

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(2) is not binding precedent of the Board.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. 16

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte FREDERICK M. SHOFNER,  
MICHAEL E. GALYON, JOSEPH C. BALDWIN  
and MASOOD A. KHAN

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Appeal No. 1997-3975  
Application 08/395,376

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ON BRIEF

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Before KRASS, JERRY SMITH and BARRY, Administrative Patent  
Judges.

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

Appeal No. 1997-3975  
Application No. 08/395,376

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 9-11 and 13-18, which constitute all the claims remaining in the application. An amendment after final rejection was filed on January 6, 1997 but was denied entry by the examiner.

The invention pertains to an apparatus for sensing characteristics of elongate entities having length and width and being carried in an airflow. The invention is disclosed as having particular utility when used with an Advanced Fiber Information System (AFIS). More particularly, the invention has analyzing means for distinguishing between sensor signals corresponding to looped entities and sensor signals corresponding to not looped entities.

Representative claim 9 is reproduced as follows:

9. An apparatus for sensing characteristics of elongate entities having length and width and being carried in an airflow, at least a portion of the entities being in a looped condition in which an entity is folded back on itself along its length; comprising:

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a sensing volume;

entity presentation means for receiving the entities and airflow and presenting the entities in said sensing volume, a portion of the entities being presented in said sensing volume in a looped condition and a portion of the entities being presented in said sensing volume not in a looped condition;

sensor means for sensing the entities in said sensing volume and for producing sensor signals corresponding to characteristics of the sensed entities; and

analyzing means for receiving and analyzing said sensor signals and for determining at least one characteristic of looped entities based on said sensor signals, wherein said analyzing means further comprises means for distinguishing between sensor signals corresponding to looped entities and sensor signals corresponding to not looped entities.

The examiner relies on the following references:

Duncan et al. (Duncan)                      3,816,001                      June 11,  
1974

Shofner et al. (Shofner), "Advanced Fiber Information System: A New Technology For Evaluating Cotton," presented at the Conference of the Textile Institute Fibre Science Group, 7-8 December 1988, pp. 1-10, figs. 1-21.

Claims 9-11 and 13-18 stand rejected under 35 U.S.C.

§ 112, first paragraph, as being based on an inadequate

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disclosure. Claims 9-11 also stand rejected under 35 U.S.C. § 102(b) as being anticipated by the disclosure of Shofner. Finally, claims 13-18 also stand rejected under 35 U.S.C. § 103 as being unpatentable over the teachings of Shofner in view of Duncan.

Rather than repeat the arguments of appellants or the examiner, we make reference to the brief and the answer for the respective details thereof.

#### OPINION

We have carefully considered the subject matter on appeal, the rejections advanced by the examiner, the arguments in support of the rejections and the evidence of anticipation and obviousness relied upon by the examiner as support for the prior art rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellants' arguments set forth in the brief along with the examiner's rationale in support of the rejections and arguments in rebuttal set forth in the examiner's answer.

It is our view, after consideration of the record before us, that the disclosure in this application describes

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the claimed invention in a manner which complies with the requirements of

35 U.S.C. § 112. We are also of the view that the disclosure of Shofner fully meets the invention as recited in claims 9-11. Finally, it is our view that the collective evidence relied upon and the level of skill in the particular art would have suggested to one of ordinary skill in the art the obviousness of the invention as set forth in claim 16, but not the invention as set

forth in claims 13-15, 17 and 18. Accordingly, we affirm-in-part.

We consider first the rejection of claims 9-11 and 13-18 based on the first paragraph of 35 U.S.C. § 112. The examiner's rejection is based on the position that the originally filed specification does not support the invention now being claimed. Amendments were made to the specification which the examiner finds to be new matter. The claims on appeal are rejected based on the examiner's position that the specification contains this "new matter." Appellants argue that the appealed claims do not recite any subject matter

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related to the alleged new matter, and the disclosure is fully enabling for the claimed invention [brief, pages 5-6].

A rejection on new matter goes to the written description requirement of 35 U.S.C. § 112. The purpose of the written description requirement is to ensure that the applicants convey with reasonable clarity to those skilled in the art that they were in possession of the invention as of the filing date of the application. For the purposes of the written description requirement, the invention is "whatever is now claimed." Vas-cath, Inc. v. Mahurkar, 935 F.2d 1555, 1564, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991).

We note that the material objected to as new matter by the examiner relates to an addition to the disclosure that "taper means half-angle" [answer, page 3]. The terms "taper" and "half-angle" are used only to describe the physical characteristics of the nozzle. As pointed out by appellants, however, the appealed claims recite no specific features of the nozzle and only broadly recite an "entity presentation means." The original specification clearly supports the broad

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recitation of an entity presentation means regardless of whether or not the "new matter" had been added. Since the taper and half-angle characteristics are irrelevant to the invention of the appealed claims, we do not sustain the examiner's rejection of claims 9-11 and 13-18 under the first paragraph of 35 U.S.C. § 112 as having an inadequate written description.

We now consider the rejection of claims 9-11 under 35 U.S.C. § 102(b) as being anticipated by the disclosure of Shofner. These claims stand or fall together [brief, page 5]. Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention as well as disclosing structure which is capable of performing the

recited functional limitations. RCA Corp. v. Applied Digital Data Systems, Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir.); cert. dismissed, 468 U.S. 1228 (1984); W.L. Gore and Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 1554,

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220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851  
(1984).

The examiner asserts that Shofner discloses all the components of independent claim 9. Appellants argue that Shofner does not disclose "analyzing means further comprising means for distinguishing between sensor signals corresponding to looped entities and sensor signals corresponding to not looped entities, as contained in Claim 9" [brief, page 7]. Appellants argue that Shofner can sense but not distinguish between looped and not looped entities. The examiner responds that Shofner discloses that the sensed signals are analyzed, and the results of the analysis shown in graphical form distinguish between looped and not looped entities as recited in claim 9 [answer, pages 8-9]. We agree with the examiner.

Shofner clearly discloses that the sensed data "are acquired, analyzed, and stored" [page 4 of reference, emphasis added]. The question is whether the analysis in Shofner distinguishes between sensor signals corresponding to looped entities and sensor signals corresponding to not looped entities.

We agree with the examiner that the graphical representation of the fiber properties described on page 4 of the reference

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and

shown in Figures 5-18 of the reference constitutes a means for distinguishing between looped and not looped entities to the artisan skilled in interpreting such graphical representations. Therefore, we sustain the rejection of claims 9-11 under 35 U.S.C. § 102.

We now consider the rejection of claims 13-18 under 35 U.S.C. § 103 as unpatentable over the teachings of Shofner in view of Duncan. In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v.

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Rudkin-Wiley Corp., 837 F.2d 1044,

1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). Only those arguments actually made by appellants have been considered in this decision.

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Arguments which appellants could have made but chose not to make in the brief have not been considered [see 37 CFR § 1.192(a)].

The examiner explains this rejection on pages 4-5 of the answer. With respect to claims 13 and 17 which stand or fall together [brief, page 5], appellants argue that neither Shofner nor Duncan teaches a means for producing a compensated waveform that compensates for varying velocities along the length of the entity [brief, page 8]. The examiner responds that compensation is inherent in the systems of Shofner and Duncan [answer, pages 9-10].

Whether compensation is broadly performed in Shofner or Duncan is not the proper question to be considered by the examiner. The proper question is whether the collective teachings of the references would have suggested the obviousness of the analyzer means as specifically recited in claim 13. We

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agree with appellants that there is no suggestion in Shofner or Duncan for producing a waveform that compensates for varying velocities of the entities. The fact that velocity can be measured in Duncan does not suggest the analyzer means as recited in claim 13. Additionally, the record before us does not support the examiner's position that the specific limitations of the analyzer means are inherent in the applied prior art. Therefore,

the obviousness rejection with respect to claims 13 and 17 is not sustained.

With respect to claims 14 and 18, which stand or fall together [brief, page 5], appellants argue that nothing in either Shofner or Duncan discloses the dividing of a waveform into segments for cross-correlation [brief, page 8]. The examiner responds that Shofner and Duncan inherently compensate using a computer which includes any type of mathematical procedure [answer, page 10].

The examiner's position is totally without merit. There

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is nothing in Shofner or Duncan which would have suggested to the artisan that a means for performing the specific steps of claim 14 should be provided. The steps recited in claim 14 are not inherently required by the systems of either Shofner or Duncan. Therefore, we do not sustain the rejection of claims 14 and 18. Since claim 15 depends from claim 14, we also do not sustain the rejection of claim 15.

With respect to claim 16, appellants again argue that nothing in either Shofner or Duncan suggests the analyzer means as recited therein [brief, page 9]. The examiner responds that Shofner teaches that the sensors scatter light based on the size and shape of the entities, and one of the properties specifically

determined in Shofner is the length of various entities. The examiner asserts that it would have been obvious to the artisan to determine separately the length of looped, unlooped and multiply looped entities based on the different scattering properties that they possess.

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We agree with the examiner that the invention as broadly recited in claim 16 is suggested by the collective teachings of Shofner and Duncan within the meaning of 35 U.S.C. § 103. The looped, not looped and multiply looped entities of Shofner would yield different sensor outputs based on size and shape as noted in Shofner. When these different outputs are graphed based on length as suggested in Shofner, the graph is an indication to the artisan of the length of looped, unlooped and multiply looped entities. Therefore, we sustain the rejection as it applies to claim 16.

In summary, we have not sustained the examiner's rejection of the claims under 35 U.S.C. § 112. We have sustained the examiner's rejection of claims 9-11 under 35 U.S.C. § 102(b) and the rejection of claim 16 under 35 U.S.C. § 103. We have not sustained the rejection of claims 13-15, 17 and 18 under 35 U.S.C. § 103. Therefore, the decision of the examiner rejecting claims 9-11 and 13-18 is affirmed-in-part.

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

AFFIRMED-IN-PART

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|-----------------------------|---|-----------------|
| Errol A. Krass              | ) |                 |
| Administrative Patent Judge | ) |                 |
|                             | ) |                 |
|                             | ) |                 |
|                             | ) | BOARD OF PATENT |
| Jerry Smith                 | ) |                 |
| Administrative Patent Judge | ) | APPEALS AND     |
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|                             | ) |                 |
| Lance Leonard Barry         | ) |                 |
| Administrative Patent Judge | ) |                 |

JS/dm

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