

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 16

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DAVID TURNER

Appeal No. 2001-0724
Application No. 09/251,602

HEARD: March 21, 2002

Before HAIRSTON, LEVY, and BLANKENSHIP, Administrative Patent Judges.

BLANKENSHIP, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1-9.

We affirm-in-part.

BACKGROUND

The invention is directed to an integral throttle body and torque motor.

Representative claim 1 is reproduced below.

1. A motorized throttle valve assembly comprising:
 - (a) a throttle body defining an engine air inlet passage therethrough;
 - (b) shaft means extending transversely through said inlet passage and journaled for rotational movement on said body, said shaft means including driving portions thereof extending externally of said throttle body;
 - (c) a valve member disposed in said inlet passage and rotationally moveable with said shaft means;
 - (d) a rotor including material having a relatively high magnetic permeability disposed on said shaft means in driving arrangement with said shaft means, and including a plurality of magnetized pole segments thereon;
 - (e) a motor housing having a stator of relatively high magnetic permeability therein, said stator having a coil of conductive material wound thereon and defining a pair of axial pole segments;
 - (f) a mounting member having said motor housing attached thereto retaining said rotor therein with said shaft means received through said motor housing, said rotor pole segments each defining an axial air gap with said stator pole segments wherein said motor housing, said rotor, said stator with said coil, said shaft means and said mounting member are formed in a sub-assembly and pre-calibrated;
 - (g) means for attaching said sub-assembly to said throttle body; and,
 - (h) connector terminal means connected to said coils and adapted for electrical connection thereto externally.

The examiner relies on the following references:

Kawahira	4,650,156	Mar. 17, 1987
Shiraki et al. (Shiraki)	4,651,041	Mar. 17, 1987

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Miller et al. (Miller)	4,947,893	Aug. 14, 1990
Hawsey et al. (Hawsey)	4,996,457	Feb. 26, 1991

Claims 1, 2, 4, 8, and 9 stand rejected under 35 U.S.C. § 103 as being unpatentable over Shiraki and Miller.

Claims 3, 5, and 7 stand rejected under 35 U.S.C. § 103 as being unpatentable over Shiraki, Miller, and Kawahira.

Claim 6 stands rejected under 35 U.S.C. § 103 as being unpatentable over Shiraki, Miller, and Hawsey.

Claims 10-17 have been withdrawn from consideration.

We refer to the Final Rejection (mailed Nov. 4, 1999) and the Examiner's Answer (mailed Jun. 14, 2000) for a statement of the examiner's position and to the Brief (filed May 2, 2000) for appellant's position with respect to the claims which stand rejected.

OPINION

In response to the section 103 rejection of claims 1, 2, 4, 8, and 9 as being unpatentable over Shiraki and Miller, appellant asserts (Brief at 3) that the examiner proposes to combine the teachings of "non-relevant art with those of relevant art." We understand appellant's position to be that Miller is not analogous prior art. Whether a reference in the prior art is "analogous" is a fact question. In re Clay, 966 F.2d 656, 658, 23 USPQ2d 1058, 1060 (Fed. Cir. 1992). Appellant's argument thus contests the underlying, implicit finding that Miller is analogous art.

Two criteria have evolved for determining whether prior art is analogous: (1) whether the art is from the same field of endeavor, regardless of the problem addressed, and (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved. Id. at 658-59, 23 USPQ2d at 1060.

The examiner responds (Answer at 7) that Miller is within the same field of endeavor as Shiraki, as both references are classified in class 251, entitled "Valves and Valve Actuation."¹ Classification carries some weight in determining whether a reference is analogous art; however, similarities and differences in structure and function of the inventions carry far greater weight. See In re Deminski, 796 F.2d 436, 442 n.3, 230 USPQ 313, 315 n.3 (Fed. Cir. 1986); In re Ellis, 476 F.2d 1370, 1372, 177 USPQ 526, 527 (CCPA 1973).

Here, Shiraki and Miller are similar in structure and function because, as the title of the classification indicates, both inventions are directed to valves for controlling the flow of fluid in a system, and mechanisms for actuating the valves. We therefore agree with the examiner that the references satisfy the first criterion for analogous art because they are within the field of the inventor's endeavor. We also agree with the examiner that, even with the assumption that Miller is not within the inventor's field of endeavor,

¹ Appellant recognizes Shiraki as being in appellant's field of endeavor (Brief at 3). A showing that Miller is within Shiraki's field of endeavor would, by implication, serve as a showing that Miller is within appellant's field of endeavor.

Miller is reasonably pertinent to the particular problem with which the inventor is involved.

We are informed by appellant's specification (page 2, ll. 14-29) that known engine throttle torque motor arrangements required difficult and complex operations to install and calibrate, and further that appellant wished to develop a torque motor that was easy to assemble, install, and calibrate. Miller discloses (particularly at col. 2, ll. 34-36 and col. 3, ll. 20-22) that using precalibrated sub-assemblies eases assembly of a valve and valve actuator. We therefore find that Miller also meets the second criterion for analogous prior art.

Appellant also alleges that "[i]t is error on the part of the Examiner to propose such a combination because it requires total reworking of not only the structure, but the function of the teachings of the reference." (Brief at 3.) "Claim 1 clearly recites that the torque motor subassembly has the shaft extending outwardly therefrom prior to assembly onto the throttle body." (Id.) However, we do not find such requirement in apparatus claim 1; appellant's argument thus appears to be not commensurate in scope with the claims which define the invention.

Claim 1 recites, "wherein said motor housing, said rotor, said stator with said coil, said shaft means and said mounting member are formed in a sub-assembly and pre-calibrated." The functional clause is not specific with respect to any arrangement of the structures so as to modify the structures previously set forth in the claim. Moreover, process steps per se cannot serve to limit the product claims. See In re Stephens, 345

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F.2d 1020, 1023, 145 USPQ 656, 658 (CCPA 1965) (“We think it well settled that the presence of process limitations in product claims, which product does not otherwise patentably distinguish over the prior art, cannot impart patentability to that product.”). The relevant inquiry is how the process recitations might define structure. See, e.g., In re Garnero, 412 F.2d 276, 279, 162 USPQ 221, 223 (CCPA 1969) (recitation of “interbonded one to another by interfusion between the surfaces of the perlite particles” construed as structural limitation in product claim); In re Dike, 394 F.2d 584, 589, 157 USPQ 581, 585 (CCPA 1968) (no error in USPTO board holding that term “blow-molded” in claims drawn to integral plastic container and handle failed to distinguish over prior art, because term related to process of making the article, and was not definitive as to the structure of the article).

Appellant has not pointed out any structure that may be defined by the implicit process limitations of forming the motor housing, rotor, stator with coil, shaft means, and mounting member in a sub-assembly and pre-calibrating the structures. We therefore find the argument that Shiraki as modified by the teachings of Miller would require a “total reworking” of Shiraki to be unpersuasive.

Appellant having not presented separate arguments for patentability with respect to the dependent claims, we sustain the rejection of claims 1, 2, 4, 8, and 9 as being unpatentable over Shiraki and Miller. See 37 CFR § 1.192(c)(7).

We turn to the rejection of claims 3, 5, and 7 under section 103 as being unpatentable over Shiraki, Miller, and Kawahira. We do not sustain the rejection of these claims, for the reasons advanced by appellant on pages 4 and 5 of the Brief.

Even if Kawahira is taken to disclose “a hollow (28) [Fig. 1] in the throttle body (18) with the motor housing member (42) received in the hollow and the mounting member (48) serving as a closure for the hollow” (Answer at 6), the structures of instant claim 3 cannot be read in isolation, but as further limiting the structures of claim 1. In particular, the rejection of claim 1 reads the combination of structures set forth as including “throttle body” 1, “motor housing” 16, and “mounting member” 11, as shown in Figure 1 of Shiraki. In view of the references applied, we do not find suggestion for the subject matter as a whole for instant claim 3.

Similarly, with respect to claim 5, the rejection points out “mounting member” 48 having “electrical terminals” 50 in the Kawahira reference. However, Shiraki discloses a “mounting member” 11, as contemplated by the rejection of claim 1. We agree with appellant that the references as applied would not have suggested the subject matter of claim 5.

Instant claim 7 requires that the motor housing is snap-locked onto the mounting member. The “snap-locked” arrangement of appellant’s invention is described at page 4, lines 18 through 22 of the specification, and illustrated as slots 38 and tabs 40 in instant Figure 3. We agree with appellant that the combination of references, including

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the disclosure of bracket 42 being “force-fitted” into wall 62 of Kawahira (col. 7, ll. 38-44; Fig. 3), would not have suggested all the requirements of instant claim 7.

Appellant has not responded to the rejection of claim 6 under section 103 as being unpatentable over Shiraki, Miller, and Hawsey. The rejection relies on Hawsey (e.g., col. 4, ll. 11-17) for the teaching of the annular member being formed substantially of an alloy of iron, neodymium, and boron. Appellant having not shown error in the rejection, we sustain the section 103 rejection of claim 6.

In summary, we have sustained the section 103 rejection of claims 1, 2, 4, 6, 8, and 9, but have not sustained the rejection of claims 3, 5, and 7.

CONCLUSION

The rejection of claims 1, 2, 4, 6, 8, and 9 under 35 U.S.C. § 103 is affirmed, but the rejection of claims 3, 5, and 7 under 35 U.S.C. § 103 is reversed. The examiner’s decision in rejecting claims 1-9 is thus affirmed-in-part.

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No time period for taking any subsequent action in connection with this appeal
may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

KENNETH W. HAIRSTON)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
STUART S. LEVY)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
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HOWARD B. BLANKENSHIP)	
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