

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 23

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

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Ex parte DENNIS SMITHYMAN,  
CARL W. SCHMIDT,  
and  
SLOANE R. SIX

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Appeal No. 2002-2273  
Application No. 09/363,688

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HEARD: MARCH 4, 2003

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Before COHEN, STAAB, and McQUADE, Administrative Patent Judges.  
STAAB, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 11-16 and 44-51. Claims 40-43, the only other claims pending in the application, have been objected to as depending from a rejected claim, but indicated as being allowable if rewritten in independent form.

The appellants' invention relates to a gas fumigation system. Claim 11, the sole independent claim on appeal, reads as follows:

11. A system for gas fumigating at least one region, comprising:
  - a phosphine source;
  - an inert substance source;
  - a mixer fluidly coupled to the phosphine source and the inert substance source to form a gaseous mixture including phosphine flowing from the phosphine source and inert substance flowing from the inert substance source, the gaseous mixture passing from the mixer to the region during gas fumigation; and
  - a flow controller controlling at least one of flow of the phosphine from the phosphine source to the mixer and flow of the inert substance from the inert substance source to the mixer so that the gaseous mixture is non-flammable in air.

The sole prior art reference of record relied upon by the examiner in rejecting the appealed claims is:

Schellhaas et al. (Schellhaas)                      5,260,022                      Nov. 9, 1993

Claims 11-16, 44-46, 50 and 51 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Schellhaas.

Claims 47-49 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Schellhaas.

Reference is made to appellants' main and reply briefs (Paper Nos. 14 and 17) and to the final rejection and examiner's answer (Paper Nos. 8 and 16) for the respective positions of appellants and the examiner regarding the merits of these rejections.

### OPINION

Looking first at the anticipation rejection of claim 11, 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 combination. *RCA Corp. v. Applied Digital Data Sys., Inc.*, 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984). In other words, there must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. *Scripps Clinic & Research Found. v. Genentech Inc.*, 927 F.2d 1565, 1576, 18 USPQ2d 1001, 1010 (Fed. Cir. 1991).

Schellhaas is directed to an apparatus

for generating a pesticidal gas mixture of phosphine gas and air for fumigating an enclosed environment, e.g., a grain silo, with phosphine. Air, moisture content adjusted by drying or humidifying, is passed through a porous bed [14] of aluminum phosphide or magnesium phosphide, preferably in a throw-a-way cartridge [13]. The resulting mixture of air and phosphine gas is passed into the space . . . . The cartridge [13] is fitted directly in sealing relationship between inlet and outlet adaptors to serve as the gas generator vessel of the apparatus. [Abstract.]

In rejecting claim 11 as being anticipated by Schellhaas, it appears that the examiner considers elements 13 and/or 14 of Schellhaas as corresponding to the

claimed “mixer fluidly coupled to the phosphine source and the inert substance source to form a gaseous mixture.” We agree with appellants, however, that Schellhaas does not include a mixer as called for in base claim 11. Given that cartridge 13 containing the porous bed of aluminum phosphide or magnesium phosphide “serve[s] as the gas generator vessel of the apparatus” (abstract), cartridge 13 is akin to the phosphine source of claim 11. This being the case, there is no separate “mixer fluidly coupled to the phosphine source” as required by claim 11. On the other hand, if we were to consider cartridge 13 of Schellhaas as corresponding to the claimed “mixer,” then Schellhaas would not include a separate phosphine source coupled to the mixer, as called for in claim 11. This constitutes a first reason why we cannot sustain the examiner’s rejection of independent claim 11, or claims 12-16, 44-46, 50 and 51 that depend either directly or indirectly from claim 11, as being anticipated by Schellhaas.

In addition, we also are in agreement with appellants that Schellhaas does not include a “flow controller” of the sort called for in the last paragraph of claim 11. We appreciate that sensor 17 of Schellhaas functions to monitor the phosphine concentration in the mixture of air and phosphine emerging from bed 14, and to trigger the admission of an inert fluid such as carbon dioxide to the generator to stop the production of phosphine in the event phosphine concentration rises above a predetermined permissible limit (column 7, lines 6-35). Be that as it may, sensor 17, either alone or in combination with throttle valve 20, does not function to control at least one of flow of phosphine from a phosphine source “to the mixer” and flow of an inert

substance from an inert substance source “to the mixer” so that the gas mixture is non-flammable in air. First, because Schellhaas does not include a mixer for the reasons noted above, it follows that Schellhaas cannot include a flow controller to control the flow of phosphine or an inert substance “to the mixer.” Second, the examiner has not explained, and it is not apparent to us, that sensor 17, either alone or in combination with throttle valve 20, functions to control the gaseous mixture of phosphine and air exiting the cartridge so that said mixture is “non-flammable in air.” This is so notwithstanding the disclosure at column 6, lines 11-14, of Schellhaas to the effect that the Schellhaas apparatus may be designed and operated such that the formation of an ignitable mixture of phosphine gas can be prevented. This constitutes an additional reason why we cannot sustain the examiner’s rejection of independent claim 11, or claims 12-16, 44-46, 50 and 51 that depend either directly or indirectly from claim 11 as being anticipated by Schellhaas.

As to the examiner’s rejection of claims 47-49 as being unpatentable over Schellhaas, even if we were to agree with the examiner that it would have been obvious to modify Schellhaas to include a flow meter to measure the flow rate of inert substance flowing from the inert substance source to the mixer, the deficiencies of Schellhaas discussed above would remain. Accordingly, we cannot sustain the rejection of claims 47-49 as being unpatentable over Schellhaas.

In light of the foregoing, the standing rejections of the appealed claims under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a) cannot be sustained.

CONCLUSION

The decision of the examiner to reject claims 11-16, 44-46, 50 and 51 under 35 U.S.C. § 102(b) and to reject claims 47-49 under 35 U.S.C. § 103(a) is reversed

REVERSED

IRWIN CHARLES COHEN  
Administrative Patent Judge

LAWRENCE J. STAAB  
Administrative Patent Judge

JOHN P. McQUADE  
Administrative Patent Judge

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