

PATENT OWNER'S ORAL ARGUMENT

March 20, 2024

GCE Gas Control Equipment, Inc. v. VBox, Inc.

IPR2023-00326

U.S. Patent No. 11,389,614

GCE Gas Control Equipment Inc. v. VBOX, Inc.
IPR2023-00326

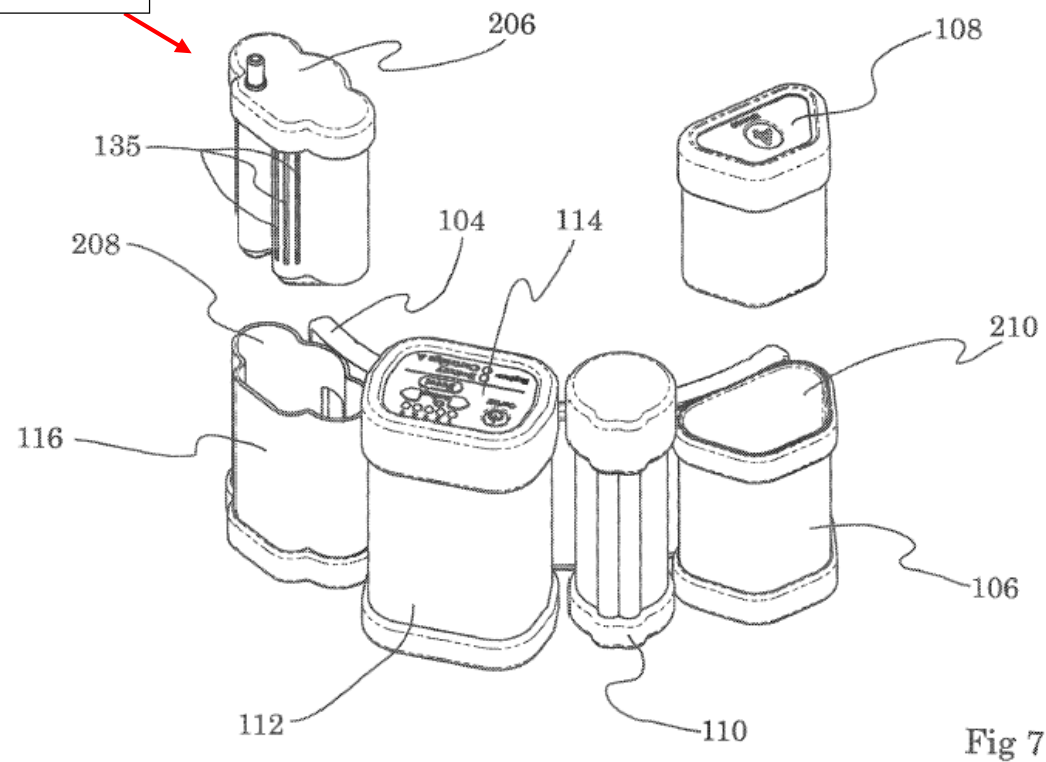
VBOX, Inc. - Exhibit 2010

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE



Easily Removable Cartridge

Separation Cartridge

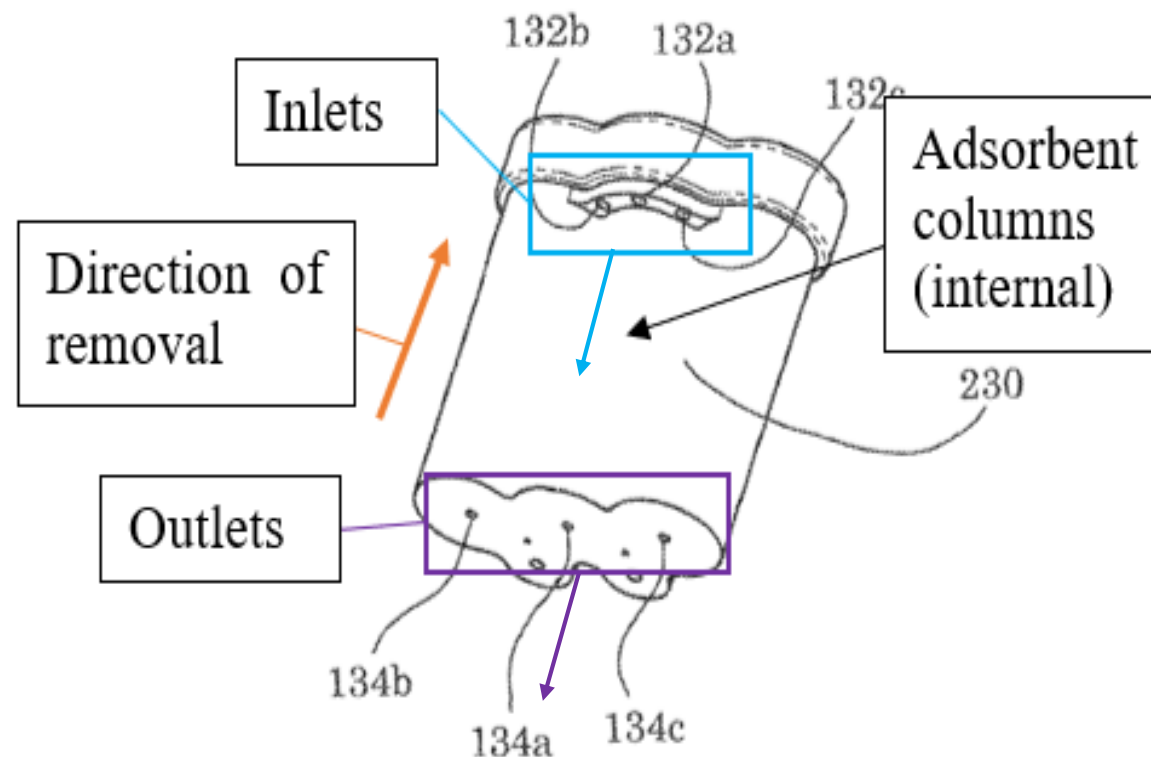


See POR at pages 5-8;
'614 Patent at Figure 7

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Removal Direction Limitations

Claims 1-11: inlet and outlet oriented in common direction opposite direction of removal.



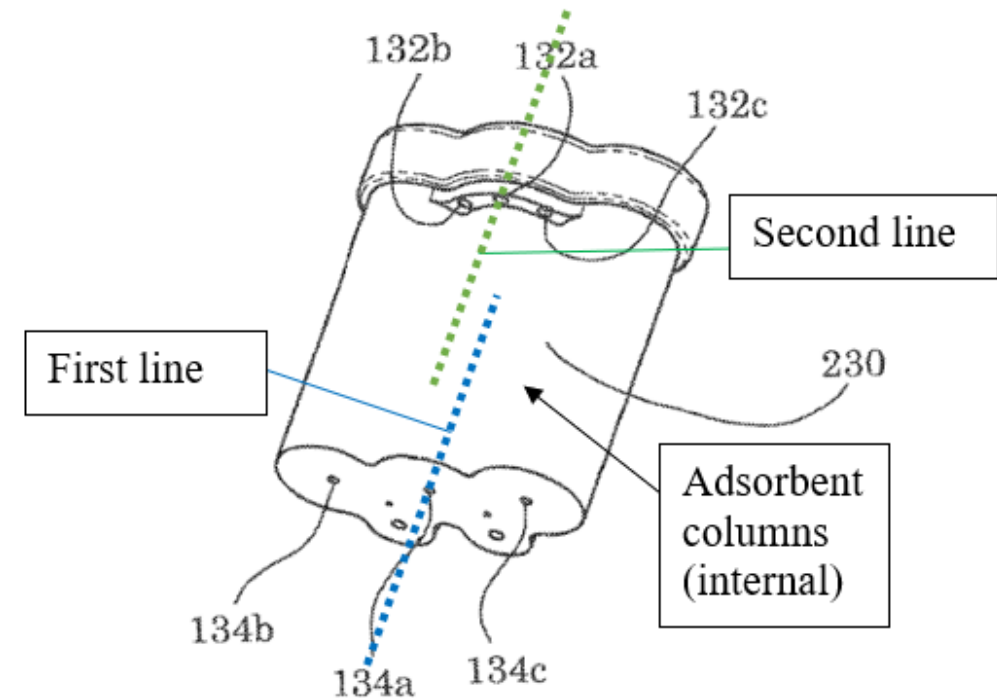
See POR at pages 6-7;
'614 Patent at Figure 15

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Non-Contact Limitations

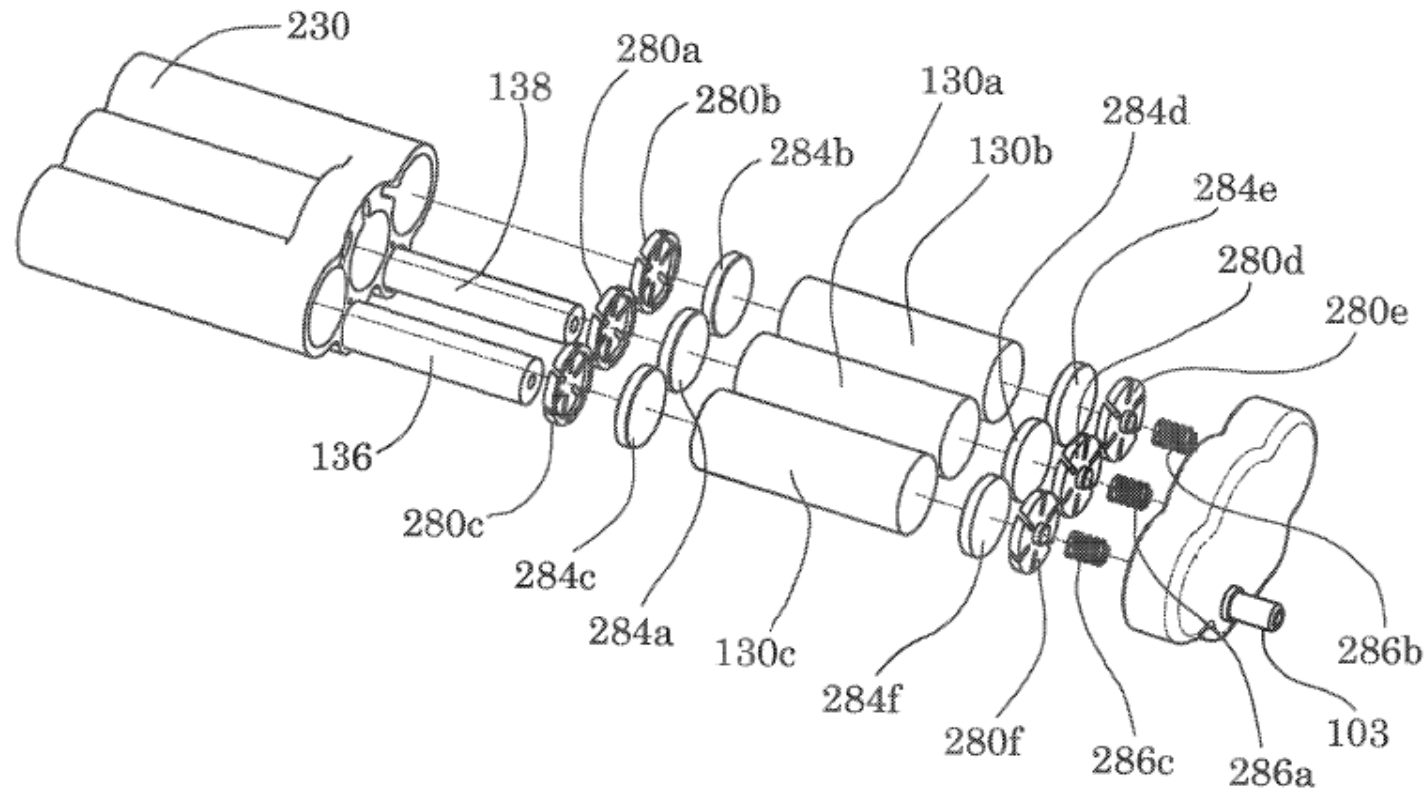
All claims:

- First line passes through outlet.
- Second line passes through inlet.
- In use, fluid flowing along first line contacts adsorbent.
- In use, fluid flowing along second line **does not** contact adsorbent.



See POR at pages 7-8;
'614 Patent at Figure 15

Non-Contact Limitations



See '614 Patent at Figure 16

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Disputed Claim Constructions

a separation cartridge selectively removable from a receptacle by movement relative to the receptacle in a first direction, the separation cartridge comprising an inlet oriented in a second direction opposite the first direction, an outlet oriented in the second direction, and a bed of adsorbent material configured to preferentially adsorb nitrogen;

Claim Constructions

- All terms: plain and ordinary meaning.
- All disputes in this IPR resolvable using plain and ordinary meaning.
- Petitioner's constructions should be rejected because...

"Separation Cartridge"

Patent Owner	Petitioner
Plain and ordinary meaning: "A cartridge configured to separate gas"	"A housing/container that holds multiple adsorbent columns for gas separation and provides separate inlet and outlet ports for each adsorbent column."

"It's a cartridge that separates gas, sure, yes."
- In District Court, Dr. Deane on "Separation Cartridge"

See POR at pages 13-19;
Petition at pages 21-23;
Reply at page 6;
Ex. 2007 at 129:14-20

"Receptacle"

Patent Owner	Petitioner
Plain and ordinary meaning: "A space configured to receive and contain something"	"A structure that releasably interfaces with the inlet(s) and outlet(s) of the separation cartridge and at least partially contains the separation cartridge" OR "A structure configured to releasably receive and at least partially contain the separation cartridge"

"Outside the '614 Patent's context, a POSITA would have generally understood a 'receptacle' to be a structure that receives and at least partially contains another component"
- Petition

See POR at pages 20-23;
Petition at pages 23-24;
Reply at page 7

"Selectively Removable"

Patent Owner	Petitioner
Plain and ordinary meaning: "Can be chosen to be removed"	" Withdrawable or separable as a whole " OR "Can be individually chosen to be withdrawn "

Q: Can you withdraw something without removing it?

Dr. Deane: Interesting question to think about, the etymology, but I suppose yes.

See POR at pages 23-25;
Petition at pages 24-26;
Reply at page 9;
Ex. 2007 at 204:10-13

[A Separation Cartridge Selectively Removable From a Receptacle]
“by Movement Relative to the Receptacle in a First Direction ”

Patent Owner	Petitioner
Plain and ordinary meaning.	No construction provided in Petition. Construction raised in Reply: “relative, not absolute movement”

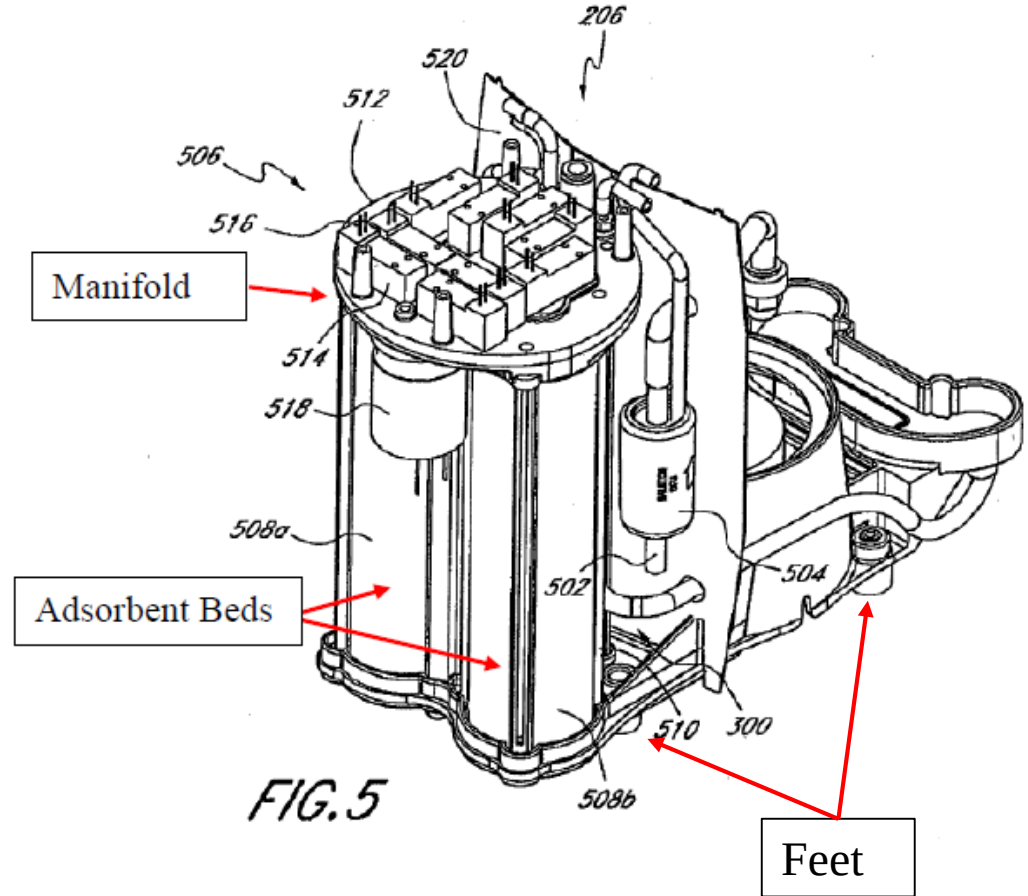
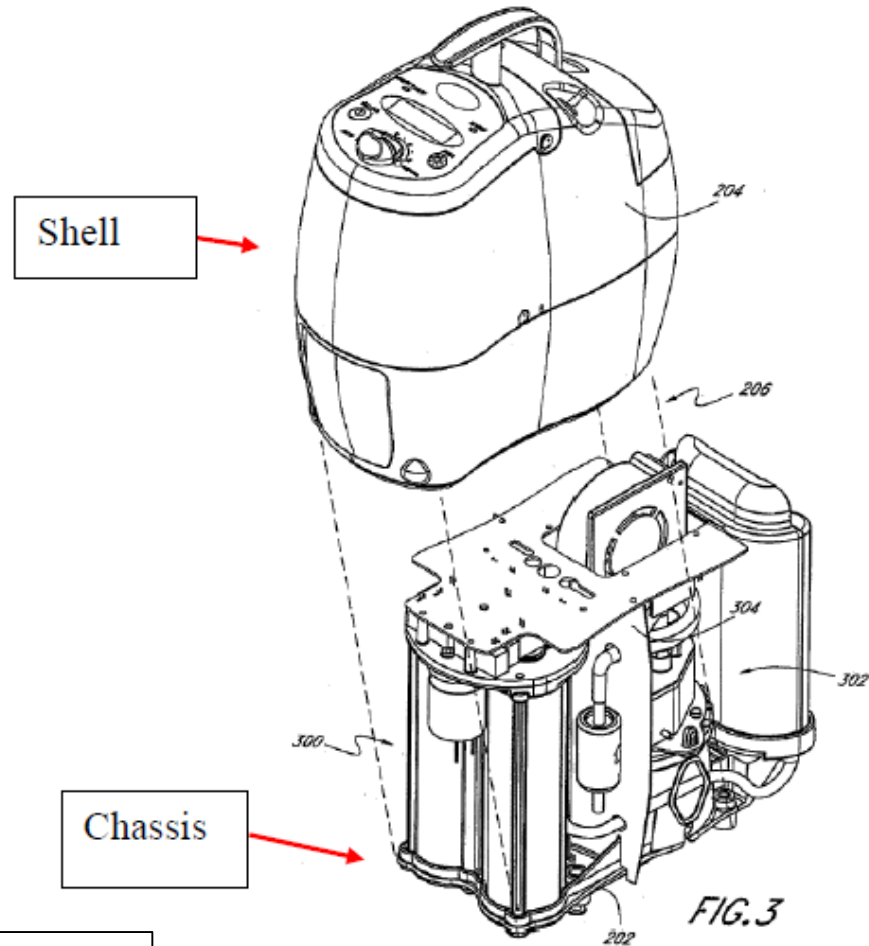
See POR at pages 35-37;
Reply at pages 11-15;
Sur-Reply at pages 23-25

The Board has Rejected Petitioner's Proposed Construction

Rehearing Decision for '628 Patent: Even if we were to accept the Petitioner's asserted meaning of "relative movement," the phrase "relative movement" is not recited in claims 1 and 11. The phrase actually recited in claims 1 and 11—"movement relative to"—does not occur in isolation in these claims. To properly interpret "movement relative to" in the context of the phrase's use in claims 1 and 11, the phrase must be considered in light of the claim language as a whole when read in the context of the specification and prosecution history. *Phillips*, 415 F.3d at 1313; *Hockerson-Halberstadt, Inc. v. Converse Inc.*, 183 F.3d 1369, 1374 (Fed. Cir. 1999) ("Proper claim construction, however, demands interpretation of the entire claim in context, not a single element in isolation."). The Petitioner's interpretation of "relative movement" falls far short of meeting this standard for "movement relative to" as recited in claims 1 and 11,

See POR at pages 34-35;
Sur-Reply at pages 3-4;
IPR2023-00527, Paper 11 at
pages 12-14

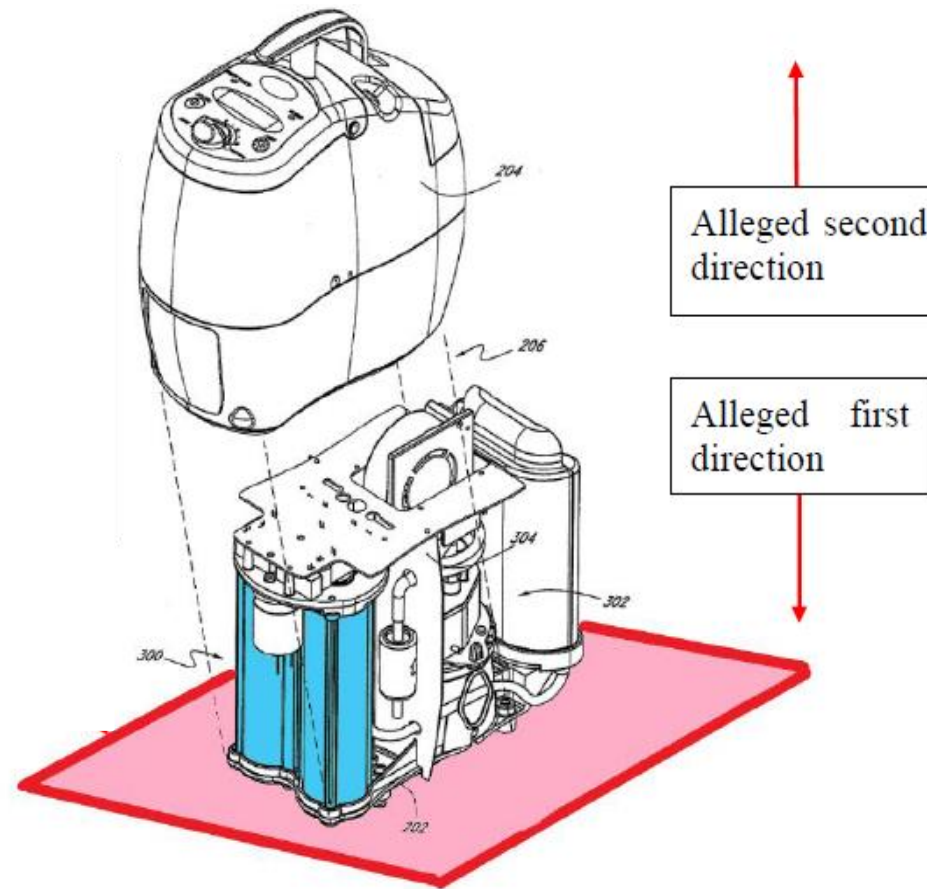
The Deane Reference



See POR at pages 27-30;
Ex. 1004 at Figures 3, 5

Deane Does Not Disclose Removal Direction

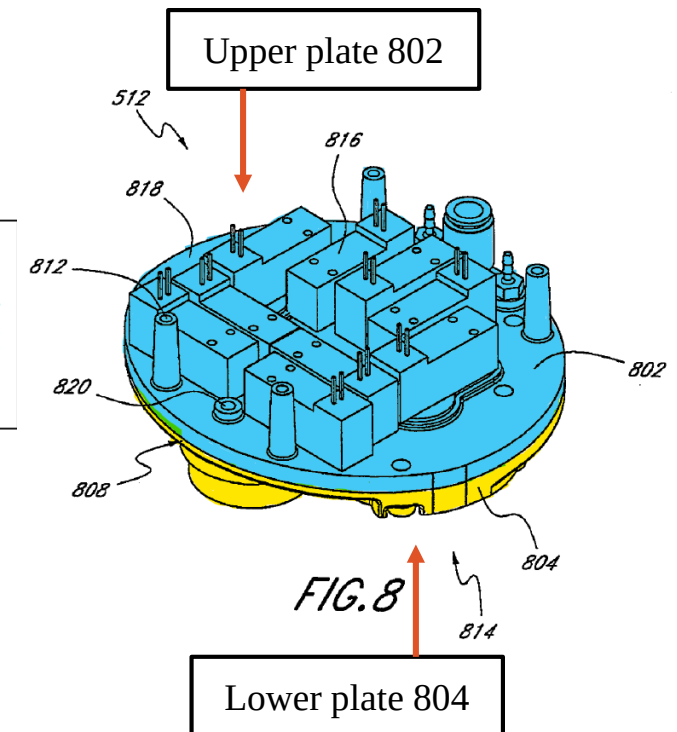
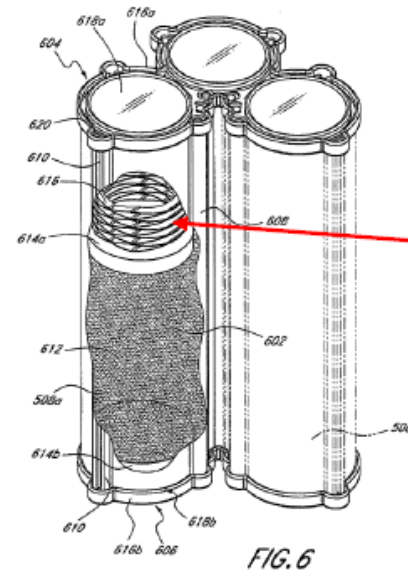
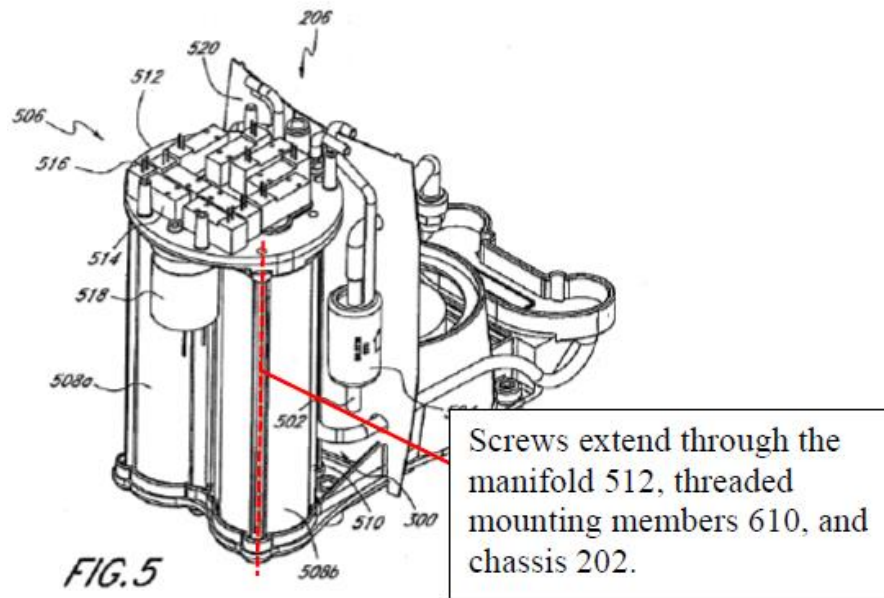
(Claims 1-11)



See POR at pages 36-38;
IPR 2023-00527, Paper 9
at page 21

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

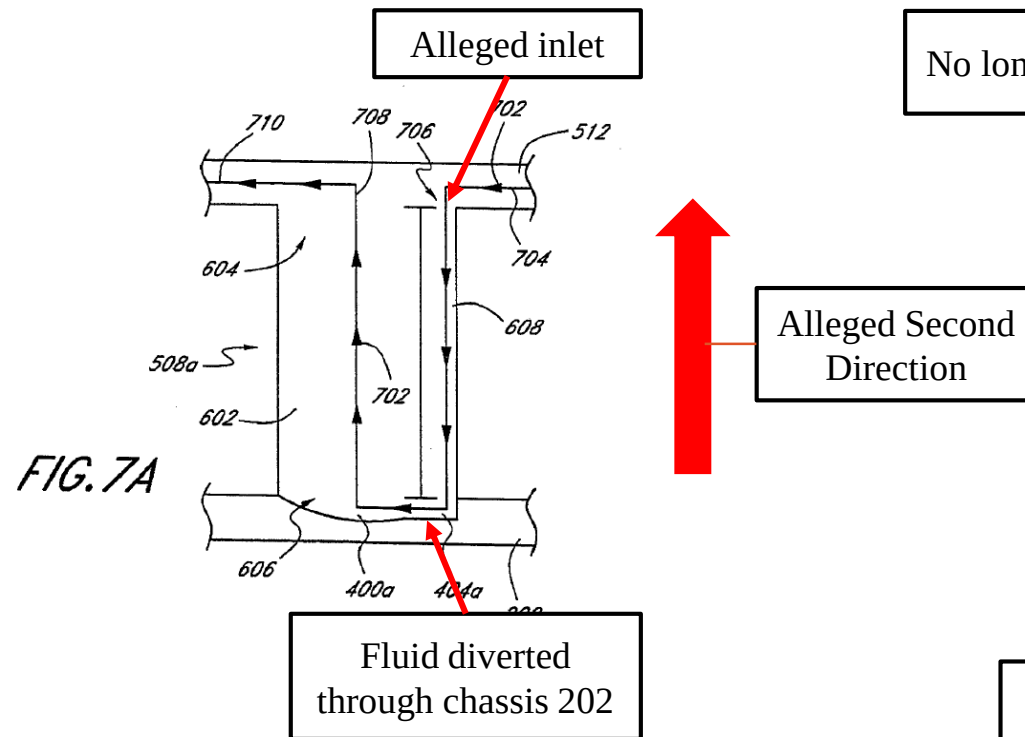
Remove the Manifold First



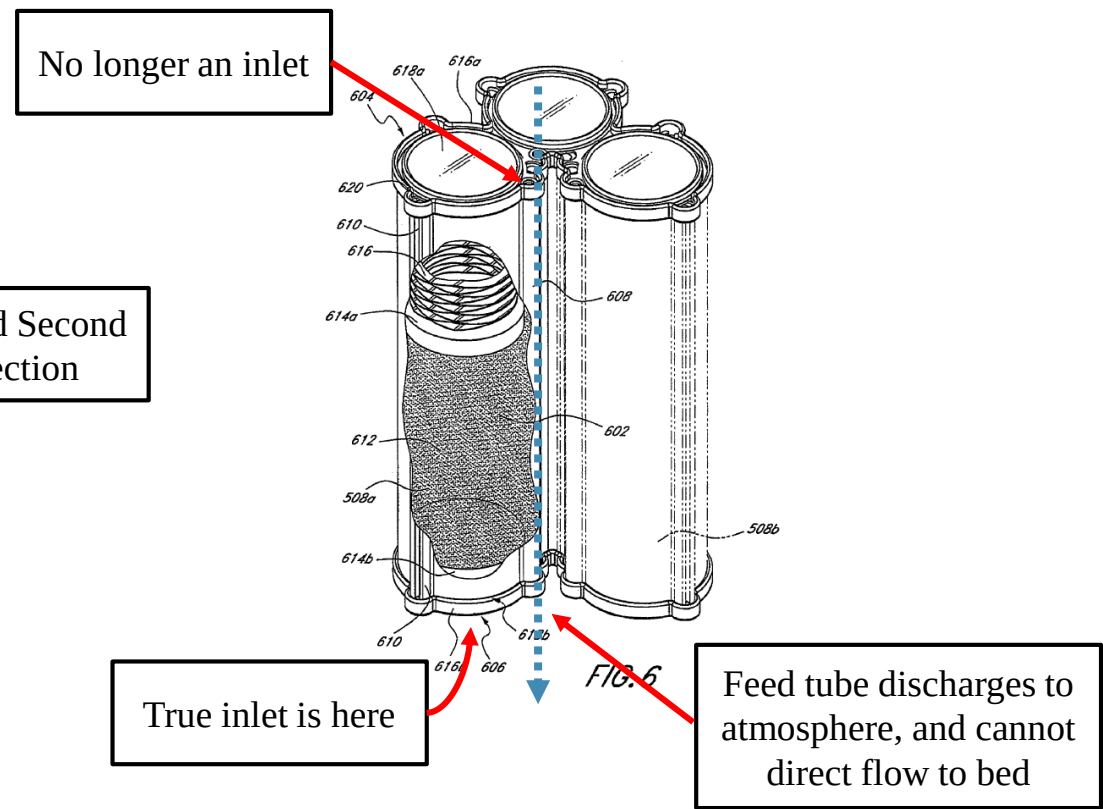
See POR at pages 39-44;
Sur-Reply at pages 8-9;
Ex. 1004 at Figures 5-6, 8

No Claimed Inlet When Removed

When mounted on chassis:



When removed from chassis:

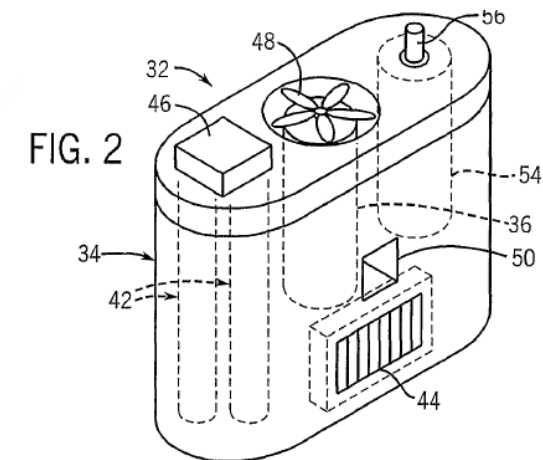
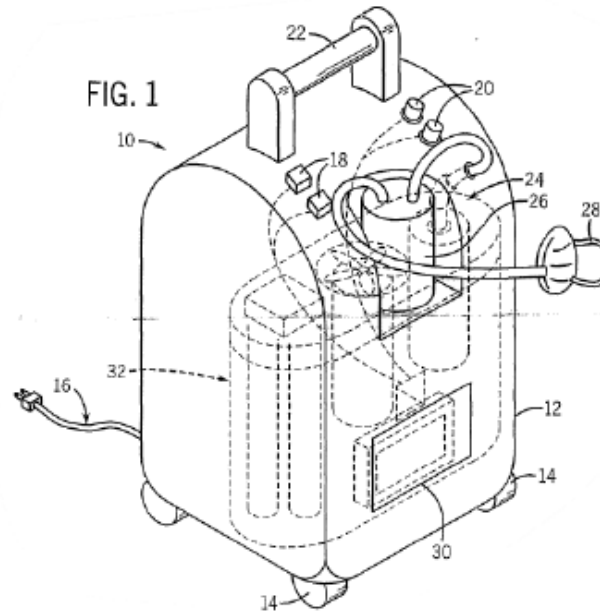


See Sur-Reply at pages 9-11;
Ex. 1004 at Figures 6, 7A

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Berntson Does Not Cure Deane

- Does not teach claimed removal limitations.
- No motivation to combine heat generating and heat sensitive components.

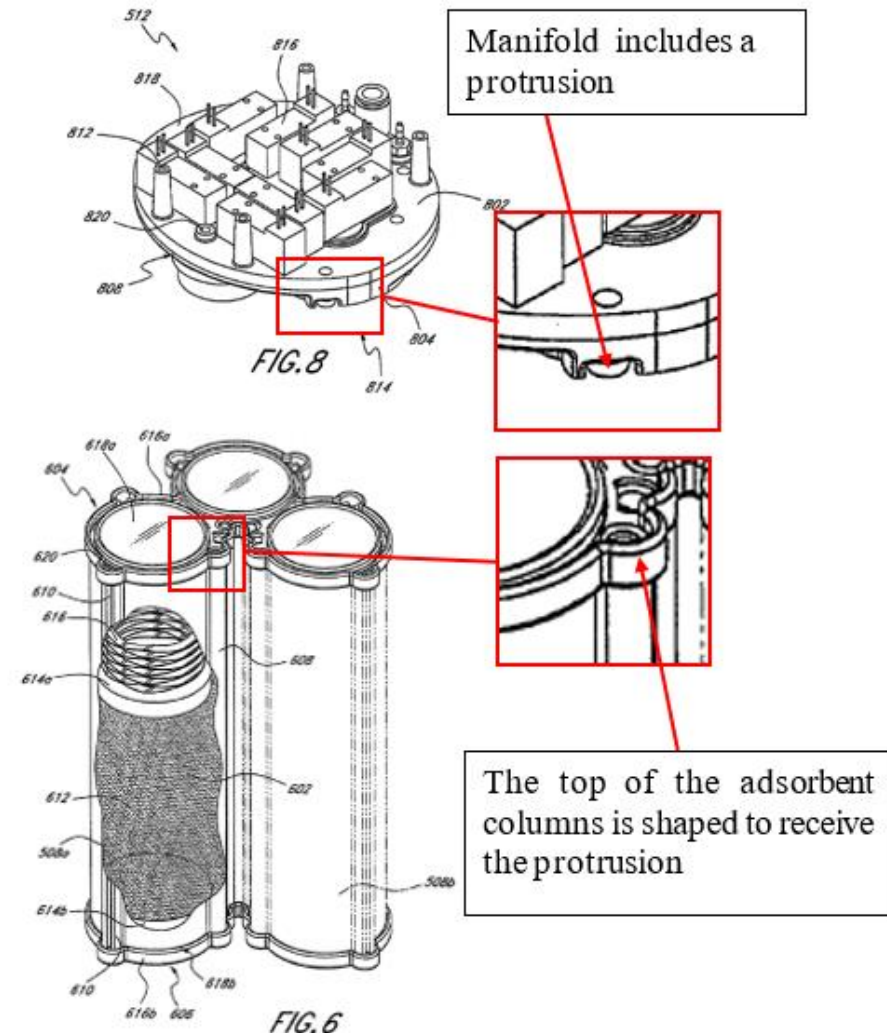


See POR at pages 31-32, 45-47;
Sur-Reply at page 12;
Ex. 1006 at Figures 1-2;
Ex. 2009 at 92:25-93:21

Manifold ≠ Receptacle

(claims 1-11)

- Receptacle must “partially contain.”
- Manifold is received in alleged separation cartridge, rather than *vice versa*.
- Overhang ≠ partially contain.



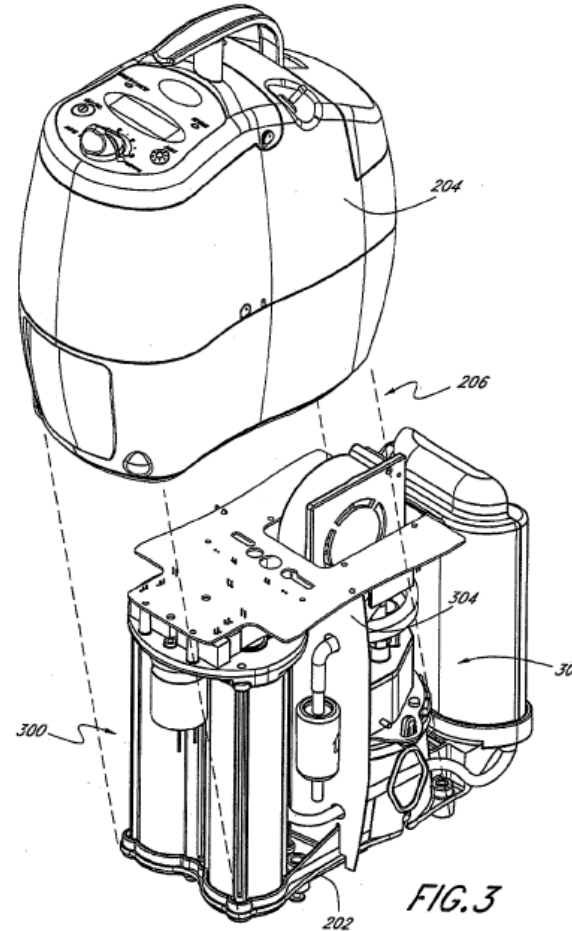
See POR at pages 47-51;
Sur-Reply at pages 18-19;
Ex. 1004 at Figures 5-6, 8

Shell + Manifold $\neq$ Receptacle

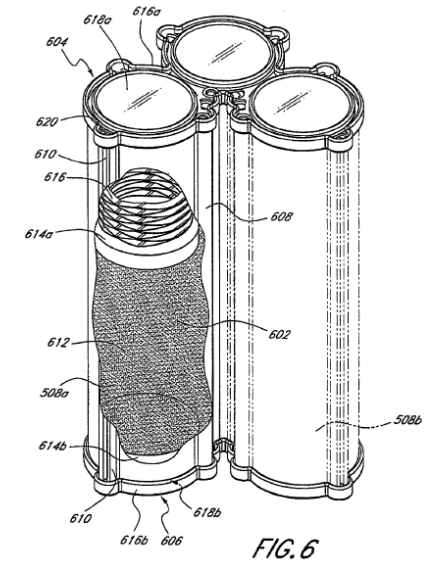
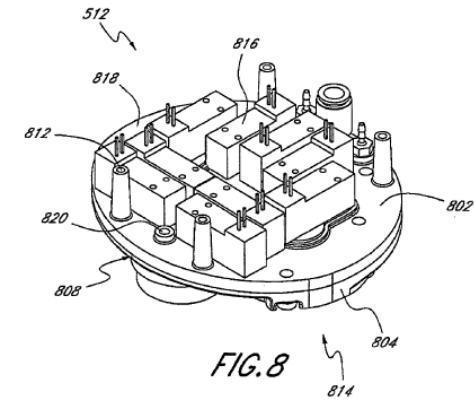
(claims 1-11)

- Independent structures.
- Removed sequentially.
- Never movement of alleged separation cartridge relative to combination of shell + manifold.

1



2



See POR at pages 47-51;
Sur-Reply at pages 18-19;
Ex. 1004 at Figures 3, 6, 8

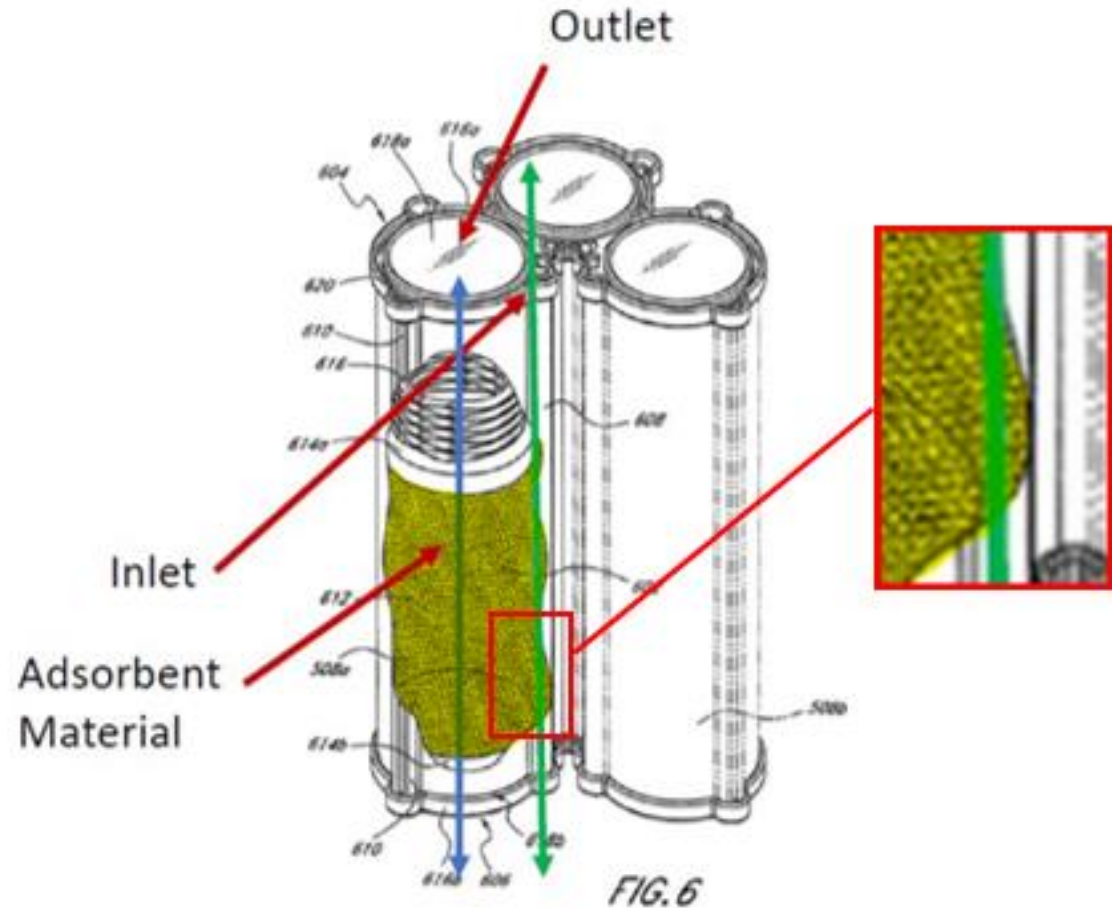
Deane Does Not Establish Non-Contact (All Claims)

Dr. Knaebel:

"Q. ... Now, I'm just asking what I think is a pretty simple question. Figure 6, as shown in Deane, are you able to draw a green line similar to the one you've drawn here, that shows the flow going through the feed tube without touching the adsorbent material?

...

A. It's a no, but it's not an appropriate diagram on which to show the flow path."



See POR at pages 51-55;
Sur-Reply at pages 12-16;
Ex. 2003 at 47:17-48:8
Ex. 1004 at Figure 6

Ambiguity in Deane

An alleged teaching of the prior art “may not be established by probabilities or possibilities.”

Par Pharm., Inc. v. TWI Pharms., Inc., 773 F.3d 1186, 1195 (Fed. Cir. 2014).

See POR at pages 52-53, 57-58;
Sur-Reply at pages 12-16;
Ex. 2003 at 51:17-22

Petitioner's Conundrum

Figure 6 is accurate and shows contact.

Figure 6 is unreliable and doesn't show removal direction limitations or receptacle.



See POR at pages 60-61;
Sur-Reply at pages 15-16;
Paper 7 at pages 2-3;
Ex. 2003 at 46:5-6 and 57:15-24

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Not Obvious to Rearrange Deane's Spring

(Claims 2 and 15)

- Moving spring to the bottom = more difficult to load adsorbent.
- Second spring adds complexity without benefit.
- Dr. Knaebel admitted that a second spring would increase "dead volume," which Deane indicates is "undesirable."

See POR at pages 62-63;
Sur-Reply at pages 16-17;
Ex. 2009 at 86:22-87:5;
Ex. 1004 at Fig. 6

