The opinion in support of the decision being entered today is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PHIL-INSUL CORPORATION

Appeal 2007-0694
Reexamination Control 90/006,433
Patent 5,428,933
Technology Center 3600

Decided: 26 June 2007

Before RICHARD E. SCHAFER, SALLY C. MEDLEY, and MICHAEL P. TIERNEY, Administrative Patent Judges.

TIERNEY, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. §§ 134 and 306 (2006) from the Examiner's final rejection of claims 1-30, which represent all of the pending claims.

We affirm-in-part and enter a new grounds of rejection.

I. STATEMENT OF THE CASE

A request for reexamination was filed on October 31, 2002 by patent

owner for reexamination of its U.S. Patent 5,428,933 (the '933 patent) issued July 4, 1995 to Michel Philippe. The '933 patent is assigned to Phil-Insul Corporation. (Appeal Br. at 6).

Patentee's invention relates to insulating construction members having top and bottom edges that contain at least two rows of alternating projections and recesses. ('933, Abstract). The projections and recesses have substantially the same dimensions and the insulating construction members can be interconnected in a bidirectional or reversible manner. (*Id*.).

As explained in the background section of the '933 patent, foamed plastic concrete forms and insulating block forms were known in the art. (*Id*. at col. 1, ll. 15-31). The '933 patent identifies the prior art as describing the use of interlocking means to permit the stacking of blocks one on top of the other. (*Id*.). The '933 patent alleges however, that the prior art fails to describe blocks that interconnect in a bi-directional and/or reversible manner. (*Id*.). The '933 patent also alleges that bi-directional and/or reversible blocks are less labor intensive and reduce waste as compared to conventional blocks. (*Id*. at col. 1, ll. 34-48).

There are six (6) independent claims on appeal, claims 1, 11, 17, 18, 19 and 30, all of which are directed to insulating construction members and blocks where the blocks can be interconnected with a like member in a bi-directional or reversible manner. Claim 1 is generally representative of the claims on appeal and reads as follows:

> In an insulating construction member having top and bottom edges and interconnecting means on said top and bottom edges, the improvement wherein said interconnecting means comprise at least two rows of alternating projections and recesses, said

> projections and recesses being of substantially the same dimension, wherein said recess of one row is adjacent said projection of the other row, and wherein said interconnecting means on said top and bottom edges are offset arranged such that said recess of one row on said top edge is opposed to said projection of an opposite row of said bottom edge; whereby said insulating construction member can be interconnected with a like member in a bi-directional or reversible manner.

(Appeal Br., Claims Appdx.).

The Examiner has set forth four (4) prior art rejections as well as a rejection under 35 U.S.C. §112, second paragraph definiteness and a rejection under 35 U.S.C. §112, first paragraph for lack of enablement. The rejections are as follows:

i) Claims 1-11, 13-19, 21-28 and 30 are rejected under 35 U.S.C. §102(b) as anticipated by Guarriello, U.S. Patent 5,123,222 ("Guarriello").
ii) Claim 12 is rejected under 35 U.S.C. §103(a) as obvious over Guarriello in view of Horobin, U.S. Patent 4,894,969 ("Horobin '969").
iii. Claim 20 is rejected under 35 U.S.C. §103(a) as obvious over Guarriello in view of Horobin '969.
iv. Claim 29 is rejected under 35 U.S.C. §103(a) as obvious over Guarriello in view of Horobin U.S. Patent 4,884,382 ("Horobin '382").
v. Claim 30 is rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to point out and distinctly claim the subject matter which applicant regards as his invention.
vi. Claim 30 is rejected under 35 U.S.C. §112, first paragraph, because the specification does not enable the claimed subject matter.

Patentee (Phil-Insul) generally contends that the prior art references fail to describe insulated concrete forms having "projections and recesses being of substantially the same dimension" and/or "at least two rows of

alternating projections and recesses." (Appeal Br., Table of Contents, p. 2, VII(1)). In particular, Patentee contends that one of ordinary skill in the art would have understood that "substantially the same dimension" means essentially the same length but with allowances for minor variations that typically arise due to variability in the manufacturing process. (*Id*. at 14 and 17). Patentee also states that the prior art shows a discrete pair of projections in contrast to the claimed "two rows of alternating projections and recesses." (*Id*. at 32).

The Examiner found that substantially the same dimension means "being largely but not wholly that which is specified." (Ans. at 10). The Examiner states that, as to the claimed dimensions, "[t]he claimed language is simply lack of any degree of precision." (*Id*. at 11). The Examiner further states that Patentee has not defined any range for "minor variations" and that the claims do not provide any "dimension to the size of the structures." (*Id*. at 10 and 12). The Examiner concluded that Guarriello describes concrete forms having projections and recesses of substantially the same dimension. The Examiner also found that Guarriello describes at least two rows of alternating projections and recesses. (*Id*. at 13).

We affirm-in-part the Examiner's rejections and enter a new grounds of rejection.

ISSUE

The issue is whether Patentee has shown that the Examiner erred in rejecting the claims. Specifically, the issue is:

> Has Patentee demonstrated that the Examiner was incorrect in finding that one of ordinary skill in the art would have understood Guarriello to describe projections and recesses of "substantially the same dimension"?

Are Patentee's claimed projections and recesses a predictable use of prior art elements according to their established function?

FINDINGS OF FACT

A. Patentee's '933 Patent Specification and Claims

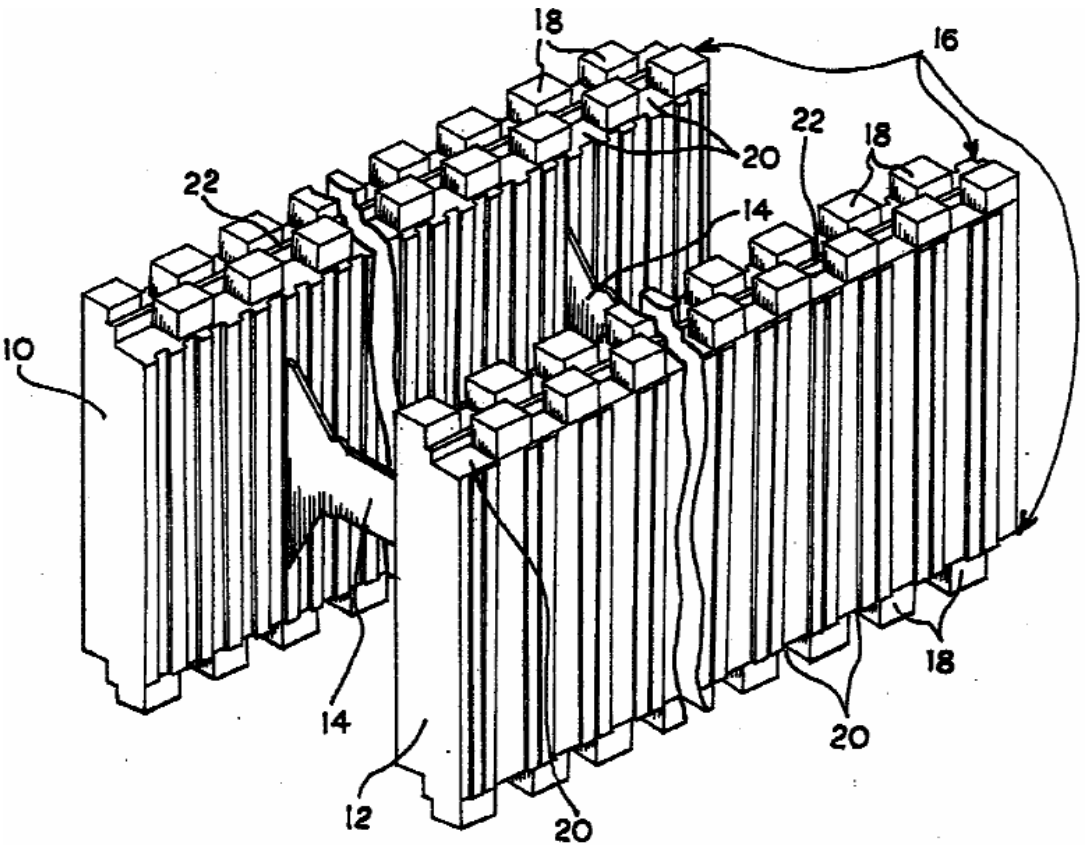
1) Patentee's claims on appeal are directed to insulating construction members and blocks having at least two rows of alternating projections and recesses where the projections and recesses are substantially the same dimensions. (Appeal Br., Independent claims 1, 11, 17, 18, 19 and 30).

2) The '933 patent acknowledges that it was known in the prior art to interlock foamed concrete forms using tongue projections and groove recesses. ('933, col. 1, ll. 15-25).

3) The '933 patent states that its insulating bidirectional and reversible blocks do not have to be interconnected in "only one right way." (*Id*. at col. 3, ll. 46-53).

4) The '933 patent states that it is easier to interconnect blocks that are capable of being connected in a bidirectional and/or reversible manner. (*Id*. at col. 1, ll. 34-43 and col. 3, ll. 53-57).

5) '933 patent Figure 1, depicted below, depicts an insulating construction block that is said to represent a preferred embodiment of the '933 patent:



‘933 Figure 1 depicted above contains:

10	Side wall
12	Side wall
14	Interconnecting Web
16	Interconnecting Means
18	Projections
20	Recesses
22	Sealing Member

(*Id*. at col. 4, line 38 to col. 5, line 15).

6) The ‘933 patent states that the interconnecting web is preferably formed from a suitable synthetic polymeric material. (*Id*. at col. 3, ll. 14-19)

7) The ‘933 patent states that the web “may be a foamed polymer or more generally, such webs are formed of a non-foamed material.” (*Id*. at col. 3, ll. 25-27).

B. Declaration of Michel Philippe

8) During the reexamination proceeding, Patentee submitted a declaration from Michel Philippe, the named inventor of the ‘933 patent.

9) Mr. Philippe testifies that he has worked in the concrete construction industry for over twenty-five (25) years. (Philippe Dec., ¶ 2).

10) Mr. Philippe testifies that insulating blocks are generally made using molds. (Philippe Dec., ¶ 2).

11) Mr. Philippe testifies that one of ordinary skill in the art understands that there is an “inherent variability in the manufacturing process” for forming insulating blocks, as described by the ‘933 patent. (Philippe Dec., ¶ 10).

12) Mr. Philippe testifies that one of ordinary skill in the art would understand that “substantially the same dimension,” as used in the claims on appeal, would refer to “the same dimension with minor variations, or intended to be the same dimension but permitting and including variation implicit in manufacturing processes.” (Philippe Dec., ¶ 11).

13) As to the implicit manufacturing process variation, Mr. Philippe testifies that a block formed with foamed material will generally shrink by about 1.0 % to about 2.0 % as it cures. (Philippe Dec., ¶ 4).

C. Prior Art

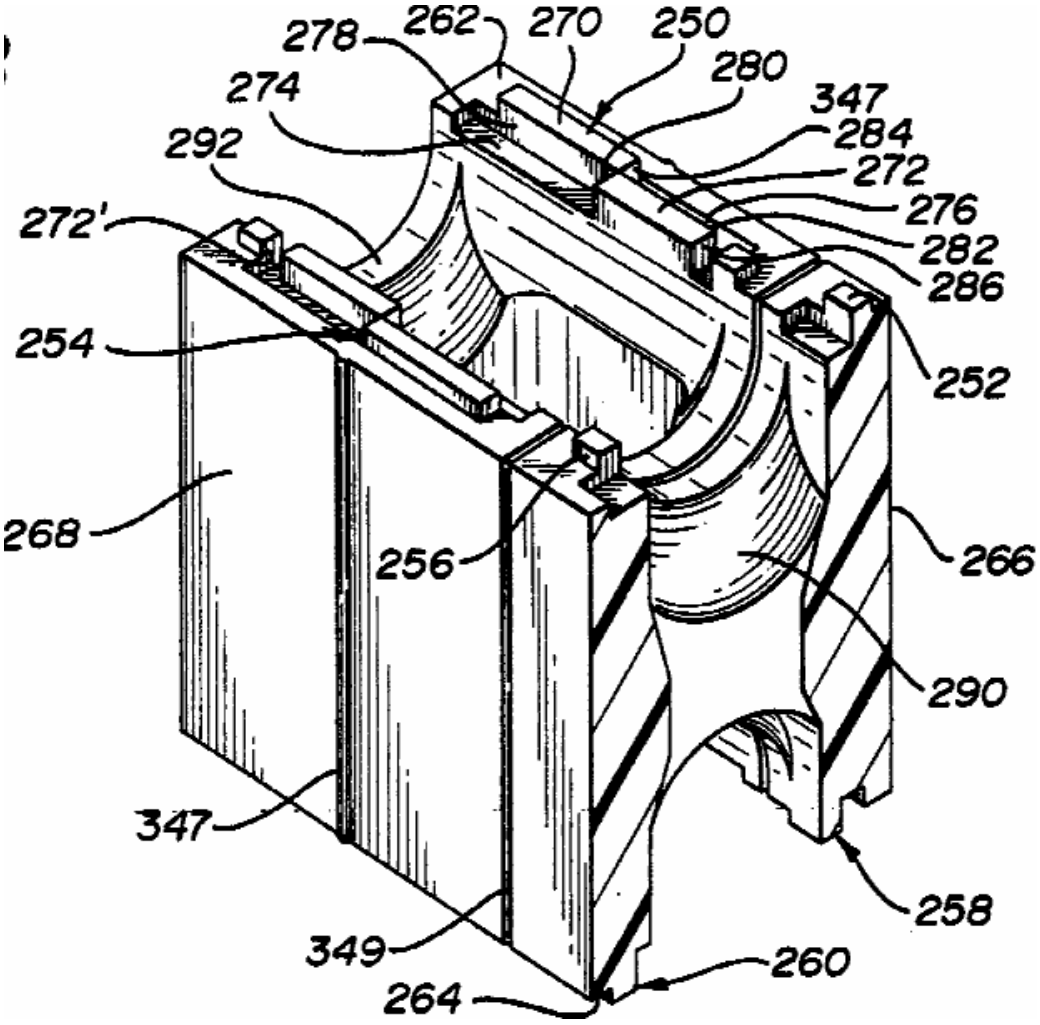
1. Guarriello, U.S. Patent 5,123,222

14) Guarriello is directed to a hollow foamed plastic form for concrete that has a pair of opposed side walls where the upper and lower faces of the side walls contain a series of elongated locking members. (Guarriello, Abstract).

15) Guarriello teaches that construction using modular hollow plastic units that are then filled with concrete has gained wide acceptance. (*Id*. at col. 1, ll. 12-15).

16) Guarriello states that a "number of approaches" to modular hollow plastic units have already been described, including the use of projections and recesses on the upper and lower edges of the side walls for interlocking several of the forms. (*Id*. at col. 1, ll. 17-18 and 23-28).

17) Guarriello Figure 8, depicted below, is a plastic form that permits communication of concrete between two abutting forms:



Guarriello Figure 8, depicted above, includes the following:

250, 252, 254, 256, 258, 260	Locking Members
262	Upper Face
264	Lower Face
266, 268	Side Walls
270, 272	Rectangular Rib Components
272’	Second Rib Component
274, 276	Rectangular Channels
278, 282	Channel Side Walls
280, 284	Channel End Walls
286	Transverse Slot
290, 292	Interior Separators

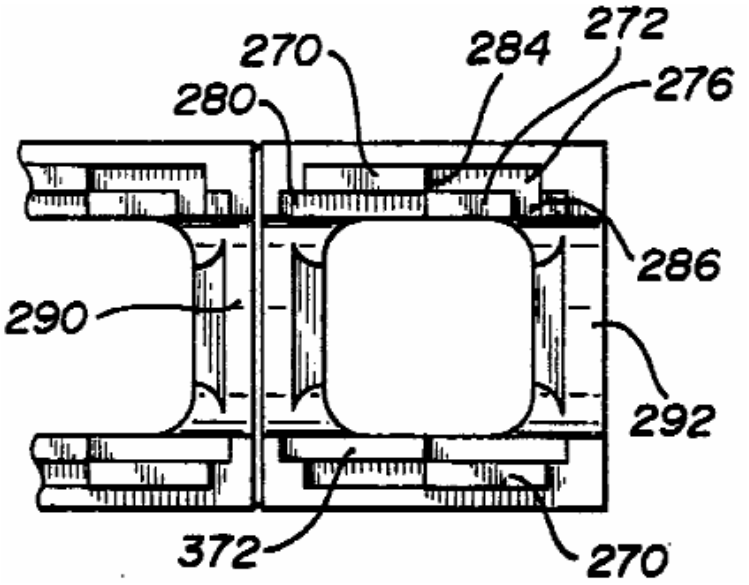
(*Id*. at col. 4, line 67 to col. 6, ll. 3-5).

18) Guarriello's blocks have opposed side walls, the interior and exterior of which are substantially parallel to each other. (Guarriello, Fig. 8).

19) As with Patentee's claimed sealing means, Guarriello's upper face surface **262** has a height above Guarriello's recesses but below Guarriello's projections. (*Id*.).

20) Guarriello blocks contain an interior separator. (Guarriello, Fig. 8, part **290**, col. 5, ll. 64-68).

21) Guarriello Figure 9, depicted below, shows two forms abutting each other:



Guarriello Figure 9, depicted above, demonstrates that two forms may be placed adjacent to each other via an interior separator **290** such that concrete poured in one form is permitted to communicate to an adjacent form. (*Id*. at col. 6, ll. 3-11).

22) The upper and lower faces of Guarriello's side walls have locking members in the form of projections and recesses. (Figs. 8 and 9).

23) Guarriello's projections and recesses form two alternating rows. For example, Guarriello 9 depicts alternating rows of projections (ribs) **270** and alternating rows of recesses (channels) **276**.

24) Guarriello's projections and recesses are offset such that a recess on one row on the top edge is opposed to a projection on the bottom edge. (Guarriello, col. 4, l. 67 to col. 5, l. 9).

25) Guarriello's blocks are formed such that they may be interconnected in a bidirectional manner. (Guarriello, col. 5, ll. 9-14 and 45-48).

2. Horobin, U.S. Patent 4,894,969

26) Horobin '969 is directed to an insulating block form for use in the construction of concrete wall structures. (Horobin, Abstract).

27) Horobin '969 states that its blocks are made from expandable styrene. (*Id*.).

28) Horobin '969 states that there is a need in the concrete block art for "a new novel arrangement of concrete-block form that can become universally accepted in the industry." (*Id*. at col. 1, ll. 33-35).

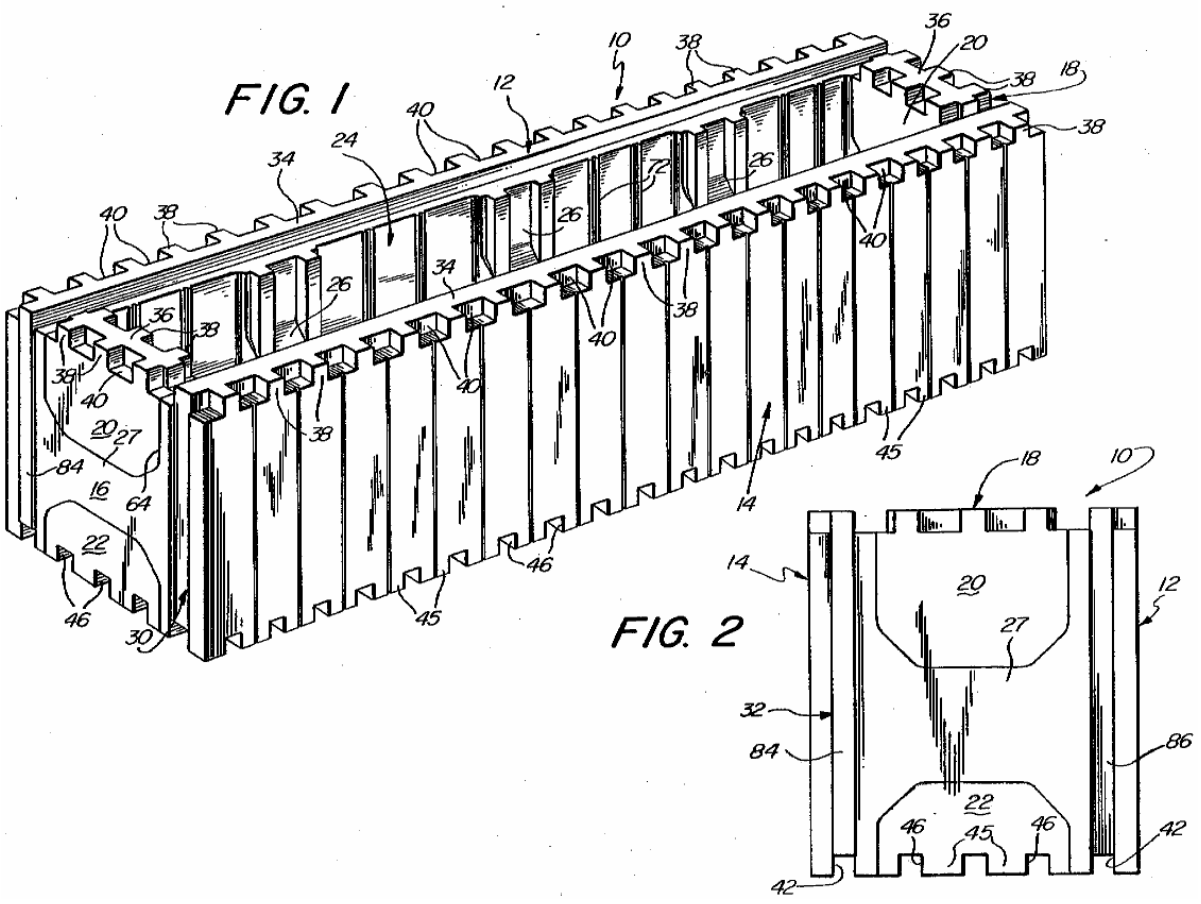
29) Horobin '969 describes its concrete block form as follows:

> Accordingly, there is defined a concrete-block form having oppositely disposed side walls and transverse end walls. The end walls include upper and lower insert members which are removable when required. A plurality of transverse strut walls are also integrally formed as part of the block structure and are adapted to receive the upper and lower insert members when the block form is divided into different lengths, as required. Interlocking tongue-and-groove rails are formed along the upper longitudinal edges of the side walls as well as the upper edge of the upper insert member. The lower longitudinal edge of each side panel includes a longitudinal groove that corresponds to the upper interlocking tongue whereby the block forms can be stacked and interlocked to define a wall structure. The block forms are generally rectangular in shape wherein the side walls and end walls define a body cavity which is divided into a plurality of cells adapted to receive concrete therein.

(*Id*. at col. 2, ll. 9-27).

30) Horobin '969 states that an object of its invention is to provide a block form that allows for interlocking stack forms without the need for mortar. (*Id*. at col. 2, ll. 40-44).

31) Horobin '969 Figures 1 and 2, depicted below, provide a perspective view and an end view of Horobin's block form:



Horobin ‘969 Figures 1 and 2, depicted above, include the following:

10	Block Form
12, 14	Side Walls
16, 18	End Walls
20, 22	Removable Inserts
24	Body Cavity

26, 27	Transverse Strut Member
30, 32	Interlocking Means
34	Elongated Rail
36	Interlocking Rail Member
38	Lateral Locking Arm Member
40	Sockets
42	Corresponding Channel
45	Post Member
46	Corresponding Lateral Channel
84	Male Projecting Rib Member
86	Female Recessed Channel

(*Id*. at col. 3, ll. 16-55 and col. 4, ll. 40-43).

32) As shown in Figure 1 above, Horobin '969's projections (lateral locking arm members **38**) and recesses (sockets **40**) extend across the entire length of its top and bottom edges. (Horobin '969, Fig. 1).

33) Horobin '969's projections and recesses are substantially the same dimensions where each has the same square shape. (*Id*.).

34) Horobin '969's blocks have opposed side walls, the interior and exterior of which are substantially parallel to each other. (*Id*.).

35) Horobin '969's projections and recesses are offset such that a recess on one row on a top edge is opposed to a projection on the bottom edge. (*Id*.).

36) Horobin '969's blocks contain an interior separator. (Horobin '969, Fig. 3, part **82**, col. 4, ll. 37-39).

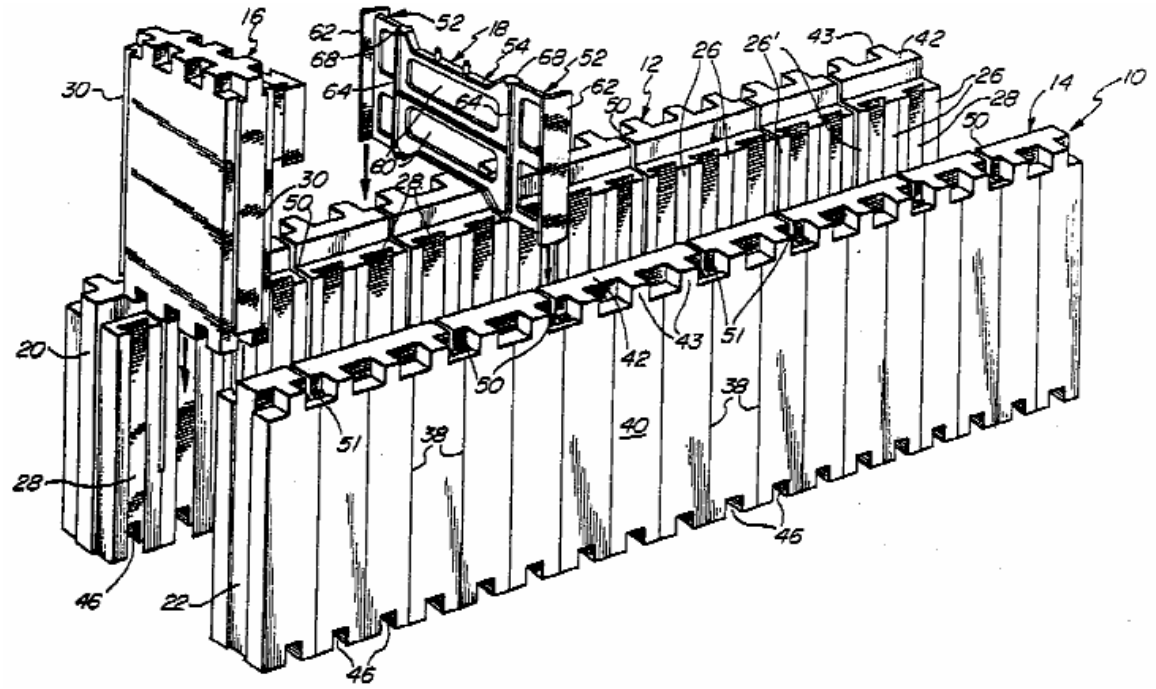
37) Horobin ‘969’s blocks contain removable end wall inserts **20** that have projections **38** and recesses **40**. (Horobin ‘969, Fig. 1 and col. 4, ll. 13-28).

3. Horobin, U.S. Patent 4,884,382

38) Horobin ‘382 is directed to a modular concrete-block form that is shaped in a rectangular configuration that is formed from side panels adapted to receive strut members. (Horobin ‘382, Abstract).

39) As with Horobin ‘969, the concrete-block form of Horobin ‘382 has square projections and recesses on its top and bottom edges. (Horobin ‘382, Fig. 1).

40) Horobin ‘382 Figure 1, depicted below, provide a perspective view and an end view of Horobin’s block form:



Horobin ‘382 Figure 1, depicted above, includes the following:

10	Block Form
12, 14	Side Panels
16	End Wall
18	Strut Member
20, 22	Vertical Rib and Groove
24	Tongue and Grove Inner Surface
26	Spaced Apart Tongue Members
28	Interposed Grooves
30	Wedge-Shaped Projecting Members
34	Wedge-shaped Groove
38	Cutting Lines
40	Outer Surface
42	Longitudinal Rail Member
43	Laterally Protruding Arm Member
50	T-slot
51	Head Portion of T-shaped Slot

(*Id*. at col. 3, line 3 to col. 5, line 55).

41) Horobin ‘382 teaches that its blocks are rigid, lightweight, modular building-blocks made from styrene. (*Id*. at col. 2, ll. 16-21).

42) Horobin ‘382 teaches that the size of its blocks can be varied due to the use of the separately formed strut members. (Id. at col. 2, ll. 23-31).

43) Horobin ‘382 teaches that its blocks can be interlocked as their upper and lower edges possess interlocking projections and recesses (“rail members” and “grooves”). (*Id*. at col. 2, ll. 43-50).

44) Horobin ‘382 teaches that its blocks are easy to assemble at a construction site. (*Id*. at col. 2, ll. 58-61).

45) Additionally, Horobin ‘382 states that:

> It is still a further object of the invention to provide a device of this type that is relatively inexpensive to manufacture, is lightweight for ease in shipping in its disassembled form, and yet, when formed, provides a simple but rugged unit for use in the building of walls and other types of construction where concrete walls are employed.

(*Id*. at col. 2, ll. 62-68).

PRINCIPLES OF LAW

The fundamental principles of claim construction are well known and have been discussed at length by the Federal Circuit. Several of the relevant principles of claim construction are discussed below.

As explained by the Federal Circuit in *ACTV, Inc. v. Walt Disney*

Co.:[1]

> First and foremost, the analytical focus of claim construction must begin, and remain centered, on the language of the claims themselves. [citation omitted]. Because the claim language is chosen by the patentee to "particularly point[ ] out and distinctly claim[ ] the subject matter" of the invention, 35 U.S.C. §112, ¶ 2, the claim terms chosen by the patentee carry a presumption that "they mean what they say and have the ordinary meaning that would be attributed to those words by persons skilled in the relevant art." [citation omitted]. In the absence of an express intent to impart a novel meaning to the claim terms, the words are presumed to take on the ordinary and customary meanings attributed to them by those of ordinary skill in the art.

Id. at 1088, 68 USPQ2d at 1521. Thus, the starting point for claim interpretation is from the vantage point of the person of ordinary skill in the art. This principle was reiterated in *Phillips v. AWH Corp.*[2] as follows

> We have made clear, moreover, that the ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application. [Citations omitted].
>
> The inquiry into how a person of ordinary skill in the art understands a claim term provides an objective baseline from which to begin claim interpretation. [Citation omitted]. That starting point is based on the well-settled understanding that inventors are typically persons skilled in the field of the invention and that patents are addressed to and intended to be read by others of skill in the pertinent art.

[1] 346 F.3d 1082, 68 USPQ2d 1516 (Fed. Cir. 2003).
[2] 415 F.3d 1303, 75 USPQ2d 1321 (Fed. Cir. 2005) (en banc).

Id. at 1313, 75 USPQ2d at 1326.

Consistent with the principle that the claim construction inquiry begins with the words of the claims, the "[c]laims of a patent may only be limited to a preferred embodiment by the express declaration of the patentee." *Playtex Products, Inc. v. Procter & Gamble Co*., 400 F.3d 901, 907–08, 73 USPQ2d 2010, 2015 (Fed. Cir. 2005); *Amgen Inc. v. Hoechst Marion Roussel, Inc*., 314 F.3d 1313, 1325, 65 USPQ2d 1385, 1392-93 (Fed. Cir. 2003) ("Because the claims are best understood in light of the specification of which they are a part, however, courts must take extreme care when ascertaining the proper scope of the claims, lest they simultaneously import into the claims limitations that were unintended by the patentee."). This is especially true for applicants as an applicant can resolve any ambiguity by amending the claim to contain the proposed limitations from the specification.

Of course, the United States Patent & Trademark Office is tasked with interpreting claims as broadly as their terms reasonably allow. *In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989). Indeed, *Zletz* held that the Board erred in reading unwritten limitations into claims on appeal and stated that it was incorrect for the Board to construe claims narrowly, such as done in courts confronting issues of infringement and validity.

Anticipation under 35 U.S.C. § 102 is a question of fact. *Brown v. 3M*, 265 F.3d 1349, 1351, 60 USPQ2d 1375, 1376 (Fed. Cir. 2001). A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2

USPQ2d 1051, 1053 (Fed. Cir. 1987).

Additionally, an invention is not patentable under 35 U.S.C. § 103 if it is obvious. *KSR Int'l v. Teleflex Inc*., 127 S. Ct. 1727, 1745-46, 82 USPQ2d 1385, 1400 (2007). The facts underlying an obviousness inquiry include:

> Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.

Graham v. John Deere Co., 383 U.S. 1, 17-18 (1966). In addressing the findings of fact, "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR* at 1739, 82 USQP2d at 1395. As explained in *KSR*:

> If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. *Sakraida* and *Anderson's-Black Rock* are illustrative — a court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions.

KSR at 1740, 82 USPQ2d at 1396. As recognized in *KSR*, "[a] person of ordinary skill is also a person of ordinary creativity, not an automaton." *KSR* at 1742, 82 USPQ2d at 1397.

On appeal, Patentee bears the burden of showing that the Examiner

has not established a legally sufficient basis for combining the teachings of the prior art. Patentee may sustain its burden by showing that where the Examiner relies on a combination of disclosures, the Examiner failed to provide sufficient evidence to show that one having ordinary skill in the art would have done what Applicant did. *United States v. Adams*, 383 U.S. 39 (1966); *In re Fridolph*, 134 F.2d 414, 416, 57 USPQ 122, 124 (CCPA 1943) (does the prior art suggest doing the thing which the appellant has done?)

ANALYSIS

We begin our analysis of the rejections on appeal by construing the disputed claim term "substantially the same dimension."

A. Claim Construction

Patentee's independent claims recite that the projections and recesses are substantially the same dimension. (Appeal Br., Claims Appendix, claims 1, 11, 17, 18, 19 and 30). Patentee and the Examiner agree that the term "substantially" permits some variation. Patentee and the Examiner disagree however, on the amount of variation permitted.

Patentee states that the term "substantially" is used consistently throughout the specification in its ordinary and common manner. (Appeal Br. at 12). Patentee, citing a declaration from the inventor, states that the term "substantially" refers to minor variations that are inherent in the manufacturing process and material. (Appeal Br. at 12-13).

The inventor's, Mr. Philippe's, declaration states that he has worked in the concrete construction industry for over twenty-five (25) years and that he is familiar with the insulating concrete form industry. (Philippe Dec.,

¶ 2). Mr. Philippe testifies that one of ordinary skill in the art understands that there is an "inherent variability in the manufacturing process" for forming insulating blocks, such as that described by the '933 patent. (*Id*. at ¶ 10). Mr. Philippe testifies that one of ordinary skill in the art would have understood that the claimed "substantially the same dimension" refers to:

> [T]he same dimension with minor variations, or intended to be the same dimension but permitting and including variation implicit in manufacturing processes.

(*Id*. at ¶ 11). Mr. Philippe testifies that, for a foamed block manufacturing process, the form will generally shrink by about 1.0 to 2.0 % as it cures. (*Id*. at ¶ 4).

The Examiner considered Mr. Philippe's declaration but did not find it persuasive. (Answer at 12). The Examiner states that Patentee has failed to define a range for "minor variations" and that the language "minor variations" is not in the claims on appeal. (Answer, p. 10). Instead, the Examiner states that the term "substantially" is defined in the 10th Edition of Webster's Dictionary as "being largely but not wholly that which is specified." (*Id*.).

In determining the broadest reasonable interpretation of the term substantially, we have evaluated and weighed Mr. Philippe's declaration as well as the Webster Dictionary definition provided by the Examiner. In evaluating the evidence, we note that there is no magic formula or rigid algorithm for determining the amount of weight to be given a particular general source dictionary, such as Webster's. *Phillips* at 1324, 75 USPQ2d at 1334-1335. The principle focus of claim construction however, is on understanding how a person of ordinary skill in the art would understand the

claim term. *Id*. at 1323, 75 USPQ2d at 1334.

Mr. Philippe has extensive experience in the concrete construction industry and declares that his testimony is taken from the vantage point of a person of ordinary skill in the art. Further, Mr. Philippe's "minor variation" definition is reasonable on its face and is not inconsistent with Webster's definition. Based upon the evidence presented, we credit Mr. Philippe's testimony and conclude that the broadest reasonable interpretation for the claim term "substantially" is minor variations, such as those implicit in manufacturing processes. Additionally, we credit Mr. Philippe's testimony that "substantially the same dimensions" for foamed material forms would be understood by a person of ordinary skill in the art to be about 1 to 2% variation in dimension.

Patentee also argues that the term "substantially the same dimensions" does not encompass "intentional" differences in dimensions. (Appeal Br. at 18). Patentee fails to provide a legal basis for such a subjective approach to claim interpretation. Specifically, Patentee fails to direct our attention to a legal basis for alleging that a prior art article that is identical in every way to a claimed invention fails to anticipate the claimed invention unless the prior art article was intentionally designed to be the same as that claimed. The point is moot however, as the use of projections and recesses having the *same* dimensions was known in the concrete block form art. (*See*, e.g., Horobin '969, Fig. 1, Parts 38 and 40).

B. Prior Art Rejections

1. The Rejection of Claims 1-11, 13-19, 21-28 and 30 under 35 U.S.C. §102(b) as anticipated by Guarriello.

Generally, claims 1, 11, 17, 18, 19 and 30 are independent claims and directed to insulating construction block forms and members. Each independent claim requires the presence of an interconnecting means that comprises at least two rows of alternating projections and recesses where the projections and recesses are substantially the same dimension. Each independent claim also requires that the insulating forms are capable of being interconnected with a like member in a bi-directional or reversible manner.

Guarriello describes forms for poured concrete having locking members. Guarriello's forms interconnect via projections and recesses. Guarriello however, refers to its projections and recess as ribs and channels. (Guarriello, col. 4, l. 67 to col. 5, l. 44).

The Examiner and Patentee agree that Guarriello does not teach the use of projections and recesses having the same dimensions. Patentee and the Examiner disagree however, as to whether Guarriello teaches projections and recesses of substantially the same dimension.

To aid the Board's understanding of the differences in dimensions, Patentee provided the following figure, which depicts the ribs and channels of Guarriello Figure 8:

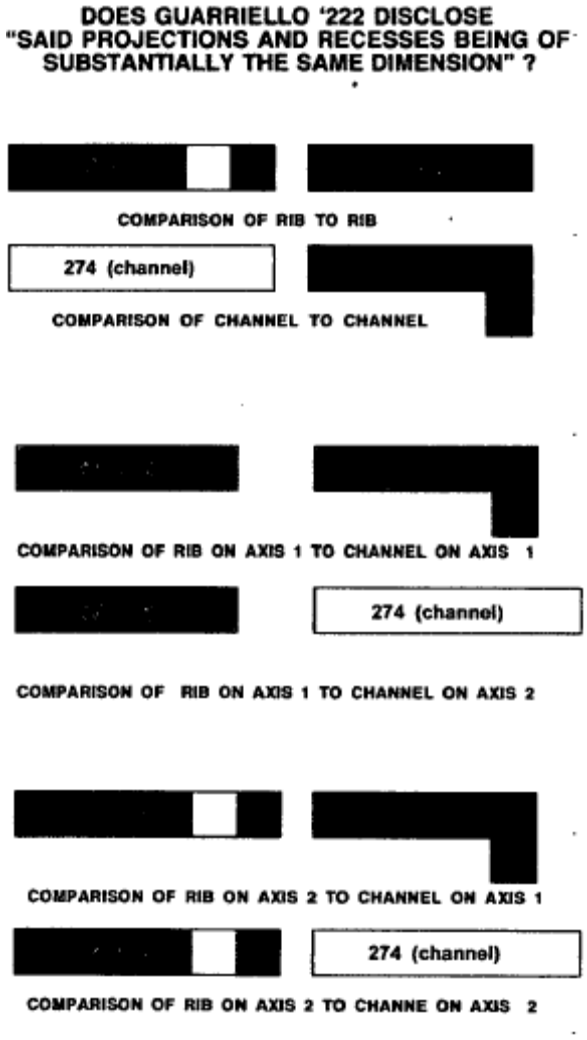


Figure 5

(Appeal Br. at 26).[3] The above depiction includes a comparison of rib 270 (rectangular) and rib 272 (rectangular with square discontinuity) and a comparison of channel 274 (rectangular) and channel 276 (L-shape) as well as comparing the ribs to the channels.

Patentee states that the above figure demonstrates that Guarriello's

[3] The Board notes that Patentee's Brief refers to various colors for the figure. The official record however, does not contain a colorized version and is literally a black and white record.

projections and recesses are not substantially the same dimensions. (Appeal Br. at 26-28, Reply Br. at 4-5). The Examiner states that Guarriello's projections (270, 272) and recesses (274, 276) are substantially the same dimension. The Examiner basis this conclusion on Webster's definition of the term substantially as "being largely but not wholly that which is specified." (Answer, p. 10).

We have credited Mr. Philippe's testimony that one of ordinary skill in the art would understand that the terminology substantially the same dimensions refers to variations on the order of those implicit in the manufacturing process. Mr. Philippe has testified that for blocks formed with foamed material the size variation ranges from about 1 to 2%. (Philippe Dec., ¶ 4).

Guarriello's foamed blocks contain projections and recesses that apparently vary by significantly more than 2%. Guarriello does state that, for Figures 8 and 9, each of its channel and rib components will generally have a dimension corresponding to about a third of the maximum width of the upper and lower face. (Guarriello, col. 5, ll. 59-61). Yet, Guarriello teaches that at least one transverse slot 286 is defined in its second rib component 272, the transverse slot being a recess. (*Id*. at col. 5, ll. 45-48). Further, Guarriello states that it is desirable that second rib 272 will have a length of L + 2W where L is the length of rib component 270 and W is the maximum width of first rib component. (Guarriello, col. 5, ll. 21-25). Indeed, as depicted in Guarriello Figure 8, projection 270 is approximately 20% larger than projection 272. (See Guarriello Figures 8 and 9 and Appeal Br. Figure 5 reproduced above). Similarly, Guarriello's recesses 274 and 276 of Figures 8 and 9 are also significantly larger than projections 270 and

272. We conclude that Guarriello does not describe insulating forms having projections and recesses having substantially the same dimensions. On the record before us, it follows that the Examiner erred in rejecting claims 1-11, 13-19, 21-28 and 30 as anticipated under 35 U.S.C. §102(b) by Guarriello.

Horobin '969 teaches that insulating blocks having projections and recesses of the same dimensions were known in the art to provide a suitable means of interlocking the blocks without the need for mortar or binder. (Horobin '969, col. 2, ll. 40-44). Accordingly, a new ground of rejection based upon obviousness is made below.

2. New Grounds of Rejection as to Claims 1-11, 13-19, 21-28 as Obvious over Guarriello and Horobin '969 and/or Horobin '382

Patentee's claims are directed to insulating blocks and members that have specifically claimed projections and recesses on their surfaces to allow the blocks and members to be interlocked in a bi-directional or reversible manner. As discussed below, the individual elements recited in Patentee's claims represent a combination of familiar elements according to known methods that yields predictable results.

Patentee's claimed insulating block and member elements were known in the prior art. Guarriello and Horobin describe insulating blocks for use in the construction of concrete walls. (Guarriello and Horobin '969 and '382, Abstracts). Guarriello states that its blocks are made of a foam material and Horobin states that its blocks are made from expandable styrene. (Guarriello Abstract, Horobin '969 Abstract, Horobin '382, col. 2, ll. 16-21.). Guarriello and Horobin's blocks have opposed side walls, the

interior and exterior of which are substantially parallel to each other. (Guarriello, Fig. 8 and Horobin '969 and '382, Fig. 1). The upper and lower faces of Guarriello and Horobin's side walls have locking members in the form of projections and recesses. (*Id*.). Guarriello and Horobin's projections and recesses are offset such that a recess on one row on the top edge is opposed to a projection on the bottom edge. (Guarriello, col. 4, l. 67 to col. 5, l. 9, Horobin '969 and '382, Fig. 1). Additionally, Guarriello and Horobin's blocks contain an interior separator. (Guarriello, Fig. 8, part **290**, col. 5, ll. 64-68 and Horobin '969 Fig. 3, part **82**, col. 4, ll. 37-39, Horobin '382, Fig. 1, part **18**).

Guarriello's blocks are formed such that they may be interconnected in a bidirectional manner. (Guarriello, col. 5, ll. 9-14 and 45-48). Guarriello's projections and recesses form two alternating rows. For example, Guarriello Figs. 8 and 9 depict alternating rows of projections (ribs) **270** and **372** and alternating rows of recesses (channels) **274** and **276**. As with Patentee's claimed sealing means, Guarriello's upper face surface **262** has a height above Guarriello's recesses but below Guarriello's projections.

Horobin's projections and recesses extend across the entire length of its top and bottom edges. (Horobin '969 and '382, Fig. 1). The projections and recesses are of substantially the same dimensions and each has the same square shape. (*Id*.).

One of ordinary skill in the art would understand from Guarriello that insulating blocks having alternating rows of projections and recesses can be stacked together to form a wall. Horobin '969 and '382 inform one of ordinary skill in the art that insulating blocks having square projections and

recesses having the same dimension over the entire length of the block's side walls can be stacked together with the '969 teaching that the blocks can be stacked without the need for mortar. Guarriello informs the person of ordinary skill in the art that insulating blocks can be stacked in transverse alignment (bidirectional), which allows for a greater flexibility in designing the structure being built. Further, one skilled in the art would understand that Guarriello's transverse alignment requires the use of channels that can accommodate projections that have been rotated 90^{o}. A person of ordinary skill in the art knows that a square projection rotated 90^{o} will fit in a square recess of substantially the same dimension.

A central question in analyzing obviousness is "whether the improvement is more than the predictable use of prior art elements according to their established functions." *KSR* at 1740, 82 USPQ2d at 1396. As evident from this record, Patentee's building blocks represent a combination of familiar building block elements, e.g., square projections and recesses and alternating rows of projections and recesses with bi-directionality. These known building block elements have been combined for their known purpose to achieve a predictable result, i.e., the formation of a bi-directional building block with square projections and recesses of substantially the same dimension. Patentee has combined known elements in a predictable fashion and did not produce a new or different function for the prior art elements. Specifically, one of ordinary skill in the art desiring an insulating block that is capable of being stacked in a bidirectional manner without the need for mortar that is lightweight, but rigid, in structure, would have been guided to employ Horobin's square projections and recesses with Guarriello's alternating rows of projections and recesses. Accordingly, we conclude that

Patentee's claims are obvious in light of the prior art. *Anderson's-Black Rock v. Pavement Co*., 396 U.S. 57, 61, 163 USPQ 673, 674 (1960) (combination of old elements that added nothing to the nature and quality of the product was obvious).

Patentee presented numerous arguments as to how Guarriello's insulating blocks differ from that of the claimed subject matter. We address these arguments in the context of the Board's obviousness rejection.

i. Patentee Contends that Guarriello does not Describe Projections and Recesses having Substantially the Same Dimensions

The difference between Patentee's projections and those of Guarriello is that Guarriello desirably employs an L-shaped recess to achieve its bi-directional interconnectivity. Guarriello's L-shaped recess has a dimension of L + 2W where L and W are the length and width of the projection. Patentee is correct that Guarriello, in achieving its bi-directionality, does not describe projections and recesses of substantially the same dimensions.

Horobin teaches that the use of square projections and recesses of the same size was known in the insulating block art. Indeed, Horobin '969 describes its square projections and recesses as allowing for lightweight, but rigid, structures that can be stacked without the need for mortar or any other binder. (Horobin '969, col. 2, ll. 33-44).

While Guarriello does not teach the use of square pegs and holes, the function and use of square pegs and holes is predictable and their use on insulating forms does not alter that fact. Specifically, one of ordinary skill in the art knows that a square peg can fit in a square hole that is of the same

dimension as the peg. Further, one of ordinary skill in the art knows that a square peg can be rotated 90°, 180° and 270° and still fit in the square hole. We find that one of ordinary skill in the art desiring a lightweight, but rigid, structure that is formed with blocks capable of being stacked in a bidirectional manner without the need for mortar, would have been guided to employ Horobin's square projections and recesses with Guarriello's alternating rows of projections and recesses.

ii. Patentee Contends that Guarriello Does not Teach "At least Two Rows of Alternating Projections and Recesses"

Patentee states that Guarriello does not show "rows of alternating projections and recesses." (Appeal Br. at 32). Patentee states that the word "row" means continuous or a succession without a break or gap. (Appeal Br. at 34). Patentee cites the following dictionary definition as support for its position:

> Row n. 1. A series of objects placed next to each other usually in a straight line. 2. A succession without a break or gap in time: won the title for three years in a row. 3. A continuous line of buildings along a street.

(Appeal Br. at 34, citing, The American Heritage Dictionary, Second College Edition (1985)). Patentee identifies Guarriello's insulating forms as having a gap or discontinuity between the ribs and channels of each locking member. (*Id*.). Patentee concludes that Guarriello describes discrete pairs of projections and recesses as opposed to a row.

The United States Patent & Trademark Office is tasked with providing claims their broadest reasonable interpretation. *Zletz*, 893 F.2d at 321, 13

USPQ2d at 1322. The first dictionary definition of "row," series of objects placed next to each other, is reasonable on its face, and certainly as reasonable as the second and third definitions relied upon by Patentee. That the row objects are placed next to each other does not exclude the presence of an additional structure such as a space.

Patentee also argues that the term "alternating" requires continuity. (Appeal Br. at 35). Patentee states that Guarriello describes "repeating" pairs as opposed to alternating projections and recesses. Patentee's contention fails to distinguish the prior art. Guarriello's projections and recesses form an alternating pattern along the top and bottom surfaces of the insulating form.

Guarriello describes and depicts a series of projections and recesses that are placed next to each other, albeit with a space between them. (Guarriello Figs. 8 and 9, the space being upper face **262**). We find that Guarriello describes and depicts at least two rows of alternating projections and recesses.

iii. Patentee Contends that Guarriello Does not Teach a "Raised Sealing Member" that is "Between" or Adjacent" the Rows of Alternating Projections and Recesses

Patentee claims 4 and 17 require an "intermediate raised sealing member" and claims 5 and 18 require a "raised sealing member." Patentee contends that Guarriello does not teach a "raised" sealing member and to the extent it does, the raised member is not adjacent or between the rows of projections and recesses. (Appeal Br. at 35-36). According to Patentee,

Guarriello upper face **262** cannot be a raised sealing member as it is the reference plane from which Guarriello's recesses and projections are defined.

Patentee claims 4, 5, 17 and 18 do not specify the position of the raised sealing member other than it is raised. Thus, the claims on their face do not require that the raised sealing member be above or below the reference plane from which the recesses and projections are defined. Further, Patentee fails to direct our attention to where the specification explicitly requires the raised sealing member to have a height distinct from the reference plane. Giving the term "raised sealing member" its broadest reasonable interpretation, we conclude that Patentee's claimed raised sealing member does not exclude a height equal to that of the reference plane from which recesses and projections are defined. We find that Guarriello's upper face **262** represents a raised sealing member that seals two forms together when stacked one on top of another. Additionally, to the extent that Patentee is correct and that the reference plane is excluded, we find that the use of tongue projections ("raised sealing members") for interlocking insulating forms are well known in the art and their use as an interlocking member would have been obvious to one of ordinary skill in the art. (See, e.g., Guarriello, Background of the Invention, col. 1, ll. 29-34).

Patentee states that claims 4 and 17 require that the raised sealing member be positioned "between" the rows of projections and recesses. Patentee contends that Guarriello fails to teach such an arrangement. (Appeal Br. at 36). As mentioned above, Patentee's raised sealing member for insulating forms was known to those skilled in the insulating form art. One skilled in the art would know how to place a raised sealing member on

an insulating form to ensure that the stacked forms are properly interlocked and sealed. Patentee does not allege, nor are we aware of, any criticality in placing the raised sealing member "between" the rows. We conclude that it would have been obvious to one of ordinary skill in the art to place the raised sealing member in any suitable location so as to allow ease of interconnection between blocks as well as structural strength for the walls formed by the insulating forms.

iv. Patentee Contends that Guarriello Does Not Teach Two Parallel Side Members that have a "Substantially Parallel Interior Surface"

Independent claim 11, and the claims that depend from it, require two parallel side members that have a substantially parallel interior surface. Patentee contends that Guarriello describes what is known in the art as a modified post-and-beam construction. (Appeal Br. at 37). Patentee states that such construction employs forms with cavities that, when filled with concrete, define vertical posts. (*Id*.). Patentee states that Guarriello Figure 1 depicts cavities that are generally rectangular with rounded corners. (*Id*.).

The interior surface of Guarriello's side wall is substantially parallel to the exterior surface of the side wall. (See Guarriello Fig. 9). Patentee has failed to provide sufficient evidence otherwise. Additionally, to the extent that Patentee's contention is correct, we note that both Horobin teach and depict the use of insulating forms having parallel interior surfaces. As taught by Horobin '969, one skilled in the art would have employed such parallel surfaces to achieve a lightweight but rigid structure that "is adapted to withstand the internal force created by the concrete when it is poured into

the body cavity thereof." (See, e.g., Horobin '969, Fig. 1 and col. 2, ll. 34-39).

v. Patentee Contends that Guarriello Does Not Teach "Connecting Members" that "Extend Along the Entire Length" of the Top and Bottom Edges of the Construction Member

Patentee claims 7 and 13 require that the interconnecting means, i.e., projections and recesses, extend along the entire length top and bottom edges of the construction member. Patentee argues that Guarriello fails to describe such a structure. (Appeal Br. at 38 and 40-41).

According to Patentee, there are "clear and unmistakable discontinuities or gaps between locking member on each cavity of the Guarriello '222 form." (Appeal Br. at 39). Patentee concludes that the language "extend along the entire length" excludes the discontinuities present in Guarriello's form. We disagree.

The Board is tasked with providing claims their broadest reasonable interpretation. The plain language "extend across the entire length" does not exclude the presence of spaces as part of the interconnecting means as it spans the length of the form. Further, Patentee's specification does not define the language "extend across the entire length" as excluding spaces between its specific interconnecting means of projections and recesses as they span the length of the form. Based, upon the plain language of the claims, and interpreted in light of the specification, we conclude that the language "extend across the entire length" does not exclude the presence of spaces between projections and recesses. We find that Guarriello teaches

interconnecting means of projections and recesses that "extend across the entire length" of the top and bottom edges of the insulating form.

Additionally, both Horobin patents describe and depict insulating block forms that have projections and recesses that extend across the length of the form without any intervening spaces or discontinuities. Horobin '969 describes its forms as lightweight but rigid in structure and is able to withstand the internal forces created by concrete when it is poured into the cavity thereof. Horobin '969 also teaches that its projection and recess locking mechanism allows forms to be stacked without the need for mortar or binder interposed between the forms. One skilled in the art would have recognized the benefits of Horobin's insulating form and would have been guided to employ projections and recesses that extend across the entire length of an insulating form.

vi. Patentee Contends that Guarriello Fails to Describe "Rectangular" Projections and Recesses

Patentee claim 8 requires that the projections and recesses be "of a rectangular configuration." Patentee contends that Guarriello requires the presence of an L shaped channel. (Appeal Br. at 39-40). Patentee concludes that Guarriello's L-shaped channel is not a rectangle within the meaning of its claims.

Patentee's point is moot as both Horobin patents clearly describes and depicts insulating blocks having square (rectangular) projections and recesses where each projection and recess is of substantially the same size. Horobin '969 teaches that its insulating blocks can be stacked without the use of mortar or binder and are lightweight in structure but are able to

withstand internal forces created by concrete poured into the cavity thereof. One of ordinary skill in the art desiring an insulating block that is capable of being stacked in a bidirectional manner without the need for mortar that is lightweight, but rigid, in structure, would have been guided to employ Horobin's square projections and recesses with Guarriello's alternating rows of projections and recesses.

vii. Patentee Contends that Guarriello Does Not Disclose Joining Means that Comprises a "Web"

Independent claims 11 and 19 require a joining means interconnecting the side members. Claims 15 and 23 depend from claims 11 and 19, respectively, and require that the joining means be a web. Claims 16 and 24 also depends from claims 11 and 19, respectively, and requires that the joining means comprises at least one web interconnecting the side members and that the web comprise a synthetic material.

Patentee states that its web is formed of a non-foamed material. Patentee directs the Board's attention to column 3, lines 20 to 24 of their specification. (Appeal Br. at 41). This passage from the specification states that the web can be formed from any suitable material but preferably are from a synthetic polymeric material. Patentee, citing column 3, lines 26-27, states that "[t]he specification further states that 'such webs are formed of non-foamed material." (*Id.*). From these passages, Patentee concludes that:

> Thus, the recitation of a web, in light of [our] specification, is limited to a non-foamed material and is structurally distinct from the separators shown in Guarriello '222.

(Appeal Br. at 42 and again relied upon at Appeal Br. 47).

We find it odd that Patentee directs our attention to column 3, lines 20-24 and lines 26-27 of its specification but overlooks line 25. The sentence starting at line 25 reads as follows:

> The polymer may be **foamed polymer**, or more generally, such webs are formed of non-foamed material.

(Philippe, '933 Specification, col. 3, ll. 25-27, emphasis added). We decline to read Patentee's preferred "non-foamed" web embodiment into Patentee's claims given the specification's explicit statement that the webs may be formed from foamed material.

Patentee also contends that:

> The term "web" is therefore not only a different material but is also a separate piece that joins the side panels when the web is assembled.

(Appeal Br. at 42). Patentee's specification states that the web "may" be an adjustable web and does not require that the web be a separate piece. (Philippe, '933 Specification, col. 3, ll. 31-33). As such, we do not read Patentee's claimed web as limited to a separate piece of material. We do not credit Patentee's alleged differences between Guarriello's interior separator formed of foamed polymer and Patentee's broadly claimed "web," which also may be formed from foamed polymer.

viii. Patentee Contends that Guarriello Fails to Disclose the Combination of (a) Projections and Recesses that are "Continuous and Contiguous", (b) Rectangular Projections and Recesses and (c) Side Panels with "Planar" Inner Surfaces

Independent claim 19, and claims 20-29 which depend upon claim 19,

requires rectangular projections and recesses that are continuous and contiguous with each other. Additionally, the claims require that the side walls have substantially planar outer and inner surfaces. Dependent claim 21 further requires that the contiguous projections and recesses extend along the entire length of the top and bottom edges of the side members.

Patentee contends that Guarriello fails to teach rectangular projections and recesses that are contiguous with each other. (Appeal Br. at 43-45). Patentee also argues that Guarriello fails to teach the contiguous projections and recesses over the entire length of the top and bottom of the side members. (Appeal Br. at 46).

Patentee's contentions are moot in light of Horobin '969 and '382, which describe and depict rectangular projections and recesses that are contiguous with each other over the entire length of the side walls. (Horobin, Fig. 1). As discussed above, Horobin '969 teaches that its blocks with square projections and recesses that are continuous and contiguous with each other over the entire top and bottom of the side walls allows for stacking blocks without mortar and allows for a lightweight but rigid structure. One of ordinary skill in the art seeking the benefits of Guarriello's bi-directionality and the ability to stack lightweight, but rigid, blocks without mortar would have been guided to combine the projections and recesses of Horobin with the bidirectional features of Guarriello, e.g., alternating rows of projections and recesses adapted to allow for a projection to be rotated 90^{o} yet still fit in a recess.

Patentee contends that Guarriello describes a modified post-and-beam construction as opposed to an ordinary flat wall construction. (Br. at 45). Patentee states that "[i]t is simply inconceivable that the Examiner would

take the position that the inner surfaces of the side members shown in Guarriello '222 are 'planar.'" (Appeal Br. at 46).

Guarriello Figure 9 depicts an insulating block having two side walls and interior separators (**290**, **292**) surrounding a cavity. The exterior and interior side walls are depicted as straight lines. As such, one of ordinary skill in the art would understand Guarriello's insulating block to have substantially planar interior and exterior surfaces. Additionally, we note that Horobin '969 Fig. 1 and Horobin '382 Fig. 1 depict planar interior and exterior surfaces on their side walls (**12**, **14**).

ix. Patentee Contends that Guarriello Does Not Teach Projections and Recesses of Substantially the Same Shape

Claims 25-28 require that the claimed projections and recesses be of "substantially the same shape."

Patentee contends that Guarriello's ribs and channels are not all of the same shape. (Appeal Br. 48). Patentee states that Guarriello's depicts an L shaped channel to allow for its bi-directionality. (*Id*.).

We agree that Guarriello does not describe projections and recesses having substantially the same shape. The Horobin patents however, describe and depict square projections and recesses all of the same shape. Horobin '969 teaches that insulating blocks with square projections and recesses are stackable without the need for mortar and providing a lightweight, but rigid, structure. As discussed above, one of ordinary skill in the art desiring the versatility of Guarriello's bi-directional blocks with the stackability and lightweight, but rigid, structure of Horobin would have been guided to form

an insulating block having square projections and recesses.

x. Patentee Contends that Guarriello Does not Disclose "Continuous" Projections and Recesses

Independent claim 30 requires at least two rows of alternating rectangular projections and recesses. Claim 30 requires that the projections and recesses each comprise:

> [O]pposed walls parallel to the longitudinal direction and opposed walls perpendicular to the longitudinal direction, each row comprising more than one projection and more than one recess, with such alternating projections and recesses continuously repeated along each of the top and bottom edges and with the opposed walls perpendicular to the longitudinal direction of at least one projection also defining walls of two adjacent recesses, wherein said recess of one row is adjacent said projection of the other row, said projections and recesses having substantially the same dimensions. . .

(Amendment filed November 16, 2004). [4]

Patentee contends that Guarriello's L shaped channel is distinct from Patentee's claimed opposed walls that are either parallel or perpendicular to the axial direction. (Br. at 49). Patentee also states that Guarriello fails to describe opposed walls that are perpendicular to the axial direction that define walls of two adjacent recesses. (*Id.*). Patentee's contentions are moot in light of the new grounds of rejection.

[4] Note, the Claims Appendix attached to Patentee's Appeal Brief contains an incorrect recitation of claim 30. For example, claim 30 on appeal requires a "web interconnecting said side members" but the Claims Appendix recites "joining means interconnecting said side members." Further, claim 30 on appeal refers to longitudinal direction whereas the Claims Appendix claim 30 refers to "axial direction."

Both Horobin patents teach that square projections and recesses allow the interlocking of insulating blocks to form concrete structures such as walls and the like. (Horobin '949, Fig. 1 and col. 1, ll. 8-15 and Horobin '382 Fig. 1, 43-50). Horobin '949 teaches that its arrangement of insulating block form allows the stacking of blocks without the need for mortar and provides a lightweight, but rigid, structure. (Horobin '949 at col. 1, ll. 33-35 and col. 2, ll. 33-44). Guarriello describes insulating blocks that have alternating rows of projections and recesses where the blocks can be stacked in a bidirectional manner. One of ordinary skill in the art desiring an insulating block that is capable of being stacked in a bidirectional manner without the need for mortar that is lightweight, but rigid, in structure, would have been guided to employ Horobin's square projections and recesses with Guarriello's alternating rows of projections and recesses.

xi. Summary of New Grounds of Rejection

We have considered Patentee's arguments to the extent they apply to the new grounds of rejection. We find however, that a person of ordinary skill in the art would have had reason to combine the teachings of Guarriello and Horobin and arrived at Patentee's claimed subject matter. Essentially, Patentee has done no more than combine known elements for their known purpose to yield predictable results. We conclude that claims 1-11, 13-19, 21-28 and 30 are obvious over the combined teachings of Guarriello and Horobin.

2. The Rejection of Claims 12 and 20 as Obvious over Guarriello in view of Horobin ‘969

Claim 12 depends from independent claim 11, which is directed to an insulating block having projections and recesses of substantially the same dimensions on the top and bottom edges of the side members. Claim 12 requires that the insulating block include removable end pieces that have projections and side members having grooves for receiving the projections of the end pieces. Similarly, claim 20 depends from independent claim 19 and also requires the presence of removable end pieces.

The Examiner found that Guarriello shows all the claimed limitation except for the removable end pieces having projections slidable into the grooves of side members. (Answer, p. 8-9). The Examiner further found that Horobin ‘969 teaches end pieces that mate with side members to form a wall structure. (*Id*. at 9). The Examiner concluded that one of ordinary skill in the art would have modified Guarriello to include the removable end pieces of Horobin ‘969 to increase the versatility of Guarriello’s blocks by allowing the attachment of additional structures onto the side members. (*Id*. at 9 and 17).

Patentee states that Guarriello does not show a removable end cavity and that Guarriello solved the problem a different way. (Appeal Br. at 51). From this Patentee concludes that Guarriello “teaches away from the idea of a removable end member.” (*Id*.).

A reference “teaches away” if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant. *In re Gurley*, 27 F.3d 551, 553, 31 USPQ2d 1130, 1131 (Fed. Cir. 1994).

Guarriello describes the use of interior separators to define a plurality of discrete cavities within its insulating block wall. (Guarriello, col. 2, ll. 49-52). Guarriello teaches that removing a portion of the interior separator creates an opening that permits the passage of uncured concrete between two or more vertical cavities. (*Id*. at col. 2, ll. 63-66). Taking the teachings of Guarriello as a whole, we find that Guarriello does not teach away from "removable" end wall portions that, when removed, permit the passage of concrete between two or more vertical cavities.

Patentee states that the rejection is improper as there is no teaching or suggestion to combine the end member of Horobin with Guarriello. We disagree.

As mentioned above, Guarriello describes removing a portion of its interior separators to allow concrete to pass between cavities. Horobin '969 describes insulating blocks where concrete is poured into the cavity of the block form. (Horobin '969, col. 1, ll. 8-15). Horobin '969 describes transverse removable inserts connected to transverse end walls via tongue and groove members. (*Id*. at col. 4, ll. 13-28). The end walls create vertical posts when the ends of Horobin's blocks are interlocked together. (*Id*. at col. 4, ll. 40-43).

One of ordinary skill in the art would have understood that Horobin's removable end wall portions allow the skilled artisan to control the passage of concrete between the interior cavities of an insulating block wall. We conclude that one of ordinary skill in the art would have been guided to employ Horobin's removable wall inserts connected to transverse end walls via tongue and groove projections and recesses in Guarriello's insulating blocks as Horobin's inserts provide an easy design for controlling the

passage of concrete from one vertical cavity to another. We conclude that Patentee has failed to demonstrate that the Examiner erred in rejecting claims 12 and 20 as obvious over Guarriello and Horobin.

3. The Rejection of Claim 29 as Obvious over Guarriello in view of Horobin '382

Patentee claim 29 depends upon claim 15, which in turn depends from independent claim 11. Independent claim 11 is directed to an insulating block having projections and recesses on the top and bottom edges of parallel side members and a joining means interconnecting the side members. Dependent claim 15 states that the joining means is a web and dependent claim 29 states that the web is formed separately from the side panels.

The Examiner found that Guarriello teaches all the limitations of claim 29 except for the web being formed separately from the side panels. The Examiner further found that Horobin '382 describes a web member that interconnects side panels and is formed separately from the side panels. (Appeal Br. at 9). Accordingly, the Examiner found that the difference between Patentee claim 29 and the prior art is whether it would have been obvious to one of ordinary skill in the art to substitute Horobin's "web" that was formed separate from the side panels for that of Guarriello's. Regarding this difference, the Examiner stated that it would have been obvious to one of ordinary skill in the art to modify Guarriello and form the side panels separately to allow for the easy formation of the panels and webs and facilitate transportation of the structures. (*Id*. at 10).

At the outset, one of ordinary skill in the art would have understood

that Patentee's web, Horobin's end walls and struts, and Guarriello's separators all define a structure that connects their respective side panels. Patentee does not dispute the Examiner's finding that Horobin describes webs connecting side walls together, the webs being formed separately from the side walls. Patentee also does not dispute the Examiner's finding that one skilled in the art would have understood that separately formed side panels allow for easy formation of the panels and webs and facilitate transportation.

Patentee contends that the separators in Guarriello define vertical cavities and separate one vertical post from another and that Horobin's webs do not function to space one vertical cavity from another. (Appeal Br. at 52). Horobin '382 teaches that its insulating block side walls may be connected using struts (**18**) and end walls (**16**) that are inserted into slots on the interior of the side walls. (Horobin '382, Fig. 1 and col. 5, ll. 65-68). One skilled in the art would have recognized that, when connected end to end, Horobin's transverse end walls (**16**) form vertical posts that separate one cavity from another.

Patentee contends that the Examiner has failed to identify where Guarriello taught, disclosed or suggested that its separators could be replaced with webs. (Appeal Br. at 52). Obviousness however, is not limited to the express teachings of a single prior art reference but is based upon what the *combined* teachings of the prior art suggest to the person of ordinary skill in the art. *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981)("The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly

suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.").

As to Patentee claim 29, the Examiner has demonstrated that Patentee has substituted one known element for another to obtain a predictable result. In particular, the Examiner has established that Horobin teaches one skilled in the art how to make and use webs formed separately from the side panels. The Examiner has also established that the use of Horobin's web in the insulating form of Guarriello involves a simple substitution of one known element, a web formed separately from the side panels, for another known element, a web not formed separately from the side panels. The Examiner further established that one of ordinary skill in the art would have understood that the substitution of Horobin's web for that of Guarriello would improve upon the teachings of Guarriello, namely that it would facilitate transportation of the insulating blocks. Patentee has failed to demonstrate that these findings were made in error. We conclude that Patentee has failed to demonstrate that the Examiner erred in rejecting claim 29 over the cited Guarriello and Horobin.

C. The Rejections Under 35 U.S.C. §112

1. Rejection of Claim 30 as Indefinite

Independent claim 30 is directed to an insulating construction block having rectangular projections and recesses. The projections and recesses comprise opposed walls parallel to the longitudinal direction and opposed walls perpendicular to the longitudinal direction. The opposed walls perpendicular to the longitudinal direction of at least one projection define

the walls of two adjacent recesses.

The Examiner states that:

> The claimed language of each projection and each recess comprising opposed walls . . . . at least one projection also defining walls of two adjacent recesses is confusing. Applicant initially claims the recesses having walls, and then later claims the walls do not belong to the recesses, but to the projections. The claim is thus indefinite.

(Answer, pages 3-4). Patentee disagrees. (Appeal Br. at 50 and Reply Br. at 8-9).

A claim is indefinite if, when read in light of the specification, it does not reasonably apprize those skilled in the art of the scope of the invention. *Amgen Inc. v. Hoechst Marion Roussel, Inc*., 314 F.3d 1313, 1342, 65 USPQ2d 1385, 1406 (Fed. Cir. 2003). Specifically, if the scope of the invention sought to be patented cannot be determined from the language of the claims, the specification or the teachings of the prior art with a reasonable degree of certainty, a rejection of the claims under 35 U.S.C. § 112, second paragraph is appropriate. *In re Wiggins*, 488 F.2d 538, 541, 179 USPQ 421, 423 (CCPA 1973).

The Examiner fails to demonstrate that one skilled in the art would fail to understand that the walls of a projection may be used to define the walls of a recess or vice versa. We reverse the Examiner's rejection of claim 30 as indefinite as the Examiner has failed to demonstrate that one skilled in the art would fail to be apprized of the scope claimed by Patentee.

2. Rejection of Claim 30 as Lacking Enablement

Both the Final Rejection and the Examiner's Answer state that claim

30 is rejected as lacking enablement. According to the Examiner:

> The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. The limitation of "each projection and each recess comprising opposed walls parallel to the longitudinal direction and opposed walls perpendicular to the longitudinal direction . . ." is not supported by the specification. The specification only shows the projections having the opposed walls, not the recesses.

(Final Rejection at 2, Answer at 3).

Patentee's Appeal Brief does not identify this rejection as a ground of rejection to be reviewed on appeal. (Appeal Br. at 10). Further, the Appeal Brief contains a section heading "The Section 112 Rejection," but provides only a discussion of the Examiner's rejection of claim 30 as indefinite under the second paragraph of Section 112. (Appeal Br. at 49-50).

Since we have already determined that claim 30 is unpatentable as obvious over Guarriello and Horobin '969 and/or '382, we need not and will not consider the rejection of claim 30 based on 35 U.S.C. 112, ¶1, lack of enablement.[5] Accordingly, the rejection of claim 30 under 35 U.S.C. 112, ¶1 as lacking enablement is moot.

CONCLUSION

Patentee has failed to demonstrate that the Examiner erred in rejecting claims 12 and 20 as obvious over the Guarriello and Horobin '969.

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[5] *Scaltech, Inc. v. Retec/Tetra, L.L.C.*, 269 F.3d 1321, 1327 n.2, 60 USPQ2d 1687, 1690 n.2 (Fed. Cir. 2001) (not reaching best mode after affirming an on-sale bar).

Similarly, Patentee has failed to demonstrate that the Examiner erred in rejecting claim 29 as obvious over Guarriello and Horobin '382. We AFFIRM the Examiner's final rejection of claims 12, 20 and 29.

Patentee has demonstrated that the Examiner erred in rejecting claims 1-11, 13-19, 21-28 and 30 as anticipated by Guarriello. We REVERSE the Examiner's final rejection of these claims as anticipated.

We find that claims 1-11, 13-19, 21-28 and 30 do no more than combine known elements for their known purpose to yield predictable results. Based upon the facts presented, new grounds of rejection are entered as to claims 1-11, 13-19, 21-28 and 30 under 35 U.S.C. §103(a).

Patentee has demonstrated that the Examiner erred in rejecting claim 30 as indefinite. We REVERSE the Examiner's final rejection of claim 30 as indefinite.

As we have already determined that claim 30 is unpatentable based upon prior art, the Examiner's final rejection of claim 30 as unpatentable for lack of enablement is MOOT.

This decision contains new grounds of rejection pursuant to 37 CFR § 41.50(b) (2006). 37 CFR § 41.50(b) provides that "[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review."

ORDERED that since our rationale differs from the rationale of the examiner, our affirmance is designated as a new rejection. 37 CFR § 41.50(b) (2006).

FURTHER ORDERED that our decision is not a final agency action.

FURTHER ORDERED that within **two (2) months** from that date of our decision appellant may further prosecute the application on appeal by exercising one of the two following options:

1. Request that prosecution be reopened by submitting an amendment or evidence or both. 37 CFR §41.50(b)(1) (2006).

2. Request rehearing on the record presently before the Board. 37 CFR § 41.50(b)(2) (2006).l

FURTHER ORDERED that the time for taking action under either 37 CFR §§ 41.50(b)(1) or 41.50 (b)(2) is not extendable under the provisions of 37 CFR § 1.136(a) (2006).

AFFIRMED-IN-PART - 37 CFR § 41.50(b)

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