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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte RAINER HOCHSMANN and INGO EDERER

Appeal 2011-012698
Application 12/136,380
Technology Center 1700

Before FRED E. McKELVEY, HUBERT C. LORIN and DEBORAH KATZ,
Administrative Patent Judges.

McKELVEY, *Administrative Patent Judge.*

DECISION ON APPEAL

1 In its Brief, applicant states (Brief, page 4):

2 Claims 21 to 40 are pending in ... [the] application [on appeal];
3 claims 1 to 20 have been cancelled. The rejection of claim 21, 34, and
4 their dependents are hereby [sic-hereby] appealed. Appellant
5 respectfully request an indication of allowability of claims 21, 34, and
6 their dependents claims 22 to 33 and 35 to 39 respectively, or at least
7 a reversal of the obviousness rejection[s] of claims 21, 34, and their
8 dependents 22 to 33 and 35 to 39 respectively.

9 Applicant's request for "an indication of allowability" is *denied*. The Board
10 does not indicate allowability of, or allow, claims. Allowance of claims is function
11 performed by the Director which has been delegated to examiners.

12 The quoted statement makes no mention of independent Claim 40.
13 However, in a Corrected Brief filed 21 April 2011, applicant mentions Claim 40.
14 Claim 40 is also mentioned in the argument portion of the Brief, albeit only as part
15 of a quote from an Office action. *See* page 14:6. Given the record as a whole, we
16 hold that Claim 40 is also on appeal.

17 The quoted statement from the Brief is somewhat confusing. We suggest
18 that in the future applicant may wish to simply state that "Claims 21-40 are on
19 appeal."

20 **Analysis**

21 Claim 21

22 Claim 21, which we reproduce from the Claims Appendix on page 19 of the
23 Brief, reads [some indentation and strikethrough added; principal limitation in
24 dispute in italics]:

1 A method for manufacturing a three-dimensional form,
2 comprising:

3 a) providing a plurality of particulates in the absence of a
4 binder material;

5 b) coating the surface of the particulates with an activation
6 agent so that the diameter of the particulates is enlarged;

7 c) *spreading* a layer of the coated particulates in the absence
8 of any binder material;

9 d) selectively dispensing a fluidic unreacted organic binder
10 material that is activated by the activation agent with a drop-on-
11 demand dispenser onto a pre-selected portion of the particulates
12 having the activation agent, the binder material being contacted with
13 particles no earlier than when the binder material first contacts the
14 activation agent;

15 e) hardening the binder material for forming a layer of the
16 three-dimensional form that defines a matrix having the particulates
17 firmly held within it; and

18 f) then repeating the steps (a) – (d) [sic (a) – (e)] to form the
19 remainder¹-of the three-dimensional form.

¹ The language “the remainder” has no antecedent basis in the claim and in any event would appear to be unnecessary. The claim calls for “manufacturing a three-dimensional form” and the three-dimensional form is “formed” after steps (a) – (e) are repeated. It is not clear to us why Claim 21 does not call for step (e) to be repeated. *See* Specification, ¶¶ 0050 and 0051. A useful article is not formed without step (e) also being repeated. *Cf. In re Mayhew*, 527 F.2d 1229 (CCPA

1 In the Answer, the Examiner maintained a rejection of Claim 21 as being
2 unpatentable under § 103(a) over Bredt 1 and Bredt 2.

3 The Examiner found that some of the steps of Claim 21 are described by
4 Bredt 1. The Examiner goes on to say “see the entire [Bredt 1] document, in
5 particular, col. 1, lines 18-32; col. 2, lines 3-36; col. 4, lines 21-24; col. 5,
6 lines 35-47; claim 2.” Answer, page 6. The Examiner found that Claim 21 differs
7 from Bredt 1 in at least two respects. Answer, pages 6-7. Bredt 2 is said to
8 describe the steps missing from Bredt 1. The Examiner refers to “the entire
9 [Bredt 2] document, in particular, paragraphs [0016], [0025], [0027], [0046] –
10 [0048] and [0051] – [0057]. However, no particular paragraph is tied to a
11 particular limitation of Claim 21.

12 Applicant maintains on appeal (Brief, page 9) that:

- 13 (1) the Examiner has not engaged in sufficient fact-finding;
14 (2) facts found by the Examiner are not supported by “substantial
15 evidence”; and
16 (3) there is no “motivation” to combine teachings of the various
17 references relied upon by the Examiner.

18 Applicant acknowledges that the Examiner found the limitations to be
19 described, but notes that the Examiner has not provided a “specific reference as to
20 where Bredt teaches these elements.” Brief, page 13. For example, applicant

1976) (claim with missing step held to be non-enabled). We note that in independent Claim 34, applicant calls for repeating steps (a) – (e). If any correction is needed it may occur when prosecution is resumed before the Examiner.

1 argues that the Examiner has not indicated where the prior art describes “spreading
2 a layer of the coated particulates in the absence of any binder material” or where
3 “coated particulates” are spread. Brief, pages 11-12.

4 In responding to applicant’s argument concerning an alleged lack of a
5 teaching of “spreading,” the Examiner refers to Brecht 1, col. 1, lines 18-32 and
6 Fig. 1. Brecht 1 Fig. 1 describes a process which is prior art vis-à-vis Brecht 1 and
7 states “SPREAD POWDER.” The Examiner has not sufficiently explained how
8 the Fig. 1 prior art process otherwise is used in connection with the process
9 invented by Brecht 1 or why it would have been obvious to spread the powder in the
10 Brecht 1 process. Nor is there an explanation where the prior art describes coating
11 with an activation agent prior to spreading. It is true that Brecht 1 describes adding
12 the activation agent citric acid, but Brecht 1 does not indicate whether any spreading
13 is performed prior to or after addition of the citric acid. Brecht 1, col. 5:35-47.

14 This is a case in which the Examiner could have (and still can) apply the
15 practice set out in *Ex parte Braeken*, 54 USPQ2d 1110 (BPAI 1999) (suggesting
16 copying the claim and inserting a specific reference to column/line or paragraph of
17 a prior art document).

18 Our difficulty in deciding the appeal is that we are not sure of the basis upon
19 which the Examiner bases the obviousness holding. We are confident that the
20 Examiner believes all claimed steps are described in the prior art. However,
21 neither we nor applicant are able to verify the Examiner’s basis. Accordingly, we
22 hold that the Examiner *procedurally* has not made out a prima facie case as to
23 Claim 21. We wish to emphasize that nothing said in this opinion should be
24 construed as an indication that we believe Claim 21 to be patentable over the prior

1 art relied upon by the Examiner. Likewise, nothing in this opinion should be
2 construed as precluding the Examiner from reopening prosecution and applying the
3 *Broken* practice to Claim 21 and the claims depending from Claim 21. Whether
4 prosecution is reopened is a matter best left to the discretion of the Examiner.

5 The decision of the Examiner rejecting independent Claim 21 and
6 Claims 22-33 (which depend directly or indirectly from Claim 21) is *reversed* but
7 solely on procedural grounds.

8 Claim 34

9 In the Brief, applicant states that the patentability of Claim 34 should be
10 considered separately. Brief, page 9.

11 In the Brief, applicant does not provide the separate subheading suggested
12 by 37 C.F.R. § 41.37(c)(1)(vii) (“Claims argued as a group should be placed under
13 a subheading identifying the claims by number”).

14 Applicant acknowledges that Claims 27, 29, and 32-39 (which includes
15 Claim 34) were rejected using *inter alia* teachings from *Kotnis*. Brief, page 18.
16 But, applicant also argues that (1) six references relied upon by the Examiner “are
17 in dispute with each other” (without cogently telling us why); (2) there is no TSM
18 (we take TSM to mean teaching, suggestion or motivation); (3) there is no apparent
19 reason to combine “the elements” (which we take to mean the elements disclosed
20 in *Kotnis*), and (4) no explicit analysis was made. Brief, page 17.

21 Claim 34 was rejected as unpatentable under § 103(a) over *Bredt 1*, *Bredt 2*,
22 *Kotnis*, *Sachs*, *Patel*, and *Davidson*. Final Rejection, pages 3-4. Contrary to
23 applicant’s allegations, the Examiner has provided an analysis. *See* (1) Non-Final

1 Office action dated 1 June 2010, pages 6-9; (2) Final Rejection, pages 5-6;
2 (3) Advisory Action dated 26 January 2011, page 2; and (4) Answer, page 18-20.

3 Applicant does not address Claim 34 in the Reply Brief.

4 Unlike Claim 21, Claim 34 does not have a “spreading” limitation.

5 Claim 34 calls for contacting the particulates with an aromatic amine and
6 then adding “binder material” to the particulates containing the aromatic amine.

7 The Examiner turned to Kotnis to establish that the use of an aromatic amine
8 to cure an epoxy resin is known. Kotnis, col. 7

9 In the Brief, in addressing Claim 34, applicant confines its argument for
10 reversal to Kotnis. Brief, page 18, last full paragraph. We will do likewise.

11 The Examiner found that Bredt 1 uses an activator and an organic binder. In
12 the case of Bredt 1, the activator is citric acid. Col. 5:35. The binder is colloidal
13 silica. Col. 3:1. Bredt 1 uses the activator and binder in the same manner as
14 applicant. In its background section, Kotnis describes the use of binders in
15 additive building of three dimensional printing. Col. 1:66 to col. 2:6. Kotnis also
16 describes epoxy resins (col. 7:28-36) which can be cured *inter alia* with amines,
17 including aromatic amines (col. 7:52). Epoxy resins are one of the binders
18 described as useful by applicant. Specification, page 5:35. Kotnis confirms that
19 which we cannot imagine applicant would deny, *i.e.*, epoxy resins are well-known
20 binder materials. They have been available to hardware stores for years long prior
21 to applicant’s filing date and are sold *inter alia* so the consumer can glue items.
22 They generally are sold as a kit having two parts, one the epoxy and the other a
23 curing agent, often an amine or an anhydride. We also note that Sachs, also cited
24 by the Examiner, describes the use of organic binders in the ceramics industry.

1 Col. 7:34. Applicant, like Sachs, seeks to bind sand (Specification, ¶ 0021) with an
2 organic binder. In using an amine activator, particularly in the case where the
3 binder material is an epoxy, applicant has used a known material for its intended
4 purpose to get an expected result.

5 As noted earlier, applicant has argued that the references are “in dispute with
6 each other.” Missing from the argument is “why?” Applicant has also argued that
7 there is no TSM. However, on the record we find that one skilled in the art would
8 have had a *reason* to use an organic binder (including an epoxy) and an activator
9 (including an amine) to accomplish binding of the particular material. In doing so,
10 the persons having ordinary skill in the art would be using known materials for
11 their known purpose all the while obtaining an expected result.

12 Applicant states in the Brief that Claims 35-39 (that dependent from
13 independent Claim 34) should be considered separately. However, we have found
14 no argument addressing each of these claims apart from the argument presented
15 with respect to Claim 34. Therefore, Claims 35-39 fall with Claim 34.

16 The decision of the Examiner rejecting Claims 34-39 is *affirmed*.

17 Claim 40

18 Claim 40 was rejected as being unpatentable under § 103(a) over Bredt 1,
19 Bredt 2, and Sachs. Final Rejection, page 4.

20 Applicant has not explained in the Brief why the Examiner erred in rejecting
21 Claim 40.

22 Accordingly, we have been given no reason why the Examiner erred and,
23 therefore, the decision of the Examiner rejecting Claim 40 is *affirmed*.

1 **Other arguments**

2 As noted earlier, applicant maintains that the Examiner's fact-finding is not
3 supported by "substantial evidence." However, whether a fact is supported by
4 substantial evidence is relevant only on judicial review of a decision of the Board.
5 In the agency, generally (with some exceptions) facts must be established by a
6 preponderance of the evidence. On appeal to the Board, we determine whether the
7 evidence supports a finding by a preponderance of the evidence. We have,
8 therefore, declined to determine whether any finding of the Examiner is not
9 supported by substantial evidence.

10 We have considered applicant's remaining arguments and find none that
11 warrant reversal of the Examiner's rejection of Claim 34-40. *Cf. In re Antor*
12 *Media Corp.*, 689 F.3d 1282, 1294 (Fed. Cir. 2012).

13 **Decision**

14 Upon consideration of the appeal, and for the reasons given herein, it is
15 **ORDERED** that the decision of the Examiner rejecting claims 21-33
16 is *reversed* but reversal is based solely on *procedural grounds*.

17 **FURTHER ORDERED** that nothing in this opinion should be
18 construed as our having determined that the subject matter of Claims 21-33 is
19 patentable on the merits over the prior art cited by the Examiner.

20 **FURTHER ORDERED** that nothing in this opinion should be
21 construed as precluding reopening of prosecution if the Examiner be so advised.

22 **FURTHER ORDERED** that the decision of the Examiner
23 rejecting Claims 34-40 over the prior art is *affirmed*.

Appeal 2011-012698
Application 12/136,380

1 **FURTHER ORDERED** that no time period for taking any
2 subsequent action in connection with this appeal may be extended under 37 C.F.R.
3 § 1.136(a)(1)(iv).

4 **AFFIRMED-IN-PART and REVERSED-IN-PART**

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