

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

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* DIETER HINTENLANG,  
DIETER UNRATH AND  
HANS WIEGAND

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Appeal 2007-1399  
Application 10/013,123  
Technology Center 1700

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Decided: July 23, 2007

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Before EDWARD C. KIMLIN, CHARLES F. WARREN, and JEFFREY T.  
SMITH, *Administrative Patent Judges*.

KIMLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1-10. Claim 1 is  
illustrative:

1. A method of producing a filter having radial pleats comprising:  
pleating a starter filter sheet to form folds in the starter filter sheet,

the starter filter sheet having a first surface and a second surface,

wrapping the pleated starter filter sheet around a core,

the core and the starter filter sheet interfaced with one another in a flow-proof manner; and

joining a first fold and a second fold of the started filter sheet to create a joined filter sheet,

wherein wrapping the pleated starter filter sheet positions the first fold and the second fold along a radial axis of the core.

The Examiner relies upon the following references as evidence of obviousness:

Bauer	US 2,599,604	Jun. 10, 1952
Bauer	US 3,025,963	Mar. 20, 1962
Jackson	US 3,076,555	Feb. 5, 1963
McKinlay	US 3,293,830	Dec. 27, 1966
Shikaya	US 3,908,523	Sep. 30, 1975
Henschel, Jr.	US 4,186,099	Jan. 29, 1980
Naruo	US 4,876,007	Oct. 24, 1989
Olsen	US 6,135,130	Nov. 13, 2001

Appellants' claimed invention is directed to a method of producing a filter having radial pleats. The method entails wrapping a pleated started filter sheet around a core and adjoining first and second folds of the sheet to create a joined filter sheet. The first and second folds are positioned along a radial axis of the core.

The appealed claims stand rejected under 35 U.S.C. § 103(a) as follows:

(a) claims 1, 2, 4, 5, 8, 10-12, 14, and 18-20 over Jackson in view of Shikaya and Bauer '604,

(b) claim 3 over the stated combination of references further in view of Henschel, Jr.,

(c) claims 6 and 15 over the stated combination of references further in view of Olsen,

(d) claims 7 and 17 over the stated combination of references further in view of McKinlay, and

(e) claim 16 over the stated combination of references further in view of Bauer '963.

We have thoroughly reviewed each of Appellants' arguments for patentability. However, we are in complete agreement with the Examiner's reasoned analysis and application of the prior art, as well as her cogent and thorough disposition of the arguments raised by Appellants. Accordingly, we will adopt the Examiner's reasoning as our own in sustaining the rejections of record, and we add the following for emphasis only.<sup>1</sup>

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<sup>1</sup> We note that Appellants have not presented separate arguments for any particular claim on appeal. Also, Appellants have not submitted separate substantive arguments for the Examiner's separate § 103 rejections of claims 3, 6 and 15, 7 and 17, and 16. Appellants only state that Henschel, Jr., Olsen, McKinlay, and Bauer '963 do not remedy the asserted deficiency of the rejection of claim 1 over Jackson in view of Shikaya and Bauer '604. Accordingly, we will limit our consideration to the Examiner's rejection of claim 1, with which all the appealed claims stand or fall together.

Appellants do not dispute the Examiner's factual determination that Jackson, like Appellants, "discloses forming a filter by folding a piece of filter with the pleats running perpendicular to the longitudinal direction, forming it into an annulus with the pleats extending radially, and bonding the ends of the filter together" (Answer 3, citing Jackson at col. 1, ll. 38-47, and col. 3, ll. 36-40). As acknowledged by the Examiner, Jackson then positions a core into the center of the formed filter and forms a seal to the core, unlike the claimed method of first wrapping the filter around the core and joining first and second folds of the filter sheet. However, we fully concur with the Examiner that Shikaya and Bauer '604 evidence the obviousness of employing Appellants' wrapping method as an alternative to Jackson's placing a core into an already formed filter having a central aperture.

Appellants do not contest the Examiner's finding that Shikaya discloses alternative methods of joining a pleated or corrugated cover to a central core comprising either inserting the core into a pre-made cover or winding the cover around a central core. Nor do Appellants dispute the Examiner's finding that Bauer '604 discloses wrapping a filter around a core (*see* Fig. 2). It is Appellants' contention that Shikaya is directed to a method of making a liquid-tight cup and not a filter and, therefore, "one skilled in the art of filter manufacture would not have looked to the cup forming teachings of Shikaya" (Principal Br. 7, second para.).

In essence, it is Appellants' position that Shikaya is not combinable with Jackson since it is non-analogous art. However, it is well-settled that prior art is analogous if the references are directed to the same field of

endeavor, *or*, are reasonably pertinent to addressing the same particular problem. *In re Wood*, 599 F.2d 1032, 1036, 202 USPQ 171, 174 (CCPA 1979). In the present case, Jackson and Shikaya are reasonably pertinent to the problem of joining a pleated sheet of material around an inner core, and we agree with the Examiner that one of ordinary skill in the art would have readily recognized the alternative methods of forming the pleated sheet in an annular shape before positioning it around the core or wrapping the pleated sheet around a core before bonding. We also agree with the Examiner that Bauer '604 provides additional evidence of the obviousness of wrapping a pleated sheet around a core before bonding, notwithstanding that the pleats of the sheet are not along the radial axis of the core.

Appellants repeatedly state in the Principal and Reply Briefs that claims 1, 10, 11, and 20 require wrapping a filter around a core such that its ends are connected end-to-end (for example, *see* page 8 of Principal Br., second para.). However, neither claim 1, nor claims 10, 11, and 20, recite that the wrapped sheet is connected end-to-end. Claim 1, for instance, recites "joining a first fold and a second fold of the started filter sheet," with no requirement for end-to-end connection.

Appellants also contend that "if it was so obvious to wrap a filter having radial folds or pleats around a core and connect it end-to-end, why is it that a single reference in the relevant field of endeavor disclosing a filter wrapped end-to-end around a core, as required by the present claims, could not be uncovered?" (Principal Br. 10, penultimate para.). There are any number of reasons, of course, why the Examiner did not cite a patent with such a teaching. However, one reason may very well be that any attempt to

patent a modification of the Jackson invention by wrapping the pleated sheet around a core before bonding was rejected as unpatentable under 35 U.S.C. § 103.

Manifestly, we do not subscribe to Appellants' argument that "the Examiner's general underlying proposition that wrapping an article around a core is generally a well-known alternative to inserting a core into a pre-made article is fundamentally flawed" (Principal Br. 11, first para., last sentence). In our view, one of ordinary skill in the art would have found it obvious to perform a typical cost-benefit analysis in weighing the advantages and disadvantages of the known alternative methods of joining a pleated sheet to a central core.

As a final point, we note that Appellants base no argument upon objective evidence of nonobviousness, such as unexpected results, which would serve to rebut the inference of obviousness established by the Examiner.

In conclusion, based on the foregoing and the reasons well-stated by the Examiner, the Examiner's decision rejecting the appealed claims 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)(iv)(effective Sept. 13, 2004).

AFFIRMED

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Application 10/013,123

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