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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte GERMAN VON THAL

Appeal 2011-000562
Application 11/208,343
Technology Center 3600

Before STEFAN STAICOVICI, BENJAMIN D. M. WOOD, and
MICHELLE R. OSINSKI, *Administrative Patent Judges*.

OSINSKI, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant¹ appeals under 35 U.S.C. § 134(a) from a final rejection of claims 1-8, 10, 11, and 13-18 under 35 U.S.C. § 103(a) as unpatentable over Adelson (US 2006/0102791 A1, pub. May 18, 2006), Wickman (US 6,250,287 B1, iss. Jun. 26, 2001), and Didur (US 6,648,027 B1, iss. Nov. 18, 2003). Ans. 4-6. Claims 9 and 12 have been cancelled. Br. 2. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM-IN-PART.

CLAIMED SUBJECT MATTER

The claimed subject matter relates to “an airborne mobile platform refueling boom having a flexible, pressure responsive end tube.” Spec., para. [0001]. Claims 1, 5, and 14 are the independent claims on appeal. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A refueling apparatus for an airborne mobile platform, comprising:
 - a first refueling tube in communication with a bottom side of the airborne mobile platform; and
 - a second refueling tube having a first end in communication with the first refueling tube, and a second end for communicating with a nozzle receiver of a receiver mobile platform, said second refueling tube being made from a rubber material having a non-corrugated construction, to be able to bend at said second end independently of said first end thereof, and able to expand in its cross-sectional diameter to accommodate an increased internal pressure within said second refueling tube when a fuel pressure spike exceeding about 55 pounds per square inch is reached and exceeded when a sudden stop in fuel flow through said second refueling tube occurs within said second refueling tube.

¹ Appellant identifies the real party in interest as The Boeing Company. Br. 2.

ANALYSIS

The Examiner found that Adelson teaches all of the limitations of independent claims 1, 5, and 14, except for the “second refueling tube” of claim 1, the “flexible refueling tube” of claim 5, or the “third flexible refueling tube” of claim 14 being able to expand to accommodate a pressure spike of about 55 pounds per square inch and being made from a non-corrugated rubber material. Clms. App’x.; Ans. 4-6. The Examiner found that Didur teaches “a flexible rubber hose strong enough to withstand pressures greater than 60 psi.” Ans. 4 (citing Didur, col. 4, ll. 55-66). The Examiner further found that Wickman teaches “a fuel delivery system having a flexible non-corrugated rubber hose.” Ans. 5. The Examiner concluded that it would have been obvious to one having ordinary skill in the art to use the hoses of Didur and Wickman “in place of the flexible tube of Adelson in order to yield predictable results of strength and flexibility.” Ans. 4, 5.

Appellant first contends that none of the references singly or in combination teach “a flexible refueling boom tube that is able to expand in response to a fuel pressure spike that exceeds about 55 psi.” Br. 7. As an initial matter, we find Appellant’s arguments regarding Wickman’s failure to teach a flexible conduit being sufficiently flexible to expand in response to a fuel pressure spike (Br. 8-9, 13) unpersuasive because these arguments do not address the rejection as articulated by the Examiner which relies on Didur for this teaching, not Wickman. Ans. 7. Appellant also contends that while Didur’s “flexible tube 10 is described as being strong enough to withstand compressed air pressures supplied by source tires of . . . greater than 60 psi,” “[t]here is absolutely no discussion or suggestion that the

flexible transfer tube 10 is constructed so that its cross sectional diameter can increase in response to experiencing a specified pressure spike.” Br. 9-10. Appellant contends that “one would want just the opposite in this application; i.e., that the flexible transfer tube 10 would not bulge in its cross sectional diameter.” *Id.* at 10.

It is well established that claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. *See, e.g., In re Schreiber*, 128 F.3d 1473, 1477-78 (Fed. Cir. 1997). In order to satisfy the functional limitations in an apparatus claim, the prior art apparatus must be capable of performing the claimed function. *Id.* at 1478. In this case, the Examiner found that Didur’s flexible rubber hose 10 would be able to expand during a pressure hike since “any flexible rubber hose as taught by Didur would allow an expansion to occur in the cross-sectional diameter.” Ans. 7. Appellant has not provided persuasive evidence to support that Adelson’s device as modified by the teachings of Didur would not be capable of performing the function of being able to expand in its cross-sectional diameter to accommodate an increased internal pressure of greater than about 55 psi. *See Schreiber*, 128 F.3d at 1478 (where Patent Office has a reason to believe that a functional feature is an inherent characteristic of the prior art, the burden can be shifted to an applicant to show that the prior art structure is not capable of performing the claimed function).

Appellant secondly contends that any motivation or desire to combine the cited references “is completely absent” and the Examiner’s proposed combination “has been made in hindsight using the pending claims as a road map.” Br. 13, 14. The Supreme Court has rejected the rigid requirement of

demonstrating a teaching, suggestion, or motivation to combine references in order to show obviousness. *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 419 (2007). In *KSR*, the Supreme Court stated that “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR*, 550 U.S. at 415-16. Here, Appellant has not shown by persuasive evidence or reasoning that the combined teachings of Adelson, Wickman, and Didur would not have yielded predictable results. Appellant also has not established that the combination of teachings would have been beyond the level of ordinary skill in the art. Accordingly, we find that the Examiner’s proposed combination of known elements to yield predictable results of strength and flexibility has a rational underpinning and is not based on improper hindsight reasoning. *See KSR*, 550 U.S. at 418 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

Appellant thirdly contends that Wickman and Didur are non-analogous art. More particularly, Appellant contends that Wickman is “so far from the field of interest of the present application (i.e., refueling systems for aircraft) that it is submitted that one of ordinary skill in this art just would not have been looking to any patent like Wickman for ideas on how to address a fuel pressure spike problem.” Br. 13. Appellant further contends that Didur

being directed to a compressed air transfer device to transfer air from one tire to another, is even less relevant to the subject matter of the present application . . . [and] one of ordinary skill in this art just would *not* have been looking to . . . Didur, to address the fuel spike issue in an aircraft refueling system.

Id. at 14. The established precedent of our reviewing Court sets up a two-fold test for determining whether art is analogous: “[’] (1) whether the art is

from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved.” *In re Klein*, 647 F.3d 1343, 1348 (Fed. Cir. 2011) (quoting *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004)); *see also* Ans. 8.

One problem with which Appellant was involved is that of fuel delivery. Ans. 8; Spec., para. [0001]. Wickman similarly teaches a fuel delivery system. Ans. 8; Wickman, col. 1, ll. 7-8. Another problem with which Appellant was involved is accommodation of pressure spikes in tubes. Ans. 8; Spec., para. [0026]. Didur similarly teaches flexible transfer tubes strong enough to withstand pressures of fluid greater than 30 psi, 60 psi, or 100 psi. Ans. 8; Didur, col. 4, l. 60 – col. 5, l. 2. Accordingly, we agree with the Examiner that the teachings of Wickman and Didur are reasonably pertinent to particular problems with which the inventor was involved and that Wickman and Didur are not non-analogous art. Ans. 8.

Appellant fourthly contends that Adelson's hose and drogue assembly 38, identified by the Examiner as the “second refueling tube” of claim 1, “is not described as being retractable within the telescoping extension portion 18 to which it is coupled, and there is no suggestion that it could be configured so as to be retracted within the telescoping extension portion 18.” Clms. App'x; Br. 7.

This argument is unpersuasive since independent claim 1 does not require that either the first or second refueling tube be retractable. Unclaimed features cannot impart patentability to claims. *In re Hiniker Co.*, 150 F.3d 1362, 1369 (Fed. Cir. 1998). Arguments must be commensurate in

scope with the actual claim language. *In re Self*, 671 F.2d 1344, 1348 (CCPA 1982).

Appellant separately argues claims 5 and 14 as “expressly call[ing] out the flexible tube as being retractable.” Br. 8. Claim 5 merely recites that “said lower refueling boom tube [be] retractable into said upper refueling boom tube.” Clms. App’x. The Examiner identified Adelson’s hose and drogue assembly 38 as the “flexible refueling tube” of claim 5. The Examiner identified Adelson’s tube 20 as the upper refueling tube and Adelson’s tube 18 as the lower refueling tube and found that “the lower refueling boom (18) is retractable into said upper refueling boom tube (20).” Ans. 4, 7 (citing Adelson, para. [0018]). Accordingly, Appellant’s argument that Adelson fails to teach the hose and drogue assembly 38 being retractable is unpersuasive as it is not commensurate in scope with the actual claim language, which does not require the *flexible* refueling tube to be retractable. *See Hiniker*, 150 F.3d at 1369 and *Self*, 671 F.2d at 1348.

For the foregoing reasons, we find that the Examiner did not err in concluding that the subject matter of independent claims 1 and 5 would have been obvious over Adelson, Wickman, and Didur; and we sustain the rejection of independent claims 1 and 5 under 35 U.S.C. § 103(a) as unpatentable over Adelson, Wickman, and Didur. Appellant does not provide separate arguments for the dependent claims. Therefore, we also sustain the rejection of dependent claims 2-4, 6-8, 10, 11, and 13.

In contrast, claim 14 recites “a third flexible refueling tube comprised of a rubber material . . . and retractable within the second flexible refueling tube.” Clms. App’x. The Examiner has not made any finding that the third flexible refueling tube (identified by the Examiner as hose and drogue

Appeal 2011-000562
Application 11/208,343

assembly 38 (Ans. 5)) of claim 14 is retractable. Neither has the Examiner articulated a persuasive reason why it would have been obvious to modify Adelson's hose and drogue assembly 38 to meet this limitation.

For the foregoing reasons, we find that the Examiner erred in concluding that the subject matter of independent claim 14 would have been obvious over Adelson, Wickman, and Didur; and we do not sustain the rejection of independent claim 14 and its dependent claims 15-18 under 35 U.S.C. § 103(a) as unpatentable over Adelson, Wickman, and Didur.

DECISION

The Examiner's rejection of claims 1-8, 10, 11, and 13 under 35 U.S.C. § 103(a) is AFFIRMED.

The Examiner's rejection of claims 14-18 under 35 U.S.C. § 103(a) is REVERSED.

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-IN-PART

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