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Paper No. 13
Entered: May 28, 2015

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MICROBOARDS TECHNOLOGY, LLC d/b/a AFINIA,
Petitioner,

v.

STRATASYS INC.,
Patent Owner.

Case IPR2015-00288
Patent 8,349,239 B2

Before DONNA M. PRAISS, KRISTINA M. KALAN, and JON B. TORNQUIST, *Administrative Patent Judges*.

TORNQUIST, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. BACKGROUND

Microboards Technology, LLC d/b/a Afina ("Petitioner") filed a Petition (Paper 1, "Pet.") to institute an *inter partes* review of claims 1, 2, 4, 5, 7, 15, 17, and 18 of U.S. Patent No. 8,349,239 B2 ("the '239 patent"). Stratasys Inc. ("Patent Owner") filed a Preliminary Response (Paper 8, "Prelim. Resp.") to the Petition.

We have jurisdiction under 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted "unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." For the reasons discussed below, we determine that Petitioner has not demonstrated a reasonable likelihood of prevailing with respect to any of the challenged claims of the '239 patent. Accordingly, we do not authorize institution of an *inter partes* review.

A. Related Proceeding

The parties represent that the '239 patent currently is being asserted against Petitioner in *Stratasys Inc. v. Microboards Technology, LLC d/b/a Afina*, Civil Action No. 13-cv-03228 (D. Minn.). Pet. 2; Paper 6, 1.

B. The '239 Patent

The '239 patent is titled "Seam Concealment for Three-Dimensional Models" and is directed to a method of making three-dimensional objects using extrusion-based digital manufacturing systems. Ex. 1001, 1:6–10. Specifically, the '239 patent is directed to a method of generating contour tool paths that define an interior region of a layer of the three-dimensional model, with at least one of the starting point or stopping point of the contour tool path located within the interior region of the layer. *Id.* at 1:53–58. "This effectively conceals the seam that is formed at the intersection of the

starting and stop points, which can increase the aesthetic and functional qualities of the resulting 3D model." *Id.* at 3:4–7.

Figures 2 and 3 of the '239 patent are depicted below:

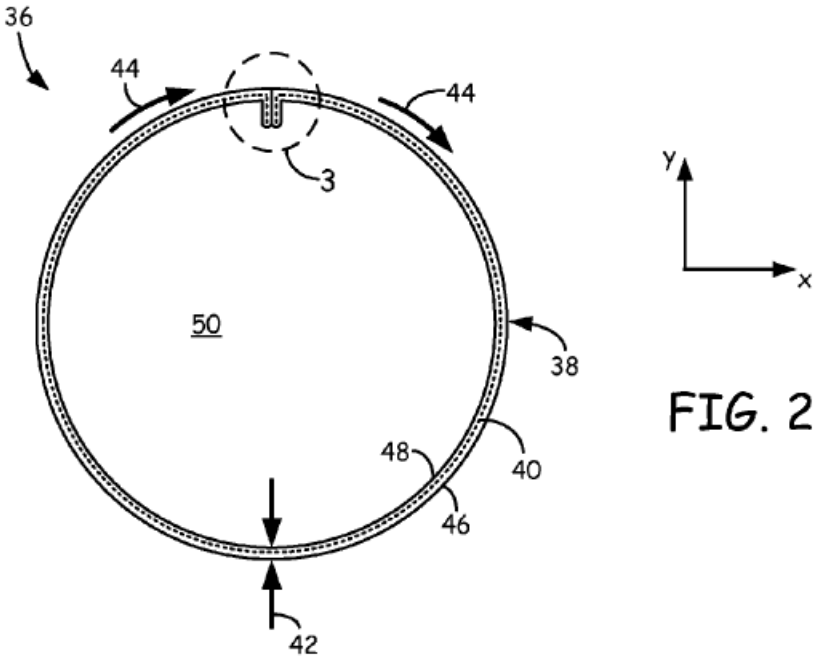

FIG. 2

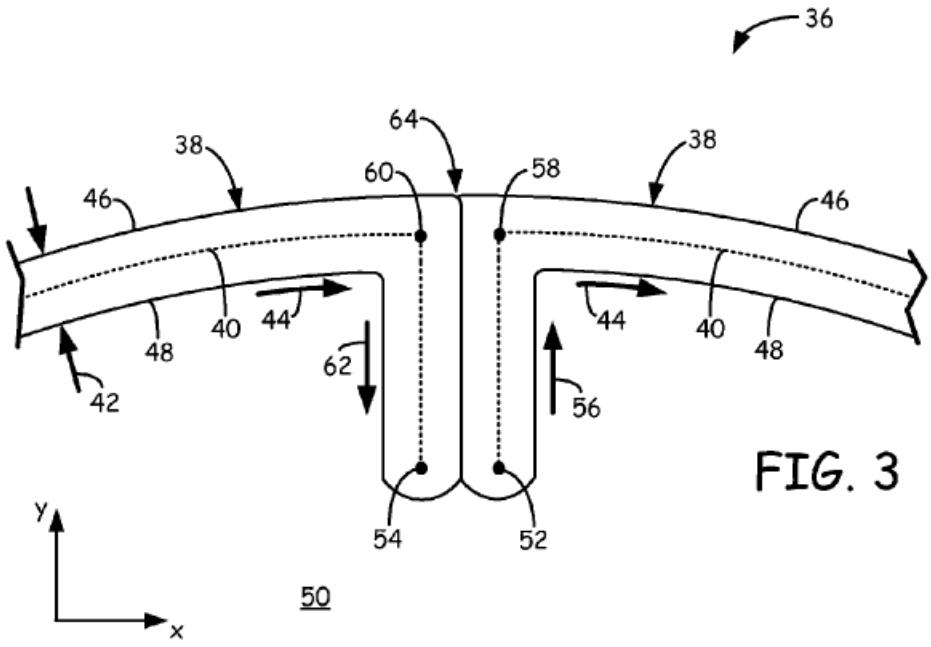

FIG. 3

Figure 2 is a top view of a layer of a 3D model being built with an extrusion-based system. *Id.* at 2:17–18. Figure 3 is an expanded view of section 3 taken in Figure 2, "illustrating a seam of the layer with an open-square arrangement." *Id.* at 2:19–21. In Figure 2, "layer 36 includes perimeter path 38, which is a road of a modeling material that is deposited" by an extrusion head "along contour path 40." *Id.* at 5:54–56. Perimeter path 38 includes exterior surface 46, which is the outward-facing surface that may be observable when the 3D model is completed. *Id.* at 6:8–10. Interior region 50 is "confined within perimeter path 38, and may be filled with additional modeling material deposited along additionally generated tool paths." *Id.* at 6:12–16.

The '239 patent discloses that conventional contour tool paths have start and stop points (points 58 and 60 of Figure 3, respectively) that are collinear with the outer ring of the contour tool path, with the stop point next to the start point. *Id.* at 6:39–51. In this conformation, material deposited at point 60 may "bump into" the modeling material previously deposited at start point 58, forming a bulge at seam 64. *Id.* at 6:52–59. Or, if not enough modeling material is deposited between points 58 and 60, a gap may form at the seam, increasing the porosity of the 3D model. *Id.* at 6:59–62.

To avoid creating a bulge or gap at seam 64, the '239 patent discloses a method wherein the start and stop points are adjusted to points 52 and 54 of Figure 3, respectively. *Id.* at 7:3–6. "This allows any variations in the extrusion process when starting and stopping the deposition to occur at a location that is within interior region 50 rather than adjacent to exterior surface 46." *Id.* at 7:6–10.

Figure 15, set forth below, discloses another embodiment of this process using a "step-over arrangement." *Id.* at 2:57–59.

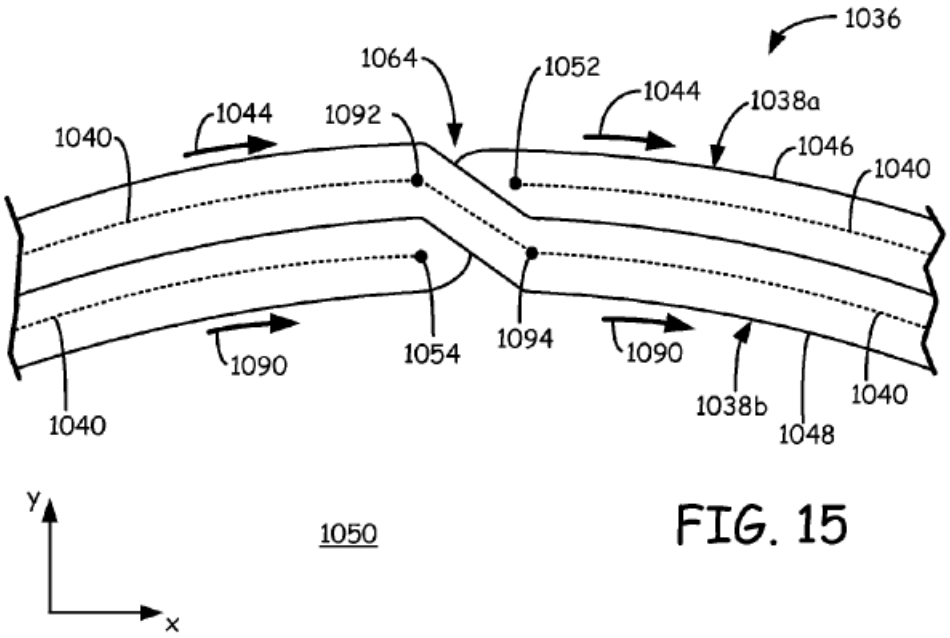

FIG. 15

In Figure 15, the extrusion head deposits material from point 1052 until it reaches point 1092, substantially forming perimeter path 1038*a*. *Id.* at 12:17–22. "At this point, while continuing to deposit the modeling material," the extrusion head "steps over from perimeter path 1038*a* to begin forming perimeter path 1038*b* at point 1094." *Id.* at 12:22–25. This step-over arrangement, with seam 1064 extending "inward within interior region 1050," is said to eliminate the formation of bulges, and reduce or eliminate the transmission of gases and/or liquids through seam 1064. *Id.* at 12:31–35.

C. Illustrative Claims

Claims 1 and 15 are independent. Claims 2, 4, 5, and 7 depend from claim 1; claims 17 and 18 depend from claim 15. Claims 1 and 15 are illustrative of the claimed methods and are reproduced below:

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