United States District Court,
E.D. Michigan.

EPCON GAS SYSTEMS, INC. and Norman Loren,
Plaintiffs.
v.
BAUER COMPRESSORS, INC,
Defendant.

Sept. 11, 2000.

Owner of patent for method of providing gas assistance to injection molding process sued competitor for infringement. After construing claims, the District Court, Tarnow, J., held that accused device was not infringing absent evidence it was being used in United States in infringing manner.

Judgment for defendant.

5,118,455. Construed; Not Infringed.

Gerald E. McGlynn III, Joseph Burgess, Bliss McGlynn, P.C., Troy, MI, for Plaintiffs.

John A. Artz, John S. Artz, Artz & Artz, PC, Southfield, MI, for Defendant.

OPINION AND ORDER AS TO INTERPRETATION OF UNITED STATES PATENT 5,118,455 ***AND GRANTING DEFENDANT'S MOTION FOR SUMMARY JUDGMENT [24-1] AND DENYING MOTION TO DECLARE THIS CASE EXCEPTIONAL [22-1]***

TARNOW**, District Judge.**

Before this court are Bauer's Motions for Summary Judgment, pursuant to Fed.R.Civ.P. 56, on two grounds: 1) non-infringement, and 2) that the United States Patent 5,118,455 (the "455 Patent") is itself invalid. This court's interpretation of the disputed terms of the 455 Patent follows. For reasons discussed below, defendant's motion with respect to non-infringement will be **GRANTED.** Therefore, it will be unnecessary for the court to decide defendant's motion that the 455 Patent is invalid over prior art. Finally, defendant's motion to have this case declared exceptional is hereby **DENIED.**

I. Prior history

A. Substantive Facts

Plaintiff Epcon Gas Systems, Inc. is in the business of manufacturing equipment for the plastics industry. Specifically, they manufacture and offer for sale machines based on U.S. patent 5,118,455 which are designed to be used in the production of injection molded plastic parts by forcing gas into a mold under pressure, along with the liquid plastic or resin material. This pressure in the mold cavity is maintained until the plastic or resin material has cooled below its melting point, at which time the gas is vented to the atmosphere and the part is removed. Plaintiffs do not have a patent on the process of gas assisted injection molding. Rather, the patent in suit addresses a specific means of controlling the flow of gas into the mold

during the molding process and of controlling the gas pressure within the mold during the molding process.

This process has several advantages. Parts produced in this manner have a better surface finish than parts produced using other processes, because the pressure in the mold cavity forces the material to remain continually in contact with the inner face of the mold until it has solidified. Further, this process allows for parts with thinner walls to be manufactured, (an advantage in itself in some applications) and thereby allows some savings in materials use as well. The device which is described in the 455 patent allows the pressure in the mold to be selectively increased, decreased or maintained at a constant pressure during the molding process, as required by the production process for whatever items are being molded. The sequence in which the pressure is varied during the molding process is called the "pressure profile".

Defendant Bauer Compressors manufactures and sells a device that is designed to control the flow of pressurized gas into a mold during the molding process. This device can vary the pressure of the gas within the mold cavity during the molding process, stepping the pressure up or down or holding it constant, according to the requirements of the particular production process. Bauer apparently can, upon request, provide certain elements of a gas supply system for use with its control system, but this is not "standard equipment", and the system is apparently designed to work with any of a variety of means of gas supply. Bauer does not manufacture or sell injection molding equipment *per se*.

Epcon alleges that the equipment sold by Bauer infringes its rights under the 455 patent because its system is capable of controlling the gas supply used in gas assisted injection molding of plastics materials by selectively increasing, decreasing or maintaining at a set level the gas pressure within the mold cavity. Technically, since Bauer does not itself sell a full line of injection molding equipment, Epcon alleges that Bauer induces or contributes to the infringement of the 455 patent by other firms by providing the equipment to those firms. Specifically, Epcon alleges that Claims 2 and 16 of the 455 patent are infringed by the device manufactured by Bauer.

Bauer responds, first, that the 455 patent is invalid because a machine performing a similar function in a similar way was in use within the United States more than one year before the application date of the 455 patent. This is the machine described by the United States Patent No. 5,047,183 (the "183 patent"). There is no dispute that a machine embodying the 183 patent was sold by a German firm, Battenfield under the trade name "Airmould" to a company in Grass Lake, California,: Gant Western. Further, there is no dispute that this device has been used by Gant Western in the production of molded plastic items since 1989, before the critical date. However, the parties dispute whether the "prior art" embodied in the 183 patent anticipates the innovations claimed in the 455 patent. This prior art is the subject of Bauer's Motion for Summary Judgment as to Invalidity.

35 U.S.C. s. 102(b) states that a person shall be entitled to a patent unless: "(b) the invention ... was in public use or on sale in this country more than one year prior to the application for patent in the United States." Thus, a patent applicant gets a one year "grace period" prior to the date of their application. If a similar device was in use or on sale more than one year prior to the application, the patent is invalid.

Bauer next argues that, even if the 455 patent is found to be valid, it has not infringed the patent by its own terms. In order to be liable for direct infringement of the 455 patent, Bauer argues, it must manufacture gas assisted injection molding equipment and not merely a control unit. As mentioned above, Bauer does not offer a full line of injection molding equipment. Bauer also asserts that Epcon does not have any evidence that any of Bauer's customers have used any piece of allegedly infringing equipment in such a way as to infringe directly Epcon's rights under the 455 patent. Therefore, Bauer argues they cannot be liable for indirect or contributory infringement if Plaintiff cannot show any direct infringement.

Finally, Bauer argues that, because Epcon is unable to point to any direct infringement and has, according to Bauer, not expended much effort to find any, the case should be declared "exceptional" so as to qualify

Bauer for payment of its attorney fees under 35 U.S.C. s. 285 and Fed.R.Civ.P 11.

B. Procedural History

Plaintiff filed its complaint on December 18, 1998. Discovery cutoff was January 31, 2000. The initial Markman hearing FN1 was held February 28, 2000. Oral arguments on the claim interpretation issue were held at the same time as the hearing on the two instant summary judgment motions, June 21, 2000.

FN1. Markman v. Westview Instruments, Inc., 52 F.3d 967 (Fed.Cir.1995), (en banc); *aff'd* 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996). In *Markman,* the Federal Circuit held that, in patent infringement cases which are to tried before a jury, the interpretation of the language used in the patent claim is a question of law which must be decided by the court.

II. Standard of Review

Summary judgment is appropriate only where no genuine issue of material fact remains to be decided and the moving party is entitled to judgment as a matter of law. Fed.R.Civ.P. 56(c). A genuine issue of material fact exists when "there is sufficient evidence favoring the non-moving party for a jury to return a verdict for that party." Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 106 S.Ct. 2505, 2511, 91 L.Ed.2d 202 (1986). In applying this standard, the Court must view all materials offered in support of a motion for summary judgment, as well as all pleadings, depositions, answers to interrogatories, and admissions properly on file in the light most favorable to the non-moving party. Id. 106 S.Ct. at 2510. Where "the moving party has carried its burden under 56(c), its opponent must do more than simply show that there is some metaphysical doubt as to the material facts." Matsushita Electric Industrial Co. v. Zenith Radio Corp., 475 U.S. 574, 106 S.Ct. 1348, 1356, 89 L.Ed.2d 538 (1986); Celotex Corp. v. Catrett, 477 U.S. 317, 106 S.Ct. 2548, 2553, 91 L.Ed.2d 265 (1986). Summary judgment standards apply in patent cases, just as in any other case, Warner-Jenkinson Co. v. Hilton Davis Chemical Co. 520 U.S. 17, 117 S.Ct. 1040, 1048 n. 8, 137 L.Ed.2d 146 (1997).

[1] [2] [3] [4] Patents are presumed to be valid, 35 U.S.C. s. 282. The burden of proof is placed on the party seeking to have the patent declared invalid, Mead Digital Systems, Inc. v. A.B. Dick Comp., 723 F.2d 455 (6th Cir.1983). Invalidity must be shown by clear and convincing evidence, Nickola v. Peterson, 580 F.2d 898 (6th Cir.1978). In cases where the prior art relied upon was before the patent examiner, the examiner is entitled to deference. Ultra-Tex Surfaces, Inc. v. Hill Brothers Chemical Co., 204 F.3d 1360, 1367 (Fed.Cir.2000), citing American Hoist & Derrick Co. v. Sowa & Sons, Inc. 725 F.2d 1350 (Fed.Cir.1984). The question of whether a patent has been anticipated by prior art is a question of fact. Hoover Group, Inc. v. Custom Metalcraft, Inc. 66 F.3d 299 (Fed.Cir.1995). A District Court's finding on an anticipation issue will not be overturned absent a finding of clear error, *Id*. In order to find that a patent has been "anticipated" within the meaning of 35 U.S.C. 102(a), (b), a court must find that there has been a prior disclosure of a later item incorporating each and every element of the earlier claim. Hoover Group, Inc. v. Custom Metalcraft, Inc. 66 F.3d 299 (Fed.Cir.1995).

[5] [6] In determining whether a case is "exceptional" for purposes of 35 U.S.C. 285, a court must make a two step inquiry. First, the court must determine that the case is exceptional by clear and convincing evidence. Then, the court must decide if an award of attorney's fees is justified. Interspiro USA, Inc. v. Figgie Intern. Inc. 18 F.3d 927 (Fed.Cir.1994). In general, a litigant is not entitled to an award of attorney fees in a patent case absent a showing of unfairness, bad faith or inequitable or unconscionable conduct on the part of the other party, Smith v. ACME General Corporation, 614 F.2d 1086 (C.A.Ohio 1980).

III. DISCUSSION

A. CLAIM CONSTRUCTION

The parties dispute the meaning of several terms used in the asserted claims, 2 and 16, of the 455 Patent. These terms are: "a supply of stored gas is provided"; "substantially"; and "prior to the venting" in Claim 2. In Claim 16, the same terms are used. In addition, the phrase "control means", used in Claim 16 must be construed by the court. Finally, the parties also disagree about the effect of the preamble to Claims 2 and 16.

[7] [8] [9] The first step of an infringement analysis is for the court to construe the patent's claims as a matter of law to determine their scope and meaning. Markman v. Westview Instruments, Inc., 517 U.S. 370, 390, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996). In order to construe the claim, the court must look first to intrinsic evidence, i.e. the patent itself, which includes the claims and specifications, and the prosecution history before the Patent and Trademark Office. Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996). If the inventor intended that any terms should be understood to have a meaning other than their common, everyday meaning, this intent must be clear from the patent specification. *Id*. In the absence of any such expressed intent in the specification, all terms of the patent will be understood to have their ordinary and accustomed meaning. *Id*.

[10] If an examination of the intrinsic evidence does not resolve ambiguities in the language of a disputed claim term, extrinsic evidence may be considered solely on the issue of the meaning which would be given to the disputed terms by a person skilled in the art. Extrinsic evidence may not be used to contradict the plain meaning of the claims as it is set forth in the specification and prosecution history. Vitronics Corp., 90 F.3d at 1584.

[11] Once the court has construed the claim, the fact finder must compare the claim, as construed by the court, to the accused device to determine whether a finding of infringement is justified. Carroll Touch, Inc. v. Electro Mechanical Sys., Inc., 15 F.3d 1573, 1576 (Fed.Cir.1993). Summary judgment is available in patent cases, just as in any other case, to the extent that the dispute turns solely on the legal issue of claim interpretation. Warner-Jenkinson Co. v. Hilton Davis Chemical Co. 520 U.S. 17, 117 S.Ct. 1040, 1048 n. 8, 137 L.Ed.2d 146 (1997).

The parties dispute centers on two claims of the 455 Patent, Claim 2 and Claim 16. The disputed claims are set forth in their entirety:

2. A method of providing gas assistance to a resin injection molding process of the type in which hot resin is injected into a mold, gas is injected into the mold to displace a portion of the resin in the mold, the resin cools, the gas is vented and the mold is opened to remove the molded part, a supply of stored gas is provided, the gas is injected into the mold to displace the resin in the mold at a pressure that is at all times during the gas injection cycle substantially below the pressure of the stored gas supply, the improvement wherein, following the initial injection of gas into the mold, and prior to the venting of the gas from the mold, the gas pressure within the mold is selectively increased, decreased or held substantially constant, depending upon the particular requirements of the molding process.

16. An apparatus for providing gas assistance to a resin injection molding process of the type in which hot resin is injected into a mold cavity, gas is injected into the mold to displace a portion of the resin in the mold, the resin cools, the gas is vented and the mold is opened to remove the molded part, the improvement wherein a supply of stored gas is provided and the apparatus includes control means which are operative to inject gas into the mold to fill out the mold cavity at a pressure that is at all times during the gas injection cycle substantially below the pressure of the stored gas supply and, which are further operative, following the initial injection of gas into the mold and prior to the venting of the gas from the mold, to selectively increase the gas pressure within the mold, decrease the gas pressure within the mold, or maintain the gas pressure within the mold at a particular value.

Claim 2 describes a method of providing gas assistance to an injection molding process, while Claim 16

describes the apparatus for providing that assistance. In Claim 2, the meaning of the following terms is disputed: "a supply of stored gas is provided", "substantially below" and "prior to the venting." In Claim 16 the parties dispute the meanings of the following terms: "a supply of stored gas is provided," "control means", "substantially below", and "prior to the venting of the gas from the mold."

As an initial matter, this court notes that it has not considered extrinsic evidence in the preparation of this Opinion and Order. Specifically, the Opinion is not based upon the testimony of the inventor of the 455 Patent, Norman Loren, nor is it based upon the affidavit of defendant's technical expert, Richard Butler. This court finds that the disputed terms can be adequately construed consulting only intrinsic evidence. Vitronics, Inc. v. Conceptronic, Inc., 90 F.3d 1576, 1583 (Fed.Cir.1996).

The disputed claims are in "step plus function" form (Claim 2) and "means plus function" form (Claim 16), respectively. Accordingly, this court finds that construction of the disputed claims of the 455 patent is controlled by 35 U.S.C. s. 112 para. 6. Section 112 reads, in relevant part:

s. 112 **Specifications**

. . . . .

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material or acts in support thereof, and such claim shall be construed to cover corresponding structure, or acts described in the specification and equivalents thereof.

Section 112 allows a court to consider the structure associated with a means or step identified in a claim. This structure may be identified in the specification of the patent.

In addition, the court has examined the prosecution history and cited prior art of the 455 patent and has considered the prosecution history and cited prior art of the "parent" of the 455 Patent, the 463 Patent (U.S. Patent 5,039,463) also claimed by Nornan Loren. The 455 Patent is a continuation in part of the earlier 463 Patent. Accordingly, it is proper to consider the prosecution history of this earlier patent as well as any interference proceedings held in connection with the 463 Patent. Elkay Mfg. Co. v. Ebco Mfg. Co., 192 F.3d 973, 52 U.S.P.Q.2d 1109, 1114 (Fed.Cir.1999).

3. The Preamble to Claims 2 and 16

Defendant contends that the preamble of Claims 2 and 16 requires an injection molding system. This court finds that the preamble to Claims 2 and 16 refers to an accessory to such an injection molding system, a means for providing gas assistance to an injection molding process. The claim language does not disclose an integrated gas assisted injection molding system. There is no basis to conclude from the language of the 455 patent or the other intrinsic evidence that the inventor purported to have constructed an integrated injection molding system, meaning a system comprised of a means of providing gas assistance along with an injection molding machine.

4. Claim 16

a. The construction of "a supply of stored gas is provided"

[12] Taking the disputed terms of Claim 16 first, plaintiffs contend that "a supply of stored gas is provided" refers to the environment in which the claimed invention operates. They also assert that interpreting the claim language in light of the specifications impermissibly results in reading limitations from the specifications into the claims. Bauer, on the other hand, contends that the phrase requires that a supply of stored gas is an integral part of the claimed invention.

This court finds that the phrase "supply of stored gas is provided" means in the context of the 455 Patent that such a supply of stored gas is an integral part of the claimed invention. Plaintiff's assertion that the gas supply is merely part of the environment in which the claimed invention operates is belied by both the language of the claims and the specification. In Claim 16, the phrase "a supply of stored gas is provided" appears after the transition phrase "the improvement wherein ..." This alone indicates that the gas supply is considered a part of the claimed invention. Further, the accompanying specification states that a supply of bulk gas is part of the invention:

The invention apparatus, broadly considered, includes a bulk supply system, 24, a booster system, 26, a booster drive system, 28; a high pressure storage system, 30; a pressure control system, 32; a supplemental gas storage system, 34; a pilot operated gas system, 36; an electrical control system, 38; and a gas injection conduit, 40. Apparatus components 24, 26, 28, 30, 32, 34, 36, 38 and 40 together comprise control means for selectively controlling the gas delivered to the mold with respect to pressure and time. U.S.Patent 5,118,455, col. 5, lines 5-14.

From the above, it is clear that a gas supply is considered to be a part of the claimed invention. It comprises a part of the "control means" which are integral to the claimed invention and are necessary to perform both of the specific functions identified in Claim 16, that of injecting the gas into the mold and that of pressure profiling, i.e. increasing the pressure in the mold, decreasing it or holding it constant.

Epcon argues that the stored gas supply should not be considered to be a part of the apparatus identified in Claim 16, because it is not required to perform the functions identified in that claim, that is, injecting gas into the mold and then of performing pressure profiling where the gas pressure within the mold is increased, decreased or held approximately constant. Epcon claims that the only apparatus needed to perform these functions is the pressure control system, which is defined to be comprised of regulators 97 and 98 and a relief valve 157.

These devices certainly play a role in these two functions but, equally certainly, they are not sufficient by themselves to accomplish the tasks identified in Claim 16. These components are, for instance, clearly unable to perform the function of injecting gas into the mold, because they lack any source of such gas. Likewise, they cannot, by themselves, act to increase the gas pressure within the mold for the same reason.

[13] Bauer next contends that the supply of stored gas must be pressurized to at least 12,000 psi to allow the gas to be injected into the mold at a pressure that is at all times less than the pressure of the stored gas supply. Plaintiffs concede that the values given in the specification for stored gas pressure uniformly exceed 12,000 psi. However, they argue that these pressures are clearly identified as mere examples of typical pressures and are not, therefore, crucial features of the claimed innovation. They further argue that the specific gas pressures used in the gas storage apparatus are dependent on the requirements of the particular molding process.

In this regard, the points raised by plaintiffs are well taken. There is no basis in the disputed claim language or in the specifications for a conclusion that the values identified for stored gas pressures are anything but exemplary in nature. First, when such values are identified in the specification, they are identified as being exemplary. Second, there is no basis for concluding that the particular values of the gas pressure in the stored gas supply is critical to either the operation of the claimed invention or to its patentability.

However, this is not to say that the gas pressure, or more specifically, the difference between the pressure of the stored gas supply and the pressure at which gas is injected into the mold is totally irrelevant to the issues presented by the Markman proceeding or defendant's motions for summary judgment. This is because the parties also dispute the meaning that should be given to the word "substantially." This term appears in two different contexts: in the first case it is used to describe a value for gas pressure that is held approximately constant over a period of time, as in Claim 2 "the gas pressure in the mold is selectively increased decreased

or held substantially constant." The second context, occurring both in Claim 2 and Claim 16 indicates that the pressure of the gas injected into the mold is substantially below that of the gas in the stored gas supply.

b. The construction of "substantially"

[14] It is a convention of patent law that terms must be interpreted consistently in all their appearances in a patent. Fonar Corp. v. Johnson & Johnson, 821 F.2d 627 (Fed.Cir.1987). Plaintiff contends that the term "substantially" must be interpreted to mean "essentially." Thus, in the first case, plaintiff would have this court interpret the above quoted phrase to mean that the gas pressure in the mold may be increased, decreased or held essentially constant. In the second case, plaintiff interprets the phrase "control means are operative to inject gas to fill out the mold cavity at a pressure that is at all times during the gas injection cycle substantially below the pressure of the stored gas supply", to mean that the pressure of the gas injected into the mold cavity is "essentially" below the pressure of the stored.

This reading of the term is incorrect. It appears to this court that the meaning of the second phrase quoted is changed considerably by this interpretation. Plaintiff's proposed interpretation does not comport with the commonly understood meaning of the word "substantially." Another convention of patent law holds that terms used in a patent claim should be understood to have their ordinary and common meaning unless the inventor specifically defines it to have some other meaning. Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996).

The reading proposed by plaintiffs results in the term having almost no meaningin the second phrase. To read it in the manner asserted by plaintiffs results in the sentence having an almost nonsensical meaning.

[15] [16] It appears to the court that the inventor did not specify any meaning for "substantially", other than its common, ordinary meaning. Accordingly, the court must determine the proper meaning for the term "substantially" in the context of the 455 Patent. First, this court notes that it is a term of comparison. If it is to have any meaning, it must modify the term following in some way. This court finds the term to mean "to a considerable degree." In the case of the first phrase quoted above; the gas pressure is held substantially constant is held to mean "the gas pressure is held constant to a considerable degree." In the case of the second phrase, that stating that the pressure of the gas injected into the mold is substantially below that of the stored gas supply, it will be read to mean that the pressure of gas injected into the mold is below that of the stored gas supply to a considerable degree. This reading of the term appears to the court to come the closest to reconciling the two contexts in which the term substantially was used by the drafters of 455 Patent.

In an effort to forestall any future dispute about the meaning of "considerable", this court understands that term to mean large. This court does not attach specific values to the respective pressures, that in the supply of stored gas and the pressure of the gas injected into the mold. The court notes, however, that the drafters of the 455 Patent include examples of the pressures at which various elements of the claimed invention are to operate at several points in the specification of the 455 Patent. These values disclose pressure differences on the order of 6-11,000 psi, with the pressure of the stored gas supply always being the higher of the quoted pressures. Accordingly, the court finds that pressure differentials of 6-11,000 psi are "substantial" for purposes of the interpretation of the disputed claims of the 455 Patent, with the pressure of the gas injected into the mold always being the lower of the two values. The court believes that a pressure differential of, say, 8,000 psi would commonly be understood by one skilled in the art to be "substantial". This is not to be taken to mean that other pressure differentials could not be understood to be "substantial" for these purposes.

c. The construction of "prior to the venting of gas from the mold"

[17] Next, the parties dispute the meaning of the phrase "prior to the venting of the gas from the mold." The

court notes that the machine manufactured by defendant which gave rise to the instant suit accomplishes all pressure changes within the mold cavity, including venting gas at the end of the mold cycle, using just one valve. The machine which embodies the 455 Patent accomplishes the task of venting the gas at the end of the mold cycle by use of a dedicated valve which is separate from that used to reduce pressure within the mold during the molding cycle. Epcon and Bauer agree that venting means to exhaust the gas in the mold cavity until the pressure within the mold cavity approximately equals atmospheric pressure. At this time, the mold may be safety opened and the molded part removed.

However, Bauer argues that this requires the use of a separate valve, which is distinguished from that used to vent gas in order to reduce pressure during the molding process. Bauer points out that the two functions are obviously distinct in the claims and specification of the 455 Patent. Further, the machine embodying the 455 Patent indisputably uses different valves to accomplish these two tasks. Specifically,relief valve 157 is described as operating to reduce the pressure within the mold cavity. Specification of 455 Patent, col. 8, lines 47-49, col. 11, lines 3-4. Vent valve 134 is employed to vent gas from the mold at the end of the molding process. Id., Col. 11, lines 4-11.

Epcon argues that "venting" is used merely to denote the end of the molding process. Therefore, no specific structure should be imputed. Venting can be accomplished in any of a large number of ways. Plaintiff adds that in arguing that venting requires a separate valve 134 for that purpose, Bauer is incorrectly asserting that language from the preferred embodiment as described in the specification should be read into the claims.

The court finds that the claims and specifications of the 455 Patent clearly identify the functions of reducing pressure within the mold cavity during the molding process and the venting of gas from the mold at the end of the molding process as separate and distinct actions. Further, the specifications clearly describes separate valves to perform these respective functions. The disputed claims are silent on this issue. Therefore, the court concludes that separate valves are required by the explicit terms of the 455 Patent to perform the functions of selectively reducing the gas pressure within the mold and of venting the gas from the mold at the end of the molding process.

d. The construction of "control means"

[18] Finally, the parties disagree about the meaning of "control means" as it is used in both claims. In Claim 16, the term appears in the following context:

... the apparatus includes control means which are operative to inject gas into the mold to fill out the mold cavity at a pressure that is at all times during the gas injection cycle substantially below the pressure of the stored gas supply and, which are further operative, following the initial injection of gas into the mold and prior to the venting of the gas from the mold, to selectively increase the gas pressure within the mold, decrease the gas pressure within the mold, or maintain the gas pressure within the mold at a particular value.

The control means operate, according to the terms of the 455 Patent, to perform two distinct functions: first, they operate to inject gas into the mold cavity at the outset of the molding process. As discussed above, they do this at a pressure that is "substantially" below the pressure of the stored gas supply. The control means also operate to increase the gas pressure within the mold, decrease it or hold it constant.

Epcon argues that the "control means" described in the claims of the 455 Patent are comprised solely of pressure regulators 97 and 98 and relief valve 157. Bauer, relying on the language of the specification, (column 5, lines 5-14) urges this court to adopt the broad reading of "control means" to include:

... a bulk supply system, 24, a booster system, 26, a booster drive system, 28; a high pressure storage system, 30; a pressure control system, 32; a supplemental gas storage system, 34; a pilot operated gas system, 36; an electrical control system, 38; and a gas injection conduit, 40. Apparatus components 24, 26,

28, 30, 32, 34, 36, 38 and 40 together comprise control means for selectively controlling the gas delivered to the mold with respect to pressure and time. U.S.Patent 5,118,455, col. 5, lines 5-14.

This court finds that the structure cited by Epcon is simply insufficient to perform the actions described in the challenged clause of Claim 16. The acts clearly involve injecting gas into the mold to reach a desired pressure within the mold cavity initially and as part of the pressure profiling which is the reason for the existence of the 455 Patent. This cannot be done without, at a minimum, a means for delivering gas into the mold, that is a source of pressurized gas, conduits to conduct the gas from the storage means to the mold cavity, as well as the pressure regulators and relief valves identified by Epcon. This court finds that the "control means" include those components described in column 5, lines 5-14 of the 455 Patent cited above.

3. The construction of Claim 2

The disputed terms in Claim 2 have already been discussed in connection with Claim 16. By one of the conventions of patent law discussed above, they must be interpreted consistently throughout the patent. Therefore, the court rules that the disputed terms contained in Claim 2 shall be interpreted to be consistent with the definitions adopted for the same terms in the discussion of Claim 16 above.

To summarize, Claim 2 and 16 shall be interpreted as follows (interpretations supplied by the court are in bold italics):

2. A method of providing gas assistance to a resin injection molding process of the type in which hot resin is injected into a mold, gas is injected into the mold to displace a portion of the resin in the mold, the resin cools, the gas is vented and the mold is opened to remove the molded part, a supply of stored gas is provided (***and is integral to the claimed innovation***), the gas is injected into the mold to displace the resin in the mold at a pressure that is at all times during the gas injection cycle substantially (***to a considerable or large degree***) below the pressure of the stored gas supply, the improvement wherein, following the initial injection of gas into the mold, and prior to the venting of the gas from the mold (***using a valve separate from that used to reduce pressure in the mold cavity during the molding process***), the gas pressure within the mold is selectively increased, decreased or held substantially constant, depending upon the particular requirements of the molding process.

16. An apparatus for providing (***an accessory to a***) gas assistance to a resin injection molding process of the type in which hot resin is injected into a mold cavity, gas is injected into the mold to displace a portion of the resin in the mold, the resin cools, the gas is vented and the mold is opened to remove the molded part, the improvement wherein a supply of stored gas is provided (***as an integral part of the claimed innovation***) and the apparatus includes control means (***including a supply of stored gas and conduits which are required to accomplish the injection of gas into the mold cavity***) which are operative to inject gas into the mold to fill out the mold cavity at a pressure that is at all times during the gas injection cycle substantially (***to a considerable or large degree***) below the pressure of the stored gas supply and, which are further operative, following the initial injection of gas into the mold and prior to the venting (***using a valve separate from that used to reduce pressure in the mold cavity during the molding process***) of the gas from the mold, to selectively increase the gas pressure within the mold, decrease the gas pressure within the mold, or maintain the gas pressure within the mold at a particular value.

B. Defendant's Motions for Summary Judgment

1. Motion for Summary Judgment on Grounds of Non-Infringement

Bauer argues that this court should grant summary judgment based on non-infringement of the 455 Patent held by Plaintiff, Epcon. More specifically, defendant argues that, by its terms, the 455 Patent claims an integrated gas assisted injection molding system, that is, an injection molding machine, along with a means for providing gas assistance to the injection molding process. Bauer does not manufacture or sell such a

system. Therefore, Bauer argues, they cannot be liable for infringement of the 455 Patent.

Alternatively, Bauer argues that, if the court should find that the 455 Patent does not require manufacture or sale of an integrated injection molding system, the patent explicitly states that it describes a means for providing gas assistance to *an injection molding process*. Bauer claims that Epcon has produced no evidence that it is actually infringing the 455 Patent because they are unable to point to any use of the device manufactured by Bauer within the United States to provide assistance to such an injection molding process.

[19] With regard to the first contention raised by defendant, that it must manufacture a full injection molding system employing gas assistance, the motion is denied. This court has already determined that the 455 Patent refers to a method for providing gas assistance to an injection molding process, and not to an integrated injection molding system. The mere fact that defendant does not manufacture or sell injection molding equipment does not lead automatically to a finding that it is not infringing Epcon's rights under the 455 Patent.

As for the second branch of defendant's motion for summary judgment on grounds of non-infringement, the argument that plaintiff has no evidence that Bauer or any of its customers is using the Nitrogen Control Unit manufactured by Bauer in a manner that infringes the 455 Patent, that motion, is granted.

In ruling on a Motion for Summary Judgment, this court is required to consider the evidence in the light most favorable to the non-moving party. Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 106 S.Ct. 2505, 91 L.Ed.2d 202 (1986). The question is whether there is sufficient evidence that a reasonable fact-finder could return a verdict for the non-moving party. *Id*. If not, the moving party is entitled to judgment as a matter of law.

This court determines that plaintiff has not produced evidence that the Bauer Nitrogen Control Unit has actually been used by any of Bauer's customers within the United States to provide gas assistance to an injection molding process. Epcon has taken the deposition of Michael Lynch, an employee of Bauer. Mr. Lynch, apparently, can testify to the fact that Bauer has sold approximately 100 of its Nitrogen Control Units to firms engaged in the business of resin injection molding. However, Epcon has not identified any specific firm employing a Bauer Nitrogen Control Unit within the United States in a manner that would infringe Epcon's rights under the 455 Patent. Accordingly, this court grants defendant's motion for summary judgment on the ground that plaintiff has failed to produce sufficient evidence to enable a reasonable fact-finder to find that Bauer's Nitrogen Control Unit has been used in a manner that would infringe Epcon's rights under the 455 Patent within the United States.

2. Motion for Summary Judgment on Ground of Invalidity

This court has **GRANTED** Bauer's motion for summary judgment on grounds of non-infringement. Therefore, it is unnecessary to decide defendant's motion for summary judgment on grounds of invalidity.

C. Motion to Have Case Declared Exceptional

[20] While this court has granted defendant's motion for summary judgment on grounds of non-infringement, this court declines to find the case exceptional. The court cannot conclude by clear and convincing evidence that plaintiff's complaint is not based on bad faith, or inequitable or unfair conduct. Smith v. ACME General Corporation, 614 F.2d 1086 (6th Cir.1980). Defendant's motion is therefore **DENIED.**

E.D.Mich.,2000.
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