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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte KAREN L. HILLS

Appeal 2019-001683
Application 14/886,530
Technology Center 1700

Before CATHERINE Q. TIMM, GEORGE C. BEST, and JANE E. INGLESE, *Administrative Patent Judges.*

BEST, *Administrative Patent Judge.*

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from the Examiner's decision to reject claims 1–5, 7–10, 20, and 21 of Application 14/886,530. Final Act. (January 22, 2018). We have jurisdiction under 35 U.S.C. § 6.

For the reasons set forth below, we ***affirm in part***.

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[1] We use the word "Appellant" to refer to "Applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies The Boeing Company as the real party in interest. Appeal Br. 4.

I. BACKGROUND

The ’530 Application describes systems and methods for refreshing passenger garments onboard a vehicle such as a commercial aircraft. Spec. ¶ 1. During a passenger flight, some passengers may discover that certain articles of clothing have become wrinkled, musty, moistened with sweat, or otherwise compromised, i.e. less than clean and crisp. *Id.* ¶ 2. Using the systems and methods described in the ’530 Application, the compromised garments can be refreshed. Refreshing “may include, for example, warming, cooling, sanitizing, brushing, removing lint, and the like from various garment such as clothing, blankets, and the like.” *Id.* ¶ 3.

Claim 1 is representative of the ’530 Application’s claims and is reproduced below from the Claims Appendix of the Appeal Brief.

> 1. An aircraft comprising:
>
> a fuselage having an internal cabin; and
>
> a garment refreshing system located within the internal cabin,
>
> > *wherein the garment refreshing system is positioned within a closet of the internal cabin*,
> >
> > wherein the garment refreshing system is operable to refresh a garment of an individual within the internal cabin.

Appeal Br. 23(emphasis, some paragraphing, and indentation added).

II. REJECTIONS

On appeal, the Examiner maintains the following rejections:

1. Claims 1, 2, 4, 7, and 21 are rejected under 35 U.S.C. § 103 as unpatentable over either Schootstra[2] or the combination of Schootstra, Kendall,[3] and Tiid.[4] Final Act. 3; Answer 3–6.
2. Claim 3 is rejected under 35 U.S.C. § 103 as unpatentable over either Schootstra or the combination of Schootstra, Kendall, Tiid, and Cross.[5] Final Act. 6; Answer 6.
3. Claim 5 is rejected under 35 U.S.C. § 103 over either Schootstra or the combination of Schootstra, Kendall, Tiid, and Frantz.[6] Final Act. 7; Answer 7.
4. Claim 8 is rejected under 35 U.S.C. § 103 as unpatentable over either Schootstra or the combination of Schootstra, Kendall, Tiid, and Baltes.[7] Final Act. 7; Answer 7–8.
5. Claims 9 and 10 are rejected under 35 U.S.C. § 103 as unpatentable over the combination of Schootstra, Kendall, and Tiid. Final Act. 8; Answer 8–9.
6. Claim 20 is rejected under 35 U.S.C. § 103 as unpatentable over the combination of Schootstra, Kendall, Tiid, and Baltes. Final Act. 9; Answer 9.

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[2] US 2014/0224454 A1, published August 14, 2014.

[3] US 2007/0256457 A1, published November 8, 2007.

[4] US 2007/0063101 A1, published March 22, 2007.

[5] US 6,877,248 B1, issued April 12, 2005.

[6] US 2005/0211833 A1, published September 29, 2005.

[7] US 3,811,198, issued May 21, 1974

III. DISCUSSION

A. Rejection of claims 1, 2, 4, 7, and 21 as unpatentable over either Schootstra or the combination of Schootstra, Kendall, and Tiid

Appellant argues for reversal of this rejection on the basis of limitations in independent claim 1, from which claims 2, 4, 7, and 21 depend. Appeal Br. 10–13. Appellant also presents an additional argument for the separate patentability of claim 7. *Id.* at 13–14. We, therefore, choose claim 1 as representative of claims 1, 2, 4, and 21. 37 C.F.R. § 41.37(c)(1). Dependent claims 2, 4, and 21 will stand or fall with claim 1. *Id.* We shall discuss Appellant's arguments with respect to dependent claim 7 separately.

1. The rejection of claims 1, 2, 4, 7, and 21 as unpatentable over Schootstra alone

a. Claim 1

Appellant argues that the rejection of claim 1 should be reversed because the Examiner has not established a prima facie case of obviousness with respect to the limitation "wherein the garment refreshing system is positioned within a closet of the internal cabin." Appeal Br. 10–13. In particular, Appellant argues that the Final Action "acknowledges that neither Schootstra, nor Kendall describes, teaches, or suggests a garment refreshing system positioned within a closet." *Id.* at 10 (citing Final Act. 5).

The Final Action does state that "[n]either [Schootstra nor Kendall] discloses . . . the garment refreshing system positioned within a closet of the internal cabinet [sic, cabin], as recited in claims 1 and 5, respectively." Final Act. 5; *see also* Answer 5. The Examiner, however, further explained the basis for the rejection in the Advisory Action:

> Examiner cites SCHOOTSTRA for <u>expressly teaching</u> an aircraft galley including a washing machine or dryer, which

> reads on the broadly recited "garment refreshing system" as currently claimed. SCHOOTSTRA does not use the terminology "closet", however, taking into consideration the general knowledge and skill of one having ordinary skill in the art, it would not be difficult to understand that any closable component on an aircraft could readily function as a closet within the manner claimed.

Advisory Action 3.

In sum, the Examiner relies upon the level of ordinary skill in the art to supply the elements not expressly described in Schootstra. This sort of rote invocation of the level of ordinary skill in the art is not sufficient to sustain an obviousness rejection. *See In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.").

For the reasons set forth above, we reverse the rejection of claim 1 as unpatentable over Schootstra alone. We, therefore, also reverse the rejection of claims 2, 4, and 21.

b. Claim 7

Claim 7 depends, via claim 2, from independent claim 1. Because we have reversed the rejection of claim 1 as unpatentable over Schootstra alone, we also reverse the rejection of claim 7 as unpatentable over Schootstra alone.

2. The rejection of claims 1, 2, 4, 7, and 21 as unpatentable over the combination of Schootstra, Kendall, and Tiid

a. Claim 1

In rejecting claim 1 as unpatentable over the combination of Schootstra, Kendall, and Tiid, the Examiner found that Schootstra and

Kendall describe or suggest each limitation of claim 1 except for the garment refreshing system being located within a closet of the internal cabin. Final Act. 5. In particular, the Examiner found that Schootstra describes a garment refreshing system located in the galley of the interior cabin. *Id.* The Examiner also found that Tiid describes floor fittings for fastening a galley or other elements within the internal cabin of an airplane and that the galley can comprise cabin components such as a closet. *Id.* at 5–6; *see also* Tiid ¶ 12. Based upon these findings, the Examiner concludes that

> it would have been obvious at the time of the invention to provide the galley-mounted washing machine or dryer of SCHOOTSTRA alone or with KENDAL [sic] (which are readable on the claimed "refresher") in an aircraft closet with floor fitting fasteners as taught by TIID to yield the same and predictable results of such stowing such galley components securely in an aircraft.

Id. at 6.

In the Examiner's Answer, the Examiner further explains that

> both a garment refreshing system and closet in an aircraft galley are expressly taught by SCHOOTSTRA and TIID, respectively, as old and known, and the combination of the two would appear to produce the same and predictable results of the known functions of both a closet (for storing items) and a garment refreshing system (for treating/refreshing garments). Manifestly, the refresher/dryer of SCHOOTSTRA would be "stored" or "stowed" in the galley rather than merely sitting openly in the galley, and thus the combination of using an aircraft galley storing closet (evidenced as known in the art by TIID) to store the aircraft galley dryer (evidenced as known in the art by SCHOOTSTRA) would be *prima facie* obvious.

Answer 10–11.

Appellant argues that this rejection of claim 1 should be reversed because there is nothing in Tiid that describes, teaches, or suggest

positioning a garment refreshing system within a closet of an internal cabin of an aircraft. Appeal Br. 12–13. This argument is not persuasive of reversible error.

In this case, the Examiner found that the use of Tiid's closet to contain Schootstra's garment refreshing system is the combination of known elements performing their known functions to yield a predictable result. The Supreme Court has explained that such combinations are unlikely to be patentable. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007) ("The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.").

Here, Appellant has not identified any error in the Examiner's findings or explained any way in which the claimed combination achieves unpredictable or unexpected results.

For the reasons set forth above, we affirm the rejection of claims 1, 2, 4, and 21 as unpatentable over the combination of Schootstra, Kendall, and Tiid.

b. Claim 7

Claim 7 depends from claim 1 via claim 2. Claim 2 reads:

> 2. The aircraft of claim 1, wherein the garment refreshing system comprises a housing defining a refreshing compartment, and one or more refreshers within the refreshing compartment, wherein the one or more refreshers are operable to refresh the garment.

Appeal Br. 23.

Claim 7 reads:

> 7. The aircraft of claim 2, wherein the garment refreshing system comprises one or more dryers within the refreshing compartment, wherein the one or more dryers are operable to dry the garment.

Id.

Appellant argues that the rejection of claim 7 as unpatentable over the combination of Schootstra, Kendall, and Tiid should be reversed for the reasons offered for reversal of the rejection of claim 1. As discussed above, we do not find Appellant's arguments persuasive with respect to claim 1. We, therefore, also do not find them persuasive with respect to the rejection of claim 7.

Appellant further argues that claim 7 is patentable because "none of Schootstra, Kendall, or Tiid (alone or in combination with one another) describes, teaches, or suggests a housing defining a refreshing compartment in which both a refresher and a dryer are positioned." Appeal Br. 14.

Appellant's argument, therefore, depends upon the interpretation of claim 7 as requiring a refreshing compartment in which both a refresher and a dryer are located. Indeed, Appellant asserts that claim 7 "**necessarily differentiates** the dryers from refreshers." Appeal Br. 13–14; *see also* Reply Br. 4.

The Examiner, however, disagrees. *See* Answer 13. The Examiner maintains that, as claimed, claim 7's phrase "one or more dryers" limits the claim 2's generic term "one or more refreshers." *Id.* In particular, the Examiner states that claim 7 further limits claim 2 by specifying a species that falls within the genus recited in claim 2.

We, therefore, are faced with the question of the proper interpretation of claim 7.

During prosecution, the PTO gives the language of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as it would be understood by one of ordinary skill in the art, taking into account any definitions or other enlightenment provided by the written

description contained in the applicant's specification. *In re Morris*, 127 F.3d 1048, 1054–55 (Fed. Cir. 1997).

Thus, the question we confront is whether the Examiner's claim construction is unreasonably broad in view of the '530 Application's Specification.

The '530 Application's Specification consistently distinguishes dryers from refreshers. For example, dryers are omitted from the (non-exclusive) list of species falling within the genus of refreshers: "The refreshers may include, for example, one or more of a mister, a steamer, and ultraviolet light, a centimeter, a deterrent and emitter, a heater, and/or an agitator (such as a vibrating mechanism)." Spec. ¶ 5. Furthermore, the Specification characterizes devices that fall within the refresher genus as sanitizing devices. *Id.* ¶ 54 ("Further, the refreshers 140 may include various other type[s] of sanitizing devices other than listed."). Dryers are not generally thought of as sanitizing devices.

The Specification consistently discusses dryers as a separate class of device from refreshers. *See, e.g.*, *id.* ¶¶ 8, 55, 58. Moreover, dryers are exemplified as fans or blowers. *Id.* ¶ 55.

Based on the disclosure in the '530 Application's Specification, therefore, we conclude that the Examiner's interpretation of claim 7 is unreasonably broad.

Notwithstanding the erroneous claim construction, the Examiner maintains that claim 7 is unpatentable over the combination of Schootstra, Kendall, and Tiid. Answer 14. The Examiner notes that Schootstra describes a garment refreshing system comprising a conventional dryer. According to the Examiner, such dryers typically include both a heater and a fan or other type of blower. *Id.* the '530 Application's Specification identifies a heater as

a species of refresher and a blower as a type of dryer. *See, e.g.*, Spec. ¶¶ 54–55.

We do not find the Examiner's reasoning persuasive. The '530 Application's Specification describes the refreshers and dryers as being independently operable. *Id.* ¶ 58. The Examiner did not find, and the record does not suggest, that the heater and blower portions of Schootstra's dryer are independently operable. We, therefore, determine that the Examiner erred in finding that Schootstra's dryer contained both a refresher and a dryer as required by claim 7.

Accordingly, we reverse the rejection of claim 7 as unpatentable over the combination of Schootstra, Kendall, and Tiid.

B. Rejection of claim 3 as unpatentable over either Schootstra or the combination of Schootstra, Kendall, Tiid, and Cross

Appellant argues that the rejection of claim 3 should be reversed for the same reasons advanced for reversal of the rejection of claim 1, from which it depends. Appeal Br. 14.

Because we reverse the rejection of claim 1 as unpatentable over Schootstra alone, *see* § A.1.a, *supra*, we also reverse the rejection of claim 3 over Schootstra alone.

Similarly, we affirm the rejection of claim 1 as unpatentable over the combination of Schootstra, Kendall, and Tiid. *See* § A.2.a, *supra*.

C. Rejection of claim 5 as unpatentable over either Schootstra or the combination of Schootstra, Kendall, Tiid, and Frantz

Claim 5 of the '530 Application reads:

> 5. The aircraft of claim 1, further comprising a seat track and at least one fitting on a floor within the internal cabin, and

> wherein the garment refreshing system securely mounts to the seat track through at least a portion of the at least one fitting.

Appeal Br. 23.

1. The rejection of claim 5 as unpatentable over Schootstra alone

As discussed above, we have reversed the rejection of claim 1 as unpatentable over Schootstra alone. *See* § A.1.a, *supra.* Claim 5 depends from claim 1. We, therefore, also reverse the rejection of claim 5 as unpatentable over Schootstra alone.

2. The rejection of claim 5 as unpatentable over the combination of Schootstra, Kendall, Tiid, and Frantz

In rejecting claim 5 as unpatentable over the combination of Schootstra, Kendall, Tiid, and Frantz, the Examiner found that the combination of Schootstra, Kendall, and Tiid discloses each limitation in claim 5 except for the use of a seat track and fitting on the floor to securely mount the garment refreshing system. Final Act. 7. The Examiner further found that "it is old and known in the art to use seat tracks for securely mounting aircraft components, and particularly galleys (see FRANTZ at ¶ [0018])." *Id.*

Based upon these findings, the Examiner concluded that

> it would have been obvious at the time of filing to provide the aircraft cabin floor fitting to secure the refresher in the combination of SCHOOTSTRA alone or with KENDALL, and further with TIID, with a known aircraft cabin securing the mount such as a seat track as taught in FRANTZ to yield the same and predictable results of securely mounting a garment refreshing system in an aircraft cabin.

Id.

Appellant argues that the Examiner's reliance upon Frantz is misplaced and that the Examiner has not explained how a person of ordinary skill in the art would have been motivated to combine all of the references to arrive at the claimed invention and have had a reasonable expectation of success in making the combination. Appeal Br. 15–16.

In the Examiner's Answer, the Examiner essentially repeats the Final Action's analysis. *See* Answer 16. Appellant's argument is not persuasive of reversible error.

Here, the Examiner found that the mounting of the garment refreshing system suggested by the combination of Schootstra, Kendall, and Tiid to the seat track via a fitting as described in Frantz is the combination of known elements performing their known functions to yield a predictable result. As we discussed above, the Supreme Court has explained that such combinations are unlikely to be patentable. *See KSR*, 550 U.S. at 416.

Here, Appellant has not identified any error in the Examiner's findings or explained any way in which the claimed combination achieves unpredictable or unexpected results.

Appellant also argues that Frantz teaches away from the claimed combination. Appeal Br. 16–17. The portion of Frantz relied upon by Appellant reads: "For aircraft configurations having a section of the passenger cabin that does not include passenger seating or other aircraft components (e.g. galleys, cargo containers, partitions, etc.) which may be coupled to the seat tracks, appropriate floor panels may be installed which extend continuously over the non-protruding seat tracks." Frantz ¶ 18. According to Appellant, this portion of Frantz "expressly teaches away from a 'garment refreshing system securely mount[ing] to the seat track through at

least a portion of the at least one fitting,' as recited in claim 5." Appeal Br. 16–17.

This argument is not persuasive for two reasons.

First, the passage in question expressly contemplates attaching an aircraft component such as a galley to the seat track. All this portion of Frantz states is that—in areas of the plane where there is neither passenger seating nor other components coupled to the seat tracks—floor panels may be installed to cover the unused seat tracks.

Second, even if the passage of Frantz in question could be read as teaching that an aircraft component such as a galley can be used without being coupled to the seat tracks, the passage does not amount to a teaching away from mounting a galley to a seat track. This is because the passage "does not criticize, discredit, or otherwise discourage" mounting a galley to a seat track via a fitting. *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004).

In view of the foregoing, we affirm the rejection of claim 5 as unpatentable over the combination of Schootstra, Kendall, Tiid, and Frantz.

D. Rejection of claim 8 as unpatentable over either Schootstra or the combination of Schootstra, Kendall, Tiid, and Baltes

Appellant argues that the rejection of claim 8 should be reversed for the same reasons advanced for reversal of the rejection of claim 1. Appeal Br. 17.

Because we reverse the rejection of claim 1 as unpatentable over Schootstra alone, *see* § A.1.a, *supra*, we also reverse the rejection of claim 8 over Schootstra alone.

Similarly, we affirm the rejection of claim 1 as unpatentable over the combination of Schootstra, Kendall, and Tiid. *See* § A.2.a, *supra*.

E. Rejection of claims 9 and 10 as unpatentable over the combination of Schootstra, Kendall, and Tiid

Appellant argues that the rejection of claims 9 and 10 should be reversed for the same reasons advanced for reversal of the rejection of claim 1. Appeal Br. 17.

As discussed above, we affirm the rejection of claim 1 as unpatentable over the combination of Schootstra, Kendall, and Tiid. *See* § A.2.a, *supra*.

F. Rejection of claim 20 as unpatentable over the combination of Schootstra, Kendall, Tiid, and Baltes

Claim 20 of the ’530 Application reads:

20. An aircraft comprising:

a fuselage having an internal cabin; and

at least one fitting on a floor within the internal cabin; and

a garment refreshing system is positioned within a closet located within the internal cabin, wherein the garment refreshing system securely mounted to at least a portion of the at least one fitting through at least one fitting Assembly, wherein the garment refreshing system is operable to refresh a garment of an individual within the internal cabin, and *wherein the garment refreshing system comprises:*

a housing defining an internal refreshing compartment;

an access door movable between a closed position in which the refreshing compartment is closed and an open position in which the refreshing compartment is opened, wherein the refreshing compartment receives the garment when the access door is in the open position;

a rack extending into the refreshing compartment, wherein the garment hangs from the rack;

one or more refreshers within the refreshing compartment operable to refresh the garment, wherein the one or more refreshers comprises one or more of a mister, a steamer,

> an ultraviolet light, a scent emitter, a detergent emitter, a heater, or an agitator;
>
> *one or more dryers operable to dry the garment;*
>
> at least one vent operable to control a moisture level within one or both of the garment refreshing system or the internal cabin; and
>
> a control unit operatively coupled to a user interface, wherein the control unit operates the garment refreshing system based on operating commands input through the user interface.

Appeal Br. 24–25 (emphasis added).

As claim 20's language makes clear, the claimed aircraft comprising a garment refreshing system has both a refresher and a dryer. The Examiner rejected claim 20 as unpatentable over the combination of Schootstra, Kendall, Tiid, and Baltes. Final Act. 9. Rather than explaining the basis for the rejection in detail, the Examiner incorporates by reference the factual findings and conclusions of law used to reject claims 1–5, 7–10, and 21. *Id.*

As we explained above, the Examiner erred by finding that the combination of Schootstra, Kendall, and Tiid describes or suggests a garment refreshing system comprising both a refresher and a dryer. *See* § A.2.b, *supra*. The Examiner incorporated the findings and reasoning used to reject claim 7 into the rejection of claim 20. Final Act. 9. Thus, the Examiner incorporated the erroneous findings regarding claim 7 into the rejection of claim 20. We, therefore, reverse the rejection of claim 20.

IV. CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 2, 4, 7, 21	103	Schootstra		1, 2, 4, 7, 21
1, 2, 4, 7, 21	103	Schootstra, Kendall, Tiid	1, 2, 4, 21	7
3	103	Schootstra		3
3	103	Schootstra, Kendall, Cross	3	
5	103	Schootstra		5
5	103	Schootstra, Kendall, Tiid, Frantz	5	
8	103	Schootstra		8
8	103	Schootstra, Kendall, Tiid, Baltes	8	
9, 10	103	Schootstra, Kendall, Tiid	9, 10	
20	103	Schootstra, Kendall, Tiid, Baltes		20
Overall Outcome			1–5, 8–10, 21	7, 20

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

AFFIRMED IN PART