

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KOUJI ISHIKAWA

Appeal 2007-4055
Application 10/326,164
Technology Center 3600

Decided: August 5, 2008

Before WILLIAM F. PATE, III, LINDA E. HORNER and
JOHN C. KERINS, *Administrative Patent Judges*.

KERINS, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Kouji Ishikawa (Appellant) seeks our review under 35 U.S.C. § 134 of the final rejection of claims 1-3. We have jurisdiction under 35 U.S.C. § 6(b) (2002). An oral hearing in this appeal was conducted on June 19, 2008.

SUMMARY OF DECISION

We AFFIRM.

THE INVENTION

Appellant's claimed invention is to a continuously variable transmission comprising, in pertinent part, a casing, a pair of middle walls and a plurality of support plates disposed in the interior of the casing, a support bracket for supporting the support plates on the interior of the casing, and a mounting portion fixedly formed in a portion of the support bracket for supporting and fixing the middle walls.

Claim 1, reproduced below, is representative of the subject matter on appeal.

1. A continuously variable transmission,
comprising:

a casing;

a pair of middle walls each disposed in the interior
of the casing and having a through hole;

a plurality of support plates disposed in the interior
of the casing;

a rotary shaft rotatably supported on the interior of
the casing so as to be inserted through the through
hole of the middle wall;

a pair of first disks respectively including inner
surfaces each formed as a concave surface having
an arc-shaped section and respectively supported
on the two end portions of the rotary shaft in such
a manner that their respective inner surfaces are
opposed to each other so as to be rotated in

synchronization with the rotary shaft;

an output gear rotatably accommodated between the middle walls and supported on a middle portion of the rotary shaft rotatably with respect to the rotary shaft, the output gear having a cylindrical portion in the center portion thereof;

a pair of second disks respectively including inner surfaces each formed as a concave surface having an arc-shaped section, respectively spline-connected to the cylindrical portion of the output gear, and respectively supported on the middle wall in the periphery of the middle portion of the rotary shaft in such a manner that their inner surfaces are opposed to the inner surfaces of the first disks so as to be rotated relatively with respect to the rotary shaft and rotated in synchronization with each other;

a plurality of trunnions respectively interposed between the inner surfaces of the first and second disks so as to be swung about pivot shafts existing at twisted positions with respect to the rotary shaft and pivotally supported on the support plates;

a plurality of displacement shafts disposed so as to project from the inner surfaces of the trunnions;

a plurality of power rollers respectively including peripheral surfaces formed as spherical-shaped convex surfaces and supported on the inner surfaces of the trunnions so as to be rotatable about the displacement shafts, the peripheral surfaces of the power rollers being contacted with the inner surface of the first and second disks;

a support bracket for supporting the support plates on the interior of the casing; and,

a mounting portion fixedly formed in a portion of the support bracket for supporting and fixing the middle walls.

THE REJECTION

The Examiner relies upon the following as evidence of unpatentability:

Kobayashi	US 5,538,483	Jul. 23, 1996
Kuhn	US 6,547,690 B1 ¹	Apr. 15, 2003

The following rejections are before us for review:

1. Claims 1-3 stand rejected under 35 U.S.C. § 103(a) as being obvious over Kobayashi in view of Kuhn.

ISSUES

The issue raised in this appeal is whether Appellant has shown that the Examiner erred in concluding that claims 1-3 are rendered obvious by the combined teachings of Kobayashi and Kuhn. This issue turns on whether the teachings of the Kobayashi and Kuhn patents are properly combinable, and, if so, whether the combined teachings result in a continuously variable transmission having a single support bracket for supporting a pair of support plates on the interior of the transmission casing.

¹ US 6,547,690 B1, issued April 15, 2003, is recognized by Appellant and the Examiner as the U.S. equivalent to WO 99/05431, which was originally cited in rejecting the claims. Reference will be made herein to this U.S. “Kuhn patent”, in that the Appellant’s briefs and the Examiner’s Answer cite to the U.S. patent rather than to the WIPO published application.

FINDINGS OF FACT

The following enumerated findings of fact (FF) are supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

FF1. The transmission construction illustrated in Figure 3C of the Kuhn patent shows support brackets 28, 29, in abutting engagement, and further shows that a weld joint 29A (the right-most weld joint) spans the abutting lower ends of the brackets, signifying that the brackets are joined at the weld joint. (Kuhn, Fig. 3C).

FF2. The joined brackets 28, 29, of Kuhn support thereon a plurality of support plates, and support and mount thereon a middle wall component. (Kuhn, Fig. 3C; Col. 5, ll. 11-16).

PRINCIPLES OF LAW

The Supreme Court, in *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, (1966), set out a framework for applying the statutory language of § 103:

[T]he scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.”

While the sequence of these questions might be reordered in any particular case, the factors continue to define the inquiry that controls. If a court, or patent examiner, conducts this analysis and concludes that the

claimed subject matter was obvious, the claim is invalid or unpatentable under §103. *See KSR Int'l v. Teleflex Inc.*, 127 S.Ct. 1727, 1734 (2007).

ANALYSIS

Appellant argues claims 1-3 as a group. We will select claim 1 as being representative of this group for the purposes of this appeal. 37 C.F.R. 41.37(c)(1)(vii) (2007). Claims 2 and 3 will stand or fall with claim 1.

A first issue joined by Appellant and the Examiner with respect to the rejection of claim 1 is whether the teachings of Kobayashi and Kuhn are properly combinable. Appellant's principal argument in this regard is that, because the Kuhn patent has a different configuration of output disks (wherein the output disks "appear to move axially"), from that of Kobayashi (wherein the output disks are axially fixed), a person of ordinary skill in the art would not have used the teachings of Kuhn to modify the brackets disclosed in Kobayashi. (Reply Br. 5).

Appellant contends that this difference would subject the support brackets in each reference to "different considerations", that are "*likely* due to the manner in which the transmission is assembled—the disks 16 *might* be mounted in the transmission separately, one after the other ... whereby the support brackets (28, and unlabeled) are separately mounted to the casing of the transmission." (*Id.*)(emphasis added). Appellant concludes that these considerations evidence that, "there is no proper motivation for the Examiner's suggested combination of Kobayashi and Kuhn." (Appeal Br. 15).

The Supreme Court, in *KSR*, has instructed that a rigid application of the "teaching, suggestion, motivation" (TSM) test in assessing the

patentability of an invention under 35 U.S.C. § 103(a) is not a legally correct approach. *KSR*, 127 S.Ct. at 1739. Moreover, in attempting to establish a lack of motivation to combine the teachings, Appellant has failed to specifically identify what “different considerations” exist in the Kobayashi and Kuhn constructions that would negate a motivation to combine teachings, and merely speculates as to the possibility that the steps in the assembly of the transmission in each reference might be different. Even if we accept that the steps in the assembly are different, which Appellant seems to be reluctant to affirmatively argue, we are not persuaded that this would foreclose the possibility that a person of ordinary skill in the art would consider incorporating teachings found in the Kuhn patent into the transmission construction of the Kobayashi patent. We do not find reversible error in the Examiner’s determination that the Kuhn and Kobayashi references are properly combinable.

Appellant further urges that, even if the teachings of the Kobayashi and Kuhn references are combined, the combined teachings do not teach or suggest all of the elements set forth in the claims. More specifically, Appellant contends that the combined teachings of the Kobayashi and Kuhn patents do not teach or suggest a transmission in which “the support plates and the middle walls are supported by the casing via *a single* supporting bracket.” (Appeal Br. 13)(emphasis added).

Claim 1 on appeal calls for the claimed transmission to have “a support bracket for supporting the support plates on the interior of the casing ...”. (Appeal Br., Claims Appendix). That the claim calls for “*a* support bracket” does not, in itself, limit the claimed transmission to include only “*a single* support bracket”. *Elkay Mfg. Co. v. Ebco Mfg. Co.*, 192 F.3d 973,

977 (Fed. Cir. 1999)(“a” or “an” can mean “one” or “more than one,” depending on the context in which the article is used). Other elements or limitations in claim 1 do, however, when read as a whole, require that a single claimed support bracket is to support both a plurality of support plates, as well as to support and fix the claimed pair of middle walls. (Appeal Br., Claims Appendix).

Appellant argues that:

...Kuhn discloses two different clamps 28, 29, which are part of the frame 2, which the Examiner relies on as being the presently claimed support bracket. However, *the clamps 28 and 29 are not a single structure as is the claimed support bracket that mounts support plates which in turn mount trunnions. Instead, in Kuhn, the friction wheels 11, 21 are mounted to the separate clamps 28, 29 via fastening devices 20, 30. The bearing support wall 7 is then mounted to one or the other of the clamps 28, 29. Yet the clamps are separate pieces, they are not a single support bracket. Moreover, neither clamp 28, 29 by itself supports more than one support plate for mounting a trunnion. Accordingly, neither one of the clamps 28, 29 by itself qualifies as a support bracket that mounts plural support plates, each of which mounts a trunnion, as claimed.*

(Appeal Br. 12)(emphasis added).

Appellant points to the use, in the Kuhn drawing figures, of different directions of cross-hatching for clamp elements 28, 29, as evidence that the clamps are not a single structure. (*see, e.g.*, Reply Br. 4). The Examiner replies that this is not persuasive evidence, in view of the disclosure of Kuhn as a whole (Answer 5), and further that the language in the claim resulting in

a single support bracket being used to support both support plates and middle walls, does not preclude the use of a support bracket made up of multiple elements that are fixedly attached, as by welding. (Answer 6).

Appellant appears to concede the latter point made by the Examiner, but asserts that “Kuhn fails to teach or suggest any such structure.” (Reply Br. 6). Appellant refers to Figures 3A-3C of Kuhn in arguing that bearing support 7 of Kuhn, which is analogous to the middle wall of Appellant’s claimed construction, may be welded to either support bracket 28 or support bracket 29, but “nowhere does Kuhn teach that there is one unified support bracket (one piece or multiple pieces put together) that mounts a pair of support plates and has a mounting portion for mounting a middle wall.” (*Id.*).

We disagree. The embodiment illustrated in Figure 3C of Kuhn shows that support brackets 28, 29 abut one another and are joined by the right-hand weld joint 29A. (FF 1). That joined, single support bracket, supports or mounts support plates as well as mounts a middle wall. (FF 2). The alleged shortcoming of the combination of the teaching of Kobayashi and Kuhn is belied by the construction illustrated in Figure 3C.

Accordingly, we are not persuaded that error exists in the Examiner’s rejection of claim 1 over Kobayashi in view of Kuhn. Claims 2 and 3, as noted previously, stand or fall with claim 1. We will affirm the rejection as to all claims.

CONCLUSION

We conclude that Appellant has failed to establish that reversible error exists in the rejection of claims 1-3 under 35 U.S.C. § 103(a).

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ORDER

The decision of the Examiner to reject claims 1-3 under 35 U.S.C. § 103(a) is **AFFIRMED**.

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

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