

The opinion in support of the decision being entered today is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte NEIL ALEXANDER DOWNIE

Appeal 2006-2292
Application 10/439,565
Technology Center 3700

Decided: August 30, 2007

Before BRADLEY R. GARRIS, CHUNG K. PAK, and CATHERINE Q. TIMM, *Administrative Patent Judges*.

GARRIS, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134 the final rejection of claims 1-10. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 6(b). We AFFIRM.

INTRODUCTION

Appellant claims the combination of a fluid regulator disposed within a standard fluid cylinder having a inlet of less than 1 inch National Gas Taper (NGT) (claim 1; Specification 9: 21-26).

Claim 1 is illustrative:

1. A fluid control system comprising:

- a standard fluid cylinder having a cylinder inlet of less than 1 inch National Gas Taper; and
- a fluid pressure regulator disposed within said standard fluid cylinder, said fluid pressure regulator comprising:
 - a fluid inlet;
 - a fluid outlet;
 - a first fluid flow path between said fluid inlet and said fluid outlet;
 - a valve seat positioned in said first fluid flow path and dividing said fluid inlet and said fluid outlet;
 - a valve element regulating flow through said valve seat;
 - a generally cylindrical membrane defining an inflatable fluid cavity;
 - a wall portion of said cavity that moves responsive to inflation and deflation of said cavity;
 - a second fluid flow path communicating between said cavity and a source of pressure outside said cavity; and

- a link transmitting the movement of said wall portion to said valve element, thereby moving said valve element with respect to said valve seat responsive to inflation and deflation of said cavity.

The Examiner relies on the following prior art references as evidence of unpatentability:

Brown	US 3,393,701	Jul. 23, 1968
Wang	US 6,089,027	Jul. 18, 2000
Kder	WO 00/67089	Nov. 9, 2000

The rejections as presented by the Examiner are as follows:

1. Claims 1, 2, and 5-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Brown.
2. Claims 1-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Kder.

Appellant argues claim 1 only. Accordingly, claims 2-10, which directly or ultimately depend from claim 1, stand or fall with claim 1.

OPINION

35 U.S.C. § 103(a) REJECTIONS: WANG IN VIEW OF BROWN & WANG IN VIEW OF KDER

Appellant argues that Wang teaches away from combining a standard fluid cylinder having a cylinder inlet of less than 1 inch NGT with a fluid pressure regulator because Wang discloses that the fluid storage and dispensing vessel has an opening greater than 1 inch NGT (Br. 7). Appellant further argues that Wang does not mention the possibility of making the regulator smaller to fit into a smaller hole in the gas cylinder (Br. 9).

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Appellant argues that neither Brown nor Kder discloses using a standard fluid cylinder having an inlet of less than 1 inch NGT (Br. 10, 12).

We have considered all of Appellant's arguments and are unpersuaded for the reasons below.

Appellant does not dispute that all the claim features, with the exception of "a standard fluid cylinder having a cylinder inlet of less than 1 inch National Gas Taper," are disclosed by the combination of Wang in view of Brown, or Wang in view Kder. Accordingly, the only issue presented in this appeal is whether Appellant's "standard fluid cylinder" claim feature in combination with a regulator is rendered obvious by Wang in view of Brown or Wang in view of Kder.

When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1742, 82 USPQ2d 1395, 1397 (2007). If this leads to the anticipated success, it is likely the product not of innovation, but of ordinary skill and common sense. *Id.* Economics may motivate one of ordinary skill in the art to choose the least expensive alternative. *In re Clinton*, 527 F.2d 1226, 1229, 188 USPQ 365, 367 (CCPA 1976).

As the Examiner stated in the Answer, Wang was faced with only two choices when determining how to fit the regulator inside the fluid cylinder: Wang could make the inlet to the cylinder larger or the regulator smaller (Answer 4). Wang chose to make the inlet larger by custom manufacturing fluid cylinders to accommodate the regulators, the more expensive option (Wang, col. 17, ll. 14-26). However, the cost of manufacturing the fluid

cylinders (i.e., the economics) with the larger inlets would have motivated one of ordinary skill to find a more economical solution, such as making the regulators smaller to fit into standard fluid cylinders. *Clinton*, 527 F.2d at 1229, 188 USPQ at 367.

Given the added expense involved with custom manufacturing the fluid cylinders, there would have been market pressure to make the combination of the regulator and the fluid cylinder more economically. In view of the market pressure coupled with the finite number of predictable solutions (i.e., making the inlet larger or the regulator smaller), one of ordinary skill would have had good reasons to pursue the option of making the regulator smaller to fit in a standard fluid cylinder (i.e., one having a inlet of less than 1 inch NGT). *KSR*, 127 S. Ct. at 1742, 82 USPQ2d at 1397.

From the above discussion, Wang's disclosure, to use a custom made fluid cylinder with an inlet of greater than 1 inch NGT, does not teach away from using a standard fluid cylinder as Appellant argues. Rather, this disclosure would have provided motivation to explore the only other option (i.e., making the regulator smaller) to find a more economical way to combine the regulator with the fluid cylinder. *Clinton*, 527 F.2d at 1229, 188 USPQ at 367. Moreover, for the above reasons, we are not persuaded by Appellant's argument that Wang's silence regarding making the regulator smaller fails to suggest the combination of a standard fluid cylinder with a regulator.

Appellant's argument that Brown and Kder fail to disclose using a standard cylinder having an opening less than 1 inch NGT is not persuasive in view of our above discussion. Furthermore, as the Examiner states, the slender regulators of Brown and Kder would have suggested using a fluid

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cylinder with a narrower opening (Answer 3). “[I]t is well established that the mere change of relative size of the co-acting members of a known combination will not endow an otherwise unpatentable combination with patentability.” *In re Troiel*, 274 F.2d 944, 949, 124 USPQ 502, 505 (CCPA 1960). Accordingly, Appellant’s mere changing of the relative size of the regulator as compared to the inlet orifice size (i.e., co-acting members) of the known combination of a “regulator in a bottle” as disclosed by Wang (Wang, col. 4, l. 57) does not endow the combination with patentability. *Id.*

Therefore, we affirm the following rejections: (1) the § 103(a) rejection of claims 1, 2, and 5-10 over Wang in view of Brown, and (2) the § 103(a) rejection of claims 1-10 over Wang in view of Kder.

DECISION

The Examiner’s decision 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)(1)(iv).

AFFIRMED

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