

United States District Court,
N.D. Illinois, Eastern Division.

TRANSCO PRODUCTS INC., a Delaware Corporation,
Plaintiff.

v.

PERFORMANCE CONTRACTING, INC., a Kansas Corporation, and Performance Contracting Group, Inc., a Delaware Corporation,
Defendants.

April 1, 1996.

Robert E. Wagner, Roger H. Stein, Wallenstein & Wagner, Ltd., Chicago, IL, Jay S. Berlinsky, Schwartz, Cooper, Greenberger & Krauss, Chicago, IL, for Plaintiff.

Darrell J. Graham, Michael P. Conway, Grippo & Elden, Chicago, IL, Robert A. Vanderhye, Nixon & Vanderhye P.C., Arlington, VA, for Defendants.

MEMORANDUM OPINION AND ORDER

BUCKLO, District Judge.

This patent case has a long history. Transco Products Inc. ("Transco") sued Performance Contracting, Inc. and Performance Contracting Group, Inc. ("Performance Contracting" or sometimes, "PCI"), in 1989 seeking a declaratory judgment of noninfringement and invalidity of United States Patent No. 4,009,735 (the "Pinsky" patent), owned by Performance Contracting. Performance Contracting counterclaimed for infringement. Transco's suit also sought a finding of infringement with respect to a second patent owned by it. Performance Contracting counterclaimed as to that patent seeking a declaratory judgment of noninfringement and invalidity. Judge Milton Shadur, to whom this case was first assigned, issued three opinions dealing with infringement and validity of these patents. In the first, 792 F. Supp. 594 (N.D. Ill. 1992), he found that Transco's patent was not infringed by Performance Contracting. In his second opinion, 813 F. Supp. 613 (N.D. Ill. 1993), Judge Shadur denied cross motions for summary judgment with respect to the Pinsky patent, but ordered the parties to submit further briefs on the question of validity of the patent. He noted that if the case were not disposed of on the validity issue raised by him in that opinion, the parties should submit proposed Rule 56(d) findings to conform to his opinion. Judge Shadur's third opinion granted summary judgment in favor of Transco on the basis that Performance Contracting had violated the best mode requirement under 35 U.S.C. s. 112. 821 F. Supp. 537 (N.D. Ill. 1993). That judgment was reversed by the Court of Appeals for the Federal Circuit. 38 F.3d 551 (Fed. Cir. 1994). The case was then transferred to me. Since I had not had the benefit of the various briefs submitted to Judge Shadur, and the case was ready for trial on the issues remanded for trial by the Court of Appeals, I decided that all liability issues would be tried. FN1

This opinion constitutes my findings of fact and conclusions of law following trial. I have concluded that the Pinsky patent No. 4,009,735 is invalid and not infringed for reasons stated in this opinion. I have made other findings to avoid the necessity for a second trial in the event the Federal Circuit disagrees with my conclusions.

FINDINGS OF FACT

The Pinsky Patent

Gordon Pinsky ("Pinsky") filed a continuation application with the United States Patent Office on October 2, 1974, on an original application for a patent filed October 24, 1973. Patent No. 4,009,735, as granted on Mr. Pinsky's continuation application, is for a pipe insulation design for a nuclear power plant containment area. It contains two claims relevant to this opinion:

Claim 1. Readily removable and replaceable rewettable thermal insulation for use on vessels and piping within reactor containment areas of nuclear power plants comprising high temperature resistant mineral fiber or glass fiber encapsulated within rewettable, high temperature resistant, asbestos free glass cloth held in place with a plurality of spaced quick release and engage fasteners, wherein the glass cloth can withstand repeated wettings from spray systems within the reactor containment areas of nuclear power plants and wherein the fasteners are two woven nylon, hook and loop mating strips, wherein the glass cloth has a finish of a leachable, organic silicate carried in a fatty and mineral oil vehicle.

Claim 4. Thermal insulation according to claim 1 wherein the strips comprise a hook strip covered with stiff little hooks and a loop strip covered with tiny, soft loops.

Background

1. Mr. Pinsky first conceived of the invention of the patent in April, 1973, after researching problems and requirements for nuclear power plant containment areas.

2. The Pinsky patent claims cover the product marketed by PCI under the Pinsky patent sold under the trademark Nukon(R), with one exception. Apart from the substitution of stainless steel for nylon hook mating strips, all elements of properly construed claims 1 and 4 of the Pinsky patent are present in the Nukon(R) insulation blankets marketed by Performance Contracting and installed by it in reactor containment areas of nuclear power plants. That is, the Nukon blankets comprise readily removable and replaceable rewettable thermal insulation and are used on vessels and piping within reactor containment areas of nuclear power plants. They all include high temperature resistant glass fiber encapsulated within rewettable high temperature resistant asbestos free glass cloth and are held in place with a plurality of spaced quick release and engage fasteners. The glass cloth can stand repeated wettings from spray systems within the reactor containment area of nuclear power plants. The blankets contain a plurality of spaced quick release and engage fasteners. The glass cloth has a finish of a "leachable organic silicate carried in a fatty and mineral oil vehicle" that is in compliance with the requirements of U.S. Navy specification Mil-I-24244 regarding stress corrosion cracking and Coast Guard specification CFL-164.009 relating to incombustible materials.

3. The claims of the Pinsky patent are directed only to nuclear power plant containment areas, not any other use for insulation.

4. The prior art blanket insulation for nuclear power plants is described in column 1, lines 39-51 of the Pinsky patent.

5. Despite conventional wisdom to the contrary, Mr. Pinsky thought blanket insulation offered advantages over prior insulation for nuclear power plant containment areas, including encapsulated and reflective insulation. It had the promise of being less expensive and easier to install. However, it was very difficult to convince Owens Corning and the nuclear community that the insulation would work for its intended purposes in nuclear power plant containment areas without safety problems. Both Transco and Diamond Power, main suppliers of nuclear power plant insulation at the time that Pinsky was developing the blanket insulation of the Pinsky patent, were convinced that it was not operable in the nuclear power plant containment area environment, and expressed this belief in writing to the Nuclear Regulatory Commission

("NRC").

6. Eventually the NRC, following numerous tests and studies, agreed that safety and performance data for the blanket insulation Pinsky had developed was suitable for nuclear power plant containment areas.

7. Since the NRC's acceptance of the safety and performance data for Performance Contracting's Nukon(R) insulation, blanket insulation -- specifically PCI's Nukon(R) insulation or comparable insulation sold by competitors of PCI -- has supplanted encapsulated and reflective insulation in nuclear power plant containment areas, both for new construction and for large scale replacement projects. Nukon(R) blanket insulation (or its equivalent from competitors) has been used in all but five known major nuclear power plant containment area constructions (of 28 new or major replacements) in the U.S. since 1980.

Infringement

8. The court has considered five general configurations of Transco blankets alleged to infringe the Pinsky patent. They will be referred to as the Transco TA, A, MA, MB, and G configurations. Construction TA is shown in Performance Contracting exhibit 157, the A configuration is that used by Transco at Arkansas Nuclear and is shown in Performance Contracting exhibit 136, the MA configuration is that used at Millstone Nuclear Power Plant and is shown in Performance Contracting exhibits 151-154, the MB configuration is a second construction used at the Millstone Nuclear Power Plant and is shown in Performance Contracting exhibits 98, 117, 155, and the G configuration is a generic construction, depicted in Performance Contracting exhibits 87, 147 and shown by blanket sample Performance Contracting exhibit 88.

9. All of the Transco configurations are readily removable and replaceable rewettable thermal insulation and are used on vessels and piping within reactor containment areas of nuclear power plants. They all include high temperature resistant glass fiber encapsulated within rewettable high temperature resistant asbestos free glass cloth and are held in place with nylon hook and loop mating strips which are quick release and engage fasteners. The glass cloth can stand repeated wettings (without significant changes in properties) from spray systems within the reactor containment area of nuclear power plants. The only limitations (elements) of any of the five Transco constructions as to which there is a dispute as to literal infringement of the properly construed claims are: "a plurality of spaced quick release and engage fasteners," "two woven nylon hook and loop mating strips," and "the glass cloth has a finish of a leachable organic silicate carried in a fatty and mineral oil vehicle."

" Two Woven Nylon Hook And Loop Mating Strips "

10. The claims in issue require asbestos free glass cloth held in place by fasteners which are "two woven nylon, hook and loop mating strips." Transco's fasteners have a Nomex(R) base and loops and a second strip of Nomex(R) base with stainless steel hooks.

11. At the time that the Pinsky patent application was filed in 1973, Nomex(R)) was known generically as high temperature resistant nylon, as described in column 2, lines 51 through 60 of the Pinsky patent.

12. "Velcro"(R) hook and loop fasteners are made of woven simple nylon or Nomex(R) nylon strips. Either loop components or hook components extend upwardly from the woven nylon strips. The hooks may be of stainless steel or simple nylon, and are stiff little hooks. The loops are tiny soft loops and may be of simple nylon or Nomex(R) nylon.

13. Simple nylon hooks are not suitable for containment areas because they cannot withstand gamma radiation levels in a containment unit. (Pinsky Tr. 506, 554.) Mr. Pinsky learned this in 1977.

14. I reject as did Judge Shadur, and for the same reasons, the argument that "nylon" in the sentence in claim 1 of the Pinsky patent that states that "the fasteners are two woven nylon, hook and loop mating strips" refers only to the mating strips without the hooks or loops. Velcro(R) mating strips are comprised or made up of hooks and loops. 813 F. Supp. at 622.

15. Since stainless steel hooks are suitable for nuclear containment areas and nylon hooks are not, stainless steel hooks are not the equivalent of nylon hooks.

" Glass Cloth Has A Finish Of A Leachable Organic Silicate "

16. The terminology "the glass cloth has a finish of a leachable, organic silicate carried in a fatty and mineral oil vehicle" is generic terminology for Burlington Industries' (and Clark-Schwebel's) finish known as 603A. That finish was selected for the cloth of the thermal insulation of the invention because it ensured compliance with U.S. Navy specification Mil-I-24244 and Coast Guard specification CFL-164.009. (Vaughn 37/1 - 47/10; PCI-16, 137, 140, 142-144.)

17. Transco uses a finish made by a different manufacturer. It is referred to as the "9383 finish." The 9383 finish is considered by glass fabric manufacturers to be interchangeable with (*i.e.* equivalent) to the 603A finish.

18. Both 603A and 9383 are finishes to glass cloth. The finishes allow the glass cloth to be processed, and to ensure that the cloth meets the specification for stainless steel stress corrosion cracking -- Mil-I-24244 -- and the requirements of Coast Guard specification CFL-164.009 relating to incombustible materials. In both cases, the finish on the cloth achieves the function of meeting the stress corrosion and incombustibility requirements by providing low chloride and fluoride content, as well as by providing a substantial amount of silicate, and a low level of organics. The 9383 and 603A finish fabric have a low chloride and fluoride content and high silicates. This satisfies the Mil-I-24244 standards. Both finishes meet the Coast Guard CFL-164.009 requirements because of the low organic material content.

19. As set forth in column 2, lines 32 through 45, of the Pinsky patent, the purpose for providing "a finish of a leachable organic silicate carried in a fatty and mineral oil vehicle" is to meet the requirements of Mil-I-24244 and CFL-164.009. The result is that the insulation material is suitable for use in a nuclear power plant containment area.

" A Plurality of Spaced Quick Release And Engage Fasteners "

20. Two (or more) spaced circumferential or longitudinal fasteners are interchangeable with (*i.e.* equivalent to) a single continuous longitudinal fastener in attaching blanket insulation to pipes and vessels in nuclear power plant containment areas. Both function to hold the blanket insulation in place on a pipe or vessel, by holding two ends of the insulation together so that they do not become detached from each other, resulting in proper thermal insulation of the pipe or vessel by the blanket insulation until the fasteners are intentionally detached.

21. There is no language in any of the claims of the Pinsky patent that calls for the quick release and engage fasteners to extend circumferentially, or longitudinally, or in any other orientation.

The Transco Constructions

22. The Transco TA construction does not include a plurality of spaced fasteners. However, one continuous longitudinal fastener is interchangeable with (equivalent to) two (or more) spaced fasteners. It has a 9383 finish, which is equivalent to the 603A finish. It has woven Nomex(R) nylon base strips, Nomex(R) nylon loops, and stainless steel hooks. The stainless steel hooks are not the equivalent of nylon hooks.

23. The Transco construction A has a plurality of spaced quick release and engage fasteners, which comprise Velcro(R) strips of woven Nomex(R) nylon having stainless steel hooks and Nomex(R) loops, and the 9383 finish. The 9383 finish is equivalent to the 603A finish described in the Pinsky patent. The stainless steel hooks are not the equivalent of nylon hooks.

24. The Transco MA construction has a plurality of spaced quick release and engage fasteners, woven Nomex(R) nylon base strips, stainless steel hooks, and a 603A finish. FN2

25. The Transco MB construction has a plurality of spaced quick release and engage fasteners, woven Nomex(R) nylon base strips, stainless steel hooks, and a 603A finish.

26. The Transco G construction has a plurality of spaced fasteners, woven Nomex(R) nylon base strips, Nomex(R) nylon loops, stainless steel hooks, and a 603A or 9383 finish for the glass cloth.

27. The Transco TA, A, MA, MB, and G constructions do not literally infringe claims 1 and 4 of the Pinsky patent, nor do they infringe under the doctrine of equivalents due to the use of steel hooks.

Validity

Operability

28. The Pinsky patent is to "provide thermal insulation for use on vessels and piping within reactor containment areas of nuclear power plants." (TX-2, Claim 1).

29. The Pinsky patent disclosed fastener(s) made of woven nylon. However, the patented insulation is only suitable for reactor containment areas of nuclear power plants if the fasteners are made of Nomex(R) material and stainless steel. Accordingly, the patented insulation is inoperable.

30. Moreover, if one were to read the Pinsky patent as broad as possible to include "high temperature-resistant nylon hooks" one would have a non-existent product. There simply is no such thing as high temperature-resistant nylon hooks.

Best Mode

Nylon Or Stainless Steel Hooks

31. Transco claims that the Pinsky patent is invalid for failure to disclose the best mode of practicing the invention known to Mr. Pinsky at the time he filed his application in October, 1973.

32. At the time that the 1973 patent application for the Pinsky patent was written, those of ordinary skill in the art understood that there were various categories of Velcro(R) for different types of temperature environments. The common version of Velcro(R) had simple nylon hooks and simple nylon loops. The elevated temperature and fire resistant version of Velcro(R) had Nomex(R) (that is high temperature resistant nylon) loops and simple nylon hooks. On October 24, 1973, Mr. Pinsky considered Nomex(R) nylon (known as "HI-AIR") to be the best material for the Velcro(R) fasteners of his invention. Transco failed to show clear and convincing evidence that Pinsky knew, in 1973, that stainless steel hooks were the "preferred method" of practicing his invention in a nuclear containment area. FN3

Glass Cloth Finish

33. In 1973 when the Pinsky application was written, Mr. Pinsky selected as the finish of choice for the glass cloth a finish known as 603A, from Burlington Industries, Inc. He selected that finish to ensure that the glass cloth complied with U.S. Navy specification Mil-I-24244 with regard to chemical analysis and

chemical resistance of materials, that is, it had a low enough level of chlorides and fluorides combined with a high enough level of silicates or sodium, to prevent stress corrosion cracking of stainless steel pipes, and that it complied with the requirements of Coast Guard specification CFL-164.009 for incombustibility. Because Mr. Pinsky knew in the nuclear power plant environment fire safety was important, and stress corrosion cracking must be prevented, it was essential that any finish on the glass cloth meet the stress corrosion requirement, and desirably be incombustible.

34. Mr. Pinsky had the 603A finish tested in 1973 to determine its chemical make-up so that it could be described generically in his patent application. The testing report indicated that the fabric was a "leachable organic silicate carried in a fatty and mineral oil vehicle." Transco argues that the wrong cloth was tested, and that the terminology does not describe the fabric finish. FN4 However, Dennis Vaughn, FN5 Research and Development Director for Clark-Schwebel, a large manufacturer of finished fiberglass cloth, testified that the terminology would have been understood by one of ordinary skill in the glass cloth/finishing art (the most relevant art for this feature) in 1973 to be generic terminology for the 603A finish. No testimony contradicted his statement. FN6 The terminology meant, in part, that sodium silicate was not used. While there is no such thing as an "organic silicate" in the sense of a silica composition that is classified as an organic chemical, "organic silicate" is understood by those of ordinary skill in the glass finishing art to mean a finish that is not sodium silicate, commonly referred to as "inorganic silicate," and known to be incompatible with fiberglass.

35. In 1973 there were only a handful of significant fiberglass cloth manufacturers; the only three of any size were Burlington, J. P. Stevens, and Clark-Schwebel, and all three of these were well known to those seeking to purchase glass cloth for industrial applications. I conclude that the description of the glass cloth finish in the Pinsky patent did not violate the best mode requirement.

Longitudinal Flap

36. Transco also argues that the Pinsky patent is invalid for failure to disclose a longitudinal flap to carry and protect a longitudinal fastener running parallel to the seam, which Transco argues was known to Mr. Pinsky as the best mode of practicing his invention at the time he filed his patent. As Judge Shadur found, however, this is really just an extension of the argument that longitudinal rather than circumferential fastening strips were known by Pinsky to be the best mode of practicing his invention in 1973 (an argument made earlier but dropped at trial). 821 F. Supp. at 550-51. At any rate, Transco has failed to show that Mr. Pinsky considered that the inclusion of a flap was part of the best mode of practicing his invention in October 1973. A flap is necessarily part of a construction using longitudinal fasteners but not otherwise, and the decision to use longitudinal fasteners was made after the filing of the original patent application in October, 1973.

Existence Of A Scrim

37. Transco argues, as it did before Judge Shadur (821 F. Supp. at 553), that the Pinsky patent is invalid for failure to disclose that a scrim placed between the glass wool batt and the glass cover to contain the fiberglass insulation batt. The scrim is used as a net to support the insulation and prevent it from separating. In his May 18, 1993 opinion, Judge Shadur concluded that the evidence before him on Transco's motion for summary judgment showed that Performance Contracting's commercial product had always included a scrim but that Pinsky had not considered a scrim to be a preferred method of practicing his invention at the time he filed his patent application in 1973. The fact that he had stated in a letter in July, 1973 that the product would "most likely" include a scrim did not show that he thought it essential. Id. at 553-54. At trial, Transco presented the same evidence previously submitted to Judge Shadur. I reach the same conclusion as Judge Shadur.

38. There is no prior art reference which anticipates either of claims 1 or 4 of the Pinsky patent.

Non-Obviousness

39. The differences between the relevant prior art and claim 1 of the Pinsky patent are the use of effective (meeting Mil-I-24244 and CFL-164.009 and withstanding repeated wettings) fiberglass cloth blankets as mass insulation and the use of hook and loop fasteners to readily removably and replaceably hold the fiberglass cloth blanket mass insulation in place on vessels and piping, in a nuclear containment area.

40. The level of ordinary skill in the nuclear containment area insulation art in 1973 was someone with a college degree in an area of technology and several years experience in dealing with nuclear power plant insulation.

41. There was no suggestion to one of ordinary skill in the art in October, 1973 to use effective fiberglass cloth blankets with hook and loop fasteners as insulation in nuclear power plant containment areas because even experts in the art considered the potential problems associated with such insulation insurmountable, including release of airborne particles, stress corrosion cracking of austenitic stainless steel surfaces, deterioration of thermal properties, potential fire hazard, interference with the emergency spray system, blocking of pressure relief ports in the event of an accident, as well as the difficulty in obtaining NRC approval for a new type of insulation. In fact, the Pinsky patent invention was contrary to the wisdom in the art.

42. The Nukon(R) insulation covered by the claimed Pinsky invention revolutionized insulating nuclear power plant containment areas. Compared to the conventional insulations it replaced -- metallic reflective (MRI) and metallic encapsulated (MEI) -- it is more thermally efficient, more versatile since it can effectively insulate some hangers and penetrations that MRI and MEI cannot, eliminates localized hot spots often associated with MRI and MEI (especially vertically installed), and avoids excessive heat loss associated with gaps and voids that occur in MRI and MEI. It is also less susceptible to damage during installation, removal, and transport; is much easier, safer, and quicker to install, and it generally requires less skill and heavy lifting to install; and is much less expensive than either MEI or MRI not only in initial cost of the insulation, but also to ship, store, handle, install, modify and maintain.

43. The fiberglass blanket mass insulation with hook and loop fasteners has taken over the nuclear power plant containment area industry, having for all practical purposes completely supplanted MRI and MEI except for licensing-required replacement situations.

44. The Pinsky patent is not a pioneer invention, despite the evidence that Nukon(R) and competitive blankets have revolutionized nuclear power plant containment area insulation. The numerous patents cited by the examiners in the prosecution of the applications and in the reexamination proceedings, and by the parties in this suit, confirm that the Pinsky patent is far from being a pioneering patent.

Prior Art

45. Transco has not shown that the prior art patents cited by it are more relevant than that considered by the Patent and Trademark Office. Transco argues that an article published in 1972 known as the "Stone and Webster Report" anticipates the claimed Pinsky invention. Column 1 lines 39-51 of the Pinsky patent described as existing in the prior art most of what Transco claims is relevant from the Stone and Webster Report. The Pinsky disclosure does not specifically mention the article and does not mention that the insulation disclosed included quick release fasteners (in that case lacing hooks and lacing) although it did say that the prior art blankets were "removable." The Pinsky patent states, however, that any quick release mechanism can be used and both sides agree (as did the patent examiner) that Velcro(R) type fasteners were well-known by the time the Pinsky application was filed. In addition, the fasteners disclosed by Cryor, U.S.

Pat. No. 2,758,043, cited by the Examiner, and Rinecker, U.S. Pat. No. 3,372,438, are more relevant than the hook and lacing fasteners noted in the Stone and Webster Report.

Enforceability

46. Transco has not shown that there was material prior art known to Mr. Pinsky or others having an obligation to disclose it to the PTO that was not disclosed to the PTO either during the prosecution of the original application or the reexamination. The prior art testified to by Mr. Waite and allegedly known to Mr. Pacella or Mr. Overman or Mr. Rose or Mr. Pinsky was either already before the PTO, or less relevant than, or cumulative to, art before the PTO.

Laches And Estoppel

47. Transco argues that PCI and its predecessors are guilty of laches and estoppel because they did not bring this action earlier. Owens Corning -- PCI's predecessor -- knew prior to October, 1984 that Transco was making initial attempts to sell infringing products. There was, however, no evidence of actual sales or installation "on vessels and piping within reactor containment areas of nuclear power plants" as recited in claim 1 of the Pinsky patent. The owners of the Pinsky patent learned of instances of actual infringement by Transco in early 1989.

48. Prior to a change in 35 U.S.C. s. 271(c) in December, 1994, to include offers to sell as an act of infringement, an offer to sell was not an infringement. Transco could not reasonably have interpreted the meeting with Owens Corning in October, 1984 to indicate in any way Owens Corning's agreement with any position by Transco, or that Owens Corning knew Transco would or did make actual sales or installations "on vessels and piping within reactor containment areas of nuclear power plants" as required by claim 1 of the Pinsky patent.

49. Owens Corning asked Transco to stop activities that would lead to infringement and advised Transco it would sue if there were infringement. Owens Corning and Performance Contracting reasonably concluded that Transco had stopped activities leading toward infringement since Transco did not send samples of nuclear insulation blankets to Performance Contracting, and Performance Contracting never saw any promotion in the marketplace by Transco, nor knew of any infringements, between October, 1984 and 1989. All information PCI was able to obtain about Transco's activities from after October, 1984 until 1989 indicated that Transco had not made any sales.

50. Performance Contracting did not unreasonably or inexcusably delay in bringing an action for infringement against Transco. There also is no material prejudice attributable to any small delay there may have been. Although Transco installed its product in one location (Millstone) in the early 1980's, there is no proof that it successfully bid on any other projects from the time in 1984 that Performance Contracting met with Transco and warned it to discontinue its allegedly infringing activities until the late 1980's, when Transco was warned again, and this suit began. I also discount the testimony of Transco's chairman, Mr. Goss, that Transco invested large sums of money in reliance on the absence of a suit by Performance Contracting since no evidence was submitted that would corroborate his very general testimony. Mr. Goss could not identify any equipment purchased nor any employee hired that was specifically for the manufacture, engineering or sale of the nuclear blankets for containment. Nor did Mr. Goss testify what relevant testimony any of the witnesses not available to testify would have had, nor did he testify that the witnesses were not available during the pendency of this litigation (Mr. Raskowski presumably was available since suit was filed in 1989 and he died "four or five years ago," *i.e.* 1990 or 1991).

51. Performance Contracting has not been shown to have engaged in conduct that would allow Transco to reasonably infer that Performance Contracting did not intend to enforce the Pinsky patent against Transco. Transco has not proven that it relied on any conduct by Performance Contracting.

CONCLUSIONS OF LAW

Burden Of Proof

52. On the issue of infringement, Performance Contracting bears the burden of proof by a preponderance of the evidence. *Fromson v. Advance Offset Plate, Inc.*, 720 F.2d 1565, 1569 (Fed. Cir. 1983).

53. The Pinsky patent 4,009,735 is accorded the statutory presumption of validity. 35 U.S.C. s. 282. This places the burden of persuasion on Transco to demonstrate invalidity, under all sections of the statute (35 U.S.C. s.s. 101, 102, 103 and 112) by clear and convincing evidence. *Lindemann Maschinenfabrik GmbH v. American Hoist and Derrick Co.*, 730 F.2d 1452, 1459 (Fed. Cir. 1984).

54. Proof of inequitable conduct must be by clear and convincing evidence. *FMC Corp. v. Manitowoc Co., Inc.*, 835 F.2d 1411, 1417 n.11 (Fed. Cir. 1987).

Claim Construction

55. Claim construction is a matter of law. *C.R. Bard, Inc. v. Advanced Cardiovascular Systems, Inc.*, 911 F.2d 670, 673 (Fed. Cir. 1990). The terms of the claims are given their ordinary and accustomed meaning unless it is clear that the inventor used them differently. *Jonsson v. Stanley Works*, 903 F.2d 812, 820 (Fed. Cir. 1990).

56. The term "a plurality of fasteners" in claim 1 of the Pinsky patent means more than one fastener with each having two or more components. The fasteners may be spaced in any manner; the claims say nothing about whether the fasteners are longitudinal or circumferential and the fact that they are shown circumferential in the drawings is not in any way determinative of the scope of the claims. *See SRI International v. Matsushita Electric Corp. of America*, 775 F.2d 1107, 1121 (Fed. Cir. 1985).

57. The phrase "two woven nylon" in claim 1 of the Pinsky patent, by clear English construction, and in order to make sense, modifies the words "hook and loop" as well as "mating strips." *Accord*, *Transco Products Inc. v. Performance Contracting, Inc.*, supra, 813 F. Supp. at 622.

Infringement

58. After the claims are properly construed, they must be compared to the infringing devices. To find literal infringement, each element of the claim must be found in the infringing structure. *Corning Glass Works v. Sumitomo Electric USA, Inc.*, 868 F.2d 1251, 1258-59 (Fed. Cir. 1989).

59. In addition to literal infringement, there can be infringement under the doctrine of equivalents. The doctrine of equivalents exists since the courts have long recognized that it would be inequitable to hold a patentee to precise claim language in all cases. *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605, 608 (1950).

60. The necessary predicate for infringement under the doctrine of equivalents is "insubstantial difference." The application of the doctrine of equivalents rests on the substantiality of the differences between the claimed and accused products or processes, assessed according to an objective standard. *Hilton Davis Chemical Co. v. Warner-Jenkinson Company, Inc.*, 62 F.3d 1512, 1519 (Fed. Cir. 1995), *cert. granted*, 116 S.Ct. 1014 (1996). The "insubstantiality" test rests on objective evidence, not unexplained subjective conclusions, whether offered by an expert witness or otherwise. *Id.* The common significant objective elements that should be considered are: (1) the known interchangeability of the accused and claimed elements; and (2) evidence of copying since the fact finder may infer that the copyist -- presumably one of some skill in the art -- has made a fair copy, with only insubstantial changes. *Id.*

61. The doctrine of equivalents can be proven by the conventional "substantially the same function/substantially the same way/substantially the same result" test, but that is not "the" test for equivalency. However, the function--way--result test often suffices because it leaves little room for doubt that there are only insubstantial differences. *Id.* at 1518; *Hughes Aircraft Co. v. United States*, 717 F.2d 1351, 1363 (Fed. Cir. 1983); *Corning Glass Works v. Sumitomo Elec.*, supra, 868 F.2d at 1260. In addition, the court can evaluate "whether persons reasonably skilled in the art would have known of the interchangeability of an ingredient not contained in the patent with one that was." *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, supra, 339 U.S. at 609; *Hilton Davis Chemical Co. v. Warner-Jenkinson Company, Inc.*, supra, 62 F.3d at 1519. Evidence of copying and "designing around" a patent are also relevant factors. *Id.* at 1519-20. Equivalence is a question of fact. *Id.* at 1522.

62. The Transco constructions do not infringe the Pinsky patent under these principles since stainless steel hooks are not identical to or equivalent to nylon hooks.

Operability

63. One of the requirements for patentability is utility under 35 U.S.C. s. 101.

64. The principle underlying 35 U.S.C. s. 101 is that a patent is not a reward for the search but is compensation for its successful conclusion. *In re Zeigler*, 992 F.2d 1197, 1203 (Fed. Cir. 1993).

65. Lack of utility because of inoperativeness is a question of fact. *Fregeau v. Mossinghoff*, 776 F.2d 1034, 1038 (Fed. Cir. 1995).

66. A patent is invalid "if the described result cannot be obtained by the described means." *Mitchell v. Tilghman*, 86 U.S. 287, 396-97, 22 L.Ed. 125 (1873); *Raytheon Co. v. Roper Corp.*, 724 F.2d 951, 956 (Fed. Cir. 1983).

67. The product disclosed in the Pinsky patent cannot survive in the containment area of the nuclear power plant unless the fastener(s) are Nomex(R)) material and stainless steel. Because this crucial structure is not shown or discussed in the patent, the patent is inoperable.

68. The Pinsky patent is, therefore, invalid. 35 U.S.C. s. 101.

Obviousness

69. Obviousness is a question of law. *Structural Rubber Products Co. v. Park Rubber Co.*, 749 F.2d 707, 719 (Fed. Cir. 1984).

70. In making the evaluation of obviousness, the court must consider the factors set forth in *Graham v. John Deere Co.*, 383 U.S. 1 (1966), namely the scope and content of the prior art, the differences between each claim of the Pinsky patent and the prior art, and the level of ordinary skill in 1973. "A prima facie case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art." *Application of Rinehart*, 531 F.2d 1048, 1051 (CCPA 1976).

71. When evaluating obviousness under 35 U.S.C. s. 103, the invention as a whole must be considered, not merely the differences between the claimed invention and the prior art. *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1383 (Fed. Cir. 1986), *cert. denied*, 480 U.S. 947 (1987).

72. One objective indicator of nonobviousness is commercial success. A *prima facie* nexus between the

commercial success and the claimed invention is established if the claims read on the commercially successful product. *Ryko Manufacturing Co. v. Nu-Star, Inc.*, 950 F.2d 714, 719 (Fed. Cir. 1991).

73. Other objective indicators of nonobviousness are that the claimed invention fulfilled a long felt need in the art (*Windsurfing International, Inc. v. AMF, Inc.*, 782 F.2d 995, 1000 (Fed. Cir. 1986)), that it has been copied by the defendant and/or others (*Rosemount, Inc. v. Beckman Instruments, Inc.*, 727 F.2d, 1540, 1546 (Fed. Cir. 1984)), and that when those in the art are first exposed to the invention they are skeptical about its operativeness, practicality or safety. *Burlington Industries, Inc. v. Quigg*, 822 F.2d 1581, 1583 (Fed. Cir. 1987).

74. Transco has not presented clear and convincing evidence that the Pinsky patent is obvious. The evidence before the court included objective indicators of nonobviousness, including commercial success, fulfillment of a long felt need in the art, copying by Transco, and initial skepticism by those in the art -- including Transco -- about the operability or safety of the invention.

Best Mode

75. The relevant date for the consideration of the best mode issue is October 24, 1973, the filing date of the first Pinsky patent application. *Transco Products Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 560 (Fed. Cir. 1994).

76. Proof of invalidity under the best mode requirement requires clear and convincing evidence that the inventor knew at the time of filing of a better mode of carrying out the claimed invention than disclosed in the specification, and the inventor concealed the better mode. *Engel Industries, Inc. v. Lockformer Co.*, 946 F.2d 1528, 1531-33 (Fed. Cir. 1991). The first inquiry is whether the inventor at the time he filed his patent application knew of a mode of practicing his invention which he considered to be better than any other. This determination is subjective. "If he did have a best mode, the next question is whether he disclosed it and did so adequately to enable one of ordinary skill in the art to practice the best mode. This is an objective determination. There must be no concealment of a mode known by the inventor to be better than that which is disclosed." *In re Hayes Microcomputer Products, Inc.*, 982 F.2d 1527, 1536 (Fed. Cir. 1992).

77. The best mode requirement does not require an inventor to disclose production details so long as the means to carry out the invention are disclosed. A generic description of a product or element used in a claimed combination is all that is required. Supplier or trade name information need only be provided when a skilled artisan could not practice the best mode of the claimed invention absent that information. *Transco Products Inc. v. Performance Contracting, Inc.*, supra, 38 F.3d at 560.

78. The determination as to whether the best mode requirement has been satisfied is a question of fact. *Id.* at 559.

79. The question whether the disclosure made in the Pinsky patent of a generic description of the 603A cloth turns on the credibility of Dennis Vaughn. I found Mr. Vaughn's testimony to be credible. Accordingly, Transco has not satisfied its burden of proving that Pinsky violated the best mode requirement of 35 U.S.C. s. 112 with respect to the glass cloth or its finish.

80. I have also concluded that Transco has not shown that the best mode requirement was violated with respect to the flap, the material of the hook and loop mating strips or a scrim.

Inequitable Conduct

81. In order to establish inequitable conduct an infringer must show that any withheld art, alleged misrepresentation, or other act asserted to be inequitable is material, as well as intent to deceive the Patent

and Trademark Office. If materiality and intent are shown, the court must balance the two and determine as a matter of law whether there is inequitable conduct. *Halliburton Co. v. Schlumberger Technology Corp.*, 925 F.2d 1435, 1439 (Fed. Cir. 1991).

82. In the present case, Transco has not shown by clear and convincing evidence that Performance Contracting knowingly withheld material information with an intent to mislead or deceive the Patent and Trademark Office. It has, therefore, failed to establish inequitable conduct.

Laches And Equitable Estoppel

83. Laches and equitable estoppel are equitable defenses to a claim for patent infringement under 35 U.S.C. s. 282. *A.C. Aukerman Co. v. R.L. Chaides Construction Co.*, 960 F.2d 1020, 1029, 1041 (Fed. Cir. 1992). Because of its equitable nature, even if found, laches and/or equitable estoppel do not result in minimizing damages or unenforceability of a patent if there is unclean hands or egregious conduct on the part of the infringer. Copying a patented invention constitutes egregious conduct of the type that changes the equities in favor of a patentee and defeats a defense of laches or equitable estoppel. *Bott v. Four Star Corp.*, 807 F.2d 1567, 1576 (Fed. Cir. 1986).

84. While laches and equitable estoppel are related defenses, there are significant differences. Laches is concerned with the reasonableness of the patentee's delay, while estoppel is concerned with the infringer's reasonable belief as a result of the patentee's conduct. Laches bars only retrospective relief, while estoppel entirely bars assertion of the patent claim. *A.C. Aukerman Co. v. R.L. Chaides Construction Co.*, supra, 960 F.2d at 1034.

85. The three elements of equitable estoppel are: (1) the patentee, through misleading conduct, leads the alleged infringer reasonably to infer that the patentee does not intend to enforce its patent against that infringer; (2) reliance; and (3) material prejudice. *Hemstreet v. Computer Entry Systems Corp.*, 972 F.2d 1290 (Fed. Cir. 1992).

86. The elements of laches and equitable estoppel have not been shown to be present in this case.

GENERAL

87. Claims 1 and 4 of the Pinsky patent are invalid and un infringed by the Transco constructions.

88. Anything incorrectly characterized as a finding of fact or conclusion of law is to be considered within the correct category, and does not affect the finding or conclusion. The headings used herein are for convenience only, and any particular conclusion may relate to other issues.

ENTER ORDER.

JUDGMENT

IT IS ORDERED AND ADJUDGED that the court concludes that the Pinsky patent No. 4,009,735 is invalid and not infringed. Accordingly, declaratory judgment is entered in favor of plaintiff and against defendants. Defendants' counterclaim is dismissed.

FN1. The parties had never submitted the proposed Rule 56(d) findings called for by Judge Shadur's second opinion.

FN2. In its proposed findings of fact, Performance Contracting stated that the Transco MA construction used nylon hooks. None of the cited testimony supports this claim, which is contrary to Mr. Pinsky's own

testimony that nylon hooks would not be acceptable because they cannot withstand radiation. The only document that supports the claim is a document describing the Transco product. However, the only witness who testified about the MA construction stated that stainless steel hooks were used. (Wolbert Tr. 332.) I conclude that the evidence does not support Performance Contracting's claim that nylon hooks were used in the nuclear containment area at Millstone (the MA and MN constructions).

FN3. Transco relies on testimony by Jackie N. Sutton, a technician who helped fabricate Performance Contracting's commercial product. Mr. Sutton stated that he believed his company was always going to use stainless steel fasteners and that while he did not know if he knew that nylon would not withstand heat, he assumed Mr. Pinsky did. This testimony is insufficient both because no reason is stated for Mr. Sutton's assumption about Mr. Pinsky's knowledge and because it is unclear at what time Mr. Sutton was speaking of with respect to knowledge by anyone at the company that stainless steel fasteners would be used. All other evidence indicates that only when PCI had its product tested in 1974 did it learn that the nylon fasteners would not work. It then switched to stainless steel.

FN4. Transco also argues that the description is not a "finish" at all in the sense of a final coating put on the fabric at the end of its manufacture. But all the manufacturers use the word "finish" to describe the product recognized by the description in the Pinsky patent. "Finish" in this sense means "the result or product of a finishing process." WEBSTER'S NINTH NEW COLLEGIATE DICTIONARY (Merriam-Webster ed., 1983). There is nothing unusual about the use of the word in this manner.

FN5. Mr. Vaughn testified that PCI was a "good" customer of Clark-Schwebel, having purchased \$100,000 of product last year out of \$300,000,000 in sales. Transco argues that the relationship makes Mr. Vaughn a biased witness. I found Mr. Vaughn's testimony credible.

FN6. Transco identified deposition testimony from JPS' (formerly J. P. Stevens) Rule 30(b)(6) witness and a letter from Burlington Industries, which it says shows the contrary. The deponent, at least on the pages referred to, was never, however, asked whether he could identify the fabric finish by the description. (He also apparently was a marketing person and not an expert on fabric finishes.) The Burlington exhibit referred to similarly does not show whether the tester could identify the finish by the patent description.

N.D.III.,1996.

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