

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

Paper No. 26

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TAKEMI MURAYAMA

Appeal No. 2003-1757
Application 10/003,202

ON BRIEF

Before WARREN, OWENS and DELMENDO, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

Decision on Appeal and Opinion

We have carefully considered the record in this appeal under 35 U.S.C. § 134, including the opposing views of the examiner, in the answer, and appellant, in the brief, and based on our review, find that we cannot sustain the rejection of appealed claims 7 and 8, under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, and the rejection of appealed claims 1 through 10,¹ all of the claims in the application, under 35 U.S.C. § 103(a) as being unpatentable over Cummings in view of Takano.²

¹ Appealed claims 8 and 9 stand of record as amended in the amendment of January 23, 2003 (Paper No. 16) and appealed claims 1 through 7 and 10 are set forth in the appendix to the brief.

² Answer, pages 4-7.

Considering first the ground of rejection under § 112, second paragraph, the initial burden of establishing a *prima facie* case on any ground under the second paragraph of § 112 rests with the Examiner. See *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992), citing *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984) (“As discussed in *In re Piasecki*, the examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability.”). In making out a *prima facie* case of non-compliance with this statutory provision on the basis that a claim is indefinite for failing to particularly point out and distinctly claim the subject matter which appellant regards as the invention, the examiner must establish that when the language of the claim is considered *as a whole as well as in view of the written description in the specification* as it would be interpreted by one of ordinary skill in the art, the claim in fact fails to set out and circumscribe a particular area with a reasonable degree of precision and particularity. *In re Moore*, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971).

Both appealed claims 8 and 9 contain the same language: “said cap outer edge is defined by a wall, and said edge of said open edge portion of said fillet area is defined by a wall that is substantially parallel to said wall of said cap outer edge.” These claims directly and ultimately depend on appealed claim 1, respectively, which states the claimed “hollow poppet valve” has a “fillet area having a fire contacting face and an open edge portion terminating in an edge that opposes said fire contacting face; a cap forming an opposing face to said fire contacting face; a weld joint integrating an outer edge of said cap around the edge of the open edge portion of said fillet area” The examiner acknowledges that said “walls define the weld joint of the fillet area” but takes issue with the term “fillet area” (answer, page 4). Appellant submits that the “fillet area” is defined in the written description in the specification, which includes the drawings, as “fillet area 14” (reply brief, page 2; understrike emphasis in original).

We agree with appellant that it is clear from the disclosure with respect to the specification drawings in the written description in the specification as it would be interpreted by one of ordinary skill in the art, makes clear the definition of the term “fillet area.” Thus, because the examiner has not established a *prima facie* case based on the written description provided in appellant’s specification, we reverse this ground of rejection.

Turning now to the ground of rejection under § 103(a), it is well settled that in order to establish a *prima facie* case of obviousness under § 103(a), the examiner must show that some objective teaching, suggestion or motivation in the applied prior art taken as a whole and/or knowledge generally available to one of ordinary skill in this art would have led that person to the claimed invention as a whole, including each and every limitation of the claims arranged as required by the claims, without recourse to the teachings in appellant's disclosure. *See generally, In re Rouffet*, 149 F.3d 1350, 1358, 47 USPQ2d 1453, 1458 (Fed. Cir. 1998); *Pro-Mold and Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1629-30 (Fed. Cir. 1996); *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); *In re Laskowski*, 871 F.2d 115, 10 USPQ2d 1397 (Fed. Cir. 1989); *In re Fine*, 837 F.2d 1071, 1074-76, 5 USPQ2d 1596, 1598-1600 (Fed. Cir. 1988).

We need only discuss the examiner's application of the combined teachings of Cummings and Takano to appealed claim 1 with respect to our decision. The examiner submits that one of ordinary skill in this art would have made two changes in the poppet valve of Cummings Fig. 1 in order to arrived at the claimed poppet valve encompassed by appealed claim 1. First, the examiner contends that it would have been obvious to one of ordinary skill in the art to eliminate ribs or fins **13** from the poppet valve and their function of bracing thin-walled head dome **11** as depicted in Cummings **Figs. 1** and **2** (Cummings, e.g., cols. 1 and 3) in order to increase resistance to engine strains, because the "omission of an element and its function in a combination where the remaining elements perform the same functions as before involves only routine skill in the art" (answer, pages 5 and 8). The examiner further supports has position by pointing out that Cummings "implicitly teaches that hollow poppet valves without internal bracing are known in the prior art to be used in engines with lesser pressure and strains," and to "appellant's admission of prior art (Fig, 14) clearly shows that hollow poppet valves without internal bracing are known" (answer, pages 5 and 8).

Appellant points to the claim limitation that the "cap is supported solely by said fillet area and said weld joint without internal bracing" in contrast to the teaching in Cummings that "thin-walled head domes, if unsupported across their entire span, are not capable of withstanding the high pressure to which they are subjected . . . [and] collapse of thin-walled head domes has been

encountered” (brief, page 5, citing Cummings, col. 1, lines 16-21; emphasis in original deleted). In the reply brief, appellant argues that the only prior art poppet valves of record other than Cummings are in specification **Figs. 14 and 15**, each of which “are completely devoid of any disclosure or suggestion of the” structure of the claimed poppet valve encompassed by the limitations of appealed claim 1 (page 3; original emphasis deleted). Appellants further contend that the structure of the poppet valve depicted in Cummings **Fig. 1** is disclosed therein “only in combination with ‘integral ribs or fins 13’” as disclosed in col. 3, lines 28-30, of Cummings, which in appellant’s view, follows from the teachings in cols. 1 and 3 of the reference (reply brief, pages 3-4; original emphasis deleted).

We agree with the examiner that the modification of the poppet valve of Cummings **Fig. 1** as proposed would have resulted in the structure of the claimed poppet valve as defined in appealed claim 1, because of the structure in the fillet area, the weld joint and the absence of a limitation on the dome or cap. However, such a modification would have been *prima facie* obvious only if the teachings of Cummings reasonable would have suggested the claimed subject matter to one of ordinary skill in the art, and in the absence of such a suggestion, the mere fact that the prior art can be modified as proposed by the examiner is not sufficient to establish a *prima facie* case. *See In re Fritch*, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992); *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

On this record, we agree with appellant that the bracing fins **13** are an integral part of the poppet valve as disclosed by Cummings and indeed, in the absence of such bracing fins, it is apparent that the so modified poppet valves would be unsatisfactory for the purpose intended therefor by Cummings. Consequently, we conclude that the examiner has not adduced on this record any suggestion or motivation which would have led one of ordinary skill in the art to make the proposed modification. *See Fritch, supra; Gordon, supra.*

And, second, the examiner contends that while Cummings is silent with respect to the “valve face having an HV of at least 300 formed around said fire contacting face of said fillet area,” one of ordinary skill in the art would have weld-applied an alloy composition to the valve face as shown by Takano in a similar internal combustion engine poppet valve (answer, pages 5-6). Appellant argues that the limitation “integrally formed from a same metal” requires that the

valve face and the fillet area are formed from the same metal (brief, page 5; reply brief, page 4)). The examiner responds that “appellant appears to be trying to stretch the ‘same metal’ limitation” when “[t]he claim specifically recites that the valve face is formed around the fire contacting face” (answer, pages 7-8).

When the plain language of appealed claim 1 is considered in light of the written description in the specification as interpreted by one of ordinary skill in this art, *see In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989), we agree with appellant that the poppet valve as claimed is made from “a same metal,” including the valve face and the fillet area. *See, e.g.,* specification **FIG. 6**.

Consequently, the examiner’s proposed modification of the poppet valve of Cummings **Fig. 1** already modified by removing fins **13**, by adding the alloy to the valve face would not result in the claimed poppet valve as encompassed by appealed claim 1 which requires manufacturing the valve out of “a same metal.” *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1050-54, 5 USPQ2d 1434, 1438-41 (Fed. Cir. 1988).

The examiner’s decision is reversed.

Reversed

CHARLES F. WARREN)	
Administrative Patent Judge)	
)	
)	
)	
TERRY J. OWENS)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
)	
)	
ROMULO H. DELMENDO)	
Administrative Patent Judge)	

Appeal No. 2003-1757
Application 10/003,202

Nixon Peabody LLP
8180 Greensboro Drive
Suite 800
McLean, VA 22102