United States District Court,
C.D. California.

SURFWARE, INC,
v.
CELERITIVE TECHNOLOGIES, INC.

No. CV 08-6753 AHM (AJWx)

March 9, 2009.

Dawn Terri Collins, Joel P. Kelly, Nicky Jatana, Talya Friedman, Jackson Lewis LLP, Los Angeles, CA, Jennifer A. Trusso, Steven M. Hanle, Sheppard Mullin Richter & Hampton LLP, Costa Mesa, CA, Kenneth H. Wennergren, Wennergren Law Offices, Ventura, CA, for Plaintiffs.

Aaron S. Welling, Bryan S. Banks, C. Mark Kittredge, Perkins Coie Brown & Bain PA, Phoenix, AZ, Donald J. Kula, Sang Min Lee, Perkins Coie LLP, Santa Monica, CA, for Defendants.

A. HOWARD MATZ**, District Judge.**

S. Eagle, Deputy Clerk.

I. INTRODUCTION

On October 14, 2008, Plaintiff Surfware, Inc. ("Surfware") sued Defendants Celeritive Technologies, Inc. ("Celeritive"), Glenn Coleman, Evan Sherbrooke, and Terry Sorensen. Coleman and Sherbrooke co-founded Celeritive and all three of the individual defendants are officers of Celeritive. Plaintiff's First Amended Complaint alleges fifteen causes of action, including patent infringement. Plaintiff now moves for a preliminary injunction based only on Defendants' alleged infringement of United States Patent No. 7,451,013 ("the '013 patent"), which covers "a method for generating ... a tool path ... for milling a region of a workpiece by a milling cutter." ('013 patent at col. 2:24-27.) On February 23, 2009, the Court provided a tentative order on this motion to the parties' attorneys and gave them time to review it before the hearing that day.

After reviewing all of the papers filed by both parties, as well as the official transcript of the hearing, the Court finds that Defendants raise substantial questions regarding whether their invention infringes on the '013 patent, because Plaintiff has not shown a reasonable likelihood that it will prove that Defendants' invention "create[s] a family of concentric indexed circles." Plaintiff thus fails to establish a likelihood of success on the merits. As a result, the Court DENIES Surfware's motion for preliminary injunction.

II. FACTUAL BACKGROUND FN1

FN1. The following facts are undisputed unless otherwise noted.

A. Overview

The inventions claimed in the '013 patent relate to a method for generating a program to control a milling machine that removes material from a solid block to create manufactured parts. This Computer Aided Manufacturing ("CAM") method produces numerical codes that control the position and movement of a milling cutter. The path of lines and arcs traveled by the cutter is known as a "tool path." Although CAM systems with this basic functionality existed for some time before the '013 patent, the methods described in the '013 patent extend tool life and reduce manufacturing times by producing tool paths without sharp turns.

The innovations claimed in the '013 patent were invented by employees of Surfware, including Defendant Glenn Coleman. The patent was filed on March 2, 2005, issued on November 11, 2008, and assigned to Surfware. Surfware branded its embodiment of the inventions in the '013 patent "TrueMill," and incorporated TrueMill into its Surfcam CAM software, which performs functions other than those claimed by the '013 patent. Surfware customers with an older version of Surfcam can upgrade to a version that includes TrueMill.

In April 2007, Coleman left Surfware and founded Celeritive with Evan Sherbrooke, a former Surfware employee who also left Surfware in April 2007 and who contributed to the inventions claimed in the '013 patent. FN2 At some point, Coleman and Sherbrooke were joined by Terry Sorenson, a former Surfware employee whose employment Surfware terminated in April 2007.

FN2. Plaintiff has presented evidence that while Coleman and Sherbrooke still were employees of Surfware, they created a business plan for a company they would start together. The plan basically stated that as inventors of TrueMill they were uniquely qualified to create a product that would perform the functions of TrueMill without infringing the '013 patent.

In October 2007, Celeritive began marketing a tool path generator called "VoluMill" that it advertises as having many of the same features as TrueMill. Unlike TrueMill, however, Celeritive does not sell VoluMill as part of a full-featured CAM product that it produces. Instead it distributes VoluMill as a software "plug-in" that enhances the features of two CAM products sold by other companies. It is the sale of this plug-in that Surfware moves to enjoin.

B. How the Relevant Inventions Work

This rough overview of how the relevant inventions work should not be taken as the Court's construction of the '013 patent, which is discussed below.

1. *Plaintiff's* '013 patent

As described in the '013 patent, Plaintiff's process begins by creating a family of concentric circles at two or more points within the region to be milled. FN3 It indexes each concentric circle by numbering the circles. The invention then connects together the circles of adjacent families of circles having an identical index. The resulting loops are called "isoloops." The process then generates the tool path by "blending," or creating a transition path, between the isoloops. Finally, the invention "outputs" instructions for controlling the

milling cutter along the tool path.

FN3. The Court also viewed the video attached to the declaration of Greg Schils, which shows how a particular VoluMill-generated tool path can be created by following the steps of the '013 patent.

2. *Defendants' VoluMill software product*

According to the declaration of Evan Sherbrooke, Ph.D., who wrote the software code for VoluMill and is Celeritive's Chief Technology Officer, Defendants' process is very different from Plaintiff's.

[Here the Court has written additional text that Defendant has requested be deleted, because it would reveal a trade secret. Plaintiff has not responded to that request. In an effort to display caution, the sensitive text is being filed separately under seal and is subject to the existing protective order.]

Defendants contend that the method used to generate the tool paths is different from the one claimed in the '013 patent, and for that reason Plaintiff cannot prove infringement. That contention is the focus of this Order.

III. LEGAL STANDARD

As the moving party, Plaintiff is entitled to a preliminary injunction if it can succeed in showing: (1) a reasonable likelihood of success on the merits; (2) the likelihood of irreparable harm if an injunction is not granted; (3) a balance of hardships tipping in its favor; and (4) the injunction's favorable impact on the public interest. *Winter v. Nat'l Res. Def.* Council, 129 S.Ct. 365, 375 2008 WL 4862464, at (Nov. 12, 2008); Sanofi-Synthelabo v. Apotex, Inc., 470 F.3d 1368, 1374 (Fed.Cir.2006) (citing Amazon.com, Inc. v. Barnesandnoble.com, Inc., 239 F.3d 1343, 1350 (Fed.Cir.2001)). "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." Hybritech, Inc. v. Abbott Labs., 849 F.2d 1446, 1451 (Fed.Cir.1988).

"[I]n order to obtain a preliminary injunction, the movant must establish at the very least both of the first two factors, *i.e.,* a likelihood of success on the merits and irreparable harm." Anton/Bauer, Inc. v. PAG, Ltd., 329 F.3d 1343, 1348 (Fed.Cir.2003) (reversing the grant of a preliminary injunction because the plaintiff failed to show a likelihood of success on the merits) (citing Amazon.com, 239 F.3d at 1350). The burden is always on the movant to show entitlement to a preliminary injunction. Reebok Int'l. Ltd. v. J. Baker, Inc., 32 F.3d 1552, 1555 (Fed.Cir.1994) (citation omitted).

In order to demonstrate a likelihood of success on the merits, Surfware must show that, in light of the presumptions and burdens that will apply at trial on the merits, (1) Plaintiff will likely prove that Defendants infringe the ' 013 patent, and (2) Plaintiff's infringement claim will likely withstand Defendants' challenges to the validity and enforceability of the '013 patent. Amazon.com, 239 F.3d at 1350. If Defendants raise a substantial question concerning either infringement or validity, *i .e.,* assert an infringement or invalidity defense that the patentee cannot prove "lacks substantial merit," the preliminary injunction should not issue. Amazon.com, 239 F.3d at 1350-51.

An assessment of the likelihood of infringement requires a two-step analysis. First, the court determines the scope and meaning of the patent claims asserted. This is an issue of law. Oakley v. Sunglass Hut Int'l, 316

F.3d 1331, 1339 (Fed.Cir.2003). Second, the properly construed claims are compared to the allegedly infringing device. This requires a factual determination that every claim limitation or its equivalent be found in the accused device. *Id*.

IV. LIKELIHOOD OF SUCCESS ON THE MERITS

Plaintiff alleges that Defendants' product, VoluMill, infringes independent claims 14 and 35 of the '013 patent, and dependent claims 15, 16, 18, 36, 37, and 39. Plaintiff's opening motion papers allege literal infringement, but in its Reply it asserts infringement under the doctrine of equivalents insofar as VoluMill allegedly performs the steps of the '013 patent method in an order different from the list of steps in Claims 14 and 35. FN4

FN4. Normally the Court would not consider a theory raised for the first time in a reply brief. But in this case the mechanisms by which VoluMill functions are a trade secret that were not known by Plaintiff until Defendants filed their opposition papers under seal. In addition, the Court gave Defendants a chance to respond to the doctrine of equivalents argument by filing a surreply.

Defendants respond that VoluMill generates tool paths using a method different from the one claimed in the '013 patent. Their contentions are summed up in the declaration of Defendant Sherbrooke. The key points that Sherbrooke makes are these:

[T]he toolpath that Surfware accuses of infringement was generated without ever making *any* circles, let alone two or more families of indexed concentric circles, as required by each of the asserted claims.... Likewise, the toolpath that Surfware accuses of infringement was created without ever joining *any* circles from adjacent concentric circle families to form isoloops, as required by each of the asserted claims. Similarly the lines that join VoluMill's arcs to previously generated portions of the toolpath are actually created *before* the arcs are generated and each level of lines and arcs is created and connected before the next level is created and connected. That is, even if one were to posit the absurd argument that an "arc" is a "circle," adjacent arcs are joined before the creation of any "family" of concentric arcs.... Finally, the toolpath that Surfware accuses of infringement does not blend isoloops to form a toolpath as required by each of the asserted claims. Instead, it uses sharp "s" joins that take place within a previously cut portion of the toolpath.

Sherbrooke Decl. para.para. 51-53 (emphasis in original). The Court finds that this analysis raises a substantial question regarding Plaintiff's likelihood of establishing infringement of the '013 patent, and so the Court denies Plaintiff's motion.

The Court stresses that the findings in this Order are preliminary findings and in no way resolve the ultimate questions of infringement or validity. *See* Abbott Labs. v. Andrx Pharms., Inc., 452 F.3d 1331, 1347 (Fed.Cir.2006).

A. The Construction of Some Claim Terms is Undisputed

Claims 14 and 35 contain several identical elements, and the construction of some of the terms in these claims is undisputed. Having reviewed Plaintiff's proposed constructions for these terms, which Defendants do not oppose, and the patent specification, the Court finds that the proposed constructions are consistent with well-recognized principles of claim construction and adopts them for the purpose of this motion only.

See Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582-83 (Fed.Cir.1996) (claims should be construed based on the words of the claim according to their ordinary and customary meaning, the inventor's use of the term in the patent specification, and evidence contained in the prosecution history). For the sake of convenience the Court reproduces the constructions below:

Claim Language	**Claim Construction**
"tool path"	A path in the form of lines and arcs to be followed by a cutting tool in a Computer Numerical Control ("CNC") milling machine as it removes materials from a part.
"isoloops"	The loops created by joining portions of one circle family with the corresponding circle portions of adjacent families.
"medial axis transform" and "branch points"	"The medial axis of a two-dimensional shape is the set of line segments (and arcs, which are not necessarily circular arcs) connecting the centers of the largest circles circumscribed by the shape at all locations within the shape. A simple method to demonstrate a medial axis transform is to fit a series of gradually increasing diameter discs tangent to two sides .... In this simple part this process can be carried out from each corner of the part.... At the point where one of these discs is large enough to be tangent to *three* sides, the center of this disc is a branch point .... The ... line connecting all these points is the medial axis." A. Diehl Decl. para. 8.

Aside from the terms defined above, Plaintiff does not attempt to construct any claim limitations in its motion.

B. The Methods vs. the Results of the Inventions

Plaintiff's motion is based on a comparison between the tool path generated by VoluMill for a particular region and the tool path generated by the methods of the '013 patent for the same region. Plaintiff presents evidence that the *output* of both VoluMill and the method in the '013 patent are identical, but Defendants point out that Claims 14 and 35 of the '013 patent describe a *method* for generating a toolpath, not the output of the claimed method. They argue that their method for arriving at that output is different.

The Court finds that the relevant patent claims specifically and explicitly refer to a method and process for generating tool paths. Independent claim 14 describes,

A *method* for generating a tool path for milling a region of a workpiece by a single milling cutter, the tool path including one or more passes, the *method* comprising the *steps* of ....

(the '013 patent (emphasis added)). Independent claim 35 describes,

An article of manufacture comprising a computer readable medium having stored thereon computer executable *instructions* for *generating* a tool path for milling a region of a workpiece by a single milling cutter, the tool path including one or more passes, the *instructions performing the steps* of ....

Id. (emphasis added). In short, the heart of claim 35 is the method that the "article" uses.

Defendants are thus correct that the allegations of infringement turn on the methods used by the two inventions, not their output. *See* Joy Techs., Inc. v. Flakt, Inc., 6 F.3d 770, 775 (Fed.Cir.1993) ("A method

claim is *directly* infringed only by one practicing the patented method." (emphasis in original)); 5 Chisum on Patents s. 16.02[6] (2004) ("A process consists of one or more operative steps, and, accordingly, direct infringement by unauthorized use of a process consists of the performance of all the process's operative steps." (citations omitted)); 60 Am.Jur.2d Patents s. 803 (2008) ("A patented process is infringed only by unauthorized performance of substantially the same process steps in substantially the same way to accomplish substantially the same result. There is no infringement unless the accused process substantially follows the patented method and employs all the steps or stages of the patented process." (citations omitted)).

C. The Dispute Over the Creation of Concentric Indexed Circles Independent claims 14 and 35 of the '013 patent **describe the same first step:**

creating a family of concentric indexed circles at each of two or more separate and distinct selected points within the region FN5
FN5. This limitation is referred to herein as "the concentric circle limitation."

Defendants argue that VoluMill's process does not create any circle at all, much less "a family of concentric indexed circles." The Court finds that Plaintiff has not established that it is likely that it can prove that VoluMill's process does create the claimed circles.

1. ***Claim construction***

Defendants use a dictionary definition to define a "circle" as "a closed plane curve every point of which is equidistant from a fixed point within the curve." Merriam Webster's Collegiate Dictionary (10th ed.1996); *see also* Oxford English Dictionary (2d ed.1989) ("a plane figure bounded by a single curved line, called the circumference, which is everywhere equally distant from a point within, called the centre. But often applied to the circumference alone, without the included space.").FN6 Defendants assert that a circle "family" "consists of multiple circles that have the same center but where the closed loops that define the circles are located at difference distances from the center." Taken as a whole, Defendants contend that "this limitation means practicing the step of selecting two or more centers, constructing concentric circle families around those centers, and assigning each circle within a family a number, or index."

FN6. At the hearing on this motion, Plaintiff suggested for the first time that a "circle" should be defined as "the set of points equidistant from a center point." If the Court used that definition instead of the dictionary definition suggested in Defendants' papers, the analysis in this Order would be the same because Plaintiff has not shown that VoluMill creates the set of points equidistant from a center point, or that it creates families of concentric sets of points equidistant from a center point.

Plaintiff did not offer a construction of any of the terms in this concentric circle limitation in its opening motion. It is curious that even in its Reply, Plaintiff did not challenge Defendants' construction of the term "circle" nor offer any construction of the term "creating," even though, as discussed below, Plaintiff's theory of infringement turns on the contention that VoluMill is "creating" circles. The dictionary definition of the term "create" is "to bring into existence." Merriam Webster's Collegiate Dictionary (10th ed.1996). Plaintiff points to nothing in the patent or prosecution history that would suggest a different construction of that term, and that is the construction the Court adopts for the purposes of this motion only.

The Court finds that Defendants' constructions of the other terms in the limitation are consistent with well-recognized principles of claim construction and adopts them for the purpose of this motion only. *See Vitronics, supra*. In short, the concentric circle limitation means the following: "practicing the step of selecting two or more centers, bringing into existence multiple circles that have the same center but where the circles are located at different distances from the center, and assigning each circle a number, or index." FN7

FN7. This construction adopts and assumes the dictionary definition of "circle" stated above.

2. *Infringement of the concentric circle limitation*

Defendants contend that VoluMill's method of generating a tool path does not infringe the concentric circle limitation for two reasons. First, although VoluMill generates concentric *circular arcs,* those arcs are not circles. Moreover, the circular arcs are not generated by first creating indexed concentric circles. Second, even if VoluMill's arcs were considered circles, VoluMill does not generate the arcs *before* joining them to form isoloops, as VoluMill contends is required by the claims. The Court finds that Defendants' first argument raises a substantial question regarding infringement and thus does not address the second argument.

Defendants assert that VoluMill creates discontinuous curves, which it describes as "circular arcs," to connect previously generated portions of the tool path. Thus, unlike the '013 patent, VoluMill does not create circles. Plaintiff responds that "a circular arc by definition has a specific center and radius.... Because a circle is fully specified by its center and radius, the creation of a circular arc necessarily 'creates' a circle." Reply at 3 (citing Fallscheer Decl. para. 3). Plaintiff adds that claims 14 and 35 do not require that "the complete geometric shapes created for purposes of generating the toolpath be included in the toolpath. Rather, they only require that circles be created in the process of generating the toolpath." Reply at 4.

Plaintiff's response is not persuasive, because arcs and circles are significantly different. Though a circular arc may constitute a portion of a circle, VoluMill creates discontinuous arcs that do not constitute whole circles. And although a circle may be fully specified by its center and radius, specifying a center and a radius is not the same thing as creating a circle. Nor is it the case that discontinuous curves such as the arcs created by VoluMill may be fully specified by their center and radius, because arcs are also defined by their end points. The '013 patent itself recognizes these differences, defining "circular arc" as "the set of all points equidistant from a fixed point called the center, *i.e. a portion of a circle*." (the '013 patent, col. 4:55-56 (emphasis added)). The '013 patent also distinguishes between circles and semi-circles. *See, e.g.,* the '013 patent, col. 11 ("the first semicircle in this set begins tangent to a starting-hole circle, and ends tangent to a circle").

The Court recognizes that Plaintiff is claiming infringement of a method that is embodied in a software program. Plaintiff's counsel asserted at the hearing that a software program that "creates" a circle in order to implement the method described in the '013 patent might not create a visual representation of the circle. Instead, a software program might just specify a center point and a radius. Plaintiff has not produced any evidence that a person of ordinary skill in the art would understand "create" in this way, even though the Court has given the parties extra opportunities to file supplemental briefs and expert declarations. But even if Plaintiff produced persuasive evidence to support its assertion, "specifying" a circle is not the same as "specifying" an arc that is a discontinuous curve. This is because, as Plaintiff's counsel acknowledged at the

hearing, "creating a circle doesn't necessarily define the arc because you don't know the end points."

Plaintiff's counsel went on to argue that "once you've created the arc, because you've identified the only necessary components of a circle, you have created a circle because you've defined the center point and you've defined the radius." But reading the '013 patent's reference to "creating" "circles" so broadly as to include arcs from which a radius and a center, and then a circle, can be *derived* ignores the distinctions made in the patent itself between circles, circular arcs, and semi-circles, as well as the common and mathematical definitions of "create," "circle" and "arc."

Plaintiff also argues that VoluMill necessarily creates circles by using a medial axis transform in order to identify the points used in generating the toolpath. Plaintiff asserts, and Defendants do not disagree, that the medial axis transform of a two-dimensional shape is comprised of the centers and radii of the largest circles tangent to at least two points on the shape's boundary. *See* Fallscheer Decl. para. 4. Again, however, Plaintiff conflates the specification of a center and radius with the creation of a circle. Even if the Court were to conclude that a medial axis transform entailed the creation of circles, Plaintiff has not shown that these circles are "a family of concentric indexed circles," as the claims require. Instead, Plaintiff merely argues that the circles from the medial axis transform are later used to create concentric "*circular arcs,*" Reply at 7 (italics added), which the Court finds is not the same as creating circles.FN8

FN8. [Here the Court has written additional text. As above, in an effort to display caution, the sensitive text is being filed separately under seal and is subject to the existing protective order.]

Given the Court's analysis and conclusion relating to the creation of a family of circles, it is unnecessary to address the parties' contentions about prior art involving a medial axis transform.
Plaintiff also raises the doctrine of equivalents to argue that infringement does not turn on whether the sequence by which VoluMill performs the steps of its process matches the sequence of claims listed in the '013 patent. The Court need not address the question of sequence because it finds that Defendants have raised a substantial question as to whether the first step described in claims 14 and 35 is infringed at any point in VoluMill's process.

The Court finds that this analysis of the concentric circle limitation in claims 14 and 35 raises a substantial question as to whether ValuMill infringes the '013 patent. Surfware therefore fails to show a likelihood of success on the merits.FN9

FN9. All of the other contested claims are dependent on claims 14 and 35. Since Defendants raise substantial questions regarding infringement of claims 14 and 35, they effectively raises substantial questions with regard to each of these claims. *See* Wahpeton Canvas Co., Inc. v. Frontier, Inc., 870 F.2d 1546, 1552 n. 9 (Fed.Cir.1989) ("One who does not infringe an independent claim cannot infringe a claim dependent on (and thus containing all the limitations of) that claim.").

V. REMAINING ISSUES

Based on the foregoing analysis, Surfware fails to show a likelihood of success on the merits of its infringement claim. Therefore, the Court need not decide whether Surfware has made a showing of irreparable harm. Amazon.com, Inc., 239 F.3d at 1350-51 (Fed.Cir.2001); Anton/Bauer, Inc. v. PAG, Ltd., 329 F.3d 1343, 1348 (Fed.Cir.2003). Similarly, the Court need not consider whether Defendants raised a

substantial question as to the validity of the ' 013 patent.

VI. CONCLUSION

Based on the foregoing analysis, the Court DENIES Surfware's motion for preliminary injunction.FN10

FN10. Docket Nos. 23, 28.

This order is not intended for publication.

C.D.Cal.,2009.
Surfware, Inc. v. Celeritive Technologies, Inc.