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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte R. SAMUEL BOORSE and MARTIN DIETERIE

Appeal 2014-009726
Application 12/943,109
Technology Center 3700

Before EDWARD A. BROWN, BRANDON J. WARNER, and
SEAN P. O'HANLON, *Administrative Patent Judges*.

O'HANLON, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

R. Samuel Boorse and Martin Dieterie (Appellants)[1] appeal under 35 U.S.C. § 134 from the Examiner's final decision rejecting claims 1–15. We have jurisdiction over this appeal under 35 U.S.C. § 6(b).

SUMMARY OF DECISION

We REVERSE.

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[1] According to Appellants, the real party in interest is BASF Corporation. App. Br. 3.

SUMMARY OF INVENTION

Appellants' claimed invention "relates to catalytic articles comprising a wall flow filter loaded with SCR [(selective catalytic reduction)] catalyst." Spec. ¶ 2. Claim 1, the sole independent claim, is reproduced below from page 14 (Claims Appendix) of the Appeal Brief with paragraph structure added:

> 1. A catalytic article comprising
>
> a wall flow filter having a plurality of longitudinally extending passages formed by longitudinally extending porous walls having substantially uniform porosity in cross-section bounding and defining the passages
>
> wherein the passages comprise
>
> inlet passages having an open inlet end and a closed outlet end, and
>
> outlet passages having a closed inlet end and an open outlet end,
>
> each of the porous walls having in cross-section an inlet portion and an outlet portion, the outlet portion being no greater than about 60% of the cross-sectional thickness of the porous walls, and
>
> the wall flow filter loaded with an SCR catalyst composition such that substantially all of the catalyst is distributed in the outlet portion of the porous walls.

REJECTION

Claims 1–15 are rejected under 35 U.S.C. §103(a) as being unpatentable over Hu (US 2006/0179825 A1, pub. Aug. 17, 2006) and Henry (US 2010/0303677 A1, pub. Dec. 2, 2010).[2]

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[2] We note that the Examiner mistakenly cited Brisley and Beall references in the Final Action. Final Act. 2. We consider this to be a typographical error, as the body of the rejection properly referenced the Hu and Henry references, Appellants understood the rejection to be based on Hu and Henry

ANALYSIS

The Examiner finds that Hu discloses the invention substantially as claimed in independent claim 1, including, *inter alia*, a wall flow filter (device 10) having porous walls (filter elements 11) with an SCR catalyst distributed in the outlet of the porous walls. Final Act. 2–3 (citing Hu ¶¶ 22, 24, 65, Fig. 8). The Examiner finds that Henry discloses a filter with porous walls (120) wherein the outlet portion of the walls includes a catalytic coating (130) and is no greater than 60% of the cross-sectional thickness of the porous walls, and reasons that it would have been obvious to a skilled artisan to similarly dimension the outlet portion of Hu's porous walls to predictably achieve desired activity of the catalytic material and to provide a change in particulate storage capacity with routine experimentation. *Id.* at 3–4 (citing Henry ¶¶ 26, 28).

Appellants traverse, arguing, *inter alia*, claim 1 recites that substantially all of the SCR catalyst is *in* the porous walls of the catalytic article, and the cited references disclose the SCR catalyst *on* the outer surfaces of the porous walls. App. Br. 8–11 (citing Spec. ¶¶ 25, 35, Fig. 3; Hu ¶ 22, Fig. 1; Henry ¶ 28, Fig. 1b). We find Appellants' argument persuasive.

The Examiner answers Appellants' argument in two manners. First, the Examiner interprets "in" to include "the coating distributed along the wall outlet portion." Ans. 8–9. However, the Examiner's interpretation is inconsistent with how "in" is described in the Specification. *See, e.g.*, Spec.

(*see* App. Br. 6), and the Examiner clarified the rejection in the Answer (*see* Ans. 3).

¶ 25 ("In order to avoid very high back pressures, the SCR catalyst coating *should not simply be on the outlet channel wall surface* where it would form a fully dense layer. Rather the coating *must be in the wall* but only penetrate the outlet half of the wall." (emphases added)); *see also id.* ¶ 30 and Fig. 3 (describing and illustrating, respectively, the catalyst within the porous wall); *and* Reply Br. 2 (citing Spec. ¶ 25). Appellants have limited distribution of the SCR catalyst "in the . . . porous walls" to exclude distribution of a layer of catalyst material solely on an outer surface of the porous walls. The Examiner's interpretation to the contrary is improper.

Alternatively, the Examiner answers that Henry teaches distribution of the SCR catalyst in the porous walls. Ans. 9–10 (citing Henry ¶ 3; MPEP § 2123). The section of Henry cited by the Examiner discusses the background of the invention and states:

> One approach to meet the need for combined [particulate matter] and [nitrogen oxide] (NOx) control has been to integrate a DeNOx catalyst within a diesel particulate filter (DPF) to reduce volume and decrease backpressure penalty. In this approach, the catalyst and DPF are integrated by loading the catalyst within the DPF wall porosity. However, *this type of catalyst addition adversely affects soot-loaded backpressure*, even for very high porosity filters (≧65% porosity), which, in addition, are challenging to produce. *Such backpressure imposes a severe fuel consumption penalty and complicates regeneration of the DPF.*

Henry ¶ 3 (emphasis added); *see also id.* ¶ 24. Henry teaches an alternative to integrating the SCR catalyst within the filter; namely, to provide the catalyst as a layer "on an outer surface of porous walls **120**, *rather than in the porosity within porous walls **120***." *Id.* ¶ 28 (emphasis added); *see also id.* ¶¶ 35–36 (explaining the advantage of providing the SCR catalyst on an

outer surface of the porous walls rather than within the walls), ¶ 40 (teaching the filling of the wall pores prior to depositing the SCR catalyst to prevent deposition of the catalyst within the porous walls); *and* Reply Br. 3–4 (citing Henry ¶¶ 28, 40). Henry would therefore suggest to a skilled artisan to deposit the SCR catalyst on the surface of the porous walls and to avoid placement of the SCR catalyst in the porous walls. The Examiner's suggestion to the contrary is in error.

Accordingly, for the foregoing reasons, we reverse the Examiner's rejection of claim 1, as well as of its dependent claims 2–15, as being obvious over Henry and Hu.

DECISION

The Examiner's decision to reject claims 1–15 is reversed.

REVERSED