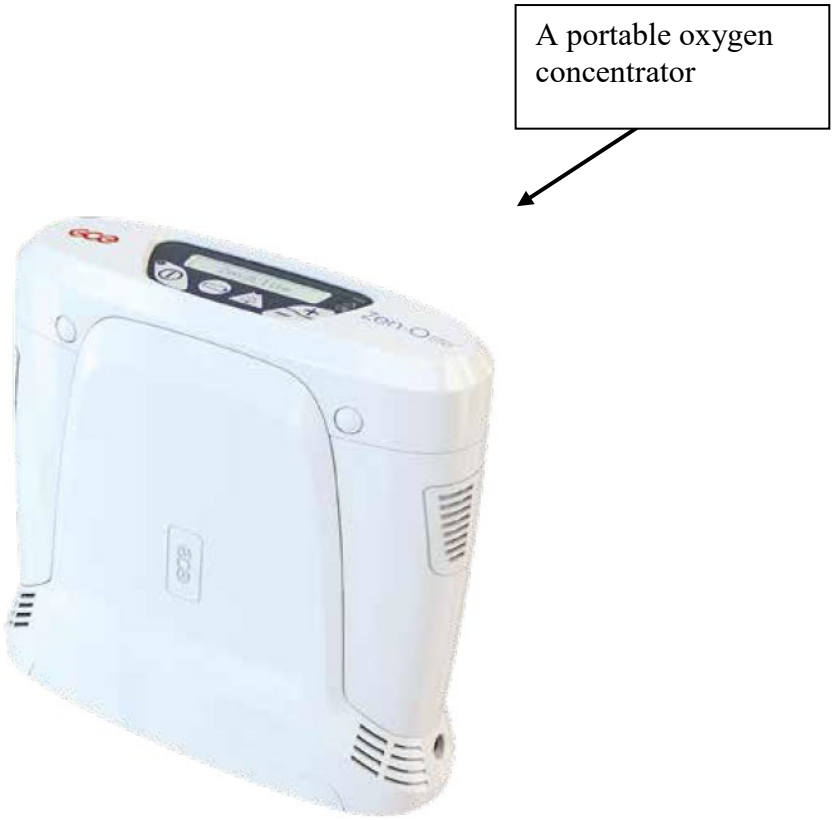
	US Patent 10,357,628: REMOVABLE CARTRIDGE FOR OXYGEN CONCENTRATOR[1] *GCE Zen-O Lite system and components , including at least part Nos.: RS-00600 and RS-00600C, RS-00601, RS-602, RS-603, RS-00604, RS-00605, RS-00606, RS-00608-G-S, RS-00608-G-D, RS-608-X-D, RS-00616, RS-00619, and other applicable part numbers corresponding to GCE Zen-O Lite portable concentrators, batteries, carry bags or backpacks, replacement sieve modules, and/or other related components.*	**Infringement Literally and/or Under the Doctrine of Equivalents**
Claim 1: A portable oxygen concentrator, comprising: a cartridge module comprising a housing, the housing defining a receptacle;	Under 35 U.S.C. § 271(a), GCE has willfully infringed, and continues to willfully infringe, independent claim 1 and its dependent claims below by making, using, offering to sell, selling, and/or importing the GCE Zen-O Lite System in a manner that directly infringes U.S. Patent 10,357,628 ("the '628 Patent"). Alternatively and/or additionally, under 35 U.S.C. § 271(b), GCE willfully and actively induces infringement of independent claim 1 and its dependent claims below by at least instructing, teaching and intending customers/end users to make and/or use the GCE Zen-O Lite System in an infringing manner, while knowing such acts by customers/end users constitue infringement of the '628 Patent or by remaining willfully blind that such acts by customers/end users constitue infringement of the '628 Patent. Customers/end users directly infringe by following these teachings or instructions. 3B relies on and cites at least Exhibits A-E to this chart in support of the contentions made herein: • **Exhibit A –** GCE Zen-O Lite User Manual • **Exhibit B –** GCE Zen-O Lite Brochure for Home Oxygen Providers • **Exhibit C –** Images of GCE Zen-O Lite Separation Cartridge • **Exhibit D –** GCE Zen-O Lite Overview Video, available at https://youtu.be/OzT8VcYdEFY • **Exhibit E –** GCE Zen-O Lite Leaflet	Literally infringed.

[1] 3B reserves the right to amend this claim chart and any of the disclosures contained herein as information becomes available to it during the course of discovery, in view of GCE's positions and contentions, and/or in view of the court's claim construction ruling.

	 A portable oxygen concentrator	

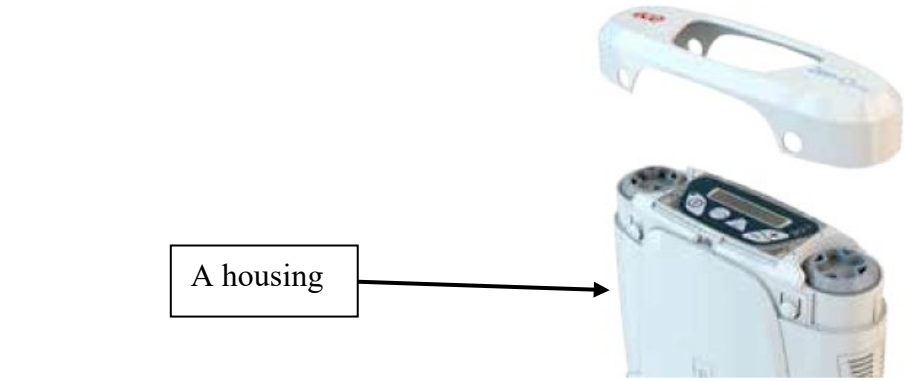


Fig. 9

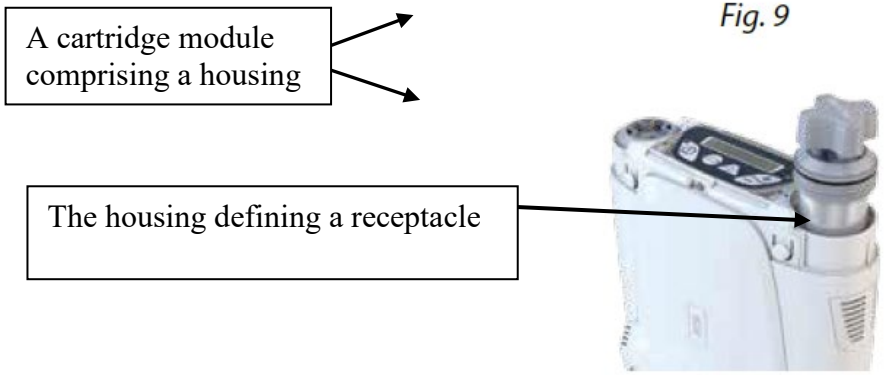


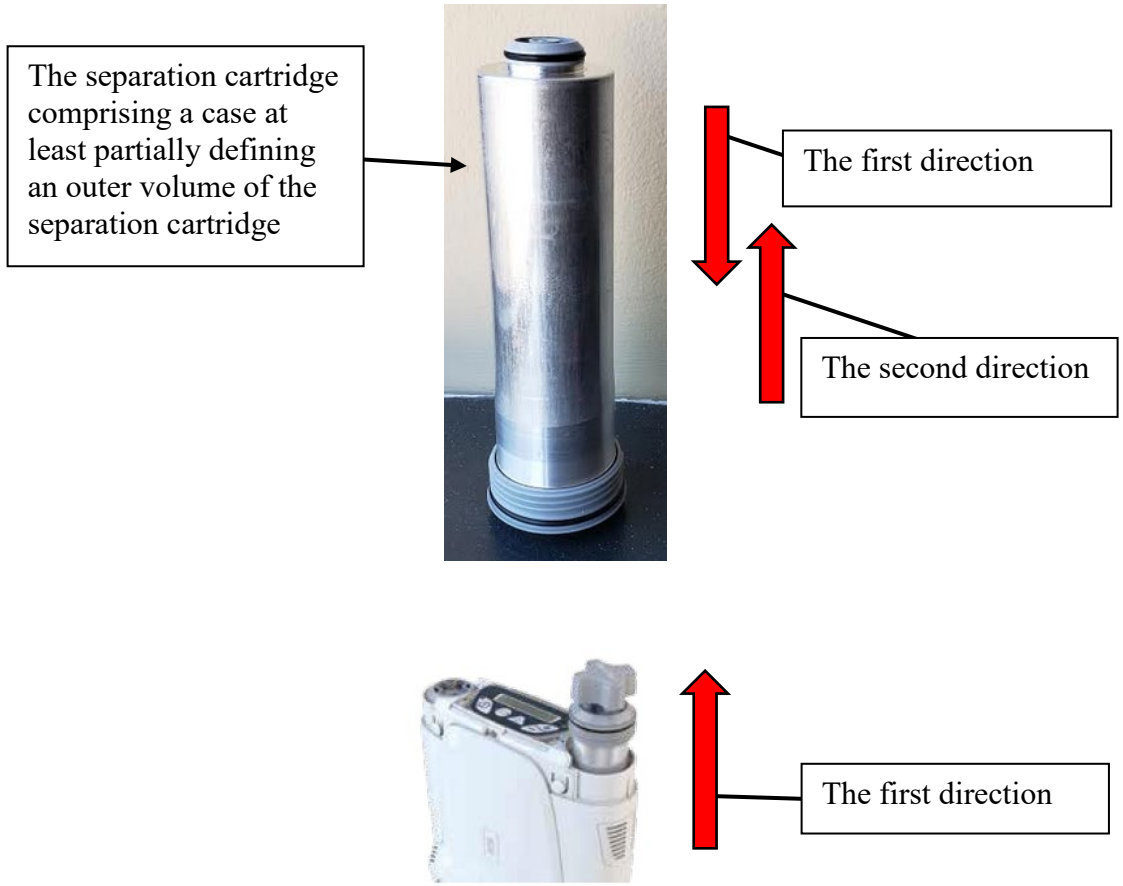
Fig. 10

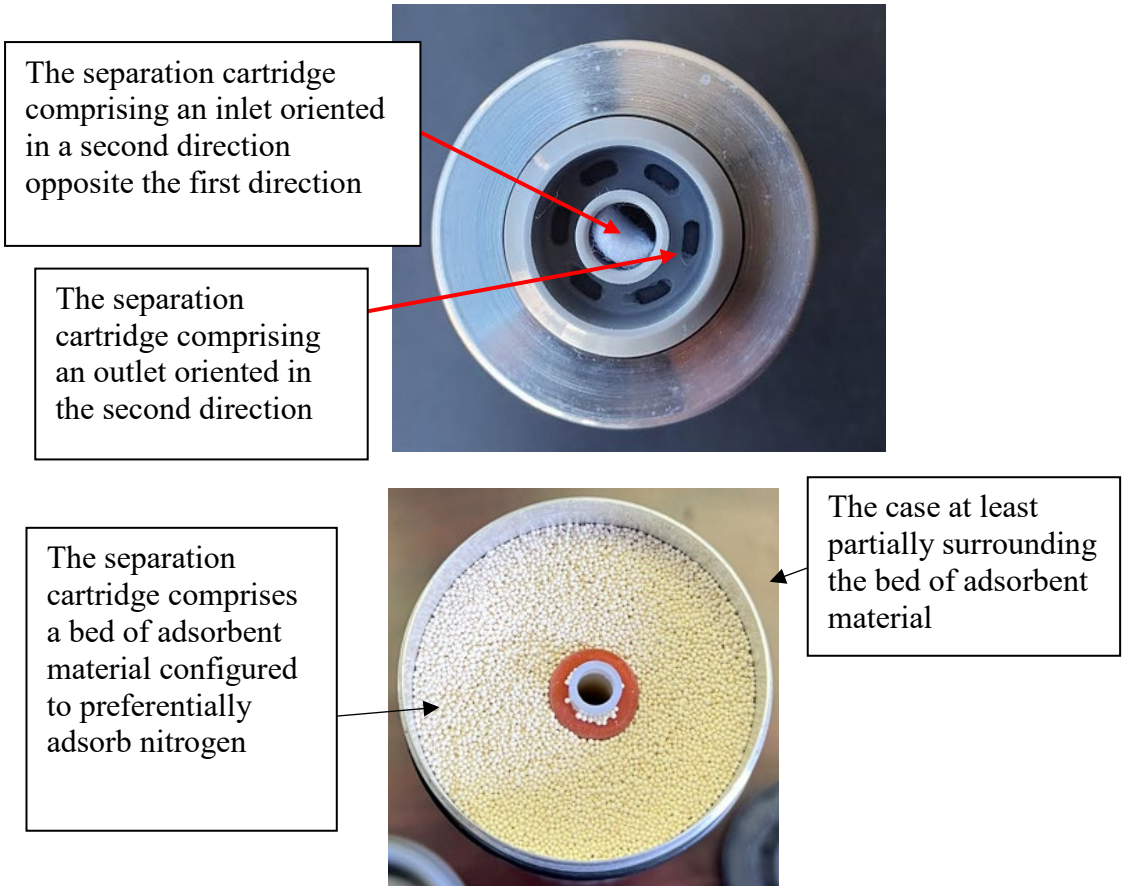
[Exs. A, B].

GCE further indirectly infringes by instructing and teaching customers/end users to use and/or make a portable oxygen concentrator comprising a cartridge module comprising a

	housing, the housing defining a receptacle. [Exs. A-E]. Customers/end users directly infringe by following these instructions and teachings.	

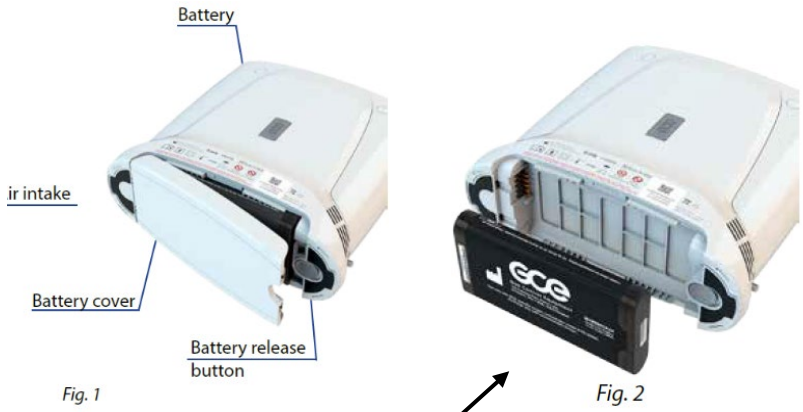
a separation cartridge selectively removable from the receptacle by movement relative to the receptacle in a first direction,	 *Fig. 9* *Fig. 10* [Ex. A; *see also* Ex. D]. GCE further indirectly infringes by instructing and teaching customers/end users to use and/or make a separation cartridge selectively removable from the receptacle by movement relative to the receptacle in a first direction. [Exs. A-E]. Customers/end users directly infringe by following these instructions and teachings.	Literally infringed.

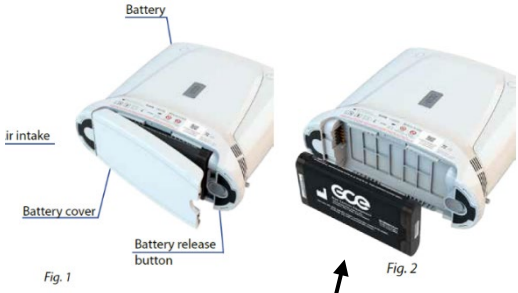
the separation cartridge comprising a case at least partially defining an outer volume of the separation cartridge, an inlet oriented in a second direction opposite the first direction, an outlet oriented in the second direction, and a bed of adsorbent material configured to preferentially adsorb nitrogen, the case at least partially surrounding the bed of adsorbent material;	 *Fig. 10*	Literally infringed.

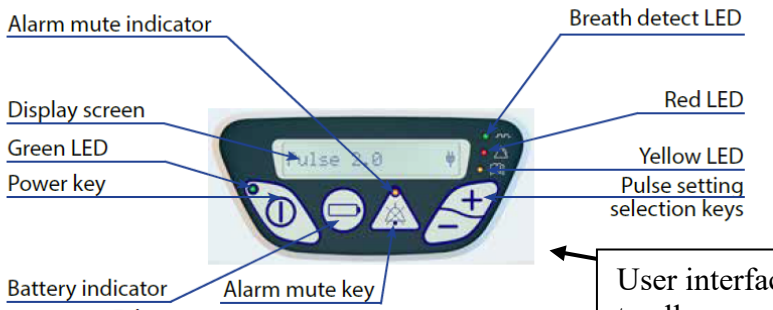


[Exs. A, C].

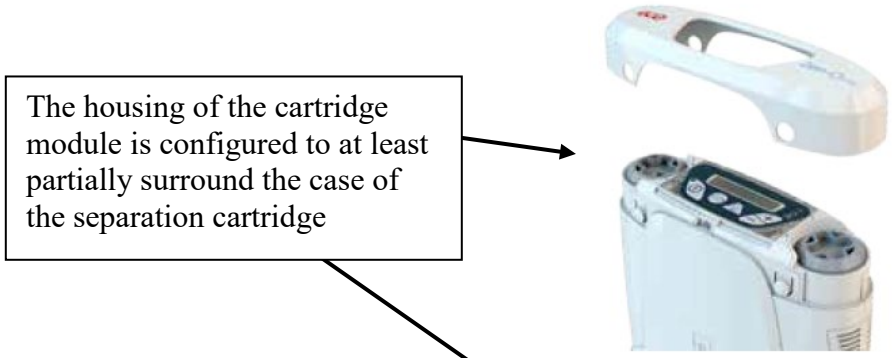
GCE further indirectly infringes by instructing and teaching customers/end users to use and/or make the separation cartridge comprising a case at least partially defining an outer volume of the separation cartridge, an inlet oriented in a second direction opposite the first direction, an outlet oriented in the second direction, and a bed of adsorbent material configured to preferentially adsorb nitrogen, the case at least partially surrounding the

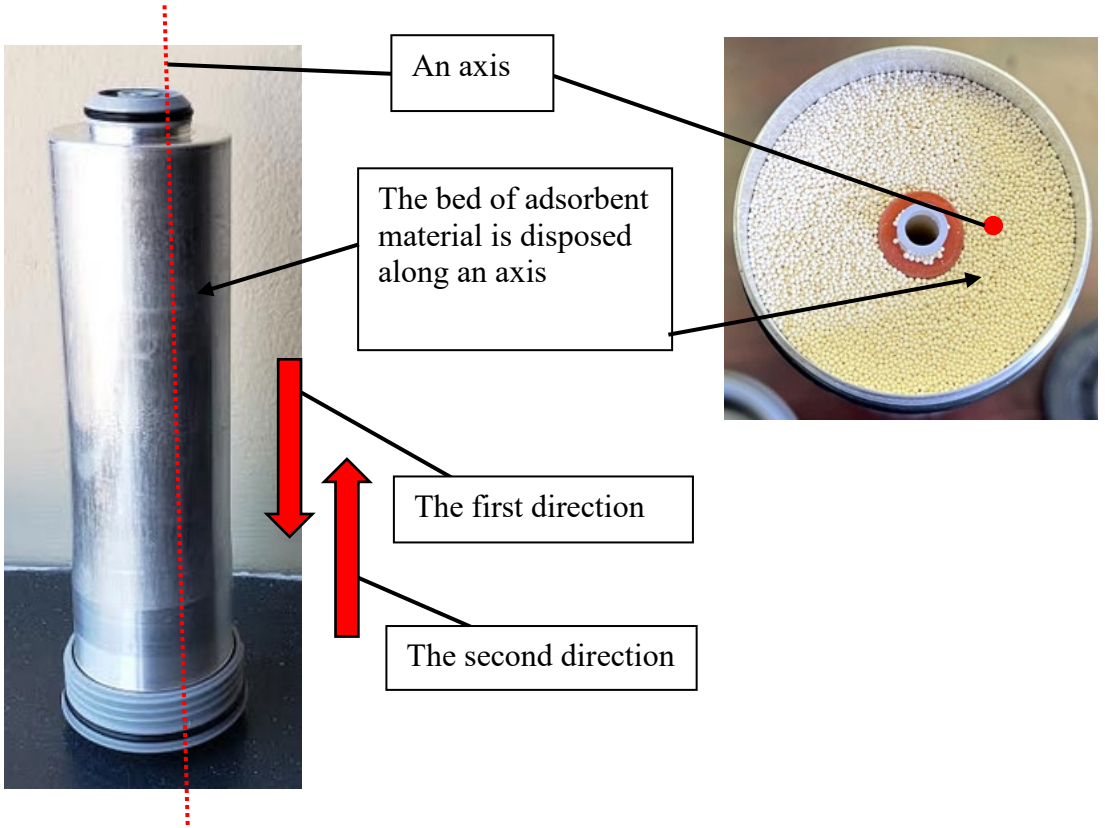
	bed of adsorbent material. [Exs. A-E]. Customers/end users directly infringe by following these instructions and teachings.	
a power pack removable from the portable oxygen concentrator;	 Fig. 1 Fig. 2 A power pack removable from the portable oxygen concentrator [Ex. A] GCE also indirectly infringes by instructing and teaching customers/end users to use and/or make a power pack removable from the portable oxygen concentrator. [Exs. A-E]. Customers/end users directly infringe by following these instructions and teachings.	Literally infringed.

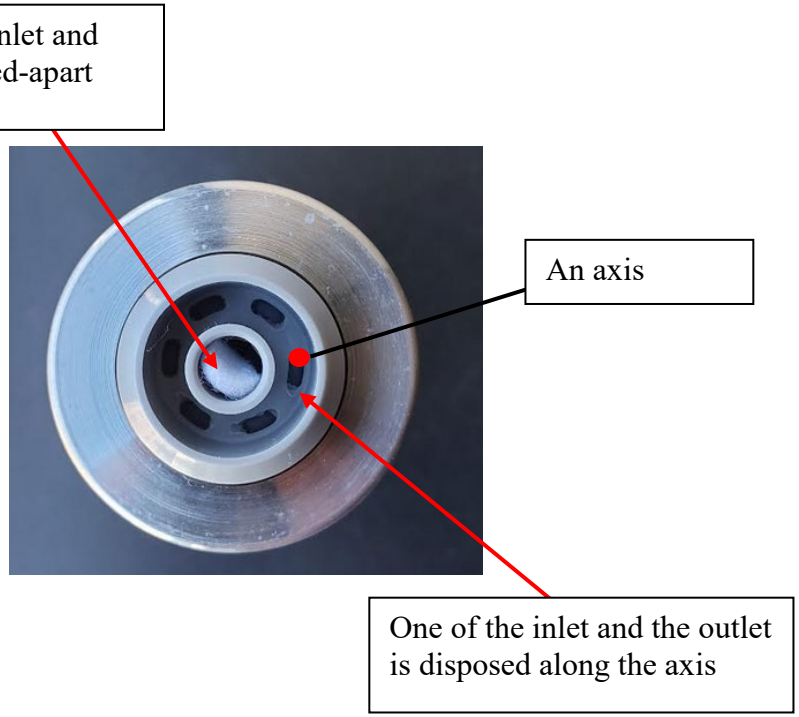
a pump electrically coupled to the power pack, the pump operable to cause a flow of fluid to move relative to the adsorbent material;	  Fig. 1 Fig. 2 A pump (internal) is electrically coupled to the power pack and operable to cause a flow of fluid to move relative to the adsorbent material Power pack [Ex. A, *see also* Ex. D] GCE further indirectly infringes by instructing and teaching customers/end users to use and/or make a pump electrically coupled to the power pack, the pump operable to cause a flow of fluid to move relative to the adsorbent material. [Exs. A-E]. Customers/end users directly infringe by following these instructions and teachings.	Literally infringed.

a user interface configured to allow a patient to adjust and monitor operation of the portable oxygen concentrator;	**5.1. Schematic Description**  User interface configured to allow a patient to adjust and monitor operation of the portable oxygen concentrator **7.4. Adjusting Setting** *IMPORTANT: After powering on Zen-O lite™, the startup sequence will take approximately 35 seconds. Specified oxygen level will be reached within 2 minutes of use.* • The device starts working in the previous setting. • The device will deliver a pulse of oxygen at the beginning of each of your inhalation. • Pulse mode of operation can be adjusted from 1.0 to 5.0 in 0.5 increments with the + and − keys. [Ex. A; *see also* Ex. B]. GCE further indirectly infringes by instructing and teaching customers/end users to use and/or make a user interface configured to allow a patient to adjust and monitor operation of the portable oxygen concentrator. [Exs. A-E]. Customers/end users directly infringe by following these instructions and teachings.	Literally infringed.

a carrying device for transporting the portable oxygen concentrator;	 *Zen-O lite™ carry bag* *Zen-O lite™ rucksack (backpack)* [Ex. A; *see also* Ex. B]. GCE further indirectly infringes by instructing and teaching customers/end users to use and/or make a carrying device for transporting the portable oxygen concentrator. [Exs. A-E]. Customers/end users directly infringe by following these instructions and teachings.	Literally infringed.

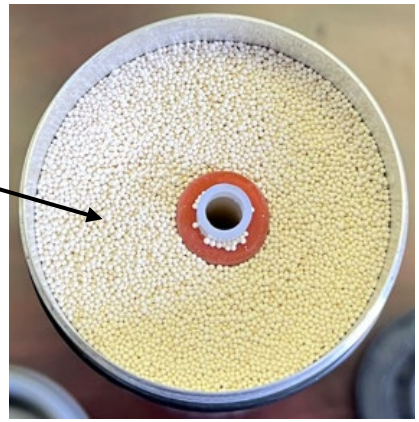
wherein the housing of the cartridge module is configured to at least partially surround the case of the separation cartridge,	 *Fig. 9* *Fig. 10* [Ex. A]. GCE further indirectly infringes by instructing and teaching customers/end users to use and/or make a portable oxygen concentrator wherein the housing of the cartridge module is configured to at least partially surround the case of the separation cartridge. [Exs. A-E]. Customers/end users directly infringe by following these instructions and teachings.	Literally infringed.

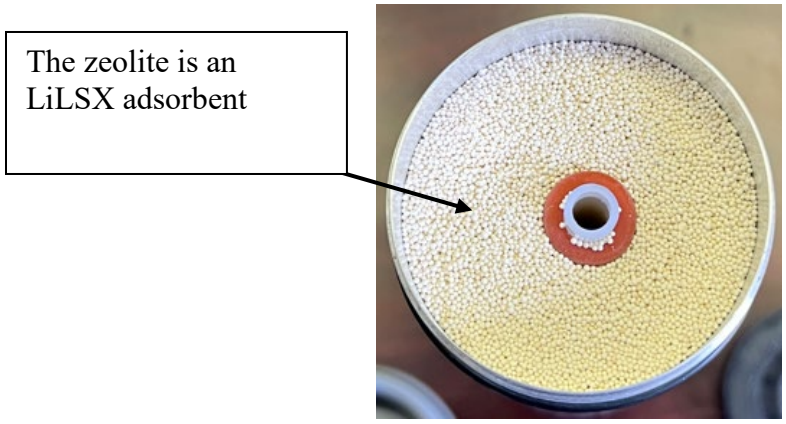
wherein the bed of adsorbent material is disposed along an axis, one of the inlet and the outlet is disposed along the axis, and the other of the inlet and the outlet is spaced-apart from the axis, and wherein the first direction and the second direction are substantially parallel to the axis.	 The first direction and the second direction are substantially parallel to the axis.	Literally infringed.

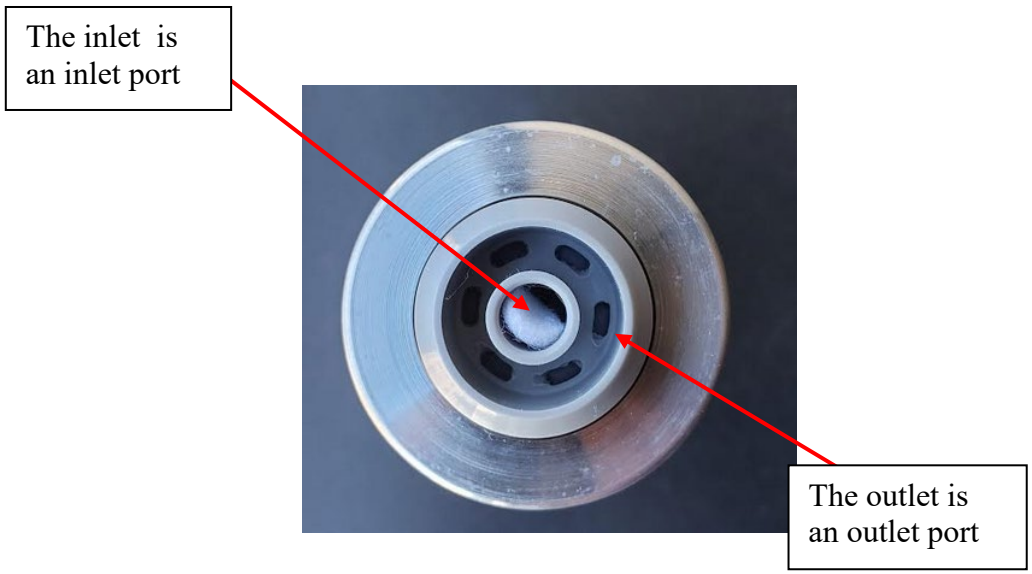


[Ex. C]

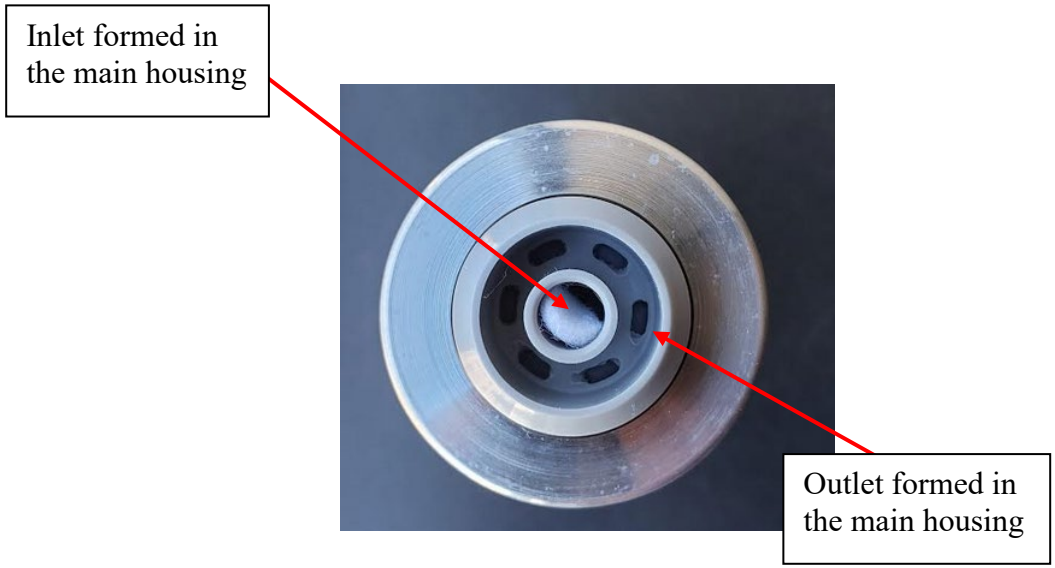
GCE further indirectly infringes by instructing and teaching customers/end users to use and/or make a portable oxygen concentrator wherein the bed of adsorbent material is disposed along an axis, one of the inlet and the outlet is disposed along the axis, and the other of the inlet and the outlet is spaced-apart from the axis, and wherein the first direction and the second direction are substantially parallel to the axis. [Exs. A-E]. Customers/end users directly infringe by following these instructions and teachings.

Claim 4: The portable oxygen concentrator as recited in claim 1, wherein the bed of adsorbent material comprises a bed of zeolite which provides preferential adsorption of nitrogen.	The bed of adsorbent material comprises a bed of zeolite which provides preferential adsorption of nitrogen  [Ex. C] GCE further indirectly infringes by instructing and teaching customers/end users to use and/or make a portable oxygen concentrator wherein the bed of adsorbent material comprises a bed of zeolite which provides preferential adsorption of nitrogen. [Exs. A-E]. Customers/end users directly infringe by following these instructions and teachings.	Literally infringed.

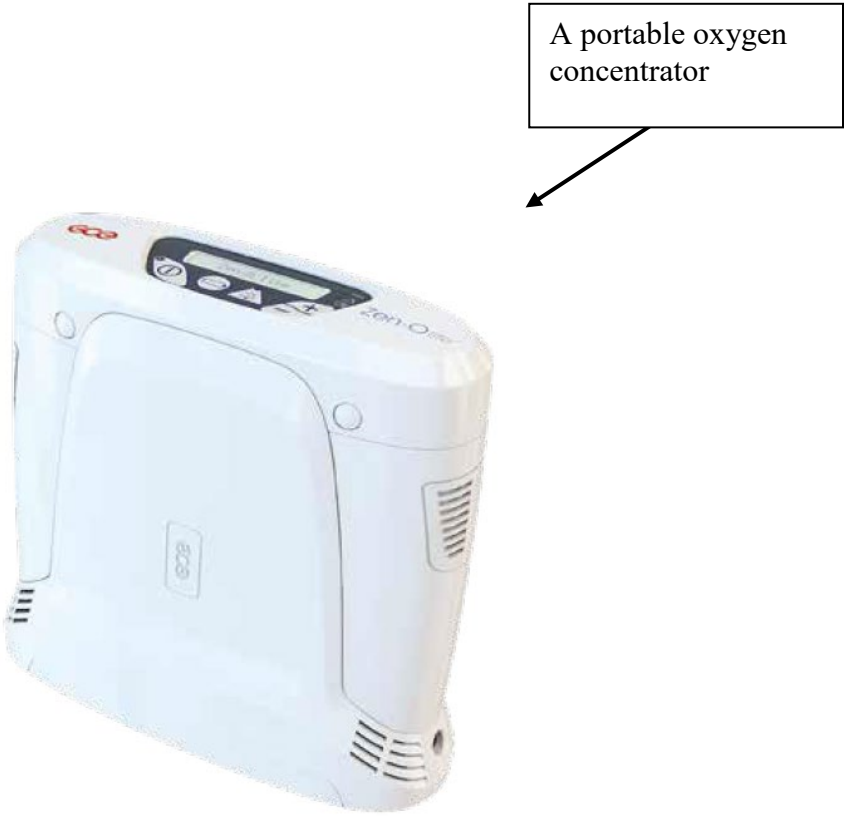
Claim 5: The portable oxygen concentrator as recited in claim 4, wherein the zeolite is an LiLSX adsorbent.	 [Ex. C]. GCE further indirectly infringes by instructing and teaching customers/end users to use and/or make a portable oxygen concentrator wherein the zeolite is an LiLSX adsorbent. [Exs. A-E]. Customers/end users directly infringe by following these instructions and teachings.	Literally infringed.

Claim 7: The portable oxygen concentrator as recited in claim 1, wherein the inlet is an inlet port, and the outlet is an outlet port.	 [Ex. C]. GCE further indirectly infringes by instructing and teaching customers/end users to use and/or make a portable oxygen concentrator wherein the inlet is an inlet port and the outlet is an outlet port. [Exs. A-E]. Customers/end users directly infringe by following these instructions and teachings.	Literally infringed.

Claim 8: The portable oxygen concentrator as recited in claim 1, wherein the case includes a main housing and a cap coupled to the main housing.	 [Ex. C] GCE further indirectly infringes by instructing and teaching customers/end users to use and/or make a portable oxygen concentrator wherein the case includes a main housing and a cap coupled to the main housing. [Exs. A-E]. Customers/end users directly infringe by following these instructions and teachings.	Literally infringed.

Claim 9: The portable oxygen concentrator as recited in claim 8, wherein both the inlet and the outlet are formed in the main housing.	 [Ex. C] GCE further indirectly infringes by instructing and teaching customers/end users to use and/or make a portable oxygen concentrator wherein both the inlet and the outlet are formed in the main housing. [Exs. A-E]. Customers/end users directly infringe by following these instructions and teachings.	Literally infringed.

Claim 11: A portable oxygen concentrator, comprising: a cartridge module comprising a housing, the housing defining a receptacle;	Under 35 U.S.C. § 271(a), GCE has willfully infringed, and continues to willfully infringe, independent claim 11 and its dependent claims below by making, using, offering to sell, selling, and/or improting the GCE Zen-O Lite System in a manner that directly infringes the '628 Patent. Alternatively and/or additionally, under 35 U.S.C. § 271(b), GCE willfully and actively induces infringement of independent claim 11 and its dependent claims below by at least instructing, teaching and intending customers/end users to make and/or use the GCE Zen-O Lite System in an infringing manner, while knowing such acts by customers/end users constitue infringement of the '628 Patent or by remaining willfully blind that such acts by customers/end users constitue infringement of the '628 Patent. Customers/end users directly infringe by following these teachings or instructions. 3B relies on and cites Exhibits A-E to this chart in support of the contentions made herein: • **Exhibit A –** GCE Zen-O Lite User Manual • **Exhibit B –** GCE Zen-O Lite Brochure for Home Oxygen Providers • **Exhibit C –** Images of GCE Zen-O Lite Separation Cartridge • **Exhibit D –** GCE Zen-O Lite Overview Video, available at https://youtu.be/OzT8VcYdEFY • **Exhibit E –** GCE Zen-O Lite Leaflet	Literally infringed.

	 A portable oxygen concentrator	

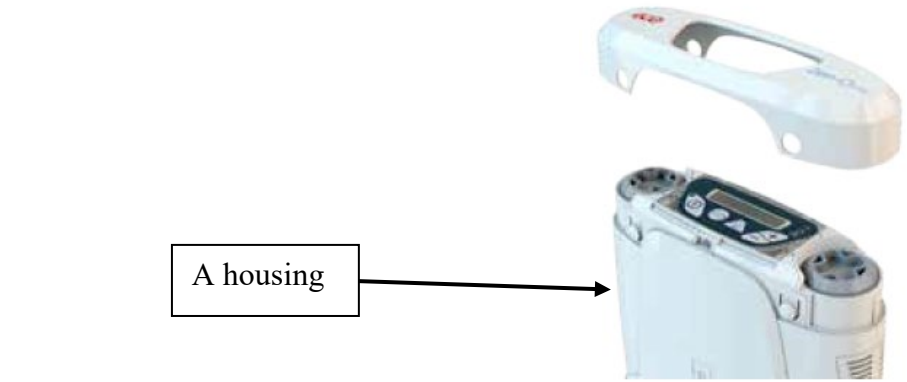


Fig. 9

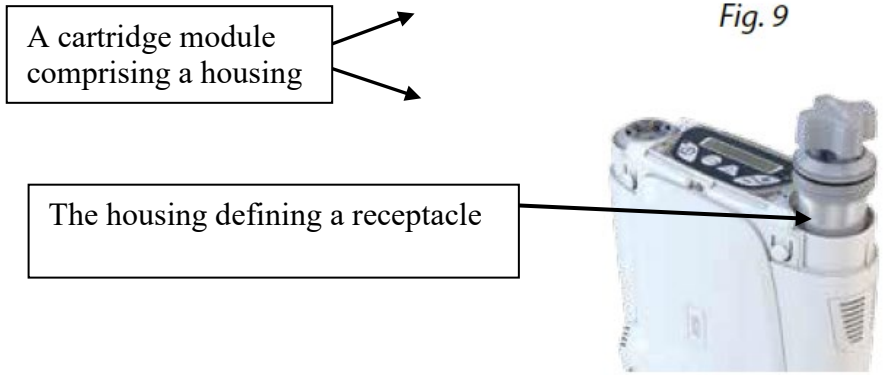
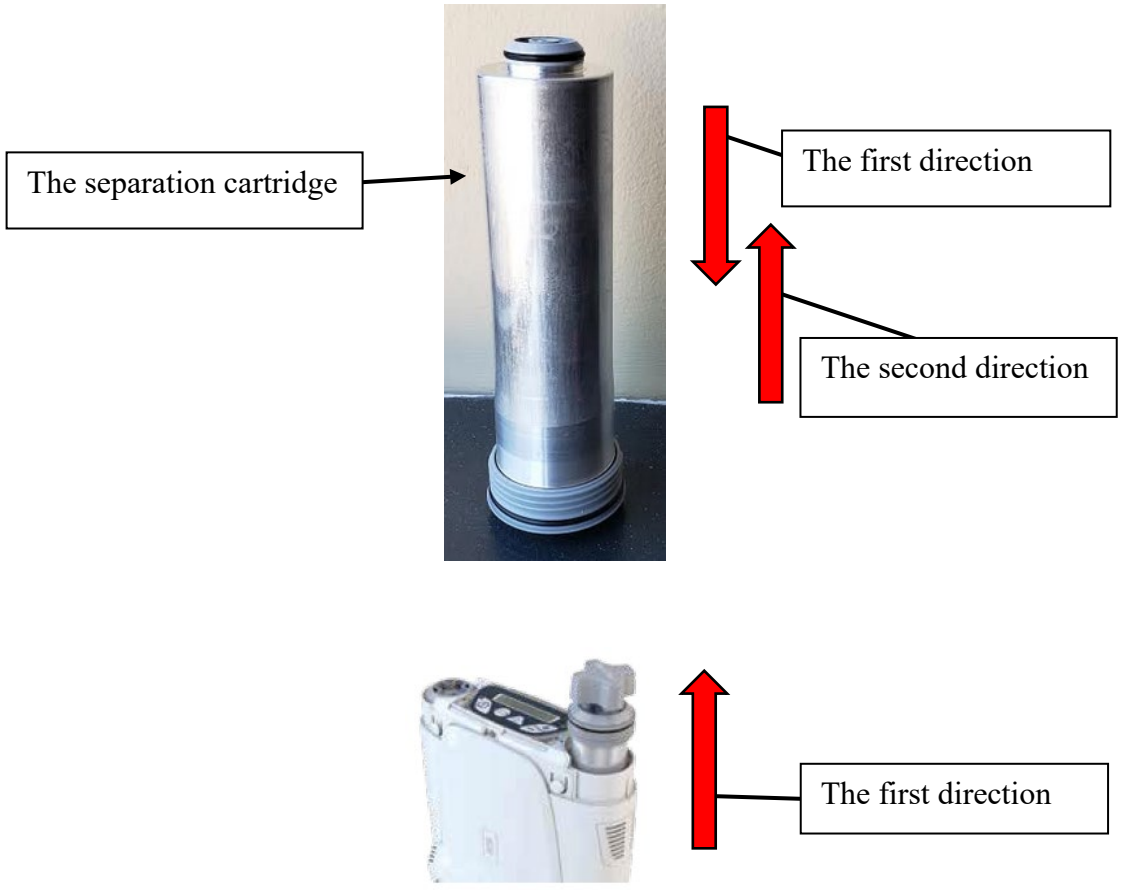


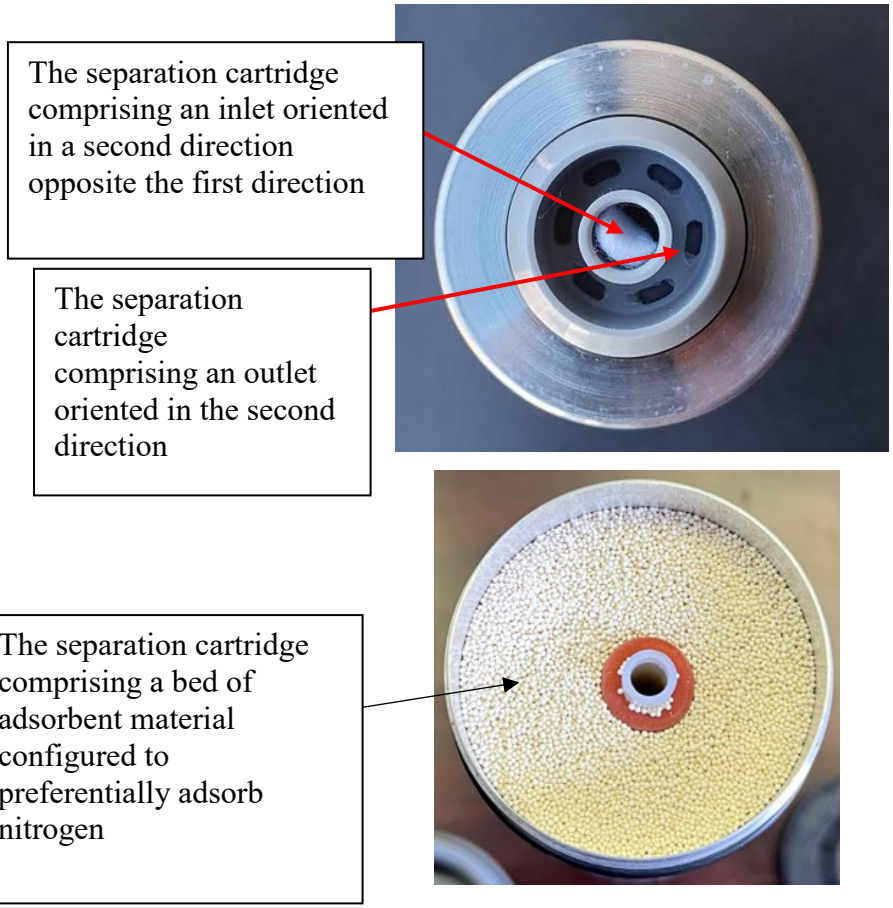
Fig. 10

[Exs. A, B].

GCE further indirectly infringes by instructing and teaching customers/end users to use and/or make a portable oxygen concentrator comprising a cartridge module comprising a housing, the housing defining a receptacle. [Exs. A-E]. Customers/end users directly infringe by following these instructions and teachings.

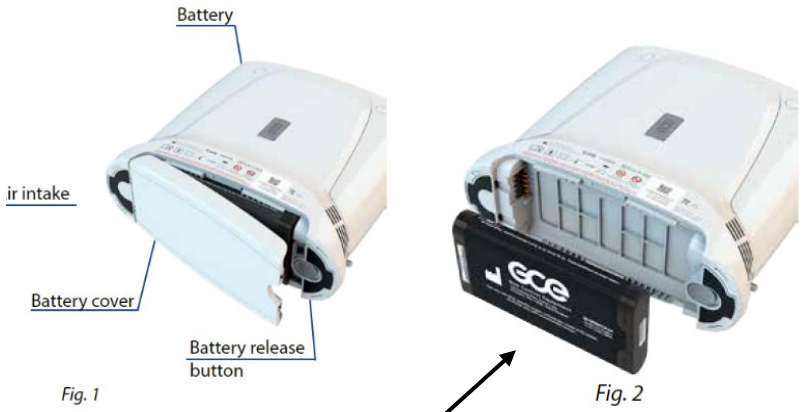
a separation cartridge selectively removable from the receptacle by movement relative to the receptacle in a first direction,	 *Fig. 9* *Fig. 10* [Ex. A; *see also* Ex. D]. GCE further indirectly infringes by instructing and teaching customers/end users to use and/or make a separation cartridge selectively removable from the receptacle by movement relative to the receptacle in a first direction. [Exs. A-E]. Customers/end users directly infringe by following these instructions and teachings.	Literally infringed.

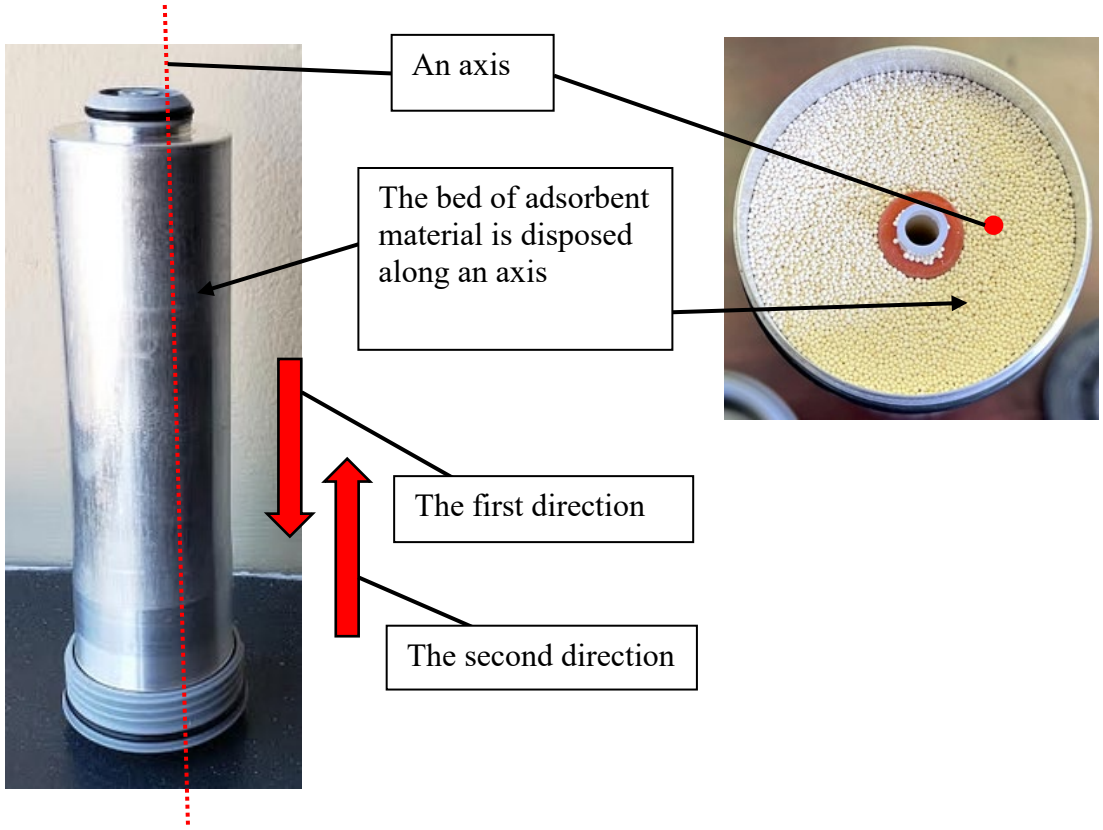
the separation cartridge comprising an inlet oriented in a second direction opposite the first direction, an outlet oriented in the second direction, and a bed of adsorbent material configured to preferentially adsorb nitrogen;	 *Fig. 10*	Literally infringed.

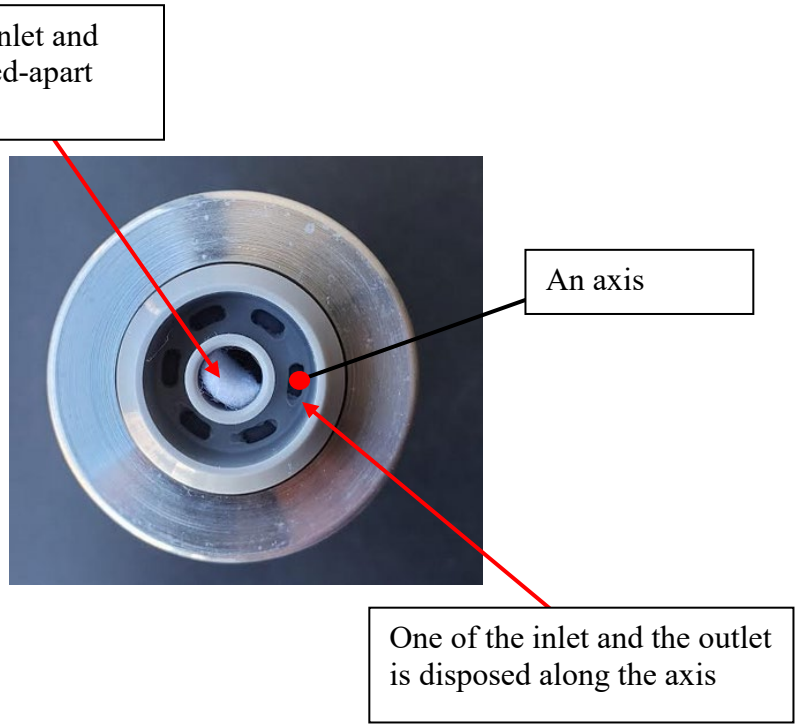


[Exs. A, C].

GCE further indirectly infringes by instructing and teaching customers/end users to use and/or make 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

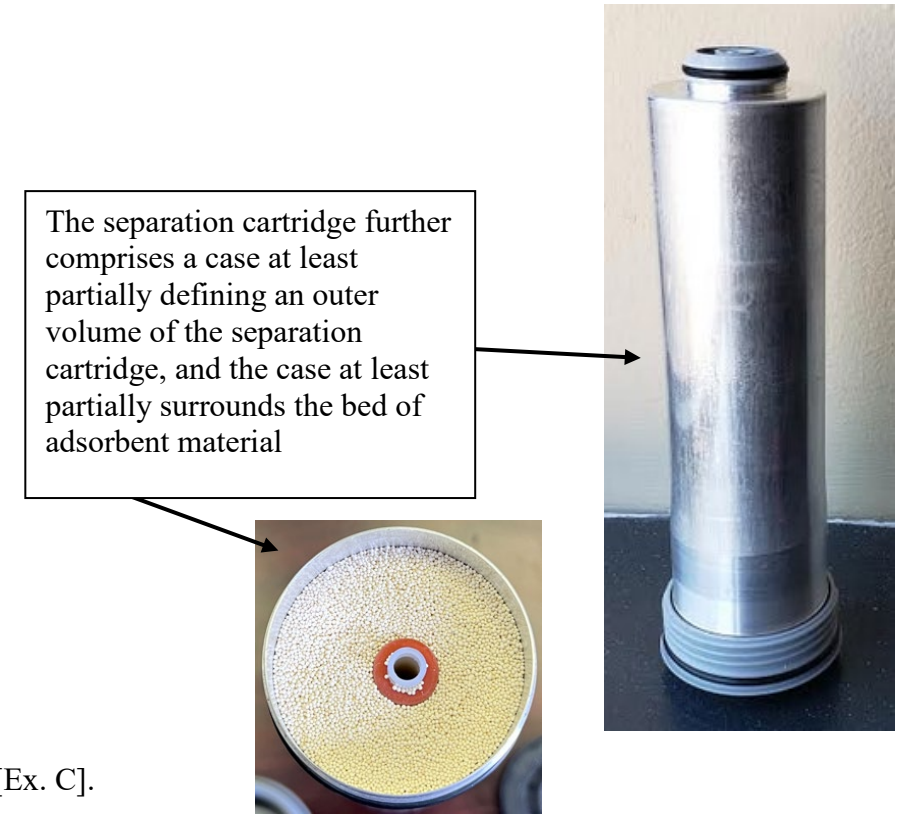
	adsorbent material configured to preferentially adsorb nitrogen. [Exs. A-E]. Customers/end users directly infringe by following these instructions and teachings.	
and a power pack removable from the portable oxygen concentrator,	 *Fig. 1* *Fig. 2* [Ex. A] GCE also indirectly infringes by instructing and teaching customers/end users to use and/or make a power pack removable from the portable oxygen concentrator. [Exs. A-E]. Customers/end users directly infringe by following these instructions and teachings.	Literally infringed.

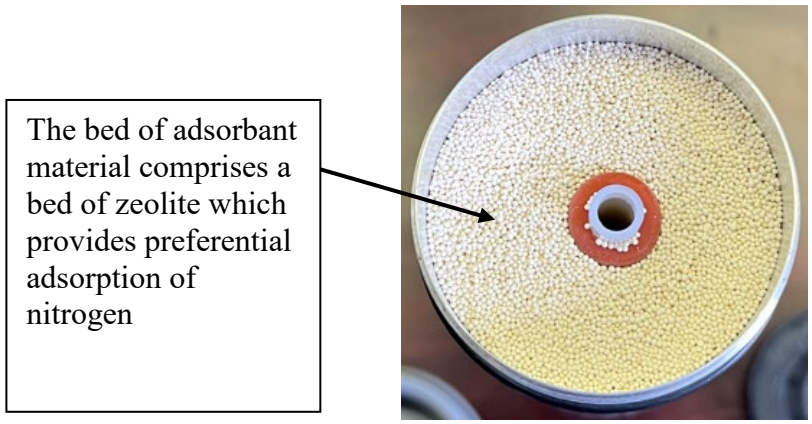
wherein the bed of adsorbent material is disposed along an axis, wherein one of the inlet and the outlet is disposed along the axis, wherein the other of the inlet and the outlet is spaced-apart from the axis, and wherein the first direction and the second direction are substantially parallel to the axis.	 The first direction and the second direction are substantially parallel to the axis.	Literally infringed.

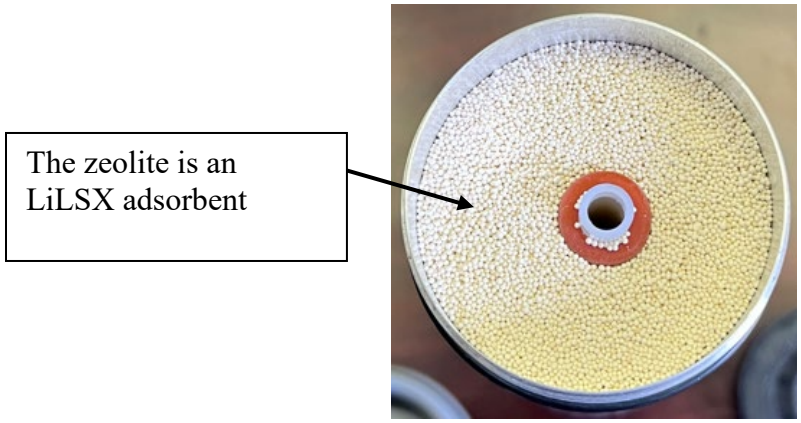


[Ex. C]

GCE further indirectly infringes by instructing and teaching customers/end users to use and/or make a portable oxygen concentrator wherein the bed of adsorbent material is disposed along an axis, one of the inlet and the outlet is disposed along the axis, and the other of the inlet and the outlet is spaced-apart from the axis, and wherein the first direction and the second direction are substantially parallel to the axis. [Exs. A-E]. Customers/end users directly infringe by following these instructions and teachings.

Claim 12: The portable oxygen concentrator as recited in claim 11, wherein: the separation cartridge further comprises a case at least partially defining an outer volume of the separation cartridge, and the case at least partially surrounds the bed of adsorbent material.	 [Ex. C]. GCE further indirectly infringes by instructing and teaching customers/end users to use or make a portable oxygen concentrator wherein the separation cartridge further comprises a case at least partially defining an outer volume of the separation cartridge, and the case at least partially surrounds the bed of adsorbent material. [Exs. A-E]. Customers/end users directly infringe by following these instructions and teachings.	Literally infringed.

Claim 17: The portable oxygen concentrator as recited in claim 11, wherein the bed of adsorbent material comprises a bed of zeolite which provides preferential adsorption of nitrogen.	 [Ex. C] GCE further indirectly infringes by instructing and teaching customers/end users to use and/or make a portable oxygen concentrator wherein the bed of adsorbent material comprises a bed of zeolite which provides preferential adsorption of nitrogen. [Exs. A-E]. Customers/end users directly infringe by following these instructions and teachings.	Literally infringed.

Claim 18: The portable oxygen concentrator as recited in claim 17, wherein the zeolite is an LiLSX adsorbent.	 [Ex. C]. GCE further indirectly infringes by instructing and teaching customers/end users to use and/or make a portable oxygen concentrator wherein the zeolite is an LiLSX adsorbent. [Exs. A-E]. Customers/end users directly infringe by following these instructions and teachings.	Literally infringed.

Claim 19: The portable oxygen concentrator as recited in claim 11, further comprising a carrying device for transporting the portable oxygen concentrator.	 [Ex. A; *see also* Ex. B]. GCE further indirectly infringes by instructing and teaching customers/end users to use and/or make a carrying device for transporting the portable oxygen concentrator. [Exs. A-E]. Customers/end users directly infringe by following these instructions and teachings.	Literally infringed.