

Filed on behalf of Visionsense Corp.

By: Joseph M. Casino, Reg. No. 57,224  
Wiggin and Dana LLP  
450 Lexington Avenue  
Suite 3800  
New York, New York 10017  
Tel: (212) 551-2842  
Email: [JCasino@wiggin.com](mailto:JCasino@wiggin.com)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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VISIONSENSE CORP.

Petitioner,

v.

Patent Owner of

U.S. Patent No. 8,892,190 to

IPR Trial No. TBD

**PETITION FOR *INTER PARTES* REVIEW OF**

**U.S. Patent No. 8,892,190**

**UNDER 35 U.S.C. § 312 AND 37 C.F.R. § 42.104**

## Exhibits

Exhibit	Description	Abbreviation
1001	U.S. Patent No. 8,892,190. "Method and apparatus for performing intra-operative angiography," filed March 13, 2012.	'190 Patent
1002	Little, John R., et al. "Superficial temporal artery to middle cerebral artery anastomosis: intraoperative evaluation by fluorescein angiography and xenon-133 clearance." <i>Journal of neurosurgery</i> 50.5 (1979): 560-569.	Little
1003	U.S. Patent 6,351,663. "Methods for diagnosing and treating conditions associated with abnormal vasculature using fluorescent dye angiography and dye-enhanced photocoagulation," filed September 10, 1999.	Flower I
1004	Japanese Laid Open Patent Publication No. H9-309845 (Translation). "NEAR-INFRED FLUORESCENT TRACER AND FLUORESCENCE IMAGING METHOD," filed May 21, 1996.	Jibu
1005	U.S. Patent No. 5,394,199. "Methods and apparatus for improved visualization of choroidal blood flow and aberrant vascular structures in the eye using fluorescent dye angiography," filed May 17, 1993.	Flower II
1006	Specification of Argus 20 with C2400-75i, dated May 1997	Argus 20 Specification
1007	Goldstein et al., "Intraoperative Angiography to Assess Graft Patency After Minimally Invasive Coronary Bypass," <i>Ann Thorax Surg</i> , 66: 1978-1982, (1998).	Goldstein
1008	Eren, Serdar, et al. "Assessment of microcirculation of an axial skin flap using indocyanine green fluorescence angiography." <i>Plastic and reconstructive surgery</i> 96.7 (1995): 1636-1649	Eren
1009	Decision of European Patent Office Technical Board of Appeal revoking Counterpart Patent No. 1143852	EPO Decision

1010	Translation of Decision of Japanese Patent Office Trial Board revoking Counterpart Patent No. Patent No. 3,881,550	JPO Decision
1011	Summary of Invention Submitted to EPO	Invention Summary
1012	Novadaq 510K showing X-Ray Fluoroscopy as Predicate Device	510K
1013	Takayama et al., Intraoperative Coronary Angiography Using Fluorescein, Ann Thorac Surg. 51:140-143 (1991)	Takayama
1014	Hyvarinen, Lea and Robert W. Flower. "Indocyanine green fluorescence angiography." Acta ophthalmologica 58.4 (1980): 528-538	Hyvarinen
1015	The Sony U-Matic Videocassette Recorder	Sony U-Matic
1016	Joseph, et al. "Evaluation of the circulation of reconstructive flaps using laser-induced fluorescence of indocyanine green." Annals of plastic surgery 42.3 (March 1999): 266-274.	Joseph

### Table of Challenged Claims

Claim Limitations	Abbreviation
1. A method for assessing blood flow moving through a vessel graft anastomosed in fluid communication with an interconnected group of blood vessels in an animal, the vessel graft and at least a portion of the blood vessels being exposed during a surgical procedure on the animal, the method comprising the steps of:	Vessel Graft Preamble
(a) administering a fluorescent dye to the animal such that the dye enters the vessel graft and the interconnected group of blood vessels;	Administering Step
(b) exciting the fluorescent dye within the vessel graft and said exposed portion of the interconnected group of blood vessels with a source of illumination, thus causing the dye to emit radiation;	Illuminating Step
(c) capturing the radiation emitted by the fluorescent dye with a camera capable of imaging a series of angiographic images within the vessel graft and said exposed portion of the interconnected group of blood vessels, the images including at least an image of a fluorescent wavefront corresponding to an interface between the flowing blood that first contains the fluorescent dye introduced, such image being captured by the camera as the fluorescent wavefront transitions	Wavefront Capturing Step

through the exposed vessel graft and interconnected group of blood vessels; and	
(d) evaluating the angiographic images to assess blood flow through the vessel graft relative to blood flow through the interconnected group of blood vessels.	Evaluation Step
2. The method of claim 1, further comprising: modifying said anastomosed vessel graft based on results of said evaluating step, thereby improving resultant blood flow through said vessel graft.	Modifying Step
3. A method for assessing blood flow moving through an vessel graft in an animal, the vessel graft being exposed during a surgical procedure on the animal, comprising the steps of:	Vessel Graft Preamble
(a) administering a fluorescent dye to the animal such that the dye enters the vessel graft;	Administering Step
(b) exciting the fluorescent dye within the vessel graft with a source of illumination, thus causing the dye to emit radiation, the fluorescent dye having a peak absorption and emission in the range of 800 to 850 nm;	Illuminating Step 800-850 Wavelength Requirement
(c) capturing the radiation emitted by the fluorescent dye with a camera capable of imaging a series of angiographic images of the vessel graft at a rate of at least 15 images per second while the subject's heart is beating, the images including at least an image of a fluorescent wavefront corresponding to an	15 Images/Second Requirement Wavefront Capture Step

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