

UNITED STATES PATENT AND
TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte NIGEL CHARLES WOOD

Appeal 2008-2647
Application 10/381,021
Technology Center 3700

Decided: September 23, 2008

Before HUBERT C. LORIN, DAVID B. WALKER, and BIBHU R.
MOHANTY, *Administrative Patent Judges*.

MOHANTY, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

The Appellant seeks our review under 35 U.S.C. § 134 of the final rejection of claims 1-7. We have jurisdiction under 35 U.S.C. § 6(b) (2002). We REVERSE.

THE INVENTION

The Appellants' claimed invention is directed to a pumping arrangement for a paint circulation system including a reciprocating pump, an AC induction motor, a rotary-to-linear motion converter, an AC frequency inverter, and a surge eliminator (Specification, 2-3). Claim 1, reproduced below, is representative of the subject matter of appeal.

1. A pumping arrangement for a paint circulation system comprising:
 - a reciprocating pump and an alternating current induction motor,
 - a rotary to linear motion converter coupling an output of the induction motor to a drive input of the pump,
 - an alternating current frequency inverter controlling said induction motor,
 - a switch for reversing rotation of the induction motor at the ends of the stroke of the reciprocating pump, and,
 - a surge eliminator communicating with the output side of said pump to augment the pressure in the circulation system during stroke reversal of the pump.

THE REJECTION

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

Bert	US 6,074,170	Jun. 13, 2000
Cornell	US 6,089,837	Jul. 18, 2000
Schwartz	US 6,175,210 B1	Jan. 16, 2001

Claims 1-7 are rejected under 35 U.S.C. § 103(a) unpatentable over Bert, Cornell, and Schwartz.

ISSUES

The issue is whether the Examiner has erred in rejecting claims 1-7 under 35 U.S.C. § 103(a) as unpatentable over Bert, Cornell, and Schwartz. This issue turns on whether one of ordinary skill in the art would modify Bert with a surge eliminator as disclosed by Cornell.

FINDINGS OF FACT

We find the following enumerated findings of fact (FF) to be supported at least by a preponderance of the evidence¹:

- FF1. Bert discloses that as the pump outlet pressure rises and falls a controller makes incremental changes to a motor to maintain a substantially constant pressure at the pump outlet (Bert 6:65-7:11).
- FF2. Cornell discloses a pump inlet stabilizer. When the pressure of a fluid source varies above or below a predetermined pressure range, the pressure control mechanism sends a signal to a solenoid to readjust pressure in the gas chamber (Cornell 2:40-44).
- FF3. Schwartz discloses pump system using an AC inverter 40 (Fig. 1).

PRINCIPLES OF LAW

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said

¹ See *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Patent Office).

Appeal 2008-2647

Application 10/381,021

subject matter pertains.”” *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1734 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, (1966). *See also KSR*, 127 S.Ct. at 1734 (“While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”)

In *KSR*, the Supreme Court emphasized “the need for caution in granting a patent based on the combination of elements found in the prior art,” *id.* at 1739, and discussed circumstances in which a patent might be determined to be obvious. In particular, the Supreme Court emphasized that “the principles laid down in *Graham* reaffirmed the ‘functional approach’ of *Hotchkiss*, 11 How. 248.” *KSR*, 127 S.Ct. at 1739, (citing *Graham*, 383 U.S. at 12 (emphasis added)), and reaffirmed principles based on its precedent 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.” The Court also stated “[i]f a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability.” *Id.* at 1740. The operative question in this “functional approach” is thus “whether the improvement is more than the predictable use of prior art elements according to their established functions.” *Id.*

The Court noted that “[t]o facilitate review, this analysis should be made explicit.” *Id.* at 1741 (citing *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

Appeal 2008-2647

Application 10/381,021

with some rational underpinning to support the legal conclusion of obviousness”). However, “the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *Id.*

ANALYSIS

The Appellant argues that the rejection of claims 1-7 under 35 U.S.C. § 103(a) as unpatentable over Bert, Cornell, and Schwartz is improper because there is no motivation to combine the references (Br. 4). Specifically, the Appellant argues that since Bert has disclosed that control of a motor maintains a “substantially constant pressure at the pump outlet” (Br. 4) that pressure fluctuations are not a problem and that one would not consider a pressure fluctuation attenuator as taught by Cornell as being necessary in Bert’s device (Br. 5).

In contrast the Examiner has determined that because in Bert “the instantaneous pressure at the pump outlet falls and rises” it would have been obvious to use the teachings of Cornell to attenuate the pressure fluctuations even if they were only very small (Answer 5-6).

We agree with the Appellant. Bert has disclosed that the pump uses the motor to make incremental changes to maintain a substantially constant pressure at the pump outlet (FF1). As the pressure at the pump outlet of Bert is *substantially constant*, one of ordinary skill in the art would see no reason to modify the pump outlet as claimed. The Examiner has failed to provide sufficient articulated reasoning with rational underpinning to support the legal conclusion of obviousness, since a substantially constant pressure

Appeal 2008-2647

Application 10/381,021

already exists in the pump of Bert, and we will not sustain the rejection of the claim 1 for this reason. As claims 2-7 depend from claim 1, the rejection of these claims is also not sustained. For the above reasons, the rejection of claims 1-7 under 35 U.S.C. § 103(a) as unpatentable over Bert, Cornell, and Schwartz is not sustained.

CONCLUSIONS OF LAW

We conclude that the Appellant has shown that the Examiner erred in rejecting claims 1-7 under 35 U.S.C. § 103(a) as unpatentable over Bert, Cornell, and Schwartz.

DECISON

The Examiner's rejection of claims 1-7 is not sustained.

REVERSED

Appeal 2008-2647
Application 10/381,021

LV:

LOWE, HAUPTMAN, GILMAN & BERNER, LLP (ITW)
1700 DIAGONAL ROAD
SUITE 300
ALEXANDRIA, VA 22314