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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DIETER HUSAR, KARL BALDSZUN
and OLIVER BEER

Appeal No. 96-1812
Application 07/984,762[1]

ON BRIEF

Before COHEN, NASE, and CRAWFORD Administrative Patent Judges.

COHEN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the refusal of the examiner to allow claims 25 through 34, as amended subsequent to the final rejection and from the final rejection of claims 35 through 42. These claims constitute all of the claims remaining in the

[1] Application for Patent filed December 3, 1992.

application.

Appellants' invention pertains to a closure vessel assembly for use in laboratory work within a range of temperatures between -196°C and +100°C. With this assembly (specification, page 4), a minimum surface pressure is obtained, as disclosed, by having infinite radii of curvature for the lip sealing surface and vessel sealing surface, i.e., the lip sealing surface and the vessel sealing surface are having line contact with each other as seen in a longitudinal cross-section. With a preferred embodiment, only one of the radii of curvature of the lip and vessel sealing surfaces is infinite, with the other of the radii of curvature is of a smaller value which is still substantially greater than zero; a radius of curvature of about 1 mm is indicated as providing for excellent results. A further understanding of the invention can be derived from a reading of exemplary claim 25, a copy of which appears in the appendix to the main brief (Paper No. 15).

As evidence of obviousness, the examiner has applied the documents listed below:

Gerken et al (Gerken)	4,713,219	Dec. 15, 1987
Korf et al (Korf)	5,167,929	Dec. 1, 1992 (effective date Apr. 6, 1990)

An additional reference of record in this application applied by this panel of the board, infra, is:

Jessop et al (Jessop)	4,953,741	Sep. 4, 1990

The following rejection is the sole rejection before us for review.

Claims 25 through 42 stand rejected under 35 USC § 103 as being unpatentable over Gerken in view of Korf.

The full text of the examiner's rejections and response to the argument presented by appellants appears in the answer (Paper No. 16), while the complete statement of appellants' argument can be found in the main and reply briefs (Paper Nos. 15 and 17).

In the brief (page 5), appellants indicates that the features of dependent claims 26 through 34 and 36 through 42 are subordinary to features of respective independent claims 25 and 35 and should be considered in conjunction therewith. Particularly in light of the lack of any separate arguments in the brief being addressed relative to individual dependent claims, appellants' statement regarding the dependent claims, supra, is considered to denote that these claims stand or fall with their respective independent parent claim. Thus, we focus our attention exclusively upon claims 25 and 35, infra.

OPINION

In reaching our conclusion on the obviousness issue raised in this appeal, this panel of the board has carefully considered appellants' specification and claims, the applied patents,[2] and the respective viewpoints of appellants and the

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[2] In our evaluation of the applied patents, we have considered all of the disclosure thereof for what it would have fairly taught one of ordinary skill in the art. See In re Boe, 355 F.2d 961, 965, 148 USPQ 507, 510 (CCPA 1966). Additionally, this panel of the board has taken into account not only the specific teachings, but also the inferences which

examiner. As a consequence of our review, we make the determination which follow.

We reverse the examiner's rejection of appellants' claims under 35 USC §103.

Each of independent claims 25 and 35 addresses a closure vessel assembly for use in laboratory work within a range of temperatures between -196°C and +100°C comprising, inter alia, an annular sealing lip of a closure having a lip sealing surface and a convex sealing surface on the vessel, the lip sealing surface extends at an acute angle to a central axis of the vessel and has an infinite radius of curvature and the convex sealing surface has a radius of about 1 mm.

Our review of the applied teachings of Gerken and Korf

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one skilled in the art would reasonably have been expected to draw from the disclosure. See In re Preda 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

indicates to us that, collectively considered, they would not have been suggestive of the specifically claimed closure vessel assembly. Akin to appellants' point of view as articulated in the briefs, we do not perceive that these references can fairly be said to address closure vessel assemblies utilizable within a range of temperatures between -196°C and +100°C, an express limitation required by claims 25 and 35. Contrary to the view of the examiner (answer, pages 7 and 8), a reference teaching must be reasonably suggestive of a closure vessel assembly that would have functioned at <u>all</u> temperatures within the aforementioned range to satisfy the claimed temperature range limitation. Thus, we cannot sustain the examiner's rejection under 35 USC 103.

NEW GROUNDS OF REJECTION

Under the authority of 37 CFR 1.196(b), this panel of the board introduces the following new grounds of rejection.

Claims 25 through 42 are rejected under 35 USC 112, second paragraph, as being indefinite.

In the specification (page 4) and original claim 5, a radius of curvature of “about 1 mm” is set forth. On the other hand, the specification (page 10) also recites a radius of curvature of “1 mm”.

In our view, the recitation of “about 1 mm” is indeterminate in meaning. The specification is silent as to what the modifying word of degree “about” denotes and, therefore, the scope of the term “about 1 mm” cannot be ascertained when the term is read in light of the specification. See Seattle Box Co. v. Industrial Crating & Packing, Inc., 731 F.2d 818, 826, 221 USPQ 568, 573-574 (Fed. Cir. 1984).

For purposes of the following new ground of rejection under 35 USC 103, we interpret the indefinite term “about 1 mm” in claims 25 and 35 as denoting --1 mm--.

Claims 25 through 42 are rejected under 35 USC 103 as being unpatentable over Jessop and either Korf or the acknowledged prior art (appellants’ specification, page 1).

Jessop addresses a disposable laboratory testing device in the form of a plastic material (polypropylene) capped container with a volume within the range of about 0.5 to 2.0 ml (column 6, lines 28 through 32) for specimens that may be frozen or boiled. As shown, for example, in Figure 6 of the patent, a downwardly divergently tapered frusto-conical wall or skirt 90 is integral with wall 60 of the cap 17 and forms respective seals with an annularly inwardly-directed lip 24 and wall surface 18 of the cylindrical wall 16 (column 8, lines 32 through 35). The lip is essentially semi-circular in cross-section and is defined by a single arcuate external surface 34 (column 5, lines 51 through 55). The cap 17 and its tether 19 are integrally molded with the container 15 (column 6, lines 47 through 50).

The Korf patent (Figures 1 through 3) and the acknowledged prior art teach, inter alia, screw-threaded caps or closures for engaging a container wherein the cap further includes a sealing lip depending therefrom. More specifically, as to the acknowledged prior art, the present application (page 1) discloses that a prior art closure vessel

assembly is provided with a sealing lip having a shape of an extended parabola in a longitudinal cross-section, with the periphery of the sealing lip having a lip sealing surface urged against an internal rim of the mouth of a vessel when a closure is in screw-threaded engagement with the vessel. A housing face wall and housing side wall at the internal rim abruptly merge into each other, i.e., the radius of curvature of the internal rim approximates zero in a longitudinal cross-section.

In our opinion, it would have been obvious to one having ordinary skill in the art, from a combined consideration of the applied teachings, to replace the cap arrangement disclosed by Jessop with a screw-threaded cap arrangement. From our perspective, the incentive on the part of one having ordinary skill in the art for making this modification would have simply been to obtain the self-evident advantages of a simpler, known screw-threaded cap arrangement. As to the specific temperature range of between -196°C and +100°C (claims 25 and 35), we view the disclosure of freezing and boiling by Jessop as reasonably suggestive thereof. In the

matter of the recitation of a convex sealing surface having a radius of “about 1 mm” (claims 25 and 35), we consider the selection of this particular value to be a matter well within the ordinary skill of those practicing this art, particularly since the Jessop patent teaches a convex sealing surface with a semi-circular cross-section for engagement with a tapered skirt to form a seal effective for both freezing and boiling temperatures. More specifically, with the latter knowledge of Jessop, it is our view that one of ordinary skill would clearly have been expected to derive an optimal working value for the radius of the semi-circular cross-section of the lip of Jessop. See In re Boesch, 617 F.2d 272, 205 USPQ 215, 219 (CCPA 1980). Additionally, based upon the knowledge and level of skill in the closure vessel assembly art revealed by the applied evidence of obviousness, it appears to us that the particular recitations set forth in each of the respective dependent claims 26 through 34 and 36 through 42, considered by appellant as subordinary to the content of the independent claims, simply involve the application of ordinary skill and/or the obvious choice of additional features known in the art.

In summary, this panel of the board has reversed the rejection of claims 25 through 42 under 35 USC § 103 as being unpatentable over Gerken in view of Korf. Additionally, we have introduced new grounds of rejection in accordance with 37 CFR 1.196(b).

The decision of the examiner is reversed.

REVERSED

37 CFR 1.196(b)

IRWIN CHARLES COHEN Administrative Patent Judge	)
JEFFREY V. NASE Administrative Patent Judge	) BOARD OF PATENT) APPEALS AND) INTERFERENCES
MURRIEL E. CRAWFORD Administrative Patent Judge	)

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