

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte FRANKLIN W. DABBY and BEDROS ORCHANIAN

Appeal 2008-2181
Application 10/981,180
Technology Center 1700

Decided: May 7, 2008

Before BRADLEY R. GARRIS, ROMULO H. DELMENDO, and
LINDA M. GAUDETTE, *Administrative Patent Judges*.

DELMENDO, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134 (2002) from rejections of claims 35, 52-55, 57-61, and 63 (Office Action mailed May 11, 2006).¹ We have jurisdiction under 35 U.S.C. § 6(b).

¹ This appeal is related to Appeal 2008-2666 in Application 10/897,784 (Amended Appeal Brief filed May 17, 2007, hereinafter “App. Br.” 1).

We REVERSE.

Appellants invented a method for manufacturing an optical fiber (Specification, hereinafter “Spec.,” 8, ll. 17-19). According to Appellants (Spec. 1, ll. 11-13), “[t]oday’s communications grade optical fiber of fused silica, SiO₂, is manufactured according to three basic steps: 1) core preform or “start rod” fabrication, 2) core-with-cladding preform fabrication, and 3) fiber drawing.” In one aspect, the invention involves depositing silica soot in layers on a continuously moving workpiece mounted on a lathe, which rotates and translates the workpiece relative to a burner for depositing particles onto the workpiece (Spec. 9, ll. 16-19; Spec. 29, ll. 1-4).

Appellants explain, however, that a tapering effect, or “footballing,” on the workpiece resulting from the deposition of silica “may cause a loss of significant portion of the useful length of the preform when the preform is finally ready for drawing” (Spec. 29, ll. 12-16). To solve this problem, Appellants disclose translationally moving the workpiece at a speed at times of greater than about 1.4 meters per minute and, as the ends of the workpiece approach the burner, decelerating the workpiece at a constant deceleration of -250 mm/sec² and then accelerating it with an opposite constant acceleration of 250 mm/sec² (Spec. 30, ll. 1-14; Spec. 30, l. 15 to 31, l. 14; Figure 6).

Claims 35 and 52, the only independent claims on appeal, read as follows (App. Br. 17):

35. A method of manufacturing optical fiber comprising the steps of:

- (a) obtaining a start rod,
- (b) depositing fused silica on the start rod to produce an optical fiber preform; and

(c) drawing the optical fiber preform into the optical fiber;

wherein the depositing step comprises steps of rotating the start rod and translating the start rod relative to the deposition of fused silica at a rate at times greater than about 1.4 meters per minute, and wherein as the ends of the start rod approach the deposition, selectively causing a relative acceleration between the start rod and the deposition, the acceleration having an absolute magnitude of at least about 250 mm/sec².

52. A method of manufacturing optical fiber comprising the steps of:

(a) obtaining a workpiece;

(b) depositing silica particles on the workpiece;

(c) translating the workpiece relative to the depositing of silica particles; and

(d) drawing the workpiece into optical fiber;

wherein the translating step is performed by selectively translating the workpiece relative to the deposition at a rate greater than about 1.4 meters per minute, and wherein as the ends of the workpiece approach the deposition, selectively causing a relative acceleration between the workpiece and the deposition, the acceleration having an absolute magnitude of at least about 250 mm/sec².

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Burke	6,189,340 B1	Feb. 20, 2001
Harada	JP01242433	Sep. 27, 1989
(as translated into English by McElroy Translation Co., Aug. 2007)		
Komura	JP10081537	Mar. 31, 1998
(as translated into English by McElroy Translation Co., Aug. 2007)		

Compumotor: Model 2100 Indexer User Guide, Parker Hannifin Corp. (publication date unknown)(hereinafter “Compumotor”).

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Letter from B. Franklin and D. Hall to A. B. (1748), Advice to a Young Tradesman, Written by an Old One, in 2 The Writings of Benjamin Franklin: Philadelphia, 1726-1757, available at <http://www.historycarper.com/resources/twobf2/advice.htm> (May 8, 2006)(hereinafter “Franklin”).

The Examiner rejected the claims as follows: (i) claims 35, 52-55, 57-61, and 63 under 35 U.S.C. § 112, ¶2, as indefinite; (ii) claims 35, 52-54, 57-60, and 63 under 35 U.S.C. § 103(a) as unpatentable over Burke alone or Burke in view of Franklin; (iii) claims 55 and 61 under 35 U.S.C. § 103(a) as unpatentable over Burke, Komura, and Harada, optionally in view of Franklin; and (iv) claims 35, 52-55, 57-61, and 63 under 35 U.S.C. § 103(a) as unpatentable over Burke, Komura, Harada, and Compumotor, optionally in view of Franklin (Examiner’s Answer mailed Aug. 31, 2007, hereinafter “Ans.” 3-11).

ISSUES

Have Appellants demonstrated reversible error in the Examiner’s conclusion that the appealed claims are indefinite?

Have Appellants demonstrated reversible error in the Examiner’s conclusion that the subject matter of the appealed claims would have been obvious to a person having ordinary skill in the art within the meaning of 35 U.S.C. § 103(a)?

FINDINGS OF FACT

1. Burke describes a method of fabricating a fiber optic preform consisting of depositing titania doped or tin-titania doped silica by flame hydrolysis on an initially preheated ½” tapered alumina bait rod with a 0.002 inch/inch taper and depositing carbon using an acetylene torch, which was accomplished by

holding the acetylene torch stationary under the bait as it traversed for 6 to 10 cycles of the 20" deposition distance while traversing at 2.5 cm/sec and rotating at 200 rpm, wherein both rotation and traversing were controlled by Compumotor 2100 in a stand alone mode (col. 10, l. 66 to col. 11, l. 14).

2. Burke does not teach selectively causing a relative acceleration between the start rod (or workpiece) and the deposition, the acceleration having an absolute magnitude of at least about 250 mm/sec², as recited in appealed claim 35 or 52.
3. Franklin states (¶2): "Remember that TIME is money."
4. Komura teaches a method for manufacturing porous optical fiber preform by deposition of glass soot on the outer periphery of a target using a plurality of burners (¶0001).
5. Komura states (¶0027; Figures 1-5):

If the burners 6b and 6c stop at the same target 1 position, the flames of the targets 6b and 6c face continuously the same target position, resulting in abnormally high temperature with continuous deposition of glass soot (SiO₂ soot) and high densification leading to formation of knob-like protrusions which grow with subsequent glass microparticle deposition. Such knob-like protrusion growth is a product defect.

6. Komura further teaches (¶0029):

The method for the manufacture of porous glass fiber perform [sic] of the present invention is characterized in that a plurality of burners face staggered positions in the peripheral direction of a rod target; these burners are run at low speeds with a certain distance between adjacent burners from the starting side to the other side of the target,

during which glass soot formed in the flame at the tip of each burner is deposited on the outer periphery of the target to form a porous glass fiber perform [sic]; each burner reaching the other side of the target is returned to the starting side at a speed that is more than 1.5 times the low speed described above, then each burner returned to the starting side is run again at low speed toward the other side of the target with a certain distance between adjacent burners; this process is repeated; as the outer diameter of the porous optical fiber perform [sic] is increased, the low running speed of each burner is gradually retarded to obtain porous optical fiber performs [sic] with desired outer diameter; the speed of the burners (following the front-running burner) returning from the other side to the starting side is retarded in such a way that the burners returned to the starting side restart without any waiting time.

7. Harada discloses an apparatus for producing optical fiber base material comprising an upper-part holding device for holding the upper part of a center material which becomes a target, an upper-part stand wherein the upper-part holding device is attached and is shifted forcedly up and down, a driving device for rotating forcedly the aforementioned upper-part holding device, a lower-part holding device for holding the lower part of the aforementioned center material, a lower-part stand wherein the lower-part holding device is attached as rotatable state and shifted freely up and down, and a glass fine powder forming device for forming glass fine powder and depositing it on the aforementioned center material (p. 4).

8. Compumotor, which is product literature, discusses the installation, operation, and maintenance of a microprocessor based programmable pulse generator for the control of pulsed motor and drive systems (p. 1-1).

PRINCIPLES OF LAW

“A claim is considered indefinite if it does not reasonably apprise those skilled in the art of its scope.” *IPXL Holdings, LLC v. Amazon.com, Inc.*, 430 F.3d 1377, 1383-84 (Fed. Cir. 2005).

“Section 103 forbids issuance of a patent when the ‘differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains.’” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1734 (2007).

KSR reaffirms the analytical framework set out in *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1 (1966), which mandates that an objective obviousness analysis includes: (1) determining the scope and content of the prior art; (2) ascertaining the differences between the prior art and the claims at issue; and (3) resolving the level of ordinary skill in the pertinent art. *KSR*, 127 S. Ct. at 1734. Secondary considerations such as commercial success, long felt but unsolved needs, or failure of others ““might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.”” *Id.* (quoting *Graham*, 383 U.S. at 17-18).

ANALYSIS

I.

35 U.S.C. § 112, ¶2

The Examiner argues that the recitation “selectively causing a relative acceleration” as recited in claim 35 or 52 “makes the claim indefinite because one would be unable to determine whether a causing step was done selectively or non-selectively” (Ans. 5). According to the Examiner, “[t]he selection process reads on a nebulous mental step conducted prior to the manipulative steps of the claimed process, hence rendering the present process claim unclear in meaning in scope” (Ans. 5-6). The Examiner further asserts that “it is unclear whether one could avoid infringement by ‘automatically’ causing rather than ‘selectively’ causing” the relative acceleration (Ans. 6). Additionally, the Examiner contends that “[t]here is confusing or missing antecedent basis for ‘the deposition’ (last paragraph of each independent claim)” (Ans. 6).

We cannot agree. As pointed out by the Appellants (App. Br. 14), the plain meaning of “selectively causing” an action is that the action caused is selected from among multiple possibilities. Thus, while it may be argued that the term “selectively” might be superfluous, the Examiner did not explain how one could avoid infringement when relative acceleration is caused to occur. Here, the Examiner has not demonstrated that the relative acceleration in the context of the present invention could even be performed non-selectively. Nor has the Examiner explained why automatically causing relative acceleration cannot be considered “selectively” causing acceleration.

We also disagree with the Examiner that “the deposition” lacks sufficient antecedent basis. Claims 35 and 52 both specify a deposition step.

The Examiner did not adequately explain why “the deposition” lacks sufficient antecedent basis in the context of the claimed subject matter as a whole.

II.

35 U.S.C. § 103(a)

The Examiner’s reasoning in support of obviousness is based largely on the premise that “it would have been obvious to reverse directions [in terms of the translation of the starting rod or workpiece] as quickly as possible so as to save time” and that “[i]t is generally not invention to do something quickly” (Ans. 10; Facts 1-3). In response to Appellants’ argument that it has not been shown that reversing directions as quickly as possible saves time, the Examiner argues that time would be saved if the rate of particles being deposited were correspondingly increased (Ans. 12-13). With respect to Appellants’ argument that the invention solves the problem of tapering at the ends of the workpiece, the Examiner argues that the solution would naturally flow from following the suggestion of the prior art (Ans. 13).

We disagree with the Examiner. The claims at issue require more than merely performing a process quickly. Claims 35 and 53 recite “as the ends of the start rod approach the deposition, selectively causing a relative acceleration...having an absolute magnitude of at least about 250 mm/sec². ” Here, the Examiner does not dispute that Appellants’ claimed invention solves a problem with respect to tapering at the ends of the starting rod or workpiece (Spec. 30, l. 15 to 31, l. 15) but merely argues that the same solution to the problem would flow naturally from the prior art and that Appellants did not show that the advantage was unexpected (Ans. 13). In

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our view, however, the Examiner erred by not according proper weight to the problem solved in assessing obviousness.

Furthermore, we agree with Appellants that the prior art would have taught away from the claimed invention (Reply Brief filed Oct. 31, 2007 at 5). To reduce deposition defects, Komura teaches running the burners at low speeds during certain periods of the process (Facts 4-6). Komura, therefore, contradicts the Examiner's reasoning to arrive at Appellants' claimed subject matter.

The Examiner has not explained how Harada and Compumotor (Facts 7-8) remedy the deficiency in the reliance on Burke or Burke in view of Franklin.

CONCLUSION

On this record, we determine that the Examiner erred in rejecting claims 35, 52-55, 57-61, and 63 under 35 U.S.C. § 112, ¶2, and 35 U.S.C. § 103(a).

DECISION

The Examiner's decision to reject the appealed claims is reversed.

REVERSED

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