

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 20

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KATSUMASA ONO
and
KENJI KOMATSU

Appeal No. 1999-0829
Application No. 08/515,964

HEARD: JULY 11, 2001

Before HAIRSTON, RUGGIERO, and DIXON, Administrative Patent Judges.

RUGGIERO, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal from the final rejection of claims 1-11, which are all of the claims pending in the application.

The claimed invention relates to a timing arrangement for an internal combustion engine in which a timing sensor cooperates with the engine camshaft to provide a signal indicative of the camshaft position and the engine output shaft. The timing sensor

Appeal No. 1999-0829
Application No. 08/515,964

is mounted on the bearing cap of the camshaft with the timing sensor and bearing cap extending through an opening in a cam cover, thereby permitting access to the timing sensor without removing the cam cover.

Claim 1 is illustrative of the invention and reads as follows:

1. A timing arrangement for an internal combustion engine having an engine component in which a camshaft is rotatably journaled, said camshaft being journaled at least in part by a bearing cap affixed to said engine component, and a timing sensor carried by said bearing cap and cooperating with said camshaft for providing a signal indicative of the timing relationship of said engine.

The Examiner relies on the following prior art:

Takegami et al. (Takegami)	5,293,776	Mar. 15, 1994
Maeda	GB 2 198 853 A	Jun. 22, 1988
(Published UK Patent Application)		

Claims 1-11 stand finally rejected under 35 U.S.C. § 102(b) as being anticipated by Takegami, or, in the alternative, as being obvious under 35 U.S.C. § 103 over Takegami. Claim 1 further stands finally rejected under 35 U.S.C. § 103 as being unpatentable over Maeda.

Appeal No. 1999-0829
Application No. 08/515,964

Rather than reiterate the arguments of Appellants and the Examiner, reference is made to the Briefs¹ and Answer for the respective details.

OPINION

We have carefully considered the subject matter on appeal, the rejections advanced by the Examiner, and the evidence of anticipation and obviousness relied upon by the Examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, Appellants' arguments set forth in the Briefs along with the Examiner's rationale in support of the rejections and arguments in rebuttal set forth in the Examiner's Answers.

It is our view, after consideration of the record before us, that the Takegami reference does not fully meet the invention as set forth in claims 1-11. We are also of the view that the evidence relied upon and the level of skill in the particular art

¹ The Appeal Brief (Paper No. 10) was filed February 11, 1998. In response to the Examiner's Answer (Paper No. 11) dated June 9, 1998, a Reply Brief (Paper No. 12) was filed June 29, 1998 which was acknowledged and responded to by the Examiner with submission of a Supplemental Examiner's Answer (Paper No. 15) dated September 15, 1998.

Appeal No. 1999-0829
Application No. 08/515,964

would not have suggested to one of ordinary skill in the art the obviousness of the invention as recited in claims 1-11. Accordingly, we reverse.

We consider first the rejection of claims 1-11 under 35 U.S.C. § 102(b) as being anticipated by Takegami. Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention as well as disclosing structure which is capable of performing the recited functional limitations. RCA Corp. v. Applied Digital Data Sys., Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir.); cert. dismissed, 468 U.S. 1228 (1984); W.L. Gore & Assocs. v. Garlock, Inc., 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

With respect to claim 1, the sole independent claim in the application, the Examiner attempts to read the various limitations on the disclosure of Takegami, directing particular attention to the illustrations in Figures 1 and 2 of Takegami. While admitting there is no explicit disclosure in Takegami of the timing sensor being "carried by said bearing cap . . ." as required by the language of appealed claim 1, the Examiner nevertheless suggests (Answer, pages 4 and 5) that Takegami's

Appeal No. 1999-0829
Application No. 08/515,964

drawing figures illustrate apparent contact between the timing sensor 53 and the bearing cap 23, thereby leading to the conclusion that the timing sensor is therefore "carried by" the bearing cap.

In response, Appellants assert (Brief, pages 4 and 5) that, contrary to the Examiner's position, there is nothing in the drawings or description in Takegami that could reasonably lead to the Examiner's conclusion that the timing sensor 53 is in contact with the bearing cap 23 and, therefore, the sensor is "carried by" the bearing cap as claimed. After careful review of the Takegami reference, we are in agreement with Appellants' position as stated in the Briefs.

Our interpretation of the disclosure of Takegami, when viewed in its entirety, coincides with that of Appellants, i.e., the timing sensor 53 is "carried by" the cam cover 42 and there is no contact between the sensor 53 and the bearing cap 23. To accept the Examiner's conclusions to the contrary in the present factual situation, we would have to improperly selectively ignore significant portions of the Takegami disclosure. While it is proper for an Examiner to consider, not only the specific teachings of a reference, but inferences a skilled artisan might draw from them, it is equally important that the teachings of

Appeal No. 1999-0829
Application No. 08/515,964

prior art references be considered in their entirety. See In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968); W.L. Gore & Assocs. v. Garlock, Inc., 721 F.2d 1540, 1548, 220 USPQ 303, 311 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

In order for us to sustain the Examiner's position we would, at the very least, have to completely divorce Takegami's description of the sensor mounting embodiment illustrated in Figures 4 and 5 from the remainder of the Takegami disclosure. Such an approach, however, would be directly contrary to the express disclosure of Takegami. The illustrations in Figures 4 and 5 and accompanying description in column 5 of Takegami are directed to an embodiment in which, instead of the timing sensor being mounted at the end cam lobe 17a as in the Figures 1-3 embodiment, the sensor is mounted at an interiorly located cam lobe 17c. We find the description of this later disclosed embodiment to be particularly relevant since a side view (Figure 4) is provided which clearly illustrates the positional relationship of the timing sensor, cam cover, and bearing cap. Although the Examiner has dismissed any consideration of Takegami's illustrated Figure 4 embodiment, the relevance of the description of this embodiment is emphasized by the indication in Takegami that, although the timing sensor is mounted at an

interior cam lobe rather than an end cam lobe, "the construction of this embodiment is otherwise the same," (Takegami, column 5, lines 36-37).

An examination of Takegami's Figure 4 illustration reveals that the timing sensor is located within the cam cover extension structure and is in a spatial relationship to the bearing cap. In our view, a front view of a vertical cross-section taken through the timing sensor 49 and cam lobe 17c in the illustrated Figure 4 embodiment of Takegami would result in an illustration identical to that shown in the embodiment depicted in Figure 2 of Takegami. That is, rather than being an indication of physical contact between the timing sensor and the bearing cap as asserted by the Examiner, Takegami's Figure 2 illustration actually shows a spaced apart relationship between the timing sensor and bearing cap as urged by Appellants.

In view of the above discussion, it is our opinion that the disclosure of Takegami taken as a whole including a drawing figure which illustrates the timing sensor carried by the cam cover and not the bearing cap, as well as Takegami's express disclosure (column 4, lines 60-61) that the "sensor assembly . . . is carried in the cam cover **42** . . ." can lead only to the conclusion that Takegami's timing sensor is not "carried by" the

Appeal No. 1999-0829
Application No. 08/515,964

bearing cap. Accordingly, since all of the claim limitations are not present in the disclosure of Takegami, the Examiner's 35 U.S.C. § 102(b) rejection of independent claim 1, as well as claims 2-11 dependent thereon, can not be sustained.

Turning to a consideration of the Examiner's alternative rejection of claims 1-11 under 35 U.S.C. § 103 based on Takegami, we do not sustain this rejection as well. For all of the reasons discussed supra, we find the Examiner's assertion (Answer, page 5) that a skilled artisan would have obviously interpreted the disclosure of Takegami as describing a structure in which a timing sensor is carried by a bearing cap to be unfounded. Further, to the extent that the Examiner is suggesting that, regardless of whether Takegami's timing sensor is interpreted as being carried by the bearing cap, a skilled artisan would have found it obvious to modify Takegami to mount the timing sensor on the bearing cap, we find no support on the record for such an assertion. We are not inclined to dispense with proof by evidence when the proposition at issue is not supported by a teaching in a prior art reference, common knowledge or capable of unquestionable demonstration. Precedence of our reviewing court requires this evidence in order to establish a prima facie case.

Appeal No. 1999-0829
Application No. 08/515,964

In re Knapp-Monarch Co., 296 F.2d 230, 232, 132 USPQ 6, 8 (CCPA 1961); In re Cofer, 354 F.2d 664, 668, 148 USPQ 268, 271-72 (CCPA 1966).

Lastly, we also find the Examiner's obviousness rejection of appealed claim 1 based on Maeda to be without merit. In making this rejection, the Examiner refers to the illustration in Figure 3 of Maeda which depicts a timing sensor 5 mounted in an unidentified structure which secures the end of camshaft 8. Although this securing structure is unidentified, the Examiner nevertheless suggests (Answer, pages 7 and 8) that the skilled artisan would recognize that a bearing cap is inherently present since camshaft end securing structures are known to be bearing caps, and therefore Maeda's timing sensor 5 would be carried by a bearing cap as in appealed claim 1.

After reviewing the Maeda reference in light of the arguments, we are in agreement with Appellants that the Examiner's assertion is based on unfounded speculation. There is no indication in Maeda that the camshaft securing structure is intended to be a bearing cap, nor is there any evidence supplied by the Examiner as to the obviousness of using a bearing cap to secure the end of a camshaft. To establish inherency, evidence must make clear that the missing descriptive matter is

Appeal No. 1999-0829
Application No. 08/515,964

necessarily present in the thing described in the reference and would be recognized as such by persons of ordinary skill. In re Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) citing Continental Can Co. v. Monsanto Co., 948 F.2d 1264, 1268, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991). "Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient." Id. citing Continental, 948 F.2d at 1269, 20 USPQ2d at 1749.

Accordingly, since all of the limitations of appealed claim 1 are not taught or suggested by Maeda, the Examiner has not established a prima facie case of obviousness. The Examiner's 35 U.S.C. § 103 rejection of claim 1 based on Maeda, therefore, is not sustained.

Appeal No. 1999-0829
Application No. 08/515,964

In summary, we have not sustained any of the rejections of the claims on appeal. Therefore, the decision of the Examiner rejecting claims 1-11 is reversed.

REVERSED

KENNETH W. HAIRSTON)	
Administrative Patent Judge)	
)	
)	
)	BOARD OF PATENT
JOSEPH F. RUGGIERO)	
Administrative Patent Judge)	APPEALS AND
)	
)	INTERFERENCES
)	
JOSEPH L. DIXON)	
Administrative Patent Judge)	

JFR:hh

Appeal No. 1999-0829
Application No. 08/515,964

ERNEST A. BEUTLER
ATTORNEY AT LAW
A PROFESSIONAL CORPORATION
500 Newport Center Drive
Suite 945
Newport Beach, CA 92660