

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 27

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SEUNG-HUN OH,
KI-UN NAMKOONG,
and
JIN-HAN KIM

Appeal No. 1999-2435
Application No. 08/872,876

HEARD: JULY 11, 2002

Before OWENS, LIEBERMAN, and PAWLIKOWSKI, Administrative Patent Judges.
LIEBERMAN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the decision of the examiner refusing to allow claims 1, 2, 11 and 16. Claims 17 through 24 are allowed. Claims 4 through 10 and 12 through 15 are objected to as depending from a rejected claim. Claim 3 is cancelled.

THE INVENTION

The invention is directed to a process for fabricating an optical fiber. One aspect of the claimed process requires supplying a flow of gas through an inlet such that a condition of reduced pressure is generated in response to the flow of gas within a predetermined region of an adjainer as compared to an external pressure of said adjainer. Additional limitations are described in the following illustrative claim.

THE CLAIM

Claim 1 is illustrative of appellants' invention and is reproduced below:

1. A process for fabricating an optical fiber, comprising steps of:

assembling an adjainer, a primary optical fiber preform having a first primary axis and an outer surface and an overcladding tube having a second primary axis and an inner surface defining an interior space, together as a secondary preform assembly;

holding said primary optical fiber preform in a centrally inserted position within said interior space with said first and second primary axes in substantial alignment with each other;

supplying a flow of gas through an inlet;

generating a condition of reduced pressure within a predetermined region of said adjainer as compared to an external pressure of said adjainer, in response to said flow of gas, wherein said predetermined region includes a gap formed between said inner surface of said overcladding tube and said outer surface of said primary optical fiber preform;

heating, by a furnace, a portion of said primary optical fiber preform and a portion of said overcladding tube to a softened state wherein an optical fiber can be drawn therefrom; and

positioning said secondary preform assembly in a specified position with respect to said furnace.

THE REFERENCE OF RECORD

As evidence of anticipation the examiner relies upon the following reference:

Hicks, Jr. (Hicks)	2,980,957	Apr. 25, 1961
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THE REJECTION

Claims 1, 2, 11 and 16 stand rejected under 35 U.S.C. § 102(b) as anticipated by Hicks.

OPINION

We have carefully considered all of the arguments advanced by the appellants and the examiner, and agree with the appellants that the rejection of the claims is not well founded. Accordingly, we reverse this rejection.

The Rejection Under Section 103(a)

"[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability." See In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

As described in the specification, the invention is directed to a "plurality of passages to provide an inlet for flow of gas, a region in which the flow of gas generates a condition of reduced pressure, and an extension of the region of reduced pressure to interior space." See specification, page 7, lines 8-10. Reference to Figure 6A further

discloses that the flow of gas from the inlet tube A to the outlet tube B, “generates a condition of reduced pressure at the upper ends of suction tubes C, in accordance with Bernoulli’s theorem, and therefore partially evacuates the space between the overlapping tube 44 and the primary optical fiber preform 46.” See Figure 6A and specification, page 14, lines 9-11. It is evident that the claimed invention requires “generating a condition of reduced pressure . . . in response to said flow of gas,” as required by claim 1.

In contrast, it is the examiner’s position in applying the Hicks reference that, “13 is the inlet; the gas removed (via 13a) from the enjoiner is flow of gas that goes through the inlet 13; it is inherent that the flow is supplied to something (perhaps a vacuum pump). It is noted that ‘inlet’ merely describes an opening and not a direction through which a fluid enters (e.g.,] an inlet to a lagoon has [a] flow in either direction - depending upon the tide).” See Final Rejection, page 4. We disagree.

One critical limitation of the claimed subject matter requires, “supplying a flow of gas through an inlet; generating a condition of reduced pressure within a predetermined region of said adjoiner as compared to an external pressure of said adjoiner, in response to said flow of gas.”

The term, “inlet” is defined in part, as “a way of entering,” or “an opening for intake.”¹ We find that Hicks discloses that, “a vacuum line 13a is connected to the

¹ Webster’s Ninth New Collegiate Dictionary, p. 623 (Merriam-Webster Inc., Springfield, MA, 1986). Copy attached.

plunger 7 with a fitting 13b so as to provide means for producing a relatively high vacuum in the space 14 between the members 10 and 12.” See column 2, line 72 to column 3, line 3. Member 10 is the glass rod. Member 12 is the tubular glass member surrounding the rod. The only gas present is that limited and static amount present between members 10 and 12. Although this gas can be evacuated as the tubular glass member enters into contact with the glass rod upon heating, it does not supply a flow of gas through an inlet which in and of itself generates a condition of reduced pressure in response to said flow of gas, as required by the claimed subject matter. Indeed, in the absence of the vacuum line 13a, the gas pressure would have increased as the tubular member 12 entered into contact with the glass rod 10 and said gas flowed out of 13a or become entrapped in either the glass rod or the tubular glass member as it softened and became molten, thereby resulting in imperfections in the optical fiber. Indeed Hicks states that, “[b]y providing the relatively high vacuum in the space 14 while simultaneously controlling the rate of collapsing of the tubular member 12 with the low vacuum in the space 16, a substantially perfect interface which is free of air or gas bubbles or the like will result since all air or gases which might form during the heating of the rod and tubular member will be forced upwardly by the upward collapsing of the tubular member 12 and be drawn outwardly of the space 14 by the vacuum line 13a.” See column 3, lines 23-33.

Based upon the above findings and analysis, we conclude that no flow of gas which results in a condition of reduced pressure occurs through inlet 13 in the absence of vacuum

line 13a. To the contrary, we conclude that the reduced pressure causes the removal of gas from the space between 10 and 12 rather than the flow of gas generating a condition of reduced pressure in response to said flow as required by the claimed subject matter.

Furthermore, we find that Hicks discloses that, “[t]he neutral atmosphere may consist of nitrogen with a possible trace of oxygen or other known neutral atmospheric gases which are fed into the chamber under a slight pressure by a suitable pipeline 36.” See column 6, lines 44-47. We further find a second vacuum line 15, “communicat[es] with the space between the housing 5 and the tubular member 12 whereby the suction pull of the high vacuum which is drawn from the space 14 and on the tubular member 12 may be counteracted by the simultaneous drawing of controlled lower vacuum from the space 16.” See column 3, lines 4-9. As stated by appellants in the Reply Brief, page 7, “[t]he low pressure which is created in space 16 by vacuum line 15 and which enables a continuous flow of gas via pipeline 36 to be supplied to chamber 28 and to pull the heated gas from chamber 28 via opening 18 in order to maintain the neutral atmosphere in chamber 28 at a constant level,” represents the teachings of Hicks. We further conclude that 36 is the only inlet which supplies a flow of gas. Moreover, the examiner in his finding has expressly relied upon outlet tube 13a to establish that 13 is an inlet tube and has ignored the express teaching by Hicks of the only disclosed inlet tube that discloses a flow of gas is 36. Based upon the above findings and analysis, the rejection of the examiner is not sustainable.

We have determined that the examiner's legal conclusion of obviousness is not supported by the facts. "Where the legal conclusion [of obviousness] is not supported by [the] facts[,] it cannot stand." In re Warner, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967), cert. denied, 389 U.S. 1057 (1968), reh'g denied, 390 U.S. 1000 (1968).

DECISION

The rejection of claims 1, 2, 11 and 16 under 35 U.S.C. § 102(b) as anticipated by Hicks is reversed.

The decision of the examiner is reversed.

REVERSED

TERRY J. OWENS)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
PAUL LIEBERMAN)	APPEALS
Administrative Patent Judge)	AND
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