 31-34). The artisan would have immediately appreciated that the edge material seals the gap in order to prevent the exhaust gas from bypassing the converter as taught by Stroom.

Accordingly, the Examiner's 35 U.S.C. § 102 rejection based on Stroom of claims 24-26, 28, 34, and 36, is sustained.

The § 103 Rejection over Stroom and Merry

Claims 5 and 15

The Examiner bears the initial burden of presenting a prima facie case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

"[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." *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) *quoted with approval in KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007).

The Supreme Court noted in *KSR*, however, that an obviousness 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.” 127 S. Ct. at 1741. Further, the combination of familiar elements is likely to be obvious when it does no more than yield predictable results, and the question is whether the improvement is more than the predictable use of prior art elements according to their established functions. *KSR*, 127 S. Ct. at 1739-1740.

Applying the legal principles with respect to obviousness to the factual findings in this record, we determine that the Examiner has properly identified factual findings and reasoning for establishing a prima facie case of obviousness based on Stroom in view of Merry with respect to claims 5 and 15.

The Examiner relies upon Merry to exemplify that shot-free ceramic fibers are useful in mounting systems as claimed, to increase the resiliency of the mounting system (Ans. 7; see, e.g., Merry, col. 2, l. 59 to col. 3, l. 15). We agree with the Examiner’s findings of fact and conclusion of obviousness (*see, e.g.*, Ans. 7).

Appellants argue that there is no motivation to use the shot-free ceramic fibers of Merry for the edge material of Stroom. We disagree. Stroom describes the use of ceramic fibers in the edge material (see, e.g., Stroom p. 6, ll. 37-40). We determine that the use of the known “shot-free” ceramic fibers of Merry would have been a predictable use of a known prior art ceramic fiber in order to achieve the predictable result of a resilient edge material (i.e., insert) in Stroom. Appellants have not shown that there is more than a predictable result flowing from the use of such ceramic fibers.

We also note that one of ordinary skill in the art is also a person of ordinary creativity, not an automaton. *KSR*, 127 S. Ct. at 1742. We determine that one of ordinary creativity in the art would have readily appreciated that the shot-free ceramic fibers as taught in the mat mounting system of Merry would have also been useful as the ceramic fibers in the edge protectant materials of the mat mounting system of Stroom.

Thus, the evidence presented by the Examiner supports a prima facie case of obviousness. Accordingly, we sustain the Examiner's § 103 rejection based on Stroom and Merry of claims 1 and 15.

The § 102 Rejections over Merry or Ten Eyck

Claims 27, 28, 35, 36

Appellants' arguments are similar for each of these rejections and thus we shall address them together.

For each of these rejections, Appellants' only contention with respect to these claims is that since each of Merry and Ten Eyck discloses a layer of ceramic fibers positioned above and on another layer (that is, a multilayer structure), neither reference discloses that the insert mat layer of ceramic fibers is "end-to-end" with the sheet material (App. Br. 22, 24; Reply Br. 3). We disagree that "end-to-end" must be interpreted such that "the layers [are] position [sic] edge to edge in a coplanar manner" as Appellants argue (Reply Br. 3).

There is no explicit definition of the term "end-to-end" in Appellants' Specification. Indeed, the instant Specification never uses the term "end-to-end"; this term first appeared when claims were added during prosecution². Each layer of the mat in Merry and Ten Eyck can be viewed as having at

² See amendment filed September 28, 2004.

least a total of six “ends” (e.g., the six sides of a rectangular mat; see, e.g., Fig. 2 of Ten Eyck). We therefore determine that the broadest reasonable interpretation of “end-to-end” may encompass either (1) the long lateral ends of each layer of Merry or Ten Eyck being “end-to-end” as stacked on top of one another, and/or (2) the shorter lateral ends being “end-to-end” when the mat is bent about the monolith 18 in use with the tongue and groove completing the gas seal (see, e.g., Ten Eyck col. 4, ll. 63-68), and/or (3) the large planar top and bottom “ends” of each respective layer of Merry or Ten Eyck being end-to-end with respect to one another. We decline to read into the term “end-to-end” that the layers must be positioned “edge to edge in a coplanar manner” as Appellants’ contend, as Appellants have the opportunity to amend their claims during prosecution. *See, e.g., In re Prater*, 415 F.2d 1393, 1404-05 (CCPA 1969).

Claims 33 and 34

Appellants only contention with respect to these claims is that since each of Merry and Ten Eyck discloses a multilayer structure, neither reference discloses that the insert mat of ceramic fibers “forms said lateral edge” (App. Br. 23, 24; Reply Br. 3-4). We disagree.

As stated by the Examiner, the material (i.e., the insert) 31 of Merry and 24 of Ten Eyck does form the lateral edge of the respective mounting system (Ans. 8). Appellants’ argument fails to appreciate the scope of Appellants’ claim. Claim 33 uses open claim language (i.e., “comprising”). The transitional term “comprising” is “inclusive or open-ended and does not exclude additional, unrecited elements or method steps.” *Georgia-Pacific Corp. v. United States Gypsum Co.*, 195 F.3d 1322, 1327 (Fed. Cir. 1999).

Therefore, Appellants' use of the term "comprising" permits the presence of additional elements to form the lateral edge of the mounting system, such as the additional layers of either Merry or Ten Eyck. Claim 33 does not, e.g., recite that the lateral edge is formed *solely* by the insert. Thus, we determine that the broadest reasonable interpretation of "...forms said lateral edge" includes the structure depicted in each of Merry and Ten Eyck.

CONCLUSION

In summary:

The § 102 rejection based on Stroom of claims 1-3, 5-8, 16-18, 20, and 21-29 is affirmed for the foregoing reasons and the reasons stated in the Answer. The § 103 rejection based on Stroom in view of Merry of claims 5 and 15 is affirmed. The § 102 rejections based alternatively on Merry or Ten Eyck of claims 27, 28, and 33-36 are affirmed.

The decision of the Examiner 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).

AFFIRMED

PL initial:
sld

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