

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte GERARD MARTIN, TIDJANI NIASS,
JEAN-FRANCOIS LE COZ, and ETIENNE LEBAS

Appeal 2008-1473
Application 10/433,792
Technology Center 3700

Decided: August 19, 2008

Before MURRIEL E. CRAWFORD, DAVID B. WALKER, and JOHN C. KERINS, *Administrative Patent Judges*.

WALKER, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. §§ 6(b) and 134(a) from the final rejection of claims 1-25. The Appellants presented oral argument on August 12, 2008. We reverse.

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Representative claim 1 reads as follows:

1. A catalytic combustion device comprising a main combustion zone including
 - at least one catalytic section,
 - at least one air/fuel mixing zone,
 - said mixing zone comprising
 - at least one pressurized air inlet, and
 - liquid fuel injection means, characterised [sic] in that the injection means project the liquid fuel onto a hot wall heated by the combustion of the air/fuel mixture in the main combustion zone so as to allow vaporization of said fuel on contact with the hot wall.

The reference set forth below is relied upon as evidence in support of the rejections:

Maruko US 5,203,690 Apr. 20, 1993

Claims 1-25 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Maruko.

In rejecting claims under 35 U.S.C. § 103(a), the examiner bears the initial burden of establishing a prima facie case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). See also *In re Piasecki*, 745 F.2d 1468, 1472 (Fed. Cir. 1984). Only if this initial burden is met does the burden of coming forward with evidence or argument shift to the appellant. *Id.* at 1445. See also *Piasecki*, 745 F.2d at 1472. Obviousness is

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then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. *See Oetiker*, 977 F.2d at 1445; *Piasecki*, 745 F.2d at 1472.

Each of the rejected claims requires “liquid fuel injection means, characterised [sic] in that the injection means project the liquid fuel onto a hot wall heated by the combustion of the air/fuel mixture in the main combustion zone so as to allow vaporization of said fuel on contact with the hot wall.”

The Examiner found that Maruko teaches fuel injection means (14) that projects fuel against a wall that has a curved shape (outer surface of sleeve 2 or 22). This wall is heated (i.e., is a hot wall) by combustion of an air/fuel mixture within the main combustion zone (Answer 3, citing Maruko, col. 8, ll. 1-17). The Examiner also found that liquid fuel is proposed in Maruko as a possible fuel source, alternative to gaseous fuel, in the discussion of later embodiments of his invention (Answer 3-4, citing Maruko, col. 11, ll. 55-59). The Examiner further found that this fuel is injected by means of fuel feed pipe (14) to strike the heated outer surfaces of the sleeves (2 and 22). The Examiner considers that as the walls are heated to substantially elevated temperatures (more than 900 °C), when liquid fuel is employed, vaporization of the liquid fuel would occur upon contact with this heated wall (Answer 4, citing Maruko, col. 8, l. 9).

While we agree with the Examiner that Maruko teaches the use of either gaseous or liquid fuel, we do not agree that Maruko teaches

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vaporization of the liquid fuel upon contact with the heated wall. In fact, each embodiment disclosed in Maruko teaches the air/fuel mixture is brought into contact with the heated wall, which has been heated to sufficiently high temperatures, so that the mixture gas bursts into flame to produce a combustion gas (Maruko, col. 8, ll. 17-24; col. 9, ll. 29-38; col. 10, ll. 57-68; col. 11, ll. 21-29). We find no teaching of vaporizing liquid fuel upon contact with a heated wall, and find the teaching of combustion upon contact to be inconsistent with such vaporization as claimed. Because each of the appealed claims includes the disputed claim limitation, the Examiner has failed to make a *prima facie* case of obviousness of claims 1-25 over Maruko.

The decision of the Examiner is reversed.

REVERSED

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