

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 14

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* DARWIN C. OLSON

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Appeal No. 98-0028  
Application No. 08/455,912<sup>1</sup>

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ON BRIEF

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Before ABRAMS, FRANKFORT, and McQUADE, *Administrative Patent Judges*.

ABRAMS, *Administrative Patent Judge*.

**DECISION ON APPEAL**

This is an appeal from the decision of the examiner finally rejecting claims 1-9 and 17-20, which constitute all of the claims remaining of record in the application.

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<sup>1</sup> Application for patent filed May 31, 1995.

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The appellant's invention is directed to a bushing for a fluid coupling to a storage tank. The subject matter before us on appeal is illustrated by reference to claim 1, which has been reproduced in an appendix to the Brief.

**THE REFERENCES**

The references relied upon by the examiner to support the final rejection are:

|                                    |             |          |
|------------------------------------|-------------|----------|
| McGugan<br>1981                    | 4,298,221   | Nov. 3,  |
| Hoogenboom<br>1984                 | 4,454,741   | Jun. 19, |
| Puttonen et al. (Puttonen)<br>1994 | 5,340,166   | Aug. 23, |
| Robinson<br>1992                   | WO 92/06324 | Apr. 16, |

**THE REJECTIONS**

Claims 1-9 stand rejected under 35 U.S.C. § 103 as being unpatentable over Robinson in view of Hoogenboom and Puttonen.

Claims 17-20 stand rejected under 35 U.S.C. § 103 as being unpatentable over Puttonen in view of McGugan.

The rejections are explained in the Examiner's Answer.

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The opposing viewpoints of the appellant are set forth in the Brief.

### OPINION

The guidance provided by our reviewing court for evaluating rejections under 35 U.S.C. § 103 is as follows. In rejections under Section 103, the examiner bears the initial burden of presenting a *prima facie* case of obviousness (see *In re Rijckaert*, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993)), which is established when the teachings of the prior art itself would appear to have suggested the claimed subject matter to one of ordinary skill in the art (see *In re Bell*, 991 F.2d 781, 783, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993)). This is not to say, however, that the claimed invention must expressly be suggested in any one or all of the references, rather, the test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art (see *Cable Electric Products, Inc. v. Genmark, Inc.*, 770 F.2d 1015, 1025, 226 USPQ 881, 886-87 (Fed. Cir. 1985)), considering that a conclusion of

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obviousness may be made from common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference (see *In re Bozek*, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969)), with skill being presumed on the part of the artisan, rather than the lack thereof (see *In re Sovish*, 769 F.2d 738, 742, 226 USPQ 771, 774 (Fed. Cir. 1985)). Insofar as the references themselves are concerned, we are bound to consider the disclosure of each for what it fairly teaches one of ordinary skill in the art, including not only the specific teachings, but also the inferences which one of ordinary skill in the art would reasonably have been expected to draw therefrom (see *In re Boe*, 355 F.2d 961, 965, 148 USPQ 507, 510 (CCPA 1966) and *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968)).

There are two independent claims before us on appeal. The first of these is claim 1, a Jepson-type claim, which in the preamble recites a tank for containing a fluid, the tank having a wall of a selected material in which a bore is provided for slidably receiving a fluid coupling secured in

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the bore by at least one radially projecting member that prevents the coupling from being removed from the bore, with the fluid coupling being sealed with respect to the bore by a seal. Robinson discloses a tank for receiving a fluid, and a bore in the wall of the tank. Robinson does not disclose or teach the other structure recited in the preamble. However, in a Jepson-type claim the elements recited in the preamble are impliedly admitted to be old in the art (see *In re Ehrreich*, 590 F.2d 902, 909-910, 200 USPQ 504, 510 (CCPA 1979)), and in the present case that implication is validated in the appellant's specification. On page 2 thereof, at lines 10-18, the appellant admits that it was known at the time of his invention to utilize quick-connect couplings that were "simply pushed home to seat within a bushing installed on the tank," and goes on to state that the bushings were welded onto the exterior of the formed tank to provide a smooth bore, and it was important to make sure that the weld was fluid-tight, for otherwise the fluid or the gas could leak out. From our perspective, one of ordinary skill in the art would have known that a "quick-connect" coupling that is "pushed home to seat"

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(emphasis added) would be equipped with a radially extending member of some sort that prevents it from being removed from the bore, and that a fluid connection which must be sealed necessarily includes seals at appropriate locations other than the weld, such as in the bore between the opposed surfaces of the coupling and the bore, so that fluid cannot leak out there. In this regard, we draw attention to Puttonen, which discloses annular seal means for sealing between a circular connector through which a pipe or hose is passed and the circular opening into which it has been inserted, for the purpose of preventing the entry of water or other materials (column 1). It therefore is our conclusion that all of the structure recited in the preamble would have been known to one of ordinary skill in the art at the time of the appellant's invention.

The body of claim 1 recites that the bore be formed in the tank after the tank is configured into an enclosure, and that the bore be "a flow drilled bore formed by flowing the material originally at the site around a flow drill to form a bushing that is unitary with the tank." This structure is not taught by Robinson, the primary reference. The examiner

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points out that these are product-by-process limitations. Be that as it may, the appellant has acknowledged that "[t]he flow drill process is a well-known process," and cites two patents as evidence of such in his specification (page 5). As explained in one of these patents (No. 4,428,214), this technology is used for making "rimmed or bossed holes in metal workpieces" such as gas pipe by heating the metal of the workpiece (column 1). Moreover, the examiner cites Hoogenboom as an example of the use of flow drill technology for forming holes in sheet material, and Hoogenboom describes his invention as producing "holes having a collar, in metal sheet or metal tube walls" (column 1, lines 5 and 6, emphasis added). It therefore is our view that one of ordinary skill in the art would have known that flow drill technology is usable to form holes in completed hollow structures, such as the fuel tank disclosed by Robinson, which is equipped with a reinforced opening 38 that has been installed by means not specified in the reference. Suggestion for the use of flow drilling in forming such an opening is found in the self-evident advantages thereof, which would have been known to the artisan, such as the lack of necessity for additional separate

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elements and the lack of waste or residue from the drilling operation. Note that the configuration of the bushing in Hoogenboom is like that disclosed and claimed by the appellant.

The claim goes on to require that the bore define "an inner surface with an axial length substantially greater than the thickness of the wall" so that it can receive a substantial portion of the fluid coupling wherein this substantial portion directly contacts the wall with the retaining and sealing members. With regard to the axial length of the bore, we first point out that the appellant has defined "substantial portion" of the fluid coupling as being of such length that both the retaining and sealing members engage the surface of the bore (specification, sentence bridging pages 2 and 3). From our perspective, one of ordinary skill in the art would have recognized that such an arrangement must be present, or else both the retaining and the sealing functions cannot be accomplished. This is confirmed by Puttonen (Figure 4). The use of appropriate retaining and sealing members would have been obvious to the

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artisan, who is presumed to have skill, rather than the lack thereof.

For the reasons set forth above, we shall sustain the rejection of claim 1 and of claims 2-5 and 9, which the appellant has grouped therewith (Brief, page 5).

Claim 6 adds to claim 1 the limitation that the retaining and sealing members are axially displaced on the coupling and engage the inner surface of the wall of the bore at axially displaced locations. The use of such an arrangement to seal an opening in which a fitting is installed is disclosed by Puttonen. We view this as a confirmation that it would have been within the purview of one of ordinary skill in the art to utilize both retaining and sealing members in a quick-connect coupling that seats within a bushing in a fluid tank, and to locate these elements axially spaced from one another.

The rejection of claim 6 therefore is sustained, as is the rejection of claims 7 and 8, which were grouped with claim 6.

Independent claim 17 is directed to an improvement in a push-to-connect coupling for mounting in an unstopped bore having cylindrical surface. The improvement comprises an

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outer sleeve having an external surface on which at least one barb is positioned for engaging the surface of the wall of the bore and on which a peripheral seal is positioned, and a stop on the coupling for engaging the outside surface of the wall adjacent the bore so that it arrests the insertion of the coupling into the bore. This claim stands unpatentable over the combined teachings of Puttonen and McGugan, the examiner's position being that Puttonen discloses all of the claimed subject matter except for the stop, which is taught by McGugan. We do not agree.

The examiner has not pointed out, and we are at a loss to find, the required "at least one barb" positioned for engaging the surface of the bore in the Puttonen device, which is held in place by the frictional interaction of a plurality of compressible ribs that cause the coupling to become "tightly wedged" in the bore (column 2, lines 38 and 39). Puttonen also fails to disclose or teach means for "arresting insertion" of the coupling into the bore, as is required by claim 17. In this reference, the uppermost rib does not perform such a function; while the coupling collar is pressed into the bore "until the upper rib is level with the mouth"

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(column 2, lines 64 and 65), the purpose of this is not to arrest insertion, but to seal the gap between the collar and the bore (column 1, lines 65 and 66). This leads us to the conclusion that, even if we consider McGugan, the added reference, as disclosing a stop to arrest insertion, as opined by the examiner, there would have been no suggestion to modify Puttonen in the manner proposed by the examiner, that is, place a stop on the outer surface to arrest insertion of the coupling. To do so would appear to adversely impact upon the sealing function performed by Puttonen's uppermost compressible ring, thus acting as a disincentive for such a change.

We therefore will not sustain the rejection of claims 17-20.

We have carefully considered all of the arguments presented by the appellant. However, as to the rejection that we have sustained, they have not convinced us that the decision of the examiner is in error. Our position with respect to these arguments should be apparent from the explanations provided above.

**SUMMARY**

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The rejection of claims 1-9 is sustained.

The rejection of claims 17-20 is not sustained.

The decision of the examiner is affirmed-in-part.

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No period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

**AFFIRMED-IN-PART**

|                             |   |                 |
|-----------------------------|---|-----------------|
| NEAL E. ABRAMS              | ) |                 |
| Administrative Patent Judge | ) |                 |
|                             | ) |                 |
|                             | ) |                 |
|                             | ) |                 |
|                             | ) | BOARD OF PATENT |
| CHARLES E. FRANKFORT        | ) | APPEALS         |
| Administrative Patent Judge | ) | AND             |
|                             | ) | INTERFERENCES   |
|                             | ) |                 |
|                             | ) |                 |
| JOHN P. McQUADE             | ) |                 |
| Administrative Patent Judge | ) |                 |

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