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Holzer Patel Drennan - Seagate Technology LLC 216 16th Street Suite 1350 Denver, CO 80202			MCDONALD, RODNEY GLENN	
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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* WEILU XU

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Appeal 2019-001456  
Application 15/301,346  
Technology Center 1700

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Before MICHAEL P. COLAIANNI, N. WHITNEY WILSON, and  
JEFFREY R. SNAY, *Administrative Patent Judges*.

COLAIANNI, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant<sup>1</sup> appeals from the Examiner's decision to reject claims 1–3, 5–24, and 26–28. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

Appellant's invention is directed to a sputtering target apparatus having a substantially planar top surface and a recess located within an area of the top surface of the target defined as the inner diameter (Spec. ¶ 3; Claim 1).

Claim 1 is representative of the subject matter on appeal:

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<sup>1</sup> We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Seagate Technology LLC. Appeal Br. 2.

1. An apparatus, comprising:

a body with a substantially planar top surface having an inner diameter, a middle diameter and an outer diameter,

wherein the top surface is substantially planar from the outer diameter to the middle diameter, and

wherein the outer diameter is defined by an edge of the body; and a recess located within an area of the top surface defined by the inner diameter,

wherein a thickness of the body in the recess is less than a thickness of the body at the outer diameter, and

wherein the thickness of the body in the recess and the thickness of the body at the outer diameter increase a uniformity of a magnetic pass through flux from an underlying magnetic pack during sputtering.

Appellant appeals the following rejections:

1. Claims 1–3, 5–9, and 16–21 are rejected under 35 U.S.C. § 103 as unpatentable over Shimizu et al. (US 4,747,926; issued May 31, 1988).
2. Claims 10–15, 22–24, and 26–28 are rejected under 35 U.S.C. § 103 as unpatentable over Gilman et al. (US 6,086,735; issued July 11, 2000).

Appellant argues the claims in two groups: Claims 1–3, 5–9, and 16–21, and claims 10–15, 22–24, and 26–28 (App. Br. 10–12). Appellant’s arguments regarding method claim 22 mirror the arguments made regarding the structure recited in claim 10 (App. Br. 11). We select claims 1 and 10 as representative of the groups. 37 C.F.R. § 41.37(c)(iv).

### FINDINGS OF FACT & ANALYSIS

The Examiner's findings and conclusions regarding the rejection of claim 1 over Shimizu and the rejection of claim 10 over Gilman are located on pages 2–3 and 5–6 of the Final Action. The Examiner finds that Shimizu and Gilman each teaches a sputtering target structure that is the same as is recited in claims 1 and 10, respectively (Final Act. 2, 5). The Examiner finds that Shimizu or Gilman does not specifically disclose that the thickness of the body in the recess and the thickness of the body at the outer diameter increase uniformity of a magnetic pass through flux from an underlying magnetic pack during sputtering (Final Act. 3, 6). The Examiner finds that the Shimizu's and Gilman's structures are the same as Appellant's claimed structure so that the prior art structures would permit the increase in uniformity of the magnetic pass through flux from an underlying magnetic pack during sputtering (Final Act. 3, 6).

Appellant argues that Shimizu teaches varying the coil current to affect plasma concentrations but is silent about the thickness of the target body affecting an increase in uniformity of magnetic pass through flux (App. Br. 11). Appellant contends that Gilman teaches reducing the sputtering rate near the outer peripheral surface by lowering the plasma intensity near the outer surface, but Gilman is silent about the thickness of the target body affecting an increase in uniformity of magnetic pass through flux (App. Br. 12). Appellant argues that Shimizu's and Gilman's target structures are not the same as required by the claims because different results are achieved by each of the prior art references (Reply Br. 2–3).

Claim 1 requires, *inter alia*, a body having a planar top surface where a recess is formed in an inner diameter region (i.e., center portion of the top

surface) and the thickness in the outer region (i.e., along the edge of the body) is greater than in the recess. Claim 10 requires, *inter alia*, a body with a planar top surface and recess in an inner diameter region of the top surface. The recitation of the thickness of outer region (claim 1) or top surface (claim 10) and the thickness of the recess are recited functionally in terms of an increase in the uniformity of the magnetic pass through flux. The claims do not recite any particular numerical thickness range for the outer diameter/top surface thickness, or recess thickness.

Although there is nothing improper with claims that recite the relative thicknesses in terms of the functional outcome, doing so comes with an added burden. In particular, when functional language is present in a claim and the Patent Office finds that structure recited in the claims and taught by the prior art are the same, it can require Appellant to show that the prior art structure cannot perform the recited function. *In re Swinehart*, 439 F.2d 210, 213 (CCPA 1971). *See also, In re Best*, 562 F.2d 1252, 1255 (CCPA 1977) (“Where, as here, the claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his claimed product. *See In re Ludtke, supra*. Whether the rejection is based on ‘inherency’ under 35 U.S.C. § 102, on ‘prima facie obviousness’ under 35 U.S.C. § 103, jointly or alternatively, the burden of proof is the same, and its fairness is evidenced by the PTO's inability to manufacture products or to obtain and compare prior art products.”).

In the present case, the Examiner finds that Shimizu and Gilman each teaches target structures that have the recited relative thicknesses for the

recess region and the outer diameter/top surface region (Final Act. 2–3, 5–6). In other words, the Examiner’s findings shift the burden to Appellant to show that the target structures in Shimizu and Gilman do not increase uniformity of the magnetic pass through flux. *Best*, 562 F.2d at 1255. Appellant’s argument that the Shimizu’s and Gilman’s structures are not the same because they achieve a different result does not address whether the target structure in Gilman and Shimizu are capable of increasing the uniformity of the magnetic pass through flux. Appellant does not demonstrate that the argued result would have been evidence of a difference in structure rather than a difference in operation.

For the above reasons, we affirm the Examiner’s § 103 rejections over Shimizu and Gilman.

### CONCLUSION

In summary:

<b>Claims Rejected</b>	<b>Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
1–3, 5–9, and 16–21	§ 103 Shimizu	1–3, 5–9, and 16–21	
10–15, 22–24, and 26–28	§ 103 Gilman	10–15, 22–24, and 26–28	
<b>Overall Outcome</b>		1–3, 5–24, and 26–28	

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

AFFIRMED