

United States District Court,  
D. Minnesota, Fourth Division.

**MINNESOTA MINING AND MANUFACTURING COMPANY,**  
Plaintiff.

v.  
**CARAPACE INC,**  
Defendant.

CIV. No. 4-93-392

**Oct. 29, 1993.**

Gregory Madera, Fish and Richardson, Boston, MA, for plaintiff.

Anthony Roth, Morgan, Lewis & Bockius, Washington, D.C., for defendant.

### **MEMORANDUM OPINION AND ORDER**

**DIANA E. MURPHY, Chief Judge.**

Plaintiff Minnesota Mining and Manufacturing Company (3M) brought this patent infringement action against defendant Carapace Incorporated (Carapace) asserting that Carapace's non-tacky synthetic casting product infringes certain 3M patents. 3M now moves for a preliminary injunction to prevent Carapace from selling the alleged infringing products.

#### **I.**

This is a patent infringement action related to orthopedic casting technology. The background facts about the synthetic cast industry are not disputed. Synthetic fiberglass casts have largely replaced plaster casts as the product of choice to immobilize bone fractures. Fiberglass casts are lighter, stronger, and more breathable than plaster casts. 3M was the pioneer in developing a synthetic alternative to plaster casts and introduced its Scotchcast products in 1980.

Fiberglass casts are applied the same way as plaster casts; specially treated gauze-like rolls are dunked in water and wrapped on the affected body part. The material hardens as it dries, thus immobilizing the area. The major drawback of the first generation of synthetic casts was that when the rolls were dunked in water they became very tacky and stuck to the gloves of the physician or technician trying to wrap the injured area. They were thus very difficult to apply. In 1986, 3M developed and patented a method of making the casting materials less tacky during application and easier to use ("Scotchcast Plus"). These patents, U.S. Patent No. 4,667,661 (Scholz I patent) and U.S. Patent No. 4,774,937 (Scholz II patent) are the subject of this litigation. 3M claims that defendant's "Caraglas Xtra" product line infringes on claim 17 of the Scholz I patent and should therefore be enjoined.

The validity and interpretation of the Scholz patents have been previously litigated. In *3M v. Johnson and Johnson Orthopaedics, Inc.*, Civil No. 4-86-359, 22 USPQ2d 1401 (D.Minn.1991), *affirmed*, 976 F.2d 1559 (Fed Cir.1992), after a lengthy trial, 3M obtained a permanent injunction preventing Johnson and Johnson from distributing its slippery synthetic cast products. 3M also litigated the Scholz patents in *Minnesota Mining and Manufacturing v. Smith and Nephew, plc, et al.*, Civil No. 3-91-274. The parties in that case agreed to a consent judgement specifying that Dynacast XR and Dynacast Extra (including Dynacast Extra "Hydrophilic") infringed the Scholz patents and that an injunction prohibiting further infringement could issue.

Carapace is a relatively small orthopedic medical supply company based in Tulsa, Oklahoma. In 1992, Carapace's gross sales revenues were approximately \$13 million, about half of which came from synthetic casting materials. Carapace president Stephen Walls estimates that the company currently holds about 4% of the synthetic casting market. FN1

Walls states that Carapace was initially involved in manufacturing plaster casting materials, but began to develop its own synthetic casting products in the early 1980's. Around this same time, Walls says Carapace developed a close working relationship with 3M, which culminated in Carapace manufacturing a plaster of paris product called Pearlcast exclusively for 3M, to complement 3M's synthetic cast line. This cooperation ended abruptly a short time later, when a major fire destroyed Carapace's inventory and crippled its manufacturing ability.

Carapace claims that to develop its non-tacky synthetic cast it hired two consultants: Martin Edenbaum, a chemical engineer and inventor, and Dr. Kurt C. Frisch, an authority on urethane chemistry. These individuals eventually developed a detackified product using the chemical bisurethane. Carapace applied for patents, and in 1991 and 1993 it received U.S. Patent No. 5,061,555 and U.S. Patent No. 5,180,632 (the Carapace patents) for its bisurethane products. In the application process Carapace disclosed 3M's Scholz patents as prior art.

Carapace began marketing its new detackified product in 1990 under the name CaraGlas Xtra. Since that time, it claims it has had numerous contacts with 3M officials and says no concern was ever raised about Carapace infringing on the 3M patents.

## II.

To obtain a preliminary injunction, plaintiffs must establish "1) a reasonable likelihood of success on the merits; 2) irreparable harm; 3) the balance of hardships tipping in favor of the requesting party; and 4) that the issuance of an injunction is in the public interest." *Hybritech, Inc. v. Abbott Laboratories*, 849 F.2d 1446, 1451 (Fed.Cir.1988). "These factors, taken individually, are not dispositive; rather, the district court must weigh and measure each factor against the other factors and against the form and magnitude of the relief requested." *Id.* at 1451.

Courts employ a two step analysis when examining claims of patent infringement under 35 U.S.C. s. 271(a). "First, the language of the claim at issue must be interpreted to define its proper scope and, second, the evidence before the court must be examined to ascertain whether the claim has been infringed." *C.R. Bard, Inc., v. Advanced Cardiovascular Systems*, 911 F.2d 670, 673 (Fed.Cir.1990).

3M argues it can show a strong likelihood of success on the merits because the validity of claim 17 of the Scholz I patent has already been extensively litigated and decided in *3M v. Johnson & Johnson*, and the Carapace product clearly infringes the claim.

Claim 17 of the Scholz I patent reads:

An article comprising a pre-lubricated curable resin-coated sheet wherein the curable resin is a water-curable isocyanate-functional prepolymer which is a derivative of an aromatic polyisocyanate and wherein a major surface of the sheet exhibits a kinetic coefficient of friction of less than about 1.2.

Schiffhauer Declaration Exhibit 3.

3M argues that Caraglas Xtra meets all the criteria of claim 17. First, it consists of a fiberglass backing impregnated with a water-curable polyurethane resin and thus meets the "curable resin-coated sheet" element. Second, 3M asserts claim 17, as previously interpreted, is very broad and encompasses any chemical that functions to reduce the resin tack and make it slippery. It argues that "shear layer" means a layer that shears easily-i.e. is slippery-and not a separate layer of lubricant distinct from the resin itself. It asserts that Caraglas Xtra includes a chemical lubricant that makes the resin slippery and easy to apply. Finally, 3M claims that it performed kinetic coefficient of friction tests on the Caraglas Xtra bandages and found they had a KCOF of 0.3-0.4, well within the 1.2 KCOF limit of claim 17.

Carapace responds FN2 that 3M's infringement arguments are based on the false factual premise that the detackifying agent in Caraglas Xtra is polyethylene oxide and not bisurethane. Carapace contends that bisurethane is chemically distinct from polyethylene oxide and outside the definition of lubricant in claim 17. Moreover, Carapace contends bisurethane is not consistent with the definitions of lubricant in the Scholz I patent.

Carapace also argues that the court should reject 3M's claim of infringement under the reverse doctrine of equivalents. Under the doctrine of reverse equivalents:

where a device is so far changed in principle from a patented article that it performs the same or similar function in a substantially different way, but nevertheless falls within the literal words of the claim, the doctrine of equivalents may be used to restrict the claim and defeat the patentee's action for infringement.

*Graver Tank and Mfg. Co., Inc. v. Linde Air Products Co.*, 339 U.S. 605, 608-609 (1950).

Here, Carapace contends the two companies achieve similar results in very different ways. While 3M lubricates a tacky surface, Carapace argues bisurethane detackifies the surface itself. 3M's lubricated system depends on a "shear layer" of incompatible lubricant on the surface of the prepolymer resin, while Carapace adds small amounts of compatible bisurethane to the resin itself that reduces tackiness even though no film or shear layer of the tack-reducing material is present on the surface of the resin. In other words, bisurethane is miscible in the resin-i.e., it mixes throughout the resin instead of forming a layer distinct from the resin.

It is not disputed that the surface of Caraglas Xtra is slippery. Carapace argues bisurethane is different than polyethylene oxide, but plaintiff has produced undisputed evidence that bisurethane, like over 40 other chemicals listed in the patent, contains polyethylene oxide. The prior litigation of the Scholz patents before this court provides insight into the proper definition of "shear layer". In analyzing whether the slipperiness

term in the patents was sufficiently definite, Special Master Janice Symchych, this court, and the Federal Circuit all concluded that it was. As this court stated in its opinion in *Johnson & Johnson*,

The special master stated well the slipperiness indefiniteness problem: 'The question is whether the patent reasonably apprises one skilled in the art that the patent concerns itself with tapes that exhibit a low KCOF *because of the slipperiness of the resin, and not because of the fabric substrate or some other factor.*' 22 PPQ2d 1401, 1409 (D.Minn 1991) (emphasis added).

This court concluded the patent was sufficiently definite because it:

sufficiently apprises the art that the patent covers a product with a low KCOF *because* its lubricant reduces the tack of the resin, i.e., makes it more slippery. *Id.* at 1410 (emphasis original).

Carapace argues its product is slippery because the bisurethane makes the resin slippery, not because of the fabric substrate or some other factor. It thus appears that its product falls within the above interpretation of the Scholz patents. Carapace argues that bisurethane is not a lubricant because it is miscible in the resin. As plaintiff points out, however, several examples listed in claim 17 use chemicals such as Standopol 125E, which are miscible in the resin just like bisurethane.

Carapace also argues that it has a patent for the use of bisurethane, but this is not dispositive. Carapace's right to exclude others from infringing its patent is not the same as a declaration that its invention cannot infringe on another patent broad enough to encompass or dominate it. *Rolls Royce Ltd. v. GTE Valeron Corp.*, 800 F.2d 1101, 1110 n. 9 (Fed Cir.1986). The Scholz patents have been upheld as valid and construed quite broadly. Defendant has not shown on this record that its patent using bisurethane prevents plaintiff from showing a reasonable likelihood of success on the merits. Defendant also has not pointed to any significant differences between its product and the other slippery casting products that have previously been held to infringe claim 17. Because of past litigation establishing the validity of claim 17 and interpreting the meaning of various terms of the patent, as well as the apparent similarity between defendant's product and other products that have been found to infringe claim 17, 3M has demonstrated a likelihood of success on the merits.

### III.

In addition to likelihood of success on the merits, 3M argues that it will suffer irreparable harm if an injunction is not issued. 3M first argues that such irreparable harm is presumed when there is a strong indication of success on the merits. Second, it argues that it will suffer a loss of market share that is not readily compensable through money damages. According to 3M, this is made worse by the fact that Carapace manufactures its product for other companies who, in turn, sell it under their own brand names. Such "private label" manufacturing exacerbates the loss of market share since these various other companies are each entirely new competitors with their own sales and marketing forces that can independently chip away at 3M's potential sales. Additionally, 3M contends Carapace does not have sufficient assets to pay 3M's damages accrued to date (approximately \$2.4 million). Without a proven financial capability to pay a financial recovery after trial, its injury must be considered irreparable and an injunction should be granted.

3M also argues that the balance of the harms and the public interest favor granting an injunction. In contrast to the irreparable harm it will suffer, 3M argues that Carapace will experience only minimal harm because it can continue to sell its other products. In addition, the public has an interest in the protection of patents

rights that would be served by an injunction.

Carapace contends that any attempted showing of irreparable injury is rebutted by the fact that 3M waited over three years to bring this action after learning about Caraglas Xtra. Carapace contends that 3M's argument that it did not bring the suit earlier because it was occupied with the Johnson & Johnson litigation is unbelievable given its vast resources. Finally, Carapace argues 3M's claims of irreparable injury are undercut by the fact 3M has expressed a willingness to license the Scotchcast Plus technology, and the fact that Carapace represents such a small portion of market share (4%) compared to 3M (60%).

Carapace also contends 3M is unable to show irreparable injury because the doctrine of equitable estoppel bars its claims. Carapace argues equitable estoppel bars a patent infringement claim where:

[1] The actor, who usually must have knowledge of the true facts, communicates something in a misleading way, either by words, conduct or silence. [2] The other relies upon that communication. [3] And the other would be harmed materially if the actor is later permitted to assert any claim inconsistent with his earlier conduct.

A.C. Aukerman Co. v. R.L. Chaides Construction Co., 960 F.2d 1020, 1041 (Fed.Cir.1992).

According to Carapace, all three elements are present here. It argues that 3M knew about the manufacturing and marketing of Caraglas Xtra in 1990. It also knew it was a "slippery" product. Over the next three years, Carapace argues 3M explicitly and implicitly confirmed Carapace's belief its products did not infringe the 3M patents, and that if an infringement issue did arise, that 3M would not sue Carapace. Carapace argues that this action shows that 3M's statements and conduct were misleading, and in reliance on 3M's conduct, it never attempted to develop additional non-infringing detackifying systems.

Finally, Carapace contends the balance of harms and the public interest favor not granting an injunction. Carapace contends that if an injunction were issued, it would probably go out of business. Caraglas Xtra is its lead product and accounts for approximately half of its sales revenue. On the other hand if an injunction were not issued, 3M would remain the market leader and suffer no more damage than it voluntarily accepted from 1990 to the present.

After studying the record, the court concludes that a showing of irreparable injury has been made. 3M has demonstrated such injury based on its potential loss of market share not only to Carapace, but also to the companies whose private label casting products are manufactured by Carapace. This, coupled with defendant's questionable ability to pay even the damages accrued to date, renders monetary damages inadequate.

Carapace's arguments of estoppel and laches are not persuasive. The defendant bears the ultimate burden of persuasion on both defenses. A.C. Aukerman Co. v. R.L. Chaides Construction Co., 960 F.2d 1020, 1038, 1043 (Fed Cir.1992). The present case is not a situation where 3M has slept on its rights under the Scholz patents. Litigation concerning the validity of the Scholz claims, including claim 17, has been ongoing for several years. The court is not persuaded that 3M's decision first to enforce its patents against competitors doing the largest volume of business in the synthetic casting market should preclude a finding of irreparable harm. *See e.g.*, Hybritech v. Abbott Laboratories, 849 F.2d 1446, 1457 (Fed Cir.1988) (delay did not weigh against preliminary injunction where district court found good cause for plaintiff first to seek relief against other infringer "given its particular situation and financial resources").

In addition, there are genuine issues of material fact that preclude a finding of equitable estoppel at this time. No presumptions adhere to an equitable estoppel defense, and defendants carry a burden to establish the defense based on proof. *Aukerman*, 960 F.2d at 1043. Estoppel requires a communication by words, conduct, or silence. *Id.* at 1041. Carapace relies on statements allegedly made by William McLellan and Robert McDonald to the effect that Carapace had nothing to worry about and that 3M would not be enforcing the patents against it. 3M has submitted affidavits from both individuals stating no such statements were made, and in the case of McLellan, stating that he was not even with the Orthopedic Products Division at the time the statements were allegedly made. This evidence is sufficient to create a genuine issue of material fact over the existence and nature of any alleged communications between the parties or the circumstances surrounding 3M's silence or inaction against Carapace.

Each side faces harm depending upon the outcome on this motion. 3M will be harmed if no preliminary relief is issued. It has made a strong showing of likelihood of success on the merits and demonstrated that it is unlikely that Carapace will be able to pay damages and that the allegedly infringing products Carapace manufactures are being distributed internationally by other companies. Carapace on the other hand, will be harmed and could go out of business if an injunction is issued because it relies heavily on the Caraglas Xtra product line.

The public interest is also not dispositive. In patent cases there is always public interest in protecting rights secured by valid patents. The question when considering whether to grant a preliminary injunction, is "whether there exists some critical public interest that would be injured by the grant of preliminary relief." *Hybritech, Inc. v. Abbott Laboratories*, 849 F.2d 1446, 1458 (Fed.Cir.1988). No critical public interest would be harmed by the grant of preliminary relief here because casting materials would still be available to medical personnel even if Carapace were enjoined from distributing its Caraglas Xtra product line.

After considering all the factors the court finds a preliminary injunction is appropriate.FN3 3M has demonstrated a likelihood of success on the merits and irreparable harm. The balance of harms and the public interest do not counsel against preliminary relief. It should therefore be granted.

## **ORDER**

Accordingly, based upon the above, and all the files, records, and proceedings herein, IT IS HEREBY ORDERED that;

1) plaintiff's motion for a preliminary injunction is granted and defendant Carapace Incorporated and its officers, agents, servants, employees and those persons in active concert with them who receive notice of this injunction are hereby preliminarily enjoined from infringing claim 17 of U.S. Patent No. 4,667,661, including (a) the further manufacture, use, or sale of Caraglas Xtra orthopedic casting bandages, and (b) the further manufacture for or sale to other entities of orthopedic casting bandages with the same composition as Caraglas Xtra for those entities' resale;

2) defendant shall provide immediate written notice of this injunction to its officers, agents, servants, employees and those persons in active concert with them.

FN1. Walls estimates 3M's market share to be 60%.

FN2. Carapace filed a motion for leave to submit a six page sur-reply brief. That motion is granted and the arguments contained therein have been considered by the court.

FN3. No party has addressed the issue of any needed security pursuant to Fed.R.Civ.P. 65(c).

D.Minn.,1993.

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