

United States District Court,
D. Minnesota.

ROSEN'S, INC.; Pathfinder Systems, Inc.; and Frank Reinsch, an individual,
Plaintiffs.

v.

VAN DIEST SUPPLY COMPANY; West Central, Inc., dba West Central Chemicals, Inc.; Pro Tech, Inc., dba Spray Solutions and Sprayer Solutions,
Defendants.

VAN DIEST SUPPLY COMPANY and West Central, Inc., dba West Central Chemicals, Inc.,
Counter-Claimants.

v.

ROSEN'S, INC.; Pathfinder Systems, Inc.; and Frank Reinsch,
Counter-Defendants.

No. 03-3206 (DWF/JSM)

March 30, 2004.

Ann N. Cathcart Chaplin, Chad Allen Hanson, Mathias W. Samuel, and Rabea Jamal Zayed, Fish & Richardson, Minneapolis, MN, for Plaintiffs and Counter-Defendants.

Kenneth E. Levitt, and Peter McCreery Lancaster, Dorsey & Whitney, Minneapolis, MN, for Defendants and Counter-Claimants.

MEMORANDUM OPINION AND ORDER

FRANK, J.

Introduction

The above-entitled matter came on for hearing before the undersigned United States District Judge on January 29, 2004, on the issues of patent claim construction pursuant to *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996), Defendants' Motion for Summary Judgment, and Plaintiffs' Rule 56 Motion. The Court has construed the claims of the '529 Patent consistent with this Order. Further, for the reasons explained below, Defendants' Motion for Summary Judgment is granted in part and denied in part. Plaintiffs' Rule 56 Motion is denied as moot.

Background

This litigation involves a claim by Plaintiffs Rosen's, Inc. ("Rosen's"), Pathfinder Systems, Inc. ("Pathfinder"), and Frank Reinsch (collectively, "Plaintiffs") that the DRI-GARD Bulk Handling System ("DBHS"), an agrochemical storage and dispensing unit created by Defendants Van Diest Supply Company ("Van Diest"), West Central, Inc., ("West Central"), and Pro Tech, Inc. ("Pro Tech") infringes the patent

rights of U.S. Patent No. 6,425,529 (the " '529 Patent").

The invention of the '529 Patent was created by John Latting and Reinsch. Latting is an employee of Intec, a subsidiary of Rosen's that develops agricultural chemicals and supplies them to Rosen's. Rosen's is a privately-held Minnesota company that develops and distributes agricultural chemicals and other crop products to chemical dealers. Reinsch is the President of Plaintiff Pathfinder Systems, Inc. ("Pathfinder"), a company located in Kansas City, Missouri. Pathfinder develops and sells systems for storing, transporting, and dispensing bulk materials in the agricultural industry. Van Diest and West Central are direct competitors of Rosen's in the agrochemical market. Pro Tech is an Indiana company that makes the DBHS machine.

The background of the invention of the '529 Patent describes "a device and method for shipping and dispensing precise amounts of dry particulate matter, such as fertilizer and pesticide products and such, into a liquid carrier stream." ('529 Patent at c. 1, 11: 5-9.) Generally, the invention is a piece of equipment that can store up to hundreds of pounds of dry chemical particulate matter in its bin. An important feature of the machine is that the dry particulate matter is kept separate from the water stream, so as to avoid clumping or caking of the particulate matter until it is ready to be mixed with water. The device dispenses a selected weight of the dry chemical particulate matter from the bin into a water stream that then flows into a spray vehicle. The mixed chemicals are ultimately sprayed onto a farm field as a liquid mixture. Plaintiffs sell a commercial embodiment of the '529 Patent under the trade name DDS2000 or Dry Delivery System 2000 (the "DDS"). The first units of this product were in operation in Spring 2000.

The '529 Patent incorporates by reference the entire contents of U.S. Patent No. 5,803,673 (the " '673 Patent"). The '673 Patent, filed in July 1996, was invented by Reinsch and Kevin Kwanghyon Park and assigned to Pathfinder and Bayer Corporation. The '673 Patent is sold under the trade name "ACCUBIN." The '673 Patent uses air, rather than water, as a carrier for the particulate matter.

According to Plaintiffs, Van Diest initially approached Reinsch in October 2002 asking if Pathfinder would manufacture its DDS machines for Van Diest. Reinsch declined. Then, in Spring 2003, Defendants introduced their DBHS product. Plaintiffs allege that Defendants have infringed upon the '529 Patent by manufacturing and distributing the DBHS machine.

Discussion

I. Claim Construction

A. Claim Construction Principles

Patent claim construction, *i.e.*, the interpretation of the patent claims that define the scope of the patent, is a matter of law for the Court. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970-71 (Fed.Cir.1995) *aff'd* 517 U.S. 370 (1999). Proper claim construction requires an examination of the intrinsic evidence of record, including the claims of the patent language, the specification, and the prosecution history. *Vitronics Corp. v. Conceptor, Inc.*, 90 F.3d 1576, 1582 (Fed.Cir.1996). Such types of intrinsic evidence are the most significant source of the legally operative meaning of the disputed claim language and should be considered in that order. *Id.* The claim interpretation "begins with the language of the claim itself." *National Recovery Technologies, Inc. v. Magnetic Separation Systems, Inc.*, 166 F.3d 1190, 1195 (Fed.Cir.1999) (citing *Bell Communications Research, Inc. v. Vitalink Communications Corp.*, 55 F.3d 615, 619

(Fed.Cir.1995)). The terms of a claim are given their ordinary meaning as understood by one of ordinary skill in the art, unless the inventor intended the terms to be construed otherwise. *Hockerson-Halberstadt, Inc. v. Avia Group Intern., Inc.*, 222 F.3d 951, 955 (Fed.Cir.2000); *Karlin Technology, Inc. v. Surgical Dynamics, Inc.*, 177 F.3d 968, 971 (Fed.Cir.1999). Claim language also must be construed in the light of the specifications. *Vitronics*, 90 F.3d at 1582; *Markman*, 52 F.3d at 979.

In most situations, intrinsic evidence will resolve any ambiguity in a disputed claim term, and it is improper to rely upon extrinsic evidence when intrinsic evidence serves to resolve such ambiguity. *Vitronics*, 90 F.3d at 1582. Extrinsic evidence may be used, however, when the claim language remains genuinely ambiguous after consideration of the intrinsic evidence. *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1308 (Fed.Cir.1999). "The court may receive extrinsic evidence to educate itself about the invention and the relevant technology, but the court may not use extrinsic evidence to arrive at a claim construction that is clearly at odds with the construction mandated by the intrinsic evidence." *Karlin Technology*, 177 F.3d at 1195.

In construing the claims, "[d]ictionaries are always available to the court to aid in the task of determining meanings that would have been attributed by those of skill in the relevant art to any disputed terms used by the inventor in the claims." *Texas Digital Systems, Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1202 (Fed.Cir.2002). The dictionary definition may be used to determine the meaning that one ordinarily skilled in the art would attach to a claim term. *Id.* at 1203-4. Dictionaries, treatises, and encyclopedias are appropriately used even prior to reviewing the prosecution history and specifications of the patent, so long as such use is consistent with the intrinsic record of the patent. *Id.* at 1204.

B. Claim Construction of the '529 Patent

The '529 Patent is entitled "Controlled Injection of Dry Material into a Liquid Stream." It includes 52 claims that describe a device and method for dispensing selected amounts of dry particulate matter, such as agricultural chemicals, directly into a liquid carrier stream. The invention includes a bin for holding dry particulate matter, a conduit for transporting a stream of liquid carrier, and a meter at the bottom of the bin that allows for the release of dry particulate matter from the bin into the liquid, while keeping the liquid from entering the bin of dry particulate matter.

Plaintiffs contend that Defendants have infringed the four independent claims of the '529 Patent-Claims 1, 38, 40, and 49-and 16 dependent claims. Device Claim 1 of the '529 Patent reads:

A device for dispensing precise amounts of dry particulate matter directly into a liquid carrier stream, the device comprising:

a bin for holding a quantity of particulate matter;

a conduit for transporting a stream of liquid carrier;

a meter connected to the bin for controllably releasing a desired amount of the particulate matter from the bin into the conduit while disallowing entry of the liquid carrier to the bin, the meter including

a rotor constrained to rotate within a housing to release particulate matter from the bin into the conduit, and

an electric drive motor coupled to the rotor for rotation;

a rotor rotation sensor;

a controller adapted to automatically stop releasing the particulate matter when a desired amount of particulate matter has been released from the bin, the controller adapted to monitor a signal from the rotation sensor, determine, based upon said signal, when a desired amount of particulate material has been released, and then to stop applying power to the drive motor; and

a portable structure upon which the bin, conduit and meter are mounted for transportation with particulate matter in the bin.

('529, c. 8, ll: 39-62.)

Device Claim 40 reads:

A device for dispensing precise amounts of dry particulate matter directly into a liquid carrier stream, the device comprising:

a bin for holding a quantity of particulate matter;

a conduit for transporting a stream of liquid carrier;

a meter connected to the bin for controllably releasing a desired amount of the particulate matter from the bin into the conduit while disallowing entry of the liquid carrier to the bin;

an electronic programmable controller adapted to operate the meter to release a desired volume of particulate matter, in accordance with operator input, wherein the controller is adapted to receive an operator input representing a desired weight of matter to be released and, based upon at least this input and a stored particulate matter density value, calculate a corresponding volume of matter to be released; and

a portable structure upon which the bin, conduit and meter are mounted for transportation with particulate matter in the bin.

('529, c. 11, ll: 48-67.)

Method Claim 38 reads:

A method of distributing agricultural chemicals in particulate form, to be mixed with a liquid carrier before use, the method comprising the steps of:

providing multiple devices each comprising:

a bin for holding a quantity of particulate matter;

a conduit for transporting a stream of liquid carrier;

a meter connected to the bin for controllably releasing a desired amount of the particulate matter from the bin into the conduit while disallowing entry of the liquid carrier to the bin, the meter including

a rotor constrained to rotate within a housing to release particulate matter from the bin into the conduit, and

an electric drive motor coupled to the rotor for rotation;

a rotor rotation sensor;

a controller adapted to automatically stop releasing the particulate matter when a desired amount of particulate matter has been released from the bin, the controller adapted to monitor a signal from the rotation sensor, determine, based upon said signal, when a desired amount of particulate matter has been released, and then to stop applying power to the drive motor; and

a portable structure upon which the bin, conduit and meter are mounted for transportation with particulate matter in the bin;

distributing at least one of the devices, with quantities of agricultural chemicals, to individual end users for dispensing the agricultural chemicals into liquid carrier streams at remote locations; and then

accepting the devices as returned from the end users, after the end users have dispensed some of the distributed chemicals.

(529, c. 11, ll: 9-42.)

Method Claim 49 reads:

A method for dispensing precise amounts of dry particulate matter directly into a liquid carrier stream, comprising the steps of:

providing a device comprising:

a bin for holding a quantity of particulate matter;

a conduit for transporting a stream of liquid carrier;

a meter connected to the bin for controllably releasing a desired amount of the particulate matter from the bin into the conduit while disallowing entry of the liquid carrier to the bin;

an electronic controller for controlling the meter of the device; and

a portable structure upon which the bin, conduit and meter are mounted for transportation with particulate matter in the bin;

connecting the conduit of the device, the bin of which contains particulate matter, to a source of liquid carrier;

entering a value into the controller representing a desired amount of particulate matter to be released; and then

motivating a flow of the liquid carrier through the conduit, thereby dispensing a desired amount of the particulate matter from the bin of the device into the flow of liquid carrier.

('529, c. 12, ll: 33-58.)

1. Meter

The term "meter" appears in independent Claims 1, 38, 40, and 49 of the '529 Patent. Plaintiffs propose that "meter" should be construed as "a device that transports, feeds, or dispenses something at a controllable, determinable, or regular rate." Defendants, on the other hand, contend that "meter" should be construed as "a structure that measures the amount of something as it flows."

The ordinary meaning of the term "meter" is "an instrument for measuring and recording the amount of something (as water, gas, electricity) as it flows" or "a device (as a valve in a carburetor) that regulates the flow of a fluid" or, in its verb form, "to supply (fuel, oil, or other fluid) in a measured or regulated amount." Webster's Third New International Dictionary 1422 (1993). The intrinsic evidence of the '529 Patent supports a construction that is more consistent with the latter two definitions of the term. The specification states that the device includes "a meter connected to the bin for controllably releasing a desired amount of the particulate matter from the bin into the conduit while disallowing entry of the liquid carrier to the bin." ('529, c. 1, ll: 46-51.) In the '529 Patent, the meter does not serve to measure precisely the amount of material that flows through the meter. Rather, measuring occurs during the initial calibration step of the device. Once calibration occurs, the meter dispenses or supplies the particulate matter at a controlled release rate, but does not measure or record the amount of material that passes through. Thus, the Court construes the term "meter" to mean a device that transports, feeds, or dispenses particulate matter at a controllable, determinable, or regular rate.

2. Rotor

The term "rotor" appears in Claims 1 and 38 of the '529 Patent. Plaintiffs assert that "rotor" should be construed as "a component or assembly that rotates about an axis." Defendants contend that "rotor" should be construed as "a rotating assembly of vanes forming discrete pockets."

The ordinary meaning of the term "rotor" is "a part that revolves in a stationary part." Webster's Third New International Dictionary 1977 (1993); Merriam-Webster's Collegiate Dictionary 1019 (10th ed.1998). Defendants have given the Court no reason to depart from a definition consistent with this ordinary meaning. In the independent claims of the '529 Patent, the rotor has a broad construction. Defendants propose that the meaning should be limited to that of the preferred embodiment of the rotor, or to the dependent claim language of Claim 2. But limitations in dependent claims are not to be read into the independent claims from which they depend. *See Karlin Tech., Inc. v. Surgical Dynamics, Inc.*, 177 F.3d 968, 972 (Fed.Cir.1999). It would be inappropriate for the Court to limit the construction of the term to a specific rotor type when the language of the independent Claims 1 and 38 is broad enough to cover many different types of rotors. Thus, the Court construes the term "rotor" in the context of the '529 Patent to mean a component that rotates about an axis.

3. Rotor Rotation Sensor

"Rotor rotation sensor" appears in Claims 1 and 38 of the '529 Patent. Plaintiffs assert that the term "rotor rotation sensor" should be construed as "a device that provides a signal, related to particulate matter being released, that the controller uses to determine when a desired amount of particulate matter has been released." Defendants, on the other hand, propose that "rotor rotation sensor" should be construed as "a device that detects the value or change in a physical quantity, here the rotation of a rotor ."

The underlined portion of the following text shows the amendment made during the prosecution of the '529 Patent to include the rotor rotation sensor:

a rotor rotation sensor;

a controller adapted to automatically stop releasing the particulate matter when a desired amount of particulate matter has been released from the bin, *the controller adapted to monitor a signal from the rotation sensor, determine, based upon said signal, when a desired amount of particulate matter has been released, and then to stop applying power to the drive motor;*

....

(Declaration of Chad A. Hanson, para. 2, Ex. F (emphasis in original).) The signal of the rotor rotation sensor is based on the counted rotations of the rotor. As described in the claim language, the controller uses this signal to determine when a desired amount of particulate matter has been released and thus to stop the power that is sent to the drive motor and ultimately to stop the rotor from turning. Within this context, the Court construes the term "rotor rotation sensor" to mean a device that detects the rotation of the rotor and provides a signal that the controller uses to determine when a desired amount of particulate matter has been released.

4. Density

The term density is used in the embodiments of the '529 Patent that include an electronic controller to control the meter of the device. The phrase "stored particulate matter density value" appears in Claim 40 of the '529 Patent. Plaintiffs assert that "stored particulate matter density value" should be construed as "a stored value that calibrates the desired weight to a unit of measure so that the weight of the particulate matter dispensed approximates the desired weight." Defendants, on the other hand, contend that the term "density" should be construed consistently through the '529 Patent as "a value that represents the mass of a particulate material per unit of volume that is kept within the controller." Defendants assert that the term "density," as used in Claim 49 of the '529 Patent ("density of the particulate matter"), should be construed as "a value that represents the mass of the particulate material per unit of volume." Plaintiffs assert that a separate construction of the phrase "density of the particulate matter" is not required.

The '529 Patent does not explicitly define the term "density" as it is used in the Patent. Nor does the Patent specifically define the terms "stored particulate matter density value" or "density of the particulate matter." The Court agrees with Defendants that the ordinary meaning of the term "density" is a value that represents the quantity of something per unit of measure (*see* American Heritage Dictionary of the English Language 499 (3d ed.1996)) or the mass of a substance per unit volume (*see* Merriam-Webster's Collegiate Dictionary 309 (10th ed.1998)). However, the Court must determine whether the terms "stored particulate matter density value" and "density of the particulate matter" are phrases that reflect a definition that has been created by the inventors.

The specification of the '529 Patent states that "[i]n some instances, the controller is adapted to receive an operator input representing a desired weight of matter to be released and to calculate, based upon at least this input and a stored particulate matter density value, a corresponding volume of matter to be released." ('529, c. 2, ll: 19-23.) The specification further states:

Where the device includes an electronic controller for controlling the meter of the device, the method may further include, prior to the step of motivating, entering a value into the controller representing a desired amount of particulate matter to be released. The method may also include, prior to the step of motivating, entering a value into the controller representing the density of the particulate matter to be released.

('529, c. 3, ll: 14-21.) Further, the specification states that the calibration factor entered into the device at the time of calibration "represents the density of the bulk material, in pounds per pocket." ('529, c. 7, ll: 26-27.) Plaintiffs appear to argue that in the context of the '529 Patent, the terms "stored particulate matter density value" and "density of the particulate matter" refer to the "relating value," or calibration factor, that is entered into the controller of the device. (*See* Plaintiffs' Opposition to Defendants' Motion for Summary Judgment on Noninfringement and Invalidity at 25.)

In the claims that use an electronic controller, the controller must initially be calibrated for use with a certain particulate matter. (*See* '529, c. 7, ll: 40-45.) As described to the Court, in order to calibrate the commercial embodiment of the '529 Patent, an individual enters a calibration factor and a desired weight of material and starts the machine. Plaintiffs note that this calibration factor "implicitly accounts for the density of the material" that is being dispensed through the machine. (*See* Plaintiffs' Opposition to Defendants' Motion for Summary Judgment of Noninfringement and Invalidity at 25.) During the initial calibration steps, rather than allowing the material exiting the bin to enter the liquid stream as it would during ordinary operation of the device, the individual performing the calibration catches the particulate material in a bucket. Once the device has finished running, the user weighs the particulate material that was dispensed on a separate scale that is not a part of the device and compares it to the weight that was entered into the controller. If the desired weight and the dispensed weight do not match, the user adjusts the calibration factor and continues to repeat the exercise until, by trial and error, the desired weight equals the dispensed weight.

As the calibration process has been described to the Court throughout Plaintiffs' oral arguments at the *Markman* hearing and in the patent tutorial provided to the Court, the person who calibrates the commercial embodiment of the '529 Patent never enters the actual value of the bulk density of the particulate matter. The process of calibrating the machine, as described by Plaintiffs, is not nearly that precise. Although density is certainly one of many factors that are implicitly considered when arriving at this calibration factor, the density figure itself is not entered into the electronic controller. Rather, the calibration factor implicitly takes into account the bulk density of the particulate matter along with other factors that determine how the particulate material flows through the machine, including the wear on the surface of the auger, the angle of repose, and general flow factors. Certainly, these considerations include the bulk density of the material, but the bulk density value is not the only factor to be considered when an individual is determining the stored particulate matter density value or the calibration factor, however it is referred to.

Plaintiffs' description of the calibration factor as a number that is not directly correlated with density appears to be an accurate reflection of the commercial embodiment of the '529 Patent. The Court agrees with Plaintiffs that a person calibrating the commercial embodiment need not precisely know the bulk density of

the particulate matter. However, the '529 Patent language and its prosecution history do not reflect this commercial embodiment. The '529 Patent does not specifically define the terms "stored particulate matter density value," "density of the particulate matter," or "calibration factor." The language of the '529 Patent does not point to the broad construction of the term "density" that Plaintiffs assert encompasses the ordinary meaning of density along with all of the other flow factor variables. If the Court were to adopt Plaintiffs' construction, the Court would be required to construe the terms "stored particulate matter density value," "density of the particulate matter," and "calibration factor" as having one consistent meaning that is not specifically stated in the '529 Patent claims, the specification, or the prosecution history. Plaintiffs' asserted construction reflects the commercial embodiment of the '529 Patent, not the '529 Patent itself. The Court is not willing to adopt such a construction.

Thus, the Court is left to construe the term "density" by its ordinary meaning. The Court construes the term "density" to mean a value that represents the quantity of something per unit of measure, especially per unit of length, area, or volume. Likewise, the term "stored particulate matter density value" is construed as a value that represents the quantity of something per unit of measure, especially per unit of length, area, or volume, that is stored within the controller.

5. Programmable

The term "programmable controller" appears in Claim 40 of the '529 Patent. Plaintiffs contend that a "programmable controller" is "a control device capable of being programmed to perform specific tasks." Defendants assert that the word "programmable" should be construed as "capable of being programmed by itself, i.e., without the use of additional, external computer equipment."

Defendants' argument that the term programmable should be limited to the controller being programmed without the use of additional external computer equipment is without support. Indeed, the language of Claim 40 does not include any language that would foreclose the controller being programmed by a person who is using additional, external computer equipment. Thus, the Court need not depart from the ordinary meaning of the term "programmable." The Court construes the term "programmable controller" to mean a control device that is capable of being programmed to perform specific tasks.

6. Portable

The term "portable" appears in Claims 1, 38, 40, and 49 of the '529 Patent. Plaintiffs assert that the portable limitation means "a structure (upon which the bin, conduit and meter are mounted) that is capable of transportation with some particulate matter in the bin." Defendants propose that this limitation should be construed as "a structure of sufficiently small size and sufficient durability to be transported with an operationally significant amount of particulate matter in the bin."

The ordinary meaning of the term "portable" is "capable of being carried" or "easily or conveniently transported." Webster's Third New International Dictionary 1768 (1993). In the context of the independent claim language of the '529 Patent, the term "portable" requires that the device be sufficiently portable to allow "transportation with particulate matter in the bin." ('529, c. 8, II: 60-62; c. 11, II: 32-34; c. 11, II: 65-67; c. 12, II: 46-48.) The background of the invention describes a "device and method for shipping and dispensing precise amounts of dry particulate matter, such as fertilizer and pesticide products and such, into a liquid carrier stream." ('529, c. 1, II: 5-8.) The summary of the invention states that the invention "features a means of transporting and storing a dry particulate matter, and then dispensing controlled quantities of that material directly into a stream of liquid carrier." ('529, c. 1, II: 35-38.) The patent specification further states

as follows:

In some embodiments, the method also includes, before distributing each device, filling the bin of the device with the corresponding quantity of agricultural chemical; and then, after accepting the returned devices, refilling the bins of the devices with additional agricultural chemicals.... Additionally, transportation of pre-mixed liquid chemicals can be avoided, with the chemicals being transported all the way to their use site in dry form.

(529, c. 3, II: 36-40, 45-57.)

First, the Court agrees with Defendants that a construction of the portability limitation of each of the contested claims of the '529 Patent must include some reference to transporting an operationally significant amount of particulate matter. If the Court were to construe the portable limitation without such a requirement, the Court would have to define the claim language to allow portability with any amount—even a dusting-of particulate matter in the bin. This construction would not square with the Patent specification and claim language that clearly contemplates transporting the device with an operationally significant, or usable, amount of particulate matter in the bin. Second, the Court does not agree with Defendants' attempts to import size and durability limitations into the claim construction. Such requirements are not supported by the claim language or the prosecution history of the '529 Patent. Thus, the Court construes the "portable" limitation of Claims 1, 38, 39, and 40 to mean a structure (upon which the bin, conduit, and meter are mounted) that is capable of being transported with an operationally significant amount of particulate matter in the bin.

II. Defendants' Motion for Summary Judgment

A. Standard of Review

Summary judgment is proper if there are no disputed issues of material fact and the moving party is entitled to judgment as a matter of law. Fed.R.Civ.P. 56(c). The court must view the evidence and the inferences which may be reasonably drawn from the evidence in the light most favorable to the nonmoving party. *Enterprise Bank v. Magna Bank of Missouri*, 92 F.3d 743, 747 (8th Cir.1996). However, as the Supreme Court has stated, "[s]ummary judgment procedure is properly regarded not as a disfavored procedural shortcut, but rather as an integral part of the Federal Rules as a whole, which are designed 'to secure the just, speedy, and inexpensive determination of every action.'" Fed.R.Civ.P. 1; *Celotex Corp. v. Catrett*, 477 U.S. 317, 327 (1986).

The moving party bears the burden of showing that there is no genuine issue of material fact and that it is entitled to judgment as a matter of law. *Enterprise Bank*, 92 F.3d at 747. The nonmoving party must demonstrate the existence of specific facts in the record which create a genuine issue for trial. *Krenik v. County of Le Sueur*, 47 F.3d 953, 957 (8th Cir.1995). A party opposing a properly supported motion for summary judgment may not rest on mere allegations or denials, but must set forth specific facts showing that there is a genuine issue for trial. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 256 (1986); *Krenik*, 47 F.3d at 957.

B. Infringement

Summary judgment on the issue of non-infringement is a two-step process in which the Court first construes the patent claims, and second, applies the properly interpreted claims to the accused device to determine

whether the scope of the claims covers the accused device. *See* Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1304 (Fed.Cir.1999). Infringement can occur in two forms: literal infringement and infringement under the doctrine of equivalents. Literal infringement occurs when every claim limitation is present exactly in the accused product. *See* Southwall Technologies, Inc. v. Cardinal IG Co., 54 F.3d 1570, 1575 (Fed.Cir.1995). In order to establish literal infringement, a patentee must prove that the accused device contains each limitation of the asserted claims. *See* Bayer AG v. Elan Pharm. Research Corp., 212 F.3d 1241, 1247 (Fed.Cir.2000). To establish infringement under the doctrine of equivalents, Plaintiffs must prove that Defendants' device has elements either identical or equivalent to each element of the patent claim. *See* Warner-Jenkinson Co., Inc. v. Hilton Davis Chem. Co., 520 U.S. 17, 40 (1997). The test to determine whether an element in the accused device is equivalent to a claimed element is whether the differences between the two are insubstantial to a person of ordinary skill in the art of the invention. *See* KCJ Corp. v. Kinetic Concepts, Inc., 223 F.3d 1351, 1359 (Fed.Cir.2000).

1. Portable

Defendants assert that the DBHS bulk handling machine does not infringe the '529 Patent because it is not portable as required in all of the independent claims of the '529 Patent. Primarily, Defendants contend that the DBHS machine is not portable because, for a variety of reasons, it is not constructed to be transported with particulate matter inside. Defendants also contend that their device does not meet governmental regulations for portability. Defendants also assert that the DBHS machine does not meet the "portable" limitation of the '529 Patent under the doctrine of equivalents.

In support of their assertions of non-portability, Defendants make the following factual assertions about the DBHS machine:

- > the DBHS machine must be secured to the floor with concrete anchors;
- > the DBHS components are not fastened together with sufficient strength for portability;
- > the DBHS is not constructed with metal of sufficient thickness, strength, and rigidity to be portable;
- > the DBHS machine is too heavy to be portable;
- > the DBHS machine does not employ tie-down lugs for lifting and securing the machine to a truck;
- > the DBHS machine requires 220-volt electrical service and thus cannot be used away from a fixed location;
- > the auger used in the DBHS machine is not sealed to the bottom of the bin, thus permitting particulate matter to sift past the auger's shaft and possibly clog up the machine;
- > a user voids the warranty by moving the DBHS machine with particulate matter in the bin.

(*See* Defendants' Memorandum in Support of Motion for Summary Judgment of Noninfringement and Invalidity at 7-8.)

Plaintiffs, on the other hand, contend that the DBHS machine literally infringes the "portability" limitation

of the '529 Patent. Plaintiffs assert that the DBHS machine is designed to be portable and that it has been moved to a variety of locations in a variety of ways. Specifically, Plaintiffs point to deposition testimony from the President of Defendant Pro Tech, Clay Hildreth, that the DBHS machine has been moved from various locations by forklift, trailer, pickup truck, semi, and via Federal Express. (*See* Declaration of Anne Cathcart Chaplin at para. 4, Ex. 2, Deposition Transcript of Clay H. Hildreth ("Hildreth Dep.") at 83:22-24; 151:13-17; 152:14-153:9; 154:21-24; 155:5-18; 158:16-159:3; 165:8-166:6; 167:18-22.) Hildreth stated that the DBHS machine could be moved with at least ten to twenty pounds of particulate material in it without a problem. (*See id.* at 168:2-20.) Hildreth testified that although his past experience told him that the machine was not movable, he had not done any testing on whether the DBHS machine could be moved when it was full or 3/4 full. (*See id.* at 169:24-171:17.) Hildreth further stated that there were "entirely too many variables" to answer specifically whether the machine would break if moved while full of particulate matter. (*Id.* at 171:16-17.)

In its claim construction of the term "portable," the Court defined the term to mean a structure (upon which the bin, conduit, and meter are mounted) that is capable of being transported with an operationally significant amount of particulate matter in the bin. The Court's construction of the term obviates the need for the Court to address many of Defendants' arguments in detail, as many of these arguments are based on the premise that the Court would construe the term "portable" consistent with Defendants' proposed construction. By so defining "portable," the Court rejected Defendants' contentions that size and durability requirements be read into the portability limitation of the '529 Patent.

Plaintiffs have raised several points from the deposition testimony of Clay H. Hildreth, president of Pro-Tech, which suggest that the DBHS machine could be moved with an operationally significant amount of particulate matter in its bin. Plaintiffs have also set forth information that the adjuvant or chemical particulate matter used in the DBHS machines to fill one spray vehicle is typically between 9 and 45 pounds. (*See* Declaration of Anne Cathcart Chaplin at para. 3, Ex. 1, Videotape Dep. of Dwayne E. "Stormy" Barricklow at 51.) Thus, if the DBHS machine was found to be movable with even nine pounds in the bin, it could be considered to be transportable with an "operationally significant" amount of particulate matter in the bin. Issues such as the presence or absence of floor anchors or tie-down lugs, the voiding of the warranty, and the electrical connection are not dispositive of whether the machine is capable of being transported with an operationally significant amount of particulate matter in the bin.

With these considerations in mind, the Court finds that genuine issues of fact remain as to whether the DBHS machine is portable, *i.e.*, capable of being transported with an operationally significant amount of particulate matter in the bin. In addition, genuine issues of material fact exist as to whether the DBHS infringes under the doctrine of equivalents, a matter which has not been fully briefed by the Defendants. As such, Defendants' motion for summary judgment on the issue noninfringement of the portability requirement of the '529 Patent is denied.

2. Rotor Rotation Sensor

Defendants further contend that their device does not infringe because it does not have a "rotor rotation sensor" as required by Claims 1 and 38 of the '529 Patent. In its claim construction, the Court construed the term "rotor rotation sensor" as a device that detects the rotation of the rotor and provides a signal from which the controller determines when a desired amount of particulate matter has been released. Pointing primarily to the lack of precision of the auger and trap door sensor of the DBHS machine, Defendants contend that their product does not infringe.

In the '529 Patent, the rotor rotation sensor sends a signal to the controller that the controller uses to determine when a desired amount of particulate material has been released. (*See* '529, c. 8, ll: 53-59.) Defendants admit that the prototype version of the DBHS machine had a sensor that detected when the auger turned. Defendants do not deny that this version of the DBHS machine constitutes a rotor rotation sensor, but assert that this sensor has since been removed from the DBHS machine. Thus, the Court will not address Defendants' summary judgment motion on noninfringement as to this version of the DBHS machine. In addition, since neither party has moved for summary judgment on the issue of whether the DBHS's auger is a rotor within the claim language of the '529 Patent, the Court will not address that matter.

Defendants claim that both the prototype and the current version of the DBHS machine use a sensor on a trap door between the bin and the conduit through which the product flows and that such sensor does not infringe because of its lack of precision in measuring the amount of material that flows through the auger. In the current version, material moves from the bin, through the rotating auger, and then exits the bin through a chute. When the material falls through the chute, a trapdoor at the base of the chute opens. A sensor by the trapdoor indicates whether the trapdoor is open or closed, and thus whether material is flowing or not flowing and whether the auger is rotating or not rotating to send such material from the bin through the auger.

Because the Court finds that the trapdoor sensor of the DBHS detects whether the auger is rotating, a genuine issue of fact exists as to whether the trapdoor sensor infringes the rotor rotation sensor limitation of the '529 Patent, thus precluding summary judgment. In addition, summary judgment is denied on Defendants' motion for summary judgment on the issue of noninfringement under the doctrine of equivalents.

3. Density

Claim 40 of the '529 Patent requires that the controller is "adapted to receive an operator input representing a desired weight of matter to be released and, based upon at least this input and a stored particulate matter density value, calculate a corresponding volume of material to be released " ('529, c. 11, ll: 60-64.) Claim 49 of the '529 Patent requires that the user enter a value into the controller "representing the density of the particulate matter to be released." ('529, c. 12, ll: 51-52.) The Court construed the term "density" consistently throughout the '529 Patent because neither the claim language, the specification, nor the prosecution history differentiated among the uses of the term. Thus, as noted above, the Court has construed the term "density" within its ordinary meaning, as a value that represents the quantity of something per unit of measure, especially per unit of length, area, or volume. Defendants assert that their device does not infringe because it does not require consideration of the density of the material handled by the machine as demanded by Claims 40 and 49 of the '529 Patent.

Defendants calibrate their machine in a similar manner as the device of the '529 Patent. Both the DBHS machine and the '529 Patent language require the user to enter a desired weight for the output of the particulate matter. However, the DBHS machine, unlike the claim language of the '529 Patent, does not require the entry of a density value when calibrating the machine. Rather, the person calibrating the DBHS machine enters a value, or calibration factor, related to the amount of time that the machine dispenses material. Plaintiffs' expert describes the manner in which the calibration factor of the DBHS works as follows:

During operation, [the DBHS's computer] repeatedly scans through the program. The time it takes to complete one scan is constant for this program. For every other scan, the counter ... counts up by one. This continues until the counter reaches 284. When the value in the counter ... reaches 284, it sends a signal.... In response to the ... signal, [the DBHS's computer] subtracts 1 from the desired weight value stored in the memory register.... When the desired weight value stored in [the] memory register ... reaches zero, [the DBHS's computer] initiates a shut down sequence and stops dispensing particulate matter.

(Declaration of David Majkrzak in Support of Plaintiffs' Opposition to Defendants' Motion for Summary Judgment of Noninfringement and Invalidity at para. 39 (internal citations omitted).) Although the calibration factor of the DBHS indirectly may take into account things such as the density of the particulate matter, the wear of the machine, and other flow factors, similar to the commercial embodiment of the '529 Patent, this calibration factor is a unit of time, not of density, as required by the claim language of the '529 Patent. Indeed, Plaintiffs' own expert stated that in his opinion, the calibration factor used in the DBHS machine is not literally the density of the particulate matter. (*See* Declaration of Daniel P. Sink at para. 2, Tab G, Deposition of David Majkrzak at 58.) Because the DBHS does not require the entry of a density factor to calibrate the machine, the DBHS cannot literally infringe Claims 40 and 49 of the '529 Patent. Defendants' motion for summary judgment is granted in this regard.

The Court finds that genuine issues of fact remain as to whether the DBHS infringes the '529 Patent under the doctrine of equivalents. Thus, Defendants' motion for summary judgment is denied on this issue.

C. Invalidity

Defendants appear to base their cursory invalidity arguments on obviousness in light of the '673 Patent and a prior device that uses a liquid carrier, apparently the Matirko patent. Because Defendants have failed to provide the Court with full briefing on how the '529 meets the underlying factual inquiries necessary to a finding of obviousness (*see* *Beckson Marine, Inc. v. NFM, Inc.*, 292 F.3d 718, 725-26 (Fed.Cir.2002)), Defendants' motion for summary judgment on the issue of obviousness is denied.

III. Rule 56(f) Motion

In the event that the Court did not deny Defendants' Motion for Summary Judgment in its entirety, Plaintiffs moved for additional discovery time pursuant to Fed.R.Civ.P. 56(f). Specifically, Plaintiffs requested more time to depose Defendants' product developer Clay Hildreth, to inspect the DBHS, and to contact Defendants' DBHS customers. Defendants oppose Plaintiffs' motion, arguing that Plaintiffs only intend this as another means to delay what is alleged to be already lengthy and costly litigation.

The Court has denied Defendants' Motion for Summary Judgment on all of the issues relevant to Plaintiffs' request for additional discovery. With the discovery deadline more than three months away, Plaintiffs have time to conduct further discovery on the remaining matters at issue in the case. For these reasons, Plaintiffs' 56(f) Motion is denied as moot.

For the reasons stated, IT IS HEREBY ORDERED:

1. The claims of the '529 Patent should be construed consistent with the definitions set forth by the Court in this Memorandum Opinion and Order.
2. Defendants' Motion for Summary Judgment (Doc. No. 56) is DENIED IN PART and GRANTED IN

PART, as follows:

- a. Defendants' Motion for Summary Judgment on the issue of literal infringement of the '529 Patent is DENIED as to the issues of portability and rotor rotation sensor;
 - b. Defendants' Motion for Summary Judgment on the issue of literal infringement of the '529 Patent is GRANTED as to the issue of the density limitation of the '529 Patent;
 - c. Defendants' Motion for Summary Judgment on the issue of infringement of the '529 Patent under the doctrine of equivalents is DENIED;
 - d. Defendants' Motion for Summary Judgment on the issue of invalidity of the '529 Patent is DENIED;
3. Plaintiffs' Rule 56 motion is DENIED AS MOOT.

D.Minn.,2004.

Rosen's, Inc. v. Van Diest Supply Co.

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