

The opinion in support of the decision being entered today was not written for publication in a law journal and is not binding precedent of the Board.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. 27

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte ELRIC W. SAASKI, CHUCK C. JUNG  
and DAVID A. MCCRAE

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Appeal No. 2000-1983  
Application No. 08/990,038

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ON BRIEF

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

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1, 9, 28 and 31. The examiner has indicated that claims 10, 15-19, 21-23, 25, 29, 30, 32, 33, 35, 36 and 40-46 are directed to allowable subject matter and are not before us on appeal.

The invention is directed to a high-efficiency wetted surface cyclonic air sampler. The sampler is used to strip a target material from the ambient air and concentrate it in a stripping liquid within the air sampler. The stripping liquid is then delivered to any suitable detection apparatus for the target material.

Independent claim 1 is reproduced as follows:

1. An air sampler; wherein said air sampler is adapted to strip a target material from an air flow with a stripping liquid; wherein said air sampler comprises:

a main body means comprising a main body, a main body inner surface and a main body air chamber; wherein said main body inner surface defines said main body air chamber; wherein said main body air chamber is located within said main body;

wherein said air sampler further comprises an air inlet means for permitting said air flow to enter said main body air chamber; an air outlet means for permitting said air flow to exit said main body air chamber; a liquid inlet means for permitting said stripping liquid to enter said main body air chamber; a liquid outlet means for permitting said stripping liquid to exit said main body air chamber; and

wherein, during operation of said air sampler, said main body means is for forming said air flow from said air inlet means into a main body air vortex within said main body air chamber, wherein said main body air vortex has a velocity with respect to a stripping portion of said main body inner surface that is selected to enable said main body air vortex to urge said stripping liquid from said liquid inlet means to form a thin liquid film on said stripping portion of said main body inner surface, wherein said thin liquid film strips a film-stripped part of said target material from said main body air vortex, and

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wherein said velocity of said main body air vortex is also selected to enable said main body air vortex to urge said thin liquid film and said film-stripped part of said target material to flow to said liquid outlet means.

The examiner relies on the following references:

Hibshman	2,847,083	Aug. 12, 1958
Grantham	4,015,957	Apr. 05, 1977

Claims 1, 9, 28 and 31 stand rejected under 35 U.S.C. 103 as unpatentable over Grantham in view of Hibshman.

Reference is made to the briefs and answer for the respective positions of appellants and the examiner.

#### OPINION

It is the examiner's position that Grantham teaches a particulate extractor for an air stream, including a main, fiberglass, body 24 with air and liquid inlet and outlet means, with the liquid being recycled. However, because the reference does not refer to a "thin liquid film," on the surface that provides for stripping, the examiner turns to Hibshman for a suggestion, at column 3, lines 5-10, "that a cyclone wall results in liquid forming on the cyclone wall, necessarily leading to stripping" [Final rejection-Paper No. 13-page 2].

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Appellants argue that the "thin liquid film-based operating principle specified in claim 1 is fundamentally different from the conventional spray-based operating principal taught by Grantham and Hibshman" [principal brief--page 7].

We agree with appellants.

Independent claim 1 clearly calls, inter alia, for a means for stripping the liquid from the liquid inlet means "to form a thin liquid film." The examiner admits that Grantham fails to disclose such and also admits that Grantham discloses a fiberglass main body [column 3, line 8, of Grantham confirms this]. Although the examiner relies on Hibshman for this teaching, the cited portion of Hibshman merely states that

The liquid is forced toward the wall 3 of the vessel by centrifugal force and collects on the wall. Because of the high velocity of the vapor, it collects along the upper portion of the wall 3 from which point it is withdrawn from the vessel by means of the liquid outlet 13.

Thus, even though Hibshman does not explicitly disclose the claimed "thin liquid film," the examiner contends that since liquid forms on the cyclone wall, this "necessarily" leads to stripping. We find no apparent rationale for making this leap from liquid collecting on the wall in Hibshman to "necessarily"

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leading to forming a thin liquid film on a stripping portion of the main body inner surface.

However, even if we agreed that the examiner has set forth a prima facie case of obviousness, which we do not, the objective evidence provided by the declaration of Elric W. Saaski (Paper No. 14), together with appellants' arguments regarding the hydrophobic nature of fiberglass, in our view, rebuts any such prima facie case.

Grantham discloses that his main body is made of fiberglass. Declarant explains that fiberglass has hydrophobic (i.e., lacks affinity for water), rather than hydrophilic (i.e., has a strong affinity for water), properties. Declarant also points out that page 9, lines 13-18, of the instant specification indicates that hydrophilic materials are employed in order "to improve their wettability and the thinness of the film of stripping liquid they may carry." Thus, the thin liquid film property of the instant claimed invention is dependent on the use of hydrophilic material for the main body. Since Grantham employs a hydrophobic material, viz., fiberglass, it would not be compatible with forming the claimed thin liquid film. Accordingly, even if one were to take some teaching from Hibshman and combine it with

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Grantham, because of Grantham's hydrophobic material, no thin liquid film, as claimed, would result.

Accordingly, we will not sustain the examiner's rejection of claims 1, 9, 28 and 31 under 35 U.S.C. 103.

The examiner's decision is reversed.

REVERSED

JAMES D. THOMAS	)	
Administrative Patent Judge	)	
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ERROL A. KRASS	)	BOARD OF PATENT
Administrative Patent Judge	)	APPEALS AND
	)	INTERFERENCES
	)	
	)	
JERRY SMITH	)	
Administrative Patent Judge	)	

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