UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JAN HODGSON, ROLF BRUCK,
and MEIKE REIZIG

Appeal 2008-1074
Application 10/281,003
Technology Center 1700

Decided: October 30, 2008

Before BRADLEY R. GARRIS, CHUNG K. PAK, and
PETER F. KRATZ, *Administrative Patent Judges*.

PAK, *Administrative Patent Judge*.

DECISION ON REQUEST FOR REHEARING

Appellants request rehearing of our Decision of May 5, 2008 (hereinafter "Decision"), wherein we sustained the Examiner's rejection of the appealed claims under 35 U.S.C. § 103(a). Appellants contend that our misapprehension of Maus '021 caused us to wrongly determine (1) that Maus '021 teaches or would have suggested forming openings in its gas-impermeable flow guide surfaces and (2) that one of ordinary skill in the art would not have been taught away from combining Maus '021 with Maus '403. (Request for Rehearing (hereinafter "Request") 2-5). We do not agree.

With respect to Appellants' contention that Maus '021 does not disclose openings in the gas-impermeable flow guide surfaces, Maus '021 at col. 10, ll. 20-25 teaches "[a] further configuration of a filter body 1 has **flow guide surfaces** which at least in part additionally have further guide surfaces provide for a further mixing effect. They may be **openings** as well as structures that are known in connection with motor vehicle catalytic converters . . ." (emphasis added). Maus '021 at col. 4, ll. 5-9, defines these "flow guide surfaces" as "**layers of gas-impermeable material** . . . [for] deflect[ing] the gas flow two or more times so that it has to cross the layers of filter material two or more times" (emphasis added). *See also* col. 10, ll. 7-8 (describing an embodiment illustrated in Figure 3 where "the gas-impermeable layers 12 . . . form the flow guide surfaces").

We appreciate Appellants' argument that the above openings are not part of the gas impermeable flow guide surfaces since Maus '021 teaches away from forming holes in the gas-impermeable flow guide surfaces due to an undesirable pressure drop across the filter associated with such holes (Request 3-5). However, we determine that Maus '021's discussion of this undesirable pressure drop is in the context of a prior art porous ceramic monolithic filter block employing a series of plugs. Maus '021, for example, teaches (col. 2, ll. 29-59) the undesirable pressure drop across the prior art filter block is caused by a series of plugs blocking multiple exhaust gas flow paths. Each of these plugs forces the entire volume of the exhaust gas in each plugged flow path to travel through the porous ceramic walls and mix with adjacent flow paths. *Id*. Because of this "mixing phenomena," an

undesirable pressure drop across the prior art filter block results. *Id*. at col. 3, ll. 10-20.

In contrast, the filter body 1 of Maus '021 does not employ plugs forcing the entire volume of exhaust gas in each flow path to mix with adjacent flow paths. In fact, Maus '021 illustrates an alternative filter device having a structure that allows mixing of adjacent gas streams. (Figure 8 and col. 12, ll. 60-67).

Consequently, Appellants have not shown that Maus '021's discussion relating to some pressure drop associated with a prior art porous ceramic monolithic filter block negates our determination that Maus '021 teaches or would have suggested forming openings in its gas-impermeable flow guide surfaces.

To the extent that Maus '021 is interpreted as having no openings in the gas-impermeable flow guide surface due to some undesirable pressure drop associated with these openings, the outcome of our decision would not be changed. As stated at page 5 of our Decision:

> We find that Maus '403 . . . teaches (col. 4, ll. 30-40 and col. 6, ll. 21-36) that the openings through the metal sheet layer 10, which serve as a flow guide surface in multiple flow paths for carbon particles, promote transverse mixing between the various flow paths. Maus '403 explains (col. 1, ll. 20-31) that such openings promote catalytic activity by further diffusing the gas flow.

Moreover, Maus '403 does not indicate that the openings for transverse mixing between adjacent flow paths cause any significant pressure drop that would adversely affect the treatment of exhaust gases (see Maus '403 in its entirety).

Thus, from our perspective, the benefits of employing openings in the non-impermeable flow guide surfaces taught by Maus ‘021 for transverse mixing outweigh any insignificant consequence associated with some undesirable pressure drop, which may be caused by some exhaust gas traveling through such openings. Hence, we remain of the view that one having ordinary skill in the art would have been led to provide openings through the gas-impermeable flow guide surfaces of Maus '021 for the purpose of transversely mixing adjacent gas flow paths, with the reasonable expectation of successfully removing undesirable carbon particles and improving the catalytic treatment of the gas flow.

Accordingly, Appellants’ Request for Rehearing has been granted to the extent that we have reconsidered our Decision, but denied with respect to making any modification therein.

DENIED

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