



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.
13/437,499	04/02/2012	Francesco CAVARRETTA	046912.00044	6458
30791	7590	12/12/2016	EXAMINER	
BANNER & WITCOFF, LTD. ATTORNEYS FOR CLIENT NOS. 006912 AND 026912 1100 13th STREET, N.W. SUITE 1200 WASHINGTON, DC 20005-4051			LAU, JASON	
			ART UNIT	PAPER NUMBER
			3743	
			NOTIFICATION DATE	DELIVERY MODE
			12/12/2016	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):

PTO-30791@bannerwitcoff.com

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

*Ex parte* FRANCESCO CAVARRETTA, MASSIMILIANO VIGNOCCHI,  
MAURIZIO UGEL, and ALBERTO BISON

---

Appeal 2014-009807  
Application 13/437,499<sup>1</sup>  
Technology Center 3700

---

Before LYNNE H. BROWNE, JEREMY M. PLENZLER, and  
ERIC C. JESCHKE, *Administrative Patent Judges*.

PLENZLER, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants seek our review under 35 U.S.C. § 134 of the Examiner's Final Decision rejecting claims 1–12 and 17–22. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

---

<sup>1</sup> Appellants identify Electrolux Home Products Corporation, N.V. as the real party in interest. App. Br. 2.

CLAIMED SUBJECT MATTER

Claims 1, 7, 11, and 20 are independent, with claims 2–6, 8–10, 12, 17–19, 21, and 22 depending from claim 1, 7, 11, or 20. Claims 1 and 11 are representative of the claims on appeal, and are reproduced below:

1. A laundry dryer comprising:
  - a drying chamber;
  - an air inlet passage provided upstream of the drying chamber for supplying air to the drying chamber;
  - an air exhaust passage provided downstream of the drying chamber for exhausting heated air and water vapor from the drying chamber;
  - a heater positioned along the air inlet passage for heating air passing through the air inlet passage;
  - a process air fan downstream of the drying chamber and upstream of the air exhaust passage; and
  - an air recirculation passage fluidly connecting the air exhaust passage and the air inlet passage;wherein:
  - at least a connecting portion of the air recirculation passage, that connects with the exhaust passage, extends at an angle of at least 90 degrees relative to a flow direction of the air exhaust passage extending past the connecting portion; and
  - a fixed flow directing flap is provided adjacent a junction of the air inlet passage and the air recirculation passage, serving to direct a recirculation air flow toward the heater and away from an inlet end of the air inlet passage.
11. A laundry dryer comprising:
  - a drying chamber;
  - an air inlet passage provided upstream of the drying chamber for supplying air to the drying chamber;

an air exhaust passage provided downstream of the drying chamber for exhausting heated air and water vapor from the drying chamber;

a heater positioned along the air inlet passage for heating air passing through the air inlet passage;

a process air fan downstream of the drying chamber and upstream of the air exhaust passage;

an air recirculation passage fluidly connecting the air exhaust passage and the air inlet passage; and

a recirculation air lint filter mounted in the air exhaust passage and extending over an inlet of the recirculation passage, wherein the recirculation air lint filter is removable and/or replaceable through the air exhaust passage.

#### REJECTIONS

1. Claims 1–10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen (US 6,098,310, iss. Aug. 8, 2000), Barbier (FR 2930286 A3, pub. Oct. 23, 2009), and Morgans (GB 1369713 A, pub. Oct. 9, 1974).

2. Claim 11 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen, Barbier, and Steffans (US Pat. Pub. No. 2010/0146811 A1, pub. June 17, 2010).

3. Claim 12 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen, Barbier, Steffans, and Hong (US Pat. Pub. No. 2006/0123854 A1, pub. June 15, 2006).

4. Claims 17–20 and 22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen and Barbier.

5. Claim 21 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen, Barbier, and Morgans.

OPINION

*Claims 1–10*

Appellants argue claims 1–10 as a group. App. Br. 5–10. We select claim 1 as representative. Claims 2–10 stand or fall with claim 1. *See* 37 C.F.R. 41.37(c)(1)(iv) (2015). The Examiner finds that Chen teaches the features of claim 1, other than the “air recirculation passage” and the further limitations associated with that passage. Final Act. 2–3. The Examiner finds that Barbier teaches an air recirculation passage having “a connecting portion . . . that connects with the exhaust passage[ and] extends at an angle of at least 90 degrees relative to a flow direction of the air exhaust passage extending past the connecting portion.” *Id.* at 3. The Examiner additionally finds that Morgans teaches the “fixed flow directing flap” recited in claim 1. *Id.* The Examiner proposes combining those teachings to arrive at the claimed arrangement. *Id.*

Appellants respond, contending that “Chen and Barbier are not properly combinable because they are non-analogous art” (App. Br. 7–8), “the rejection is based on impermissible hindsight” (*id.* at 8), and that Morgans does not teach a “fixed flap” (*id.* at 8–10).

With respect to the non-analogous art contention, Appellants characterize one problem addressed by the pending application as “dynamic pressure differentials” between the inlet and exhaust sides of the recirculation passages. *Id.* at 7–8. The Specification explains that “[t]he large switchback or angle  $\alpha$  limits the influence of dynamic pressure on the amount of air entering the recirculation passage 126” and, “[w]ith an angle  $\alpha$  of at least 90 degrees, the velocity of the airflow in the exhaust direction will not contribute dynamic pressure to increase the overall pressure differential

between the exhaust side and the inlet side of the air recirculation passage 126.” Spec. ¶ 20. Appellants contend that “Barbier is directed to removing burnt combustion contaminants from a combustion chamber of a motor vehicle . . . which is a very different problem than recirculating air in a laundry dryer in a way to . . . minimize the influence of dynamic pressure.” App. Br. 7 (emphasis omitted). The Examiner responds by explaining that “[i]t would be readily apparent to a person skilled in the art reading Barbier that the reduced backflow is due to the backward angling of the recirculation duct 53 and the negative pressure created at the junction” and, therefore, “Barbier implicitly teaches minimizing dynamic pressure.” Ans. 11. The Examiner further explains that “Barbier implicitly teaches limiting dynamic pressure since Barbier teaches the *same recirculation channel angle* relative to the outward flow of the exhaust gases, and Appellants state that this angle limits the dynamic pressure of air entering the recirculating passage.” *Id.* at 12 (emphasis added).

Barbier and the pending application both deal with air recirculation systems. As noted above, the Examiner finds that Barbier’s passage is the same as that disclosed in Appellants’ Specification and claimed, and that one skilled in the art would understand it to function in the same manner to limit the effects of dynamic pressure. Appellants do not persuasively dispute the Examiner’s findings and, instead, simply contend that those findings are deficient because Barbier does not expressly discuss dynamic pressure mitigation and that the Examiner provides no other evidence to support those findings. Appellants fail to even allege that the arrangement of Barbier would not mitigate the effects of dynamic pressure in its recirculation system or that one skilled in the art would not have appreciated that Barbier would

operate in that manner. Appellants fail to establish error in the Examiner's determination that one skilled in the art would understand Barbier's system to reduce the effects of dynamic pressure on its air recirculation passage and, therefore, fail to establish error in the Examiner's determination that Barbier is reasonably pertinent to the problem of dynamic pressure differentials in air recirculation passages.

Appellants' contentions regarding hindsight are also unpersuasive. For example, Appellants simply allege that "Barbier teaches nothing about limiting the influence of dynamic pressure." App. Br. 8. Appellants do not identify any knowledge relied upon by the Examiner that was gleaned only from Appellants' disclosure and that was not otherwise within the level of ordinary skill at the time of the invention. *See In re McLaughlin*, 443 F.2d 1392, 1395 (CCPA 1971).

As for Appellants' contentions regarding Morgans not having a "fixed flow directing flap," we initially note that there is no dispute that Morgans teaches a "flow directing flap." *See* App. Br. 9 (acknowledging that "Morgans teaches an adjustable, non-fixed flap") (emphasis omitted). The dispute focuses on whether the flap in Morgans is "fixed" and whether it "direct[s] a recirculation air flow toward the heater and away from an inlet end of the air inlet passage" as recited in claim 1. *Id.* at 9–10. The Examiner explains that "Morgans's flap is movably fixed via a handle 14" because "the flap cannot rotate without first moving the handle." Ans. 12. As for directing air flow, the Examiner explains that based on the adjusted (and subsequently fixed) position of the valve, Morgans would direct air flow in the direction recited in the claim. Final Act. 3; Ans. 12–13. Appellants do not persuasively rebut those findings. *See* Reply Br. 6–7.

For these reasons, we are not apprised of Examiner error in the rejection of claims 1–10.

*Claims 11 and 12*

Appellants argue claims 11 and 12 as a group. App. Br. 10–12. We select claim 11 as representative. Claim 12 stands or falls with claim 11. In connection with claim 11, Appellants present arguments similar to those discussed above, which are unpersuasive for the reasons indicated above. *See* App. Br. 10. Claim 11, however, additionally recites “a recirculation air lint filter mounted in the air exhaust passage and extending over an inlet of the recirculation passage, wherein the recirculation air lint filter is removable and/or replaceable through the air exhaust passage.” The Examiner finds this feature is taught by Steffens (referencing Figure 2) and proposes further modifying Chen accordingly. Final Act. 6–7. Appellants do not dispute the Examiner’s rationale for modifying Chen based on Steffens. App. Br. 10–12. Rather, Appellants dispute the Examiner’s findings with respect to Steffens. *Id.*

Specifically, Appellants contend that “in Steffens, the recirculation lint filter is ‘disposed *in the recirculated air duct,*’ ‘preferably disposed at the branching-off point.’” App. Br. 11 (citing Steffens ¶¶ 14–15). The discussion of the lint filter in Steffens in connection with Figure 2 explains that “the lint filter 20 is situated at the branching-off point 19 of the recirculated air duct 14 from the process air duct 2.” Steffens ¶ 58. This disclosure from Steffens teaches an air filter “extending over an inlet of the recirculation passage.” We determine that the disclosure in paragraph 58 of Steffens describing “the lint filter 20 [being] situated at the branching-off point 19” also fairly teaches, or at least suggests, that the air filter could be

“at the branching-off point” on the exhaust (process air) side of the recirculation passage inlet, particularly when that paragraph of Steffens further contemplates “lint removed from the lint filter 20 [being] disposed of by means of the exhaust air in the exhaust air duct 19 via the exhaust air outlet 16.” Appellants further contend that Steffens fails to teach removability of its filter “through the air exhaust passage.” App. Br. 11–12. This, too, is unpersuasive. Appellants acknowledge that Steffens teaches filter removability, but allege error in the rejection because “Steffens does not disclose any manner for removing the filter” and, more specifically, because “[t]here is . . . no indication or disclosure in Steffens that the filter is ‘removable and/or replaceable through the air exhaust passage’ as called for by claim 11.” *Id.* at 11. We do not read the rejection as requiring the exact structure of Figure 2 from Steffens being placed in Chen’s system. Rather, the Examiner proposes “modify[ing] Chen to include a recirculation air lint filter mounted in the air exhaust passage and extending over an inlet of the recirculation passage, wherein the recirculation air lint filter is removable and/or replaceable through the air exhaust passage.” Ans. 7. We are not apprised of error in the Examiner’s findings regarding lint filter location and removability and, as noted above, Appellants do not dispute the Examiner’s rationale for the modification proposed.

Accordingly, we are not apprised of Examiner error in the rejection of claims 11 and 12.

*Claims 17–20 and 22*

With respect to claims 17–19, other than reasserting arguments found to be unpersuasive above, Appellants include statements summarizing the features of the claims and the Examiner’s rejections, which do not constitute

argument and fail to apprise us of error in those rejections. *See* App. Br. 12–14. To the extent Appellants’ statements addressing the preamble of claims 17–19 are considered argument, those statements are still unpersuasive.

The preamble of claims 17–19 recites “[a] *modular* recirculation air flow unit for a laundry dryer.” Appellants’ statements in connection with the preamble summarize the rejection, noting that

the Final Office Action admits that such a combination does not teach the arrangement of a *modular* recirculation air flow unit that inserts between the exhaust and intake of a laundry dryer. In particular, the Examiner admits “Barbier’s recirculation duct is not modular” and that “the references fail[] to disclose or teach a modular set up.” *Id.* at 8, 11. As to this feature, the Final Office Action makes a bare, unsupported assertion that modularity is “not patentably distinct” because “there are many reasons why it would be desirable to make the recirculation duct modular.” *Id.* at 11.

App. Br. 13. Appellants offer no explanation as to why the claims should be limited to “modular” units. Although the claims recite “[a] modular recirculation air flow unit for a laundry dryer” in the preamble, they include no further recitation of that language or any other feature in the body of the claims that would limit the claims to “modular” units. We do not view the preamble of claims 17–19 as a claim limitation because the body of the claims defines a complete structure and the preamble appears to recite only a purpose or intended use for the claimed invention. *See Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999).

Similarly, the majority of Appellants’ discussion regarding claims 20 and 22, other than that reasserting arguments found to be unpersuasive above, do not constitute argument and fail to apprise us of error in those

rejections. The only discussion in that section that appears to be argument is the contention regarding claim 20's recitation that "the air recirculation duct extends upwardly," for which the Examiner cites design choice. Final Act. 9. Appellants contend that this is "a bare assertion" and "employs impermissible hindsight." App. Br. 15–16. This is unpersuasive. As best we can tell, the recirculation duct could extend up, down, or straight (i.e., neither up nor down). Appellants fail to explain persuasively why choosing one of those three options would be more than design choice. Appellants' statements related to the preamble of claims 20 and 22 (App. Br. 14–15), even if considered argument, are unpersuasive for reasons similar to those noted above with respect to claims 17–19.

Accordingly, we are not apprised of Examiner error in the rejection of claims 17–20 and 22.

*Claim 21*

Appellants' arguments with respect to claim 21 are similar to those discussed above with respect to claim 1's "fixed flow directing flap," and are unpersuasive for the reasons indicated above.

Accordingly, we are not apprised of Examiner error in the rejection of claim 21.

DECISION

We AFFIRM the Examiner's decision to reject claims 1–12 and 17–22 under 35 U.S.C. § 103(a).

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

AFFIRMED