



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/663.886	04/14/2010	Mariano Cano Wolff	2007P03048WOUS	8336
22116	7590	11/10/2016	EXAMINER	
SIEMENS CORPORATION INTELLECTUAL PROPERTY DEPARTMENT 3501 Quadrangle Blvd Ste 230 Orlando, FL 32817			RIVERA, CARLOS A	
			ART UNIT	PAPER NUMBER
			3741	
			NOTIFICATION DATE	DELIVERY MODE
			11/10/2016	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

IPDadmin.us@siemens.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MARIANO CANO WOLFF,
PATRICK RONALD FLOHR, MATTHIAS HASE,
MARTIN LENZE, JÜRGEN MEISL, PAUL PIXNER,
UWE REMLINGER, KAI-UWE SCHILDMACHE,
THOMAS ALEXIS SCHNEIDER, and JAAP VAN KAMPEN

Appeal 2015-000699
Application 12/663,886
Technology Center 3700

Before: MICHAEL L. HOELTER, ERIC C. JESCHKE, and
BRENT M. DOUGAL, *Administrative Patent Judges*.

DOUGAL, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134 from a Final Rejection of
claims 24–45. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

CLAIMED SUBJECT MATTER

The claims are directed to non-rotational stabilization of the flame of a premixing burner. Claim 24, reproduced below, is illustrative of the claimed subject matter:

24. A method for stabilizing the flame of a premixing burner including a reaction chamber containing a fluid, comprising:

injecting an air/fuel mixture into the reaction chamber at a first speed that is different from a second speed of the fluid present in the reaction chamber wherein the air/fuel mixture injected into the reaction chamber is in a form of an unswirled spray;

setting the first speed such that a plurality of vortices form at an interface forming between the air/fuel mixture and the fluid surrounding the air/fuel mixture, the plurality of vortices form due to a set speed difference between a mixture present in the reaction chamber and the air/fuel mixture; and

injecting a fuel or the air/fuel mixture into the reaction chamber as a pilot fuel using a pilot burner, the pilot fuel is injected into the reaction chamber with a parallel or an anti-parallel offset from the air/fuel mixture.

REFERENCES

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Faucher	US 4,179,881	Dec. 25, 1979
Roffe	US 4,262,482	Apr. 21, 1981
Ho	US 4,863,371	Sept. 5, 1989
Toon	US 5,319,935	June 14, 1994
Bland	US 6,786,047 B2	Sept. 7, 2004
Neville	US 2001/0026911 A1	Oct. 4, 2001

REJECTIONS

I. Claims 24, 25, 28, 30, 31, 34, 37–40, 42, 44, and 45 are rejected under 35 U.S.C. §103(a) as being unpatentable over Roffe and Ho.

II. Claims 24, 25, 30–32, 37–40, and 42 are rejected under 35 U.S.C. §103(a) as being unpatentable over Neville and Ho.

III. Claims 26, 27, and 29 are rejected under 35 U.S.C. §103(a) as being unpatentable over Neville, Ho, and Bland.

IV. Claims 35 and 36 are rejected under 35 U.S.C. §103(a) as being unpatentable over Neville, Ho, and Faucher.

V. Claims 30, 31, 33, 41, and 43 are rejected under 35 U.S.C. §103(a) as being unpatentable over Toon and Ho.

OPINION

Claims 25–29 depend from independent claim 24, and claims 31–45 depend from independent claim 30. The Examiner outlines two separate rejections of independent claims 24 and 30 (Rejections I & II). Independent claim 30 is also separately rejected under a third rejection (Rejection V). Claim 24 is directed to a “method for stabilizing the flame of a premixing burner including a reaction chamber containing a fluid” while claim 30 is directed to a premixing burner.

Rejection I

As Appellants argue all of the identified claims under Rejection I together, we select independent claim 24 as representative. *See* 37 C.F.R. § 41.37(c)(1)(iv). The Examiner finds that Roffe teaches the majority of the features of claim 24. Final Act. 3–4. The Examiner then finds that “Ho teaches that it was known to use a difference in velocity from a fuel injection 3 inside a reaction chamber 1 to create a reduced pressure and consequently a strong recirculation zone.” *Id.* at 4. The Examiner concludes that it would

have been obvious “to create the plurality of vortices 47 of the recirculation zone in Roffe by setting the speed of the air/fuel injection to a first speed that is different from a second speed of the fluid present in the reaction chamber, as suggested and taught by Ho, in order to promote a stronger recirculation zone (col. 3, ll. 7-10).” *Id.*

Appellants argue that Roffe does not teach “that a first speed is set so that *vortices form at an interface between the air/fuel mixture and the fluid surrounding the air/fuel mixture.*” Appeal Br. 4. It is argued that this is because Roffe’s “vortices 47 form at the corner 46 where the inner casing 22 expands” (i.e., a casing/fuel interface) while “appellant’s [sic] plurality of vortices form at an interface forming the air/fuel mixture and the fluid surrounding the air/fuel mixture.” *Id.* at 5.

But, the Examiner responds, Roffe’s vortices 47 are also at an interface between the air/fuel mixture and the surrounding fluid. Answer 2. The Examiner further provides an annotated version of Roffe’s figure 2 identifying where the interface is located, as well as the fluid surroundings and the fuel/air mixture. *Id.*

Appellants state that Roffe’s vortices 47 are at the corner and thus not at the claimed “interface,” however, Appellants provide no explanation as to why the corner position is not also the claimed position. Appeal Br. 5. Thus, we are provided with no reasoning why the Examiner’s position is incorrect. For this reason we are not informed of error in the Examiner’s reasoning.

Appellants also argue that the “cited portion of Ho fails to disclose setting the first speed so that vortices form at an interface between the air/fuel mixture and the fluid surrounding the air/fuel mixture, where the

vortices form due to the set speed difference between the first and second speed.” Appeal Br. 5.

Ho states “Jet 3 is injected into combustion zone 1 at a velocity sufficient to create a reduced pressure and consequently a strong recirculation zone within combustion zone 1 proximate the periphery of jet 3.” Ho, col. 3:7–10. The Examiner states that this “teaches creating a strong recirculation zone by injecting the fuel at a different speed (so to reduce pressure) than the fuel inside the chamber.” Final Act. 2. The Examiner also responds that “the prior art is clear in that the vortices at the jet edge result from momentum transfer between the fast jet and the surroundings.” Answer 4.

Appellants’ arguments do not inform us as to why the Examiner’s reasoning is incorrect. The Examiner has identified where the prior art teaches the claimed features and explained the reasoning behind the rejection. Conversely, Appellants have identified where they believe the errors lie, but have not explained why the Examiner’s reasoning is incorrect. Thus, we are not informed of error in the rejection.

Appellants also argue that the Examiner’s reason to combine Roffe and Ho is conclusory. Appeal Br. 6. But, Appellants again provide no analysis as to why this might be the case. Blanket statements without more are not enough to inform us of error.

For these reasons we sustain the rejection of claim 24 over Roffe and Ho. For these same reasons we sustain the similar rejection of claims 25, 28, 30, 31, 34, 37–40, 42, 44, and 45.

Rejection II

As Appellants argue all of the identified claims under Rejection II together, we select independent claim 24 as representative. The Examiner finds that Neville teaches the majority of features of claim 24. Final Act. 5. The Examiner then relies on Ho for the same teachings as in Rejection I. *Id.* at 6. The Examiner also provides a reason for combining Neville and Ho. *Id.*

Neville Figure 1 discloses a structure very similar to Roffe's Figure 2. Thus, here in Rejection II, Appellants apply the same arguments from Rejection I to the combination of Neville and Ho. Appeal Br. 6–7. For example, similar to Rejection I, Appellants identify the location of Neville's vortices, but do not explain why the identified position is not also the claimed position, or why the Examiner's reasoning is incorrect. *Id.*

The Examiner responds in a similar manner, providing the same arguments, as well as providing an annotated version of Neville's Figure 1 showing the same features identified in Roffe's Figure 2. Answer 4–6.

As Appellants provide no additional argument or explanation, we are not informed of error in the Examiner's reasoning for similar reasons as in Rejection I.

For these reasons we sustain the rejection of claim 24 over Neville and Ho. For these same reasons we sustain the similar rejection of claims 25, 30–32, 37–40, and 42.

Rejections III & IV

Appellants provide no arguments with respect to the rejections of claims 26, 27, 29, 35, and 36. Because claims 26, 27, and 29 depend from

claim 24 and claims 35 and 36 depend from claim 30, for which we sustain the Examiner's rejection for the reasons described above, we also sustain the Examiner's decision rejecting claims 26, 27, 29, 35, and 36.

Rejection V

As Appellants argue all of the identified claims under Rejection V together, we select independent claim 30 as representative. The Examiner finds that Toon teaches the majority of features of claim 30. Final Act. 8–9. The Examiner then relies on Ho for the same teaching as in Rejections I and II. *Id.* at 9. The Examiner also provides a reason for combining Toon and Ho. *Id.*

Toon's Figure 8 discloses a structure very similar to Roffe's Figure 2. Thus, here in Rejection V, Appellants apply the same arguments from Rejection I to the combination of Toon and Ho. Appeal Br. 8–9. For example, similar to Rejection I, Appellants identify the location of Toon's vortices, but do not explain why the identified position is not also the claimed position, or why the Examiner's reasoning is incorrect. *Id.* at 8.

The Examiner responds in a similar manner, providing the same arguments, as well as providing an annotated version of Toon's Figure 8 showing the same features identified in Roffe's Figure 2. Answer 6–8.

As Appellants provide no additional argument or explanation, we are not informed of error in the Examiner's reasoning for similar reasons as in Rejection I.

For these reasons we sustain the rejection of claim 24 over Neville and Ho. For these same reasons we sustain the similar rejection of claims 25, 30–32, 37–40, and 42.

Appeal 2015-000699
Application 12/663,886

DECISION

The Examiner's rejection of claims 24–45 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED