System Evergreen v. Concrete Systems CV-94-484-M 11/13/96
UNITED STATES DISTRICT COURT FOR THE
DISTRICT OF NEW HAMPSHIRE

System Evergreen, A.G. and
Michie Corporation,
Plaintiffs,

v. Civil No. 94-484-M

Concrete Systems, Inc.,
Cleco Corporation, and
Methuen Construction Co., Inc.,
Defendants.

O R D E R

This is an action for patent infringement arising under the patent laws of the United States, 35 U.S.C. §§ 271 and 281. Plaintiffs, System Evergreen, A.G. and Michie Corporation, seek to enjoin defendants, Concrete Systems, Inc., Cleco Corporation, and Methuen Construction Co., Inc., from manufacturing and selling products that allegedly infringe U.S. Patent No. 4,293,245 ("the `245 patent"). Plaintiffs also seek damages, costs, and attorneys' fees resulting from defendants' alleged willful infringement of the `245 patent.

A patent claim construction hearing was held to determine the meaning of certain terms in claim 1 of the `245 patent. Having considered the parties' arguments and submissions, the

court enters the following order construing the disputed terms of the `245 patent.

I. BACKGROUND

Plaintiff, System Evergreen, is the assignee of the `245 patent, which was originally issued on October 6, 1981, to Felix Jaecklin. The `245 patent contains 27 claims (one independent and 26 dependent), describing an earth-filled structural system, composed of stackable concrete units which can be used as a retaining wall or free-standing sound barrier. That structure is also designed to support the growth of vegetation, thereby making it both functional and aesthetically pleasing. Co-plaintiff, Michie Corporation, manufactures and sells precast concrete products. Michie holds an exclusive license under the `245 patent in New Hampshire.

Defendant, Concrete Systems, manufactures and sells an allegedly infringing product — an earth filled, concrete retaining wall system known as the Eco-Wal. Co-defendant, Cleco Corporation, makes and sells molds used to manufacture precast concrete forms that are incorporated in the Eco-Wal. The remaining defendant, Methuen Construction, purchased at least one

Eco-Wal system and then, in turn, sold it to the State of New Hampshire.

Co-plaintiffs, System Evergreen and Michie Corporation, allege that defendants willfully infringed the `245 patent by manufacturing, selling, and using the Eco-Wal. Defendants deny infringement and also argue that the `245 patent is invalid and unenforceable.

At the parties' request, the court held a patent claim construction hearing. At the hearing, each party set forth, through argument and submissions, their respective views as to the proper construction of the claims of the `245 patent. There is a genuine controversy over the proper construction of at least one portion of claim 1 of the `245 patent, and defendants have asked the court to construe two additional limitations in claim 1.[1]

II. APPLICABLE LEGAL STANDARDS

[1] Plaintiffs contend that no controversy exists regarding the construction of portions of claim 1 admitted by Defendants to be present in the Eco-Wal. (Pls.' Trial Mem. at 3) On the other hand, Defendants have specifically asked the court to construe portions of claim 1 that plaintiffs argue are not in controversy. (Defs.' Supp. Trial Mem. at 7). Defendants have not affirmatively agreed that the construction of certain portions of claim 1 are no longer in dispute. The court assumes, then, that those portions of claim 1 are still at issue.

"[T]he interpretation and construction of patent claims, which define the scope of the patentee's rights under the patent, is a matter of law exclusively for the court." Markman v. Westview Instruments, Inc., 52 F.3d 967, 970-71 (Fed. Cir. 1995), aff'd, 116 S. Ct. 1384 (1996). The court must construe patent claims in the same manner the claims would be construed by those skilled in the art.[2] Loctite Corp. v. Ultraseal Ltd., 781 F.2d 861, 867 (Fed. Cir. 1985). To construe patent claims means to ascertain the meaning of those claims in light of the intrinsic evidence of record, which includes: the claims, the specification, and the prosecution history. Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996). Only if there still exists a genuine ambiguity in the claims after examining the intrinsic evidence of record, may the court resort to extrinsic evidence. Id. at 1584. "Extrinsic evidence is that evidence which is external to the patent and file history, such

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[2] The parties have not expressly argued or agreed upon the applicable level of ordinary skill in the art. However, the parties have offered the depositions of witnesses who have varying levels of education and experience in the subject matter of the `245 patent. Looking to the background of these witnesses as a guide, and taking into account the nature of the subject matter, the court has determined that those with the requisite ordinary skill in the art would possess at least two years of technical engineering training at the college level, plus another year or two of experience in designing structural elements for use in the construction of retaining walls.

as expert testimony, inventor testimony, dictionaries, and technical treatises and articles." Id.

III. CLAIM CONSTRUCTION

To facilitate construction of claim 1, it is perhaps useful to first arrange the words of the claim into paragraphs, so the elements of the invention and the limitations on those elements can be readily discerned. Claim 1 of the `245 patent reads as follows:

> A structural system for the construction of walls comprising
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> (a) a framework consisting of solid frame elements and being filled with earth material, said frame elements extending in at least one plain and having at least one support area on at least one side, said frame elements further including at least one longitudinal beam having a cross-section with at least one portion thereof arranged at an acute angle against the main plane of the frame or slab, the upper surface thereof forming a substantially flat support for said earth material, at least one such longitudinal beam being located at the front side of said wall and having an upper front edge portion being positioned at a greater height compared with said flat support and forming a board for retaining a portion of said earth material resting on said flat support, the system further including
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> (b) holes extending at least partly vertically through said framework and

(c) distance elements between at least two of said frame or slab elements which are positioned one above the other such that the earth material at least partially filling said vertically extending openings forms at least one sloped surface extending at least partly through the scope between said frame or slab elements positioned one above the other.

The preamble of claim 1 reads: "A structural system for the construction of walls comprising . . . ." (emphasis added). So, the starting point is apparent: the inventor is claiming a structural system for constructing walls. Additionally, the preamble includes the transitional word "comprising." When "comprising" is used as a transition, the described structure that follows does not exclude the possibility of additional structure. Thus, a claim that describes a system having elements A, B, and C, could also include a system having elements A, B, C, and D.

Claim 1 describes a structural system that has three elements: (1) a framework; (2) holes extending at least partly vertically through the framework; and (3) distance elements. The remaining terms of claim 1 define limitations on each of these elements and it is the meaning of those limitations that are in dispute. Each limitation in dispute will be considered in turn.

A. said frame elements extending in at least one plane and having at least one support area on at least one side, (`245 patent, col 6, lines 6-8).

Defendants contend that they are unable to determine from the language used where the "frame elements" of the claimed invention can be found. (Defs.' Supp. Trial Mem. at 7). Defendants have also asked the court to determine whether the "support area" is the same as the "flat support for said earth material" referenced in line 13 of claim 1. Id.

Before determining where the frame elements of the claimed invention can be found, the term "frame elements" must first be defined. It follows from claim 1 and the specification that a framework consists of solid frame elements.[3] Each solid frame element must include at least one longitudinal beam. The distance elements can be part of the frame element or added separately (`245 patent, col 2, lines 65-66). A wall is constructed from at least two frame elements stacked or positioned one above the other and separated by distance elements (e.g., figures 9, 11, 12, 16, 20, 21, and 24). Slab elements may also be used in the construction of a wall. Figures 6 and 7 show double slab elements in two parallel planes. (`245 patent, col

[3] Throughout the specification the terms "frame element," "structural element," and "frame" are used interchangeably.

3, lines 61-63). Likewise, figure 21 illustrates an advantageous design in which the front or side openings of the wall are covered with a slab element. (`245 patent, col 5, lines 41-42).

One embodiment of a frame element is illustrated in figure 19 of the patent drawings. The frame element 50 in figure 19 includes: (1) longitudinal beam 51; and (2) cross beams 52. The embodiments shown in figures 3-5, 13, and 17-18, illustrate other types of frame elements. All of these frame elements are "extending in at least one plane." (`245 patent, col 6, line 7).

Claim 1 further limits the frame elements as having at least one support area on at least one side. The physical attributes of the support area are not described in the claim, nor does the claim identify what is supported by such an area. It is also unclear what the term "side" refers to. However, a clue to the correct interpretation of these terms can be found in the "Summary of the Invention" which states, in part:

> Important part of such structural elements is characterized by frame or slab like form with parts of frames or slabs <u>at least in one plane and with one support joint plane on at least one frame or slab side</u>. [sic].

(`245 patent, col 1, lines 28-32).

The limitations underlined above are strikingly similar to the limitations of claim 1, which define the frame elements as extending into at least one plane and having at least one support area on at least one side. The patent history also reveals similar subject matter in amended claim 10 of the Preliminary Amendment received by the USPTO on December 31, 1979. Amended claim 10 defines "frame or slab parts in at least one plane and at least one support area on at least one frame or slab side." (Prelim. Amend. at 4)(emphasis added). The limitation in amended claim 10 is similar to both the limitation in claim 1 and the limitation in the specification as set forth above[4]. From this intrinsic evidence, then, the reference to "at least one side" in claim 1 refers to at least one side of the frame elements. This evidence also suggests that the support area and the support joint plane were related throughout the prosecution history. The term "support joint plane" was amended during prosecution and became the "support area."

Those with ordinary skill in the art would readily understand the support joint plane to be the parallel plane on at

[4] It is common in patent practice for the patent attorney or agent to paraphrase the broadest independent claim when defining the Summary of the Invention. Amended claim 10 was the broadest independent claim presented in the Preliminary Amendment.

least one side of a first frame element that functions to support a second frame element. It follows that the support area lies somewhere on, or emanates from, the support joint plane. For example, the embodiment shown in figures 1 and 2 include loading areas 5 and 6 for the joints between the frame elements piled one upon the other. (`245 patent, col 3, lines 4-6). These loading areas (i.e., support areas) are further illustrated in figures 5-7.

The foregoing construction is also consistent with the plain meaning of claim 10 as illustrated by the embodiment in figures 1 and 2. Claim 10 reads as follows:

> 10. The system of claim 1 having knobs 16 and matching holes 15 on <u>at least one support area</u>.

(`245 patent, claim 10)(emphasis added).

As shown in figures 1 and 2, the matching holes 15 and knobs 16 are centered on the loading areas 5 and 6, respectively. It is intuitive that the loading areas 5 and 6 cannot possibly function to support earth material while providing a support area for another frame element.

On the other hand, the substantially flat support for the earth material is defined as "the upper surface of that portion of the longitudinal beam which is arranged at an acute angle with

respect to the main plane or slab, and the area within the framework on which some of the earth material that fills the framework rests."[5] (Defs.' Supp. Trial Mem. at 13). None of the embodiments of the present invention use the upper surface of the longitudinal beam as a support area for another frame element. For example, the embodiment shown in figure 3 uses an upper load area 5 to support another frame element, and not the surfaces 18 of the longitudinal beam. Similarly, in figures 19 and 20, the cross beams 52 of a first frame element 50 provide the support area for a second frame element 50 stacked above it.

In light of this intrinsic evidence of record, those with ordinary skill in the art would understand the term "support area" to describe the loading area for a joint between two frame elements positioned or stacked one upon the other and not a flat support for earth material.

B. said frame elements further including at least one longitudinal beam having a cross-section with at least one portion thereof arranged at an acute angle against the main plane of the frame or slab, (`245 patent, col 6, lines 6-8).

Defendants contend that: (1) the main plane of the frame or slab is not expressly defined in the specification or prosecution

[5] Both parties concur in this construction of this portion of claim 1.

history; and (2) the "acute angle is difficult, if not impossible, to identify." (Defs.' Supp. Trial Mem. at 7-8). The court agrees that the term "main plane" is not expressly defined in the specification or prosecution history. This omission would not, however, preclude those of ordinary skill in the art from correctly identifying the main plane in light of the intrinsic evidence of record as a whole.

Using figure 5 as an exemplary embodiment, plaintiffs have offered their version of the proper construction of the terms "main plane" and "acute angle." Figure 5 shows a variation of the cross section of the longitudinal beams 2 and 3. Plaintiffs would define the main plane of the frame or slab as a plane extending outward approximately from the bottom surface of the bottom region of the longitudinal beams 2 and 3. (Defs.' Supp. Trial Mem. at 8). The acute angle is the angle between the bottom surface of the upper portion of the longitudinal beam 3 and the main plane as defined above.[6] Id. (Ex. 3, fig. A).

[6] It is fundamental geometry that when two parallel planes are cut by a transversal plane, the corresponding angles formed at the intersection of each plane are congruent. Because of this property, any plane parallel to the main plane as defined by the plaintiffs would serve as a useful reference plane to those with ordinary skill in the art. To visualize this concept using figure 5, one must imagine a second plane positioned above and parallel to the main plane as currently defined. This second plane can be chosen to contain the upper bearing surface 5. Now

Plaintiffs' proposed construction of the terms "acute angle" and "main plane" is supported by the specification and is consistent with the remaining portion of claim 1. Furthermore, their proposed construction of the term "acute angle" is readily identified in figures 3-5. When identifying the "acute angle" in these figures or other embodiments, it is perhaps useful to note that the limitation requires at least one portion of the cross-section of the longitudinal beam to be arranged at an acute angle with the main plane of the frame or slab; there could be two or more such portions.

Although claim 1 does not disclose a specific range for the acute angle, the range must be greater than zero degrees and less than ninety degrees.[7] For an acute angle greater than zero, the upper front edge portion of the longitudinal beam will always be positioned at a greater height compared with the flat support previously defined in the claim. This upper front edge portion of the beam forms a board for retaining a portion of the earth

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imagine the cross-section of the longitudinal beam as extending through that second plane. This extended cross-section lies in a transversal plane. The acute angle formed between the second plane and the transversal plane is congruent to the acute angle as defined by the plaintiffs.

[7] An "acute" angle is an angle less than ninety degrees. An angle equal to ninety degrees is a "right" angle. An angle of zero degrees is a "line" (i.e., not an angle at all).

material filling the framework. Plaintiffs' proposed construction is also consistent with claim 2, which reads as follows:

> The system of claim 1, wherein the said acute angle between said at least one portion of the longitudinal beam and the main plane of the frame or slab is substantially zero.

(`245 patent, col 6, lines 28-31) (emphasis added).

Claim 2 further defines the acute angle limitation of claim 1 to span the entire range of angles greater than zero degrees and less than ninety degrees. Since an angle that is substantially zero is not zero, the board that retains a portion of the earth material will never lie entirely in the main plane as suggested by the defendants. (Defs.' Supp. Trial Mem. at 10).

Using figure 5 and plaintiffs' construction of the term "main plane," defendants would construe the term "acute angle" to refer to the angle between the upper surface of the bottom region of the longitudinal beam and the bottom surface of the bottom region of the longitudinal beam. (Defs.' Supp. Trial Mem. at 10-11; see also fig. C in Ex. 3 of same). Considering the patent as a whole, the court fails to discern the logic in defendants' obviously strained construction; they have simply proposed a variation of the embodiment in figure 5 by changing the thickness

(i.e., cross-section) of one portion of the longitudinal beam. This illogical proposal is entirely unsupported by the intrinsic evidence of record. Furthermore, it is difficult to see how defendants' interpretation of the acute angle reference could be consistently applied to other embodiments (e.g., figures 3 and 4).

Accordingly, the court adopts plaintiffs' proposal of the terms "main plane" and "acute angle," which the court finds to be consistent with the patent as a whole and, therefore, likely to be similarly understood by those who both possess ordinary skill in the art and who are reasonably motivated to understand the patent.

C. the system further including holes extending at least partly vertically through said framework and distance elements between at least two of said frame or slab elements which are positioned one above the other such that the earth material at least partially filling said vertically extending openings forms at least one sloped surface extending at least partly through the scope between said frame or slab elements positioned one above the other. (`245 patent, col 6, lines 19-27).

Plaintiffs construe the term "holes" as being interchangeable with the term "openings." (Pls.' Trial Mem. at 7-20). That is, the holes/openings extend vertically through the framework and receive earth material.

In contrast, defendants construe the terms "holes" and "openings" as separate and distinct limitations in claim 1.

(Defs.' Supp. Trial Mem. at 14-34). That is, the openings function to receive earth material in accordance with plaintiffs' construction of the term, but the holes function to receive steel bars and mortar to provide continuous reinforcing of the joined frame elements, thereby preventing sliding due to horizontal forces. The holes also extend vertically through the frame elements and the distance elements, they say. Defendants argue that the distance elements define where the holes extend, and do not serve as a separate limitation in claim 1.

This aspect of claim 1 has been vigorously contested by both parties throughout the case. The court will construe this portion of claim 1 in light of the claims, the specification, and the prosecution history.

1. The Claims

The words used in the claims, both asserted and nonasserted, define the scope of the patented invention. Vitronics, 90 F.3d at 1582. As stated earlier, the plain language of claim 1 establishes that the described structural system has three system elements: (1) a framework; (2) holes extending at least partly vertically through the framework; and (3) distance elements. In

claim 1, the distance elements are positively described with a proper antecedent basis.

Without the distance elements, the other terms in claim 1 would be meaningless. For example, unless the distance elements provided adequate vertical separation between the frame elements there would not be a longitudinal slot or scope within the wall structure to provide room to see the earthfill and to grow plants. (`245 patent, col 6, lines 26-27 and col 3, lines 32-36). Furthermore, there would be no need for the board limitation which prevents the earth material from spilling out of the longitudinal slot or scope, if no vertical separation was claimed. Nor would there be any reason for the upper front edge portion of the longitudinal beam to be at a greater height than the flat support, assuming the flat support is still necessary without the distance elements. Finally, the `245 patent teaches, over the prior art, the formation of earth filled walls with earth slopes within the framework capable of bearing plants. (Amend. filed Sept. 23, 1980 at 6). Without the distance elements providing adequate vertical separation, the formation of earth slopes within the framework would be difficult, if not impossible to achieve.

On the other hand, defendants argue that the distance elements are not a separate limitation in claim 1, and to include them as a limitation in claim 1 would render claim 5 superfluous. Claim 5 reads as follows:

> The system of claim 1, having at least two frame elements stacked one upon the other, and further including a plurality of distance elements placed in between said stacked frame elements.

(`245 patent, claim 5)

In patent practice, a dependent claim recites narrower subject matter than its parent claim by either (1) adding an additional element(s), or (2) defining one or more elements of the parent claim more narrowly. Claim 5 further defines the framework element of claim 1 more narrowly by requiring that the framework consist of at least two frame elements stacked one upon the other. (`245 patent, col 6, lines 46-49). Claim 5 also adds a plurality of distance elements placed in between the stacked frame elements. Id.

"The doctrine of claim differentiation prohibits a court from construing one claim to include a limitation expressed in another claim if that construction renders one of the claims `superfluous.'" Thorn EMI North America, Inc. v. Intel Corp., 928 F.Supp. 449, 463 (D. Del. 1996) (citing Tandon Corp. v. U.S.

Int'l Trade Comm'n, 831 F.2d 1017, 1023-24 (Fed. Cir. 1987)). Claim 1 requires at least two frame elements to be positioned one above the other. Claim 5 requires at least two frame elements to be stacked one above the other. The terms "stacked" and "positioned" have two different meanings. The term "positioned" is a broader term than the term "stacked" and encompasses frameworks that are installed on an incline.

Claim 5 further adds distance elements placed in between the stacked frame elements. Since, by definition, a dependent claim includes all the limitations of its parent claim, the distance elements recited in claim 5 appears redundant. However, when the embodiment in figures 19 and 20 are examined in accordance with claim 5, it is evident that the distance elements refer back to the structure of the frame elements, and not the structural system as a whole. In other words, the distance elements described in claim 5 comprise a limitation on the frame element, and not an element of the structural system as construed by the court in claim 1.

Figure 19 shows one embodiment of a frame element that is suitable for stacking. This embodiment must include a longitudinal beam 51. Optionally, the cross beams 52 and/or distance elements 53 may be added so that the frame elements can

be stacked as shown in figure 20. (`245 patent, col 5, lines 20-24). In short, claim 5 defines a stackable frame element that includes distance elements as an integral part of the solid frame element structure. This meaning is different, yet consistent, with the meaning attached to the distance elements in claim 1, which are elements of the structural system. Absent this difference, the distance elements limitation in claim 5 would be superfluous.

Thus, under the doctrine of claim differentiation, the court construes claim 5 as having a different meaning and scope than claim 1. Moreover, this construction is a reasonable interpretation of the words of the claim, and is clearly consistent with the rest of the patent and the intent of the patentee. See Moleculon Research Corp. v. CBS, Inc., 793 F.2d 1261, 1269 (Fed. Cir. 1986), cert. denied, 479 U.S. 1030 (1987) (confirming the district court's construction of claim 3 even though it rendered claim 4 redundant). See also 4 D. S. Chisum, Patents § 18.03[6] (1996) ("experience has shown that [the doctrine of claim differentiation] actually serves as a guide to the construction of claims and may not be determinative in a particular case").

Referring now to the term "openings" in claim 1, the court notes that the term "openings" is first introduced in claim 1 with the definite article "said." To have a proper antecedent basis, however, the term "openings" must be previously recited in claim 1 with an indefinite article (e.g., "a," or "an"). The only term in claim 1 that could serve as a logical antecedent to the term "openings" is the term "holes." This, of course, begs the question posed by the parties: Did the patentee regard the terms "holes" and "openings" in claim 1 as interchangeable? The answer must be supported by the specification and the prosecution history.

2. The Specification

"[T]he specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." Vitronics, 90 F.3d at 1582. Defendants argue that but for one "aberration," the term "openings" is consistently used by the patentee to describe where the earth material that fills the framework is received. (Tr. p. 48, lines 12-16). And, the term "holes" is consistently used to describe where the steel bar and mortar is received. The court disagrees.

Parenthetically, the court has found at least five such "aberrations" within the four corners of the `245 patent. First, in column 3, line 27, of the specification: "continuous hole 17 provides the opening that can be filled with steel bar and mortar in order to provide continuous reinforcing . . . ." Second, in column 5, lines 24-27, of the specification: "The distance elements 53 and the cross beams 52 can have almost vertical openings as to provide room for vertical steel bars and mortar filling for structural reinforcing." Third, in column 5, lines 52-53, of the specification: "cover holes 75 to be filled with earth . . . ." Fourth, in column 6, lines 5-7, of the claims: "a distance element and a transverse beam each having an almost vertical opening."[8] Lastly, in column 5, lines 7-15, of the specification: "a longitudinal canal 48 with openings 49 within the beams 52."[9] Collectively, these five examples dispel any notion of aberrant usage, and fairly demonstrate that the

[8] The almost vertical opening is for receiving a reinforcing bar and not earth material.

[9] These openings come from the top or from the side of canal 48 as illustrated in figure 18. The canal 48 can be used for cables or wires. While the canal 48 is different from the holes 17, it is clear that both elements have openings for receiving materials other than earth material.

patentee regarded the terms "holes" and "openings" as interchangeable.

This conclusion is further supported by the language of the specification which expressly teaches three alternative methods for providing resistance to sliding between the frame elements due to horizontal force components. These methods include: (1) friction resistance (`245 patent, col 3, lines 8-10)("Normally friction resistance is sufficient if the [frame] elements are positioned in an inclined manner"), (2) knobs and matching holes (`245 patent, col 4, line 64)("the frame elements use knobs 44 to provide resistance . . . [against] sliding in [the] horizontal direction"), and (3) continuous holes that can be filled with a steel bar and mortar. (`245 patent, col 3, lines 23-31)("a continuous hole 17 provides the opening that can be filled with a steel bar and mortar in order to provide continuous reinforcing from one element to the next").

Defendants refer to the embodiment in figure 3 as exemplary of their own construction of claim 1. In figure 3, a hole 17 is clearly shown as vertically extending through the longitudinal beam and distance elements. This particular embodiment of a frame element requires continuous reinforcing because it is without special means to resist sliding. (`245 patent, col 3,

lines 25-31). But figure 3 illustrates only one particular embodiment of the invention. "[P]articular embodiments appearing in a specification will not be read into the claims when the claim language is broader than such embodiments." Electro Medical Sys., S.A. v. Cooper Life Sciences, Inc., 34 F.3d 1048, 1054 (Fed. Cir. 1994).

Figures 4 and 5 also illustrate particular embodiments of the present invention. The embodiment in figure 4 has a special aesthetic and noise absorbing effect which is achieved by employing longitudinal beams 19 with curved cross sections. The embodiment in figure 5 employs a special slope 21 which would not offer any hand or foot hold to someone trying to climb the wall. The embodiment in figures 16-18 employs longitudinal beams 45 with inverted L-type cross sections that provide "a favorable resistance of the element." (`245 patent, col 5, line 1). None of the embodiments just mentioned have a hole 17. Nor is it suggested in the specification that a hole 17 is needed for these embodiments. Assuming defendants' construction of claim 1 to be correct (i.e., hole 17 is a limitation in claim 1), then the embodiments in figures 4,5, and 16-18 would effectively teach a competitor how to design around the independent claim of the patent, an unlikely inclusion. Furthermore, since claim 1 is the

only independent claim in the `245 patent, every dependent claim would also have to have a hole 17 limitation. Therefore, the embodiments in figures 4, 5, and 16-18 would effectively teach a competitor how to design around all the claims of the `245 patent. Such a construction would not only be unrealistic, but obviously would undermine the legitimate rights and expectations of the patentee, who has sought protection for his invention under the patent laws of the United States.

3. The Prosecution History

Examination of the prosecution history can be useful because it may contain express representations made by the applicant regarding the scope of the claims. Markman, 53 F.3d at 980. Defendants contend that during prosecution, the patentee made admissions concerning the novelty of his invention that support their theory that holes are not openings.

On September 23, 1980, the applicant responded through Amendment to an Office Action dated May 29, 1980. In the remarks section accompanying the Amendment the patentee distinguished his invention from the prior art by stating:

> Neither of these two references, nor any other references of record, contain even the slightest hint that such a teaching can be used to produce systems of

> the present invention, that is, systems with a high-degree of stability against earth load and lateral tilting forces. These results cannot be achieved by systems which include multiple beams placed loosely one above the other, such as the systems of the prior art.

(Amend. filed Sept. 23, 1980 at 6).

While the patentee extolled the ability of his invention to resist horizontal forces, the patentee did not describe a particular means for doing so. As stated earlier, the `245 patent teaches three alternative methods of providing resistance to horizontal forces. Those methods are employed in three different embodiments. It would be particularly illogical for one of ordinary skill in the art to understand the scope of claim 1 as covering only one particular embodiment of the claimed invention.

Defendants also point out that relevant subject matter (i.e., hole 17) of canceled claim 17 was incorporated in new claim 48; a claim which was later admitted as claim 1 in the `047 patent. (Defs.' Trial Mem. at 33). The court, however, can find no admissions by the applicant in the prosecution history, either expressed or implied, that a hole 17 was incorporated into claim 48. Therefore, contrary to defendants' contention, the prosecution history in this case does not support defendants' assertions that hole 17 is a necessary limitation of claim 1.

IV. INVALIDITY DEFENSES

A patent is presumed valid. 35 U.S.C. § 282. The presumption of validity applies independently to each claim of the patent. Id. The defendant has the burden of proving invalidity by clear and convincing evidence. Hybritech Inc. v. Monoclonal Antibodies, Inc., 802 F.2d 1367, 1375 (Fed. Cir. 1986), cert. denied, 480 U.S. 947 (1987).

The evidence of record offered thus far relative to validity of the `245 patent under 35 U.S.C. §§ 102, 103, and 112, would likely not suffice to establish invalidity clearly and convincingly. Nevertheless, because additional evidence concerning the validity of the `245 patent may well be offered during the remainder of this litigation, the court cannot resolve invalidity claims at this juncture, and, as counsel were advised, the court limits its ruling to construction of the patent.

V. CONCLUSIONS OF LAW

The court finds the intrinsic evidence of record sufficient to construe the claims of the `245 patent. The intrinsic evidence (i.e., claims, specification, and prosecution history) is the public record on which a competitor may rely when determining the scope of the claimed invention. Based on the

public record, the court's construction of claim 1 of the `245 patent is as follows:

A. As a matter of law, the term "support area" is construed to mean the loading area for a joint between two frame elements positioned or stacked one upon the other. The term "substantially flat support for said earth material" is construed to mean the upper surface of that portion of the longitudinal beam which is arranged at an acute angle with respect to the main plane or slab, and the area within the framework on which some of the earth material that fills the framework rests.

B. As a matter of law, the term "main plane of the frame or slab" means the plane extending outward approximately from the bottom surface of the bottom region of the longitudinal beam, or any plane parallel to such a plane that contains one or more frame elements. The term "acute angle" means the angle between at least one portion of the longitudinal beam and the "main plane of the frame or slab" as defined above.

C. As a matter of law, the distance elements are a positively stated structural element of the system. The terms

"holes" and "openings" are interchangeable, and refer to the same limitation. The holes/openings extend vertically into the framework and function to receive earth material. The holes/openings do not extend into the distance elements and they do not receive reinforcing materials to provide resistance against sliding due to horizontal forces.

SO ORDERED.

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Steven J. McAuliffe
United States District Judge

November 13, 1996

cc: Steven J. Grossman, Esq.
Edmund J. Boutin, Esq.
Daniel J. Bourque, Esq.