

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(2) is not binding precedent of the Board.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. 38

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte YOSHIHISA GOTO,
TOSHIHIKO TSUTSUMI, TOSHIAKI TAKAHASHI,
and TAKATOSHI SAGAWA

Appeal No. 95-2881
Application 07/988,037¹

HEARD: Dec. 9, 1998

Before SOFOCLEOUS, GARRIS, and PAK, Administrative Patent
Judges.

GARRIS, Administrative Patent Judge.

DECISION ON APPEAL

¹ Application for patent filed December 9, 1992.
According to appellants, this application is a continuation of
Application 07/381,400, filed July 18, 1989.

Appeal No. 95-2881
Application No. 07/988,037

This is a decision on an appeal from the final rejection of claims 6 through 10 and 17 which are all of the claims remaining in the application.

The subject matter on appeal relates to a carbon fiber which has been coated with an aromatic polysulfone resin and then heated at 300-400EC for from 1 to 20 hours. Further details of this appealed subject matter are readily apparent from a review of illustrative independent claim 6 which reads as follows:

6. A carbon fiber which has been surface-coated with an aromatic polysulfone resin and then heated at 300-400EC for from 1 to 20 hours prior to any blending or mixing of said fiber with any other material.

The references relied upon by the examiner as evidence of obviousness are:

Turton et al. (Turton)	3,785,916	Jan. 15, 1974
Hannah et al. (Hannah)	3,798,105	Mar. 19, 1974
Hara et al. (Hara)	4,764,427	Aug. 16, 1988
Cogswell et al. (Cogswell)	4,783,349	Nov. 8, 1988
Tobukuro et al. (Japanese '837) (JP)	56-90837	Jul. 23, 1981

Appeal No. 95-2881
Application No. 07/988,037

Tobukuro et al. (Japanese '730) (JP)	56-120730	Sep. 22, 1981
Asagi (Japanese '033) (JP)	62-115033	May 26, 1987
Kawabata et al. (Japanese '268) (JP)	62-119268	May 30, 1987

The appealed claims are rejected under 35 U.S.C. § 103 as being unpatentable over Japanese '268, Japanese '033, Turton, or Hara or Japanese '730 in view of Cogswell and Hannah.

The appealed claims also are rejected under 35 U.S.C. § 103 as being unpatentable over Japanese '837.

OPINION

We cannot sustain any of the above noted rejections.

None of the primary references relied upon by the examiner in the rejections before us contains any teaching or suggestion of heating a polysulfone-coated carbon fiber "at 300-400°C for from 1 to 20 hours prior to any blending or mixing of said fiber with any other material" as required by appealed independent claim 6. We appreciate that the Cogswell and Hannah references might have suggested a heating step at temperatures within the here claimed range for a period of, for example, five minutes in order to obtain a uniform

Appeal No. 95-2881
Application No. 07/988,037

coating. However, neither Cogswell nor Hannah contains any teaching or suggestion of practicing this heating step for a period of from 1 to 20 hours in order to modify the physical properties of the carbon fibers. With respect to the manipulation of such properties, the parameter of time is not recognized in the prior art as a result effective variable. In re Antonie, 559 F.2d 618, 620, 195 USPQ 6, 8-9 (CCPA 1977).

These deficiencies of the prior art are significant notwithstanding the fact that they relate to process features even though the appealed claims are directed to a product, namely, a particular surface-coated carbon fiber. This is because the product defined by the product-by-process language of appealed independent claim 6 has been shown by declaration evidence of record (e.g., see the Goto declaration filed October 9, 1992) to be plainly different in physical properties from the fiber product of the primary references having no heat-treatment as well as from the product of the Cogswell and Hannah references having a heat-treatment of approximately five minutes (e.g., see Table I of the aforementioned Goto declaration). In this regard, we remind the examiner that it is the invention as a whole, including

Appeal No. 95-2881
Application No. 07/988,037

its properties, which must have been obvious under 35 U.S.C. §
103. In re Antonie at 559 F.2d 619, 195 USPQ 8; In re
Papesch, 315 F.2d 381, 390-391, 137 USPQ 43, 51 (CCPA 1963).

For the above stated reasons, none of the many section
103 rejections advanced by the examiner on this appeal can be
sustained.

The decision of the examiner is reversed.

REVERSED

	Michael Sofocleous)	
	Administrative Patent Judge)	
)	
)	
)	
	Bradley R. Garris)	BOARD OF
PATENT	Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
)	
)	
	Chung K. Pak)	
	Administrative Patent Judge)	

tdc

Appeal No. 95-2881
Application No. 07/988,037

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