

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

---

*Ex parte* SCOTT G. ANSELMO and DOUGLAS R. AUSDEMORE

---

Appeal 2008-1563  
Application 10/931,666  
Technology Center 3600

---

Decided: July 24, 2008

---

Before WILLIAM F. PATE, III, LINDA E. HORNER, and BIBHU R. MOHANTY, *Administrative Patent Judges*.

MOHANTY, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

The Appellants seek our review under 35 U.S.C. § 134 of the final rejection of claims 1-9. Claims 10-11 have been withdrawn. We have jurisdiction under 35 U.S.C. § 6(b) (2002). We AFFIRM.

## THE INVENTION

The Appellants' claimed invention is directed to hose assembly for the fuel cell industry. The hose assembly includes a flexible tube, an annular sleeve, and a nut (Spec. 3:4-28). Claim 1, reproduced below, is representative of the subject matter on appeal.

1. A fuel cell hose assembly, comprising:

a length of metal tube, said tube having first and second rigid ends, with a smooth exterior uninterrupted surface portion adjacent at least one end, said tube having a geometry between said ends which enables said tube to easily flex between said rigid ends;

an annular sleeve closely received over said tube, and permanently mechanically fixed to the smooth surface portion;

a nut generally loosely received around the tube, said nut having a threaded forward portion enabling the nut to be screwed onto a cooperating fitting, and an internal cavity with a rear portion with an inner annular shoulder having an inner dimension smaller than an outer dimension of the sleeve which prevents the nut from being removed over the sleeve.

## THE REJECTIONS

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

Wiser	US 5,131,695	Jul. 21, 1992
Williams	US 2004/0007278 A1	Jan. 15, 2004

The following rejections are before us for review:

1. Claims 1-9 are rejected under 35 U.S.C. § 103(a) as unpatentable over Wiser in view of Williams.

## FINDINGS OF FACT

We find the following enumerated findings of fact are supported at least by a preponderance of the evidence<sup>1</sup>:

1. Wiser discloses a refrigeration coupling with a conduit 12, adapter 20, collar 38, washer 30, and body 14. The conduit 12 and adapter 20 are soldered, brazed, or threaded in place (Col. 4:10-16).
2. Williams discloses a flexible conduit which has corrugated sections 130 which enables the tube to be bent (Fig. 3, [0029]). Williams discloses that the conduit is made from PVC material [0029].

## 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 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,

---

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

(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 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 Appellants argue the rejection of Wiser and Williams is improper because nothing in either of the references would suggest their combination (App. Br. 9). The Appellants argue that Wiser is directed to the refrigeration art where a rigid metal tube is used, in contrast to Williams where a flexible polymeric tube is used (App. Br. 9). The Appellants also argue that those in the refrigeration art would not consider the use of polymeric tubes since they lack strength and are incompatible with refrigeration systems (App. Br. 9). In contrast the Examiner found that the Williams reference teaches that a conduit with a corrugated section may be bent to allow two sections to connect fluidly (Ans. 7). The Examiner determined that a modification of the Wiser coupling with Williams’ corrugated section leads to a predictable result of a refrigeration connection with the ability to bend (Ans. 9).

We agree with the Examiner, “[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its application is actual application is beyond his or her skill” KSR at 1740. Wiser has disclosed a refrigeration coupling having all of the elements of claim 1 except for the “geometry between said ends which enables said tube to easily flex” (FF 1). Williams has provided a teaching showing that corrugated tubing has the ability to bend (FF 2). Williams’ disclosure is limited to PVC material, but one of ordinary skill in the art

would have readily seen that the corrugated tubing geometry of Williams would improve other devices where bent tubing is desirable regardless of whether plastic, metal, or any other common bendable material is used. The modification of the coupling connection of Wiser to use a corrugated geometry for bending as taught by Williams is considered a predictable combination of familiar elements for their intended function. The reasoning articulated by the Examiner for combining the elements of Wiser and Williams to have a refrigeration coupling with the ability to bend easily has a rational underpinning and the claimed subject matter is considered obvious.

For the reasons above we sustain the rejection of claim 1 under 35 U.S.C. § 103(a) under Wiser in view of Williams. The Appellants has not separately argued the rejections of claims 2-9 and accordingly we sustain the rejection of those claims as well.

#### CONCLUSION OF LAW

We conclude that Appellants have failed to show that the Examiner erred in rejecting claims 1-9 under 35 U.S.C. § 103(a) under Wiser in view of Williams.

#### DECISON

The Examiner's rejection of claims 1-9 is sustained.

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) (2007).

Appeal 2008-1563  
Application 10/931,666

AFFIRMED

JRG

Christopher H. Hunter  
PARKER-HANNIFIN CORPORATION  
6035 Parkland Boulevard  
Cleveland, OH 44124-4141