

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 21

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte YANG XU  
and TERESA LECHNER-FISH

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Appeal No. 2003-1920  
Application 09/538,455<sup>1</sup>

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ON BRIEF

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Before KIMLIN, PAK, and JEFFREY T. SMITH, Administrative Patent Judges.

PAK, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1 through 17, 20, 21 and 23 through 30, which are all of the claims pending in the above-identified application.

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<sup>1</sup> Application for patent filed March 30, 2000.

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APPEALED SUBJECT MATTER

Claims 1, 9 and 13 are representative of the subject matter on appeal and read as follows:

1. A stream switching system, comprising:  
a stream switching housing having at least one common stream channel portion with a plurality of input ports and at least one output port;

tubing connected at least one of said output ports,

said tubing at least in part being a pre-heat coil suitable to heat a fluid sample traveling through said coil and to act as a flow restrictor for flow restriction of said fluid sample, the extent of said flow restriction sufficient to restrict said sample flow to about 50-70 cc/min.

9. A stream switching system, comprising:

a stream switching housing having a common stream channel portion with a plurality of actuatable input port and at least one actuatable output port, each of said ports being actuatable between an open position permitting the flow of fluid through the port, and a closed position not permitting the flow of fluid through the port;

a plurality of fluid flow actuation switches associated with said actuatable ports, said fluid flow actuation switches controlling the placement of said actuatable ports between said open and closed positions, said fluid flow actuation switches requiring an outside impulse to place said actuatable ports in said open position.

13. A stream switching system, comprising:

a sample point location;

a stream switching portion;

tubing connecting said sample point location to said stream switching system portion;

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one or more membrane or cartridge filters connected to said and located proximate the sample point and between said sample point location and said stream switching portion.

PRIOR ART

The examiner relies on the following prior art references:

Upchurch	4,846,218	Jul. 11, 1989
Higdon et al. (Higdon)	6,102,068	Aug. 15, 2000
		(Filed Sept. 23, 1997)

REJECTION

Claims 1 through 12, 20, 21 and 23 through 30 stand rejected under 35 U.S.C. § 102(e) as anticipated by the disclosure of Higdon. Claims 13 through 17 stand rejected under 35 U.S.C. § 103 as unpatentable over the combined disclosures of Higdon and Upchurch.

OPINION

We have carefully reviewed the claims, specification and prior art, including all of the arguments advanced by both the examiner and the appellants in support of their respective positions. As a consequence of this review, we have made the determinations which follow.

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We first turn to the examiner's rejection of claims 1 through 12, 20, 21 and 23 through 30 under 35 U.S.C. § 102(e) as anticipated by the disclosure of Higdon. To establish anticipation within the meaning of under Section 102, the examiner must demonstrate that a single prior art reference discloses, either expressly or under the principles of inherency, each and every element of a claimed invention. **See *In re Spada***, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990); ***RCA Corp. v. Applied Digital Data Systems, Inc.***, 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984).

We initially reverse the examiner's Section 102(e) rejection of claims 1 through 8, 20 through 24 and 26 through 30 for the reasons well articulated by the appellants at pages 11 through 14 of their Brief. We only wish to emphasize that the examiner has not pointed to any specific disclosure in Higdon, which describes **each and every** feature recited in claims 1, 26 and 28.<sup>2</sup> See the Answer, pages 3 and 4. The examiner, for example, broadly refers

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<sup>2</sup> According to the appellants (Brief, page 10), claims 26 and 28 do not stand or fall together with claim 1. Although the examiner agrees with the appellants that the "[B]rief includes a statement that [the] claims do not stand or fall together and provides reasons as set forth in 37 CFR [§] 1.192(c)(7) and (c)(8)," we note that the examiner has not referred to any limitations of claims 26 and 28. See the Answer in its entirety.

to Higdon's tubing 72, solenoid valves 98 and sheet heater located at column 4, lines 57+ and Figure 3B. *Id.* However, Higdon does not indicate that its tubing is connected to at least one of said output ports or has a reduced tubing size. See column 4, lines 18-40 and column 6, lines 11-63. Nor does Higdon indicate that its tubing acts as "a flow restrictor" to provide the claimed function. See column 4, lines 18-40 and column 6, lines 11-63.

However, the examiner's Section 102(e) rejection of claims 9 through 12 as anticipated by Higdon is on different footing.<sup>3</sup> We determine that Higdon teaches a stream switching system having a plurality of inlet ports and at least one outlet port actuated by various valves, such as electrically operated solenoid valves. See column 6, lines 38-57, together with column 4, lines 37-52. As the phrase "an outside impulse"<sup>4</sup> recited in claim 9 embraces an electrical impulse which is used to operate solenoid valves to open or close the inlet and output ports, we are constrained to

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<sup>3</sup> According to the appellants (Brief, page 10), "[c]aims 9-12 stand or fall together."

<sup>4</sup> We give the phrase "an outside impulse" the **broadest** reasonable interpretation in light of the specification. *See In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997).

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agree with the examiner that Higdon anticipates the subject matter of claims 9 through 12 within the meaning of 35 U.S.C. § 102(e).

We decline to decide the merits of the examiner's Section 102(e) rejection of claim 25 as anticipated by Higdon.<sup>5</sup> The examiner fails to properly interpret the means-plus-function limitations recited in claim 25 consistent with *In re Donalson*, 16 F.3d 1189, 1193, 29 USPQ2d 1845, 1848 (Fed. Cir. 1994) (*in banc*). In other words, the examiner has not properly interpreted the claimed means-plus-function limitations as the corresponding structures described in the specification and the equivalents thereof. As a result of this misinterpretation, the examiner has not properly considered the disclosure of Higdon. Accordingly, we remand this application to the examiner to consult the specification to define the structures corresponding to the claimed means-plus-function limitations and the equivalents thereof and to determine the applicability of the teachings of Higdon based on this proper construction.

We turn next to the examiner's rejection of claims 13 through 17 under 35 U.S.C. § 103 as unpatentable over the

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<sup>5</sup> According to the appellants (Brief, page 10), "[c]laim 25 stands or falls alone."

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combined disclosures of Higdon and Upchurch.<sup>6</sup> To establish a ***prima facie*** case of obviousness under Section 103, there must be some teaching or suggestion in Higdon and Upchurch to arrive at the claimed subject matter. ***In re Bell*** 991 F.2d 781, 782, 26 USPOQ2d 1529, 1531 (Fed. Cir. 1993). In evaluating the contents of Higdon and Upchurch for such a purpose, it is proper to take into account not only the specific teachings therein, but also the inferences which one skilled in the art would reasonably expected to draw therefrom. ***In re Preda***, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

The content of the Higdon disclosure is discussed above. The appellants only argue that Higdon and Upchurch do not teach or suggest placing filters at the claimed locations of a stream switching system. We do not agree.

We find that in addition to the above disclosure, Higdon further discloses (column 6, lines 58-63) that:

Also present in certain embodiments are filters located so as to filter out contaminates from the fluid streams being switched by the valve assembly 30. For instance, typically, a 0.2 to 5 micron contaminant size disk filter is located in the output port 26 and other such filters in each of the input fittings 18.

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<sup>6</sup> According to the appellants (Brief, page 10), "[c]laims 13-17 stand or fall together."

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We find that Upchurch also teaches that it is conventional to employ a check valve with a disposable filter for regulating the flow of a liquid in liquid chromatography. See column 1, line 5 to column 2, line 30 and the abstract. Thus, we concur with the examiner that one of ordinary skill in the art would have been led to place filters in the claimed locations, e.g., proximate a sample point (between a sample point and a stream switching portion) and/or in a pressure regulation device (check valve) as taught by Upchurch, with a reasonable expectation of successfully reducing contaminants in a stream switching system used in liquid chromatography, such as the one described in Higdon. This is especially true in this case since one of ordinary skill in the art desiring to reduce the contaminant problem in a stream switching system as taught by Higdon would have readily observed such problem in the claimed locations and would have placed therefore filters to prevent or minimize such problem. **See In re Ludwig**, 353 F.2d 241, 147 USPQ 420 (CCPA 1965).

#### CONCLUSION

In summary:

1) The examiner's Section 102(e) rejection of claims 1 through 8, 20 through 24 and 26 through 30 is reversed;

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- 2) The examiner's Section 102(e) rejection of claims 9 through 12 is affirmed;
- 3) The examiner's Section 103 rejection of claims 13 through 17 is affirmed; and
- 4) The application is returned to the examiner to properly interpret the means-plus-function limitations recited in claim 25 and determine the applicability of the examiner's Section 102 rejection of claim 25 in view of this proper interpretation.

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/REMAND

EDWARD C. KIMLIN	)	
Administrative Patent Judge	)	
	)	
	)	
CHUNG K. PAK	)	BOARD OF PATENT
Administrative Patent Judge	)	APPEALS AND
	)	INTERFERENCES
	)	
	)	
JEFFREY T. SMITH	)	
Administrative Patent Judge	)	

CKP:dal

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