Paper No. 33

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte GARY C. RIEBE

Appeal No. 1998-1263
Application No. 08/351,993

HEARD: SEPTEMBER 10, 2003

Before COHEN, STAAB, and BAHR, Administrative Patent Judges.
COHEN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1 through 25. These claims constitute all of the claims in the application.

Appellant's invention pertains to a friction device and to a method of assembling a brake stack. A basic understanding of the invention can be derived from a reading of exemplary claims 1 and 25, respective copies of which appear in the "[AMENDED] APPENDIX

1" accompanying the revised supplemental reply brief (Paper No. 27).

As evidence of anticipation and obviousness, the examiner has applied the documents listed below:

Du Bois	2,671,532	Mar. 9, 1954
Luedtke et al (Luedtke)	2,964,137	Dec. 13, 1960
Stanton	3,018,852	Jan. 30, 1962
Chamberlain	3,138,406	Jun. 23, 1964
Fisher	3,731,776	May 8, 1973
Halverson et al (Halverson)	4,605,440	Aug. 12, 1986
Guichard	4,703,837	Nov. 3, 1987

The following rejections are before us for review.[1]

1. Claims 1 through 3, 7 through 12, 16, 17, 19, 21, 22, 24, and 25 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Chamberlain.

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[1] Rejections 7 through 11 do not appear in the final rejection (Paper No. 7) and are clearly, therefore, new grounds of rejection. Like appellant, it is quite disconcerting to us to observe that the rules regarding new grounds of rejection do not appear to have been observed. Lack of conformity with the rules in this matter is appropriately addressed by petition, not appeal. Since appellant has argued the merits of the new rejections in the reply brief, we shall address those rejections.

2. Claims 3, 4, 12, and 13 stand rejected under 35 U.S.C. § 103 as being unpatentable over Chamberlain in view of Guichard.

3. Claims 5, 6, 14, and 15 stand rejected under 35 U.S.C. § 103 as being unpatentable over Chamberlain in view of Halverson.

4. Claim 20 stands rejected under 35 U.S.C. § 103 as being unpatentable over Chamberlain in view of Fisher.

5. Claim 23 stands rejected under 35 U.S.C. § 103 as being unpatentable over Chamberlain in view of Guichard and Luedtke.

6. Claim 18 stands rejected under 35 U.S.C. § 103 as being unpatentable over Chamberlain in view of Stanton.

7. Claims 1, 7, and 25 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Du Bois.

8. Claims 2 through 6, 8 through 17, 21, and 22 stand rejected under 35 U.S.C. § 103 as being unpatentable over Du Bois.

9. Claim 18 stands rejected under 35 U.S.C. § 103 as being unpatentable over Du Bois in view of Stanton.

10. Claims 19 and 20 stand rejected under 35 U.S.C. § 103 as being unpatentable over Du Bois in view of Fisher.

11. Claims 23 and 24 stand rejected under 35 U.S.C. § 103 as being unpatentable over Du Bois.

The full text of the examiner's eleven rejections and response to the argument presented by appellant appears in the supplemental examiner's answer (Paper No. 24), while the complete statement of appellant's argument can be found in the main and reply briefs (Paper Nos. 17 and 21).

OPINION

In reaching our conclusion on the issues raised in this appeal, this panel of the Board has carefully considered appellant's specification and claims, the applied teachings,[2] and

[2] In our evaluation of the applied prior art, we have considered all of the disclosure of each document for what it

(continued...)

the respective viewpoints of appellant and the examiner. As a consequence of our review, we make the determinations which follow.

The first rejection

We do not sustain the rejection of claims 1 through 3, 7 through 12, 16, 17, 19, 21, 22, 24, and 25 under 35 U.S.C. § 102(b) as being anticipated by Chamberlain.

Independent claim 1 addresses a friction device comprising, inter alia, a brake stack having an axial front end adapted to be positioned adjacent to and for contacting engagement with a plurality of circumferentially spaced pressure application members, the majority of the brake disks of the brake stack being formed of a material that will deform or flow during an anticipated high energy braking action, the front axial end of

[2](...continued)
would have fairly taught one of ordinary skill in the art. See In re Boe, 355 F.2d 961, 965, 148 USPQ 507, 510 (CCPA 1966). Additionally, this panel of the Board has taken into account not only the specific teachings, but also the inferences which one skilled in the art would reasonably have been expected to draw from the disclosure. See In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

the brake stack comprising a fist rigid disk capable of maintaining a clamp load across the brake stack during a high energy stop that is more uniform than the clamp load across the brake stack that results when only using a pressure plate of steel.

Independent claim 10 sets forth a friction device comprising, inter alia, a plurality of actuators spaced circumferentially, a brake stack having a front axial end positioned adjacent to and contacted only at circumferentially spaced apart locations by said plurality of actuators, the majority of the disks of the brake stack being formed of a material that will deform or flow during an anticipated high energy braking action, the brake stack comprising in sequence from its front axial end a first rigid disk and a steel pressure plate, and the first rigid disk being formed of a material capable of maintaining a clamp load across the brake stack during a high energy stop that is more uniform than the clamp load across the brake stack that results when only using a pressure plate of steel.

Independent claim 25 recites a method of assembling a brake stack with the following features, inter alia, the brake stack having a front axial end adapted to be positioned adjacent to and for contact only at circumferentially spaced apart locations by a plurality of circumferentially spaced apart pressure application members, the majority of the brake stack being formed of a material that will deform or flow during an anticipated high energy braking action, the method comprising providing the front axial end of the brake stack with a first rigid disk arranged to be contacted only at circumferentially spaced apart locations by said plurality of circumferentially spaced apart pressure application members, the first rigid disk being formed of a material capable of maintaining a clamp load across the brake stack during a high energy stop that is more uniform than the clamp load across the brake stack that results when only using a pressure plate of steel.

At this point, it is particularly important for us to fully comprehend the meaning of certain language appearing in each of claims 1, 10, and 25. First, we focus upon the recitation in the claims of a first rigid disk as the front axial end of the brake stack, which rigid disk is formed of a material capable of

maintaining a clamp load across the brake stack during a high energy stop that is more uniform than the clamp load across the brake stack that results when only using a pressure plate of steel. We are informed by the present specification (page 9) that "rigid" is "defined as having greater resistance to bending, flexing, deformation and flow than AMS 6302 steel." Second, we consider the claim recitation of a first rigid disk as the front axial end of a brake stack, which first rigid disk is contacted by pressure application members or actuators. It is quite clear to us from the underlying disclosure that the claimed first rigid disk is a first or front disk contacting the pressure application members or actuators.

Anticipation under 35 U.S.C. § 102(b) is established only when a single prior art reference discloses, either expressly or under principles of inherency, each and every element of a claimed invention. See In re Schreiber, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997); In re Paulsen, 30 F.3d 1475, 1478-79, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994); In re Spada, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990); and RCA Corp. v. Applied Digital Data Sys., Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984). However, the law of

anticipation does not require that the reference teach specifically what an appellant has disclosed and is claiming but only that the claims on appeal "read on" something disclosed in the reference, i.e., all limitations of the claim are found in the reference. See Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984).

Simply stated, and taking into full account our claim language assessment, supra, we share the view of appellant that rejected independent claims 1, 10, and 25, in particular, are not anticipated by the Chamberlain teaching, i.e., they do not read on the structure of the airplane wheel (Figs. 1, 2 and 4) of Chamberlain. The examiner refers to the flat, annular layer 36 of asbestos (or other suitable insulation) on pressure plate 30 in the Chamberlain patent as the claimed first rigid disk (answer, page 4). Clearly, annular layer 36 of Chamberlain does not respond to all limitations of appellant's independent claims. First, it is entirely speculative as to whether annular layer 36 is rigid, as that claim term is expressly and very specifically defined in the appellant's specification. Second, the annular layer 36 is not the front or first disk contacted by a plurality

of pressure application members or actuators, a requirement of each of appellant's independent claims. As can readily be discerned from Figs. 2 and 4 of Chamberlain the pistons 32 contact pressure plate 31 not annular layer 36. For the above reasons, the examiner's first rejection, under 35 U.S.C. § 102(b) cannot be sustained.

The second rejection

We do not sustain the rejection of claims 3, 4, 12, and 13 under 35 U.S.C. § 103 as being unpatentable over Chamberlain in view of Guichard.

Respective claims 3 and 4 and claims 12 and 13 depend from independent claims 1 and 10 and recite particular materials for the first rigid disk.

In this obviousness rejection, the examiner proposes to make the flat, annular layer 36 of Chamberlain from a carbon composite material, based upon the teaching of Guichard.[3] However, even if

[3] While, as utilized by the examiner, the Guichard patent is not dispositive, this document nevertheless is quite relevant to (continued...)

it would have been obvious to fabricate the annular layer 36 of Chamberlain from a carbon composite material, we perceive, as explained above, that the Chamberlain reference does not respond to, and further would not have been suggestive of, all of the limitations of the independent claims. Thus, the second rejection cannot be sustained.

The third rejection

We do not sustain the rejection of claims 5, 6, 14, and 15 under 35 U.S.C. § 103 as being unpatentable over Chamberlain in view of Halverson.

Claims 5 and 6 and claims 14 and 15, respectively, are dependent from claims 1 and 10, and set forth a particular material for the first rigid disk.

Akin to the second rejection, the examiner proposes to alter the material for the flat, annular layer 36 of Chamberlain in

[3](...continued)
the claimed invention (annular plate 42 in Fig. 2 of Guichard is made of carbon composite material and contacted by a plurality of pistons 19). Appellant's commentary in the penultimate paragraph of page 8 of the main brief is noteworthy.

light of the Halverson disclosure. However, the Halverson reference, as applied, does not overcome the noted deficiency of Chamberlain relative to independent claims 1 and 10. Accordingly, the third rejection cannot be sustained.

The fourth rejection

We do not sustain the rejection of claim 20 under 35 U.S.C. § 103 as being unpatentable over Chamberlain in view of Fisher.

Claim 20, dependent from claim 10, sets forth that each rotor disk has a friction pad of a specified material.

Notwithstanding the teaching of Fisher sought to be applied to the Chamberlain disclosure, the Fisher document, as used by the examiner, does not overcome the basic deficiency of the Chamberlain teaching. Therefore, the fourth rejection is not sustained.

The fifth rejection

We do not sustain the rejection of claim 23 under 35 U.S.C. § 103 as being unpatentable over Chamberlain in view of Guichard and Luedtke.

Claim 23, dependent from claim 10, adds the feature of the first rigid disk being coupled to a torque tube but not to a steel pressure plate.

Irrespective of the teachings of Guichard and Luedtke, as proposed to be applied by the examiner, the fact remains that Chamberlain's teaching is deficient and does not respond to all of the limitations of independent claim 10, as determined above.

The sixth rejection

We do not sustain the rejection of claim 18 under 35 U.S.C. § 103 as being unpatentable over Chamberlain in view of Stanton.

The claim at issue depends from independent claim 10 and addresses a wear indicating feature.

The examiner's proposed addition of a brake wear indicator (Stanton) to the Chamberlain teaching simply does not overcome the noted deficiency of Chamberlain, as earlier explained. Thus, the sixth rejection cannot be sustained.

The seventh rejection

We do not sustain the rejection of claims 1, 7, and 25 under 35 U.S.C. § 102(b) as being anticipated by Du Bois.

Particular features of independent claims 1 and 25 have been set forth above.

In the examiner's opinion, the claimed invention reads on the Du Bois reference, with the pressure plate 124 of Du Bois responding to the first rigid disk of appellant's independent claims 1 and 25. We disagree that the Du Bois patent is anticipatory. First, since no material is specified by the patentee for the pressure plate 124 it is indeterminate as to whether this plate can respond to the claimed first rigid disk, particularly keeping in mind appellant's definition of the term rigid. Second, it appears to us that one skilled in this art

would readily comprehend the Du Bois patent as teaching a single piston 84 and sealing ring 88 in annular chamber 80 (Figs. 2 and 3) contacting pressure plate 124, and not as a disclosure of a plurality of pressure application members as required by appellant's independent claims 1 and 25. For these reasons, the seventh rejection cannot be sustained.

The eighth rejection

We do not sustain the rejection of claims 2 through 6, 8 through 17, 21, and 22 under 35 U.S.C. § 103 as being unpatentable over Du Bois.

This rejection concerns claims dependent from independent claim 1, as well as independent claim 10 and dependent claims thereof. We determined, supra, that claim 1 was not anticipated by Du Bois.

In this obviousness rejection, only the Du Bois patent is applied. By itself, and with an absence of any indication of a material for the pressure plate 124, it does not appear to us that the Du Bois teaching of an airplane wheel disk brake would

have been suggestive to one having ordinary skill in the art of any particular material other than steel for the pressure plate, since it is our understanding that steel is the acknowledged conventional material for pressure plates.[4] A steel pressure plate in the airplane wheel disk brake of Du Bois would not have rendered the claimed invention obvious. Accordingly, the eighth rejection cannot be sustained.

The ninth rejection

We do not sustain the rejection of claim 18 under 35 U.S.C. § 103 as being unpatentable over Du Bois in view of Stanton.

Dependent claim 18 is drawn to the feature of a rod to indicate the wear of a brake stack.

While the Stanton reference addresses a disk type brake with a movable washer 42, positioned on a stem 36 of a retractor 34, which washer acts as a wear indicator, this teaching of Stanton simply does not overcome the already discussed deficiency of the

[4] Appellant's application informs us that steel is the conventional material for pressure plates (page 10, lines 13 and 14).

Du Bois reference. Therefore, the ninth rejection cannot be sustained.

The tenth rejection

We do not sustain the rejection of claims 19 and 20 under 35 U.S.C. § 103 as being unpatentable over Du Bois in view of Fisher.

Dependent claims 19 and 20, respectively, provide for friction pads on stator and rotor discs.

The applied Fisher patent (column 2, lines 53 through 60) teaches friction facings on rotor and stator members, but clearly fails to cure the earlier described deficiency of the Du Bois patent. Thus, the tenth rejection cannot be sustained.

The eleventh rejection

We do not sustain the rejection of claims 23 and 24 under 35 U.S.C. § 103 as being unpatentable over Du Bois.

Dependent claims 23 and 24 require the coupling of the first rigid disk to a torque tube and to a steel pressure plate, respectively.

Apart from the examiner's acknowledgment that the sole reference to Du Bois is silent on the subject matter of dependent claims 23 and 24 and opinion that the claimed features would have been obvious to one having ordinary skill in the art, the fact remains that Du Bois is deficient relative to the content of independent claim 10 as discussed earlier. Thus, the eleventh rejection cannot be sustained.

In summary, this panel of the Board has not sustained any of the eleven rejections on appeal.

The decision of the examiner is reversed.

REVERSED

IRWIN CHARLES COHEN Administrative Patent Judge	)	
LAWRENCE J. STAAB Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
JENNIFER D. BAHR Administrative Patent Judge	)	

ICC/lbg

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