UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JAMES R. THOMAS,
CLIFTON C. HAGGARD,
JASON D. BROWN,
SONG PING CHEN,
RU ZHENG LIU and
MICHAEL L. HAYDEN

Appeal 2008-0733
Application 10/386,122
Technology Center 1700

Decided: April 29, 2008

Before CHARLES F. WARREN, PETER F. KRATZ, and
CATHERINE Q. TIMM, *Administrative Patent Judges*.

TIMM, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 1, 2, 4-7, 11-18, and 20-25. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM-IN-PART.

I. BACKGROUND

The invention relates to a cushioning pad used to protect products such as semiconductor wafers during shipping and handling (Specification ¶ 2-3 and 8). The pad is made from a plastic film that is vacuum formed to create at least one plastic spring portion (Specification ¶ 9). The plastic spring portion provides a cushioning effect between the opposing surfaces of the pad (Specification ¶ 2). Claims 1 and 11 are illustrative of the subject matter on appeal:

1. A pad for use in packaging items such as wafers, comprising:

a first contact surface adapted to contact an item adjacent the pad;

a second, oppositely facing contact surface; and

at least one plastic spring resiliently maintaining a spacing between the first and second contact surfaces.

11. A cushioning pad for use in packing items such as wafers, comprising:

a plastic film having a spring portion that resiliently establishes an operative thickness of the pad that is greater than a nominal thickness of the film.

Appellants request review of both rejections maintained by the Examiner, namely, the rejection of claims 1, 2, 4-7, 11-18, and 20-25 under 35 U.S.C. § 102(b) as anticipated by Vandor (US 4,053,549 issued Oct. 11, 1977), and the rejection of those same claims under 35 U.S.C. § 102(b) as anticipated by Govatsos (US 3,381,076 issued Apr. 30, 1968).

II. DISCUSSION

Appellants present a general overarching argument and follow that argument with specific arguments directed to specific claims and groups of claims. We address the general argument first, selecting claim 1 to represent the issues on appeal with regard to this general argument in accordance with Appellants' reliance on that argument for claim 1 (Br. 6 and 9).

Appellants contend that none of the claims are anticipated because the Vandor and Govatsos references fail to teach the claimed plastic spring portion (Br. 3-4). The Examiner contends that the claim language is broad enough to encompass the foam structure of the references as that foam material is semi-rigid and resilient (Ans. 6). Therefore, the threshold issue on appeal is one of claim interpretation, specifically: what structures are encompassed by the claim phrase "plastic spring portion?"

"[A]s an initial matter, the PTO applies to the verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant's specification." *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997). While we consult the Specification to determine the meaning of the claim phrase, where the phrase appears to have a broader meaning we take care not limit the claim to the specific embodiments disclosed in the Specification. *See In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993) ("[L]imitations are not to be read into the claims from the specification.") and *Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005)(en banc) ("[T]he line between construing terms and importing limitations can be

discerned with reasonable certainty and predictability if the court's focus remains on understanding how a person of ordinary skill in the art would understand the claim terms. For instance, although the specification often describes very specific embodiments of the invention, we have repeatedly warned against confining the claims to those embodiments.”).

Looking to the Specification, we find no specific definition for “plastic spring portion.” The Specification speaks of the function of the plastic spring portion: it “resiliently maintains spacing between oppositely facing surfaces of the pad that contact adjacent items.” (Specification ¶¶ 9, 24, 25). The Specification also describes specific embodiments of the plastic spring portion shown as 46, 46’, and 46” in the figures. However, the Specification, by calling these examples, provides evidence that one of ordinary skill in the art would not interpret the claim as limited to those specific embodiments.

Looking to the ordinary meaning of the terms, we note that the Examiner finds that a spring is defined in the Merriam-Webster OnLine Dictionary as “to be resilient or elastic” (Ans. 6). Appellants have not disputed this definition. Moreover, Merriam-Webster further defines the noun “spring” as “an elastic body or device that recovers its original shape when released after being distorted” (Webster.com at “spring [2,noun]” entry 4) and “capacity for springing: resilience” (*id.*, at entry 5b(1)).

Given that Appellants describe the function of the spring portion in terms of its resiliency and that this is in conformity with the common usage of the word, it follows that “plastic spring portion” encompasses bodies of any shape having some degree of resilience or the capacity for springing.

A. *Anticipation by Vandor*

1. *Claim 1*

This brings us to the issue of whether Vandor describes something meeting the requirements of a "plastic spring portion" as that phrase is used in claim 1.

Vandor describes products made from the type of polystyrene foam used in supermarket meat trays, produce containers, plastic disposable plates, etc. (Vandor, col. 1, ll. 7-16). It is reasonable to conclude that this material is resilient at least to some degree. Govatsos describes polystyrene foam material used in the same intended uses as resilient (Govatsos, col. 1, ll. 51-62).

Vandor uses the polystyrene foam sheet to form pads by thermoforming grooves into the pads. The polystyrene material between the upper and lower surfaces of the pad of Vandor is resilient, the material being made of polystyrene foam, a resilient material. Because Appellants' claim language "plastic spring portion" encompasses resilient material of any shape, we find that the resilient polystyrene material between the upper and lower surfaces of Vandor's pad is a "plastic spring portion" within the meaning of claim 1.

While Appellants argue that there is nothing that corresponds to Appellants' spring portion and there no need to provide springs in the packaging product of Vandor, the prior art need not teach what Appellants describe in their Specification in order to meet the claim, nor does the prior art need to teach the Appellants' intended use. *See Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 772 (Fed. Cir. 1983) ("The law of anticipation does not require that the reference 'teach' what the subject patent teaches.

Assuming that a reference is properly 'prior art,' it is only necessary that the claims under attack, as construed by the court, 'read on' something disclosed in the reference, i.e., all limitations of the claim are found in the reference, or 'fully met' by it.").

We find that Vandor describes a structure meeting the requirements of an "at least one plastic spring portion" as that phrase is used in claim 1. We, therefore, sustain the rejection of claim 1 as anticipated by Vandor. Because claims 2, 4-6, and 21 depend from claim 1 and are not argued separately, these claims fall with claim 1.

2. *Claim 7*

Claim 7 further requires that the first and second contact surfaces each comprise a plurality of circular surfaces, each of the circular surfaces including a recessed portion extending across the surface (*see* claims 4 and 5 as well as claim 7).

With regard to Vandor, the Examiner points to Figures 8-10, column 4, lines 32-37, and column 4, lines 40-46 as teaching the required recessed portions (Ans. 8). The Examiner further states that Figure 7 shows the recessed portion (Ans. 8).

The claim requires recessed portions on both the first and second contact surfaces, i.e., the top and bottom surfaces. Column 4, lines 32-37 and 40-46 of Vandor, the portions of the reference cited by the Examiner, discuss grooves 16 and 17, grooves in only the top surface of the support member of Figures 8-10. Because there are no such grooves in the bottom surface, nor grooves or recesses in each of a *plurality* of circular contact surfaces, we cannot agree that the portion of column 4 relied upon by the Examiner describes what is required by claim 7. Nor can we say that the

recessed portion of Figure 7, as further relied upon by the Examiner, extends across each of a plurality of circular surfaces in the top and bottom surfaces as required by claim 7.

We do not sustain the rejection of claim 7 as anticipated by Vandor.

3. *Claims 20 and 24*

Claims 20 and 24 further define the pad of claim 1 in terms of function. Specifically, claim 20 requires that the spacing between the first and second contact surfaces change as the plastic spring portion flexes. Claim 24 requires that the plastic spring portion maintain a first spacing between the first and second contact surfaces and a second, smaller spacing responsive to a compressive force (intervening claim 21) and that the plastic spring portion return the first and second contact surfaces to the first spacing upon release of the compressive force.

Appellants contend that there is no anticipation because Vandor does not discuss these functions (Br. 6-7). The Examiner finds that the function would inherently occur due to the nature of the material (resilient polystyrene foam sheet) used in the pads of the reference (Ans. 9).

If the prior art structure possesses all the claimed characteristics including the capability of performing the claimed function, then there is a prima facie case of unpatentability. *In re Ludtke*, 441 F.2d 660, 663-64 (CCPA 1971). Therefore, the relevant issue is: does Vandor describe a structure capable of functioning as required by claims 20 and 24?

We answer in the affirmative.

Because the product of Vandor is made from resilient material, the spacing between the upper and lower surfaces would change under compression as required by claim 20, and bounce back, or return to its

original position, upon release of the compressive force as required by claim 24.

We sustain the rejection of claims 20 and 24 as anticipated by Vandor.

4. *Claim 11*

Appellants contend that claim 11 is not anticipated by Vandor because the thermoformed foam of Vandor does not constitute a "film" as required by the claim but instead is a foam sheet (Br. 7). The Examiner responds that Webster.com defines a film as "an exceedingly thin layer" and the 200 mil thick sheet of Vandor is a thin layer (Ans. 10).

The issue we must resolve is whether the 200 mil thick sheet of Vandor is a "film" within the meaning of claim 11. The Specification provides no guidance with respect to the meaning of "film" as opposed to "sheet." While the Examiner relies upon a definition from Webster.com, this definition does not resolve the question of whether "exceedingly thin" encompasses 200 mil thick sheets. To resolve this issue we consider the meaning of "film" by consulting the type of reference materials those of ordinary skill in the art would consult.

According to McGraw-Hill Encyclopedia of Science and Technology, a "film" is

> A material in which one spatial dimension, thickness, is much smaller than the other two. Films can be conveniently classified as those that support themselves and those that exist only as layers on top of a supporting substrate. The latter are known as thin films and have their own specialized science and technology.
>
> ….
>
> Self-supported films have a nominal thickness not larger than 250 micrometers. Films of greater thickness are classified as

> sheets or foils. Self-supported films are commonly composed of organic polymers, either thermoplastic resins or cellulose-based materials. See also Polymer.

("film." Answers.com. McGraw-Hill Encyclopedia of Science and Technology, The McGraw-Hill Companies, Inc., 2005. http://www.answers.com/topic/film-1, accessed April 25, 2008). This understanding of "film" is further supported by the Kirk-Othmer Encyclopedia of Chemical Technology which states that "[f]ilms are generally regarded as being 0.25 mm or less, whereas sheet may range from this thickness to several centimeters thick." K. J. Mackenzie, *Film and Sheeting Materials*, Kirk-Othmer Encyclopedia of Chemical Technology, ¶ 1 (4th ed. 2001) available at mrw.interscience.wiley.com > reference works > Article Titles A-Z > "Film and Sheeting Materials").

It follows that those of ordinary skill in the plastics processing fields would understand films as having thicknesses of less than or equal to about 250 micrometers (0.25 mm or about 10 mils). Those of ordinary skill in the art would not understand a 200 mil sheet as meeting the definition of "film" as that term is used in claim 11.

We, therefore, do not sustain the rejection of claim 11 as anticipated by Vandor. As claims 12-18, 23, 23, and 25 depend from claim 11, we likewise do not sustain the rejection of those claims over Vandor.

B. *Anticipation by Govatsos*

1. *Claims 1 and 11*

In arguing against the rejection of claims 1 and 11, Appellants' sole contention is that these claims are not anticipated by Govatsos because the pad of this reference has "stiffening ribs" and any spring portion would be

counteracting the intended result of stiffening desired by Govatsos (Br. 8). We select claim 1 as representative for the issue arising from Appellants' argument: does "spring portion" as that terminology is used in claim 1 encompass a structure within the pad of Govatsos?

We find that "spring portion" as used in claim 1 is broad enough to encompass a portion of the pad described by Govatsos. Similarly to Vandor, Govatsos describes packing trays formed from resilient polystyrene foam material. See, for instance, Figure 8, which shows a circular tray 50 having corrugations 52. The portions of the corrugations 52 between the upper surface of the corrugation and the bottom of the tray are resilient, as they are made from the "resilient" expanded polystyrene (Govatsos, col. 1, ll. 51-59), and, therefore, these portions of the tray meet the requirements of the "spring portions" as required by claim 1. Again, claim 1 requires no further structure.

We find that Govatsos describes a structure meeting the requirements of an "at least one plastic spring portion" as that phrase is used in claim 1. We, therefore, sustain the rejection of claim 1 as anticipated by Govatsos. Because claims 2, 4-6, 11-15, 18, and 21-23 are not argued separately, these claims fall with claim 1.

2. *Claim 7*

Appellants separately argue claim 7 contending that Govatsos does not have the recesses required by this claim (Br. 10). With regard to Govatsos, the Examiner points to column 5, lines 25-31 and Figure 8 as describing the recesses of claim 7 (Ans. 14). But the top surfaces of the corrugations shown in Figure 8 do not include any recesses as claimed, nor does Figure 8 show the bottom surfaces. We cannot say that Figure 8 of

Govatsos describes first and second circular contact surfaces, each having recesses as required by claim 7.

We do not sustain the rejection of claim 7 as anticipated by Govatsos.

3. Claims 16 and 17

With respect to claims 16 and 17, Appellants contend that "[e]ven if the cake tray of the Govatsos reference could be construed to be a thin film having a spring portion as recited in claim 11, which Applicant denies, there is nothing in the Govatsos reference that corresponds to the first, second and third segments of claim 16 and nothing that corresponds to the curvilinear transitions of claim 17" (Br. 10). In rejecting these claims the Examiner merely cites to Figure 10 without pointing out specifically what structure shown in that figure meets the limitations of the claims (Ans. 4). Figure 10 depicts a stack of discs cut from the sheet of Figure 9 (Govatsos, col. 2, ll. 58-59). In the Response to Argument section of the Answer, the Examiner shifts to Figure 8 and states that this figure "clearly shows" what is claimed (Ans. 14). However, the figures referred to by the Examiner do not clearly depict what is claimed in such a manner that further explanation is unnecessary.

Because the Examiner did not adequately point out what structure meets the claim language, we do not sustain the rejection of claims 16 and 17 as anticipated by Govatsos.

4. *Claims 20, 24 and 25*

The issue with regard to the anticipation of claims 20, 24, and 25 by Govatsos is the same addressed above with regard to the rejection of claims 20 and 24 over Vandor. Again, because the polystyrene foam material used in the trays of Vandor and Govatsos is resilient, it is capable of performing

the functions recited in claims 20, 24 and 25. Therefore, we sustain the rejection of claims 20, 24 and 25 as anticipated by Govatsos.

III. CONCLUSION

We sustain the rejection of claims 1, 2, 4-6, 20, 21, and 24 as anticipated by Vandor, but do not sustain the rejection of claims 7, 11-18, 22, 23, 25 on that ground. We sustain the rejection of claims 1, 2, 4-6, 11-15, 18, and 20-25 as anticipated by Govatsos, but do not sustain the rejection of claims 7, 16, and 17 on that ground.

IV. DECISION

The decision of the Examiner is affirmed-in-part.

V. TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal maybe extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART

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