

1 The opinion in support of the decision being entered today is *not* binding precedent of the Board.  
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3  
4 UNITED STATES PATENT AND TRADEMARK OFFICE  
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6  
7 BEFORE THE BOARD OF PATENT APPEALS  
8 AND INTERFERENCES  
9

10  
11 *Ex parte* BASELL POLIOLEFINE ITALIA S.P.A.  
12

13  
14 Appeal No. 2007-0111  
15 Reexamination 90/006,297 (of U.S. Patent 6,365,687 B1)  
16 Technology Center 3900  
17

18  
19 Heard: December 11, 2006  
20

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22  
23 Before: DELMENDO, TIERNEY, and MOORE, *Administrative Patent Judges*.

24  
25 DELMENDO, *Administrative Patent Judge*.

26  
27 DECISION ON APPEAL  
28

29 STATEMENT OF THE CASE

30 The patent owner appeals under 35 U.S.C. §§ 134 and 306 from a final  
31 rejection of claims 1-52 of United States Patent 6,365,687 ('687 patent), in which  
32 (1) claims 1-4, 8-13, 15, 21-26, 28, 31, 32, 35, 39-44, and 48-52 were held to be  
33 anticipated by United States Patent 3,058,963 issued to Vandenberg on October 16,  
34 1962 under 35 U.S.C. § 102(b) and (2) claims 1-52 were held to be obvious over

1 Vandenberg under 35 U.S.C. § 103(a). We have jurisdiction under 35 U.S.C. §  
2 6(b)(2006). We *AFFIRM*.

3 In addition, we finalize our March 30, 2005 affirmance (paper 26) of all six  
4 of the examiner's obviousness-type double patenting rejections (Final Office  
5 Action mailed May 23, 2003, paper 14).

6

7 Summary

8 The '687 patent under reexamination has a long and complicated  
9 prosecution history. In its brief, the patent owner faults the United States Patent  
10 and Trademark Office (PTO) for the prolonged and complex prosecution history.  
11 The record, however, demonstrates that the patent owner is equally, if not more,  
12 culpable for the delays. For example, early during the prosecution in the 1950's,  
13 the examiner indicated allowability for certain subject matter. The patentees could  
14 have ended prosecution by paying the issue fee at that time but chose not to do so.  
15 On three separate occasions, the patentees appealed the examiner's rejections to  
16 this Board. Each time, the Board affirmed the examiner's rejections. On  
17 numerous occasions, the patentees abandoned their applications in favor of other  
18 applications. In some of these continuing applications, there was no prosecution  
19 designed to advance the application to issuance and, in at least one of these  
20 applications, there was no prosecution at all. A significant portion of the delays

1 was self-inflicted and not caused by malfeasance or misfeasance on the part of the  
2 PTO.

3 As evidenced by the expired patents underlying the bases for the affirmed  
4 double patenting rejections, the inventor(s) and/or the patent owner's predecessor  
5 have already benefited (for the full terms of these expired patents) from the right to  
6 exclude others on subject matter within the scope of or similar to the appealed  
7 claims. It would be manifestly unfair to again exclude the public from the same or  
8 patentably indistinct subject matter for another 17-year patent term. *In re Longi*,  
9 759 F.2d 887, 892-93, 225 USPQ 645, 648 (Fed. Cir. 1985)(quoting *In re*  
10 *Zickendraht*, 319 F.2d 225, 232, 138 USPQ 22, 27 (CCPA 1963)(“The public  
11 should...be able to act on the assumption that upon the expiration of the patent it  
12 will be free to use not only the invention claimed but also modifications or variants  
13 which would have been obvious to those of ordinary skill in the art...”)).

14 Although Vandenberg was cited and applied in the examination of the '687  
15 patent, we conclude that it raises a substantial new question of patentability. We  
16 find that the original examiner (of the application that matured into the '687 patent)  
17 never finalized (i.e., completed or fully considered) the substantive patentability  
18 issues raised by this reference. We also find that, in the original examination, the  
19 examiner made a mistake in assessing an incorrect filing date for the claimed  
20 subject matter. Specifically, the appealed claims specify a polymerization process

1 encompassing the polymerization of ethylene in any relative amount. None of the  
2 priority applications or the first two United States applications in the chain  
3 describe such processes. To the contrary, the original disclosures would have  
4 reasonably conveyed to one skilled in the relevant art that ethylene, if present,  
5 would only be polymerized in “small amounts.”

6         Consequently, we determine that the appealed claims are not entitled to an  
7 earlier filing date sufficient to antedate Vandenberg. Vandenberg, which is  
8 available as prior art under 35 U.S.C. § 102(b), was incorrectly excluded from the  
9 realm of relevant prior art at the time the claims were issued. Because the primary  
10 purpose of the reexamination statute is to correct errors made by the government,  
11 to remedy defective governmental (not private) action, and if need be to remove  
12 patents that never should have been granted, we conclude that Vandenberg, which  
13 anticipates or renders obvious all the appealed claims, raises a substantial new  
14 question of patentability.

15

16         The Technology

17         The patentees state they invented a polymerization process comprising  
18 polymerizing ethylene with a specified alpha-olefin in the presence of a catalyst  
19 obtained by reacting an aluminum alkyl compound with a catalytic titanium halide  
20 compound. The catalyst recited in the appealed claims encompasses virtually all,

1 if not all, known Ti-halide/alkylaluminum complex catalysts classified as Ziegler-  
2 Natta catalysts.<sup>1</sup> Indeed, Giulio Natta, one of the named inventors, and Karl  
3 Ziegler (Max Planck Institute for Carbon Research) were jointly awarded the 1963  
4 Nobel Prize in Chemistry for “high molecular weight polymers with spatially  
5 regular structures,” i.e., polyolefins having stereospecific structures such as  
6 isotactic polypropylene based on the use of these catalysts. (Appeal brief filed  
7 September 22, 2003, paper 17 at 3; *Encyclopedia of Polymer Science and*  
8 *Technology* at 517.)

9       The polymers resulting from the claimed process are ubiquitous in human  
10 civilization and are made into a wide variety of everyday products (e.g., grocery  
11 bags). Total polyolefin production worldwide exceeded 50 million tons/year  
12 according to the *Encyclopedia of Polymer Science and Technology*, which is dated  
13 2003.

14  
15       Prior Board Decision of March 30, 2005 (Paper 26) in This Reexamination

16       This is the second time an appeal has been taken in this Director-ordered  
17 reexamination. In the first appeal, we affirmed all six of the examiner’s rejections  
18 based on the judicially created doctrine of obviousness-type double patenting.

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<sup>1</sup> See John C. Chadwick, Ziegler-Natta Catalysts, in 8 *Encyclopedia of Polymer Science and Technology* 517-36 (2003)(copy attached).

1 Further, pursuant to our authority under 37 CFR § 41.50(b), we entered a new  
2 ground of rejection against claims 1-52 under 35 U.S.C. §§ 102(b) and 103(a).  
3 (March 30, 2005 Decision; Paper 26.) Because our decision included new grounds  
4 of rejection, it was not “considered final for judicial review.” *See* 37 CFR §  
5 41.50(b). The patent owner could have, but did not, seek an immediate rehearing  
6 of our decision pursuant to 37 CFR § 41.50(b)(2) in order to expedite judicial  
7 review of the affirmed double patenting rejections and new grounds of rejection.  
8 Instead, the patent owner reopened prosecution with respect to the new grounds of  
9 rejection pursuant to 37 CFR § 41.50(b)(1), thus again substantially affecting the  
10 rate and time of prosecution.

11 On reexamination, the examiner determined that the patent owner’s newly  
12 submitted evidence was insufficient to overcome the new grounds of rejection and  
13 entered a final rejection against all the claims. (Final Office action mailed August  
14 26, 2005.) The patent owner then appealed for a second time. (Amended appeal  
15 brief filed on February 23, 2006.) The proceeding is now ready for the Board’s  
16 second decision on appeal.

17

18 The Rejections To Be Reviewed in This Appeal

19 In this reexamination, the examiner rejected the appealed claims as follows  
20 (examiner’s answer mailed on March 14, 2006):

1           A.     Claims 1-4, 8-13, 15, 21-26, 28, 31, 32, 35, 39-44, and 48-52 under 35

2                   U.S.C. § 102(b) as anticipated by Vandenberg; and

3           B.     Claims 1-52 under 35 U.S.C. § 103(a) as unpatentable over

4                   Vandenberg.

5           Claims 1, 9, and 16, which are representative of the appealed claims, are

6 reproduced as follows:

7                   1. A process which comprises polymerizing ethylene with an  
8                   alpha-olefin,  $\text{CH}_2=\text{CHR}$ , wherein R is a saturated aliphatic radical  
9                   with 2 or more carbon atoms or a cycloaliphatic radical, in the  
10                  presence of a catalyst obtained by reacting an aluminum alkyl  
11                  compound with a catalytic titanium halide compound.

12  
13                  9. A process for preparing a copolymer comprising  
14                  copolymerizing monomeric olefin molecules comprising a monomeric  
15                  vinyl hydrocarbon having the formula  $\text{CH}_2=\text{CHR}$ , wherein R is a  
16                  saturated aliphatic radical having at least 2 carbon atoms or is a  
17                  cycloaliphatic radical, in the presence of a catalyst comprising a  
18                  catalytic aluminum alkyl compound and a catalytic titanium halide  
19                  compound.

20  
21                  16. A process according to claim 9 wherein the monomeric  
22                  olefin molecules comprise ethylene, the monomeric vinyl  
23                  hydrocarbon is selected from the group consisting of 1-butene, 1-  
24                  pentene, and 1-hexene, the alkyl of the catalytic aluminum alkyl  
25                  compound is selected from the group consisting of ethyl, propyl,  
26                  butyl, and combinations of these alkyl groups, and the catalytic  
27                  titanium halide compound is a titanium chloride compound.

28  
29           The patent owner contends that “the PTO took more than *forty years* before

30 it allowed the Natta et al. patent to issue...” and that the PTO has not acted on this

31 reexamination with “special dispatch” as required under the law. On the merits,

1 the patent owner contends that the rejections are in error because Vandenberg,  
2 which was applied against the claims in the prosecution of the original patent, does  
3 not raise a substantial new question of patentability under previous 35 U.S.C. §  
4 303(a) (2001). The patent owner further contends that even if Vandenberg raises a  
5 substantial new question of patentability, it is not available as prior art because the  
6 patentees' earlier applications including the Italian priority applications provides  
7 written description support for the now claimed subject matter.

8 The examiner, on the other hand, asserts that Vandenberg raises a substantial  
9 new question of patentability because the examiner of the original patent attributed  
10 an incorrect filing date for the claims and therefore withdrew the rejections based  
11 on the mistaken belief that Vandenberg was not prior art. According to the  
12 examiner, none of the proffered declarations are sufficient to make up for the  
13 missing description in the earlier applications.

14 We conclude that the patent owner has not established reversible error on the  
15 part of the examiner.

16

17 ISSUES

18 Does Vandenberg raise a substantial new question of patentability within the  
19 meaning of previous 35 U.S.C. § 303(a) (2001)?

1           If so, do the patentees' earlier United States applications and the two Italian  
2 priority documents describe the subject matter of the appealed claims within the  
3 meaning of 35 U.S.C. § 112, ¶1, such that Vandenberg would not be available as  
4 prior art under 35 U.S.C. § 102?

5           If Vandenberg raises a substantial new question of patentability and is  
6 available as prior art under 35 U.S.C. § 102, are appealed claims 1-4, 8-13, 15, 21-  
7 26, 28, 31, 32, 35, 39-44, and 48-52 unpatentable under 35 U.S.C. § 102(b) as  
8 anticipated by Vandenberg and are appealed claims 1-52 unpatentable under 35  
9 U.S.C. § 103(a) as obvious over Vandenberg?

10

11 FINDINGS OF FACT

12           The following findings of fact (hereinafter "FF \_\_") are supported by a  
13 preponderance of the evidence. To the extent that any of these findings are  
14 considered legal conclusions, they may be treated as such.

15 Background

16           1.     The patentees state they invented a polymerization process comprising  
17 polymerizing ethylene with a specified alpha-olefin in the presence of  
18 a catalyst obtained by reacting an aluminum alkyl compound with a  
19 catalytic titanium halide compound. (Amended appeal brief at 9.)

- 1           2.     The catalyst recited in the appealed claims encompasses virtually all,  
2                   if not all, known Ti-halide/alkylaluminum complex catalysts classified  
3                   as Ziegler-Natta catalysts. (*See Encyclopedia of Polymer Science and*  
4                   *Technology* at 517-36.)
- 5           3.     Giulio Natta, one of the named inventors, and Karl Ziegler (Max  
6                   Planck Institute for Carbon Research) were jointly awarded the 1963  
7                   Nobel Prize in Chemistry for “high molecular weight polymers with  
8                   spatially regular structures,” i.e., polyolefins having stereospecific  
9                   structures such as isotactic polypropylene based on the use of these  
10                  catalysts. (Appeal brief filed September 22, 2003, paper 17 at 3;  
11                  *Encyclopedia of Polymer Science and Technology* at 517.)
- 12          4.     The polymers resulting from the claimed process are ubiquitous in  
13                   human civilization and are made into a wide variety of everyday  
14                   products (e.g., grocery bags).
- 15          5.     According to the *Encyclopedia of Polymer Science and Technology*,  
16                   which is dated 2003, total polyolefin production worldwide exceed 50  
17                   million tons/year.

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1           Procedural History

2           6.     This is the second time an appeal has been taken in this Director-  
3                   ordered reexamination.

4           7.     In the first appeal, the Board affirmed all six of the examiner's  
5                   rejections based on the judicially created doctrine of obviousness-type  
6                   double patenting and, pursuant to our authority under 37 CFR §  
7                   41.50(b), also entered a new ground of rejection against claims 1-52  
8                   under 35 U.S.C. §§ 102(b) and 103(a). (March 30, 2005 Decision;  
9                   Paper 26.)

10          8.     Because the Board's decision included new grounds of rejection, it  
11                   was not "considered final for judicial review."

12          9.     The patent owner could have, but did not, seek an immediate  
13                   rehearing of our decision pursuant to 37 CFR § 41.50(b)(2) in order to  
14                   expedite judicial review of the affirmed double patenting rejections  
15                   and new grounds of rejection.

16          10.    Instead, the patent owner reopened prosecution with respect to the  
17                   new grounds of rejection pursuant to 37 CFR § 41.50(b)(1).

18          11.    On reexamination, the examiner determined that the patent owner's  
19                   newly submitted evidence was insufficient to overcome our new

1 grounds of rejection and entered a final rejection against all the  
2 claims. (Final Office action mailed August 26, 2005.)

3 12. The patent owner then appealed for a second time. (Amended appeal  
4 brief filed February 23, 2006.)

5

6 The Original Patent

7 13. The original '687 patent issued on April 2, 2002 based on a chain of  
8 numerous applications claiming benefit of an earlier filing date and  
9 priority under 35 U.S.C. §§ 119, 120, and 121 to June 8, 1954.

10 14. The '687 patent issued from Application 07/883,912 filed on May 12,  
11 1992, which is a continuation of Application 07/719,666 filed on June  
12 24, 1991, now abandoned, which is a continuation of Application  
13 07/607,215 filed on October 29, 1990, now abandoned, which is a  
14 continuation of Application 06/906,600 filed on September 10, 1986,  
15 now abandoned, which is a continuation of Application 06/498,699  
16 filed on May 27, 1983, now abandoned, which is a continuation of  
17 Application 03/710,840 filed on January 24, 1958, now abandoned,  
18 which is a division of Application 03/514,097 filed on June 8, 1955,  
19 now abandoned, which in turn claims priority to Italian Applications

1           24227 and 25109 filed in Italy on June 8, 1954 and July 27, 1954,  
2           respectively.

3           15. While identified as continuations, the disclosures of the chain of  
4           applications leading to the '687 patent are not all identical.

5           16. The text of the '687 patent appears to contain a printing error in that  
6           the description at page 5, lines 3-8 of the specification is missing.

7           17. Our March 30, 2005 Decision at 13-49 discussed how the long chain  
8           of applications resulted from the patentees' numerous abandonments  
9           and re-filings of continuation or divisional applications containing  
10          claims of substantially different scope.

11          18. Early in the prosecution, in Application 03/514,097, the patentees  
12          submitted claims directed to "[a] process for polymerizing unsaturated  
13          hydrocarbons of the general formula  $\text{CH}_2=\text{CHR}$  in which R is selected  
14          from the group consisting of saturated aliphatic, alicyclic and aromatic  
15          radicals [i.e.,  $\text{C}_3$  or higher unsaturated hydrocarbons], alone, in  
16          admixture with one another, or in admixture *with small amounts of*  
17          *other olefinic monomers* copolymerizable therewith" (emphasis  
18          added) to form a polymer having a *specified* structure. (March 30,  
19          2005 Decision at 17.)

- 1           19.    The so-called “small amounts of other olefinic monomers  
2                    copolymerizable therewith” encompasses ethylene.
- 3           20.    In the ‘097 application, the patentees argued: “Appellants were the  
4                    first to produce and disclose a polymerizate of a higher alpha-olefin  
5                    such as *propylene which was proved by them (by determination of the*  
6                    *X-ray data) to exhibit crystallinity.*” (Appeal brief filed on October 7,  
7                    1959.)
- 8           21.    On October 7, 1959, notwithstanding the examiner’s indication that  
9                    claim 105 would be allowed if rewritten in independent form, the  
10                  patentees appealed the examiner’s rejection of claims 80-104 to the  
11                  Board of Appeals. (Appeal brief filed October 7, 1959; Office action  
12                  mailed October 1, 1959; March 30, 2005 Decision at 20-24.)
- 13          22.    Those appealed claims were directed to *homopolymers* of C<sub>3</sub> or higher  
14                  olefins, thus excluding ethylene as a comonomer.
- 15          23.    The Board of Appeals affirmed the examiner’s rejection (Paper 44,  
16                  entered as paper 42 on January 1, 1961).
- 17          24.    On January 23, 1962, a Notice of Allowance of claim 105 in rewritten  
18                  form was mailed.
- 19          25.    The patentees intentionally permitted the ‘097 application to be  
20                  abandoned in favor of related application 03/710,840.

- 1           26.    In the '840 application, the patentees sought examination of claims  
2                    directed to the polymerization of one or more C<sub>3</sub>-C<sub>18</sub> unsaturated  
3                    hydrocarbons optionally with ethylene in which the C<sub>3</sub>-C<sub>18</sub>  
4                    unsaturated hydrocarbon "predominates" to form polymers having a  
5                    specific structure. (March 30, 2005 Decision at 25-32.)
- 6           27.    On June 16, 1958, the patentees introduced claim 14 directed to a  
7                    process for producing high molecular weight, partially crystalline  
8                    polymerization products of ethylene and propylene in the presence of  
9                    a catalysts selected from a wide variety of transition metal catalysts.  
10                  (Paper 6 of the '840 application.)
- 11          28.    It was not until October 2, 1964 that the patentees submitted claims  
12                    somewhat similar to, but not of the same scope as, the appealed claims  
13                    of this reexamination for interference purposes. (Amendment filed on  
14                    October 2, 1964, paper 40.5)
- 15          29.    The patentees urged the PTO to declare interferences against "any and  
16                    all other applications pending before the Patent office and claiming  
17                    the polymerization of unsaturated hydrocarbons within the formula  
18                    given, with the present catalysts," (Amendment filed July 14, 1959,  
19                    paper 14 of the '840) thus precipitating various other interferences  
20                    *unrelated* to the subject matter on appeal. (Amendment filed on July

1           14, 1959; Exhibit A attached to the Amendment filed on 1985, paper  
2           58 in the '840 application; Amendment filed on October 19, 1984 in  
3           Application 06/498,699.)

4           30. Although the patentees could have done so, they did not file another  
5           application to separate the October 2, 1964 claims.

6           31. The patentees prevailed in the interference proceeding involving the  
7           October 2, 1964 claims when the United States Court of Customs and  
8           Patent Appeals (CCPA) reversed the Board's ruling that priority  
9           should be awarded to none of the involved parties. *Anderson v. Natta*,  
10          480 F.2d 1392, 1399, 178 USPQ 458, 463 (CCPA 1973).

11          32. The '840 application was intentionally abandoned in favor of another  
12          application, namely the 06/498,699 application filed on May 27, 1983.  
13          (March 30, 2005 Decision at 32-35.)

14          33. In the '699 application, the patentees submitted claims directed to the  
15          interpolymerization of ethylene with a C<sub>4</sub> or higher unsaturated  
16          hydrocarbon in the presence of a coordination catalyst, one  
17          component of which contains Ti-Cl.

18          34. In an Office action mailed on May 2, 1984, the examiner made a  
19          number of rejections, including rejections under 35 U.S.C. § 102(e)

1           and 35 U.S.C. § 103 over United States Patent 3,058,963 issued to  
2           Vandenberg on October 16, 1962.

3           35.    On October 19, 1984, the patentees amended the rejected claims to  
4           recite an aluminum alkyl cocatalyst and argued that Vandenberg is not  
5           available as prior art.

6           36.    The examiner, however, determined that the patentees were not  
7           entitled to priority under 35 U.S.C. §§ 119 and 120 because the earlier  
8           applications did not describe, within the meaning of 35 U.S.C. § 112,  
9           ¶1, the subject matter of the rejected claims. (Final Office action  
10          mailed on September 17, 1985, paper 13 of the '699 application.)

11          37.    The patentees expressly abandoned the '699 application on September  
12          10, 1986 in favor of a new application 06/906,600.

13          38.    In the '600 application, the patentees attempted to obtain allowance  
14          for an interpolymerization process comprising polymerizing ethylene  
15          with a specified C<sub>4</sub> or higher alpha-olefin, without any limitation on  
16          the type of cocatalyst (i.e., the non-transition metal activator  
17          component). (Amendment filed on December 14, 1987, paper 26.)

18          39.    The examiner continued to finally reject these claims on various  
19          grounds, including rejections under 35 U.S.C. §§ 102(e) and 103 over  
20          Vandenberg. (Final Office action mailed on April 4, 1988, paper 28.)

- 1           40.    On appeal, the Board affirmed the examiner's prior art rejections on  
2                    the basis that the patentees were not entitled to benefit of priority  
3                    under 35 U.S.C. § 119 because the claimed subject matter was not  
4                    described in either of the two Italian priority documents and,  
5                    therefore, Vandenberg was available as prior art under 35 U.S.C. §  
6                    102(e). *Ex parte Natta*, Appeal No. 89-1569, slip op. at 2-6 (BPAI  
7                    1990).
- 8           41.    The patentees did not appeal this ruling and the '600 application was  
9                    abandoned in favor of yet another application, namely 07/607,215  
10                  filed on October 29, 1990.
- 11          42.    The patentees did not substantively prosecute the '215 application.
- 12          43.    Consequently, the examiner entered a Notice of Abandonment on  
13                  August 27, 1991. (Paper 46.)
- 14          44.    In 07/719,666 filed on June 24, 1991, the patentees did not  
15                  substantively amend the claims.
- 16          45.    On September 19, 1991, the examiner entered a final Office action.  
17                  (Paper 48.)
- 18          46.    On March 12, 1992, the patentees submitted additional expert  
19                  declarations in an attempt to establish that the Italian priority  
20                  documents describe the claimed subject matter. (Paper 54.)

1           47.    The examiner refused entry of the declarations as untimely and the  
2                    application was abandoned without any appeal.

3           48.    In 07/883,912, the examiner maintained the rejections and explained  
4                    that the declarations were unpersuasive. (Office action mailed on  
5                    June 16, 1992, paper 59.)

6           49.    The examiner did not credit the testimonies of the experts because  
7                    their declarations were inconsistent with the text of the documents and  
8                    explained that the declarations “cannot supply to the priority  
9                    documents what is not there.” (Office action mailed on June 16,  
10                   1992, paper 59 at 2-3.)

11          50.    In addition to the rejections based on prior art, the examiner added  
12                    two new grounds of rejections based on 35 U.S.C. § 112, ¶1. (*Id.*)

13          51.    Specifically, claims 11 and 17 were rejected as having “no support in  
14                    the specification for the subject matter of the phrase ‘coordination  
15                    catalyst, one component of which contains a Ti-Cl bond’” and claims  
16                    11-17 were rejected as having “no support in the specification for the  
17                    subject matter of the phrases ‘interpolymerizing  
18                    ethylene...cycloaliphatic radical’ and ‘interpolymerizing ethylene with  
19                    styrene C<sub>6</sub>H<sub>5</sub>CH=CH<sub>2</sub>.’”

1           52.    The Board affirmed the prior art rejections over Vandenberg and one  
2                   of the two 35 U.S.C. § 112, ¶1 rejections (the rejection of claims 11  
3                   and 17) but not the other (the rejection of claims 11-17). *Ex parte*  
4                   *Natta*, Appeal No. 95-2683 (BPAI 1998), *vacated in part and*  
5                   *remanded*, *In re Natta*, No. 99-1183 (Fed. Cir. Apr. 5, 1999).

6           53.    On appeal to the United States Court of Appeals for the Federal  
7                   Circuit, the Commissioner filed an “Unopposed Motion for Remand”  
8                   dated March 22, 1999, which was granted. *In re Natta*, No. 99-1183  
9                   (Fed. Cir., April 5, 1999).

10          54.    On remand, the affirmance of the prior art rejections as applied to  
11                   claims 12-16 was vacated and the application was remanded to a  
12                   different examiner, the original examiner (Edward J. Smith) having  
13                   retired from federal service.

14          55.    On September 21, 2001, more than 46 years after the filing of the first  
15                   United States application in the chain, the patentees submitted claims  
16                   in their present form.

17          56.    These claims were allowed on October 2, 2001.

18          57.    The ‘687 patent issued with 34 claims. (Amended appeal brief at 8.)

1            The Reexamination

2            58.    During reexamination, claims 35-52 were added. (*Id.*)

3            59.    In this reexamination, the examiner rejected the appealed claims as  
4            follows: claims 1-4, 8-13, 15, 21-26, 28, 31, 32, 35, 39-44, and 48-52  
5            under 35 U.S.C. § 102(b) as anticipated by Vandenberg; and claims 1-  
6            52 under 35 U.S.C. § 103(a) as unpatentable over Vandenberg.  
7            (Examiner's answer mailed on March 14, 2006.)

8            60.    Claims 1, 9, and 16, which are representative of the appealed claims,  
9            are reproduced as follows:

10                    1. A process which comprises polymerizing  
11                    ethylene with an alpha-olefin,  $\text{CH}_2=\text{CHR}$ , wherein R is a  
12                    saturated aliphatic radical with 2 or more carbon atoms or  
13                    a cycloaliphatic radical, in the presence of a catalyst  
14                    obtained by reacting an aluminum alkyl compound with a  
15                    catalytic titanium halide compound.

16  
17                    9. A process for preparing a copolymer  
18                    comprising copolymerizing monomeric olefin molecules  
19                    comprising a monomeric vinyl hydrocarbon having the  
20                    formula  $\text{CH}_2=\text{CHR}$ , wherein R is a saturated aliphatic  
21                    radical having at least 2 carbon atoms or is a  
22                    cycloaliphatic radical, in the presence of a catalyst  
23                    comprising a catalytic aluminum alkyl compound and a  
24                    catalytic titanium halide compound.

25  
26                    16. A process according to claim 9 wherein the  
27                    monomeric olefin molecules comprise ethylene, the  
28                    monomeric vinyl hydrocarbon is selected from the group  
29                    consisting of 1-butene, 1-pentene, and 1-hexene, the  
30                    alkyl of the catalytic aluminum alkyl compound is

1 selected from the group consisting of ethyl, propyl, butyl,  
2 and combinations of these alkyl groups, and the catalytic  
3 titanium halide compound is a titanium chloride  
4 compound.  
5  
6

7 Substantial New Question

8 61. The Director determined, on the basis of non-statutory double  
9 patenting over the claims of two United States patents not cited in the  
10 original examination, that a substantial new question of patentability  
11 within the meaning of 35 U.S.C. § 303(a) was raised with respect to  
12 the claims of the subject patent. (June 7, 2002 reexamination order,  
13 paper 1.)

14 62. In the original examination, the examiner determined that the  
15 patentees were entitled to the filing date the Italian '109 application  
16 and thus Vandenberg was antedated. (Office action mailed on July  
17 13, 2001, paper 91 at 1; Reasons for Allowance mailed October 2,  
18 2001, paper 95.)

19 63. The examiner of the original patent did not fully considered the  
20 substantive issues of patentability of the claims over the prior art as a  
21 result of the incorrect assessment of the effective filing date.

1           64.    In *Ex parte Natta*, Appeal No. 95-2683, the pertinent issue was  
2                    whether the claims were unpatentable under 35 U.S.C. § 112, ¶1,  
3                    because the *disclosure of the '912 application*, as originally filed, did  
4                    not provide adequate written description support for the claimed  
5                    subject matter, which recited “interpolymerizing  
6                    ethylene...cycloaliphatic radical” and “interpolymerizing ethylene  
7                    with styrene.”

8           65.    The Board in *Ex parte Natta*, Appeal No. 95-2683 held:

9                    Fatal to the examiner’s rejection is the fact that the  
10                    appealed claims contain no language regarding the  
11                    amount of ethylene used in the polymerization process  
12                    that is not described in the original specification...While  
13                    it can be argued that the appealed claims encompass  
14                    amounts of ethylene greater than 5%, it is well settled  
15                    that it is not the function of the claims to specifically  
16                    exclude possible inoperable substances or ineffective  
17                    reactant proportions. [*Ex parte Natta*, Appeal No. 95-  
18                    2683 at 7-8.]

19  
20           66.    The Board in *Ex parte Natta*, Appeal No. 95-2683, slip op. at 9 also  
21                    referred to the disclosure at page 10, lines 10-14, which states:

22                    The method of this invention may be used for  
23                    polymerizing vinyl hydrocarbons of the formula given  
24                    including propylene, butene-1, pentene-1, hexane-1,  
25                    styrene, and so on, as well as mixtures thereof and  
26                    mixtures of the vinyl hydrocarbon *with small amounts of*  
27                    *ethylene*. [Emphasis added.]  
28

1           67.    The Board in *Ex parte Natta*, Appeal No. 95-2683 did not distinguish  
2                    *Ex parte Natta*, Appeal No. 89-1569, slip op. at 2-6 (BPAI 1990).

3           68.    The examiners of the original patent were bound by *Ex parte Natta*,  
4                    Appeal No. 89-1569 (BPAI 1990).

5           69.    The reexamination examiner has not rejected the appealed claims as  
6                    failing to comply with the written description requirement of 35  
7                    U.S.C. § 112, ¶1, because such a rejection is barred and, in any event,  
8                    the subject matter of the appealed claims was part of the disclosure of  
9                    the '912 application, as originally filed on May 12, 1992.

10

11                    Effective Filing Date of the Claimed Subject Matter

12           70.    The specifications of the Italian priority applications, the '097  
13                    application, and the '840 application as originally filed differ  
14                    significantly from the specification of the '687 patent under  
15                    reexamination.

16           71.    Italian priority application 24227 relates to the polymerization of  
17                    propylene to form highly crystalline propylene polymers. (*See*  
18                    Certified English translation of 24227 filed on May 22, 1959 in  
19                    03/514,097, page 2.)

- 1           72.    The '227 Italian application discusses the presence of ethylene only in  
2                    the context of “[s]mall amounts” that do not inhibit propylene  
3                    polymerization.
- 4           73.    In discussing the catalyst composition, the '227 application states:  
5                    “[N]ot all the starting agents indicated by Ziegler for the production of  
6                    high polymers of ethylene are effective for the polymerization of  
7                    ethylene-free propylene.” (Translation at 3.)
- 8           74.    In Example 5, the '227 application explains: “Small amounts of  
9                    ethylene contained in the propylene employed do not interfere with  
10                   the polymerization itself.” (*Id.* at 10.)
- 11          75.    The appealed claims do not recite propylene as a copolymerizable  
12                   monomer.
- 13          76.    The appealed claims do not require the production of highly  
14                   crystalline propylene polymers.
- 15          77.    Appealed claim 1 recites the polymerization of ethylene (in *any*  
16                   relative amount) with a specified C<sub>4</sub> or higher alpha-olefin in the  
17                   presence of the specified catalyst composition to form polymers  
18                   having *any* degree of crystallinity.
- 19          78.    Italian priority application 25109 describes the production of solid  
20                   propylene polymers or specified alpha-olefin polymers having “a

1 remarkable regularity of structure and crystallinity” using a catalyst  
2 composition based on the reaction product of an alkylaluminum  
3 compound and a reactive titanium compound such as titanium  
4 tetrachloride. (Translation at 1-2.)

5 79. Regarding the alpha-olefins, the '109 application refers to those  
6 having the formula “CH<sub>2</sub>=CHR type higher than propylene.” (*Id.* at  
7 8.)

8 80. While ethylene is mentioned in the '109 application, it is not  
9 identified as a comonomer as in the appealed claims.

10 81. Instead, the '109 application states (*id.* at 4):

11 Higher ratios between titanium and aluminum than  
12 previously proposed by Ziegler for the polymerization of  
13 ethylene, bring about an increase in the activity of the  
14 catalysts which renders the polymerization of propylene  
15 possible...

16  
17 82. Ethylene is described as a byproduct of an *in situ* reaction of the  
18 alkylaluminum compound and the titanium compound or the alpha-  
19 olefin. (*Id.* at 5-6.)

20 83. The Board in *Ex parte Natta*, Appeal No. 89-1569, slip op. at 2-6  
21 (paper 40 of application 06/906,600) held that claims similar to those  
22 now on appeal were not entitled to 35 U.S.C. § 119 benefit of either of  
23 the Italian applications (24227 and 25109). (*Id.* at 3.)

1           84.    The Board in *Ex parte Natta*, Appeal No. 89-1569 (‘666 application)

2                   explained (*id.* at 3-4):

3                                Claim 11 is directed to a method of  
4                                interpolymerizing ethylene with a specified class of alpha  
5                                olefins which excludes propylene. The claim does not  
6                                place any limit on either the number or proportion of  
7                                monomers present during interpolymerization.

8                                The ‘227 [Italian] application describes processes  
9                                for polymerizing propylene. At best, this application  
10                                describes copolymers of propylene which contain a small  
11                                amount of ethylene. *Since claim 11 excludes propylene*  
12                                *and is unlimited in respect to the amount of ethylene used*  
13                                *in the process, we do not find that the ‘227 application*  
14                                *describes the subject matter of claim 11 in the manner*  
15                                *provided by 35 USC § 112, first paragraph.*

16                                Accordingly, we find that the claims on appeal are not  
17                                entitled to the benefit of the ‘227 application under 35  
18                                USC § 119.

19                                The ‘109 [Italian] application describes methods of  
20                                forming alpha olefin polymers and copolymers.  
21                                However, this application only describes copolymers of  
22                                alpha olefins and ethylene which contain a small  
23                                proportion of ethylene. *We agree with the examiner that*  
24                                *this limited description of a process for making a very*  
25                                *narrow class of copolymers does not provide the*  
26                                *requisite descriptive support for the much broader*  
27                                *process which is now claimed.* Accordingly, we find that  
28                                the claims are not entitled to the benefit of the ‘109  
29                                application under 35 USC § 119. [Emphasis added.]

30  
31           85.    Regarding the 37 CFR § 1.132 declaration of Umberto Giannini filed

32                   on May 19, 1987, the Board found it unpersuasive as follows (*id.* at 4-

33                   5): “As pointed out by the examiner, Dr. Giannini’s declaration is

34                   directed to whether the Italian applications enable one to practice the

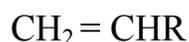
1           claimed invention, not whether these applications describe the  
2           claimed invention.”

3           86.    The as-filed disclosures of 03/514,097 and 03/710,840 indicate to one  
4           of ordinary skill in the art that when ethylene is copolymerized with a  
5           specified unsaturated hydrocarbon monomer, it is copolymerized in  
6           “small amounts, up to about 5%” to form “mixtures of linear, head-to-  
7           tail amorphous and crystalline polymers having no branches longer  
8           than R.” (03/514,097 specification at 1-2; 03/710,840 specification at  
9           1.)

10          87.    The ‘097 application, the first in the chain of United States  
11          applications, was submitted with polymerization process claims that  
12          are substantially different from the here appealed claims.

13          88.    For example, claim 1 of 03/514,097 read:

14                   1. A process for polymerizing unsaturated  
15                   hydrocarbons of the general formula



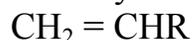
18  
19                   in which R is selected from the group consisting of  
20                   saturated aliphatic, and alicyclic and aromatic radicals,  
21                   alone, in admixture with one another, or in admixture  
22                   *with small amounts of other olefinic monomers*  
23                   *copolymerizable therewith*, to obtain linear, regular,  
24                   head-to-tail polymers having substantially no branches  
25                   longer than R, which comprises the steps of (a) reacting a  
26                   catalytic heavy metal compound dissolved in an inert

1 solvent with an metal alkyl compound dissolved in an  
2 inert solvent, in the absence of air, (b) introducing at least  
3 one of the unsaturated hydrocarbons to be polymerized  
4 into the reaction product of the heavy metal and metal  
5 alkyl compounds in the inert solvent, and (c) heating the  
6 mass at a temperature between room temperature and  
7 120°C and at a pressure between ordinary atmospheric  
8 pressure and 100 atmospheres, to effect polymerization  
9 of said unsaturated hydrocarbon. [Emphasis added.]  
10

11 89. The '097 application disclosed the incorporation of "[s]mall amounts"  
12 of ethylene into the copolymer and thus indicated that ethylene is one  
13 of the "other olefinic monomers copolymerizable" with the CH<sub>2</sub>=  
14 CHR unsaturated hydrocarbon monomer. (Pages 12 and 32.)

15 90. Regarding the term "small amounts," the specification enlightened  
16 one skilled in the relevant art as follows (pages 1-2):

17 This invention relates to a process for polymerizing  
18 unsaturated hydrocarbons of the formula



20 in which R is a saturated aliphatic, an alicyclic or an  
21 aromatic radical, alone, in mixture with one another, or in  
22 mixture *with small amounts, up to about 5%, of a*  
23 *monomer polymerizable therewith.*

24 Uniquely, the initial polymerization products obtained by  
25 the present method are mixtures of linear, head-to-tail  
26 amorphous and crystalline polymers having no branches  
27 longer than R. The polymers can be separated from the  
28 polymerizate by fractional dissolution. The crystalline  
29 polymers may comprise as high as 30% or even up to  
30 55% of the mixture and have high molecular weights and  
31 fiber forming properties. The amorphous polymers may  
32 also have relatively high molecular weights and may  
33 exhibit rubberlike properties. [Emphasis added.]

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91. In addition, the '097 specification stated (page 6):

It has been found, also, that even when ethylene is polymerized with the aid of the special promoters obtained by reaction of the heavy metal and metal alkyl compounds, in the ratios proposed for promoting ethylene polymerization, *the presence of any substantial amount of the higher olefines inhibits polymerization of the ethylene, while the higher olefines, if they react at all, do so only at very low reaction rates and, in any case, without yielding polymers of the type with which this invention is concerned.* [Emphasis added.]

92. The '097 specification states (page 12):

The method of *this invention* may be used for polymerizing vinyl hydrocarbons of the formula given including propylene, butene-1, pentene-1, hexene-1, styrene, and so on, as well as mixtures thereof and mixtures of the vinyl hydrocarbon *with small amounts of ethylene.* [Emphasis added.]

93. Application 03/710,840 contained the following (specification, page 1):

This invention relates to a process for polymerizing unsaturated hydrocarbons of the formula  
$$\text{CH}_2 = \text{CHR}$$
in which R is a saturated aliphatic, an alicyclic or an aromatic radical, alone, in mixture with one another, or in mixture *with small amounts, up to about 5%, of a monomer polymerizable therewith.*  
Uniquely, the initial polymerization products obtained by the present method are mixtures of linear, head-to-tail amorphous and crystalline polymers having no branches longer than R. The polymers can be separated from the polymerizate by fractional dissolution. The crystalline

1 polymers may comprise as high as 30% or even up to  
2 55% of the mixture and have high molecular weights and  
3 fiber forming properties. The amorphous polymers may  
4 also have relatively high molecular weights and may  
5 exhibit rubber-like properties. [Emphasis added.]  
6

7 94. The '840 specification further stated (pages 4-5):

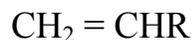
8 [I]t has been found, also, that even when ethylene is  
9 polymerized with the aid of the special promoters  
10 obtained by reaction of the heavy metal and metal alkyl  
11 compounds, in the ratios proposed for promoting  
12 ethylene polymerization, *the presence of any substantial*  
13 *amount of the higher olefins inhibits polymerization of*  
14 *the ethylene, while the higher olefins, if they react at all,*  
15 *do so only at very low reaction rates and, in any case,*  
16 *without yielding polymers of the type with which this*  
17 *invention is concerned.* [Emphasis added.]  
18

19 95. The '840 specification states (page 10):

20 The method of this invention may be used for  
21 polymerizing vinyl hydrocarbons of the formula given  
22 including propylene, butene-1, pentene-1, hexene-1,  
23 styrene, and so on, as well as mixtures thereof and  
24 mixtures of the vinyl hydrocarbon *with small amounts of*  
25 *ethylene.* [Emphasis added.]

26 96. Original claim 1 of 03/710,840 read:

27 A process for producing polymerizates of unsaturated  
28 hydrocarbons of the general formula



31  
32 where R is a radical containing 1 to 16 carbon atoms and  
33 is selected from the group consisting of alicyclic,  
34 aromatic and saturated aliphatic radicals, said  
35 polymerizates being selected from the group consisting  
36 of high molecular weight polymerizates comprising

1 mixtures of atactic, partially isotactic and highly isotactic  
2 homopolymers of the of the unsaturated hydrocarbon,  
3 polymerizates comprising linear, regular head-to-tail  
4 copolymers of said hydrocarbons with each other, and  
5 polymerizates comprising linear, regular head-to-tail  
6 copolymers of said unsaturated hydrocarbons with  
7 ethylene in which said unsaturated hydrocarbon  
8 predominates in the copolymer molecule, which  
9 comprises the steps of (a) reacting a halide of a heavy  
10 metal selected from the group consisting of titanium,  
11 zirconium, hafnium, thorium, vanadium, tantalum,  
12 niobium, chromium, molybdenum, tungsten and uranium  
13 with a metallorganic compound of a metal selected from  
14 the group consisting of beryllium, magnesium, zinc,  
15 cadmium, boron and aluminum in an inert hydrocarbon  
16 solvent, in the absence of air, (b) introducing said  
17 material to be polymerized into the reaction product of  
18 the heavy metal halide and metallorganic compound in  
19 the inert solvent, and (c) heating the mass at a  
20 temperature between room temperature and 120°C and at  
21 a pressure between atmospheric pressure and 100  
22 atmospheres to effect the polymerization.

23  
24 97. The claim submitted on October 2, 1964 in the '840 application read:

25 A process which comprises interpolymerizing ethylene  
26 with another hydrocarbon having one terminal -CH =  
27 CH<sub>2</sub> group and no other non-aromatic unsaturation, said  
28 other hydrocarbon having at least 4 carbon atoms per  
29 molecule, in the presence of a coordination catalyst, one  
30 component of which contains a Ti-Cl bond.

31  
32 98. Examiner Smith determined (Office action mailed Jun. 16, 1992 in  
33 application 07/883,912, paper 59, pages 2-3):

34 The Declaration[s] of Drs. Corradini and Giannini cannot  
35 supply to the priority documents what is not there - a  
36 description of the invention in accordance with 35 U.S.C.

1           112. These Declarations, while not described as such,  
2           are in fact directed to the proposition of enablement as  
3           was the previous Declaration of Dr. Giannini  
4           (Declaration of May 19, 1987). While it might be  
5           obvious from the specification and the priority document  
6           (Italian 25109) to copolymerize ethylene with alpha-  
7           olefins of 4 or more carbon atoms in the presence of a  
8           coordination catalyst containing a component having a  
9           titanium to chloride bond, the specification and priority  
10          document do not describe this invention.

11  
12          99. In an Office action approved by Supervisory Patent Examiner Schofer  
13          and mailed on April 8, 1993 (paper 63, page 4), Examiner Smith again  
14          emphasized: “The reference to ethylene [in the prior applications and  
15          the priority documents]...is always that the alpha-olefin is mixed with  
16          a small amount or 5% of ethylene. There is no suggestion in the  
17          specification to increase the percentage of ethylene above 5%, much  
18          less to the unlimited range of these claims.”

19          100. The testimonies of the patent owner’s experts are at odds with the  
20          actual text of the as-filed disclosures in question (as well as the early  
21          prosecution history).

22          101. Appealed claim 16, which depends from claim 9, demonstrates that  
23          the term “monomeric olefin molecules” in claim 9 reads on ethylene.

24          102. No limitation as to amount of ethylene content is recited in appealed  
25          claim 9.

1           103. The '840 application states (pages 4-5):

2                         It has been found, also, that even when ethylene is  
3                         polymerized with the aid of the special promoters  
4                         obtained by reaction of heavy metal and metal alkyl  
5                         compounds, in the ratios proposed for promoting  
6                         ethylene polymerization, the presence of any substantial  
7                         amount of the higher olefins inhibits polymerization of  
8                         the ethylene, while the higher olefins, if they react at all,  
9                         do so only at very low reaction rates and, in any case,  
10                        without yielding polymers of the type with which this  
11                        invention is concerned.

12  
13           104. Original claim 1 of the '840 application uses the term "predominates"  
14                        to quantify the amount of unsaturated hydrocarbons having the  
15                        structure  $\text{CH}_2=\text{CHR}$ , not ethylene.

16           105. The appealed claims do not limit the amount of ethylene in a manner  
17                        commensurate with the description in the original claims of the '840  
18                        application.

19           106. The description at page 4, lines 1-8 of the '097 application states:

20                        Although, as stated, the polymerization aids  
21                        obtained by reacting the heavy metal compound and  
22                        metal alkyl compound in a solvent inert to the polymer to  
23                        be formed, such as a saturated aliphatic hydrocarbon,  
24                        were found useful in the production of high polymers of  
25                        ethylene, it was not apparent that those agents would be  
26                        useful in the polymerization of the unsaturated  
27                        hydrocarbons containing the vinyl group.

28

1           107. The appealed claims of this reexamination do not recite a catalyst  
2           “obtained by reacting the heavy metal compound and metal alkyl  
3           compound in a solvent inert to the polymer to be formed.”

4           108. The term “olefins without a vinyl group” in Italian ‘109 includes an  
5           indeterminate number of species.

6           109. Floyd’s Third Declaration (Appeal Brief, Exhibit 4, ¶18) states that  
7           ethylene is an “olefin[] without a vinyl group.”

8           110. Ethylene is an olefin ( $\text{CH}_2=\text{CH}_2$ ), which contains a vinyl group  
9           ( $\text{CH}_2=\text{CH}-$ ). *Hawley’s Condensed Chemical Dictionary* (14<sup>th</sup> ed.  
10           2002), copy attached.

11  
12           The Vandenberg Reference

13           111. Vandenberg issued on October 16, 1962 and has an effective filing  
14           date of April 7, 1955.

15           112. Vandenberg describes a process in which 2 parts ethylene and 10 parts  
16           octene-1 (corresponding to the patent owner’s recited  $\text{CH}_2=\text{CHR}$   
17           alpha-olefin) are copolymerized in the presence of: (i) a hydrocarbon-  
18           insoluble reaction product prepared by mixing 0.0603 part of  
19           diethylaluminum chloride (corresponding to the patent owner’s  
20           recited aluminum alkyl compound) and 0.0475 part of titanium

1           tetrachloride (corresponding to the patent owner's recited titanium  
2           halide compound) and used without aging; (ii) triethylaluminum  
3           (corresponding to the appellant's recited aluminum alkyl compound);  
4           and (iii) n-heptane. (Example 53; Table V.)

5           113. Vandenberg teaches that mixing the titanium compound with an  
6           organoaluminum compound forms a precipitate of lower valence  
7           titanium compounds in the hydrocarbon solvent. (Column 1, lines 14-  
8           55.)

9           114. The hydrocarbon-insoluble reaction product of Vandenberg's  
10          Example 53, like the titanium tetrachloride *per se*, corresponds to the  
11          patent owner's recited titanium halide compound.

12          115. The following table summarizes Vandenberg's description of each  
13          and every limitation of the invention in the appealed claim 1:

<b>Appealed claim 1</b>	<b>Vandenberg</b>
"A process which comprises polymerizing ethylene"	"This invention relates to an improved process for polymerizing olefins alone or in admixture..." (column 1, lines 8-10); 2 parts of ethylene described as a comonomer (Example 53, Table V)
"with an alpha-olefin, CH <sub>2</sub> =CHR, wherein R is a saturated aliphatic radical with 2 or more carbon atoms or a cycloaliphatic radical,"	octene-1 described as a comonomer (Example 53, Table V)
"in the presence of a catalyst obtained by reacting an aluminum alkyl	in the presence of: (i) a hydrocarbon-insoluble reaction product prepared by

compound with a catalytic titanium halide compound.”	mixing 0.0603 part of diethylaluminum chloride (corresponding to the appellant’s recited aluminum alkyl compound) and 0.0475 part of titanium tetrachloride (corresponding to the appellant’s recited titanium halide compound) and used without aging; (ii) triethylaluminum (corresponding to the appellant’s recited aluminum alkyl compound); and (iii) n-heptane (column 10, line 73 to column 11, line 14)
--	--

1

2           116. Claim 9 is much broader than claim 1 in that ethylene is not recited.

3

4    PRINCIPLES OF LAW

5           35 U.S.C. § 303(a) in effect on June 7, 2002 permits reexaminations based  
6 on old (i.e., previously considered) prior art if it raises a “substantial new question  
7 of patentability.” MPEP § 2258.01 (8<sup>th</sup> ed., Rev. 2, May 2004).

8           For a claim to be entitled to the benefit of the filing date of a previously filed  
9 application under 35 U.S.C. § 120, the previously filed application must comply  
10 with the written description requirement of 35 U.S.C. § 112, ¶1. *In re Curtis*, 354  
11 F.3d 1347, 1351-52, 69 USPQ2d 1274, 1278 (Fed. Cir. 2004).

12           To be entitled to priority under 35 U.S.C. § 119(a), the relied upon foreign  
13 patent application must meet the requirements of 35 U.S.C. § 112, first paragraph,

1 as to the subject matter claimed in the later filed United States application. *Cf. In*  
2 *re Ziegler*, 992 F.2d 1197, 1200, 26 USPQ2d 1600, 1603 (Fed. Cir. 1993).

3 To anticipate, a prior art reference must describe, either expressly or  
4 inherently, every limitation of the claim. *In re Schreiber*, 128 F.3d 1473, 1477, 44  
5 USPQ2d 1429, 1431 (Fed. Cir. 1997).

6 Anticipation is the epitome or ultimate of obviousness. *In re Baxter*  
7 *Travenol Laboratories*, 952 F.2d 388, 391, 21 USPQ2d 1281, 1284-85 (Fed. Cir.  
8 1991).

9  
10 DISCUSSION

11 Background

12 The original '687 patent issued on April 2, 2002 based on a chain of  
13 numerous applications claiming benefit of an earlier filing date and priority under  
14 35 U.S.C. §§ 119, 120, and 121 to June 8, 1954.<sup>2</sup> As fully discussed in our March

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<sup>2</sup> The '687 patent issued from Application 07/883,912 filed on May 12, 1992, which is a continuation of Application 07/719,666 filed on June 24, 1991, now abandoned, which is a continuation of Application 07/607,215 filed on October 29, 1990, now abandoned, which is a continuation of Application 06/906,600 filed on September 10, 1986, now abandoned, which is a continuation of Application 06/498,699 filed on May 27, 1983, now abandoned, which is a continuation of Application 03/710,840 filed on January 24, 1958, now abandoned, which is a division of Application 03/514,097 filed on June 8, 1955, now abandoned, which in turn claims priority to Italian Applications 24227 and 25109 filed in Italy on June 8, 1954 and July 27, 1954, respectively. (The text of the '687

1 30, 2005 Decision at 13-49, the long chain of applications resulted from the  
2 patentees' numerous abandonments and re-filings of continuation or divisional  
3 applications containing claims of substantially different scope. The prosecution of  
4 such claims of substantially different scope directly affected the rate and time of  
5 prosecution because many of these claims were held unpatentable.

6 It was not until October 2, 1964 that the patentees submitted claims  
7 somewhat similar to, but not of the same scope as, the appealed claims of this  
8 reexamination for interference purposes. The patentees also urged the PTO to  
9 declare interferences against "any and all other applications pending before the  
10 Patent office and claiming the polymerization of unsaturated hydrocarbons within  
11 the formula given, with the present catalysts," thus precipitating various other  
12 interferences *unrelated* to the subject matter on appeal. (Amendment filed on July  
13 14, 1959; Exhibit A attached to the Amendment filed on 1985, paper 58 in the '840  
14 application; Amendment filed on October 19, 1984 in Application 06/498,699.)  
15 Although the patentees could have done so, they did not file another application to  
16 separate the October 2, 1964 claims. Ultimately, the patentees did prevail in the  
17 interference proceeding involving the October 2, 1964 claims when the United  
18 States Court of Customs and Patent Appeals (CCPA) reversed the Board's ruling

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patent appears to contain a printing error in that the description at page 5, lines 3-8  
of the specification is missing.) While identified as continuations, the disclosures  
of these applications are not all identical.

1 that priority should be awarded to none of the involved parties. *Anderson v. Natta*,  
2 480 F.2d 1392, 1399, 178 USPQ 458, 463 (CCPA 1973).<sup>3</sup>

3 Following the interference, the examiner made a number of rejections in the  
4 ‘600 application in an Office action dated May 2, 1984, including rejections under  
5 35 U.S.C. § 102(e) and 35 U.S.C. § 103 over Vandenberg. On appeal, the Board  
6 affirmed the examiner’s rejections based on the Vandenberg reference. *Ex parte*  
7 *Natta*, Appeal No. 89-1569 (BPAI 1990). The patentees did not appeal this ruling  
8 and the ‘600 application was abandoned in favor of yet another application, namely  
9 07/607,215 filed on October 29, 1990, in which there was no prosecution.

10 In Application 07/883,912, the examiner maintained the rejections. (Office  
11 action mailed on June 16, 1992, paper 59.) Specifically, the examiner did not  
12 credit the testimonies of the experts because their declarations were inconsistent  
13 with the text of the documents and explained that the declarations “cannot supply  
14 to the priority documents what is not there.” In addition to the rejections based on  
15 prior art, the examiner added two new grounds of rejections based on 35 U.S.C. §  
16 112, ¶1. Specifically, claims 11 and 17 were rejected as having “no support in the  
17 specification for the subject matter of the phrase ‘coordination catalyst, one  
18 component of which contains a Ti-Cl bond’” and claims 11-17 were rejected as

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<sup>3</sup> The CCPA expressly declined to consider whether the patentees were entitled to an earlier filing date of June 8, 1955, the date on which the ‘097 application was filed, because the issue was not raised before the Board.

1 having “no support in the specification for the subject matter of the phrases  
2 ‘interpolymerizing ethylene...cycloaliphatic radical’ and ‘interpolymerizing  
3 ethylene with styrene C<sub>6</sub>H<sub>5</sub>CH=CH<sub>2</sub>.’” The Board affirmed the prior art rejections  
4 over Vandenberg and one of the two 35 U.S.C. § 112, ¶1 rejections (the rejection  
5 of claims 11 and 17) but not the other (the rejection of claims 11-17). *Ex parte*  
6 *Natta*, Appeal No. 95-2683 (BPAI 1998), *vacated in part and remanded*, *In re*  
7 *Natta*, No. 99-1183 (Fed. Cir. Apr. 5, 1999).

8 On appeal to the United States Court of Appeals for the Federal Circuit, the  
9 Commissioner filed an “Unopposed Motion for Remand” dated March 22, 1999,  
10 which was granted. On remand, the affirmance of the prior art rejections as  
11 applied to claims 12-16 was vacated and the application was remanded to a  
12 different examiner, the original examiner (Edward J. Smith) having retired from  
13 federal service. On September 21, 2001, more than 46 years after the filing of the  
14 first United States application in the chain, the patentees submitted claims in their  
15 present form. These claims were allowed on October 2, 2001.

16 The ‘687 patent issued with 34 claims. (Amended appeal brief at 8.) During  
17 reexamination, claims 35-52 were added. (*Id.*)

18  
19  
20

1           Grouping of Claims

2           The patent owner states that claims 1-8, 16-21, and 29-52 should be  
3 considered separately from claims 9-15 and 22-28. (Amended appeal brief at 12-  
4 13.) Accordingly, for each contested rejection, we select claims 1 and 9 as  
5 representative of the two groups of claims.

6

7           Vandenberg Raises a Substantial New Question of Patentability

8           Vandenberg issued on October 16, 1962. Thus, to avoid Vandenberg as a  
9 §102(b) statutory bar, the patent owner must establish that the appealed claims are  
10 entitled to an effective filing date prior to October 16, 1963. The relevant filing  
11 dates for the series of applications pertinent to our discussion are tabulated as  
12 follows:

<b>'687 Patent</b>	<b>Vandenberg</b>
Italian '227: Filed June 8, 1954	
Italian '109: Filed July 27, 1954	Filed April 7, 1955
US '097: Filed June 8, 1955	
US '840: Filed January 24, 1958	Issued October 16, 1962
US '699: Filed May 27, 1983	

13

1           As noted above, Vandenberg was cited and applied on prior art grounds  
2 against the claims in the original examination. In the original examination, the  
3 examiner determined that the claims as allowed in the patent under reexamination  
4 were entitled to the filing date of Italian priority application 25,109 filed July 27,  
5 1954, thus allegedly antedating Vandenberg. (Application 07/883,912, paper 95.)  
6 A threshold inquiry, therefore, is whether Vandenberg raises a substantial new  
7 question of patentability within the meaning of previous 35 U.S.C. § 303(a)  
8 (2001), *i.e.* whether the citation of Vandenberg in the original examination bars the  
9 rejections based on Vandenberg in this reexamination proceeding. We hold that,  
10 under the particular facts of the present case, the citation of Vandenberg in the  
11 original examination does not bar rejections based on it in this reexamination.

12           The Director determined, on the basis of non-statutory double patenting over  
13 the claims of two United States patents not cited in the original examination, that a  
14 substantial new question of patentability within the meaning of 35 U.S.C. § 303(a)  
15 was raised with respect to the claims of the subject patent. (June 7, 2002  
16 reexamination order, paper 1.) 35 U.S.C. § 303(a) in effect on June 7, 2002  
17 provided:

18           (a) Within three months following the filing of a request for  
19 reexamination under the provisions of section 302 of this title, the  
20 Director will determine whether a substantial new question of  
21 patentability affecting any claim of the patent concerned is raised by  
22 the request, with or without consideration of other patents or printed

1 publications. On his own initiative, and any time, the Director may  
2 determine whether a substantial new question of patentability is raised  
3 by patents and publications discovered by him or cited under the  
4 provisions of section 301 of this title.

5  
6 While 35 U.S.C. § 303(a) was amended on November 2, 2002 to state that  
7 “[t]he existence of a substantial new question of patentability is not precluded by  
8 the fact that a patent or printed publication was previously cited by or to the Office  
9 or considered by the Office,”<sup>4</sup> the statute in effect at the time the Director’s order  
10 was issued (i.e., June 7, 2002) controls the scope of this reexamination proceeding.  
11 *See* Patent and Trademark Office Authorization Act of 2002, Pub. L. No. 107-273,  
12 § 13105, 116 Stat. 1899, 1900 (2003)(“The amendments made by this section shall  
13 apply with respect to any determination of the Director...that is made under section

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<sup>4</sup> 35 U.S.C. § 303(a) was amended effective on Nov. 2, 2002 to read as follows:

(a) Within three months following the filing of a request for reexamination under the provisions of section 302 of this title, the Director will determine whether a substantial new question of patentability affecting any claim of the patent concerned is raised by the request, with or without consideration of other patents or printed publications. On his own initiative, and any time, the Director may determine whether a substantial new question of patentability is raised by patents and publications discovered by him or cited under the provisions of section 301 of this title. *The existence of a substantial new question of patentability is not precluded by the fact that a patent or printed publication was previously cited by or to the Office or considered by the Office.* [Emphasis added.]

1 303(a)...of title 35, United States Code, on or after the date of enactment of this  
2 Act.”).

3       The Manual of Patent Examining Procedure (MPEP) provides guidance on  
4 what would constitute “a substantial new question of patentability” within the  
5 meaning of previous 35 U.S.C. § 303(a).<sup>5</sup> MPEP § 2258.01 (8<sup>th</sup> ed., Rev. 2, May  
6 2004) sets forth two separate sets of guidelines - the first for reexaminations  
7 ordered on or after the effective date (Nov. 2, 2002) of the Patent and Trademark  
8 Office Authorization Act of 2002 and the second for reexaminations ordered prior  
9 to the effective date of the Patent and Trademark Office Authorization Act of  
10 2002. In the second set of guidelines, which are relevant here, MPEP § 2258.01  
11 states:

12           The Office recognizes that each case must be decided on its  
13 particular facts and that cases with unusual fact patterns will occur. In  
14 such a case, the reexamination should be brought to the attention of  
15 the (Central Reexamination Unit (CRU) Technology Center (TC)  
16 Director who will then determine the appropriate action to be taken.

17           Unusual fact patterns may appear in cases in which prior art  
18 was relied upon to reject any claim or cited and discussed with respect  
19 to the patentability of a claim in a prior related Office proceeding, but  
20 other evidence clearly shows that the examiner did not appreciate the  
21 issues raised in the reexamination request or the ongoing  
22 reexamination with respect to that art. Such other evidence may

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<sup>5</sup> *Refac Int’l Ltd. v. Lotus Dev. Corp.*, 81 F.3d 1576, 1584 n.2, 38 USPQ2d 1665, 1671 n.2 (Fed. Cir. 1996)(“The MPEP does not have the force and effect of law; however, it is entitled to judicial notice as the agency’s official interpretation of statutes and regulations, provided it is not in conflict with the statutes and regulations.”).

1 appear in the reexamination request, in the nature of the prior art, in  
2 the prosecution history of the prior examination, or in an admission by  
3 the patent owner, applicant, or inventor. See 37 CFR 1.104(c)(3).

4 The following examples are intended to be illustrative and not  
5 inclusive.

6 \* \* \* \*

7 Another example involves *the situation where an examiner*  
8 *discussed a reference in a prior Office proceeding, but did not either*  
9 *reject a claim based upon the reference or maintain the rejection*  
10 *based on the mistaken belief that the reference did not qualify as prior*  
11 *art. For example, the examiner may not have believed that the*  
12 *reference qualified as prior art because: (i) the reference was undated*  
13 *or was believed to have a bad date; (ii) the applicant submitted a*  
14 *declaration believed to be sufficient to antedate the reference under 37*  
15 *CFR 1.131; or (iii) the examiner attributed an incorrect filing date to*  
16 *the claimed invention. If the reexamination request were to explain*  
17 *how and why the reference actually does qualify as prior art, it may*  
18 *be appropriate to rely on the reference to order and/or conduct*  
19 *reexamination. For example, the request could: (i) verify the date of*  
20 *the reference; (ii) undermine the sufficiency of the declaration filed*  
21 *under 37 CFR 1.131; or (iii) explain the correct filing date accorded a*  
22 *claim. See e.g., Heinl v. Godici, 143 Supp.2d 593 [sic, F. Supp.2d]*  
23 *(E.D.Va. 2001) (reexamination on the basis of art previously*  
24 *presented without adequate proof of date may proceed if prior art*  
25 *status is now established). [Italics added.]*

26  
27 Accordingly, the PTO interprets the statutory phrase “a substantial new  
28 question of patentability” in previous 35 U.S.C. § 303(a) to be inclusive of  
29 rejections based on prior art that was cited in the original examination but wherein  
30 the examiner never completed or fully considered the substantive issues of  
31 patentability of the claims over the prior art (anticipation under 35 U.S.C. § 102  
32 and obviousness under 35 U.S.C. § 103) because the examiner mistakenly

1 accorded the claims an earlier effective filing date sufficient to antedate the prior  
2 art reference.

3         This is precisely what occurred in the original examination of the application  
4 which issued as the subject patent being here reexamined. In the original  
5 examination, the examiner determined that the patentees were entitled to the filing  
6 date the Italian '109 application and thus Vandenberg was antedated. (Office  
7 action mailed on July 13, 2001, paper 91 at 1; Reasons for Allowance mailed  
8 October 2, 2001, paper 95.) For reasons discussed more fully below, this  
9 determination, which rendered moot any further consideration of the substantive  
10 issues of patentability over Vandenberg, was in error. Because the examiner never  
11 fully considered the substantive issues of patentability of the claims over the prior  
12 art as a result of the incorrect assessment of the effective filing date, previous 35  
13 U.S.C. § 303(a) does not bar prior art rejections based on Vandenberg.

14         We find nothing in the text of previous 35 U.S.C. § 303(a) that would  
15 preclude the PTO's interpretation. And, in our opinion, the PTO's interpretation is  
16 consistent with the *primary* legislative purpose of the reexamination statute, which  
17 is "to correct errors made by the government, to remedy defective governmental  
18 (not private) action, and if need be to remove patents that never should have been

1 granted....” *In re Recreative Technologies Corp.*, 83 F.3d 1394, 1397, 38 USPQ2d  
2 1776, 1778 (Fed. Cir. 1996).

3 We are not unaware of our reviewing court’s instruction on previous 35  
4 U.S.C. § 303(a) that the primary legislative purpose must be balanced against the  
5 “potential for abuse, whereby unwarranted reexaminations can harass the patentee  
6 and waste the patent life.” *In re Recreative Technologies Corp.*, 83 F.3d at 1397,  
7 38 USPQ2d at 1778; accord *In re Portola Packaging Inc.*, 110 F.3d 786, 789-90,  
8 42 USPQ2d 1295, 1298-99 (Fed. Cir. 1997). However, neither of these cases  
9 involved the situation we have here where the examiner in the original examination  
10 did not finalize (i.e., complete or fully consider) a substantive determination of  
11 patentability under 35 U.S.C. §§ 102 and 103 but rather the rejections were  
12 withdrawn based on an incorrect assessment of the effective filing date of the  
13 patented claims. In other words, both *In re Recreative Technologies Corp.* and *In*  
14 *re Portola Packaging Inc.* involved the reexamination of finalized (i.e., completed  
15 or fully considered) substantive patentability determinations made in the original  
16 examination, not determinations on whether a document is available as prior art - a  
17 threshold question.

18 Moreover, we foresee no “potential for abuse” in the present case because  
19 the patent owner has already benefited from numerous other closely related United

1 States patents, as evidenced by the examiners' double patenting rejections, and the  
2 examiner's incorrect assessment of the effective filing date of the claims in the  
3 original examination was based on the patentees' own erroneous representations of  
4 the facts.

5 The patent owner points out that we have relied on the 2004 version of the  
6 MPEP – a version not in print until after the date on which this reexamination was  
7 ordered. (Amended appeal brief filed on February 23, 2006 at 14.) This argument  
8 is unpersuasive because we are relying on the statute (construed in light of legal  
9 precedents) as our legal authority. The MPEP merely establishes that our position  
10 is in accord with the PTO's *interpretation* of previous 35 U.S.C. § 303(a). Thus,  
11 the date on which the MPEP published is not particularly relevant.

12 The patent owner appears to be reading *Portola*, 110 F.3d at 790, 42  
13 USPQ2d at 1299, as repudiating any assertion of error on the part of an examiner.  
14 (Amended appeal brief at 22, 25-26.) The patent owner further contends that  
15 *Portola* and *In re Recreative Technologies Corp.* stand for the unequivocal  
16 proposition that “reexamination can never be based on old art alone.” (Amended  
17 appeal brief at 24.)

18 We disagree. The patent owner's position regarding our reviewing court's  
19 repudiation of any assertion of error is in direct conflict with the primary purpose

1 of the reexamination statute, which is to correct government errors. If examiners  
2 are always presumed to have discharged their official duties in accordance with the  
3 law (i.e., infallible as to patentability), no reexamination statute would have been  
4 necessary. With respect to the contention that “reexamination can never be based  
5 on old art alone,” we agree that reexamination based solely on “old art” that has  
6 been fully considered (i.e., whether it is available as prior art under 35 U.S.C. §  
7 102 *and* whether its teachings can be used to support a rejection under 35 U.S.C. §  
8 102 or 103) in the original examination would be barred. But here, Vandenberg,  
9 raises a substantial new question of patentability because the examiner of the  
10 original patent mistakenly believed that the reference was not available as prior art  
11 under 35 U.S.C. § 102, and therefore the examiner never fully considered it. When  
12 Vandenberg was incorrectly excluded from available prior art, the examiner of the  
13 original patent was deprived from fully considering *all* of the relevant prior art at  
14 the time the patentability determination was made.

15 The patent owner argues that we are bound by *Ex parte Natta*, Appeal No.  
16 95-2683 (BPAI Jul. 29, 1998), *vacated in part and remanded*, No. 99-1183 (Fed.  
17 Cir. Apr. 5, 1999). (Amended appeal brief at 27-29.) Again, we disagree. The  
18 pertinent issue in that appeal was whether the claims were unpatentable under 35  
19 U.S.C. § 112, ¶1, because the *disclosure of the ‘912 application*, as originally filed,  
20 did not provide adequate written description support for the claimed subject matter,

1 which recited “interpolymerizing ethylene...cycloaliphatic radical” and  
2 “interpolymerizing ethylene with styrene.” Specifically, the Board held:

3 Fatal to the examiner’s rejection is the fact that the appealed claims  
4 contain no language regarding the amount of ethylene used in the  
5 polymerization process that is not described in the original  
6 specification...While it can be argued that the appealed claims  
7 encompass amounts of ethylene greater than 5%, it is well settled that  
8 it is not the function of the claims to specifically exclude possible  
9 inoperable substances or ineffective reactant proportions.

10  
11 *Ex parte Natta*, Appeal No. 95-2683 at 7-8. The Board in *Ex parte Natta*, Appeal  
12 No. 95-2683, slip op. at 9 also referred to the ‘912 disclosure at page 10, lines 10-  
13 14, which states:

14 The method of this invention may be used for polymerizing  
15 vinyl hydrocarbons of the formula given including propylene, butene-  
16 1, pentene-1, hexene-1, styrene, and so on, as well as mixtures thereof  
17 and mixtures of the vinyl hydrocarbon *with small amounts of ethylene*.  
18 [Emphasis added.]

19  
20 Thus, it appears to us that the examiner’s rejection based on lack of written  
21 description under 35 U.S.C. § 112, ¶1, was reversed because the disclosure of the  
22 ‘912 application, as filed on May 12, 1992, included the rejected claims as part of  
23 the written description and these claims were construed to exclude processes in  
24 which the ethylene content is greater than 5%. Accordingly, we do not think that  
25 this prior Board decision is relevant (much less controlling) to the issue before us,  
26 which is whether Vandenberg is available as prior art because each of the Italian  
27 priority documents, and the ‘097 application lacks written description support for

1 the subject matter of the appealed claims. In this regard, we view *Ex parte Natta*,  
2 Appeal No. 89-1569, slip op. at 2-6 (BPAI 1990), to which the examiners are  
3 bound because it is the law of the case, as more on point.<sup>6</sup>

4 The patent owner's mistaken belief that we must defer to initial  
5 determinations of supervisory patent examiners, examiners, and quality assurance  
6 specialists in this reexamination has no basis. (Amended appeal brief at 30.)  
7 *BlackLight Power, Inc. v. Rogan*, 295 F.3d 1269, 1274, 63 USPQ2d 1534, 1538

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<sup>6</sup> At oral argument on December 11, 2006, Administrative Patent Judge (APJ) Delmendo criticized the patent owner's reliance on *Ex parte Natta*, Appeal No. 95-2683 as "disingenuous" because APJ Delmendo thought that this decision was vacated. In a facsimile communication to APJ Delmendo on December 13, 2006, the patent owner argued: "A review of the record shows that the Board's prior reversal was not 'vacated' as to the holding that the claims that recite 'ethylene' were described *and entitled to benefit of the earlier applications in the chain.*" (Emphasis added.) The patent owner is correct that *Ex parte Natta*, Appeal No. 95-2683 (BPAI Jul. 29, 1998) was not fully vacated and APJ Delmendo's choice of the word "disingenuous" was perhaps unfortunate. Nevertheless, the patent owner fails to acknowledge the existence of an even earlier Board decision more directly on point, namely *Ex parte Natta*, Appeal No. 89-1569, slip op. at 2-6, which is closer to the facts of the present case and binding as law of the case. As we discussed above, the issue presented in *Ex parte Natta*, Appeal No. 95-2683 was whether the claims, which were present at the time the '912 application was filed, complied with 35 U.S.C. § 112, ¶1. We do not believe that the Board in *Ex parte Natta*, Appeal No. 95-2683 held that Vandenberg was not available as prior art under 35 U.S.C. § 102. To the extent that the Board in *Ex parte Natta*, Appeal No. 95-2683 commented that the earlier filed applications provided written description support with respect to all ethylene content, it constituted *dictum*.

1 (Fed. Cir. 2002)(“The PTO’s responsibility for issuing sound and reliable patents is  
2 critical to the nation.”).

3 We have considered the patent owner’s arguments based on *Patlex Corp. v.*  
4 *Quigg*, 680 F. Supp. 33, 6 USPQ2d 1296 (D.D.C. 1988) but do not find them  
5 persuasive. (Amended appeal brief at 31-32.) The issue in *Patlex* was “whether a  
6 ‘great-grandparent’ application that contains the same specifications [sic,  
7 specification] as its ‘great-grandchild’ complies with the requirement of 35 U.S.C.  
8 § 112 that the specification contain an enabling disclosure where the first  
9 examiner, at the time the ‘great-grandchild’ was issued, had found that the ‘great-  
10 grandparent’ contained an enabling disclosure.” *Patlex*, 6 USPQ2d at 1298.

11 The court in *Patlex* relied on 35 U.S.C. §§ 301-302, 37 CFR § 1.552(a), 37  
12 CFR § 1.552(c), and MPEP § 2258, which taken together precluded rejections in  
13 the reexamination under 35 U.S.C. § 112. According to the court, “the  
14 Commissioner may not on reexamination consider whether *the specification of a*  
15 *patent being reexamined* contains an enabling disclosure for the issued patent  
16 claims” (emphasis added). *Patlex*, 6 USPQ2d at 1299. The court did state that the  
17 Board “lacked jurisdiction” because the question of whether the great-grandparent  
18 application contained an enabling disclosure of the subject matter of the patent  
19 being reexamined was already determined in the original examination of the  
20 patent. *Id.*

1           The court’s ruling, therefore, rested on the key facts that (i) the  
2 specifications of the great-grandparent application and the patent being reexamined  
3 were identical and (ii) the examiner had determined that the great-grandparent  
4 application contained an enabling disclosure relative to the claims of the great-  
5 grandchild. It appears to us that in the court’s view, determination of the  
6 sufficiency of the disclosure in the great-grandparent application could not be  
7 reexamined because that would be tantamount to reexamining the sufficiency of  
8 the patent disclosure, which is impermissible under 35 U.S.C. §§ 301-302, 37 CFR  
9 § 1.552(a), 37 CFR § 1.552(c), and MPEP § 2258.

10           Here, by contrast, the rejections are based on 35 U.S.C. §§ 102 and 103.  
11 Indeed, the examiner has not rejected the appealed claims as failing to comply with  
12 the written description requirement of 35 U.S.C. § 112, ¶1, because such action is  
13 barred and the subject matter of the appealed claims was part of the disclosure of  
14 the ‘912 application, as originally filed on May 12, 1992. Also, unlike the  
15 situation in *Patlex*, the specifications of the Italian priority applications, the ‘097  
16 application, and the ‘840 application as originally filed differ significantly from the  
17 specification of the ‘687 patent under reexamination. As discussed above, it was  
18 not until October 2, 1964 (which is well after the filing dates of the Italian priority  
19 applications, the ‘097 application, and the ‘840 application) that the patentees  
20 introduced subject matter similar to the appealed claims of this reexamination.

1           Vandenberg Is Available as Prior Art Against the Appealed Claims

2           As discussed above, in order for a claim to be entitled to the benefit of the  
3 filing date of a previously filed application under 35 U.S.C. § 120, the previously  
4 filed application must comply with the written description requirement of 35  
5 U.S.C. § 112, ¶1.<sup>7</sup> *In re Curtis*, 354 F.3d at 1351-52, 69 USPQ2d at 1278. “This  
6 requires the disclosure in the earlier application to reasonably convey to one of  
7 ordinary skill in the art that the inventors possessed the later-claimed subject  
8 matter when they filed the earlier application.” *In re Curtis*, 354 F.3d at 1351, 69  
9 USPQ2d at 1278. In assessing the sufficiency of the claim for an earlier filing  
10 date, a “description which renders obvious the invention for which an earlier filing  
11 date is sought is not sufficient.” *Lockwood v. American Airlines, Inc.*, 107 F.3d  
12 1565, 1572, 41 USPQ2d 1961, 1965-66 (Fed. Cir. 1997). Nor is conclusive  
13 evidence of a claim’s enablement necessarily conclusive of a claim’s compliance  
14 with the written description requirement. *In re Curtis*, 354 F.3d at 1357, 69

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<sup>7</sup> Under 35 U.S.C. § 119(a), a United States application must be filed within twelve months from the filing date of the foreign application. Thus, to obtain benefit of priority under 35 U.S.C. § 119(a) to Italian applications 24227 and 25109 filed on June 8, 1954 and July 27, 1954, respectively, the 07/883,912 application (now United States Patent 6,365,687 B1 issued on April 2, 2002) must be entitled to the benefit of an earlier filing date under 35 U.S.C. § 120 from the 03/514,097 application filed on June 8, 1955, the first-filed United States application in the ancestor chain. Because Vandenberg issued on October 16, 1962 from an application filed on April 7, 1955, benefit of priority under 35 U.S.C. § 119(a) to either of the Italian applications is crucial to antedating Vandenberg.

1 USPQ2d at 1282. Also, in a case where there is a chain of applications, *each*  
2 application in the chain leading back to the earlier application must comply with  
3 the written description requirement of 35 U.S.C. § 112, ¶1. *Lockwood*, 107 F.3d at  
4 1571, 41 USPQ2d at 1965-66.

5 As also discussed above, 35 U.S.C. § 119(a)<sup>8</sup> requires that the relied upon  
6 foreign patent application meet the requirements of 35 U.S.C. § 112, first  
7 paragraph, as to the subject matter claimed in the later filed United States  
8 application. *Cf. In re Ziegler*, 992 F.2d at 1200, 26 USPQ2d at 1603 (“A foreign  
9 patent application must meet the requirements of 35 U.S.C. § 112, first paragraph  
10 in order for a later filed United States application to be entitled to benefit of the

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<sup>8</sup> 35 U.S.C. 119(a) states:

(a) An application for patent for an invention filed in this country by any person who has...previously regularly filed an application for a patent for the same invention in a foreign country which affords similar privileges in the case of applications filed in the United States or to citizens of the United States, or in a WTO member country, shall have the same effect as the same application would have if filed in this country on the date on which the application for patent for the same invention was first filed in such foreign country, if the application in this country is filed within twelve months from the earliest date on which such foreign application was filed; but no patent shall be granted on any application for patent for an invention which had been patented or described in a printed publication in any country more than one year before the date of the actual filing of the application in this country, or which had been in public use or on sale in this country more than one year prior to such filing.

1 foreign filing date under 35 U.S.C. § 119.”); *In re Gosteli*, 872 F.2d 1008, 1011, 10  
2 USPQ2d 1614, 1616 (Fed. Cir. 1989) (“[I]f the effective filing date of what is  
3 claimed in a United States application is at issue, to preserve symmetry of  
4 treatment between sections 120 and 119, the foreign priority application must be  
5 examined to ascertain if it supports, within the meaning of section 112, ¶1, what is  
6 claimed in the United States application.”). This includes the written description  
7 requirement. *Id.*, 872 F.2d at 1010-11, 10 USPQ2d at 1616. The burden of  
8 establishing entitlement to the filing date of a previously filed foreign application  
9 is on the applicant. *In re Ziegler*, 992 F.2d at 1200, 26 USPQ2d at 1603.

10 In this case, the patentees have failed to meet their burden of establishing  
11 entitlement to an earlier filing date of a foreign application sufficient to antedate  
12 Vandenberg. As found by the Board in *Ex parte Natta*, Appeal No. 89-1569, slip.  
13 op. at 3-4, Italian application 24227 relates to the polymerization of propylene to  
14 form highly crystalline propylene polymers. (See Certified English translation of  
15 24227 filed on May 22, 1959 in 03/514,097, page 3.) At best, the ’227 Italian  
16 application discusses the presence of ethylene only in the context of “[s]mall  
17 amounts” that do not inhibit propylene polymerization. For example, in discussing  
18 the catalyst composition, the ’227 application states: “[N]ot all the starting agents  
19 indicated by Ziegler for the production of high polymers of ethylene are effective  
20 for the polymerization of ethylene-free propylene.” (Translation at 2.) Further, in

1 Example 5, the '227 application explains: "Small amounts of ethylene contained in  
2 the propylene employed do not interfere with the polymerization itself." (*Id.* at 9.)

3 The appealed claims, by contrast, do not even recite propylene as a  
4 copolymerizable monomer. Nor do they require the production of highly  
5 crystalline propylene polymers. To the contrary, appealed claim 1 recites the  
6 polymerization of ethylene (in *any* relative amount) with a specified C<sub>4</sub> or higher  
7 alpha-olefin in the presence of the specified catalyst composition to form polymers  
8 having *any* degree of crystallinity. Under these circumstances, it cannot be said  
9 that the '227 Italian application reasonably conveys to one skilled in the relevant  
10 art that the patentees had possession of the subject matter of the appealed claims.

11 Similarly, Italian application 25109 is of no help to the patentees for  
12 purposes of obtaining the benefit of an earlier filing date under 35 U.S.C. § 119  
13 with respect to the subject matter of the appealed claims. Like the '227  
14 application, the '109 Italian application describes the production of solid propylene  
15 polymers or specified alpha-olefin polymers having "a remarkable regularity of  
16 structure and crystallinity" using a catalyst composition based on the reaction  
17 product of an alkylaluminum compound and a reactive titanium compound such as  
18 titanium tetrachloride. (Translation at 2-3.) Regarding the alpha-olefins, the '109  
19 application refers to those having the formula "CH<sub>2</sub>=CHR type higher than  
20 propylene." (*Id.* at 7.) While ethylene is mentioned in the '109 application, it is

1 not identified as a comonomer as in the appealed claims. Instead, the '109 states  
2 (*id.* at 4):

3 Higher ratios between titanium and aluminum than previously  
4 proposed by Ziegler for the polymerization of ethylene, bring about an  
5 increase in the activity of the catalysts which renders the  
6 polymerization of propylene possible...

7  
8 Furthermore, ethylene is described as a byproduct of an *in situ* reaction of  
9 the alkylaluminum compound and the titanium compound or the alpha-olefin. (*Id.*  
10 at 5 and 6.) Thus, the '109 application does not reasonably convey to one skilled  
11 in the relevant art that the patentees had possession of a process for polymerizing  
12 ethylene (in *any* relative amount) and the specified alpha-olefin in the presence of  
13 the specified catalyst to form a polymer having *any* stereoregularity or structure.  
14 Because the '109 application does not provide adequate written description for the  
15 subject matter of the appealed claims, the patentees are not entitled to benefit of  
16 priority under 35 U.S.C. § 119.

17 Our factual findings and legal conclusions with respect to the Italian  
18 applications are generally consistent with those of this Board in *Ex parte Natta*,  
19 Appeal No. 89-1569, slip op. at 2-6 (paper 40 of application 06/906,600). In that  
20 decision, the Board held that claims similar to those now on appeal were not  
21 entitled to 35 U.S.C. § 119 benefit of either of the Italian applications (24227 and  
22 25109). (*Id.* at 3.) The Board explained (*id.* at 3-4):

1 Claim 11 is directed to a method of interpolymerizing ethylene with a  
2 specified class of alpha olefins which excludes propylene. The claim  
3 does not place any limit on either the number or proportion of  
4 monomers present during interpolymerization.

5 The ‘227 [Italian] application describes processes for polymerizing  
6 propylene. At best, this application describes copolymers of  
7 propylene which contain a small amount of ethylene. *Since claim 11*  
8 *excludes propylene and is unlimited in respect to the amount of*  
9 *ethylene used in the process, we do not find that the ‘227 application*  
10 *describes the subject matter of claim 11 in the manner provided by 35*  
11 *USC § 112, first paragraph.*<sup>[9]</sup> Accordingly, we find that the claims  
12 on appeal are not entitled to the benefit of the ‘227 application under  
13 35 USC § 119.

14 The ‘109 [Italian] application describes methods of forming alpha  
15 olefin polymers and copolymers. However, this application only  
16 describes copolymers of alpha olefins and ethylene which contain a  
17 small proportion of ethylene. *We agree with the examiner that this*  
18 *limited description of a process for making a very narrow class of*  
19 *copolymers does not provide the requisite descriptive support for the*  
20 *much broader process which is now claimed.* Accordingly, we find  
21 that the claims are not entitled to the benefit of the ‘109 application  
22 under 35 USC § 119. [Emphasis added.]

23  
24 Regarding the 37 CFR § 1.132 declaration of Umberto Giannini filed on

25 May 19, 1987, the Board found it unpersuasive as follows (*id.* at 4-5):

26 As pointed out by the examiner, Dr. Giannini’s declaration is directed  
27 to whether the Italian applications enable one to practice the claimed

---

<sup>[9]</sup> We do not share the view expressed in *Ex parte Natta*, slip op. at 4, that the appealed claims “exclude[] propylene.” This is because the term “comprises” recited in the appealed claims does not exclude the presence of unrecited monomers such as propylene. *In re Baxter*, 656 F.2d 679, 686, 210 USPQ 795, 802 (CCPA 1981) (“As long as one of the monomers in the reaction is propylene, any other monomer may be present, because the term ‘comprises’ permits the inclusion of other steps, elements, or materials.”).

1 invention, not whether these applications describe the claimed  
2 invention.

3  
4 Moreover, neither of the as-filed disclosures of the patentees' United States  
5 applications 03/514,097 and 03/710,840 provides adequate written description for  
6 the here appealed claims. To the contrary, the as-filed disclosures of 03/514,097  
7 and 03/710,840 indicate to one of ordinary skill in the art that when ethylene is  
8 copolymerized with a specified unsaturated hydrocarbon monomer, it is  
9 copolymerized in "small amounts, up to about 5%" to form "mixtures of linear,  
10 head-to-tail amorphous and crystalline polymers having no branches longer than  
11 R." (03/514,097 specification at 1-2; 03/710,840 specification at 1.)

12 Application 03/514,097, the first in the chain of United States applications,  
13 was submitted with polymerization process claims that are substantially different  
14 from the here appealed claims. For example, claim 1 of 03/514,097 read:

15 1. A process for polymerizing unsaturated hydrocarbons of the  
16 general formula

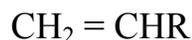


19 in which R is selected from the group consisting of saturated aliphatic,  
20 and alicyclic and aromatic radicals, alone, in admixture with one  
21 another, or in admixture *with small amounts of other olefinic*  
22 *monomers copolymerizable therewith*, to obtain linear, regular, head-  
23 to-tail polymers having substantially no branches longer than R,  
24 which comprises the steps of (a) reacting a catalytic heavy metal  
25 compound dissolved in an inert solvent with an metal alkyl compound  
26 dissolved in an inert solvent, in the absence of air, (b) introducing at  
27 least one of the unsaturated hydrocarbons to be polymerized into the  
28 reaction product of the heavy metal and metal alkyl compounds in the

1 inert solvent, and (c) heating the mass at a temperature between room  
2 temperature and 120°C and at a pressure between ordinary  
3 atmospheric pressure and 100 atmospheres, to effect polymerization  
4 of said unsaturated hydrocarbon. [Emphasis added.]  
5

6 The specification of 03/514,097 disclosed the incorporation of “[s]mall  
7 amounts” of ethylene into the copolymer and thus indicated that ethylene is one of  
8 the “other olefinic monomers copolymerizable” with the CH<sub>2</sub> = CHR unsaturated  
9 hydrocarbon monomer. (Pages 12 and 32.) Regarding the term “small amounts,”  
10 the specification enlightened one skilled in the relevant art as follows (pages 1-2):

11 This invention relates to a process for polymerizing unsaturated  
12 hydrocarbons of the formula



14 in which R is a saturated aliphatic, an alicyclic or an aromatic radical,  
15 alone, in mixture with one another, or in mixture *with small amounts,*  
16 *up to about 5%, of a monomer polymerizable therewith.*

17 Uniquely, the initial polymerization products obtained by the present  
18 method are mixtures of linear, head-to-tail amorphous and crystalline  
19 polymers having no branches longer than R. The polymers can be  
20 separated from the polymerizate by fractional dissolution. The  
21 crystalline polymers may comprise as high as 30% or even up to 55%  
22 of the mixture and have high molecular weights and fiber forming  
23 properties. The amorphous polymers may also have relatively high  
24 molecular weights and may exhibit rubberlike properties. [Emphasis  
25 added.]  
26

27 In addition, the specification stated (page 6):

28 It has been found, also, that even when ethylene is polymerized  
29 with the aid of the special promoters obtained by reaction of the heavy  
30 metal and metal alkyl compounds, in the ratios proposed for  
31 promoting ethylene polymerization, *the presence of any substantial*

1           *amount of the higher olefines inhibits polymerization of the ethylene,*  
2           *while the higher olefines, if they react at all, do so only at very low*  
3           *reaction rates and, in any case, without yielding polymers of the type*  
4           *with which this invention is concerned.* [Emphasis added.]  
5

6           The specification included a clear and unmistakable statement that ethylene,  
7 if copolymerized, is present in only “small amounts.” This statement is reproduced  
8 as follows (page 12):

9           The method of *this invention* may be used for polymerizing vinyl  
10           hydrocarbons of the formula given including propylene, butene-1,  
11           pentene-1, hexene-1, styrene, and so on, as well as mixtures thereof  
12           and mixtures of the vinyl hydrocarbon *with small amounts of ethylene.*  
13           [Emphasis added.]  
14

15           Therefore, the first application in the chain of ancestor applications  
16 described an invention that is not the same as that recited in the appealed claims.  
17 *In re Morris*, 127 F.3d 1048, 1054, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997) (“[I]t  
18 would be unreasonable for the PTO to ignore any interpretive guidance afforded by  
19 the applicant’s written description”).

20           Like application 03/514,097, application 03/710,840 contained the following  
21 (page 1):

22           This invention relates to a process for polymerizing unsaturated  
23           hydrocarbons of the formula



25           in which R is a saturated aliphatic, an alicyclic or an aromatic radical,  
26           alone, in mixture with one another, or in mixture *with small amounts,*  
27           *up to about 5%, of a monomer polymerizable therewith.*

1 Uniquely, the initial polymerization products obtained by the present  
2 method are mixtures of linear, head-to-tail amorphous and crystalline  
3 polymers having no branches longer than R. The polymers can be  
4 separated from the polymerizate by fractional dissolution. The  
5 crystalline polymers may comprise as high as 30% or even up to 55%  
6 of the mixture and have high molecular weights and fiber forming  
7 properties. The amorphous polymers may also have relatively high  
8 molecular weights and may exhibit rubberlike properties. [Emphasis  
9 added.]

10  
11 The specification further stated (pages 4-5):

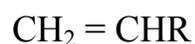
12 It has been found, also, that even when ethylene is polymerized with  
13 the aid of the special promoters obtained by reaction of the heavy  
14 metal and metal alkyl compounds, in the ratios proposed for  
15 promoting ethylene polymerization, *the presence of any substantial*  
16 *amount of the higher olefins inhibits polymerization of the ethylene,*  
17 *while the higher olefins, if they react at all, do so only at very low*  
18 *reaction rates and, in any case, without yielding polymers of the type*  
19 *with which this invention is concerned.* [Emphasis added.]

20  
21 The specification, like the one in the prior '097 application, included a clear  
22 and unmistakable statement that ethylene, if copolymerized, is present in only  
23 “small amounts.” This statement is reproduced as follows (page 10):

24 The method of this invention may be used for polymerizing vinyl  
25 hydrocarbons of the formula given including propylene, butene-1,  
26 pentene-1, hexene-1, styrene, and so on, as well as mixtures thereof  
27 and mixtures of the vinyl hydrocarbon *with small amounts of ethylene.*  
28 [Emphasis added.]

29 And, original claim 1 of 03/710,840 read:

30 A process for producing polymerizates of unsaturated hydrocarbons of  
31 the general formula



1 where R is a radical containing 1 to 16 carbon atoms and is selected  
2 from the group consisting of alicyclic, aromatic and saturated aliphatic  
3 radicals, said polymerizates being selected from the group consisting  
4 of high molecular weight polymerizates comprising mixtures of  
5 atactic, partially isotactic and highly isotactic homopolymers of the  
6 unsaturated hydrocarbon, polymerizates comprising linear, regular  
7 head-to-tail copolymers of said hydrocarbons with each other, and  
8 polymerizates comprising linear, regular head-to-tail copolymers of  
9 said unsaturated hydrocarbons with ethylene in which said unsaturated  
10 hydrocarbon predominates in the copolymer molecule, which  
11 comprises the steps of (a) reacting a halide of a heavy metal selected  
12 from the group consisting of titanium, zirconium, hafnium, thorium,  
13 vanadium, tantalum, niobium, chromium, molybdenum, tungsten and  
14 uranium with a metallorganic compound of a metal selected from the  
15 group consisting of beryllium, magnesium, zinc, cadmium, boron and  
16 aluminum in an inert hydrocarbon solvent, in the absence of air, (b)  
17 introducing said material to be polymerized into the reaction product  
18 of the heavy metal halide and metallorganic compound in the inert  
19 solvent, and (c) heating the mass at a temperature between room  
20 temperature and 120°C and at a pressure between atmospheric  
21 pressure and 100 atmospheres to effect the polymerization.  
22

23 As we have already noted, it was not until October 2, 1964 in the 03/710,840  
24 application that the patentees submitted a disclosure (in the form of a claim) that is  
25 even generally descriptive of the now claimed subject matter, i.e., appealed claim

26 1. (Amendment filed October 2, 1964, paper 40½.) The claim submitted on  
27 October 2, 1964 read:

28 A process which comprises interpolymerizing ethylene with another  
29 hydrocarbon having one terminal  $-\text{CH} = \text{CH}_2$  group and no other non-  
30 aromatic unsaturation, said other hydrocarbon having at least 4 carbon  
31 atoms per molecule, in the presence of a coordination catalyst, one  
32 component of which contains a Ti-Cl bond.  
33

1           Because the first-filed '097 application did not reasonably convey to one  
2 skilled in the relevant art that the inventors possessed the now claimed process  
3 having no limitation on ethylene comonomer content, the appealed claims cannot  
4 possibly be entitled to an earlier effective filing date based on either of the Italian  
5 priority applications.<sup>10</sup> As noted above, the general concept of the particular  
6 polymerization process recited in appealed claim 1 was submitted on October 2,  
7 1964, which is more than one year after the issue date of Vandenberg (October 16,  
8 1962).

9           We are also in full agreement with Examiner Smith's view concerning the  
10 insufficiency of declaration evidence on which the patentees rely for written  
11 description of the appealed subject matter. Specifically, Examiner Smith  
12 determined (Office action mailed Jun. 16, 1992 in application 07/883,912, paper  
13 59, pages 2-3):

14           The Declaration[s] of Drs. Corradini and Giannini cannot supply to  
15 the priority documents what is not there - a description of the  
16 invention in accordance with 35 U.S.C. 112. These Declarations,  
17 while not described as such, are in fact directed to the proposition of  
18 enablement as was the previous Declaration of Dr. Giannini  
19 (Declaration of May 19, 1987). While it might be obvious from the  
20 specification and the priority document (Italian 25109) to  
21 copolymerize ethylene with alpha-olefins of 4 or more carbon atoms  
22 in the presence of a coordination catalyst containing a component

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<sup>10</sup> Indeed, we find no argument by the patentees in any proceeding of record that the claims on appeal do not encompass all copolymerized amounts of ethylene.

1           having a titanium to chloride bond, the specification and priority  
2           document do not describe this invention.

3  
4           Furthermore, in an Office action approved by Supervisory Patent Examiner  
5 Schofer and mailed on April 8, 1993 (paper 63, page 4), Examiner Smith again  
6 emphasized: “The reference to ethylene [in the prior applications and the priority  
7 documents]...is always that the alpha-olefin is mixed with a small amount or 5% of  
8 ethylene. There is no suggestion in the specification to increase the percentage of  
9 ethylene above 5%, much less to the unlimited range of these claims.” Again, we  
10 find ourselves in complete agreement with Examiner Smith’s analysis.

11           More generally, we decline to credit any of the testimonies contained in the  
12 relied upon declarations, including the declarations of Joseph C. Floyd and Lido  
13 Porri, which the reexamination examiner found cumulative to other declarations of  
14 record and therefore unpersuasive. (Examiner’s answer at 17-19.) We find that  
15 the testimonies are at odds with the actual text of the as-filed disclosures in  
16 question (as well as the prosecution history), because they state that the as-filed  
17 disclosures contain a written description of a process for ethylene  
18 (co)polymerization without any ethylene content limitation in direct contradiction  
19 to the actual text, which indicates to one skilled in the relevant art that ethylene, if  
20 used, is polymerized in “small amounts.” We therefore do not find the testimonies  
21 credible. *Cf. Phillips v. AWH Corp.*, 415 F.3d 1303, 1318, 75 USPQ2d 1321, 1330

1 (Fed. Cir. 2005)(en banc)(“ a court should discount any expert testimony ‘that is  
2 clearly at odds with the claim construction mandated by the claims themselves, the  
3 written description, and the prosecution history, in other words, with the written  
4 record of the patent.”); *Mukherjee v. Chu*, No. 2006-1450, slip op. at 8 (Fed. Cir.  
5 Feb. 15, 2007)(non-precedential)(deferring to the Board’s determination of weight  
6 and credibility of a declarant based on (in)consistency with the text of the written  
7 description itself).

8       Because Vandenberg issued on October 16, 1962 and the patentees did not  
9 present subject matter even generally descriptive of the invention recited in the  
10 appealed claims until October 2, 1964, we hold that Vandenberg is available as  
11 prior art under 35 U.S.C. § 102(b).

12       Our ruling here today is in accordance with the written description  
13 precedents of our reviewing circuit court, which has explained that later-presented  
14 claims may not broaden the invention in a way that is contrary to, or inconsistent  
15 with, its supporting disclosure, as originally filed. *Cf. Gentry Gallery, Inc. v.*  
16 *Berkline Corp.*, 134 F.3d 1473, 1479, 45 USPQ2d 1498, 1502-03 (Fed. Cir. 1998).  
17 There, the court held that patent claims directed to a sectional sofa were invalid as  
18 lacking written description under 35 U.S.C. § 112, ¶1, because they did not limit  
19 the location of the reclining controls to the console area in direct conflict with the  
20 original disclosure, which identified the console as the only possible location of the

1 controls. *Gentry*, 134 F.3d at 1479, 45 USPQ2d at 1503; *accord Amgen Inc. v.*  
2 *Hoechst Marion Roussel Inc.*, 314 F.3d 1313, 1333, 65 USPQ2d 1385, 1399 (Fed.  
3 Cir. 2003) (“[O]ne sees the holding in *Gentry* for what it really was: an application  
4 of the settled principle that a broadly drafted claim must be fully supported by the  
5 written description and drawings.”); *accord Cooper Cameron Corp. v. Kvaerner*  
6 *Oilfield Products, Inc.*, 291 F.3d 1317, 1323, 62 USQP2d 1846, 1851 (Fed. Cir.  
7 2002)(“[I]n *Gentry*, we applied and merely expounded upon the unremarkable  
8 proposition that a broad claim is invalid when the entirety of the specification  
9 clearly indicates that the invention is of a much narrower scope.”); *accord PIN/NIP*  
10 *Inc. v. Platte Chemical Co.*, 304 F.3d 1235, 1247-48, 64 USPQ2d 1344, 1352 (Fed.  
11 Cir. 2002) (“[N]othing in the specification indicates that the invention is anything  
12 other than a *mixture* of two chemicals...[T]he originally filed application, which is  
13 devoid of any mention or even implication that the two chemicals can be applied in  
14 a spaced, sequential manner, does not support the later-added claim 33.”).

15         The patent owner argues that we have selected only portions of the  
16 disclosures in the earlier applications to deny benefit of an earlier filing date under  
17 35 U.S.C. §§ 119 and 120. (Amended appeal brief at 16-17.) These selected  
18 portions, however, are the most relevant to the question of whether the now  
19 claimed subject matter is supported by the disclosures of the earlier filed  
20 applications. But more importantly, it is “[t]he applicant for a United States patent

1 [who] bears the burden of establishing its entitlement to the filing date of a  
2 previously filed application.” *In re Ziegler*, 992 F.2d at 1200, 26 USPQ2d at 1603.  
3 Neither the inventors in the original examination nor the patent owner in this  
4 reexamination have met this burden.

5 The patent owner contends that our effective filing date analysis is inapt for  
6 appealed claims 9-15 and 22-28 because these claims do not “require or exclude  
7 ethylene.” (Amended appeal brief at 37.) The patent owner further argues that we  
8 “erroneously read ethylene into” these claims. (*Id.*) These arguments lack merit.  
9 Appealed claim 16, which depends from claim 9, demonstrates that the term  
10 “monomeric olefin molecules” in claim 9 reads on ethylene. No limitation as to  
11 amount of ethylene content is recited in appealed claim 9. Because the disclosures  
12 of the Italian priority applications, the ‘097 application, and the ‘840 application as  
13 originally filed contain a description that ethylene, if present, is used in “small  
14 amounts,” appealed claim 9 suffers from the same problem as appealed claim 1 in  
15 that it exceeds the scope of the disclosures in the earlier filed applications.

16 With respect to appealed claim 9, the patent owner contends that the  
17 description at pages 4-5 of the ‘840 application provides support for all claims that  
18 recite preparing a copolymer of ethylene. (Amended appeal brief at 38.)  
19 Specifically, the ‘840 application states:

1           It has been found, also, that even when ethylene is polymerized  
2           with the aid of the special promoters obtained by reaction of heavy  
3           metal and metal alkyl compounds, in the ratios proposed for  
4           promoting ethylene polymerization, the presence of any substantial  
5           amount of the higher olefins inhibits polymerization of the ethylene,  
6           while the higher olefins, if they react at all, do so only at very low  
7           reaction rates and, in any case, without yielding polymers of the type  
8           with which this invention is concerned.  
9

10       The patent owner also refers to the disclosure at pages 5-6. (Amended appeal brief  
11       at 61-62.)

12           We find nothing in the text of these disclosures that would support the patent  
13       owner's argument. And, we decline to credit the testimonies of the patent owner's  
14       experts on this matter because the testimonies are not reasonably consistent with  
15       the text of the '840 specification. What is lacking in the disclosures at pages 4-6 is  
16       a statement that would have reasonably conveyed to one skilled in the relevant art  
17       that polymerization of relatively high amounts of ethylene with minor amounts of  
18       other olefins, which is undeniably encompassed by appealed claim 9, was also part  
19       of the patentees' invention.

20           Also, contrary to the belief of the patent owner (and its experts), the  
21       disclosure at pages 5-6 does not say anything about ethylene. Indeed, the second  
22       paragraph at page 10 of the '840 application (quoted in the amended appeal brief at  
23       62) directly refutes the patent owner's argument that the disclosures reasonably

1 convey to one skilled in the relevant art the copolymerization of ethylene in any  
2 amount.

3 Merely because the original disclosure described a generic process for  
4 polymerizing a monomer mixture comprising monomer A does not mean that the  
5 applicant can later claim a process for polymerizing a monomer mixture  
6 comprising monomers *A and B*. The originally described process encompassed a  
7 virtually infinite number of possible monomers copolymerizable with monomer A,  
8 and this is not a sufficiently specific description of monomers A and B. Moreover,  
9 in this case, the original disclosure informed one skilled in the art that when  
10 ethylene is present, it is polymerized in “small amounts.”

11 The patent owner further contends that we did not consider the “totality of  
12 the disclosures” because the disclosures in the earlier filed applications regarding a  
13 “small amount” or “5%” of ethylene was only an embodiment of the invention.  
14 (Amended appeal brief at 42.) Specifically, patent owner argues that these  
15 disclosures include the language “This invention relates to...” as opposed to “This  
16 invention is limited to...”

17 Again, the problem with this argument is that the disclosures contain no  
18 other description that would reasonably convey to one skilled in the relevant art  
19 what other embodiments are part of the patentees’ invention such that that person  
20 would conclude that the patentees possessed the invention now claimed. We find

1 no other description that states: “The invention *also* relates to...” To be sure, the  
2 absence of description of subject matter cannot be a basis for claiming that subject  
3 matter many years later, especially when the absent description is clearly  
4 contradictory to the description that is present. This would violate the notice  
5 function of a patent application. “The purpose of the written description  
6 requirement is to prevent an applicant from later asserting that he invented that  
7 which he did not; the applicant for a patent is therefore required to ‘recount his  
8 invention in such detail [in the originally filed specification] that his future claims  
9 can be determined to be encompassed within his original creation.’” *Amgen*, 314  
10 F.3d at 1330, 65 USPQ2d at 1397.

11 The patent owner asserts that original claim 1 of the ‘840 application uses  
12 the term “predominates” to define the quantity of the “unsaturated hydrocarbons”  
13 copolymerizable with ethylene, which would indicate to one skilled in the relevant  
14 art that the amount ethylene would be more than “small amount” or “5%.”  
15 (Amended appeal brief at 43.) We disagree.

16 The term “predominates” is used to quantify the amount of unsaturated  
17 hydrocarbons having the structure  $\text{CH}_2=\text{CHR}$ , not ethylene. Also, original claim 1  
18 must be read together with other parts of the disclosure, which indicates that  
19 ethylene is polymerized in “small amounts” relative to other copolymerizable  
20 olefinic monomers. Even if the amount of ethylene were to be deduced from the

1 amount of unsaturated hydrocarbons in the situation where a third monomer is not  
2 present, the appealed claims do not limit the amount of ethylene in a manner  
3 commensurate with the description in the original claims of the '840 application.

4 The patent owner also relies on the description at page 4, lines 1-8 of the  
5 '097 specification. There, the patentees disclose:

6 Although, as stated, the polymerization aids obtained by  
7 reacting the heavy metal compound and metal alkyl compound in a  
8 solvent inert to the polymer to be formed, such as a saturated aliphatic  
9 hydrocarbon, were found useful in the production of high polymers of  
10 ethylene, it was not apparent that those agents would be useful in the  
11 polymerization of the unsaturated hydrocarbons containing the vinyl  
12 group.

13  
14 Again, this disclosure must be read with other portions of the disclosure, which  
15 states that ethylene is polymerized in "small amounts" when copolymerized.  
16 Furthermore, the appealed claims do not recite a catalyst "obtained by reacting the  
17 heavy metal compound and metal alkyl compound in a solvent inert to the polymer  
18 to be formed."

19 The patent owner also advances arguments based on the disclosure in the  
20 '097 application at page 6, second full paragraph (Exhibit 7). As with the  
21 corresponding disclosure in the '840 application, we find nothing in the text of this  
22 disclosure that would support the patent owner's arguments. And, we decline to  
23 credit the testimonies of the patent owner's experts on this matter because the  
24 testimonies are not reasonably consistent with the text of the '097 specification.

1 What is lacking in this disclosure is a statement that would have reasonably  
2 conveyed to one skilled in the relevant art that polymerization of relatively high  
3 amounts of ethylene with minor or small amounts of other olefins was also part of  
4 the patentees' invention.

5 We have also considered the other portions of the '097 and '840 applications  
6 on which the patent owners relies. (Amended appeal brief at 45-50.) We find  
7 these portions equally unavailing.

8 We have also considered the patent owner's other contentions regarding the  
9 disclosures in the earlier applications. (Amended appeal brief at 50-79.) We are  
10 not persuaded by any of them because, in a nutshell, absence of written description  
11 support does not amount to adequate support. The patent owner argues that the  
12 description of stereoregular products in the Italian applications would indicate that  
13 amorphous polymers are also made. (Amended appeal brief at 52.) But the patent  
14 owner has not directed us to any credible evidence that would indicate that such  
15 amorphous polymers were also patentees' invention.

16 The relied upon disclosure of "olefins without a vinyl group" (allegedly a  
17 genus encompassing ethylene) in Italian '109 includes an indeterminate number of  
18 species and is therefore not sufficiently specific to constitute a description of  
19 ethylene. (Amended appeal brief at 55-57.) Regarding this matter, we do not  
20 credit Floyd (Floyd's Third Declaration, Exhibit 4, ¶18) that ethylene is an

1 “olefin[] without a vinyl group” because it is plainly wrong. Ethylene is an olefin  
2 ( $\text{CH}_2=\text{CH}_2$ ), which contains a vinyl group ( $\text{CH}_2=\text{CH}-$ ). (*Hawley’s Condensed*  
3 *Chemical Dictionary* (14<sup>th</sup> ed. 2002).) Further, we find nothing in the relied upon  
4 disclosures that would reasonably convey to one skilled in the relevant art that the  
5 patentees had possession of “copolymerizing monomeric olefin molecules [which  
6 includes ethylene as seen from claim 16 and is of a considerably different scope  
7 than “olefins without a vinyl group”] comprising a monomeric vinyl hydrocarbon  
8 having the formula  $\text{CH}_2=\text{CHR}\dots$ ” as now recited in appealed claim 9. In any event,  
9 the patent owner cannot relate back to the Italian priority applications because  
10 neither the ‘097 nor the ‘840 application provides adequate written description for  
11 the now claimed subject matter.

12 Merely because the original disclosure described a generic process for  
13 polymerizing a monomer mixture comprising monomer A does not mean that the  
14 applicant can later claim a process for polymerizing a monomer mixture  
15 comprising monomers *A and B*. The originally described process encompassed, by  
16 recitation of “comprising,” a virtually infinite number of possible unrecited  
17 monomers copolymerizable with monomer A. This is not a sufficiently specific  
18 description of a process involving polymerizing monomers A and B. Moreover, in  
19 this case, the original disclosures informed one skilled in the art that when ethylene  
20 is present, it is polymerized in “small amounts.”

1           A finding of adequate written description support based on what are  
2 essentially non-disclosures or, at best, nebulous statements would contradict other  
3 portions of the original disclosures. This would violate the notice function of a  
4 patent application. “The purpose of the written description requirement is to  
5 prevent an applicant from later asserting that he invented that which he did not; the  
6 applicant for a patent is therefore required to ‘recount his invention in such detail  
7 [in the originally filed specification] that his future claims can be determined to be  
8 encompassed within his original creation.’” *Amgen*, 314 F.3d at 1330, 65 USPQ2d  
9 at 1397.

10

11           The Appealed Claims Are Anticipated or Obvious over Vandenberg

12           Having determined that the appealed claims are not entitled to benefit of an  
13 earlier filing date under 35 U.S.C. §§ 119 and 120, we turn to the teachings of  
14 Vandenberg. Vandenberg describes a process in which 2 parts ethylene and 10  
15 parts octene-1 (corresponding to the patent owner’s recited  $\text{CH}_2=\text{CHR}$  alpha-  
16 olefin) are copolymerized in the presence of: (i) a hydrocarbon-insoluble reaction  
17 product prepared by mixing 0.0603 part of diethylaluminum chloride  
18 (corresponding to the patent owner’s recited aluminum alkyl compound) and  
19 0.0475 part of titanium tetrachloride (corresponding to the patent owner’s recited

1 titanium halide compound) and used without aging;<sup>11</sup> (ii) triethylaluminum  
 2 (corresponding to the appellant’s recited aluminum alkyl compound); and (iii) n-  
 3 heptane. (Example 53; Table V.)

4 The following table summarizes Vandenberg’s description of each and every  
 5 limitation of the invention in the appealed claim 1:

<b>Appealed claim 1</b>	<b>Vandenberg</b>
“A process which comprises polymerizing ethylene”	“This invention relates to an improved process for polymerizing olefins alone or in admixture...” (column 1, lines 8-10); 2 parts of ethylene described as a comonomer (Example 53, Table V)
“with an alpha-olefin, CH <sub>2</sub> =CHR, wherein R is a saturated aliphatic radical with 2 or more carbon atoms or a cycloaliphatic radical,”	octene-1 described as a comonomer (Example 53, Table V)
“in the presence of a catalyst obtained by reacting an aluminum alkyl compound with a catalytic titanium halide compound.”	in the presence of: (i) a hydrocarbon-insoluble reaction product prepared by mixing 0.0603 part of diethylaluminum chloride (corresponding to the appellant’s recited aluminum alkyl compound) and 0.0475 part of titanium tetrachloride (corresponding to the appellant’s recited titanium halide compound) and used without aging; (ii) triethylaluminum (corresponding to the appellant’s recited aluminum alkyl

---

<sup>11</sup> Vandenberg teaches that mixing the titanium compound with an organoaluminum compound forms a precipitate of lower valence titanium compounds in the hydrocarbon solvent. (Column 1, lines 14-55.) Thus, the hydrocarbon-insoluble reaction product of Vandenberg’s Example 53, like the titanium tetrachloride *per se*, corresponds to the patent owner’s recited titanium halide compound.

	compound); and (iii) n-heptane (column 10, line 73 to column 11, line 14)
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1

2           Accordingly, Vandenberg describes every limitation of the invention recited  
3 in appealed claim 1. *In re Schreiber*, 128 F.3d 1473, 1477, 44 USPQ2d 1429,  
4 1431 (Fed. Cir. 1997).

5           Claim 9 is significantly broader than claim 1 in that ethylene is not recited.  
6 Accordingly, Vandenberg's disclosure, which anticipates claim 1, necessarily  
7 anticipates claim 9.

8           As we discussed above, Vandenberg describes each and every limitation of  
9 the invention recited in appealed claims 1 and 9. It follows then that the subject  
10 matter of these appealed claims would also have been obvious to a person having  
11 ordinary skill in the art within the meaning of 35 U.S.C. § 103(a), because  
12 anticipation is the epitome or ultimate of obviousness. *In re Baxter Travenol*  
13 *Laboratories*, 952 F.2d 388, 391, 21 USPQ2d 1281, 1284-85 (Fed. Cir. 1991).

14           Under these circumstances, we detect no reversible error in the examiner's  
15 rejections.

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*ORDER*

For these reasons, it is:

*ORDERED* that the examiner’s rejection of claims 1-4, 8-13, 15, 21-26, 28, 31, 32, 35, 39-44, and 48-52 under 35 U.S.C. § 102(b) as anticipated by Vandenberg is **AFFIRMED**;

*ALSO ORDERED* that claims 1-52 under 35 U.S.C. § 103(a) as unpatentable over Vandenberg is **AFFIRMED**; and

*FURTHER ORDERED* that our affirmance of each of the examiner’s six double patenting rejections is **FINALIZED**.

**AFFIRMED**

/Romulo H. Delmendo )  
ROMULO H. DELMENDO )  
Administrative Patent Judge )  
)  
)  
)  
/Michael P. Tierney/ ) BOARD OF PATENT  
MICHAEL P. TIERNEY )  
Administrative Patent Judge ) APPEALS AND  
)  
) INTERFERENCES  
/James T. Moore/ )  
JAMES T. MOORE )  
Administrative Patent Judge )

Appeal No. 2007-0111  
Reexamination 90/006,297

1 BRYAN CAVE LLP  
2 1290 AVENUE OF THE AMERICAS  
3 NEW YORK NY 10104  
4  
5 DIRECTOR/COMMISSIONER OF PATENTS  
6 PO BOX 1450  
7 ALEXANDRIA VA 22313-1450