



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

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
15/940,166 03/29/2018 Robert E. Haden S-120,105C1 5905

31972 7590 09/08/2020
UNITED STATES DEPARTMENT OF ENERGY
1000 INDEPENDENCE AVENUE, S.W.
ATTN: GC-62 (HQ) MS 6F-048
WASHINGTON, DC 20585-0162

EXAMINER

GRIFFIN, WALTER DEAN

Table with 2 columns: ART UNIT, PAPER NUMBER

1774

Table with 2 columns: NOTIFICATION DATE, DELIVERY MODE

09/08/2020

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):

brenda.banks@hq.doe.gov
katherine.baldwin@hq.doe.gov

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ROBERT E. HADEN and DONALD G. LORENTZ

Appeal 2019-005823
Application 15/940,166
Technology Center 1700

Before MAHSHID D. SAADAT, DONNA M. PRAISS, and
BRIAN D. RANGE, *Administrative Patent Judges*.

RANGE, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 9–18. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as the United States Department of Energy. Appeal Br. 3.

CLAIMED SUBJECT MATTER²

Appellant describes the invention as relating to a fluid hydraulic system design for combining at least two miscible fluids. Spec. ¶ 4. Claim 9 is illustrative, and we reproduce it below while adding emphasis to certain key recitations:

9. A method of creating an axially-symmetric swirling flow, comprising:
- passing a main flow lacking axially-symmetric swirling flow through a chamber having an upstream nozzle and a downstream nozzle;
 - injecting a second flow into a plenum;
 - passing the second flow from the plenum to a slot connecting at a first end with the plenum and connecting radially tangentially at a second end with the chamber;
 - discharging the second flow through the slot and into the main flow,
- wherein the step of discharging the second flow into the main flow mixes the second flow with the main flow to impart a predefined swirling component to the main flow to generate an axially-symmetric uniform flow field.**

Appeal Br. 14 (emphasis added).

REFERENCES

The Examiner relies upon the prior art below in rejecting the claims on appeal:

<u>Name</u>	<u>Reference</u>	<u>Date</u>
Wiemers	5,171,090	Dec. 15, 1992
Bortkevitch et al. ("Bortkevitch")	US 7,059,591 B2	June 13, 2006

² In this Decision, we refer to the Final Office Action dated November 8, 2018 ("Final Act."), the Appeal Brief filed May 8, 2019 ("Appeal Br."), the Examiner's Answer dated May 29, 2019 ("Ans."), and the Reply Brief filed July 25, 2019 ("Reply Br.").

REJECTIONS

The Examiner maintains the following rejections on appeal:

- A. Claims 9 and 11–18 under 35 U.S.C. § 102 as anticipated by Wiemers. Ans. 3.
- B. Claim 10 under 35 U.S.C. § 103 as obvious over Wiemers in view of Bortkevitch. *Id.* at 6.

OPINION

We review the appealed rejections for error based upon the issues identified by Appellant and in light of the arguments and evidence produced thereon. *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential), cited with approval in *In re Jung*, 637 F.3d 1356, 1365 (Fed. Cir. 2011) (“[I]t has long been the Board’s practice to require an applicant to identify the alleged error in the examiner’s rejections.”). After considering the evidence presented in this Appeal and each of Appellant’s arguments, we are not persuaded that Appellant identifies reversible error. Thus, we affirm the Examiner’s rejections for the reasons expressed in the Final Office Action and the Answer. We add the following primarily for emphasis.

Appellant argues the two rejections separately but argues all claims subject to the Examiner’s anticipation rejection as a group. *See* Appeal Br. 6, 10. Therefore, consistent with the provisions of 37 C.F.R. § 41.37(c)(1)(iv) (2013), we limit our discussion to claims 9 and 10, and all other claims on appeal stand or fall together with claim 9.

Rejection A, Anticipation. The Examiner rejects claims 9 and 11–18 under 35 U.S.C. § 102 as anticipated by Wiemers. Ans. 3. The Examiner finds that Wiemers teaches passing flows through structure that is the same as, for example, the chamber, plenum, and slot of claim 9. Ans. 3–4 (citing

Wiemers). The Examiner finds that discharging the second flow into the main flow will impart a predefined swirling component to the main flow to generate an axially-symmetric uniform flow field. *Id.* at 4.

Appellant argues that the Examiner has not adequately established that Wiemers discloses mixing “the second flow with the main flow to impart a predefined swirling component to the main flow to generate an axially symmetric uniform flow field” as claim 9 recites. Appeal Br. 6–10; Reply Br. 6–9. For the reasons explained below, the argument does not identify Examiner error.

Our reviewing court has held that where “the claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his claimed product.” *In re Best*, 562 F.2d 1252, 1256 (CCPA 1977); *see also In re Spada*, 911 F.2d 705, 708 (Fed. Cir. 1990) (“[W]hen the PTO shows sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.”).

Here, the Examiner establishes that Appellant’s apparatus is substantially identical to the Wiemers apparatus. Ans. 3–4, 7–9; *also compare* Spec. Fig. 4B *with* Wiemers Fig. 2. Appellant argues that the Examiner misapplies inherency because the Examiner finds that Wiemers is “nearly” identical to Appellant’s Figure 4. Reply Br. 9. The law, however, only requires that processes be “substantial identical” for the inherency burden to shift to Appellant. *In re Best*, 562 F.2d at 1256. Given that Appellant and Wiemers’s flow processes and equipment are substantially identical, it is reasonable for the Examiner to require Appellant to prove that

Appeal 2019-005823
Application 15/940,166

Wiemers's flow process would not necessarily or inherently result in claim 9's "impart[ing] a predefined swirling component to the main flow to generate an axially symmetric uniform flow field.". Appellant does not meet that burden.

Moreover, the Examiner's position is supported by a preponderance of the evidence; Wiemers teaches that the flow after the point where Wiemers's streams merge is cyclonic. Ans. 7-8; Wiemers 5:20-46 ("device 81 maximizes the desired venture effect while maintaining overall cyclonic flow"). Also, Wiemers's symmetric structure suggests that flow through the structure would be symmetric. Ans. 3-4; Wiemers Fig. 6. Appellant argues that Wiemers states that it "maintains" cyclonic flow and therefore does not "impart" a new cyclonic flow. Appeal Br. 7. This argument is unpersuasive. For the reasons stated by the Examiner, we agree with the Examiner's finding that a person of skill in the art would have understood Wiemers's reference to "maintaining overall cyclonic flow" as teaching that cyclonic flow is maintained around the cone wall rather than implying that Wiemers flow entering inlet 87 is cyclonic. Ans. 7-8 (citing Wiemers).

Appellant also argues that Wiemers teaches its flow is turbulent and, therefore, not axially-symmetric. Appeal Br. 9-10. The Examiner, however, sufficiently explains that Wiemers only discloses turbulence further downstream of its apparatus (i.e., at a downstream point not relevant to the Examiner's rejection). Ans. 8-9.

Because Appellant's arguments do not identify error, we sustain the Examiner's anticipation rejection.

Rejection B, obviousness. The Examiner rejects claim 10 under 35 U.S.C. § 103 as obvious over Wiemers in view of Bortkevitch. Ans. 6. Claim 10 recites, "[t]he method of claim 9, further comprising injecting the

Appeal 2019-005823
Application 15/940,166

second flow into the plenum in a direction perpendicular to the main flow.”
Appeal Br. 14 (Claims App.). The Examiner finds that Wiemers does not explicitly disclose claim 10’s recitation. Ans. 6. The Examiner finds that Bortkevitch teaches a method of creating an axially-symmetric swirling flow where flow into a plenum is perpendicular to a main flow. *Id.* at 6–7. The Examiner determines that it would have been obvious to modify Wiemers to have such a perpendicular flow because it is a suitable configuration known in the art for enabling downstream mixing. *Id.* at 7.

Appellant argues that the modification of Wiemers as suggested by the Examiner would render Wiemers inoperable and would not necessarily result in symmetric flow. Appeal Br. 10–12. Appellant’s argument is unpersuasive. As the Examiner finds, Wiemers does not indicate that inclined injection feed streams are required for forward motion flow. *Id.* at 9–10. To the contrary, as the Examiner finds, Wiemers teaches a tapering configuration that would create a pressure differential and forward flow. *Id.* Also, as the Examiner finds, the flows and structure of modified Wiemers is substantially the same as the flows and structure Appellant discloses. Ans. 9–10. The Examiner thus has a reasonable basis for determining that modified Wiemers would result in the same symmetric flow as Appellant’s process, and Appellant lacks persuasive evidence to the contrary. *In re Best*, 562 F.2d at 1256.

Because Appellant does not establish error, we sustain this rejection.

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
9, 11–18	102	Wiemers	9, 11–18	
10	103	Wiemers, Bortkevitch	10	
Overall Outcome			9–18	

TIME PERIOD FOR RESPONSE

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