

The  
United  
States  
of  
America



**The Director of the United States  
Patent and Trademark Office**

*Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.*

*Therefore, this*

**United States Patent**

*Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America, and if the invention is a process, of the right to exclude others from using, offering for sale or selling throughout the United States of America, or importing into the United States of America, products made by that process, for the term set forth in 35 U.S.C. 154(a)(2) or (c)(1), subject to the payment of maintenance fees as provided by 35 U.S.C. 41(b). See the Maintenance Fee Notice on the inside of the cover.*

*Michelle K. Lee*

*Deputy Director of the United States Patent and Trademark Office*



US009242065B2

(12) **United States Patent**  
**Hunt et al.**

(10) **Patent No.:** **US 9,242,065 B2**  
(45) **Date of Patent:** **\*Jan. 26, 2016**

(54) **APPARATUS, SYSTEMS AND METHOD FOR COLLECTING AND RECLAIMING ANAESTHETIC AGENTS AND FOR REMOVING NITROUS OXIDE FROM EXHAUST GASES**

Y10T 137/7736; Y10T 137/0324; Y10T 137/7761; B01D 53/02; B01D 53/047; B01D 53/22; B01D 53/261; B01D 53/56; B01D 53/75; B01D 2257/102; B01D 2257/104; B01D 2257/504; B01D 2259/4508; B01D 2259/4533; Y02C 20/10  
USPC ..... 137/467.5, 487.5, 2; 128/205.12, 128/205.15, 205.27  
See application file for complete search history.

(71) Applicant: **Class 1 Inc.**, Cambridge (CA)

(72) Inventors: **Barry W. Hunt**, Kitchener (CA); **Todd Eric Jarrett**, Burlington (CA); **Damian Ross Thorne**, Kitchener (CA); **Katrina Marie Ahchong**, Toronto (CA); **Dean Paul Carr**, Kitchener (CA); **Cesar Laurentino Martinez Vazquez**, Cambridge (CA)

(73) Assignee: **Class 1 Inc.**, Cambridge, Ontario (CA)

(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 140 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **13/866,349**

(22) Filed: **Apr. 19, 2013**

(65) **Prior Publication Data**

US 2013/0220330 A1 Aug. 29, 2013

**Related U.S. Application Data**

(60) Continuation of application No. 13/231,718, filed on Sep. 13, 2011, now Pat. No. 8,430,099, which is a

(Continued)

(51) **Int. Cl.**

*A61M 16/20* (2006.01)

*A61M 16/01* (2006.01)

(Continued)

(52) **U.S. Cl.**

CPC ..... *A61M 16/20* (2013.01); *A61M 16/009* (2013.01); *A61M 16/0093* (2014.02);

(Continued)

(58) **Field of Classification Search**

CPC ..... A61M 16/0066; A61M 16/009; A61M 16/0093; A61M 16/01; A61M 16/0808; A61M 16/20; A61M 16/105; A61M 2202/0208; A61M 2202/0241; A61M 2202/0275; A61M 2202/0283; A61M 2202/062; A61M 2205/3653; Y10T 137/7722;

(56)

**References Cited**

**U.S. PATENT DOCUMENTS**

1,175,006 A 3 1916 Montgomery  
2,667,397 A 1 1954 Hallisey

(Continued)

**FOREIGN PATENT DOCUMENTS**

DE 4208521 9 1993  
GB 2201098 8 1988  
WO 2011026230 3 2011

**OTHER PUBLICATIONS**

International Searching Authority, Written Opinion and International Search Report, May 25, 2011.

(Continued)

*Primary Examiner* — William McCalister

(74) *Attorney, Agent, or Firm* — Bereskin & Parr LLP/S.E.N.C.R.L., s.r.l.

(57)

**ABSTRACT**

A system for collecting an anaesthetic agent, having at least one anaesthetic gas scavenging system (AGSS) for receiving exhaust gas from a plurality of sources, the exhaust gas including the anaesthetic agent to be collected, each AGSS comprising at least one power source for providing suction of the exhaust gas from the plurality of sources under negative pressure, and a central collection system for receiving the exhaust gas, the central collection system comprising at least one collector for collecting the anaesthetic agent from the exhaust gas, wherein the at least one collector is configured to adsorb the anaesthetic agent from the exhaust gas. The central collection system may be configured to received the exhaust gases from the at least one AGSS, with the central collection system being located downstream of the at least one AGSS.

**17 Claims, 14 Drawing Sheets**

