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HolzerIPLaw, PC 216 16th Street Suite 1350 Denver, CO 80202			O'CONNOR, MARSHALL P	
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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* CHARLES E. AHLFELD, JOHN ROGERS GILLELAND,  
RODERICK A. HYDE, MURIEL Y. ISHIKAWA, DAVID G. McALEES,  
NATHAN P. MYHRVOLD, CLARENCE T. TEGREENE,  
THOMAS ALLAN WEAVER, CHARLES WHITMER,  
VICTORIA Y.H. WOOD, LOWELL L. WOOD JR,  
and GEORGE B. ZIMMERMAN

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Appeal 2014-008168  
Application 12/459,856  
Technology Center 3600

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Before LINDA E. HORNER, THOMAS F. SMEGAL, and  
MICHAEL L. WOODS, *Administrative Patent Judges*.

WOODS, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Charles E. Ahlfeld et al. (“Appellants”) seek our review under 35 U.S.C. § 134(a) of the final rejection of claims 189, 193, 216–218, 226–228, and 231. Appeal Br. 39–40. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

### CLAIMED SUBJECT MATTER

Appellants' invention relates to the removal of volatile fission product from a nuclear reactor. Spec. 1. Claim 189 is the sole independent claim and is reproduced below with emphasis to a certain claim limitation at issue in this appeal.

189. A method of assembling a nuclear fission reactor fuel assembly configured for controlled removal of a volatile fission product released by a burn wave in a traveling wave nuclear fission reactor, comprising:

providing an enclosure to enclose a porous nuclear fuel body;

coupling a fluid control subassembly to the enclosure to control removal of at least a portion of the volatile fission product from the porous nuclear fuel body at a plurality of locations corresponding to the burn wave of the traveling wave nuclear fission reactor by controlling fluid flow in a plurality of regions of the traveling wave nuclear fission reactor proximate to the plurality locations corresponding to the burn wave; and

*coupling a control unit to the fluid control subassembly to control operation of the fluid control subassembly.*

Appeal Br. 41 (Claims App.) (emphasis added).

### THE REJECTIONS

I. Claims 189, 193, and 216–218 stand rejected under 35 U.S.C. § 102(b) as anticipated by Benson (US 3,322,644, issued May 30, 1967). Final Act. 3.

II. Claims 226–228 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Benson and Bevilacqua (US 3,459,635, issued Aug. 5, 1969).<sup>1</sup> Final Act. 5.

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<sup>1</sup> Our reference to Bevilacqua is to the first-listed inventor, whereas the Examiner refers to Bevilacqua as either “West et al.” or “635.” Final Act. 5.

III. Claim 231 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Benson and Huston (US 2,987,455, issued June 6, 1961).<sup>2</sup> Final Act. 6.

#### ANALYSIS

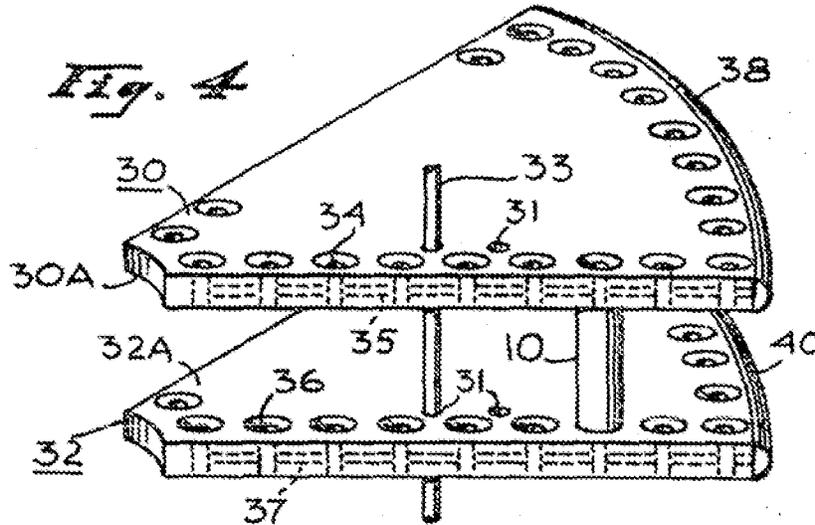
##### *Rejection I: Claims 189, 193, and 216–218 as Anticipated by Benson*

In rejecting independent claim 189 and its dependent claims 193 and 216–218, the Examiner finds that Benson discloses the claimed method of assembling a nuclear fission reactor comprising, *inter alia*, the step of “coupling a control unit (30/32) to the fluid control subassembly to control operation of the fluid control subassembly.” Final Act. 3 (citation omitted); Ans. 3 (citing Benson, col. 3, l. 64–col. 4, l. 10). In particular, the Examiner relies on Benson’s plates 30, 32 as satisfying the claimed “control unit” (Final Act. 3; Ans. 2) with holes 34, 36 (in plates 30, 32) as satisfying the claimed “controlling operation of the fluid control subassembly” (*see* Ans. 3 (“The size of the holes (34/36) in the plates (30/32) of [Benson] control the flow of volatile fission products released from the fuel and therefore the plates control operation of the subassembly.”)).

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<sup>2</sup> Our reference to Huston is to the first-listed inventor, whereas the Examiner refers to Huston as “Wheelock et al.” or “455.” Final Act. 6.

To illustrate the Examiner's finding, we reproduce Benson's Figure 4, below:



As described by Benson, Figure 4 “is a perspective view illustrating the construction of plates for holding the core elements.” Benson, col. 2, ll. 14–15. Benson further discloses that core elements 10 are placed between holder plates 30, 32, and that plates 30, 32 have tapered holes 34, 36 dispersed throughout the plates. *Id.* at col. 3, ll. 64–69.

In contesting the rejection, Appellants argue that the Examiner's interpretation of the claim limitation, “coupling a control unit . . . to control operation of the fluid control subassembly,” is unreasonable. *See* Appeal Br. 20–21. In citing to the Specification, Appellants explain that a person of ordinary skill in the art, when interpreting the claim in light of the Specification, would interpret the claim to require the claimed “control unit” to be “electrically connected to components such as valves and/or pumps to control operation of the valves and/or pumps.” *Id.*; *see also id.* at 17–20 (citing Spec.: p. 19, ll. 5–7; p. 19, l. 18–p. 20, l. 2; p. 20, ll. 3–18; p. 21, ll.

6–11; p. 21, ll. 18–25; p. 22, ll. 4–27; p. 22, l. 29–p. 23, l. 8; p. 27, ll. 15–31).

Appellants’ argument is persuasive.

[T]he PTO applies to the verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in applicant’s specification.

*In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997). Moreover, during examination of a patent application, pending claims are given their broadest reasonable construction consistent with the specification. *In re Prater*, 415 F.2d 1393, 1404–05 (CCPA 1969).

In the present case, we agree with Appellants’ proposed construction that the claimed “control unit . . . to control operation of the fluid control subassembly,” when interpreted in light of the Specification, requires a control unit that is “electrically connected to components such as valves and/or pumps to control operation of the valves and/or pumps.” Appeal Br. 20–21. For example, the Specification describes controlling operation of the fluid control subassembly through the use of a controller or control unit electrically connected to back-flow prevention valves. Spec. p. 19, l. 2–p. 20, l. 16. Accordingly, a person of ordinary skill in the art, when interpreting the claimed “control unit . . . to control operation of the fluid control subassembly” in light of the Specification, would understand Benson’s plates 30, 32 cannot reasonably be construed as the claimed “control unit” and that Benson’s holes 34, 36 cannot reasonably be construed as “control[ling] operation of the fluid control subassembly,” as set forth in the rejection. Final Act. 3; Ans. 3.

For the foregoing reasons, we do not sustain the rejection of independent claim 189 and dependent claims 193 and 216–218 as anticipated by Benson.

*Rejections II and III: Claims 226–228 and 231 as Unpatentable Over Benson and Bevilacqua or Benson and Huston*

The rejection of claims 226–228 as unpatentable over Benson and Bevilacqua (Rejection II) and the rejection of claim 231 as unpatentable over Benson and Huston (Rejection III) are based on the same unreasonably broad claim interpretation relied on and discussed *supra* with respect to Rejection I. Final Act. 5, 6. Therefore, we also do not sustain the rejections of claims 226–228 and 231.

SUMMARY

The rejection of claims 189, 193, and 216–218 under 35 U.S.C. § 102(b) as anticipated by Benson is reversed.

The rejection of claims 226–228 under 35 U.S.C. § 103(a) as unpatentable over Benson and Bevilacqua is reversed.

The rejection of claim 231 under 35 U.S.C. § 103(a) as unpatentable over Benson and Huston is reversed.

REVERSED