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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte THOMAS H. HAYDON, MICHAEL J. ORTMAN,
STEVE ANDERSON, and ERIC SCHWAIGERT

Appeal 2010-011645
Application 11/304,220
Technology Center 3600

Before LINDA E. HORNER, MICHELLE R. OSINSKI, and
WILLIAM A. CAPP, *Administrative Patent Judges*.

CAPP, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants seek our review under 35 U.S.C. § 134 of the final rejection of claims 1-14 and 16-23. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE and enter a NEW GROUND OF REJECTION pursuant to our authority under 37 C.F.R. § 41.50(b).

THE INVENTION

Appellants' invention relates to an electric brake module for use in aircraft. Spec. 1. Claim 1, reproduced below, is illustrative of the subject matter on appeal.

1. An electro-mechanical brake assembly, comprising:
 - a brake head;
 - a brake disk stack adjacent the brake head and having a center axis; and
 - an electro-mechanical actuator mounted to the brake head for applying braking pressure to the brake disk stack, the actuator being radially offset from the center axis; the actuator including:
 - a housing removably mounted to the brake head such that the housing can be removed from the brake head without removal of the brake disk stack,
 - a linearly movable ram,
 - a screw for linearly moving the ram, the screw being retained within the housing such that screw is carried by the housing when the housing is removed from the brake head, and
 - a nut mounted for rotation in the housing such that the nut is carried by the housing when the housing is removed from the brake head, the nut being operatively engaged with the screw such that rotation of the nut effects linear movement of the screw for urging the ram into forceful engagement with the brake disk stack, and
 - an electric motor for rotating the nut.

THE REJECTIONS

The Examiner relies upon the following as evidence in support of the rejections:

Clark	US 2,671,484	Mar. 9, 1954
Gardner	US 2,985,259	May 23, 1961
Morris	US 4,865,162	Sep. 12, 1989
Brundrett	US 6,095,293	Aug. 1, 2000
Ralea	WO 98/50711	Nov. 12, 1998
Arnold Declaration (D5) ¹		Sep. 27, 2006

The following rejections are before us for review:

1. Claims 1, 9, 14, 16, and 21-23 are rejected under 35 U.S.C. § 102(b) as being anticipated by Morris.
2. Claims 2-5, 7, 8 and 17-19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Morris and Clark.
3. Claims 6 and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Morris, Clark and Gardner.
4. Claims 10-13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Morris and Ralea.
5. Claims 1, 6, 9, 14, 16 and 20-23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the Arnold Declaration (D5) and Morris.
6. Claims 2-5, 7, 8 and 17-19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over D5, Morris and Clark.

¹ The Arnold Declaration was provided as document D5 in a Request for Opposition to European Patent EP 1214531, filed by Honeywell International Inc., to show evidence of prior public use. This European Patent claims priority to the present application on appeal. The European Patent Office rejected the Opposition. European Patent Bulletin [2012/24].

7. Claims 10-13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over D5, Morris and Ralea.

OPINION

Anticipation of Claims 1, 9, 14, 16 and 21-23 by Morris

Claim 1

Appellants argue that Morris lacks a housing that carries the screw and nut with it when the housing is removed from the brake head as claimed. App. Br. 10. Appellants argue that, although feature 14 in Figures 1 and 2 may be designated by Morris as a “housing,” it “cannot be removed without removal of the brake disk stack 24” as called for in claim 1. App. Br. 11-12.

In response, the Examiner notes that Morris’ housing 14 is removably mounted from brake head 78 by way of certain unlabeled fasteners, such that the housing can be removed from the brake head without removal of the brake disk stack. Ans. 10. The Examiner maintains that Morris’ housing 14 can be removed from the brake head 78 by unfastening the unlabeled fasteners and separating the two components a distance before reaching disk 32 of the brake disk stack 24. Ans. 11.

Morris’ housing 14 is secured by bolts 16 to torque tube 12, and stationary disks 28 of brake disk stack 24 are keyed to keys 30 formed about the outer peripheral surface of torque tube 12. *See* Morris, col. 3, ll. 28-46; Figure 1. In studying Morris’ specification and figures, we are not able to reasonably conclude that Morris’ actuators reside in a housing in such a manner that the actuator housing can be removed from the brake head, taking the ram(s), ram screw(s), nut(s), and electric motor(s) with it, but without removal of the brake disk stack.

Inasmuch as Morris fails to disclose by a preponderance of the evidence the limitations of claim 1 directed to the removability of the actuator housing and associated internal components without removal of the brake disk stack, Morris does not anticipate claim 1 and, accordingly, we do not sustain the Examiner's anticipation rejection of claim 1.

Claims 9, 14, 16 and 21-23

Claims 9, 14, 16 and 21-23 all depend directly or indirectly from claim 1. Inasmuch as we do not sustain the anticipation rejection of independent claim 1 for the reasons discussed above, we also do not sustain the anticipation rejections of claims 9, 14, 16 and 21-23 that depend therefrom.

New Ground of Rejection

Unpatentability of Claims 1, 9, 14, 16 and 21-23 over Morris and Brundrett

As discussed more fully above with respect to the anticipation rejection of claims 1, 9, 14, 16 and 21-23 over Morris, we did not sustain the Examiner's rejection for the sole reason that we were not able to reasonably conclude that Morris' actuators reside in a housing in such a manner that the actuator housing can be removed from the brake head, taking the ram(s), ram screw(s), nut(s), and electric motor(s) with it, but without removal of the brake disk stack. However, Brundrett discloses self-contained actuator modules that are readily removable from the brake head. *See* Brundrett, col. 4, ll. 13-49. "The actuator rams 35 are included in respective actuator modules 36 mounted to the brake head 20 by removable bolt fasteners 37 or other suitable means enabling quick and easy attachment and detachment of the actuator modules to and from the brake head." *Id.* at ll. 13-17; *see also* Col 7, ll. 15-32.

With respect to claims 9, 21 and 22, Brundrett discloses that each actuator is a self-contained unit mounted to the wheel mount for removal independently of one another and the brake disk stack. Col. 2, ll. 55-64; Col. 4, ll. 13-49; Col 7, ll. 15-32.

With respect to claim 14, Morris discloses an anti rotation device 86 being provided for preventing rotation of the screw relative to the housing when the nut is rotated to effect linear movement of the screw. *See* Fig. 2; see also Col. 5, ll 20-26.

With respect to claim 16, Morris discloses a plurality of actuators circumferentially arranged around the center axis as claimed. Fig. 5.

With respect to claim 23, Morris discloses a ram pad 68 at the outboard end of the screw. *See* Fig. 2.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the brake system of Morris so that the individual actuator housings, together with their respective rams, screws, nuts and motors, are mounted to the brake head so that they could be quickly and easily replaced as taught by Brundrett. *See, e.g.*, Brundrett, col. 7, ll. 15-32. A person of ordinary skill in the art would have been motivated to make the modification because it would allow the aircraft to remain in scheduled service and/or with a minimum of downtime. *See* Brundrett, Abstract. Such a modification would result in each actuator being a self-contained unit mounted to the wheel mount for removal independently of each other and the brake disk stack, as called for in claims 9 and 22.

Thus, claims 1, 9, 14, 16 and 21-23 are unpatentable under 35 U.S.C. § 103(a) over the combination of Morris and Brundrett and we hereby

designate such as a new ground of rejection pursuant to our authority under 37 C.F.R. § 41.50(b).

Unpatentability of Claims 2-5, 7, 8 and 17-19 over Morris and Clark

Claims 2-5, 7, 8 and 17-19 depend directly or indirectly from claim 1. The Examiner acknowledges that Morris fails to teach an anti-rotation device as called for in claims 2-5, 7, 8 and 17-19, but finds that Clark does satisfy this claim element. Ans. 4-5. The Examiner does not rely on Clark to disclose the removability of the actuator housing that we found missing in Morris. Consequently, we find that the Examiner has failed to make out a prima facie case of unpatentability with respect to claims 2-5, 7, 8 and 17-19 and, therefore, we do not sustain the Examiner's rejection of such claims on the stated grounds.²

Unpatentability of Claims 6 and 20 over Morris, Clark and Gardner

Claims 6 and 20 depend from claims 2 and 16, which depend from claim 1. The Examiner relies on Clark as disclosing the use of an anti-rotation device as called for in claim 2 and further relies on Gardner as disclosing a screw nut assembly in the form of a ball screw device as called for in claims 6 and 20. Ans. 6. The Examiner does not rely on Clark or Gardner to disclose the removability of the actuator housing that we found

² No inference should be drawn from the Board's failure to make a new ground of rejection for claims other than 1, 9, 14, 16 and 21-23. See Manual of Patent Examining Procedure, 8th ed., rev. Aug 2012, § 1213.02 ("Since the exercise of authority under 37 CFR 41.50(b) is discretionary, no inference should be drawn from a failure to exercise that discretion.") As a Board of appeal, we are primarily a tribunal of review, and, as such, we leave it to the Examiner to further consider the patentability of the remaining claims in light of the prior art and this new ground of rejection

missing in Morris. Consequently, we find that the Examiner has failed to make out a prima facie case of unpatentability with respect to claims 6 and 20 and, therefore, we do not sustain the Examiner's rejection of such claims on the stated grounds.

Unpatentability of Claims 10-13 over Morris in view of Ralea

Claims 10-13 depend directly or indirectly from claim 1. The Examiner acknowledges that Morris fails to teach a position sensor as called for in claims 10-13, but finds that Ralea does satisfy this claim element. Ans. 6. The Examiner does not rely on Ralea to disclose the removability of the actuator housing that we found missing in Morris. Consequently, we find that the Examiner has failed to make out a prima facie case of unpatentability with respect to claims 10-13 and, therefore, we do not sustain the Examiner's rejection of such claims on the stated grounds.

*Unpatentability of Claims 1-14 and 16-23
based on combinations including D5*

The Examiner finds that D5 describes the elements of claim 1 including the brake assembly comprising an actuator with a screw, nut, and motor, but lacks the limitation of the screw moving linearly and the nut moving in a rotational manner. Ans. 7. The Examiner maintains that paragraph 4 of the Arnold Declaration in D5 satisfies the limitations in claim 1 directed to removability of the actuator housing and its recited contents. Final Rejection, 10.³ The Examiner relies on Morris as teaching the use of a screw for moving linearly and a nut for moving rotationally. Ans. 7. The

³ The effective language in Paragraph 4 of the Arnold Declaration states: "... The EMAs were standalone units which were bolted to the carrier..." D5, page 19 of 24.

Examiner concludes that it would have been obvious to a person of ordinary skill in the art to have modified the screw and nut arrangement such that the screw moved linearly and the nut moved rotationally, as taught by Morris, in order to provide an alternate means of effecting a force to apply pressure to a brake disk stack. *Id.*

Appellants argue that D5 is hearsay and otherwise does not properly constitute prior art for purposes of ex parte patent prosecution. App. Br. 17-20. Appellants argue that D5 does not establish a sale more than one year before Appellants' filing date, because the documentary exhibits attached to the Arnold Declaration establish the sale of only an actuator, not an entire brake assembly. *Id.* Appellants also argue that D5 fails to establish that the invention actually worked for its intended purpose. *Id.* Appellants also argue that D5 lacks details as to how the actuators were mounted to the carrier. *Id.* Finally, Appellants argue that D5 lacks details respecting the particular arrangement of the screw and nut in the actuator module, such that it is not possible to conclude that it would have been obvious to provide a screw that moves linearly when the nut is rotated. *Id.*

With respect to the hearsay argument, the general rule is that administrative agencies like the PTO are not bound by the rules of evidence that govern judicial proceedings. *See In re Epstein*, 32 F.3d 1559, 1565 (Fed. Cir. 1994) (rejecting appellant's argument that the PTO can never rely upon hearsay evidence in making rejections). Indeed, in ex parte patent prosecution, hearsay may properly be considered. *See In re Reuter*, 670 F.2d 1015, 1020-21 (CCPA 1981). In view of the foregoing authorities, we reject Appellants' position arguing for a blanket rule against hearsay evidence.

Notwithstanding the foregoing, however, the Arnold Declaration is uncorroborated third party oral testimony, and as such, is entitled to little, if any, weight. *Cf., Finnigan Corp. v. Int'l Trade Comm'n*, 180 F.3d 1354, 1369 (Fed. Cir. 1999) (Generally, uncorroborated oral testimony by an interested party in an inter partes proceeding is not competent to establish prior invention by another); *Reuter, supra* at 1022 (in the context of ex parte patent prosecution, a declarant's uncorroborated statements regarding an alleged prior invention are entitled to no weight); and *Ex parte Int'l Rectifier Corp.*, 1998 WL 1735626, at *5 (BPAI, Jan. 1, 1998) (the PTO does not receive or regard third party declaration testimony in an ex parte reexamination proceeding as established facts or evidence of obviousness).

Appellants cogently explain why D5 should be treated with suspicion. The declaration is vague with respect to critical details.⁴ App. Br. 19. Moreover, the invoice attached to the Arnold Declaration relates only to the sale of a component, not the entire invention as claimed, thus relegating the Examiner's rejection to an alleged prior public use, rather than an on-sale bar event. *Id.* The Arnold Declaration lacks sufficient factual detail to establish that the alleged use was, indeed, "public." *See Motionless Keyboard Co. v. Microsoft Corp.*, 486 F.3d 1376, 1385 (Fed. Cir. 2002) (prior public use not found where evidence of prior use failed to establish that such use was public).

⁴ We further note that the D5 Arnold Declaration is unsworn and otherwise lacks a jurat statement warning the declarant that willful false statements are punishable by fine or imprisonment, or both. *See* 35 U.S.C. § 25. The unsworn nature of the declaration further reinforces our determination to accord D5 no weight.

Under the circumstances, we attribute no evidentiary weight to the unsworn testimony in D5. Inasmuch as we have previously found that Morris does not anticipate claim 1 or the claims that depend therefrom and, furthermore, inasmuch as we have previously found that the Examiner does not rely on Clark, Gardner, or Ralea to cure the deficiencies that we have noted in Morris, we do not sustain the Examiner's rejection of claims 1-14 and 16-23, all of which are based on combinations that include at least D5 and Morris.

DECISION

1. We reverse the Examiner's rejection of claims 1, 9, 14, 16, and 21-23 under 35 U.S.C. § 102(b) as being anticipated by Morris.
2. We reverse the Examiner's rejection of claims 2-5, 7, 8 and 17-19 as being unpatentable over Morris and Clark.
3. We reverse the Examiner's rejection of claims 6 and 20 as being unpatentable over Morris, Clark and Gardner.
4. We reverse the Examiner's rejection of claims 10-13 as being unpatentable over Morris and Ralea.
5. We reverse the Examiner's rejection of claims 1, 6, 9, 14, 16 and 20-23 as being unpatentable over D5 and Morris.
6. We reverse the Examiner's rejection of claims 2-5, 7, 8 and 17-19 as being unpatentable over D5, Morris and Clark.
7. We reverse the Examiner's rejection of claims 10-13 as being unpatentable over D5, Morris and Ralea.
8. We enter a new ground of rejection of claims 1, 9, 14, 16 and 21-23 on the grounds that such claims are unpatentable under 35 U.S.C. § 103(a) over Morris and Brundrett.

FINALITY OF DECISION

This decision contains a new ground of rejection pursuant to 37 C.F.R. § 41.50(b). 37 C.F.R. § 41.50(b) provides “[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review.” 37 C.F.R. § 41.50(b) also provides that the Appellants, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

(1) *Reopen prosecution.* Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner. . . .

(2) *Request rehearing.* Request that the proceeding be reheard under § 41.52 by the Board upon the same record. . . .

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).

REVERSED; 37 C.F.R. § 41.50(b)

MP