

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JOHN B. BOYLE,
ALEXANDER LOBOVSKY,
JAMES A. MATRUNICH,
CAROLE G. SHEALY
and BRUCE W. PORTUS

Appeal 2007-3182
Application 10/683,058
Technology Center 1700

Decided: October 31, 2007

Before EDWARD C. KIMLIN, CHUNG K. PAK, and
THOMAS A. WALTZ, *Administrative Patent Judges*.

KIMLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 4, 6-8 and 12-22.
Claims 23-28 have been withdrawn from consideration. Claim 12 is
illustrative:

12. A yarn comprised of a plurality of multi-lobal filaments, said multi-lobal filaments comprising a solid cross-section having a perimeter comprised of a plurality of symmetric lobes that are joined to one another by concave line segments, said cross-section having a modification ratio of about 2.4 to about 5; wherein upon traversing in one direction completely around the perimeter, the position of a center of curvature for the perimeter changes from one side of said perimeter to the other side at least eighteen times.

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

Hackler	WO 88/03969	Jun. 2, 1988
Tung	5,284,009	Feb. 8, 1994
Boyle	5,322,736	Jun. 21, 1994
Helms, Jr.	5,948,528	Sep. 7, 1999

Appellants' claimed invention is directed to a yarn comprised of a plurality of multi-lobal filaments which have a solid cross-section and a perimeter having a plurality of symmetric lobes that are joined by concave line segments. The cross-section has a modification ratio of about 2.4 to about 5. According to Appellants, "[t]he solid structures of the inventive filaments are desired for having lower bending moments and having less bulk, and would be softer than a comparable hollow fiber with the same 'footprint' shape" (Principal Br. 5, second para.).

Appealed claims 12, 4, 6-8 and 14-22 stand rejected under 35 U.S.C. § 103 as being unpatentable over Helms in view of Boyle. Claim 13 stands rejected under 35 U.S.C. § 103 as being unpatentable over the stated combination of references further in view of Hackler and/or Tung.

Appellants do not set forth a separate argument for any particular claim on appeal. Accordingly, the groups of claims separately rejected by the Examiner stand or fall together.

We have thoroughly reviewed each of Appellants' arguments for patentability, as well as the Specification data relied upon in support thereof. However, we are in complete agreement with the Examiner that the claimed subject matter would have been obvious to one of ordinary skill in the art within the meaning of § 103 in view of the applied prior art. Accordingly, we will sustain the Examiner's rejection for essentially those reasons expressed in the Answer, and we add the following primarily for emphasis.

Helms, as explained by the Examiner, discloses multi-lobal carpet filaments that may have a solid-cross section and a modification ratio preferably within the claimed range. Helms discloses two cross-sectional configurations for the tri-lobal filaments as simply examples of specific shapes, but clearly teaches that a wide variety of different cross-sectional geometries maybe produced by the disclosed invention (*see Abstract*). On the other hand, there is no dispute that Boyle discloses yarn comprised of a plurality of multi-lobal filaments having a cross-section and characteristics in accordance with the claimed invention. Accordingly, although the filaments of Boyle are hollow and not solid, as presently claimed, we are in full agreement with the Examiner that one of ordinary skill in the art would have found it obvious to adopt the cross-sectional configuration disclosed by Boyle for the cross-sectional shape of Helms' filaments. As explained by the Examiner, Boyle expressly discloses the following:

It has been determined that the composite curve profile or multiple arm arrangement of the filament allows for an increase in the modification ratio. By increasing the modification ratio, a carpet made from the filaments has increased bulk and reduced luster. (col. 6, ll. 59-63).

Since Boyle discloses that the cross-section of the filament has a modification ratio of 2.4 to 5.0, which values are directly within the preferred range of Helms, we are convinced that it would have been obvious for one of ordinary skill in the art to employ the cross-sectional configuration disclosed by Boyle for the filaments of Helms with the reasonable expectation of obtaining a carpet having increased bulk and reduced luster. Contrary to the thrust of Appellants' arguments that the configuration of Boyles' hollow filament would not have motivated one of ordinary skill in the art to use such configuration in the solid filaments of Helms, we find no teaching in Boyle that the properties attributed to the configuration of Boyle is due to the hollow nature of the filaments. Indeed, inasmuch as Helms discloses that the filaments may be solid or hollow, and have a modification ratio like the filaments of Appellants and Boyle, it would seem that the increase in modification ratio discussed by Boyle would apply to both solid and hollow filaments. Also, we note that the Boyle of the reference is one of the present inventors, and Mr. Boyle has not proffered any evidence on this record that the cross-sectional configuration of Boyle increases the modification ratio of only hollow filaments.

Appellants cite Examples 3 and 6 of the present Specification to demonstrate that solid filaments of the present invention are superior in some respects to hollow filaments. However, such evidence is not germane to the obviousness of employing the claimed cross-sectional configuration to the solid filaments of Helms. Appellants have not demonstrated that the claimed cross-sectional configuration produces unexpected results for solid filaments relative to solid filaments having different cross-sectional configurations.

Appeal 2007-3182
Application 10/683,058

In conclusion, based on the forgoing 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)(vi)(effective Sept. 13, 2004).

AFFIRMED

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HONEYWELL INTERNATIONAL, INC.
15801 WOODS EDGE ROAD
COLONIAL HEIGHTS, VA 23834