



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/090,011	07/02/2008	Tanya Monro	P34282	8388
7055	7590	12/01/2016	EXAMINER	
GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			LOPEZ, RICARDO E.	
			ART UNIT	PAPER NUMBER
			1786	
			NOTIFICATION DATE	DELIVERY MODE
			12/01/2016	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com
greenblum.bernsteinplc@gmail.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte TANYA MONRO, HEIKE EBENDORFF-HEIDEPRIEM
and PHILIP DAVIES

Appeal 2015-005935
Application 12/090,011
Technology Center 1700

Before JEFFREY T. SMITH, KAREN M. HASTINGS, and
MICHAEL P. COLAIANNI, *Administrative Patent Judges*.

HASTINGS, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

This is an appeal under 35 U.S.C. § 134 from a final rejection of
claims 1–8. We have jurisdiction under 35 U.S.C. § 6.

We AFFIRM.

Appellants' invention is best illustrated by independent claim 1, reproduced below (emphasis added to highlight disputed features):

1. A die for extruding an extrudable material to form a microstructured fibre preform, the die comprising:

an inlet chamber configured to receive the extrudable material in a billet form so as to be subsequently heated and forced through the die, the inlet chamber including wall portions that taper inwardly in a direction of extrusion;

an open ended extrudate forming chamber configured to have the microstructured fibre preform formed therein;

a barrier member arranged in the direction of extrusion between the inlet chamber and the open ended extrudate forming chamber, the barrier member comprising a plurality of spaced apart feed channels each independently extending through the barrier member, from the inlet chamber to the open ended extrudate forming chamber, without fluid communication within the barrier member;

a passage forming member extending from the barrier member substantially in the direction of extrusion so as to protrude from an outlet face of the barrier member and into the open ended extrudate forming chamber, wherein the spaced apart feed channels are arranged with respect to the passage forming member to allow the extrudable material to substantially flow about the passage forming member upon exiting the spaced apart feed channels at the outlet face of the barrier member to form a corresponding passage in the microstructured fibre preform.

App. Br. 22 (Claims Appendix).

Appellants (*see* Appeal Brief, *generally*) appeal the following rejections under 35 U.S.C. § 103(a):

(a) claims 1–8 rejected under 35 U.S.C. § 103 (a) as unpatentable over Maxwell (WO 02/095460 A1, published November 28, 2002, and relying on US 2005/003671 A1, published February 17, 2005 as the English equivalent), Kobayashi (JP4022601 A, published January 27, 1992, relying on the English translation submitted March 4, 2013 and made of record by the Examiner in the Office Action of July 8, 2013), Furman (US 4,025,262, issued May 24, 1977) and Ikedo (JP 02093602 A, published April 4, 1990 and relying on the English Abstract dated March 31, 2014) ; and

(b) claims 1–8 rejected under 35 U.S.C. § 103 (a) as unpatentable over Kobayashi, Furman and Ikedo.

In addressing the rejections, Appellants argue independent claim 1 and dependent claims 4–8 separately but present no arguments for dependent claims 2 and 3. *See* Appeal Brief, *generally*. Accordingly, we select independent claim 1 as representative of the subject matter before us on appeal. Claims 2 and 3 stand or fall with claim 1. Claims argued separately will be addressed separately.

OPINION

We have reviewed each of Appellants' arguments for patentability. However, we are in agreement with the Examiner that the subject matter of representative claim 1 is unpatentable. Accordingly, we sustain the Examiner's prior art rejections for the reasons explained in the Answer, and we add the following primarily for emphasis.

Independent claim 1 is directed to an extrusion die for a process of making an extruded microstructured fiber preform. App. Br. 5–6.

*Rejection (a)*¹

We refer to the Examiner’s Final Action for a statement of the rejection. Final Act. 9–14.

Claim 1

Appellants argue Kobayashi does not disclose extruding a microstructured fibre. App. Br. 11. Appellants additionally argue that Kobayashi does not disclose a die having an inlet chamber configured to receive the extrudable material in a billet form. *Id.* at 12. According to Appellants, Kobayashi is directed to extruding activated carbon into a molded article comprising a plurality of longitudinal holes and, given this different use of the die, there is no reason to modify Kobayashi as to make microstructure fibers with a reasonable expectation of success in making such product from a material in billet form. App. Br. 8 and 13; Kobayashi 7, 12–13, 19 (Figure 2).

We are unpersuaded by these arguments. As noted by the Examiner, Maxwell discloses the use of extrusion dies to make microstructured fiber preforms. Final Act. 9; Maxwell Figure 1, ¶¶ 14 and 15. Moreover, Maxwell discloses the use of a die that can provide airholes by simple absence of the fiber material through the use of either rigid or fluid lumens (pins) positioned within the die to produce the aforementioned air holes.

¹ A discussion of Furman is unnecessary for disposition of this appeal. The Examiner relied upon this reference to teach heating of the extrudate material before extrusion. Final Act. 12–13. Appellants rely on arguments presented when discussing Kobayashi in addressing the Examiner’s reliance on this reference. App. Br. 15.

Maxwell ¶¶ 34 and 36. Given the similarities between Maxwell’s disclosed extrusion die and Kobayashi’s die (Kobayashi Figure 1), Appellants have not adequately explained why one skilled in the art would not have been capable of adapting Kobayashi’s die for use in Maxwell’s process of making a microstructured preform with reasonable expectation of success. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007) (“A person of ordinary skill is also a person of ordinary creativity, not an automaton.”). While Appellants argue Kobayashi does not use material in billet form, we note that Maxwell disclose the use of extrudate material in solid form (particulate form) and melting the material to obtain the fluid unitary body. App. Br. 12; Maxwell ¶ 15. Again, given the similarities between the dies of Maxwell and Kobayashi, Appellants have not adequately explained why one skilled in the art would not have been capable of adapting Kobayashi’s extrusion die to receive extrudate material in a desired known solid form.

Appellants argue Kobayashi does not disclose or suggest an extrudate forming chamber that is an open ended chamber but instead discloses a closed extrudate forming chamber (or initial molding space) is essential for the proper functioning of the extrusion process. App. Br. 11 and 17; Kobayashi 15–16, 19 (Figure 1). According to Appellants, the initial molding space in Kobayashi is filled with material 13 and the stopper member 27 is subsequently removed. App. Br. 17; Kobayashi 15–16.

We are also unpersuaded by these arguments. As noted by the Examiner, and acknowledged by Appellants in their arguments, Kobayashi discloses removing the stopper 27 from the die after the initial stage molding is completed to permit the continued extrusion of the material. Ans. 19; App. Br. 17; Kobayashi 16–17. Thus, Kobayashi’s die is open ended during

the extrusion portion of the process. Moreover, the language of claim 1 is written using the transitional open language comprising and, thus, does not exclude the use of a stopper in coordination with the claimed open ended chamber to start the shaping process, as disclosed by Kobayashi.

Appellants argue Ikedo does not disclose or suggest the inlet chamber including wall portions that are tapered inwardly in the direction of extrusion. App. Br. 11. According to Appellants, the taper disclosed in Figures 1 and 2 of Ikedo is a tapering of the passages through element 1 which, at best, corresponds to the purported barrier member 22 in Kobayashi. *Id.* at 16.

We also find these arguments unavailing for the reasons presented by the Examiner. Ans. 20. Moreover, Appellants describe the tapered walls as forcing the material to be extruded uniformly towards the feed holes. Spec. 12. That is, the tapered walls funnel the material to the feed holes. Appellants have not adequately explained why one skilled in the art would not have been capable of providing tapered walls to an extrusion die inlet chamber to facilitate the feeding of extrudate material into the die. Appellants do not direct us to any evidence that such tapered walls result in any unexpected results.

Claims 4–8

With respect to claims 4–6, Appellants argue Kobayashi does not disclose passage forming members of different sizes, shapes and arrangements as respectively required by claims 4–6. App. Br. 18–19. With respect to claims 7 and 8, Appellants argue Kobayashi does not illustrate a removable feed-hole plate for incorporation into a die. *Id.* at 19.

We are also unpersuaded by these arguments. As noted by the Examiner, Maxwell discloses as known to configure a die for microstructured fiber preform by varying the size, shape and orientation of the discrete elements or passage forming members to achieve a desired product. Final Act. 9; Maxwell ¶¶ 36–37. With respect to the removable feed hole plate, one skilled in the art would have been capable of configuring an extrusion die to have a removable feed hole plate to accommodate feed hole plates having a variety of shapes and sizes in view of Maxwell’s disclosure. Maxwell ¶¶ 36–37. Appellants have not adequately explained why one skilled in the art would not have been capable of configuring an extrusion die for a desired product in view of Maxwell’s disclosure.

Therefore, we affirm the Examiner’s prior art rejection under 35 U.S.C. § 103(a) (Rejection (a)) for the reasons presented by the Examiner and given above.

Rejection (b)

We also affirm the Examiner’s rejection of claims 1–8 under 35 U.S.C. § 103(a) (Rejection (b)) for the reasons presented by the Examiner. As we discussed above, Appellants have not adequately explained why one skilled in the art of microstructured fiber preform would not have been capable of adapting the die of Kobayashi to make a desired product based on the starting material used. Ans. 18.

Accordingly, we affirm the Examiner’s prior art rejection under 35 U.S.C. § 103(a) (Rejection (b)) for the reasons presented by the Examiner and given above.

Appeal 2015-005935
Application 12/090,011

ORDER

The Examiner's prior art rejections of claims 1–8 under 35 U.S.C. § 103(a) are affirmed.

TIME PERIOD

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1).

AFFIRMED