

The opinion in support of the decision being entered today was not written for publication in a law journal and is not binding precedent of the Board.

Paper No. 26

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ROBERT M. HAWK

Appeal No. 2001-1667
Application No. 09/117,280

ON BRIEF

Before WILLIAM SMITH, KRATZ, and POTEATE, Administrative Patent Judges.

POTEATE, 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 1-8 and 11-12, which are all of the claims pending in the application.

Claim 11 is illustrative of the subject matter on appeal and is reproduced below:

11. A method of making optical fiber, comprising:
heating a preform;

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drawing optical fiber from the preform so that the optical fiber passes between and contacts a first and second roller, each roller rotating about an axis of rotation passing longitudinally through the center of each roller; and

pivoting the rollers with respect to each other during the drawing step such that the axes of rotation cross to become non-parallel imparting spin to the fiber wherein a position of the fiber along a longitudinal length of the first and second rollers remains unchanged as spin is imparted.

The references relied upon by the examiner are:

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| Päivinen et al. (Päivinen) | 5,092,117 | Mar. 3, 1992 |
| Hart, Jr. et al. (Hart) | 5,298,047 | Mar. 29, 1994 |

Grounds of Rejection¹

Claims 1-8 and 11-12 stand rejected under 35 U.S.C. § 103 as unpatentable over Hart in view of Päivinen.

We reverse.

Background

The invention relates to a method of making an optical fiber wherein polarization mode dispersion (PMD) in the fiber is minimized. See Appeal Brief, page 2, paragraph V. PMD causes signal distortion which is harmful for high bit rate and analog communication systems. Specification, page 2, lines 10-11. The method of the invention involves heating a conventional fiber

¹ The rejection of claims 1-8 and 12 under 35 U.S.C. § 112, first paragraph, has been withdrawn. Examiner's Answer, Paper No. 23, mailed December 1, 2000, page 2, paragraph (6).

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preform and then drawing an optical fiber from the preform between rollers such that a controllable and predictable spin is imparted on the fiber. Specification, page 3, lines 23-32.

According to appellant, an important feature of the claimed method is that "the pivoting rollers impart spin to the fiber without displacing the fiber from a vertical path or displacing the fiber along the rollers." Appeal Brief, page 2. In particular, the method overcomes the undesirable affects of using a single guide roller as taught by Hart wherein oscillation of the fiber along the roller may subject the fiber to unwanted abrasion and vibration which may affect non-contact measurements of the fiber dimensions. See Appeal Brief, page 5, summary of Hart.

Discussion

During patent examination, the examiner bears the initial burden of presenting a prima facie case of unpatentability. In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). To establish a prima facie case of obviousness, the examiner must identify "some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant

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teachings of the references." In re Thrift, 298 F.3d 1357, 1363, 63 USPQ2d 2002, 2006 (Fed. Cir. 2002) (quoting In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988)). In order to demonstrate the requisite motivation, suggestion or teaching, the examiner may rely on explicit statements in the prior art, the knowledge of one of ordinary skill in the art or the nature of the problem to be solved. Thrift, 298 F.3d at 1363, 63 USPQ2d at 2006 (quoting In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000)).

The examiner relies on Hart as disclosing the invention as claimed with the exception of passing the fiber through "a first and second roller" and "pivoting said rollers . . . to impart a spin." Examiner's Answer, page 3. The examiner relies on Päivinen as disclosing a method wherein a continuous linear item, i.e., an optical cable, is passed between a first and second roller, the rollers being pivoted such that their axes of rotation become non-parallel to impart an alternating twist to the fiber. Id., page 4. The examiner notes that Hart teaches that any "appropriate means for applying an appropriate torque to the fiber" may be employed in his invention. Id.; Hart, column 5, lines 14-22. Accordingly, the examiner asserts that "[i]t would have been obvious to utilize the Päivinen twisting device

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in the Hart process since such is a known alternating twist device/method in the optical fiber communications industry." Examiner's Answer, page 4.

We agree with appellant that the examiner's rejection can only be based on impermissible hindsight reasoning. See Appeal Brief, page 8.

In order to prevent the use of hindsight, "the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed." In re Rouffet, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998). It is not sufficient for the examiner to rely on a high level of ordinary skill in the art to provide the motivation to combine the teachings of the cited references. See id. Rather, the examiner must "explain what specific understanding or technological principle within the knowledge of one of ordinary skill in the art would have suggested the combination." Id. The examiner asserts that the substitution of one twisting device for another would have been obvious. This simply does not provide the requisite explanation of the specific understanding or principle within the knowledge of one of ordinary skill in the

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art that would motivate him to combine the teachings of Hart and Päivinen.

Each of independent claims 1, 11 and 12 includes the requirement that the fiber passes between first and second rollers. The claims further require that the fiber is not laterally deflected along the rollers.² See Appeal Brief, Paper No. 22, received October 27, 2000, page 6, second paragraph; specification, page 5, lines 1-15. As noted by appellant, Hart's method clearly relies on back and forth oscillation of the fiber on a roller. See Appeal Brief, page 9; Hart, column 4, lines 20-40.

Even if the examiner were correct that it would have been obvious to have passed the fiber between first and second rollers, the examiner has failed to explain why one of ordinary skill in the art would have been motivated to modify the Hart method so as to prevent lateral movement of the fiber on the

² We interpret the following claim phrases as requiring that the fiber is not laterally deflected along the rollers: "without displacing the fiber from a vertical path at a point of contact with the first and second rollers" (Claim 1), "wherein a position of the fiber along a longitudinal length of the first and second rollers remains unchanged" (Claim 11) and "without deflecting a lateral position of the fiber at a point of contact with the first and second rollers" (Claim 12).

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rollers as required by the claims on appeal.³ In fact, the examiner's comment that the fiber in the Hart-Päivinen combination "would not be displaced for the same reasons there is no displacement in applicant's invention" is telling of his use of hindsight in the selection of Hart and Päivinen to create a case of obviousness. See Examiner's Answer, page 5.

We are further in agreement with appellant that, at best, the examiner has shown that it might be "obvious to try" Päivinen's two roller system in the method of Hart. See Appeal Brief, page 6. The examiner relies on Hart's teaching that "all" appropriate twisting means may be utilized as providing a suggestion to use, as opposed to merely try, a two roller system. See Examiner's Answer, page 6. However, it is well settled that "a rejection can not be predicated on the mere identification . . . of individual components of claimed limitations. Rather, particular findings must be made as the reason the skilled

³ The examiner urges that "common sense would indicate that if one could twist the continuous length cable with two wheels like Päivinen does then one can twist an optical fiber." Examiner's Answer, page 5. Such argument is completely unavailing given the Federal Circuit's holding in In re Lee, wherein the Court held that reliance on "common knowledge and common sense" do not fulfill the requirement to provide reasons in support of a finding of obviousness. See Thrift, 298 F.3d at 1364, 63 USPQ2d at 2006 (quoting Lee, 277 F.3d 1338, 1344-45, 61 USPQ2d 1430, 1435 (Fed. Cir. 2002)).

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artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed." Ecolochem, Inc. v. Southern Cal. Edison Co., 227 F.3d 1361, 1375, 56 USPQ2d 1065, 1076 (Fed. Cir. 2000) (quoting In re Kotzab, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000)).

In sum, we find that the examiner has failed to establish a prima facie case of obviousness. Accordingly, the rejection of claims 1-8 and 11-12 under 35 U.S.C. § 103 is reversed.

REVERSED

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| WILLIAM F. SMITH |) | |
| Administrative Patent Judge |) | |
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| PETER F. KRATZ |) | BOARD OF PATENT |
| Administrative Patent Judge |) | APPEALS AND |
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