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On behalf of **Imperative Care, Inc.**

By: Joshua J. Stowell (Reg. No. 64,096)
Joseph R. Re (Reg. No. 31,291)
Brian C. Barnes (Reg. No. 75,805)
KNOBBE, MARTENS, OLSON & BEAR, LLP
2040 Main Street, 14th Floor
Irvine, CA 92614
Tel.: (949) 760-0404
Fax: (949) 760-9502
Email: BoxImperative669@knobbe.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

IMPERATIVE CARE, INC.,
Petitioner,

v.

INARI MEDICAL, INC.,
Patent Owner.

Case IPR2026-00169
Patent No. 12,156,669

**PETITION FOR *INTER PARTES* REVIEW OF
U.S. PATENT NO. 12,156,669**

TABLE OF CONTENTS

	Page No.
I. INTRODUCTION AND BACKGROUND	1
II. THE '669 PATENT	10
A. Overview	10
B. Prosecution History	15
C. Earliest Possible Priority Date.....	16
III. LEVEL OF ORDINARY SKILL	16
IV. CLAIM CONSTRUCTION	16
V. STATEMENT OF RELIEF REQUESTED	20
A. IPR Grounds	20
B. The Asserted References Are Prior Art	21
C. The Asserted References Are Analogous Art	21
VI. GROUNDS 1-2: CLAIMS 1-5, 8, 10-11, 14-19, 22, 24-25, 30 ANTICIPATED OR OBVIOUS IN VIEW OF GARRISON	22
A. Claim 1	22
1. Preamble.....	22
2. Vacuum Source	23
3. Catheter	26
4. Filter Chamber	27
a. Filter Within The Housing.....	28
b. Port.....	29

TABLE OF CONTENTS

(cont'd)

	Page No.
c. Fluid Connector	32
d. First Fluid Path	34
5. Flow Controller	35
6. Hemostasis Valve.....	37
B. Claim 2	41
C. Claim 3	43
D. Claim 4	44
E. Claim 5	45
F. Claim 8	49
G. Claim 10	50
H. Claim 11	53
I. Claim 14	54
J. Claim 15	58
1. Preamble.....	58
2. Vacuum Source	58
3. Catheter	58
4. Filter Chamber	58
a. First Port	58
b. Second Port.....	59
c. Filter Along First Fluid Path.....	60

TABLE OF CONTENTS *(cont'd)*

	Page No.
5. Flow controller	61
6. Hemostasis Valve	61
K. Claim 16	61
L. Claim 17	61
M. Claim 18	62
N. Claim 19	62
O. Claim 22	62
P. Claim 24	62
Q. Claim 25	63
R. Claim 30	63
VII. GROUND 3: CLAIMS 1-5, 8, 10-11, 14-19, 22, 24-25, 30 OBVIOUS IN VIEW OF GARRISON AND GOFF	63
A. Claims 1-5, 11, 14	65
1. Filter Chamber	65
2. Remaining Limitations.....	69
B. Claims 15-19, 25, 30	70
1. Filter Chamber	70
2. Remaining Limitations.....	71
C. Claims 8 and 22	72
D. Claims 10 and 24	72

TABLE OF CONTENTS

(*cont'd*)

	Page No.
VIII. GROUNDS 4-7: CLAIMS 14, 30 OBVIOUS OVER GARRISON AND OPTIONALLY GOFF WITH BRADY OR PONS	74
A. Vacuum Chamber.....	76
1. Brady	76
2. Pons	82
B. Vacuum Chamber Fluidically Coupled To Tubing And Aspiration Catheter.....	86
C. Remaining Limitations	88
IX. GROUNDS 8-11: CLAIMS 12, 26-28 OBVIOUS IN VIEW OF GARRISON AND OPTIONALLY GOFF WITH SCHAFFER AND OPTIONALLY HARTLEY	88
A. Claim 12	89
1. Tubular Member, Button, and Spring.....	89
2. Filament	91
i. Schaffer	91
ii. Schaffer and Hartley.....	94
3. First and Second Position.....	99
4. Biasing Spring.....	101
5. Motivation to Combine	102
B. Claim 26	104
C. Claim 27	104

TABLE OF CONTENTS
(cont'd)

	Page No.
D. Claim 28	106
X. SECONDARY CONSIDERATIONS	106
XI. <i>SOTERA</i> STIPULATION	106
XII. MANDATORY NOTICES, GROUNDS FOR STANDING, AND FEE PAYMENT	107
A. Real Parties-In-Interest (37 C.F.R. §42.8(b)(1))	107
B. Related Matters (37 C.F.R. §42.8(b)(2))	107
C. Lead and Backup Counsel (37 C.F.R. §42.8(b)(3))	108
D. Service Information (37 C.F.R. §42.8(b)(4))	109
E. Grounds for Standing (37 C.F.R. §42.104)	109
F. Payment of Fees (37 C.F.R. §42.15(a))	109
XIII. CONCLUSION	110

TABLE OF AUTHORITIES

Page No(s).

<i>Apple v. Fintiv</i> , IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020)	106
<i>Imperative Care, Inc. v. Inari Medical, Inc.</i> , IPR2024-01157	107
<i>Imperative Care, Inc. v. Inari Medical, Inc.</i> , IPR2024-01257	107
<i>Imperative Care, Inc. v. Inari Medical, Inc.</i> , IPR2025-00156	107
<i>Imperative Care, Inc. v. Inari Medical, Inc.</i> , IPR2025-00289	108
<i>Imperative Care, Inc. v. Inari Medical, Inc.</i> , IPR2025-00728	108
<i>Imperative Care, Inc. v. Inari Medical, Inc.</i> , IPR2025-00989	108
<i>Imperative Care, Inc. v. Inari Medical, Inc.</i> , IPR2025-01021	108
<i>Imperative Care, Inc. v. Inari Medical, Inc.</i> , IPR2025-01025	108
<i>Imperative Care, Inc. v. Inari Medical, Inc.</i> , IPR2025-01264	108
<i>Imperative Care, Inc. v. Inari Medical, Inc.</i> , IPR2025-01562	108
<i>Inari Medical, Inc. v. Imperative Care, Inc.</i> , No. 24-cv-3117 (N.D. Cal., filed May 22, 2024)	107

TABLE OF AUTHORITIES

(*cont'd*)

Page No(s).

<i>KSR Int'l Co. v. Teleflex Inc.</i> , 550 U.S. 398 (2007).....	<i>passim</i>
<i>In re Nilssen</i> , 851 F.2d 1401 (Fed. Cir. 1988)	22
<i>Phillips v. AWH Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005)	16
<i>Unwired Planet, LLC v. Google Inc.</i> , 841 F.3d 995 (Fed. Cir. 2016)	21

OTHER AUTHORITIES

35 U.S.C. §102	20, 21
35 U.S.C. §103	20
37 C.F.R. §1.11	91
37 C.F.R. §42.8	107, 108,. 109
37 C.F.R. §42.15	109
37 C.F.R. §42.100	16
37 C.F.R. §42.104	109

LIST OF EXHIBITS

Exhibit No.	Description
1001	U.S. Patent No. 12,156,669 (“the ’669 patent”)
1002	’669 Patent Prosecution History
1003	Expert Declaration of Troy Thornton
1004	Resume of Troy Thornton
1005	WIPO Publication No. WO 2006/124307 A2 to Goff et al. (“Goff”)
1006	U.S. Patent Publication No. 2015/0173782 A1 to Garrison et al. (“Garrison”)
1007	U.S. Patent Publication US 2003/0225379 A1 to Schaffer et al. (“Schaffer”)
1008	U.S. Patent Publication No. 2003/0116731 A1 to Hartley (“Hartley”)
1009	Certified File History of U.S. Patent Application 10/371,190 (Schaffer File History)
1010	WIPO Publication No. WO 2018/019829 A1 to Brady et al. (“Brady”)
1011	U.S. Patent No. 11,432,835 B2 to Pons et al. (“Pons”)
1012	U.S. Patent No. 6,776,770 B2 to Treretola
1013	Inari’s Supplemental Infringement Contentions (without claim charts) from <i>Inari Medical, Inc. v. Imperative Care, Inc.</i> , No. 24-cv-3117 (N.D. Cal.) (served February 7, 2025)
1014	Merriam-Webster’s Collegiate Dictionary (11th ed. 2014), definitions of “port” and “tighten”

Exhibit No.	Description
1015	Merriam-Webster’s Collegiate Dictionary (11th ed. 2014), submitted by Patent Owner as Exhibit 2009 in IPR2024-00157
1016	Deposition Transcript of PO’s Expert Paul Zalesky, Ph.D. dated June 23, 2025
1017	Deposition Transcript of PO’s Expert Paul Zalesky, Ph.D. dated August 27, 2025
1018	Deposition Transcript of PO’s Expert Paul Zalesky, Ph.D. dated November 7, 2025
1019	U.S. Provisional Patent Application No. 62/554,931
1020	Order Regarding Case Schedule and Motion to Stay in <i>Inari Medical, Inc. v. Imperative Care, Inc.</i> , 5:24-cv-03117-EKL (N.D. Cal.)
1021	U.S. Patent No. 11,697,011 (“the ’011 patent”)
1022	U.S. Provisional Application No. 62/474,383
1023	U.S. Provisional Application No. 62/516,582
1024	Decision Granting Institution of <i>Inter Partes</i> Review for U.S. Patent No. 11,697,011 (Paper 7) in <i>Imperative Care, Inc. v. Inari Medical, Inc.</i> , IPR2024-01157 (P.T.A.B. Jan. 23, 2025)
1025	Decision Granting Institution of <i>Inter Partes</i> Review for U.S. Patent No. 11,697,012 (Paper 6) in <i>Imperative Care, Inc. v. Inari Medical, Inc.</i> , IPR2025-00156 (P.T.A.B. Apr. 22, 2025)
1026	Decision Granting Institution of <i>Inter Partes</i> Review for U.S. Patent No. 11,554,005 (Paper 10) in <i>Imperative Care, Inc. v. Inari Medical, Inc.</i> , IPR2025-00289 (P.T.A.B. June 18, 2025)

Exhibit No.	Description
1027	Decision Granting Institution of <i>Inter Partes</i> Review for U.S. Patent No. 11,844,921 (Paper 13) in <i>Imperative Care, Inc. v. Inari Medical, Inc.</i> , IPR2025-00728 (P.T.A.B. Oct. 10, 2025)
1028	Decision Granting Institution of <i>Inter Partes</i> Review for U.S. Patent No. 11,865,291 (Paper 10) in <i>Imperative Care, Inc. v. Inari Medical, Inc.</i> , IPR2025-00989 (P.T.A.B. Oct. 23, 2025)
1029	U.S. Patent Publication No. 2015/0352325 to Quick (“Quick”)
1030	Patent Owner’s Response for U.S. Patent No. 11,697,011 (Paper 13) in <i>Imperative Care, Inc. v. Inari Medical, Inc.</i> , IPR2024-01157 (Apr. 18, 2025)
1031	U.S. Patent Publication No. 2010/0042118 A1 to Garrison et al.
1032	U.S. Patent No. 5,938,645 to Gordon (“Gordon”)
1033	U.S. Patent Publication No. 2014/0296868 A1 to Garrison et al.
1034	U.S. Patent Publication No. 2017/0043066 A1 to Laub (“Laub”)
1035	U.S. Patent No. 8,734,374 B2 to Aklog et al. (“Aklog”)
1036	Penumbra, Optimizing Direct Aspiration (May 2013)
1037	AXS Universal Aspiration Set Brochure (2017)
1038	U.S. Patent No. 12,109,384
1039	Supplemental Declaration of Paul Zalesky Ph.D. submitted by Patent Owner as Exhibit 2008 in <i>Imperative Care, Inc. v. Inari Medical, Inc.</i> , IPR2024-01157, U.S. Patent No. 11,697,011
1040	International Standards Organization, Small-bore Connectors for Liquids and Gasses in Healthcare Applications Part 7: Connectors for Intravascular or Hypodermic Applications, 80369-7 (Edition 1, 2016) (“ISO 80369-7”)

Exhibit No.	Description
1041	O. Nikoubashman et al., Under Pressure: Comparison of Aspiration Techniques for Endovascular Mechanical Thrombectomy, Am J. Neuroradiol. (May 2018) (“Nikoubashman”)
1042	Record of Oral Hearing held on October 29, 2025 in <i>Inter Partes</i> Review for U.S. Patent No. 11,697,011 (Paper 34) in <i>Imperative Care, Inc. v. Inari Medical, Inc.</i> , IPR2024-01157 (P.T.A.B. Nov. 17, 2025)
1043	Dorland’s Illustrated Medical Dictionary, 32nd ed. (2012) - Definition of “Port”
1044	U.S. Patent No. 9,526,864 B2 to Quick
1045	Decision Granting Institution of <i>Inter Partes</i> Review for U.S. Patent No. 11,969,333 (Paper 15) in <i>Imperative Care, Inc. v. Inari Medical, Inc.</i> , IPR2025-01021 (P.T.A.B. Dec. 11, 2025)
1046	Decision Granting Institution of <i>Inter Partes</i> Review for U.S. Patent No. 11,974,910 (Paper 15) in <i>Imperative Care, Inc. v. Inari Medical, Inc.</i> , IPR2025-01025 (P.T.A.B. Dec. 11, 2025)

Petitioner Imperative Care, Inc. (“Imperative Care” or “Petitioner”) requests *inter partes review* (“IPR”) of Claims 1-5, 8, 10-12 14-19, 22, 24-28, and 30 (“challenged claims”) of U.S. Patent No. 12,156,669 (“the ’669 patent,” Ex.1001), which is purportedly owned by Inari Medical, Inc. (“Patent Owner” or “PO”).

I. INTRODUCTION AND BACKGROUND

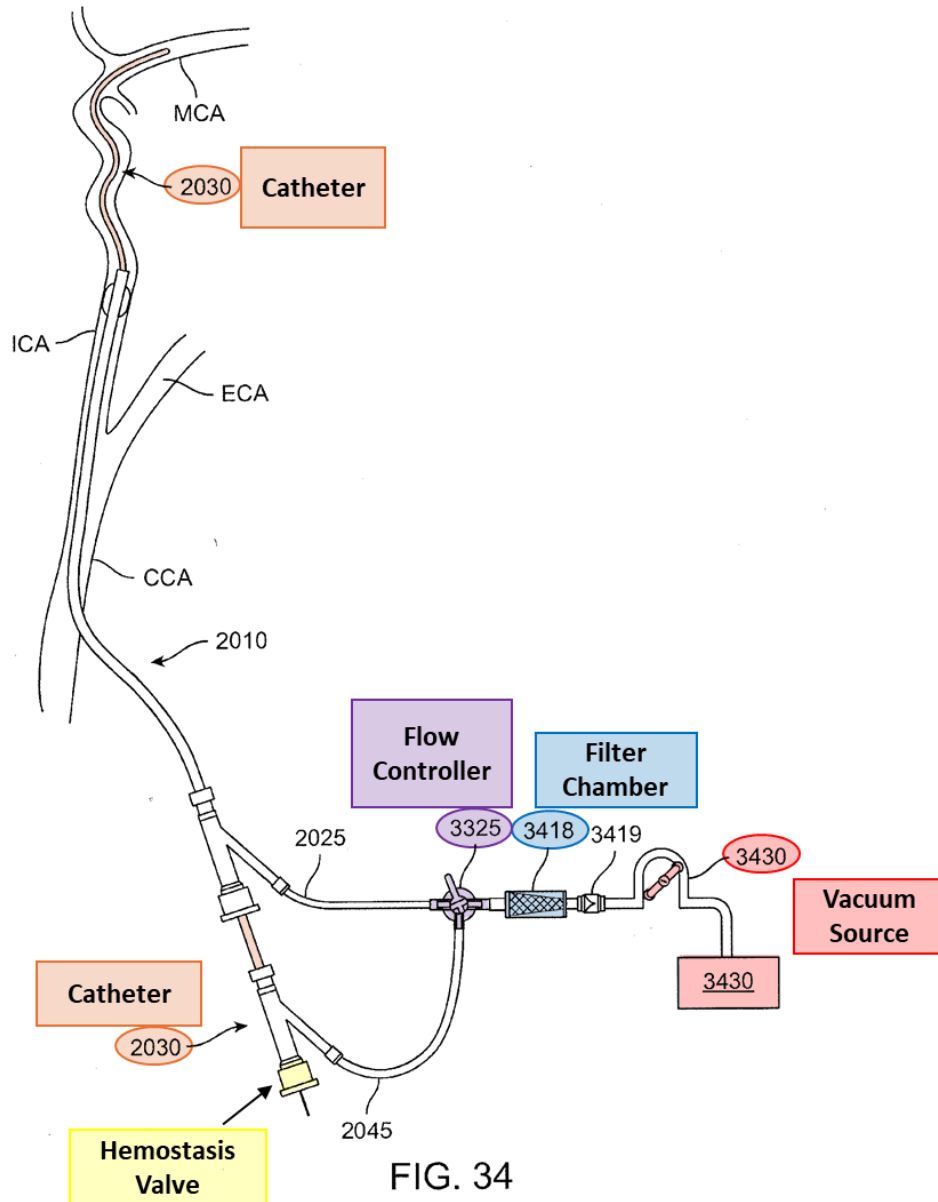
Patent Owner has asserted the challenged claims against Petitioner in a co-pending district court litigation (“Litigation”). (*See* Ex. 1013 (PO’s infringement contentions).) The Court stayed the Litigation until at least February 4, 2026, when it will evaluate extending the stay based on the status of several pending IPRs. (Ex. 1020.) In view of the stay, the recent issuance of the ’669 patent, and the early stage of the Litigation, Petitioner challenges the patentability of the challenged claims in this IPR.

The accumulation of unwanted material, such as blood clots, in a patient’s vasculature can cause serious conditions, including stroke and death. Over the last several decades, medical device companies have developed methods and devices to remove such clot material from the vasculature, including catheter-based systems that aspirate (i.e., suction) the clot material from the blood vessel.

The challenged claims describe aspiration systems and are similar to claims being evaluated in several pending IPRs. (*Infra* §XII.B.) Like some other IPR patents, the ’669 patent alleges that “there exists a need for an improved embolic

extraction device” and argues that prior-art systems were “highly complex,” “cause trauma to the treatment vessel,” and “may not completely capture and/or collect all of the clot material.” (Ex. 1001, 2:38-61.) Yet, the ’669 patent does not explain how the claimed system addresses these alleged shortcomings.

The prior art already described methods of deploying a clot treatment system having the conventional components described in the challenged claims (e.g., catheter, vacuum source, flow controller, hemostasis valve, filter chamber). For example, **Garrison**, a prior-art patent application published in June 2015, describes an aspiration system for removing unwanted material from a patient’s vasculature. As illustrated below, Garrison’s aspiration system includes: a vacuum source (e.g., pump or syringe) [red], an aspiration catheter [orange], a filter chamber [blue], a hemostasis valve [yellow], and a flow controller [purple]:



(Ex. 1006, Fig. 34.)

The Board has already instituted three IPRs filed by Petitioner against related patents (U.S. Patent Nos. 11,554,005 (Ex. 1026), 11,969,333 (Ex. 1045), 11,974,910 (Ex. 1046)) that claim similar components, including an “aspiration catheter,” “on-off control” or “valve” or “fluid control device,” “clot canister,” “aspiration source”

or “pressure source,” and “hemostasis valve.” (Ex. 1026, 28-32; Ex. 1045, 23-40; Ex. 1046, 23-40.) In those IPRs, the Board preliminarily determined that Garrison and Schaffer (discussed below) disclose these conventional components. (Ex. 1026, 28-32; Ex. 1045, 23-40; Ex. 1046, 23-40.)

The challenged claims of '669 patent also recite that the housing of the “filter chamber” includes “a port configured to be fluidically coupled to the catheter” and “a fluid connector configured to be fluidically coupled to the connection tubing,” which is “fluidically coupled to the vacuum source.” (Ex. 1001, Claims 1, 15.) In other words, the filter housing permits the flow of aspirated blood through the filter via the port and fluid connector.

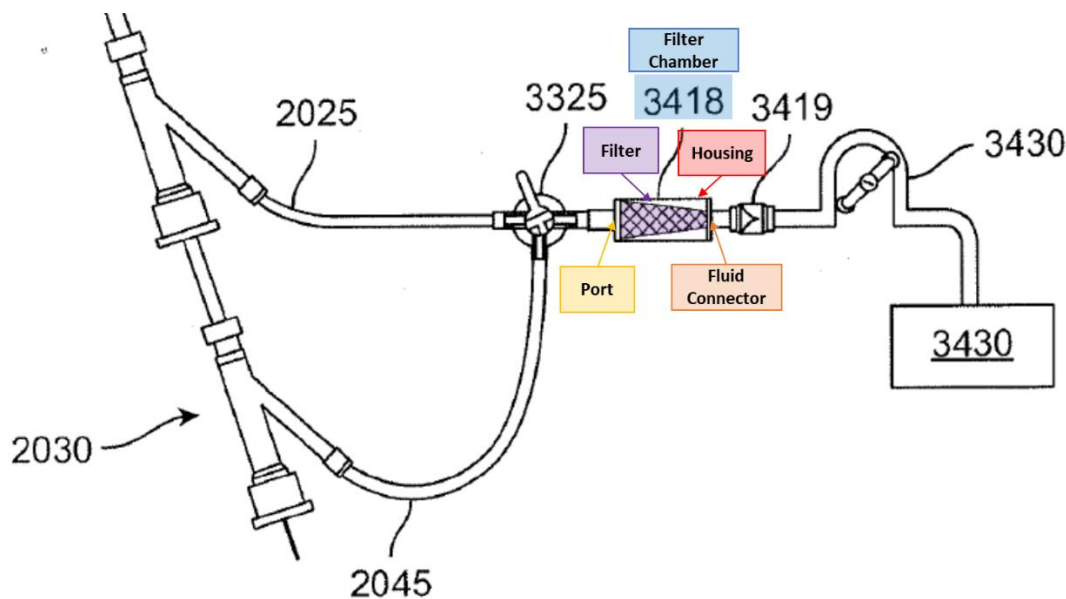
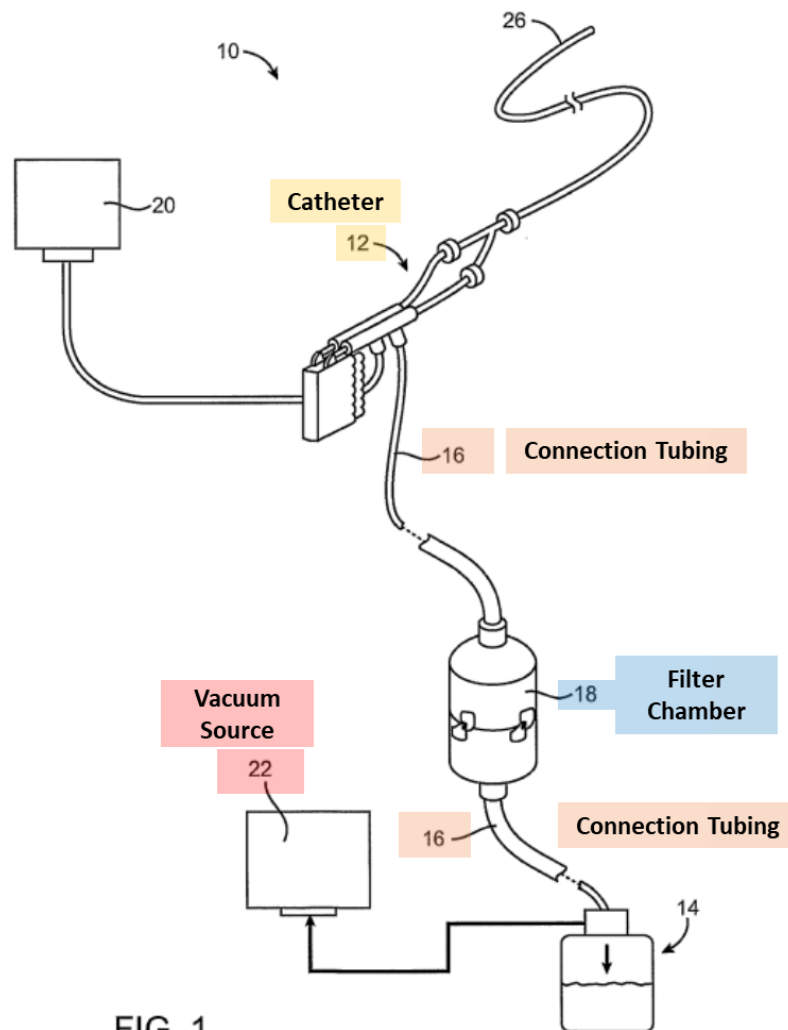


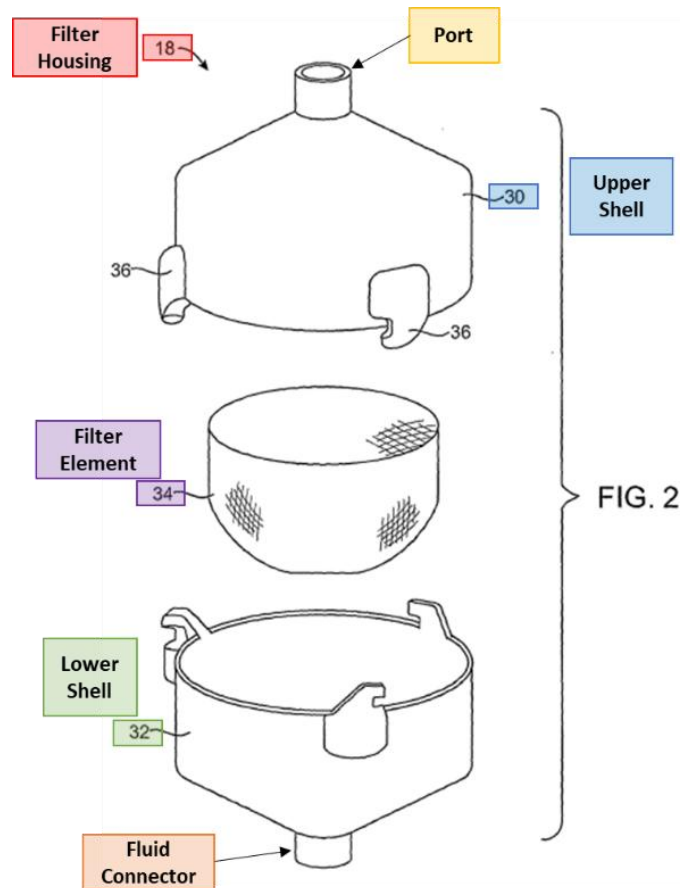
FIG. 34

(Ex. 1006, Fig. 34 (excerpt).) Such ports and fluid connectors are necessary because without them, aspirated blood could not flow through the filter to separate the clot material from the aspirated blood.

Like Garrison, **Goff**, a 2006 patent publication, discloses an aspiration system having a filter chamber:



(Ex. 1005, Fig. 1.) Goff's filter chamber includes the claimed filter elements, including a housing [red], a port [yellow], a fluid connector [orange], and a filter within the housing [purple]:

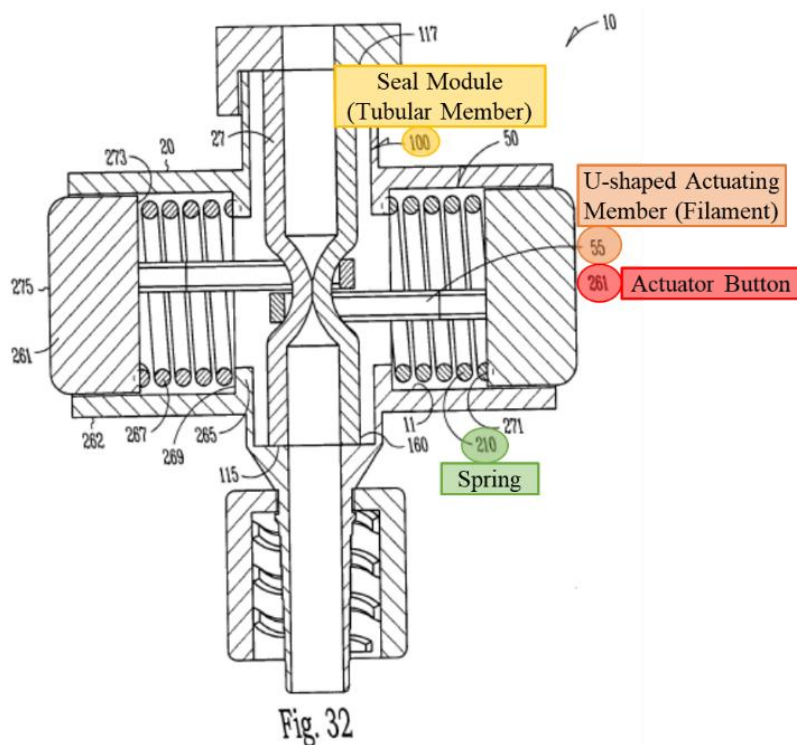


(Ex. 1005, Fig. 2.) Goff expressly discloses that the filter housing includes “conventional connectors to permit connection at an upper end to the aspiration catheter and at a lower end to the aspirate receptacle.” (*Id.*, [0015].) Thus, Garrison alone or in combination with Goff renders the challenged claims unpatentable.

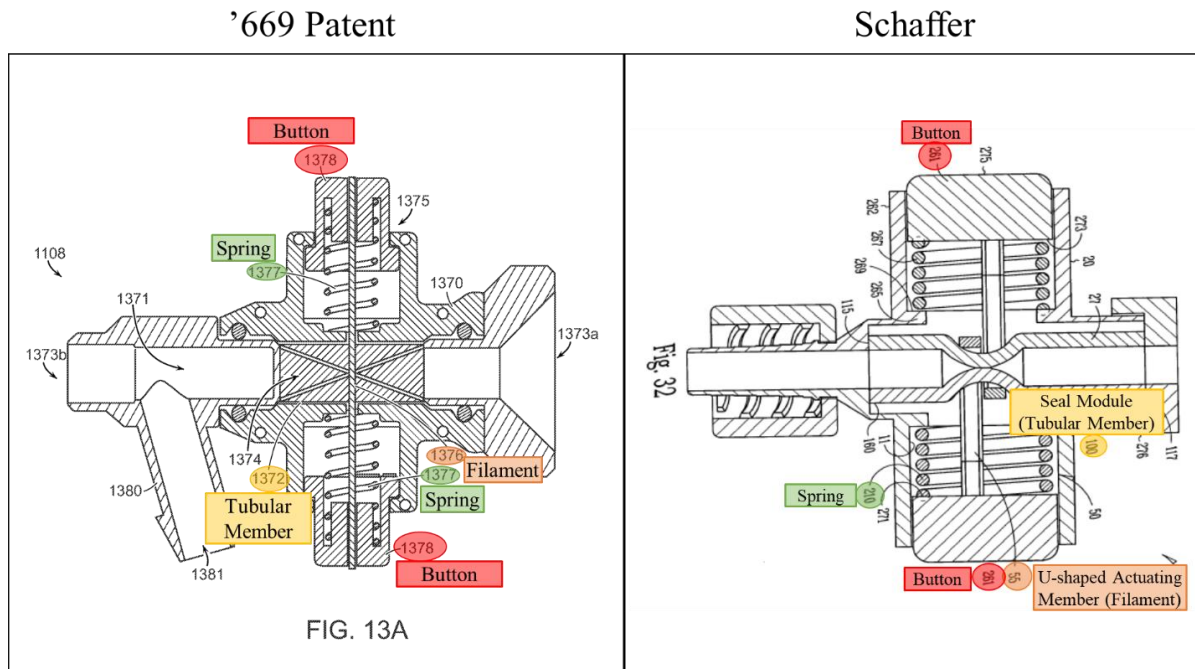
Dependent Claims 12 and 26-28 of the '669 patent recite additional features of the system's hemostasis valve, including a tubular member, a button, a spring

coupled to the button, and a filament coupled to the button and tubular member. These limitations are similar to the limitations at issue in several instituted IPRs, such as U.S. Patent Nos. 11,697,011 (“the ’011 patent,” Ex. 1021), 11,697,012, 11,844,921, and 11,865,291. In the institution decision for the ’011 patent, for example, the Board preliminarily determined that the prior art relied upon in this IPR (Schaffer and Hartley) likely anticipated these limitations or rendered them obvious. (Ex. 1024, 32-33, 41.)

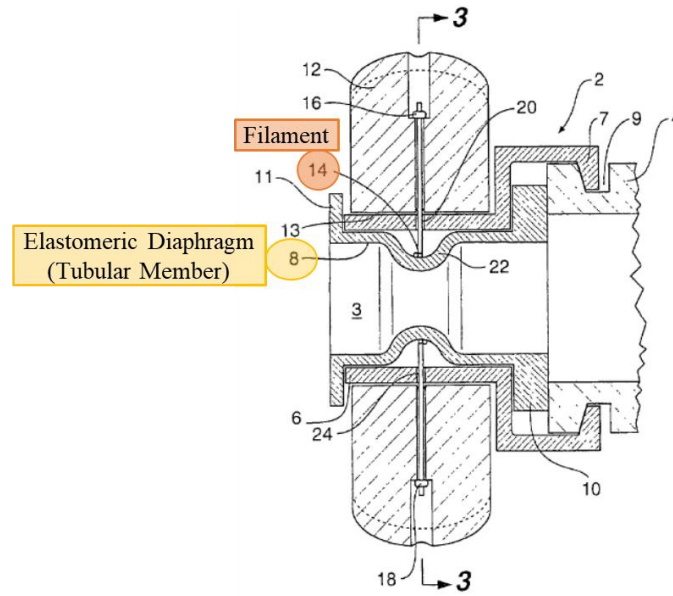
One of the prior art references cited by the Board in the ’011 Patent IPR is **Schaffer**, a 2003 patent publication. Shaffer describes a hemostasis valve having a tubular member, a button, a spring, and a filament coupled to the button and tubular member for constricting and sealing the valve:



(Ex. 1007, Fig. 32.) As illustrated below, Schaffer's valve has the same components, in the same arrangement, as the valve described in Claims 12 and 26-28 of the '669 patent:



Hartley, a 2003 patent publication, also describes a hemostasis valve having a filament that constricts the tubular member to seal the valve:



(Ex. 1008, [0031], Fig. 3.) If Schaffer does not disclose the “filament” required by Claims 12 and 26-28, a person of ordinary skill in the art (“POSITA”) would have found it obvious to replace Schaffer’s actuating members with the filament in Hartley for the reasons discussed herein. The Board preliminarily addressed the combination of Schaffer and Hartley in the ’011 Patent IPR, finding that “Petitioner advances multiple reasons why the skilled artisan would have been motivated to combine Schaffer and Hartley with a reasonable expectation of success.” (Ex. 1024, 33-41.)

As demonstrated below, the challenged claims merely recite known clot treatment components used according to their conventional functions for predictably aspirating clots. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007). Thus, the prior art grounds identified in this Petition show a reasonable likelihood that one or

more claims of the '669 patent are unpatentable. Accordingly, Petitioner requests that the Board institute this IPR to reconsider the patentability of the '669 patent.

II. THE '669 PATENT

A. Overview

The '669 patent describes a retrieval system for engaging and removing clot material from a blood vessel. (Ex. 1001, 3:53-56.) The '669 patent alleges that the system can treat various clots, including pulmonary embolisms (“PE”) and cerebral embolisms. (*Id.*, 4:4-10.) The “clot retrieval system 1” includes a “retraction and aspiration device 100 (‘RA device 100’),” “catheter system 200,” and “tubing system 300.” (*Id.*, 4:45-48.) In some embodiments, “catheter system 200” may comprise a “guide catheter 206” and “delivery sheath 204,” which “individually comprise an elongated shaft” [orange]. (*Id.*, 5:10-20.) The system also includes an “attachment/valve member 208” [yellow] that can “secure the catheter 200 to the RA device 100” and “can fluidly couple an aspiration lumen of the catheter system 200 [...] to the tubing system 300”:

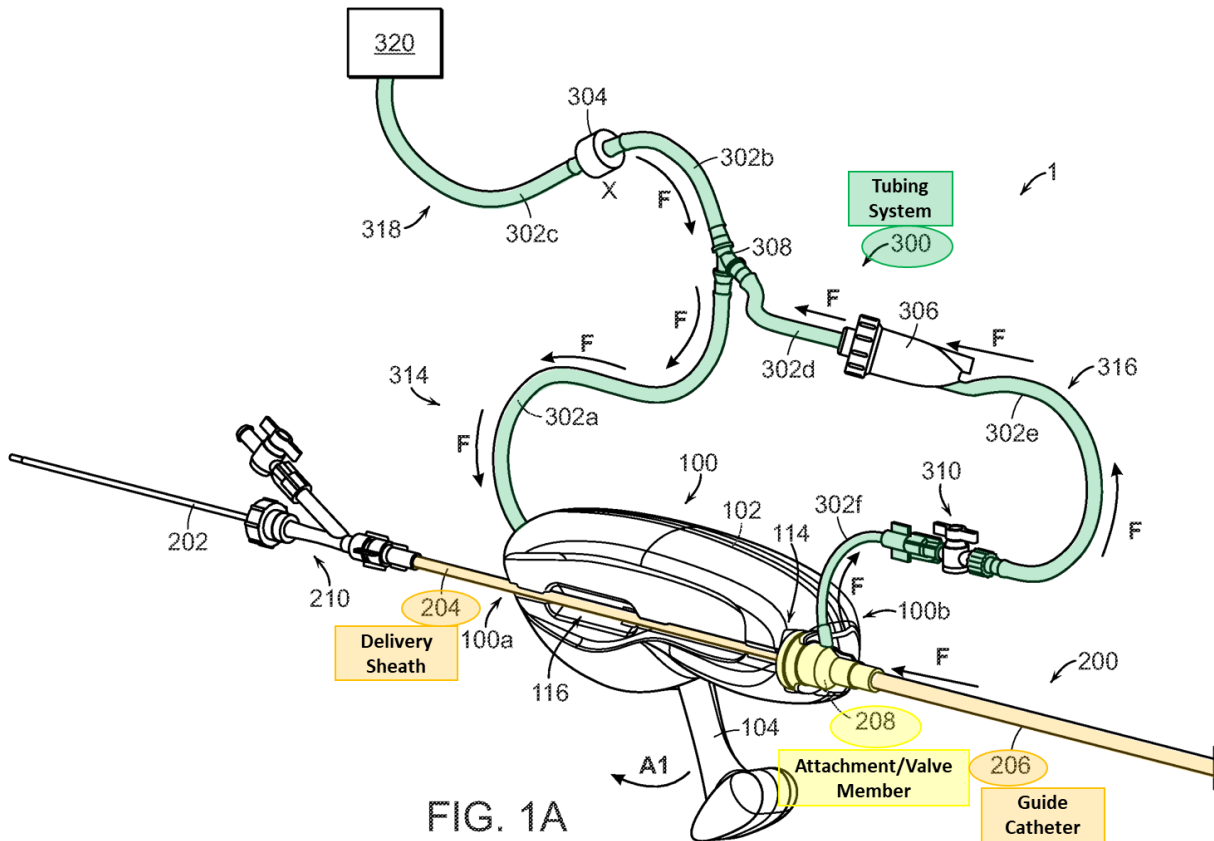


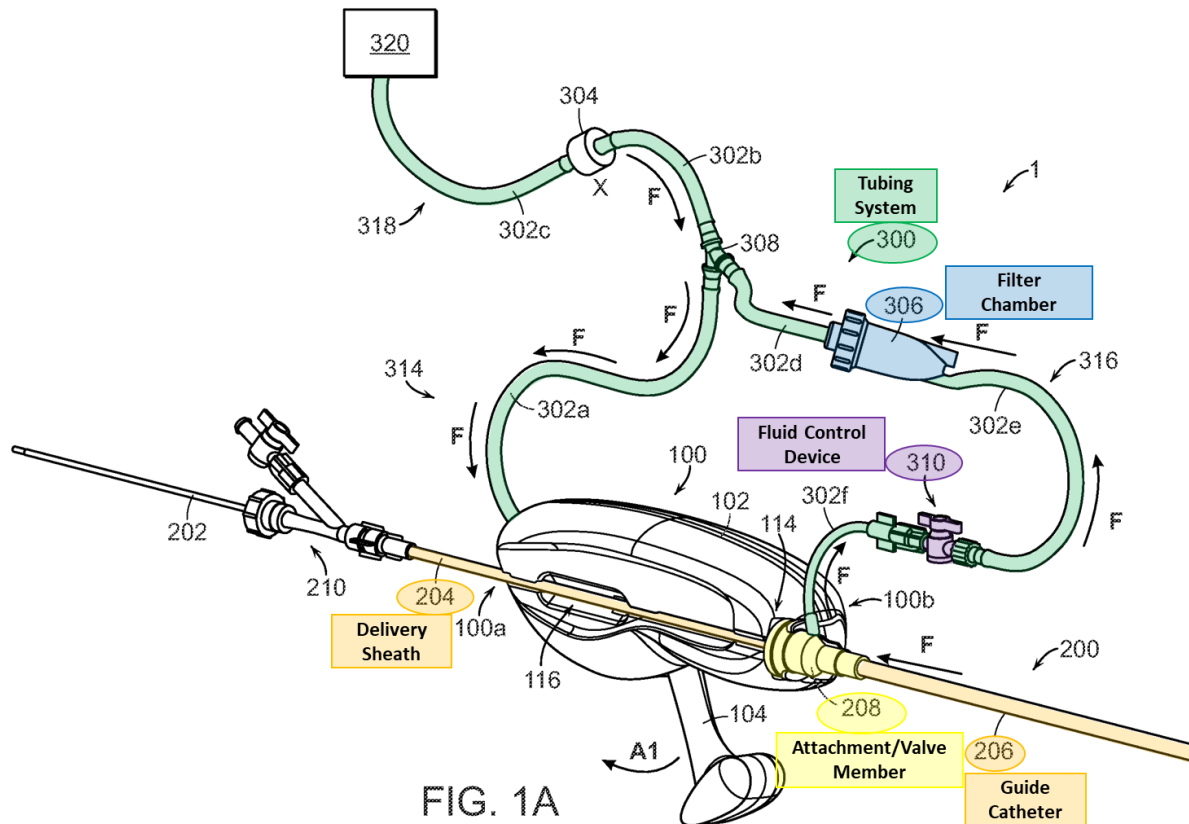
FIG. 1A

(*Id.*, 5:10-6:23; Fig. 1A)

The '669 patent explains “tubing system 300 of the clot retrieval system 1 fluidly couples the pressure source of the RA device 100 to the aspiration lumen of the catheter system 200.” (*Id.*, 6:53-55.) The patent explains that the pressure source is “obscured in FIGS. 1A and 1B; e.g., a syringe” and that the actuating mechanism including lever 104 is “configured to generate negative and/or positive pressure.” (*Id.*, 6:4-7.)

The tubing system 300 can comprise a “first portion 314” coupled to the pressure source, and a “second portion 316.” (*Id.*, 6:60-63.) Second portion 316 comprises “clot reservoir 306” [blue] and “second fluid control unit 310” [purple]

which may “be a stopcock or a clamp that is externally operated to regulate the flow of liquid through the second portion 316 of the tubing system 300”:



(*Id.*, 7:8-23, Fig. 1A.)

The “clot reservoir 306 includes a housing 322” [blue] and “a filter 321 [brown] configured to be positioned within the housing 322”:

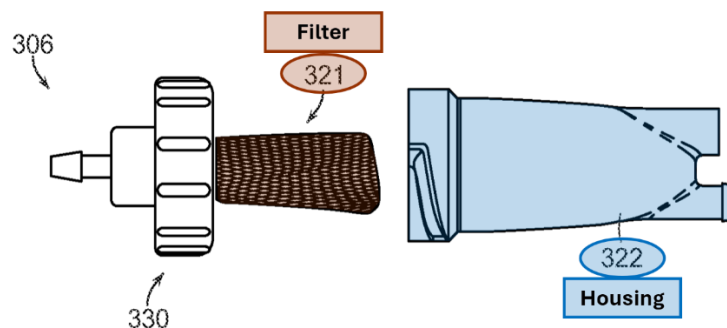


FIG. 3C

(*Id.*, 8:62-9:1; Fig. 3C.) The housing can also include a “port 324 [orange] configured to be removably, fluidly coupled to the catheter system 200” and a “fluid connector (e.g., barbed outlet) 332 [green] for connecting to the tubing system 300”:

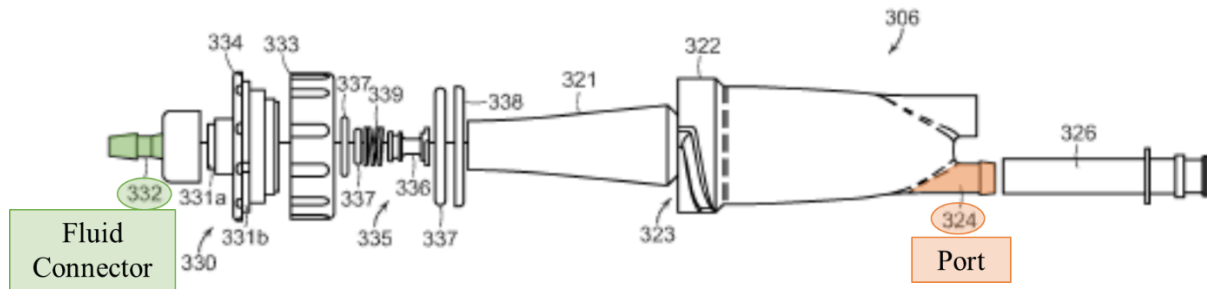


FIG. 3A

(*Id.*, 9:1-15, Fig. 3A.)

The '669 patent explains that the attachment member 208 “can be, for example, a hemostasis valve configured to maintain hemostasis [...] as the delivery sheath 204, [...] and/or other components of the catheter system 200 are inserted through the valve 445.” (*Id.*, 10:59-11:2; Fig. 7A.) The '669 patent describes a valve having a “tubular member (e.g., an elongate member) 1372” that extends through the valve. (*Id.*, 17:64-18:6.) The tubular member has a “thin-walled compliant tubular structure” that facilitates “the uniform collapse of the tubular member 1372 and the sealing of the tubular member 1372”:

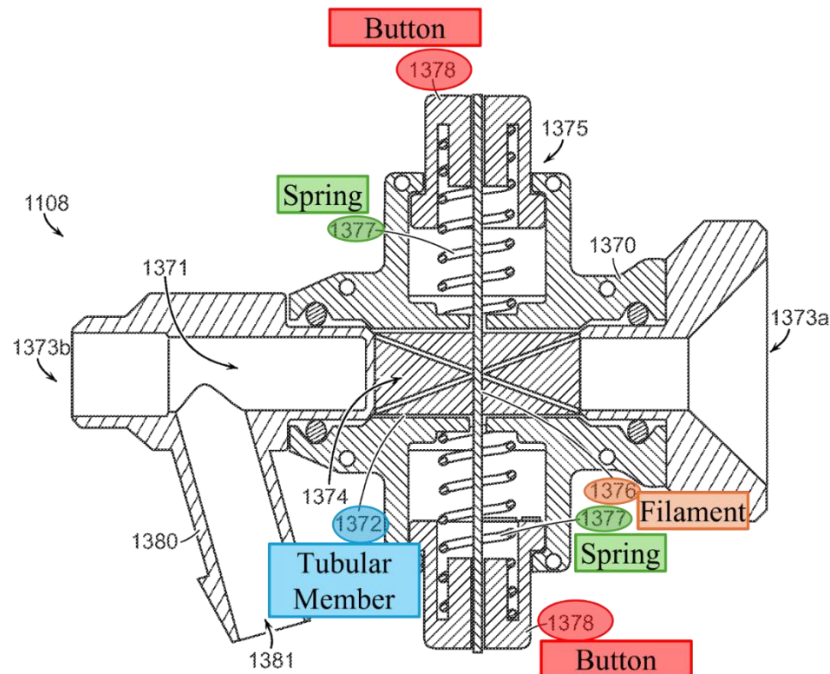


FIG. 13A

(*Id.*, 17:67-18:6, Fig. 13A.)

The valve also includes an “actuation mechanism 1375” that can “collapse and seal the tubular member 1372 via compression and/or constriction of one or more filaments 1376[.]” (*Id.*, 18:6-11.) The actuation mechanism “can be a manual actuator such as one or several buttons 1378.” (*Id.*, 18:12-14.) The “actuation mechanism 1375 can tighten the filament 1376 to constrict or compress the tubular member 1372 to seal the central lumen 1374 of the tubular member 1372.” (*Id.*, 18:27-30.) The valve also includes a bias feature, such as a spring, that biases the actuator toward the closed configuration. (*Id.*, 18:24-32.)

The '669 patent also describes “an interventional device ID, such as a clot removal and/or clot treatment device” [blue], which can be “housed within delivery

sheath 204 [orange]” and “positioned at least partially within the clot material PE” [pink]:

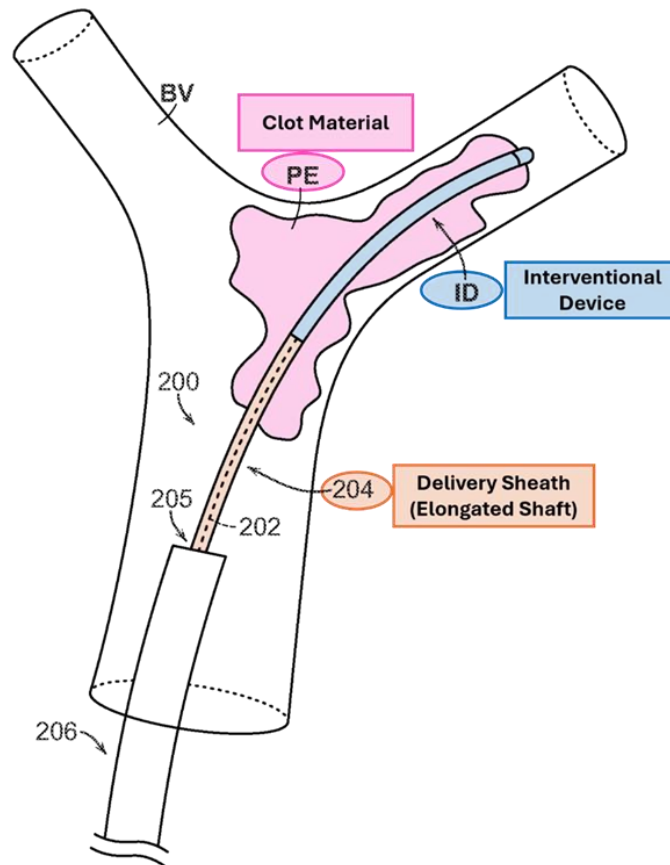


FIG. 2A

(*Id.*, 5:29-31; Fig. 2A.) The interventional device can help grab the clot to facilitate its removal. (*Id.*, 5:53-67.)

B. Prosecution History

The Examiner issued a single, non-final rejection during prosecution. In the rejection, the Examiner rejected claim 10 as indefinite and stated that claims 1-9 and 11-22 were allowable. The Examiner found that Quick (US 2015/0352325, Ex.

1029) was the best reference but did not disclose the filter chamber and hemostasis valve limitations. (Ex. 1002, 319-320.)

C. Earliest Possible Priority Date

The '669 patent claims priority to a provisional application 62/622,691, filed January 26, 2018, which is the earliest possible priority date for the '669 patent. (Ex. 1001.) Petitioner applies this earliest priority date in this Petition but reserves its right to challenge the priority date in subsequent proceedings.

III. LEVEL OF ORDINARY SKILL

A POSITA in January 2018 would have had an undergraduate degree in mechanical engineering or a related engineering discipline and 2-4 years of catheter design experience and, where necessary, would have consulted with a physician regarding the methods of treatment. (Ex. 1003, ¶34.)

IV. CLAIM CONSTRUCTION

The claim terms should receive their ordinary and customary meaning as understood by a POSITA at the time of filing and in accordance with the specification and the prosecution history. 37 C.F.R. §42.100(b); *see Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005). However, “the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess [and i]n such cases, the inventor's lexicography governs.” *Id.* at 1316.

Claims 12 and 26-28 of the '669 patent require a hemostasis valve having “a *filament* coupled to the button and the tubular member[.]” As it argued in several prior IPRs and the Litigation, Petitioner believes that a POSITA would have understood the claim term “filament” to mean at least “one or more threads, lines, cords, ropes, ribbons, flat wires, sheets, or tapes.” (Ex. 1003, ¶¶50-74.)

The Board has preliminarily addressed the construction of “filament” in five pending IPRS. (*See* Exs. 1024-1028; Ex. 1003, ¶¶53-60 (summarizing decisions).) The claims in the '669 patent reciting a “filament” most closely resemble the claims of the '011 patent. In that IPR, the Board preliminarily determined that “filament” encompasses Petitioner’s construction of at least “one or more threads, lines, cords, ropes, ribbons, flat wires, sheets, or tapes.” (Ex. 1024, 13.) The Board also preliminarily rejected PO’s argument that the Board should import the term “flexible” into its “filament” construction. (*Id.*, 15.)

The Board preliminarily reached a different construction in the '012 patent IPR. (Ex. 1025, 15.) The present claims are distinguishable from the '012 patent claims because they do not require the filament to form a “loop.” (*Id.*) Rather, the claims merely require pressing a button on the hemostasis valve “to loosen the filament” and moving the button to a first position to “tighten the filament.” The term “loosen” merely means “to release from restraint,” which would encompass rigid or flexible filaments. (Ex. 1003, ¶73; Ex. 1015.) The term “tighten” means

“to make tight or tighter,” which similarly encompasses rigid or flexible filaments. (Ex. 1003, ¶73; Ex. 1014.)

Thus, the claim language does not provide a POSITA with guidance on the meaning of “filament.” (Ex. 1003, ¶62.) Likewise, the ’669 specification does not provide any further detail on the structure or materials of the “filament.” (*Id.*, ¶63.) However, the ’669 patent purports to incorporate by reference descriptions of hemostasis valves having filaments from U.S. Provisional Patent Application No. 62/554,931.¹ (Ex. 1001, 17:41-47; hereinafter, the “’931 application”, Ex. 1019.)

Like the ’011 and ’012 patents, the ’931 application states, “the filament 150 can comprise one or several threads, lines, cords, rope, ribbon, flat wire, sheet, or tape.” (Ex. 1019, [0046].) The application also states, “the filament can be made from a variety of materials including, for example, a polymer, a synthetic, and/or a metal.” (*Id.*) The application further states, “the filament can comprise a single strand such as, for example, a monofilament, [or] the filament can comprise a plurality of strands that can be, for example, twisted, woven, grouped, and/or fused to form the filament.” (*Id.*) Additionally, the ’931 application explains that “the filament 150 can comprise multiple filaments, and specifically, as shown in Figures 7 through 9, the filament 150 can comprise a first filament 150-A and a second

¹ Petitioner reserves its right to challenge in future proceedings whether PO has effectively incorporated by reference.

filament 150-B.” (*Id.*, [0064].) In view of these descriptions, a POSITA would have understood “filament” to mean at least “one or more threads, lines, cords, ropes, ribbons, flat wires, sheets, or tapes.

In the co-pending litigation, the parties also proposed constructions for additional terms in the challenged claims:

Term	Petitioner’s Proposed Construction	PO’s Proposed Construction
Interventional device (claims 1, 5, 12, 15, 19, 26-27)	A device that extends beyond the distal end of the catheter or elongated shaft to engage clots in the blood vessel	Device advanced to clot to physically engage with clot to capture, loosen, and/or break up clot
Proximal (claims 1, 10, 15)	closer to the operator than the distal portion	Positioned closer along the fluid path to the operator and/or the pressure/ aspiration source; opposite of distal
Distal (claims 11, 25)	further from the operator than the proximal portion	Positioned farther away along the fluid path from the operator and/or the pressure/aspiration source; opposite of proximal

However, the Court vacated the case schedule before the Parties submitted claim construction briefs, or the Court construed any terms. Petitioner does not believe the differences between the Parties’ proposed claim constructions effect the unpatentability grounds herein; the prior art discloses the limitations under Petitioner’s and PO’s constructions. Thus, Petitioner does not believe any other terms require construction to resolve the patentability issues in this IPR.

V. STATEMENT OF RELIEF REQUESTED

A. IPR Grounds

Petitioner asserts the following grounds of unpatentability:

Ground	Reference(s)	Basis	Challenged Claims
1	Garrison	§102	1-5, 10-11, 14-19, 24-25, 30
2	Garrison	§103	1-5, 8, 10-11, 14-19, 22, 24-25, 30
3	Garrison + Goff	§103	1-5, 8, 10-11, 14-19, 22, 24-25, 30
4	Garrison + Brady	§103	14, 30
5	Garrison + Goff + Brady	§103	14, 30
6	Garrison + Pons	§103	14, 30
7	Garrison + Goff + Pons	§103	14, 30
8	Garrison + Schaffer	§103	12, 26-28
9	Garrison + Goff + Schaffer	§103	12, 26-28
10	Garrison + Schaffer + Hartley	§103	12, 26-28
11	Garrison + Goff + Schaffer + Hartley	§103	12, 26-28

The Petition is supported by the expert declaration of Troy Thornton (Ex. 1003).

B. The Asserted References Are Prior Art

The following references are prior art under at least 35 U.S.C. §102(a)(1):

- (1) Goff (Ex. 1005) published November 23, 2006;
- (2) Garrison (Ex. 1006) published June 25, 2015;
- (3) Schaffer (Ex. 1007) published December 4, 2003; and
- (4) Hartley (Ex. 1008) published June 26, 2003.

Brady (Ex. 1010) published on February 1, 2018 and was filed on July 25, 2017. Brady claims priority to U.S. Provisional Application No. 62/474,383 (Ex. 1022), which was filed on March 21, 2017 and includes the same disclosure as Brady. (*Id.*) Brady is therefore prior art under at least 35 U.S.C. §102(a)(2).

Pons (Ex. 1011) issued on September 6, 2022 and was published on December 13, 2018. Pons claims priority to U.S. Provisional Application No. 62/516,582 (Ex. 1023), which was filed on June 7, 2017 and includes the same disclosure as Pons. (*Id.*) Pons is therefore prior art under at least 35 U.S.C. §102(a)(2).

C. The Asserted References Are Analogous Art

The asserted references are analogous art that is usable in an obviousness combination. *Unwired Planet, LLC v. Google Inc.*, 841 F.3d 995, 1000 (Fed. Cir. 2016). The references are from the same field as the '669 patent, e.g., devices for aspirating unwanted material from a patient, and hemostasis valves for use during such procedures. (Ex. 1003, ¶38.) The references are also pertinent to the problem

the inventor was focused on, e.g., removing clots, emboli, and thrombi from a patient's blood vessel, and sealing a catheter during intravascular procedures to minimize blood leaks. (*Id.*) Accordingly, a POSITA is presumed to have been aware of these references and the teachings may be combined to support an obviousness rejection. *In re Nilssen*, 851 F.2d 1401, 1403 (Fed. Cir. 1988).

**VI. GROUNDS 1-2: CLAIMS 1-5, 8, 10-11, 14-19, 22, 24-25, 30
ANTICIPATED OR OBVIOUS IN VIEW OF GARRISON**

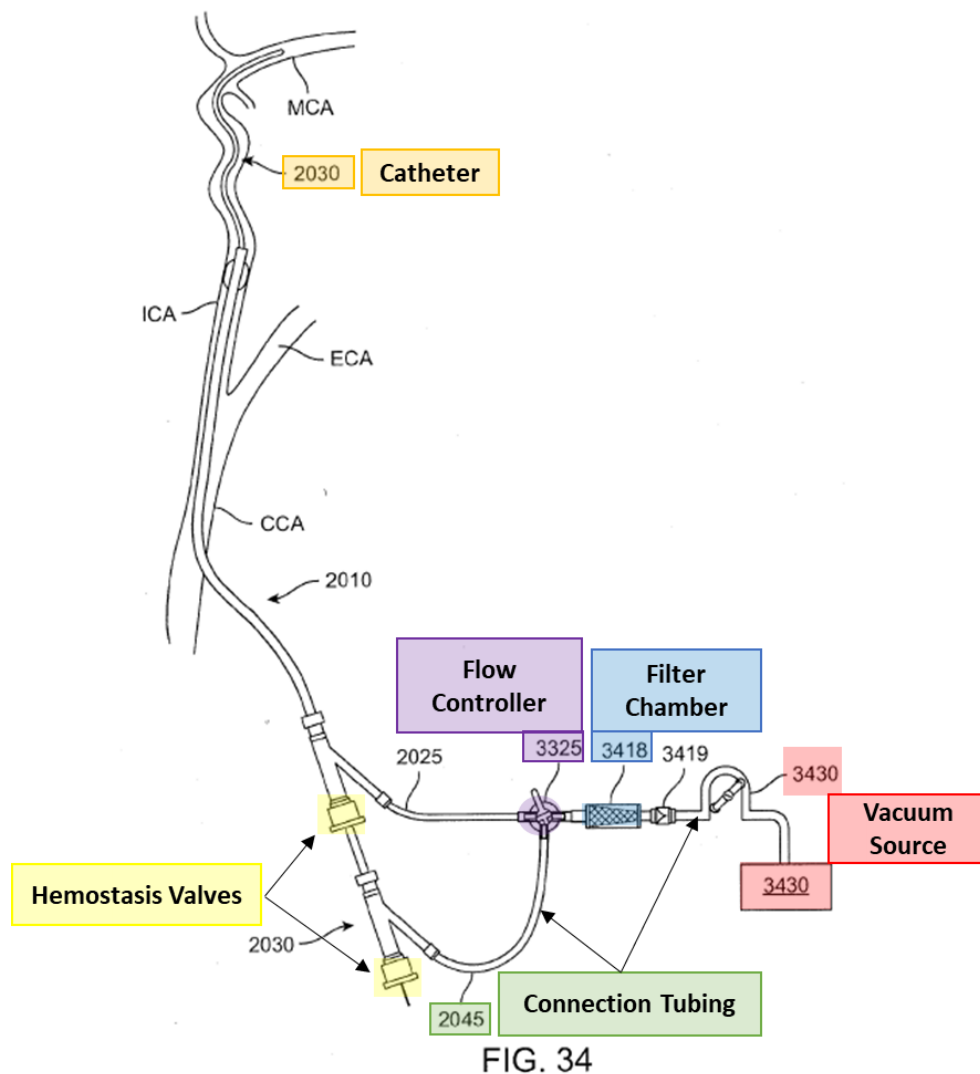
A. Claim 1

Claim 1 is anticipated or rendered obvious by Garrison. (Ex. 1003, ¶¶76-110.)

1. Preamble

If the preamble is limiting, Garrison discloses “an aspiration system.” (Ex. 1003, ¶¶77-78.)

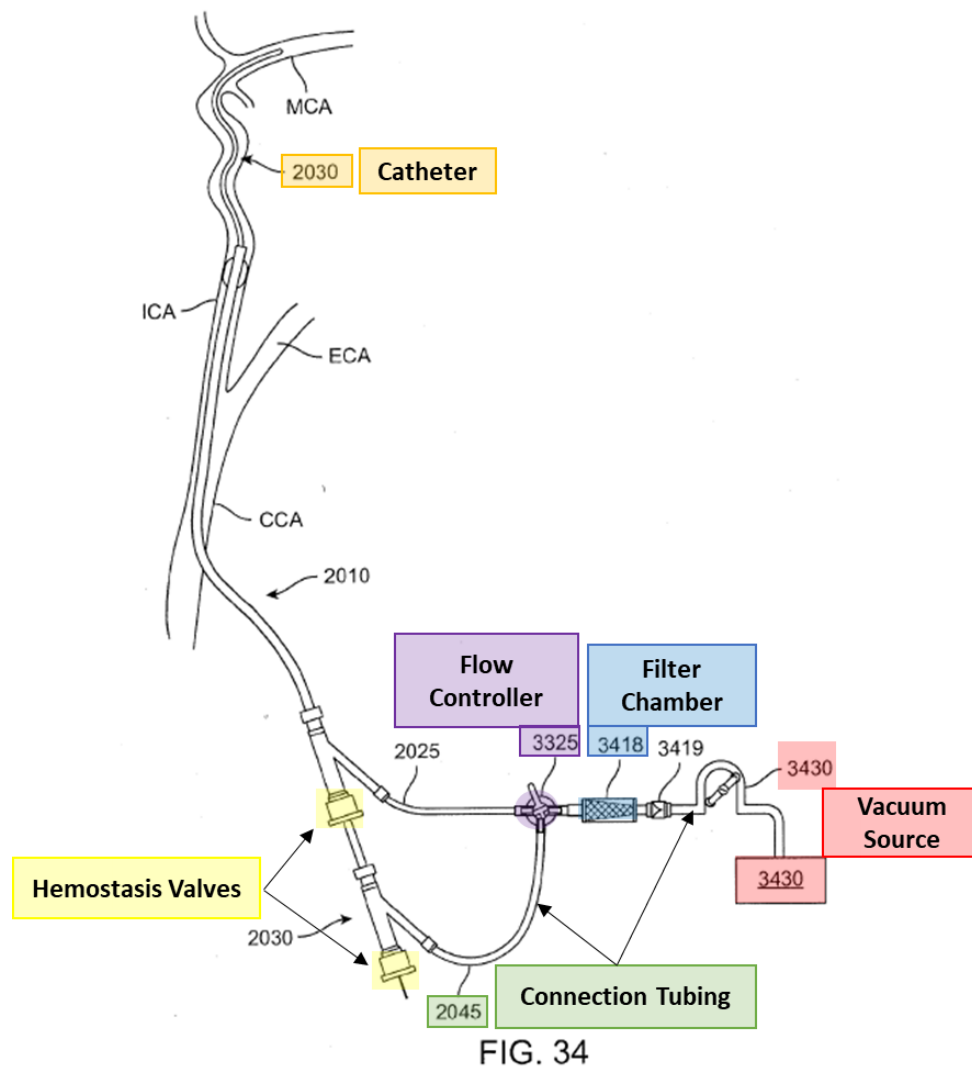
Garrison discloses systems to aspirate clots from a patient's vasculature. (Ex. 1006, abstract, [0007].) Figure 34 illustrates one embodiment having an aspiration catheter 2030 [orange] coupled to a vacuum source [red] via connection tubing [green] (flow line 2045):



(*Id.*, Fig. 34; *see also id.*, [0131]-[0134].) This embodiment also includes a flow controller [purple] and filter chamber [blue] along the flow path between the aspiration catheter and vacuum source. (*Id.*)

2. Vacuum Source

Garrison discloses “a vacuum source.” (Ex. 1003, ¶¶79-82.) Garrison’s system includes, for example, an aspiration source 3430 that is coupled to the aspiration catheter via flow line 2045 (connection tubing):

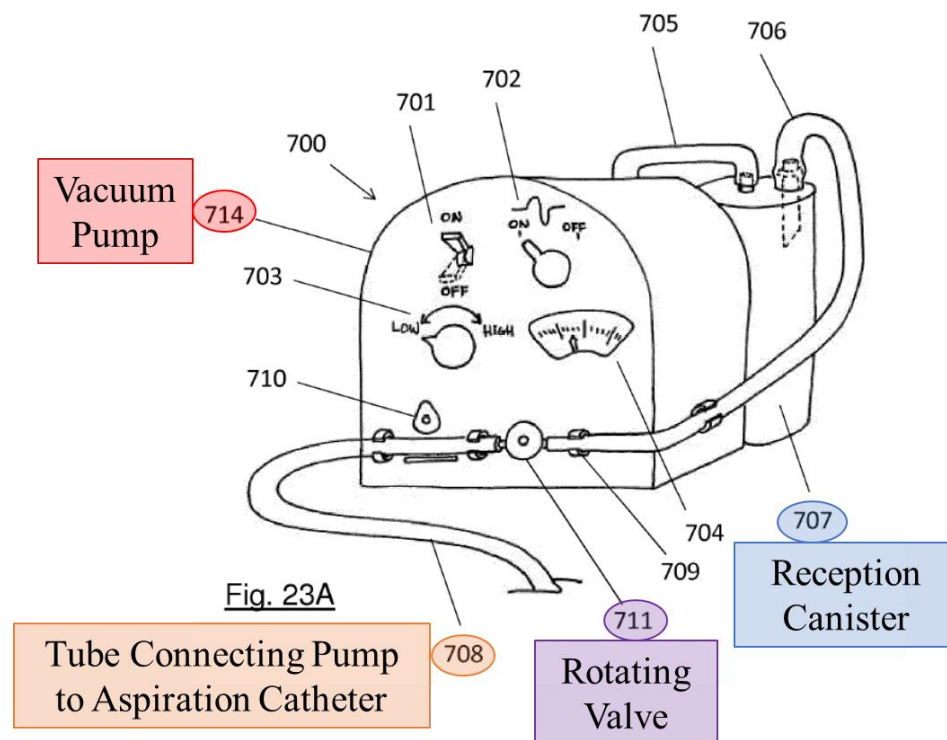


(Ex. 1006, [0132], Fig. 34.) Garrison’s aspiration source may be a “an aspiration pump, a regular or locking syringe, a hand-held aspirator, hospital suction, or the like.” (*Id.*, [0134].) Each exemplary aspiration source creates a vacuum to draw aspirated blood out of the patient and through the system. (Ex. 1003, ¶80.)

PO has argued in other IPRs that Garrison’s Figure 34 includes only a “peristaltic pump.” That is incorrect, as Garrison repeatedly identifies various types of aspiration sources. (*See* Ex. 1006, [0134].) In recent decisions granting

institution of two related IPRs, the Board preliminarily found that “Garrison teaches ... that several alternative aspiration sources may be used in its systems” and that “Garrison’s disclosure is ... not limited to use of syringes or even peristaltic pumps.” (Ex. 1045, 33-34; Ex. 1046, 36.) Further, Garrison references a “peristaltic pump” only once and explains that such pumps “are known to cause damage to blood cells.” (*Id.*, [0135].) Based on these descriptions, a POSITA would not have understood Garrison’s aspiration pump to be limited to a “peristaltic pump.” (Ex. 1003, ¶81; Ex. 1018, 114:12-115:19 (PO’s expert testifying that aspiration source in Figure 34 may be a syringe, centrifugal pump, or peristaltic pump).)

A POSITA would have been familiar with many types of aspiration pumps, such as the prior-art aspiration pump disclosed in Brady:

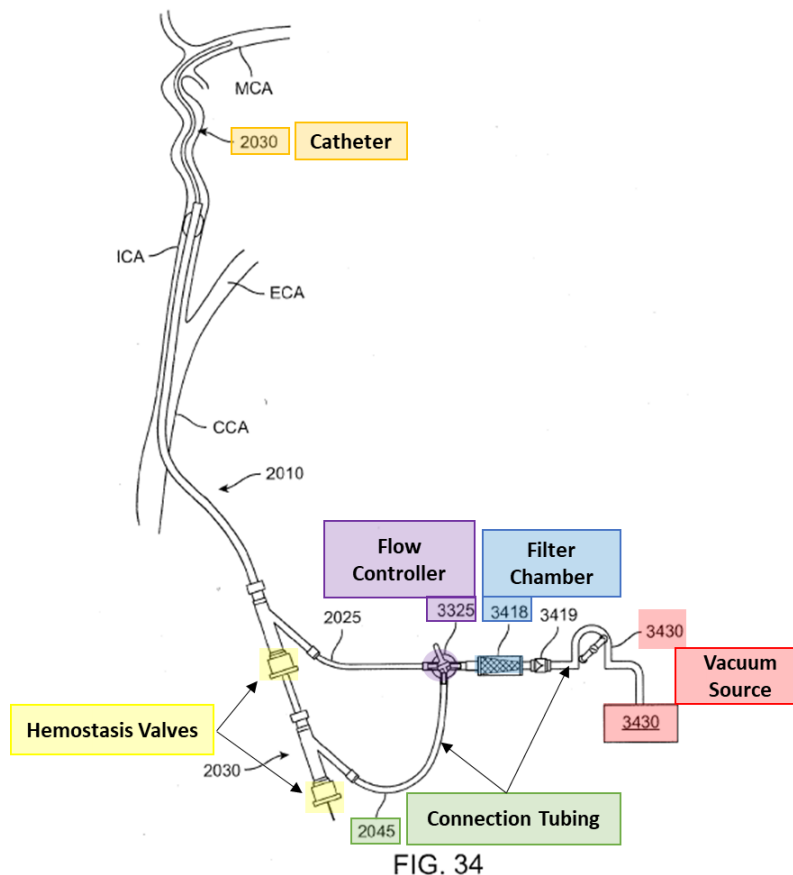


Ex. 1010, 21:16-32, Fig. 23A; Ex. 1003, ¶82.) A POSITA would have understood Garrison to encompass prior-art vacuum pumps like Brady based on Garrison’s broad disclosure of the permissible aspiration sources. (Ex. 1003, ¶82.) Thus, Garrison discloses a “vacuum source.” (*Id.*)

3. Catheter

Garrison discloses a “catheter fluidically coupled to the vacuum source.” (Ex. 1003, ¶¶83-84.)

Garrison’s system includes an aspiration catheter 2030 that is fluidically coupled to the vacuum source 3430 via the flow line 2045 (connection tubing):

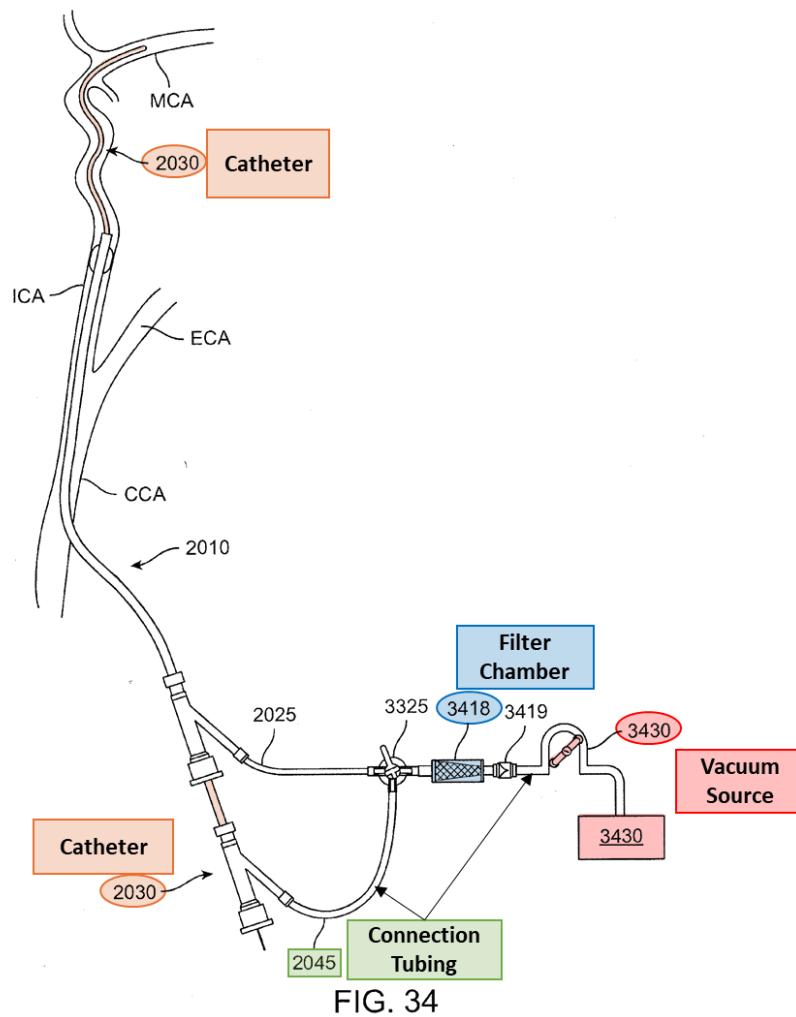


(Ex. 1006, [0130]-[0134], Fig. 34; Ex. 1003, ¶84.)

4. Filter Chamber

Claim 1 next recites “a filter chamber fluidically coupled to the connection tubing at a location apart from the vacuum source, wherein the filter chamber comprises a housing and a filter within the housing.” Claim 1 further recites that the filter housing includes: (1) “a port configured to be fluidically coupled to the catheter,” (2) “a fluid connector configured to be fluidically coupled to the connection tubing,” and (3) “wherein the filter is in the housing along a first fluid path, wherein the first fluid path fluidically couples the port and the fluid connector, and wherein the catheter is fluidically coupled to the vacuum source via the filter chamber along the first fluid path.” Garrison discloses these filter chamber limitations or renders them obvious. (Ex. 1003, ¶¶85-103.)

Garrison’s aspiration system includes a filter 3418 that is fluidically coupled to the connection tubing between the proximal end of the catheter 2030 and the vacuum source 3430:



(Ex. 1006, [0130]-[0134], Fig. 34.) Garrison’s filter 3418 includes a “filter chamber” that surrounds the filter. (Ex. 1003, ¶86.) As shown above, Garrison’s filter chamber is fluidically coupled to the connection tubing at a location apart from the vacuum source. (Ex. 1006, [0130]-[0134], Fig. 34; Ex. 1003, ¶86.)

a. Filter Within The Housing

As illustrated below, Garrison’s filter 3418 includes a housing [red] and a filter [purple] within the housing:

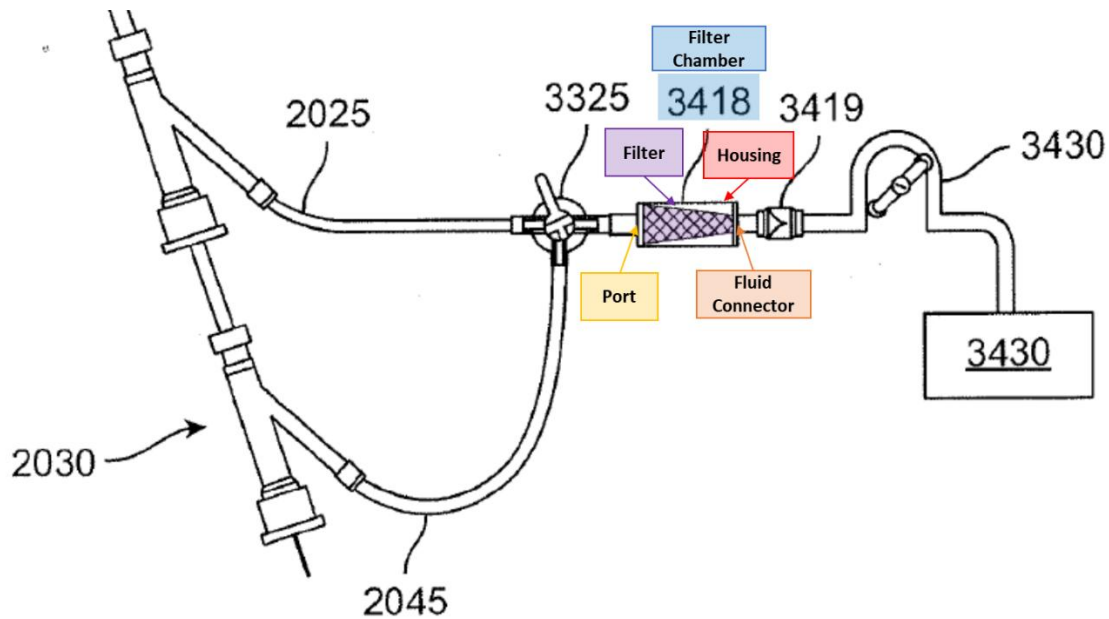


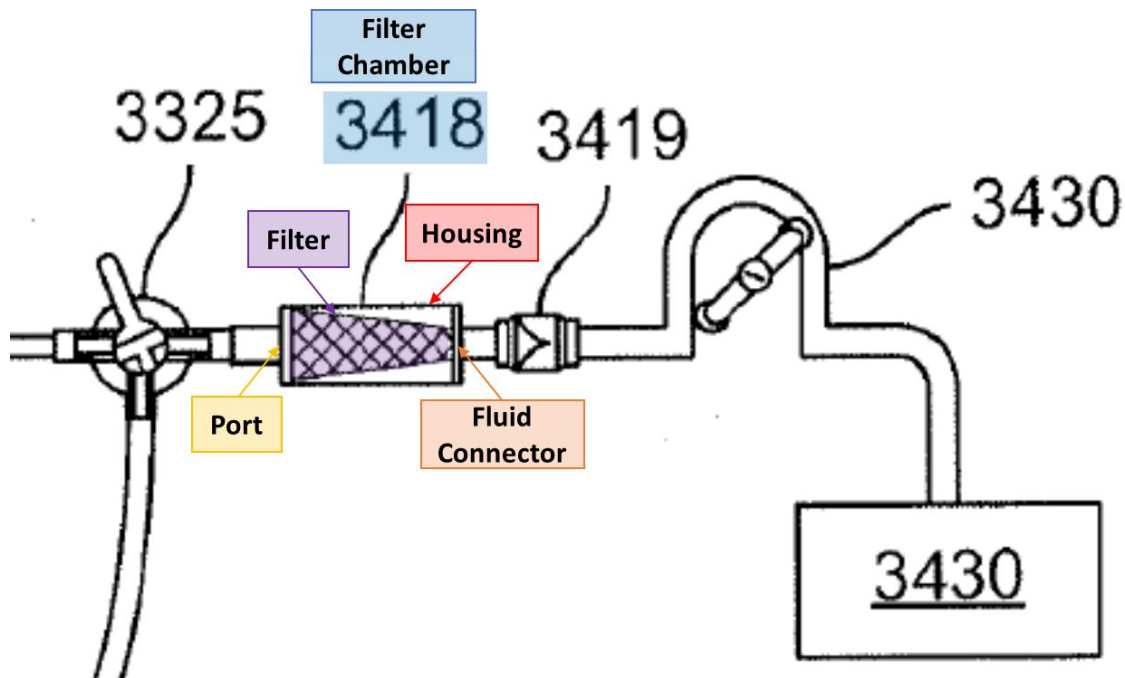
FIG. 34

(Ex. 1006, [0131], Fig. 34 (excerpt); Ex. 1003, ¶87.) While the housing is not specifically described in the text, Figure 34 shows the housing, and a POSITA would have understood that a filter housing must surround the filter to prevent blood from leaking out of the device. (Ex. 1003, ¶87.)

b. Port

Garrison discloses that the filter 3418 is “coupled with the flow line 2045.” (Ex. 1006, [0131].) A POSITA would have recognized that Garrison’s filter housing must necessarily include a port (opening) at its distal end to be “coupled with the flow line.” (Ex. 1003, ¶90; Ex. 1014, 3; Ex. 1043; Ex. 1018, 121:18-123:2 (PO’s expert admitting that Garrison’s filter requires openings on either end of its housing).) Without a port, aspirated blood could not flow through the tubing into

the filter, and the vacuum generated by the vacuum source could not reach the aspiration catheter. (Ex. 1003, ¶90.) In addition, Garrison’s Figure 34 illustrates a port that fluidly couples the filter to the aspiration catheter 2030 via the flow line 2045:



(Ex. 1006, [0131], Fig. 34 (excerpt); Ex. 1003, ¶91.)

If the Board finds that Garrison does not expressly or inherently disclose a “port,” a POSITA in January 2018 would have found it obvious to couple Garrison’s filter to the flow line using conventional connectors, such as Luer-type connectors (e.g., Luer slip and Luer lock) and barb connectors. (Ex. 1003, ¶92.) In fact, Garrison incorporates by reference patents and publications that describe connecting catheter components using “a conventional luer fitting” or improvements to such fittings. (Ex. 1031, [0130]; *see also* Ex. 1032, 8:45, 8:63 (describing an “auxiliary

Luer port”); Ex. 1033, [0056]-[0059] (describing improvements to the “standardized ... locking Luer taper design”).) All of these conventional connectors included openings (or ports) to permit fluid flow through the connector. (Ex. 1003, ¶92.) Therefore, a POSITA would have understood that a housing having conventional connectors includes a “port.”

A POSITA would have been motivated to use conventional connectors, such as Luer-type connectors, to couple Garrison’s filter chamber to the system for several reasons. First, conventional connectors, such as Luer-type connectors, allowed physicians to add off-the-shelf tubing and related components simply and quickly. (Ex. 1003, ¶93.) Physicians preferred this flexibility because different procedures and patient conditions may require fewer or additional components, as suggested by the many configurations disclosed in Garrison. (*Id.*) Physicians were motivated to remove unnecessary components from the procedure to save cost and reduce complexity and preferred easily removable components. (*Id.*)

Second, the conventional connectors came in standard sizes that made them compatible with other catheter-based medical components, such as tubing and valves. (*Id.*, ¶94.) Physicians preferred this compatibility because it increased the options available to the physician during a procedure and, thus, POSITAs were motivated to include these connectors with medical devices. (*Id.*)

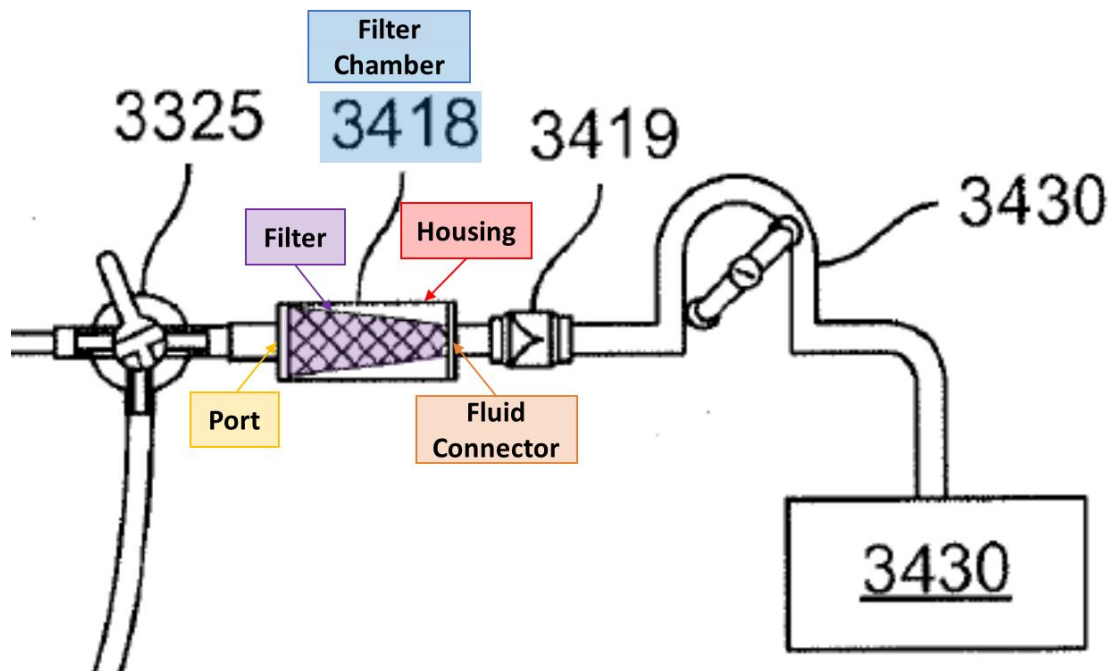
Third, physicians were familiar with the conventional connectors. (*Id.*, ¶95.) This familiarity meant physicians preferred the standard connectors, such as Luer-type connectors, because they reduced the risk of complications and increased the speed for assembling the systems. (*Id.*) The user preference would have motivated POSITAs to use conventional connectors on Garrison’s filter chamber. Moreover, POSITAs would have reasonably expected success in using these conventional, removable connectors, such as Luer-type connectors, with Garrison’s filter because the connectors were simple, widely used, and predictable. (*Id.*)

Fourth, combining conventional connectors with Garrison’s filter would have merely entailed the combination of known elements (conventional connectors and filter) according to known methods (coupling medical components with conventional connectors) to yield the predictable result of joining two medical components. *KSR*, 550 U.S. at 416; (Ex. 1003, ¶96.)

c. Fluid Connector

Garrison discloses that the filter 3418 is “coupled with the flow line 2045.” (Ex. 1006, [0131].) A POSITA would have recognized that Garrison’s filter housing would necessarily require a “fluid connector” at its proximal end to be “coupled with the flow line.” (Ex. 1003, ¶99; Ex. 1018, 121:18-123:2 (PO’s expert admitting that Garrison’s filter requires openings on either end of its housing).) Without such a connector, the filter could not be coupled to the tubing, and the vacuum pressure

could not reach the aspiration catheter. (Ex. 1003, ¶99.) In addition, Garrison’s Figure 34 illustrates a fluid connector that fluidically couples the filter to the vacuum source 3430 and tubing:

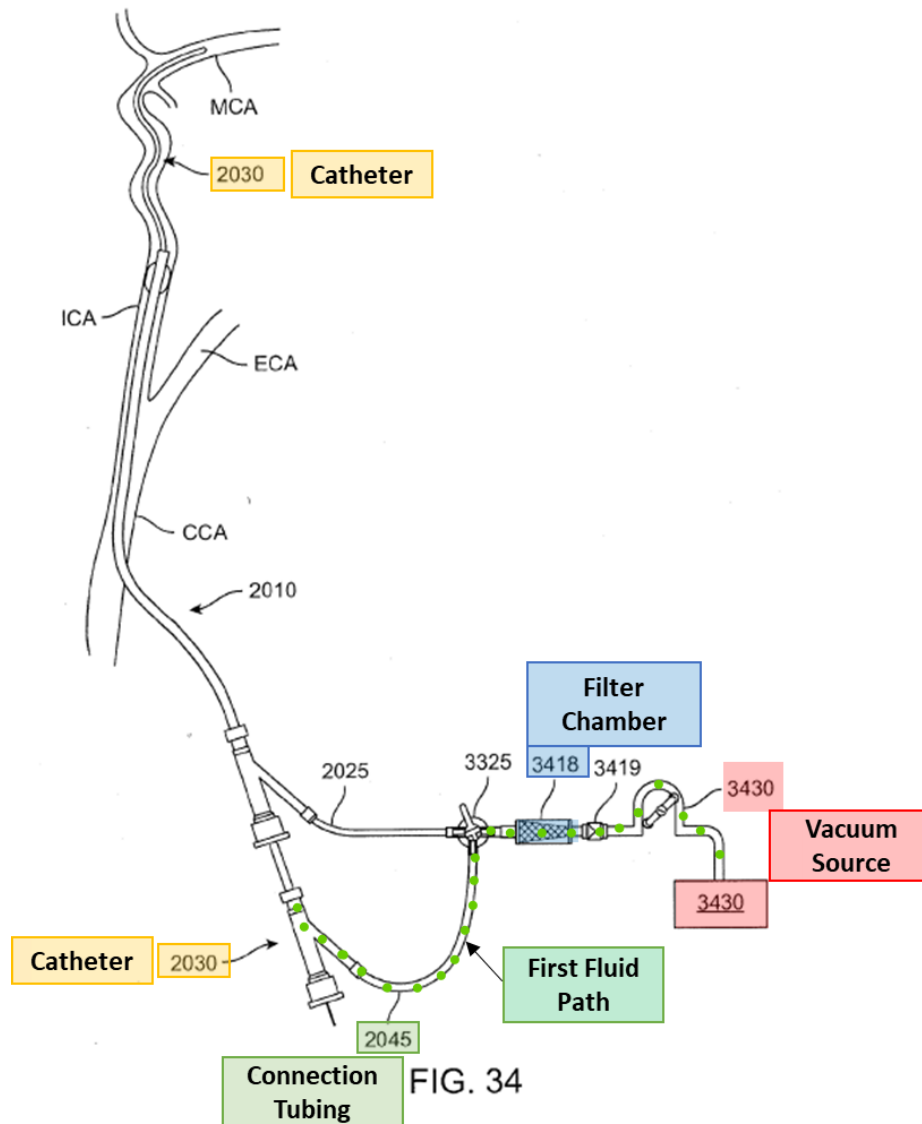


(Ex. 1006, [0131], Fig. 34 (excerpt); Ex. 1003, ¶100.)

If the Board finds that Garrison does not expressly or inherently disclose a “fluid connector,” a POSITA in January 2018 would have found it obvious to couple Garrison’s filter to the flow line 2045 using conventional connectors, such as Luer-type connectors (e.g., Luer slip and Luer lock) and barb connectors, for the reasons explained in the preceding section. (*Supra* §VI.A.4.b.) A POSITA would have understood that such conventional connectors constituted a “fluid connector” on the filter chamber because the connector would connect the filter to the tubing and permit fluid flow therethrough. (Ex. 1003, ¶101.)

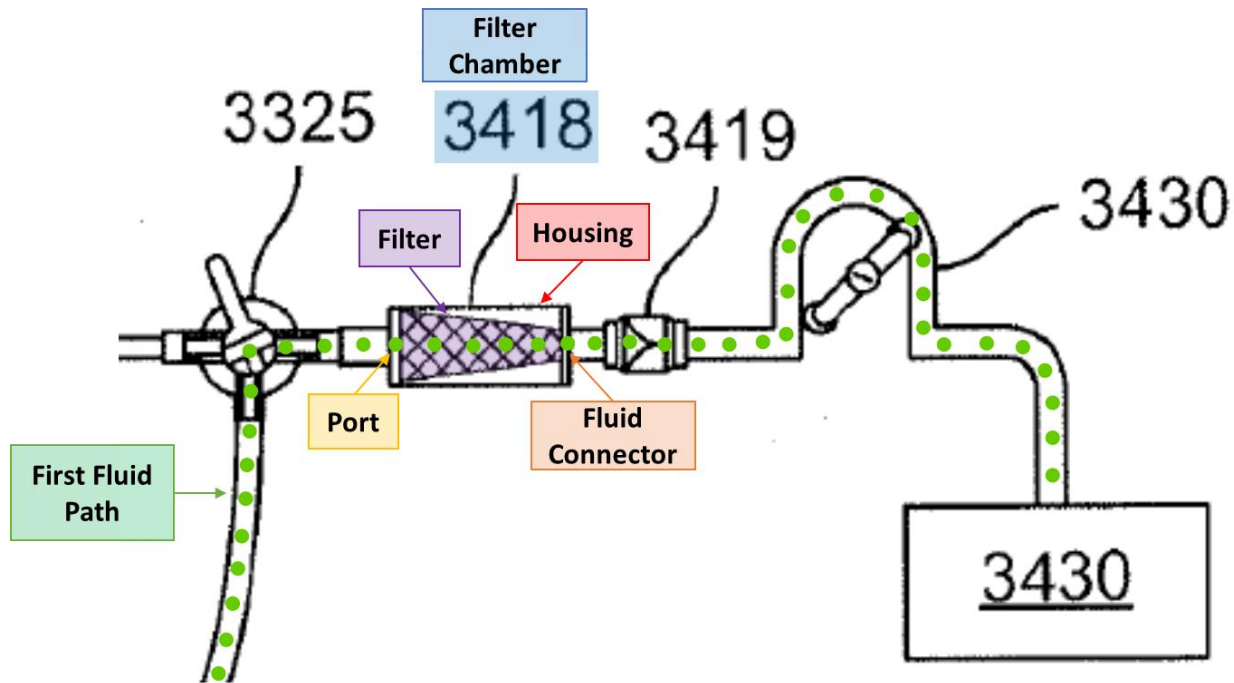
d. First Fluid Path

Garrison's filter 3418 is coupled to the aspiration system along a first fluid path that extends from the vacuum source to the distal tip of the aspiration catheter, illustrated by the green dots added to Figure 34 below:



(Ex. 1006, [0130]-[0134], Fig. 34; Ex. 1003, ¶102.) Accordingly, Garrison's aspiration catheter 2030 is coupled to the vacuum source via the filter 3418 (i.e., filter chamber) along the first fluid path. (Ex. 1003, ¶102.)

Garrison's first fluid path extends through the filter 3418, fluidically coupling the port on the distal end of the filter with the fluid connector on the proximal end:

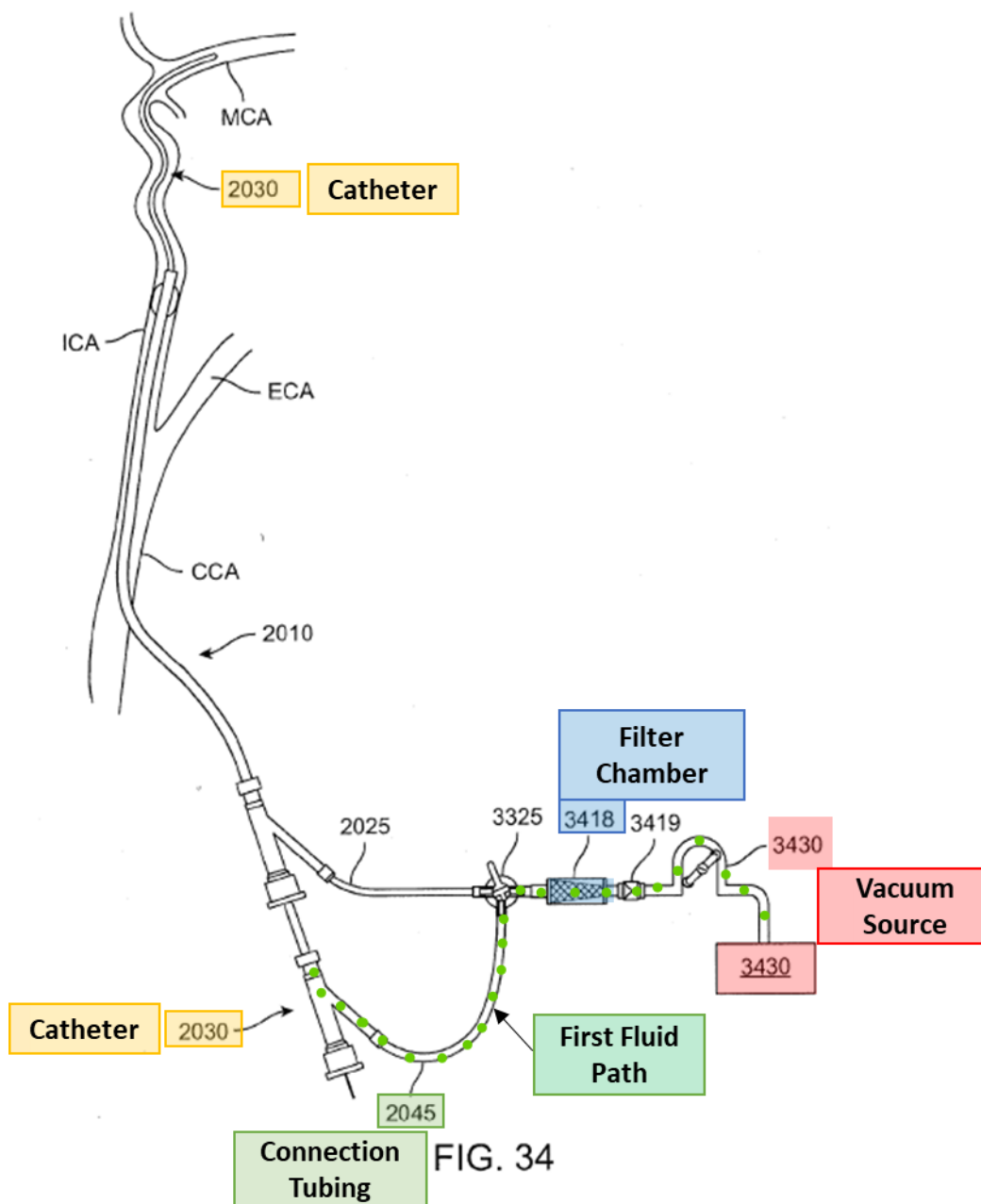


(Ex. 1006, [0130]-[0134], Fig. 34 (excerpt); Ex. 1003, ¶103.)

5. Flow Controller

Garrison discloses a “flow controller fluidically coupling the filter chamber to the catheter, wherein the flow controller is along the first fluid path between the filter chamber and the catheter.” (Ex. 1003, ¶¶104-105.)

Garrison's system includes a valve 3325 [purple] along the fluid path between the filter [blue] and the aspiration catheter [orange]:



(Ex. 1006, Fig. 34, [0131]-[0134].) Garrison discloses that the “valve 3325 controls which device is connected to the aspiration source 3430.” (*Id.*) In some embodiments, the “valve may be a 3-way or 4-way stopcock” and “enable[s] one device, the other device, both devices, or neither device to be connected to the

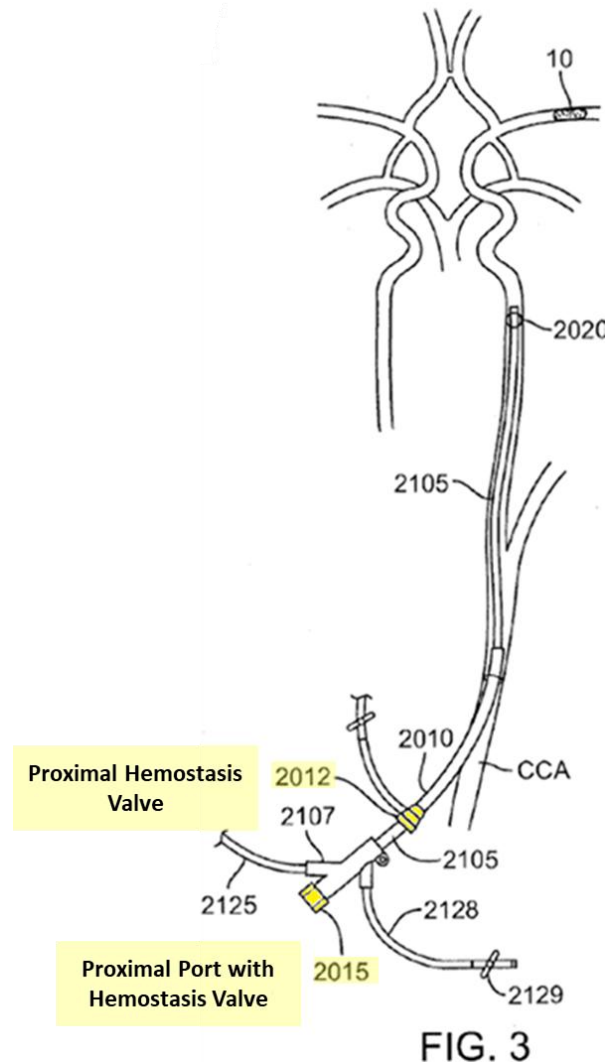
aspiration source at any given time.” (*Id.*) In other embodiments, the valve may “be a flow controller with a simple actuation which selects the configuration as described above.” (*Id.*) Garrison’s valve 3325 is therefore a “flow controller” that fluidically couples the aspiration catheter 2030 to the filter 3418 along the first fluid path. (Ex. 1003, ¶105; *see also* Ex. 1045, 8, 23-30 (Board preliminarily finding Garrison discloses a “valve positioned along the fluid path between the aspiration catheter and the clot canister”); Ex. 1046, 8-9, 23-32 (Board preliminarily finding Garrison discloses a “fluid control device between the first catheter and the first pressure source”).)

6. Hemostasis Valve

Garrison discloses a “hemostasis valve fluidically coupled to the catheter along a second fluid path at least partially different than the first fluid path, wherein the hemostasis valve is configured to maintain hemostasis by inhibiting proximal fluid flow along the second fluid path when an interventional device is inserted through the hemostasis valve and the catheter.” (Ex. 1003, ¶¶106-110.)

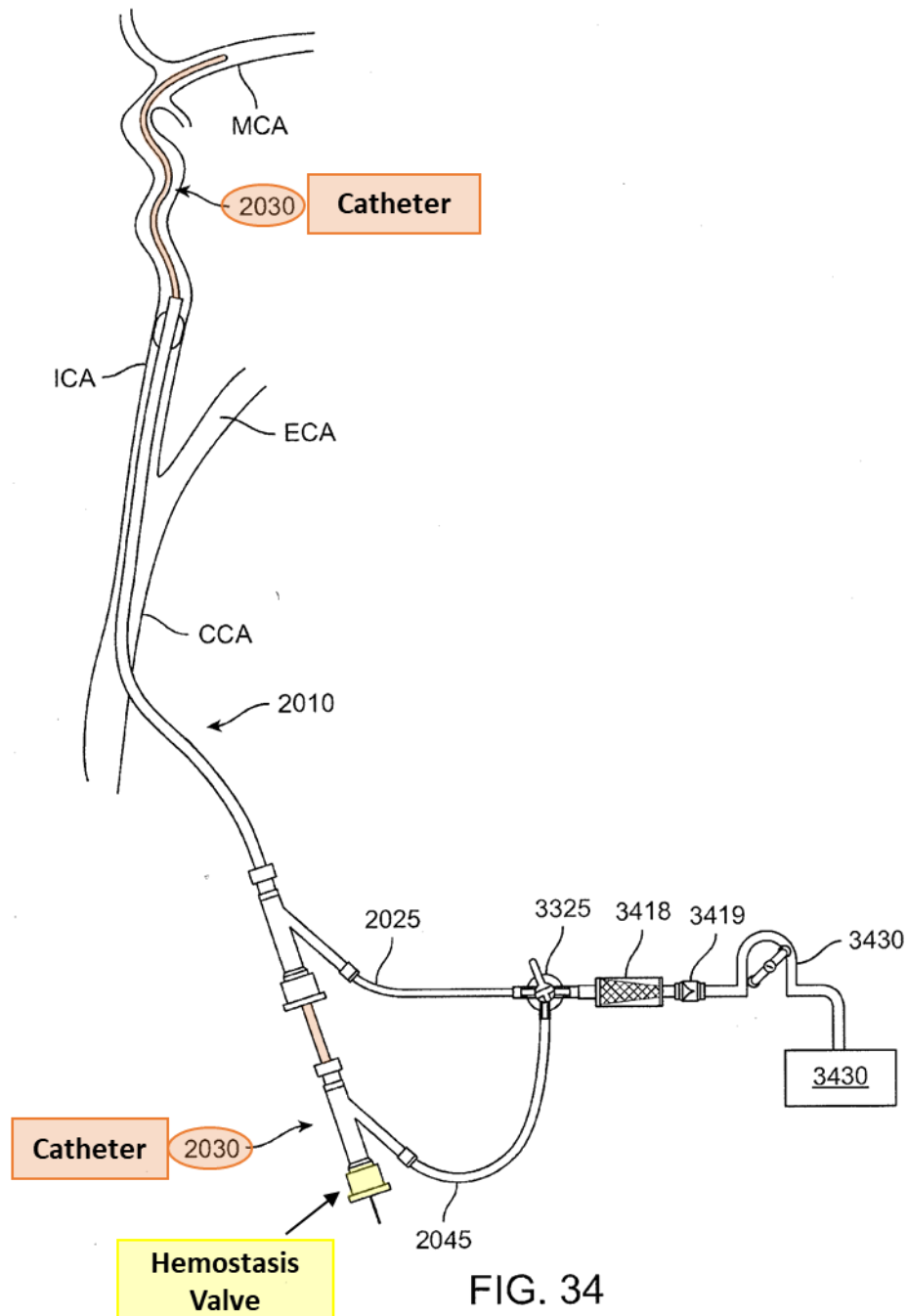
Garrison discloses an aspiration catheter 2030 having a “proximal hub 2065” or “proximal adaptor” and explains that “a separate hemostasis valve may be attached to proximal hub 2065” or “the hemostasis valve may be integral to the catheter proximal adaptor.” (Ex. 1006, [0098].) Garrison does not label hub/adaptor 2065 in the figures. However, similar hubs/adaptors (2012 and 2015) are labeled for

the arterial access sheath 2010 and guide catheter 2105. (*Id.*, [0053], [0074].) For example, Figure 3 illustrates guide catheter 2105, which has a “proximal adaptor having a proximal port 2015 *with a hemostasis valve* to allow introduction of devices while preventing or minimizing blood loss during the procedure”:



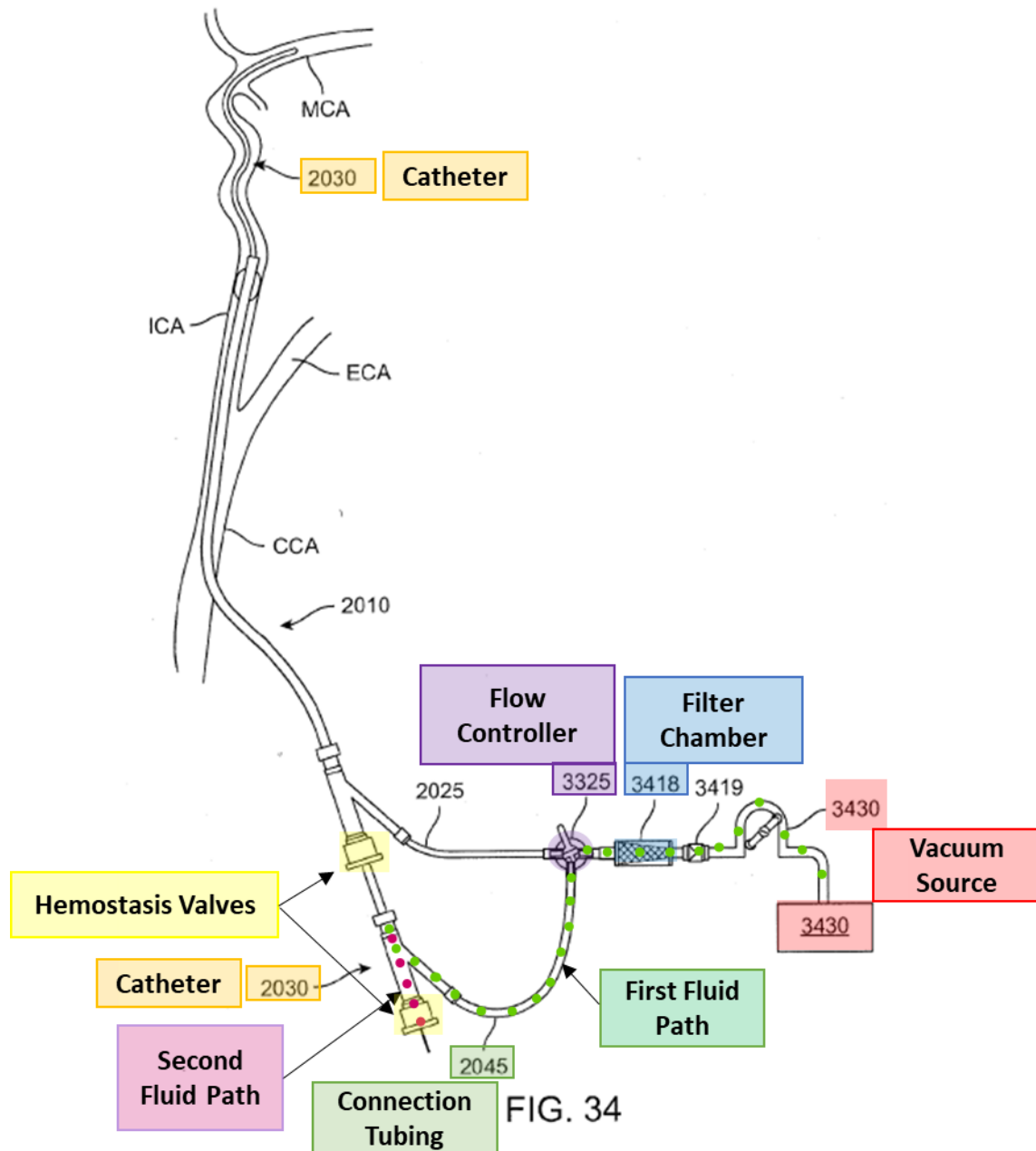
(*Id.*, [0053] (emphasis added), Fig. 3; *see also id.*, [0050]-[0053], [0059], [0062], Figs. 1-3, 6 (describing hemostasis valve 2012).) A POSITA would have understood that catheter 2030’s hemostasis valve would be located at the end of the proximal

hub/adaptor as in Figure 3 at least because that is the location where a user would insert other devices through the hub and where sealing would be necessary:



(Ex. 1006, [0098], Fig. 34; Ex. 1003, ¶109.) In fact, Figure 34 illustrates a guidewire inserted through the end of the hub/adaptor. (*Id.*)

Thus, a POSITA would have understood that Garrison's hemostasis valve is fluidically coupled to the aspiration catheter 2030 at the proximal end of the catheter along a second fluid path, illustrated with magenta dots:



(*Id.*; Ex. 1003, ¶109.) The second fluid path is “at least partially different than the first fluid path” because the second fluid path extends through the proximal end of

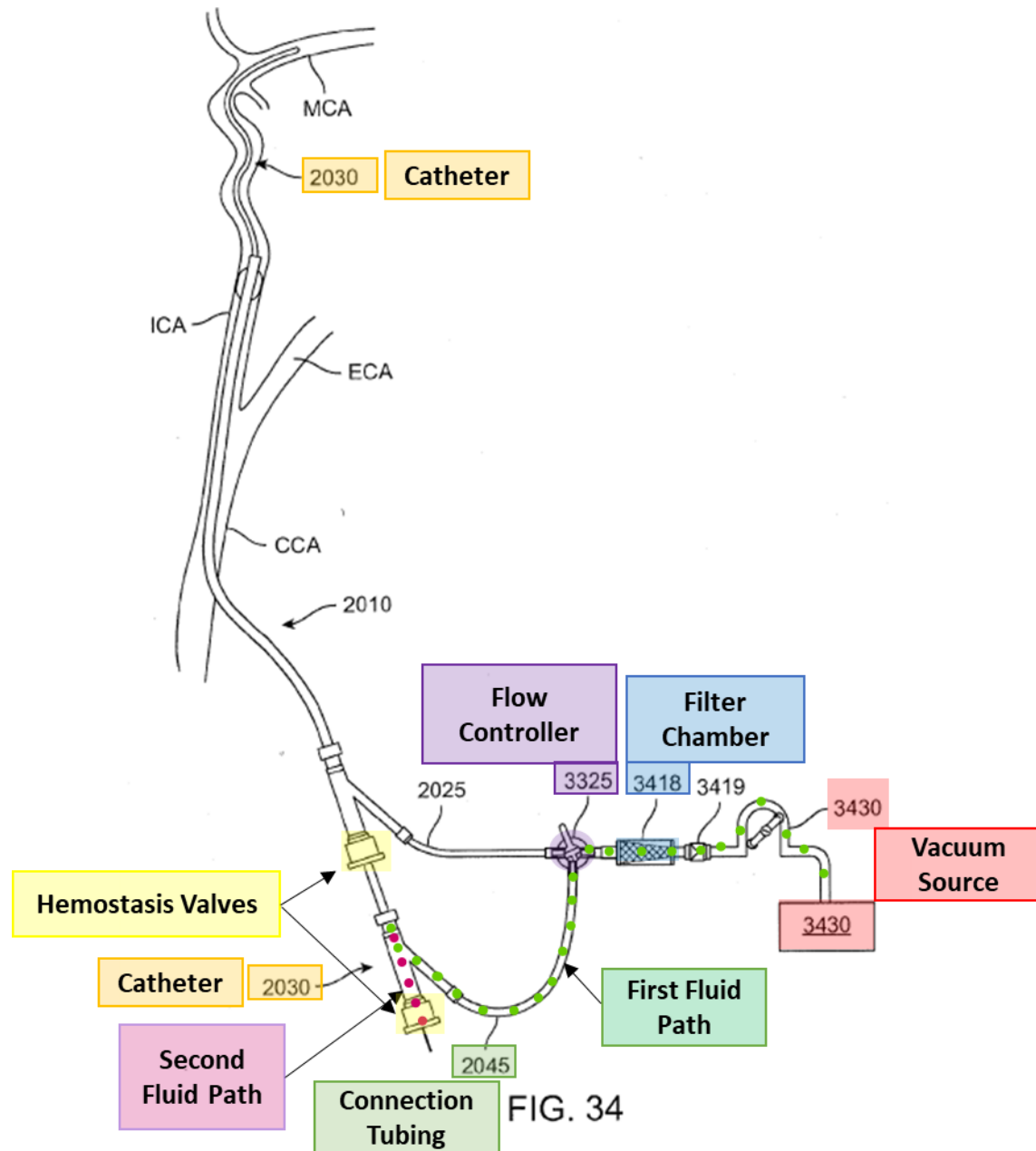
the catheter and hemostasis valve, whereas the first fluid path branches away toward to the vacuum source via the y-connector. (*See* Ex. 1006, Fig. 34; Ex. 1003, ¶109.)

Garrison’s hemostasis valve allows “introduction of devices such as a microcatheter, guide wire, or thrombectomy device while preventing or minimizing blood loss during the procedure.” (Ex. 1006, [0098]; *see also id.*, [0054], [0115], [0147] (describing inserting additional devices through catheter 2030).) Thus, Garrison’s hemostasis valve is “configured to maintain hemostasis by inhibiting proximal fluid flow along the second fluid path when an interventional device [e.g., microcatheter, guide wire, or thrombectomy device] is inserted through the hemostasis valve and the catheter.” (Ex. 1003, ¶110.)

B. Claim 2

Claim 2 recites the “aspiration system of claim 1 wherein the flow controller comprises a flow control unit between the filter chamber and the catheter.” Garrison anticipates or renders Claim 2 obvious. (Ex. 1003, ¶¶111-112.)

As explained for Claim 1, Garrison discloses a valve 3325 (flow controller) along the fluid path between the filter and the aspiration catheter:



(Ex. 1006, Fig. 34, [0131]-[0134].) Garrison also discloses that valve 3325 could be “a 3-way or 4-way stopcock” or a “flow controller with a simple actuation.” (*Id.*, [0132]-[0133], Fig. 35.) Garrison’s stopcock and flow controller are “flow control units” because they are devices that control which catheter (if any) is connected to the aspiration source 3430. (*Id.*; Ex. 1003, ¶112; *see also* Ex. 1045, 8, 23-30 (Board

preliminarily finding Garrison discloses a “valve positioned along the fluid path between the aspiration catheter and the clot canister”); Ex. 1046, 8-9, 23-32 (Board preliminarily finding Garrison discloses a “fluid control device between the first catheter and the first pressure source”).)

C. Claim 3

Claim 3 recites the “aspiration system of claim 2 wherein the flow control unit comprises a user-actuatable valve.” Garrison anticipates or renders Claim 3 obvious. (Ex. 1003, ¶¶113-115.)

Garrison’s valve 3325 (i.e., flow controller) “may be a 3-way or 4-way stopcock.” (Ex. 1006, [0132].) A “3-way or 4-way stopcock” valve is a “user-actuatable valve.” (Ex. 1003, ¶114.) Similarly, Garrison’s flow controller (e.g., item 3400) “may include one or more control interfaces that a user may actuate to regulate which device is being aspirated,” as illustrated below:

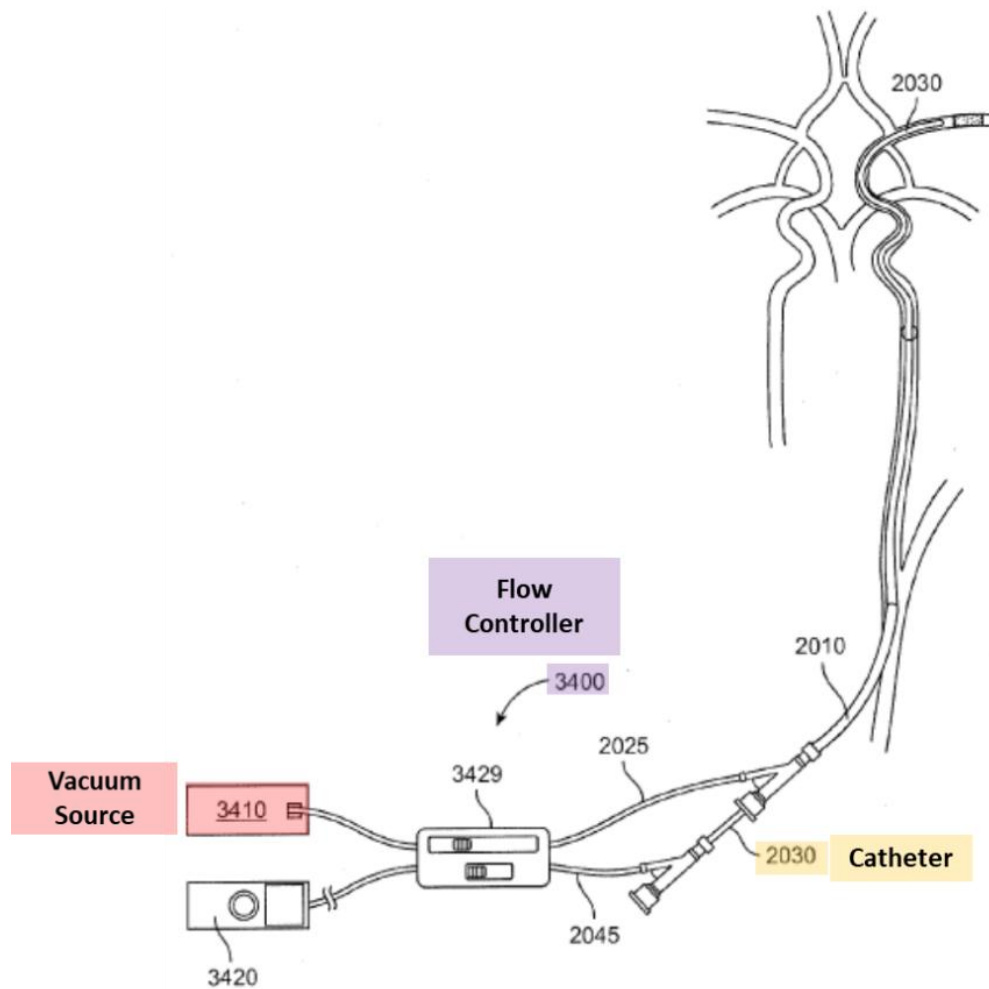


FIG. 35

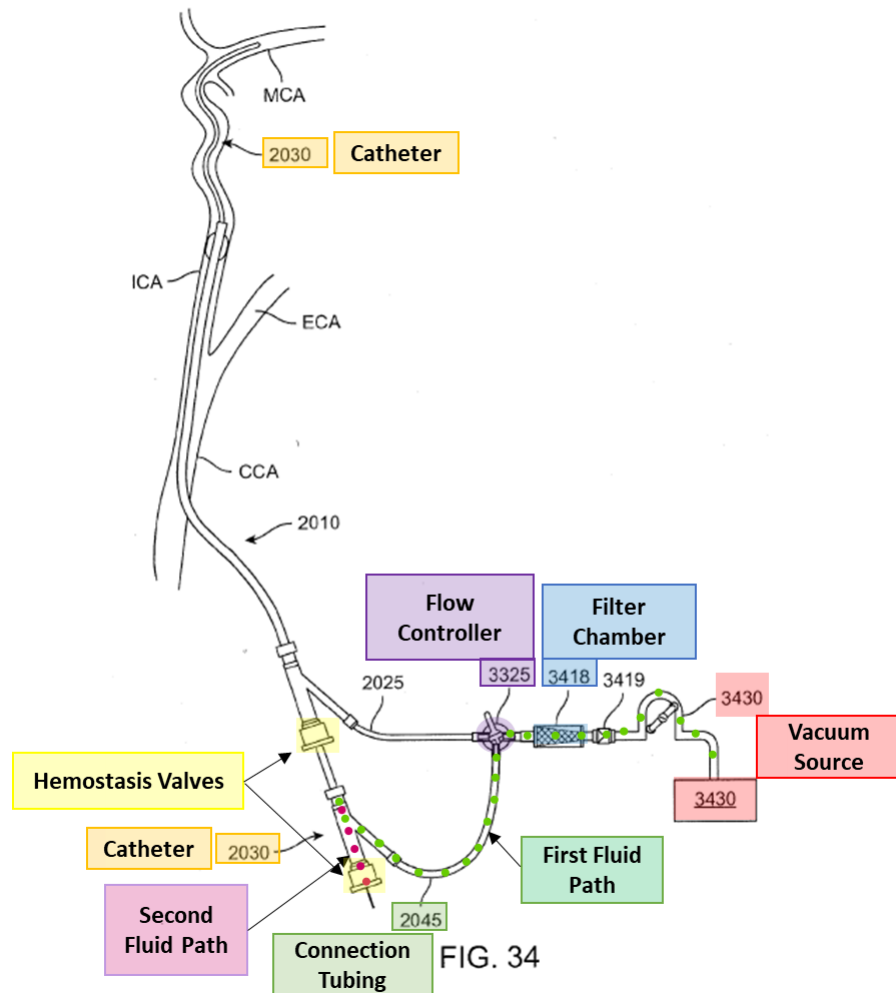
(Ex. 1006, [0133], Fig. 35.) Thus, Garrison’s flow controller 3400 is a user-actuable valve. (Ex. 1003, ¶115.)

D. Claim 4

Claim 4 recites the “aspiration system of claim 1 wherein the catheter is fluidically connected in serial to the filter chamber along the first fluid path.”

Garrison anticipates or renders Claim 4 obvious. (Ex. 1003, ¶¶116-117.)

Garrison's aspiration catheter 2030 is fluidically connected in serial to the filter 3418 (i.e., filter chamber) along the first fluid path as shown below:



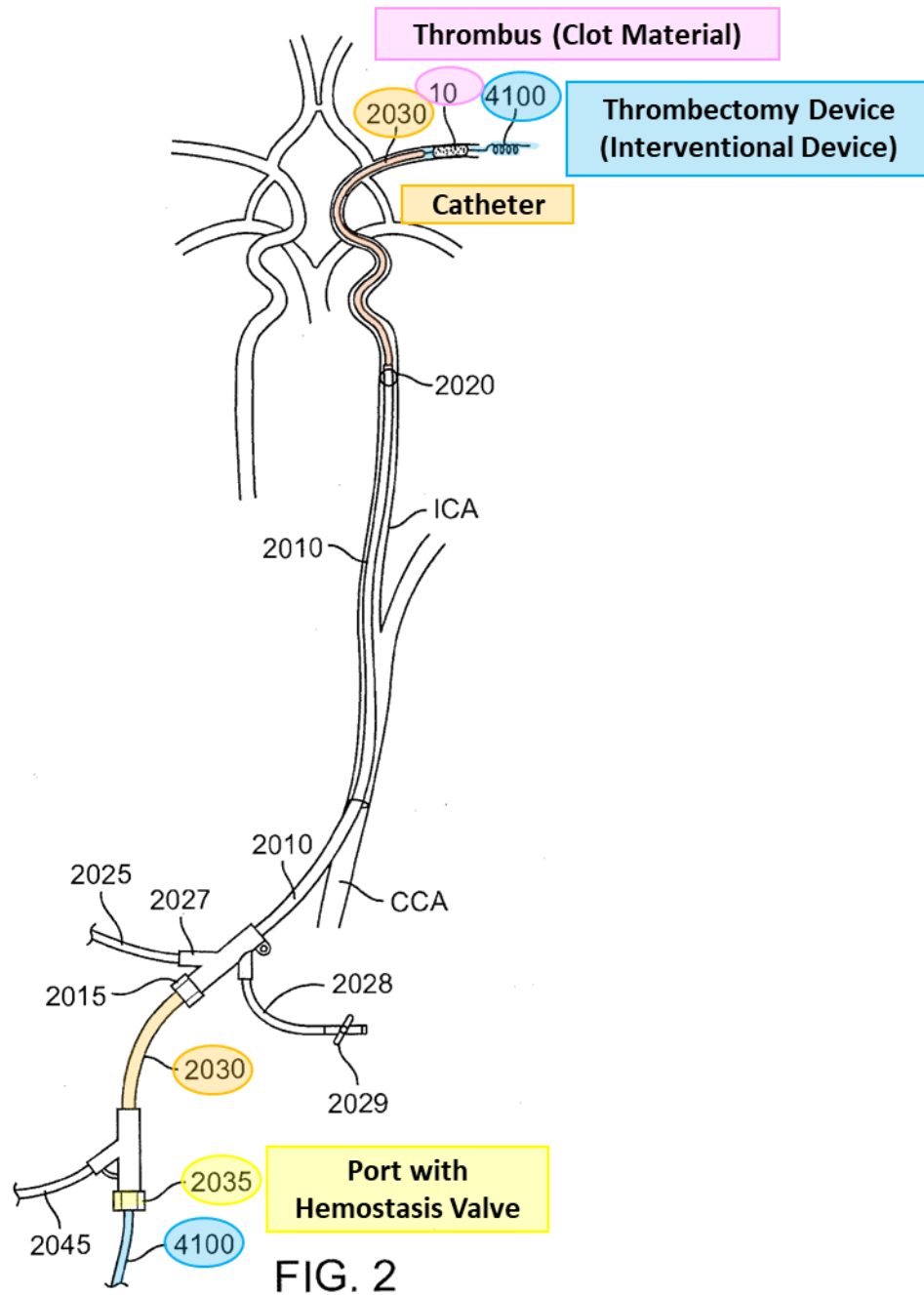
(Ex. 1006, [0130]-[0134], Fig. 34.)

E. Claim 5

Claim 5 recites the “aspiration system of claim 1, further comprising the interventional device.” Garrison anticipates or renders Claim 5 obvious. (Ex. 1003, ¶¶118-121.)

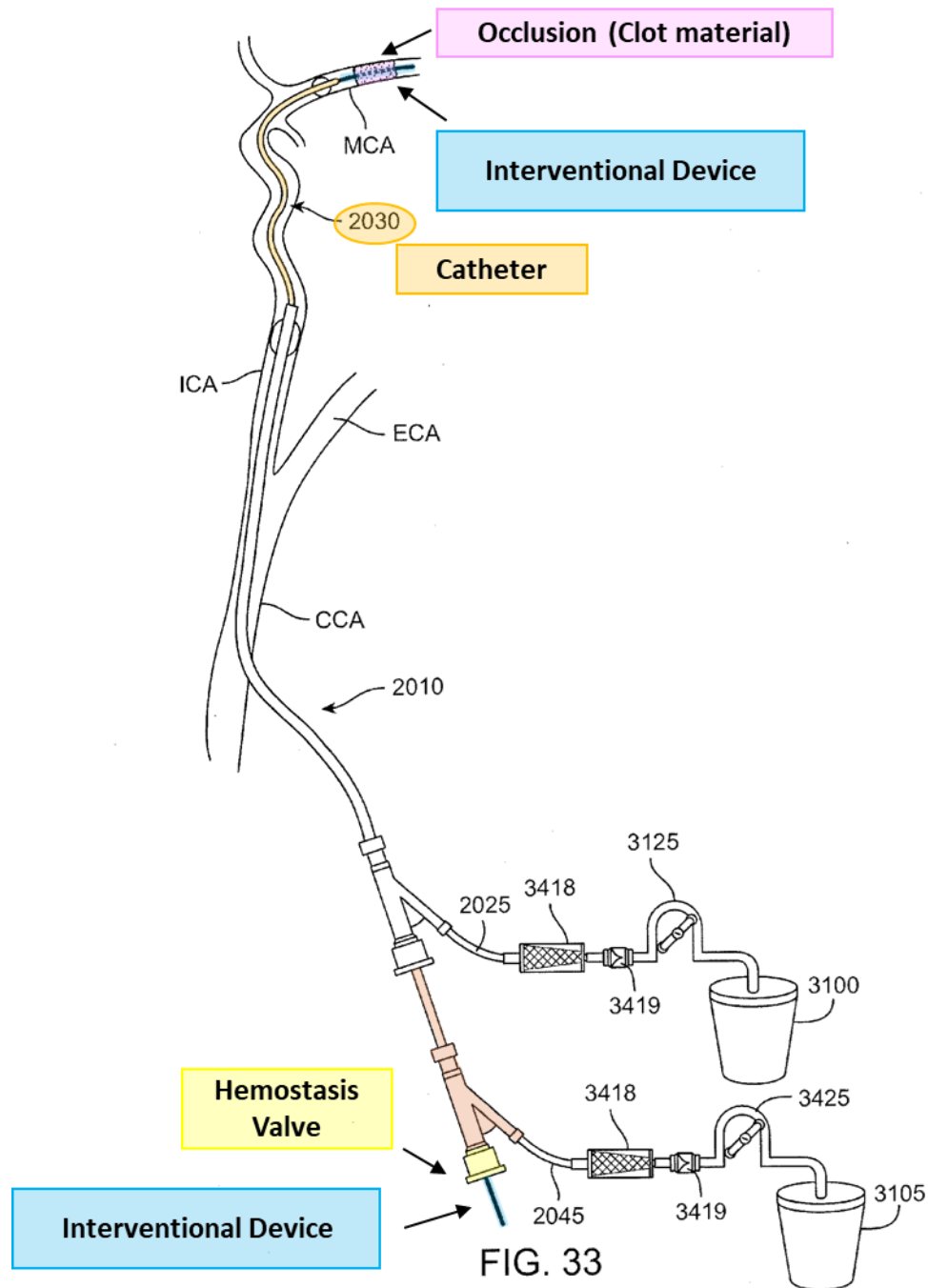
Garrison’s catheter 2030 may “provide distal access for ***additional devices***, localized fluid or contrast delivery, or localized aspiration at a location distal of the distal-most end of the arterial access device 2010.” (Ex. 1006, [0054] (emphasis added).) For example, Garrison discloses that “[if] the catheter is unable to reach the treatment site, or if a secondary more distal treatment site needs to be reached after removal of a first occlusion, a second, smaller diameter catheter may be inserted through the first catheter, and positioned at the distal treatment site.” (*Id.*, [0166].)

Garrison also discloses that catheter 2030’s proximal hub 2065 may “allow introduction of devices such as a microcatheter, guide wire, or thrombectomy device.” (*Id.*, [0098].) Each device is an “interventional device.” (Ex. 1003, ¶119.) The “thrombectomy devices,” for example, may include “coil-tipped retrievers, stent retrievers, expandable cages, wire or filament loops, graspers, brushes, or the like.” (Ex. 1006, [0144]-[0145].) As shown below, Garrison illustrates a thrombectomy device 4100 (interventional device) [blue] advanced distally through the hemostasis valve [yellow] of catheter 2030 [orange] to engage the thrombus 10 (clot material) [pink] in a blood vessel:



(*Id.*, [0056], Fig. 2.)

Likewise, Garrison's Figure 33 illustrates an interventional device [blue] advanced distally through the hemostasis valve [yellow] of the catheter 2030 [orange] so the distal end is near the clot material [pink]:

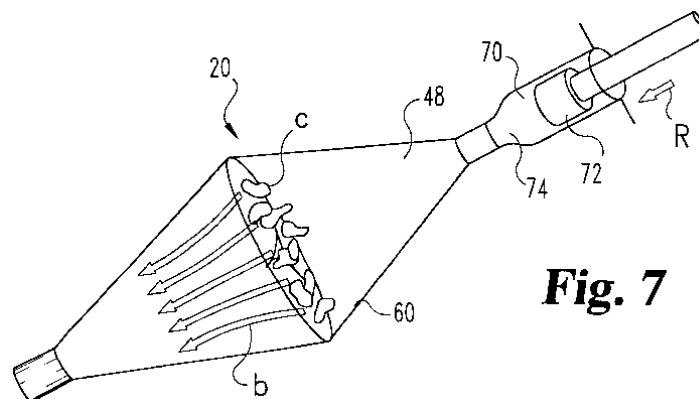


(Ex. 1006, Fig. 33, [0131]; *see also e.g., id.*, Fig. 2, [0050]-[0051].) Thus, Garrison discloses this limitation.

F. Claim 8

Claim 8 recites the “aspiration system of claim 1 wherein the filter is removable from within the housing.” Garrison renders Claim 8 obvious. (Ex. 1003, ¶¶122-124.)

Garrison discloses a filter 3418 within a housing. (Ex. 1006, [0131], Fig. 34.) Garrison does not expressly disclose that the filter is removable from the filter housing, however, in August 2018, a POSITA would have found it obvious to include a removable filter in Garrison’s system. (Ex. 1003, ¶123.) POSITAs would have been motivated to use a removable filter so that the physician could retrieve samples, empty the housing, and clean or replace the filter. (*Id.*) Filter housings/canisters that could be unscrewed (bottom left) or unclapsed (bottom right) so that the filter could be removed were well known:



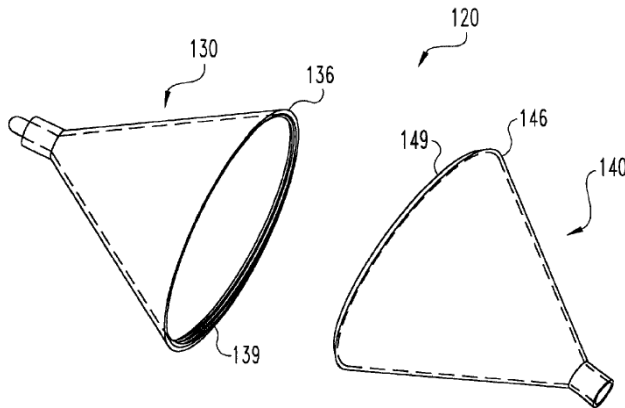


Fig. 8

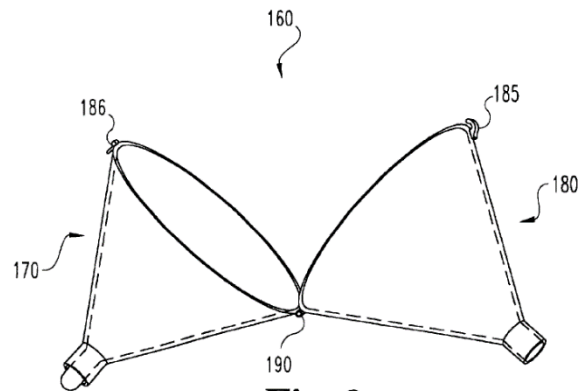


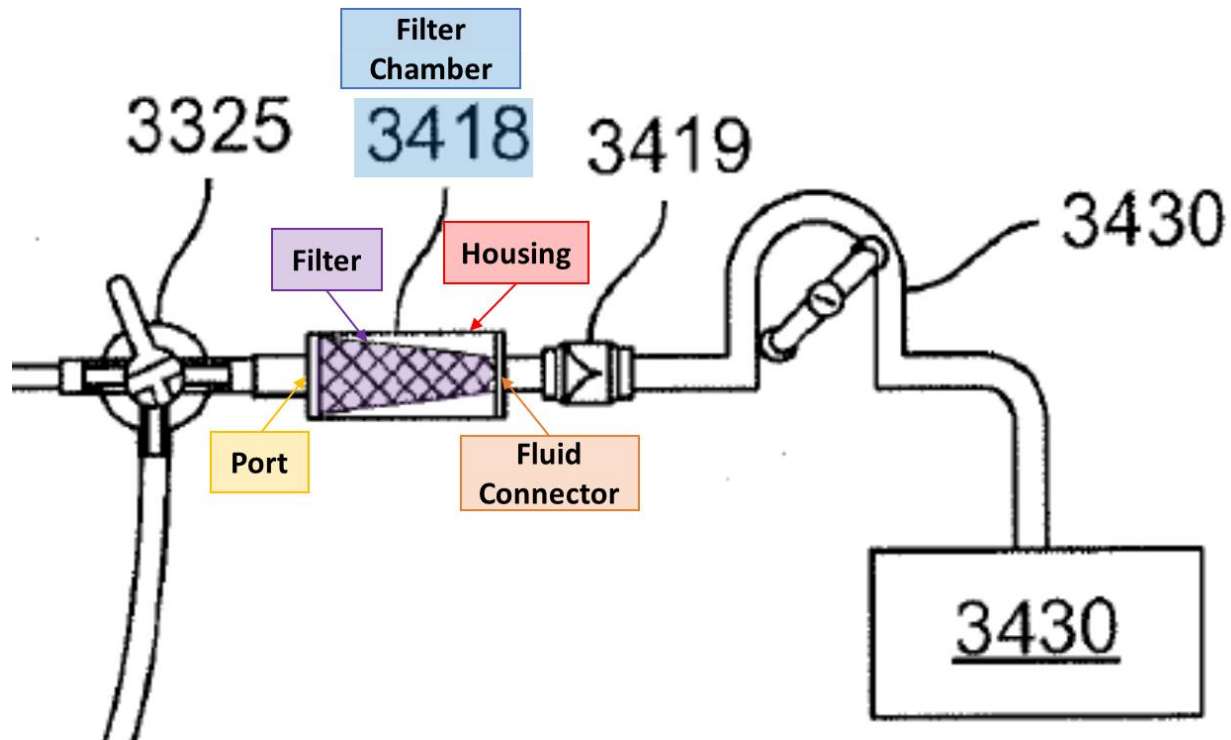
Fig. 9

(Ex. 1012, 5:65-6:10, Figs. 7-9.) A POSITA would have reasonably expected success in using a removable filter with Garrison’s system because the parts needed to create such a filter (e.g., hinge, clip, interlocking tabs, or screw threads) were simple and predictable and would have been well understood by POSITAs. (Ex. 1003, ¶124.)

G. Claim 10

Claim 10 recites the “aspiration system of claim 1 wherein the filter encloses a region within the housing, wherein the fluid connector is proximal to the enclosed region along the first fluid path, and wherein the filter includes a plurality of pores sized to inhibit clot material from flowing therethrough and to permit blood to flow therethrough.” Garrison anticipates or renders Claim 10 obvious. (Ex. 1003, ¶¶125-128.)

As shown in Figure 34, Garrison’s filter encloses a region within the filter housing and includes a plurality of pores sized to inhibit clot material from flowing through the filter:



(Ex. 1006, Fig. 34; Ex. 1003, ¶126; Ex. 1018, 121:22-122:18 (PO’s expert admitting that Garrison’s filter includes “opening or pore sizes that freely allow fluid to go through but prevent solid material from going through”).) Garrison’s filter 3418 also includes a fluid connector proximal to the enclosed region that fluidly connects the filter chamber to the vacuum source. (Ex. 1006, Fig. 34; Ex. 1003, ¶126.)

The purpose of Garrison’s filter 3418 is to separate clot material from the aspirated blood, so a POSITA would have understood that the pores in Garrison’s filter must be sized to inhibit clot material from flowing through the filter. (Ex. 1003, ¶127.) A POSITA would have also recognized that Garrison’s filter must permit blood to pass through the filter for the aspirated blood to end up in the pump’s receptacle 3430. (*Id.*; see e.g., Ex. 1006, [0131] (the aspiration source and receptacle

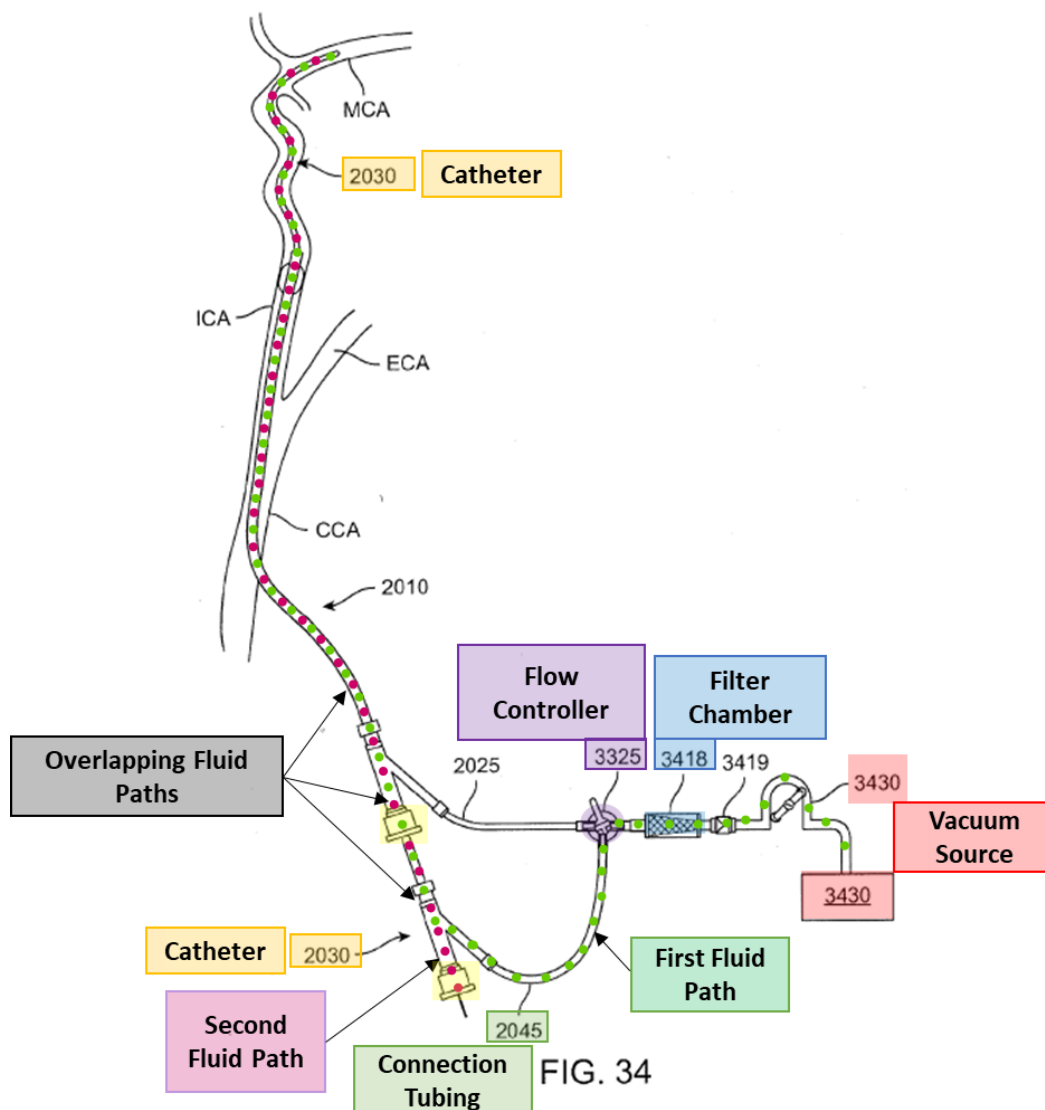
can be combined into a single device).) Thus, a POSITA would have understood that the pores illustrated in Garrison’s filter would be sized to permit blood to flow therethrough. (Ex. 1003, ¶127.)

If the Board finds that Garrison does not disclose a filter with a “plurality of pores sized to inhibit clot material from flowing therethrough and to permit blood to flow therethrough,” a POSITA in January 2018 would have found it obvious to use a filter with such pores in Garrison’s system. (*Id.*, ¶128.) Such filters were well-known prior to 2018 for use with aspiration systems. (*See, e.g.*, Ex. 1034, [0024], [0039]-[0040] (disclosing aspiration system with a filter having a “screen, mesh, membrane, etc., that is configured to allow blood or other fluid to flow through while preventing passage of the solid materials”); Ex. 1035, 11:24-53 (disclosing aspiration system with a filter that “may include a plurality of pores sufficiently sized, so as to permit fluid from the site of interest to flow therethrough, while preventing any undesirable material captured from the site of interest from moving downstream”).) A POSITA would have reasonably expected success in using a filter with such pores as Garrison’s filter because the parts needed to create such a filter (e.g., a screen, mesh, membrane, or permeable sheet) were simple and predictable and would have been well understood by POSITAs. (Ex. 1003, ¶128.)

H. Claim 11

Claim 11 recites the “aspiration system of claim 1 wherein a distal portion of the first fluid path and a distal portion of the second fluid path overlap.” Garrison anticipates or renders Claim 11 obvious. (Ex. 1003, ¶¶129-130.)

The distal portions of Garrison’s first and second fluid paths overlap, as shown in Figure 34:



(Ex. 1006, Fig. 34; Ex. 1003, ¶130.)

I. Claim 14

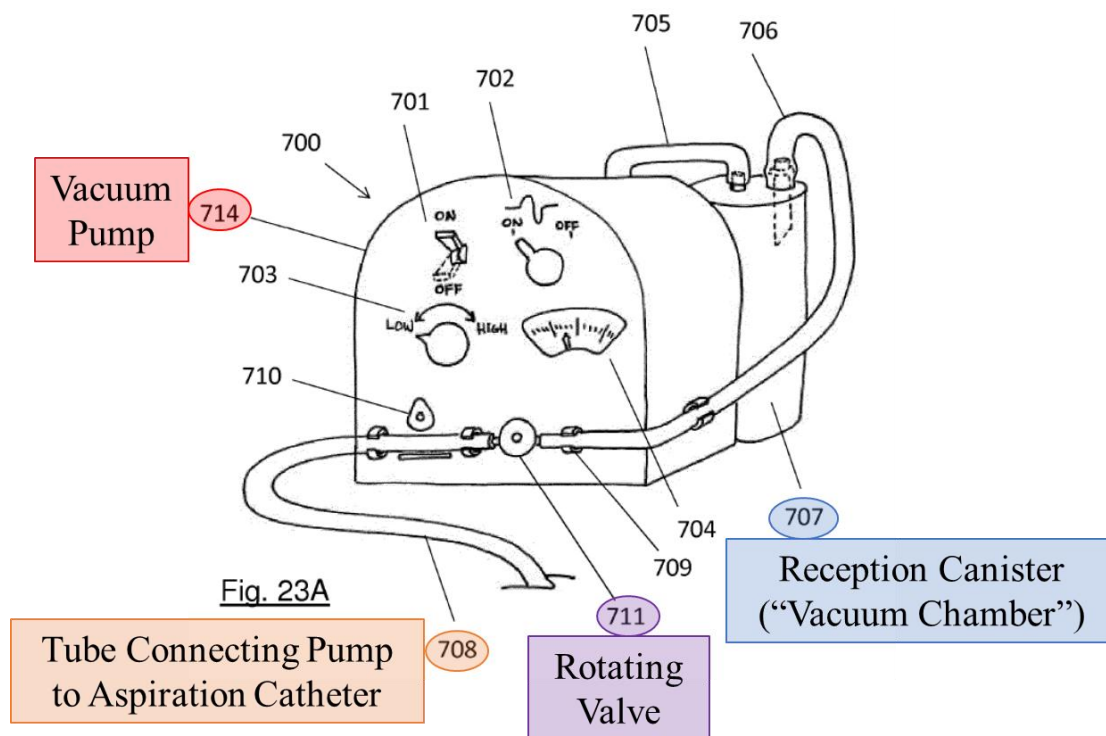
Claim 14 recites the “aspiration system of claim 1 wherein the vacuum source comprises a vacuum chamber, wherein the connection tubing is fluidically coupled to the vacuum chamber, and wherein the catheter is fluidically coupled to the vacuum chamber via the filter chamber along the first fluid path.” Garrison anticipates or renders Claim 14 obvious. (Ex. 1003, ¶¶131-134.)

Garrison discloses that its aspiration source “may be an aspiration pump, a regular or locking syringe, a hand-held aspirator, hospital suction, or the like.” (Ex. 1006, [0134]; *see also id.*, [0071]-[0072], [0131].) In embodiments where the aspiration source is a syringe, the chamber of the syringe would be a “vacuum chamber” at least because vacuum pressure is generated in the syringe chamber as the plunger is withdrawn. (Ex. 1003, ¶132.) Indeed, the only pressure source² disclosed in the ’669 patent is a syringe, and a POSITA would have therefore understood that the syringe chamber would be a “vacuum chamber” as claimed. (See Ex. 1001, 6:1-7, 15:33-36, 15:40-42, 20:50-53, 20:57-60, 21:28-33; Ex. 1003, ¶132.)

In embodiments where Garrison’s aspiration source is an aspiration pump, a POSITA would have understood that the aspiration pump would include a vacuum

² While the claims of the ’669 patent recite a “vacuum source,” the term “vacuum source” is not used in the ’669 patent outside the claims. The specification of the ’669 patent instead refers to a “pressure source.” (See Ex. 1001, 6:1-7.)

chamber, where vacuum pressure is generated for being applied to the catheter. (Ex. 1003, ¶133.) Such aspiration pumps were well known in the art prior to 2018. (*Id.*) For example, Brady discloses an aspiration pump that generates vacuum in a reception canister 707 (i.e., “vacuum chamber”) which is then applied to tubing 706 and 708:



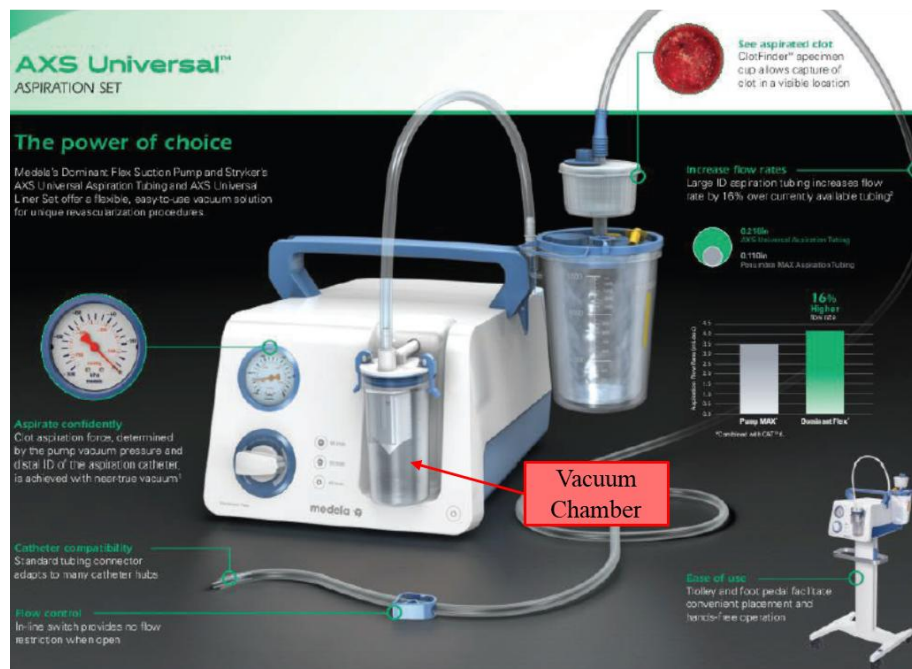
(Ex. 1010, 21:16-32, Fig. 23A.)

Similarly, the commercially available, prior-art Penumbra and Madela aspiration pumps used a similar configuration, generating vacuum pressure in a chamber that was then applied to the aspiration catheter via tubing:

Penumbra Pump

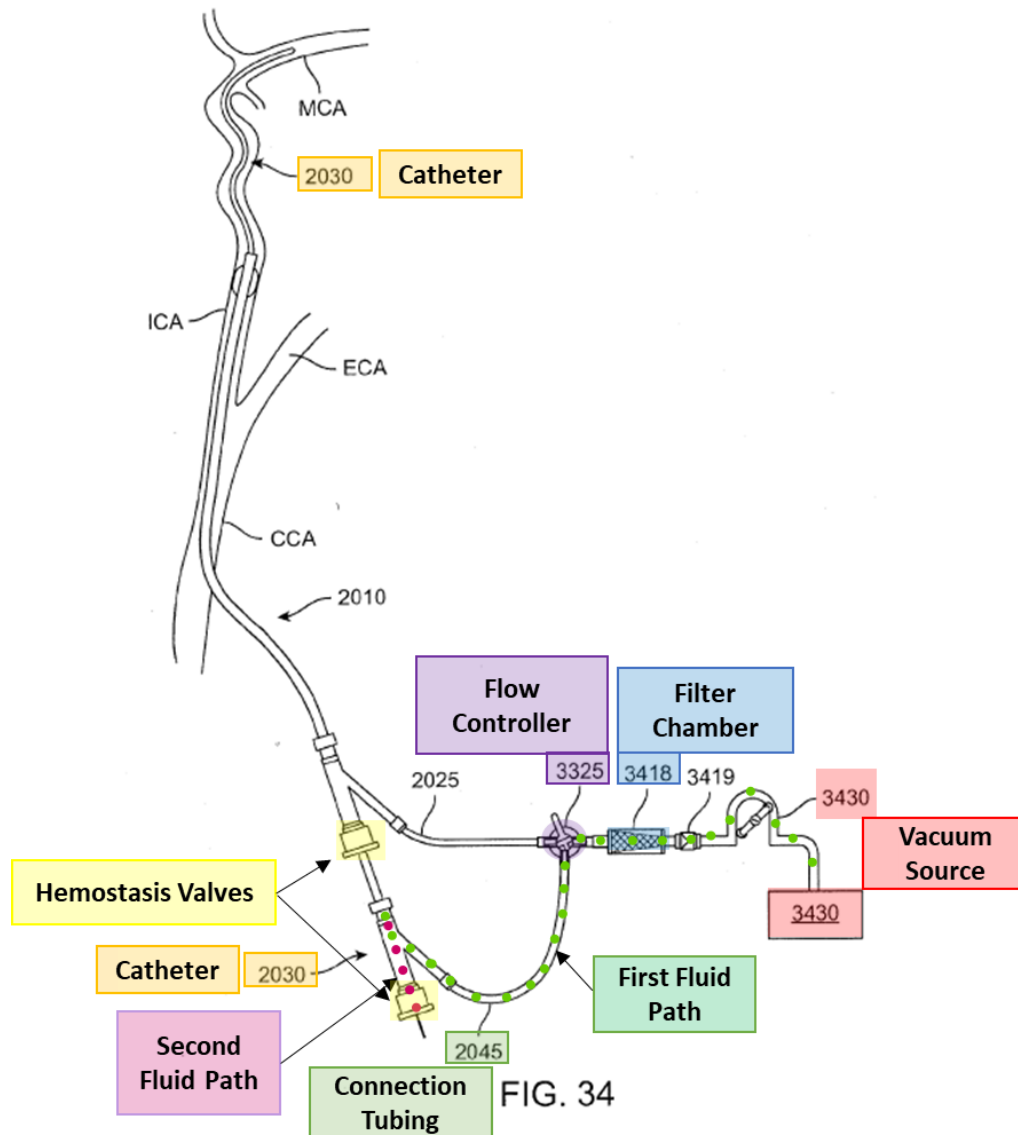


Medela Pump



(Ex. 1036; Ex. 1037.)

Garrison's vacuum source is fluidically coupled to the aspiration catheter 2030 via the filter 3418 (i.e., filter chamber) along the first fluid path:



(Ex. 1006, [0130]-[0134], Fig. 34; Ex. 1003, ¶134.) The vacuum source is fluidically coupled to the aspiration catheter 2030 via the filter 3418 (i.e., filter chamber) along the first fluid path 2045. (Ex. 1006, [0132], Fig. 34; Ex. 1003, ¶134.) Accordingly, the vacuum chamber of Garrison's aspiration source (i.e., syringe or aspiration pump) is

fluidically coupled to the connection tubing, and it is also fluidically coupled to the aspiration catheter 2030 via the filter chamber. (Ex. 1003, ¶134.)

J. Claim 15

Garrison anticipates or renders Claim 15 obvious. (Ex. 1003, ¶¶135-150.)

1. Preamble

If the preamble is limiting, Garrison discloses “an aspiration system” as explained for Claim 1. (*Supra* §VI.A.1.)

2. Vacuum Source

Garrison discloses “a vacuum source” as explained for Claim 1. (*Supra* §VI.A.2.)

3. Catheter

Garrison discloses “a catheter fluidically coupled to the vacuum source via a first fluid path” as explained for Claim 1. (*Supra* §VI.A.3.)

4. Filter Chamber

Garrison discloses the “filter chamber” recited in Claim 15. (Ex. 1003, ¶¶139-148.) As explained for Claim 1, Garrison’s filter 3418 is “a filter chamber along the first fluid path and spaced apart from the vacuum source” and Garrison’s “filter chamber comprises a housing and a filter within the housing.” (*Supra* §VI.A.4.a.)

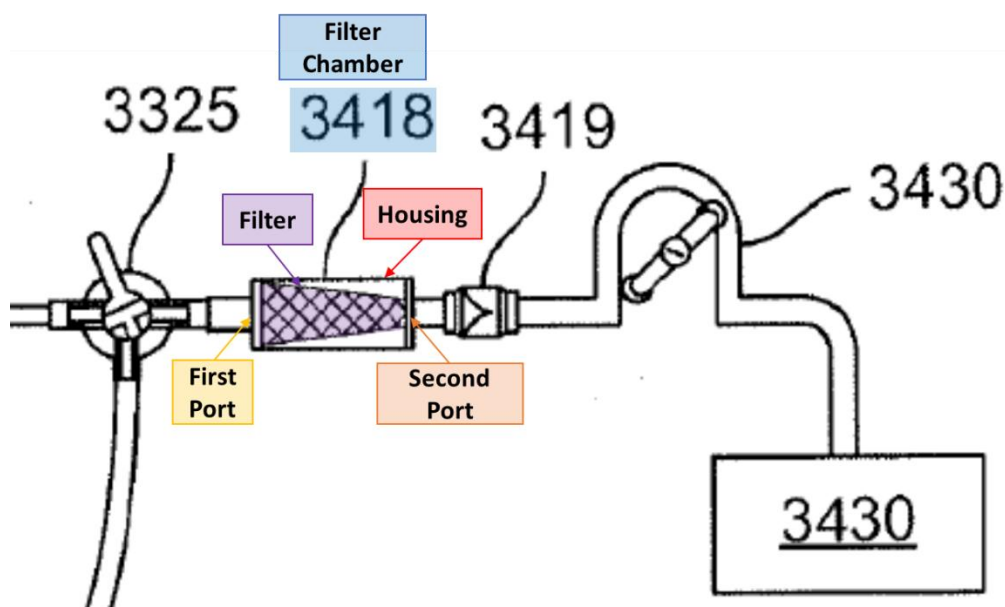
a. First Port

Garrison discloses or renders obvious a “first port configured to be fluidically coupled to the catheter” as explained for Claim 1. (*Supra* §VI.A.4.b.)

b. Second Port

Garrison discloses or renders obvious a “second port configured to be fluidically coupled to the vacuum source.” (Ex. 1003, ¶¶142-146.)

As explained for Claim 1, a POSITA would have recognized that Garrison’s filter housing would necessarily require a fluid connector at its proximal end. Any fluid connector will necessarily have a second “port” (opening) to be “coupled with the flow line.” (Ex. 1006, [0131]; Ex. 1003, ¶¶143-144; Ex. 1014, 3; Ex. 1043; Ex. 1018, 121:18-123:2 (PO’s expert admitting that Garrison’s filter requires openings on either end of its housing).) Without such a port, filtered blood would be unable to flow out of the filter, and the vacuum pressure generated by the aspiration source would be unable to reach the aspiration catheter. (Ex. 1003, ¶144.) In addition, Figure 34 of Garrison illustrates that a second port fluidly couples the filter to vacuum source:

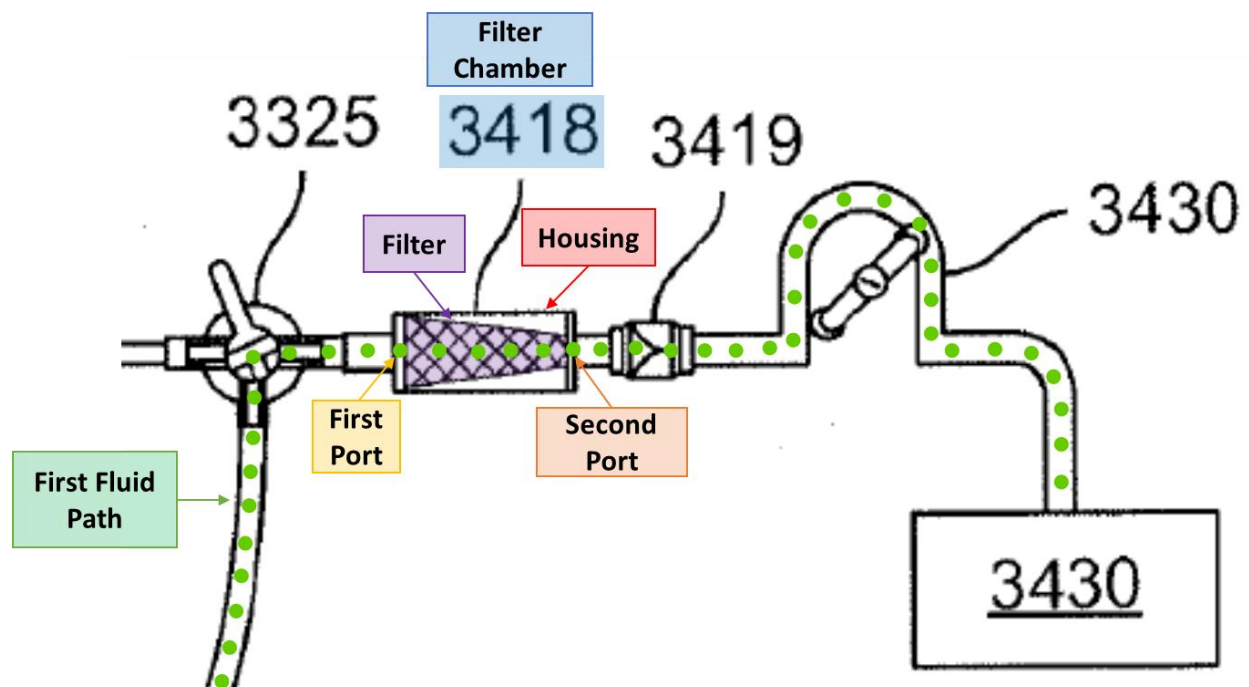


(Ex. 1006, [0131], Fig. 34 (excerpt); Ex. 1003, ¶145.)

If the Board concludes that Garrison does not disclose a “second port” in the filter 3418, a POSITA in January 2018 would have found it obvious to couple the filter to the flow line and vacuum source using a second port for the reasons explained for Claim 1. (*Supra* §VI.A.4.b-c.)

c. Filter Along First Fluid Path

Garrison’s filter chamber includes a “filter [] in the housing along the first fluid path between the first port and the second port”:



(Ex. 1006, [0130]-[0134], Fig. 34; Ex. 1003, ¶148.)

5. Flow controller

Garrison discloses “a flow controller fluidically coupling the filter chamber to the catheter, wherein the flow controller is along the first fluid path between the filter chamber and the catheter” as explained for Claim 1. (*Supra* §VI.A.5.)

6. Hemostasis Valve

Garrison discloses “a hemostasis valve fluidically coupled to the catheter along a second fluid path at least partially different than the first fluid path, wherein the hemostasis valve is configured to maintain hemostasis by inhibiting proximal fluid flow along the second fluid path when an interventional device is inserted through the hemostasis valve and the catheter” as explained for Claim 1. (*Supra* §VI.A.6.)

K. Claim 16

Claim 16 recites the “aspiration system of claim 15 wherein the flow controller comprises a flow control unit between the filter chamber and the catheter.” Garrison anticipates or renders Claim 16 obvious for the reasons explained for Claims 2 and 15. (*Supra* §§VI.B, VI.J.)

L. Claim 17

Claim 17 recites the “aspiration system of claim 16 wherein the flow control unit comprises a user-actuable valve.” Garrison anticipates or renders Claim 17 obvious for the reasons explained for Claims 3, 15, and 16. (*Supra* §§VI.C, VI.J-K.)

M. Claim 18

Claim 18 recites the “aspiration system of claim 15 wherein the catheter is fluidically connected in serial to the filter chamber along the first fluid path.” Garrison anticipates or renders Claim 18 obvious for the reasons explained for Claims 4 and 15. (*Supra* §§VI.D, VI.J.)

N. Claim 19

Claim 19 recites the “aspiration system of claim 15, further comprising the interventional device.” Garrison anticipates or renders Claim 19 obvious for the reasons explained for Claims 5 and 15. (*Supra* §§VI.E, VI.J.)

O. Claim 22

Claim 22 recites the “aspiration system of claim 15 wherein the filter is removable from within the housing.” Garrison renders Claim 22 obvious for the reasons explained for Claims 8 and 15. (*Supra* §§VI.F, VI.J.)

P. Claim 24

Claim 24 recites the “aspiration system of claim 15 wherein the filter encloses a region within the housing, wherein the second port is proximal to the enclosed region along the first fluid path, and wherein the filter includes a plurality of pores sized to inhibit clot material from flowing therethrough and to permit blood to flow therethrough.” Garrison anticipates or renders Claim 24 obvious for the reasons explained for Claims 10 and 15. (*Supra* §§VI.G, VI.J.)

Q. Claim 25

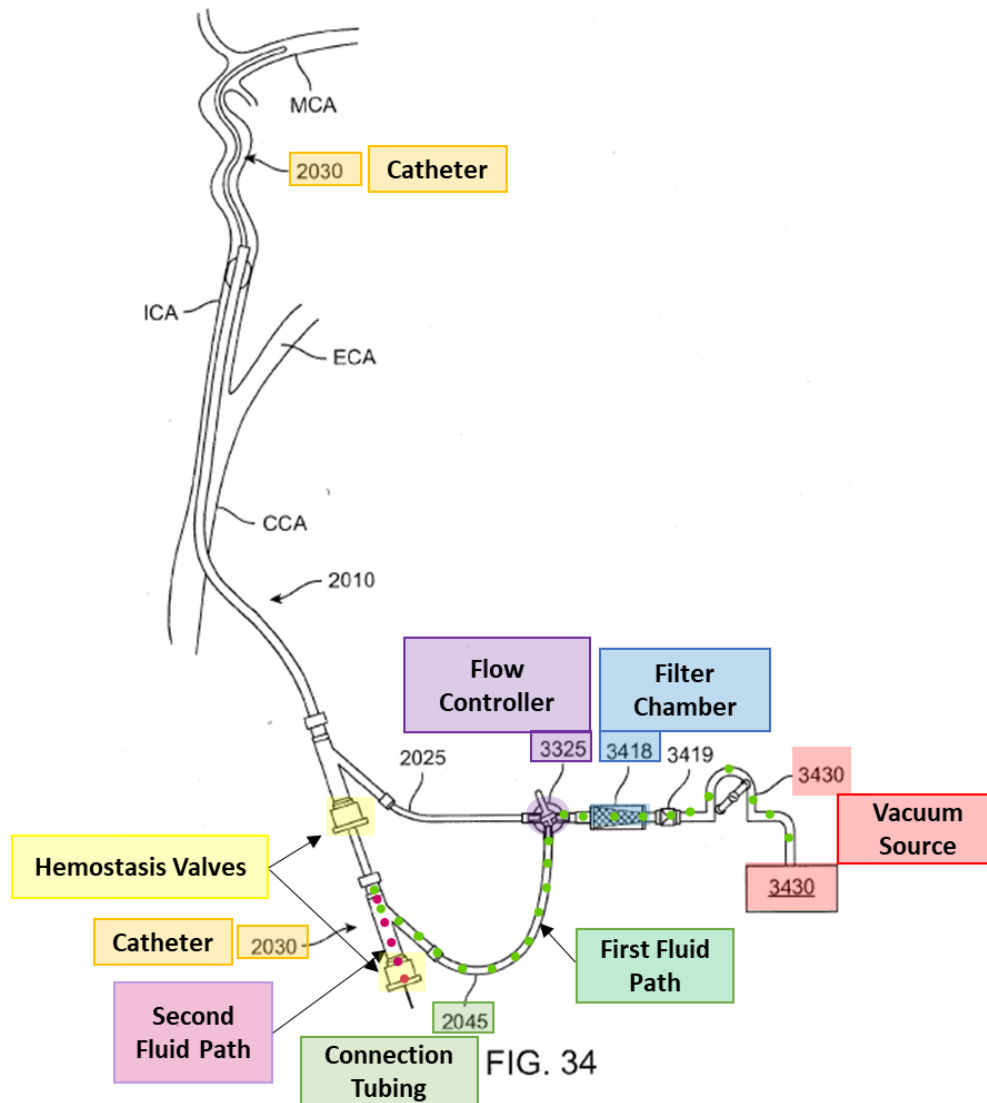
Claim 25 recites the “aspiration system of claim 15 wherein a distal portion of the first fluid path and a distal portion of the second fluid path overlap.” Garrison anticipates or renders Claim 25 obvious for the reasons explained for Claims 11 and 15. (*Supra* §§VI.H, VI.J.)

R. Claim 30

Claim 30 recites the “aspiration system of claim 15 wherein the vacuum source comprises a vacuum chamber, and wherein the catheter is fluidically coupled to vacuum chamber via the first fluid path.” Garrison anticipates or renders Claim 25 obvious for the reasons explained for Claims 14 and 15. (*Supra* §§VI.I-J.)

VII. GROUND 3: CLAIMS 1-5, 8, 10-11, 14-19, 22, 24-25, 30 OBVIOUS IN VIEW OF GARRISON AND GOFF

As explained in Grounds 1-2, Garrison discloses an aspiration system having a filter 3418 located along a first fluid path between the proximal end of an aspiration catheter and a vacuum source, such as a syringe or pump:



(Ex. 1006, Fig. 34; *supra* §VI.A.) While Garrison illustrates many features of the filter, it does not describe the filter details in text, presuming instead that POSITAs would have been familiar with the available filters.

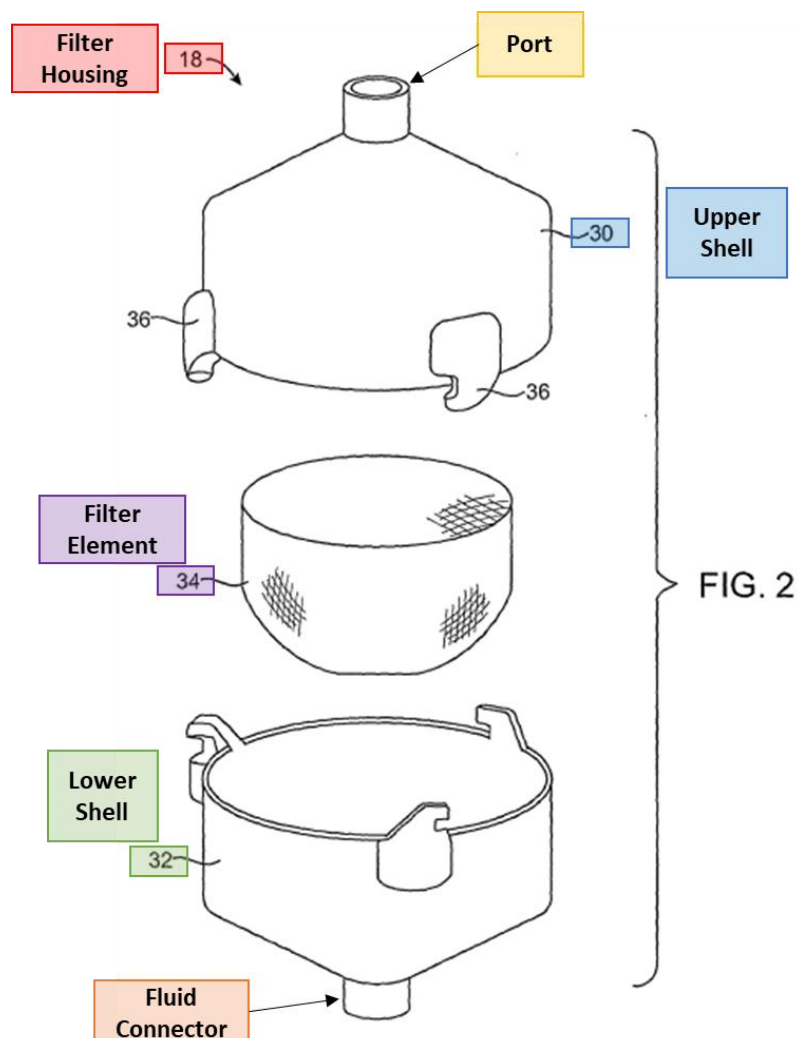
Goff, however, discloses a thrombectomy filter having all of the features of the “filter chamber” recited in challenged claims. A POSITA would have found it obvious to use Goff’s filter in Garrison’s system and would have reasonably expected success in doing so. (Ex. 1003, ¶160.) Accordingly, even if Garrison alone

does not anticipate or render obvious Claims 1-5, 8, 10-11, 14-19, 22, 24-25, and 30, Garrison in combination with Goff does.

A. Claims 1-5, 11, 14

1. Filter Chamber

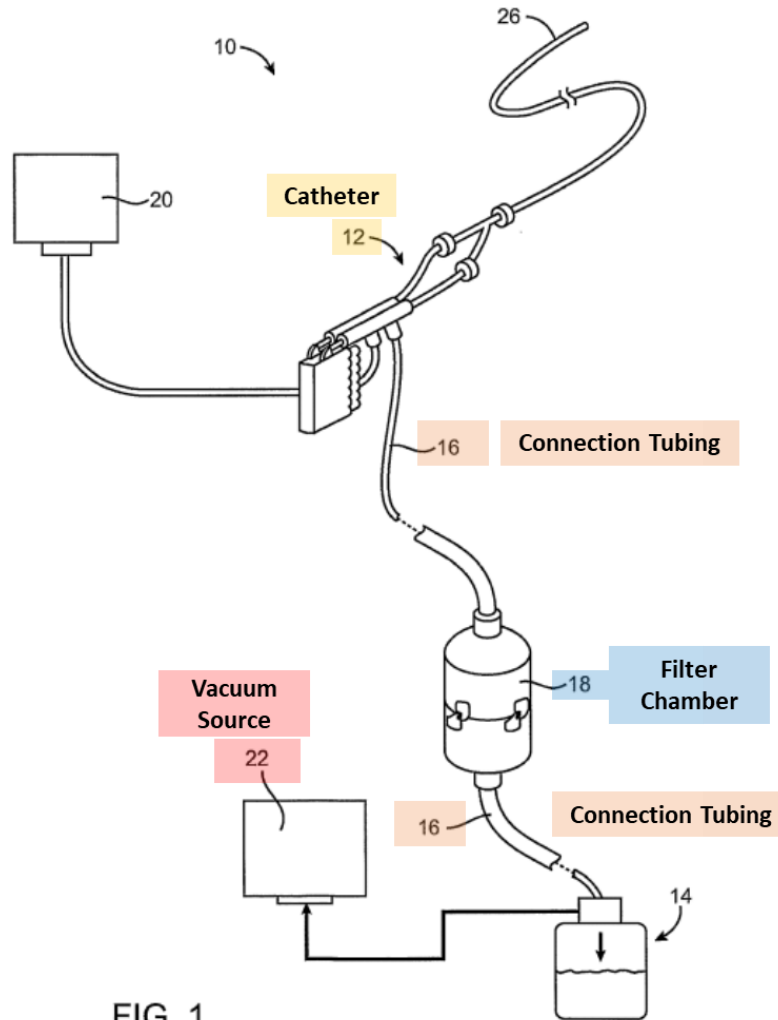
Goff discloses the “filter chamber” recited in Claim 1. (Ex. 1003, ¶¶161-167.) Goff describes “methods and systems for filtering aspirated material.” (Ex. 1005, Title.) Goff’s aspiration system includes a filter assembly having a filter housing [red] with an upper and lower shell and a filter element [purple] within the housing:



(Ex. 1005, [0015], [0025], Fig. 2.) Goff explains that the upper and lower shells “may be taken apart to permit introduction, removal, and replacement of the filter element in the interior of the housing.” (*Id.*, [0015].) Goff’s filter allows “the separated solid materials [to] be in a convenient structure or assembly to permit easy removal and observation.” (*Id.*, [0005].)

Goff also discloses that the “housing will further have conventional connectors to permit connection at an upper end to the aspiration catheter and at a lower end to the aspirate receptacle.” (*Id.*, [0015].) As shown in the figure above, the connector at the upper end of Goff’s filter housing has a port, or opening, as recited in Claim 1, and the connector at the lower end of Goff’s filter housing is a “fluid connector” as recited in Claim 1. (*Id.*; Ex. 1003, ¶¶163-164.)

Goff discloses an aspiration system, illustrated in Figure 1, in which filter 18 is coupled between an aspiration catheter 12 and a vacuum source 22 along a fluid path using connection tubing 16:



(Ex. 1005, [0023]-[0025], Fig. 1.)

A POSITA would have been motivated to substitute Goff's filter assembly for the filter 3418 in Garrison's system for several reasons. (Ex. 1003, ¶165.) Goff's filter assembly is used for the same purpose as Garrison's filter 3418 – filtering clots from aspirated blood. (Ex. 1005, [0001].) Goff's filter assembly is also positioned between the aspiration catheter and vacuum source with standard medical tubing, just like Garrison's filter. (*Id.*, [0025].) Thus, substituting Goff's filter assembly for Garrison's filter would have merely entailed the substitution of one known element

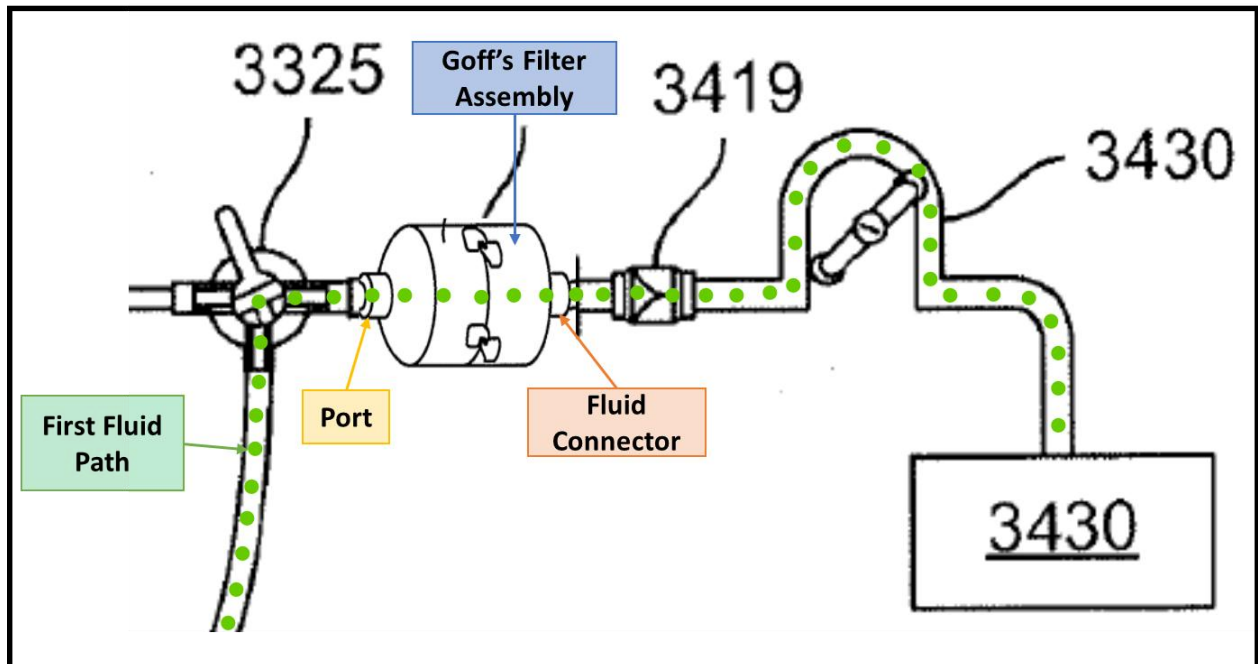
(Goff’s filter assembly) for another (Garrison’s filter) to yield the predictable result of filtering aspirated blood. *KSR*, 550 U.S. at 416; (Ex. 1003, ¶165.) In addition, a POSITA would have been motivated to use Goff’s filter assembly “to permit introduction, removal, and replacement of the filter element in the interior of the housing” and to provide “a convenient structure or assembly to permit easy removal and observation” of aspirated clot material. (Ex. 1005, [0005]; Ex. 1003, ¶165.)

A POSITA would have reasonably expected success in making the substitution due to the similarities between the systems. (Ex. 1003, ¶166.) Both Garrison and Goff filter clots from blood aspirated from a patient. Goff specifically discloses that its “filter element will have a pore size or screen size selected to separate solid particles at a desired particle size cutoff,” the same requirement for Garrison’s filter. (Ex. 1005, [0011].) Moreover, Goff’s filter is fluidly coupled between an aspiration catheter and a vacuum source using conventional connectors and medical tubing, just like the arrangement in Garrison. (*Id.*, [0015], [0023]-[0025], Fig. 1; Ex. 1006, Fig. 34; Ex. 1003, ¶166.) A POSITA would have been familiar with these conventional, predictable connectors and would have reasonably expected success in using them to couple Goff’s filter to Garrison’s flow line 2045. (Ex. 1003, ¶166.)

A POSITA would have understood that when Garrison’s filter is substituted for Goff’s filter assembly, Garrison’s vacuum source would be fluidly coupled to

the aspiration catheter along the first fluid path via Goff's filter assembly, as illustrated in the demonstrative below:

Garrison + Goff



(Ex. 1003, ¶167.)³ As illustrated above, a POSITA would have also recognized that Goff's filter would be within the housing along the first fluid path of Garrison's system, which would fluidically couple the port and fluid connector on Goff's housing. (*Id.*)

2. Remaining Limitations

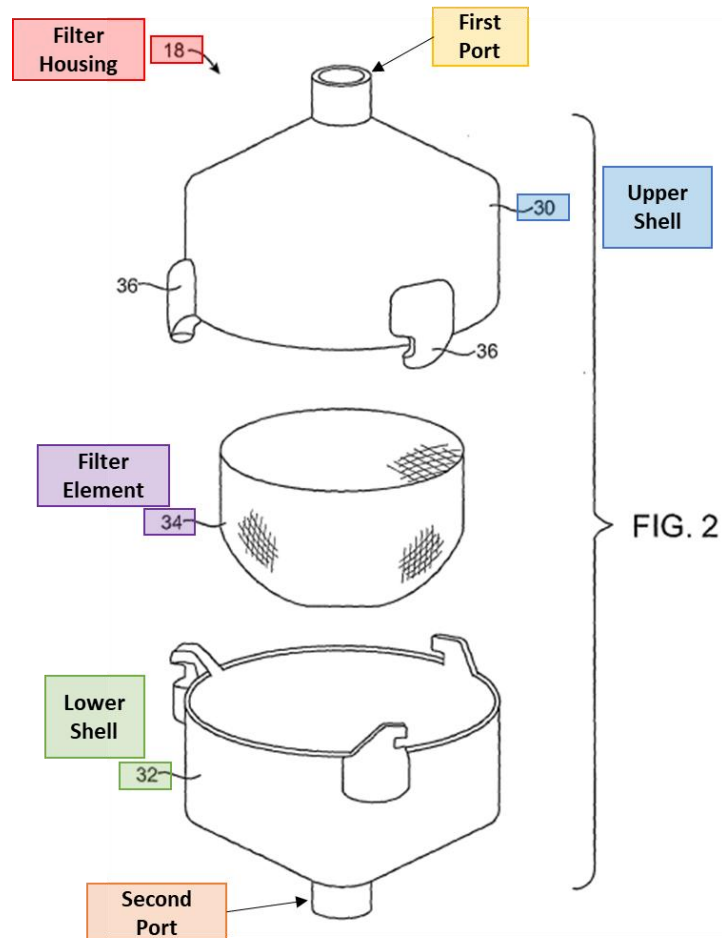
Garrison discloses the remaining limitations of Claims 1-5, 11, and 14 for the reasons explained in Grounds 1-2. (*Supra* §§VI.A-E, VI.H-I.) Accordingly, Garrison in combination with Goff renders Claims 1-5, 11, and 14 obvious.

³ This image is a demonstrative prepared by Petitioner.

B. Claims 15-19, 25, 30

1. Filter Chamber

Goff discloses the “filter chamber” recited in Claim 15. (Ex. 1003, ¶¶169-171.) Goff discloses that its filter “housing will further have conventional connectors to permit connection at an upper end to the aspiration catheter and at a lower end to the aspirate receptacle.” (Ex. 1005, [0015].) As shown in the images below, the housing has a port (or opening) at the proximal and distal end of the filter. Thus, a POSITA would have understood that the opening at the upper end of Goff’s filter housing is a “first port” as recited in Claim 15, and the opening at the lower end of Goff’s filter housing is a “second port” as recited in Claim 15:



(*Id.*; Ex. 1003, ¶170.) Goff discloses the remaining limitations of the “filter chamber” recited in Claim 15 for the reasons explained for Claim 1. (*Supra* §VII.A.1.) A POSITA would have been motivated to substitute Garrison’s filter for Goff’s filter assembly and would have reasonably expected success in doing so for the reasons explained for Claim 1. (*Supra* §VII.A.1.)

2. Remaining Limitations

Garrison discloses the remaining limitations of Claims 15-19, 25, and 30 for the reasons explained in Grounds 1-2. (*Supra* §§VI.J-N, VI.Q-R.) Accordingly, Garrison in combination with Goff renders Claims 15-19, 25, and 30 obvious.

C. Claims 8 and 22

Claims 8 and 22 recite that “the filter is removable from within the housing.” Goff discloses that the upper shell and lower shell of its filter housing “may be taken apart to permit introduction, removal, and replacement of the filter element in the interior of the housing.” (Ex. 1005, [0015].) Accordingly, Garrison in combination with Goff renders Claims 8 and 22 obvious. (Ex. 1003, ¶174.)

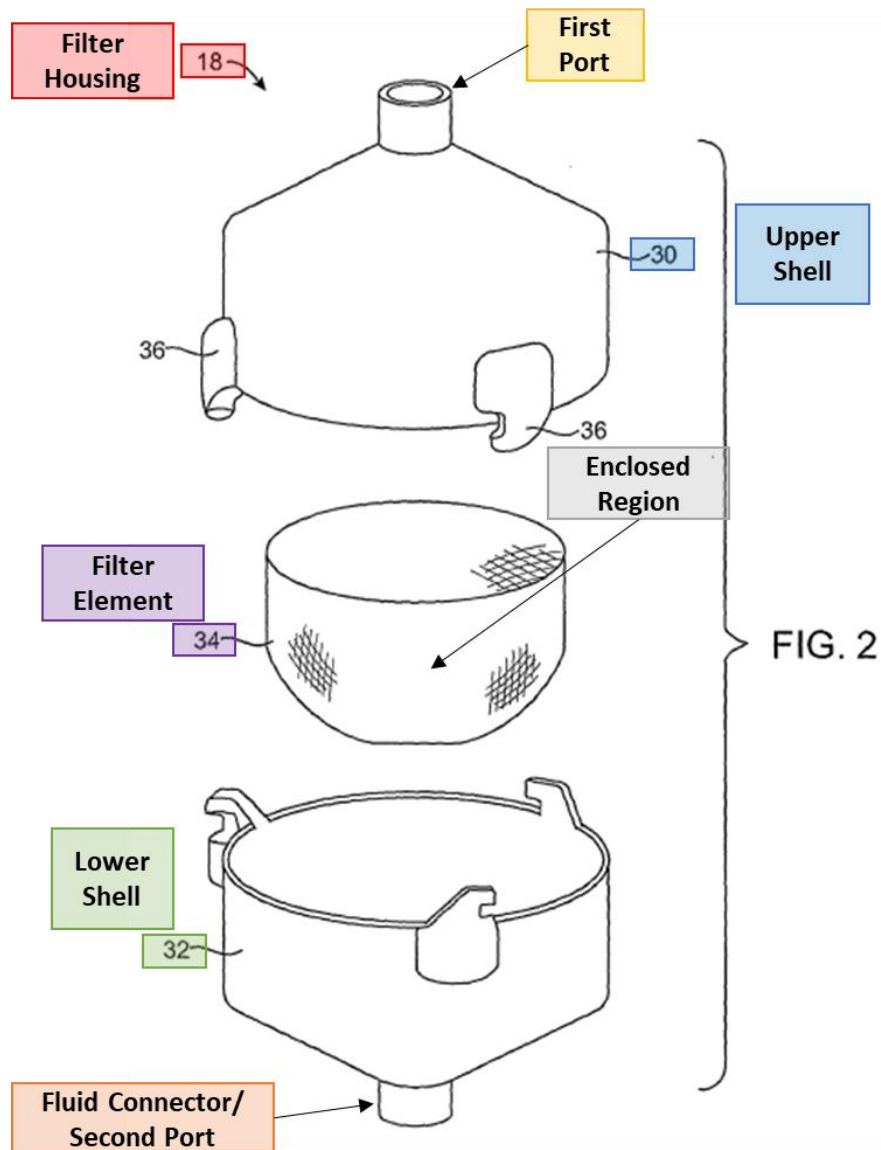
D. Claims 10 and 24

Claims 10 and 24 recite that “the filter encloses a region within the housing, wherein the fluid connector is proximal to the enclosed region along the first fluid path, and wherein the filter includes a plurality of pores sized to inhibit clot material from flowing therethrough and to permit blood to flow therethrough.”⁴ Goff discloses these limitations. (Ex. 1003, ¶¶175-178.)

Goff discloses that its filter element “may comprise a filter membrane, a mesh, link, or the like, having a pore or mesh size selected to collect and separate solids having a target threshold size or sizes.” (Ex. 1005, [0015]; *see also id.*, [0011] (disclosing that the “filter element is placed between the aspiration catheter and the aspirate receptacle in order to remove solid materials from the aspirate before the remaining liquid phase of the aspirate flows to the aspirate receptacle”).) Goff

⁴ Claim 24 depends from Claim 15 and recites a “second port” rather than a “fluid connector” but is otherwise identical to Claim 10.

further discloses that the “geometries in which the filter elements 34 are arranged will depend in large part on the construction of the remainder of the filter assembly” but explains that in the embodiment depicted in Figure 2, “the filter element 34 is constructed so that it nests within the lower shell 32 of the filter assembly”:



(*Id.*, [0026], Fig. 2; *see also id.*, [0011].) As shown in Figure 2, Goff’s filter element encloses a region within the filter housing (i.e., the region enclosed by the cylindrical

filter element), and the fluid connector is proximal to that enclosed region along the fluid path. (*Id.*; Ex. 1003, ¶177.)

Accordingly, Garrison in combination with Goff renders Claims 10 and 24 obvious. (Ex. 1003, ¶178.)

**VIII. GROUNDS 4-7: CLAIMS 14, 30 OBVIOUS OVER GARRISON AND
OPTIONALLY GOFF WITH BRADY OR PONS**

Claims 14 and 30 require that “the vacuum source comprises a vacuum chamber” and that the “catheter is fluidically coupled to vacuum chamber via the first fluid path.” Garrison discloses that its aspiration source “may be an aspiration pump, a regular or locking syringe, a hand-held aspirator, hospital suction, or the like.” (Ex. 1006, [0134]; *see also id.*, [0071]-[0072], [0131].) As explained in Grounds 1-2, Garrison’s embodiments using a syringe would have included a “vacuum chamber” as recited in claims 14 and 30, and a POSITA would have understood that the embodiments using an aspiration pump would also include a “vacuum chamber.” However, Garrison does not describe the details of its aspiration pumps in text, presuming instead that POSITAs would have been familiar with the available aspiration pumps.

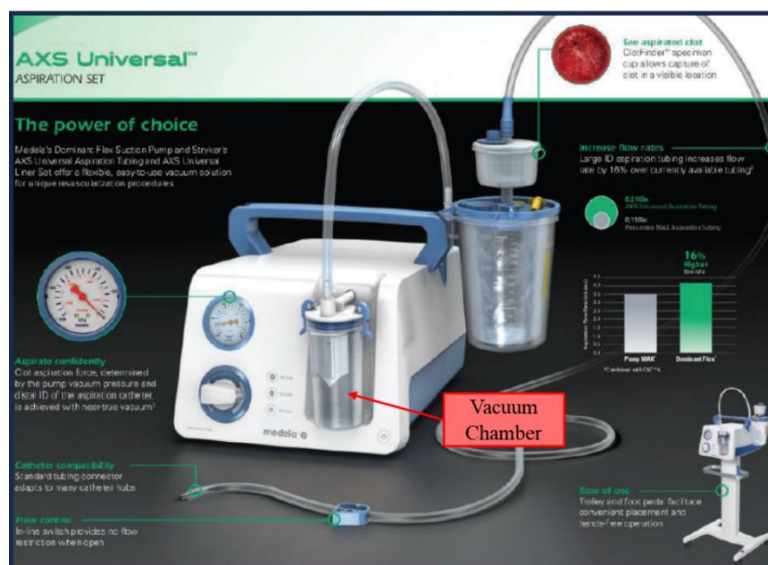
In January 2018, available aspiration pumps built up vacuum in a vacuum chamber before applying it to an aspiration catheter. For example, Brady and Pons each disclose aspiration pumps for thrombectomy procedures that included vacuum chambers as part of the pump assembly. (*Infra* §§VIII.A.1-2.) Their designs are

similar to commercial aspiration pumps, such as the Penumbra Max and Medela Dominant Flex, that had been clinically used in thrombectomy procedures for years prior to 2018:

Penumbra Pump



Medela Pump



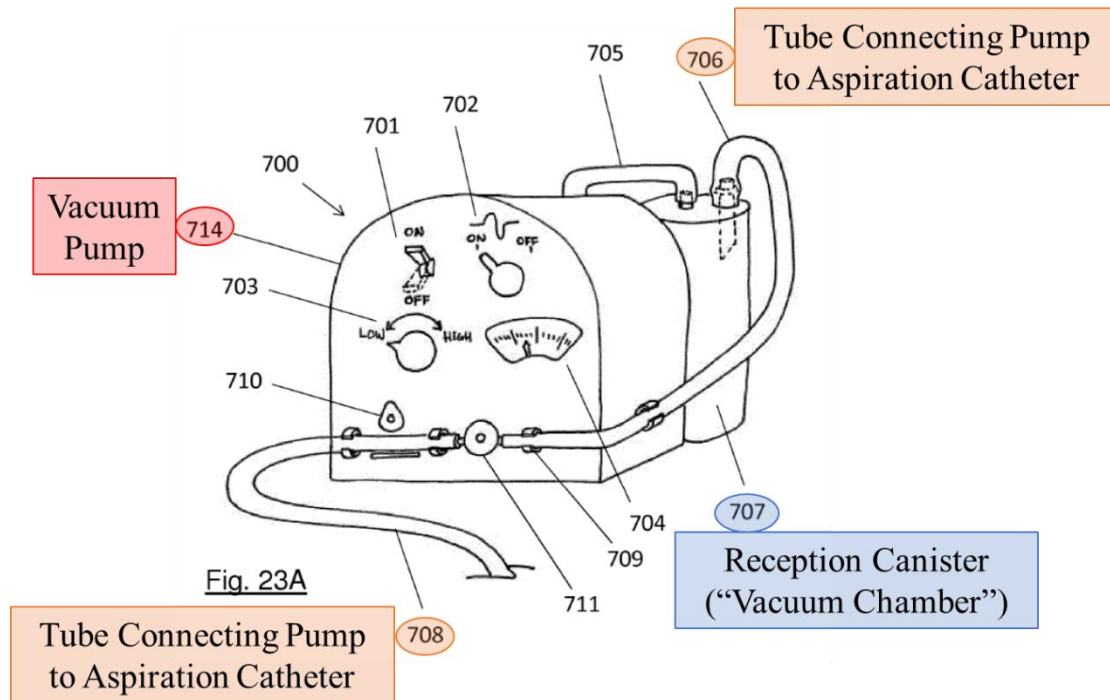
(Ex. 1036; Ex. 1037.) Accordingly, as detailed below, claims 14 and 30 would have been obvious to a POSITA in view of Garrison and optionally Goff in combination with Brady or Pons. (Ex 1003, ¶180.)

A. Vacuum Chamber

1. Brady

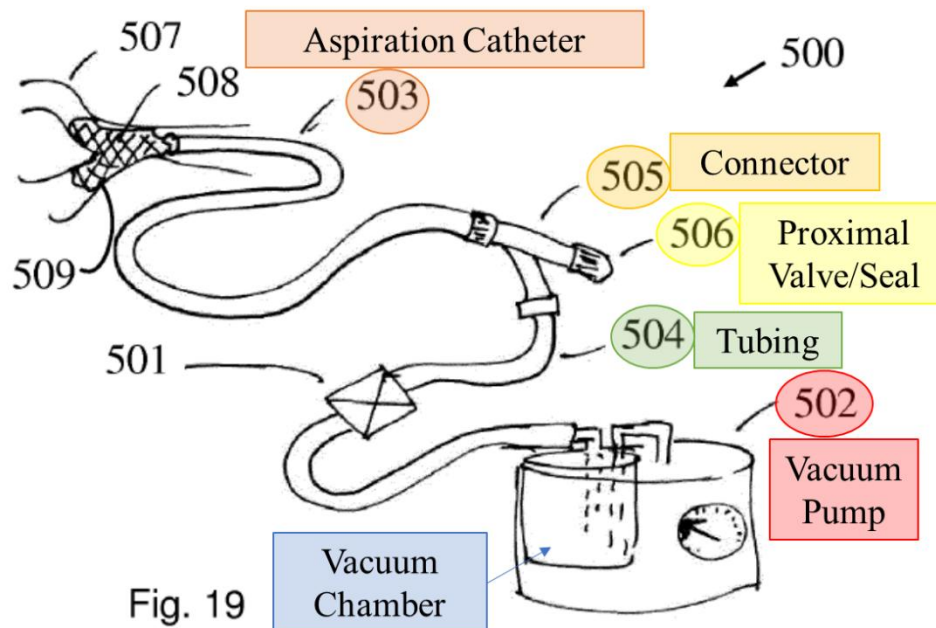
Brady discloses an aspiration pump having a “vacuum chamber.” (Ex. 1003, ¶¶182-191.)

Brady’s Figure 23A discloses a vacuum pump 714 that “may comprise a diaphragm or vane or piston pump, or a peristaltic pump, or other means of generating a negative pressure differential.” (Ex. 1010, 21:16-19.) Brady’s pump is connected to a reception canister 707, which is fluidly connected to an aspiration catheter by tubing 706 and 708:



(*Id.*, 21:16-32, Fig. 23A.) When Brady’s vacuum pump is turned on, the pump “evacuates the canister 707 via tube 705, and thus a suction or aspiration force is transmitted through tubes 706 and 708.” (*Id.*, 21:29-32.) Brady further discloses that there is “vacuum within the canister 707” when the pump is turned on. (*Id.*, 22:3-4.) Thus, Brady’s canister 707 is a “vacuum chamber.” (Ex. 1003, ¶183.)

Brady’s Figure 19 also discloses a vacuum pump with a vacuum chamber that is connected to the proximal end an aspiration catheter via tubing:



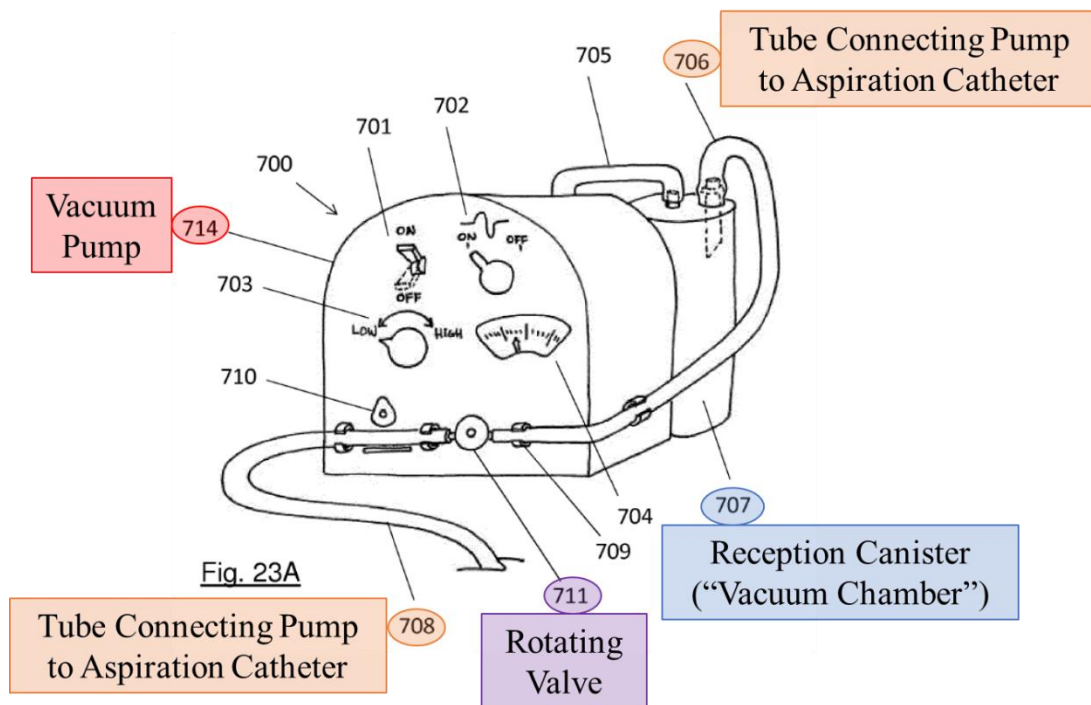
(Ex. 1010, 20:19-29, Fig. 19; Ex. 1003, ¶184.)

A POSITA would have been motivated to use Brady’s vacuum pump as Garrison’s aspiration source for several reasons. (Ex. 1003, ¶¶185-189.)

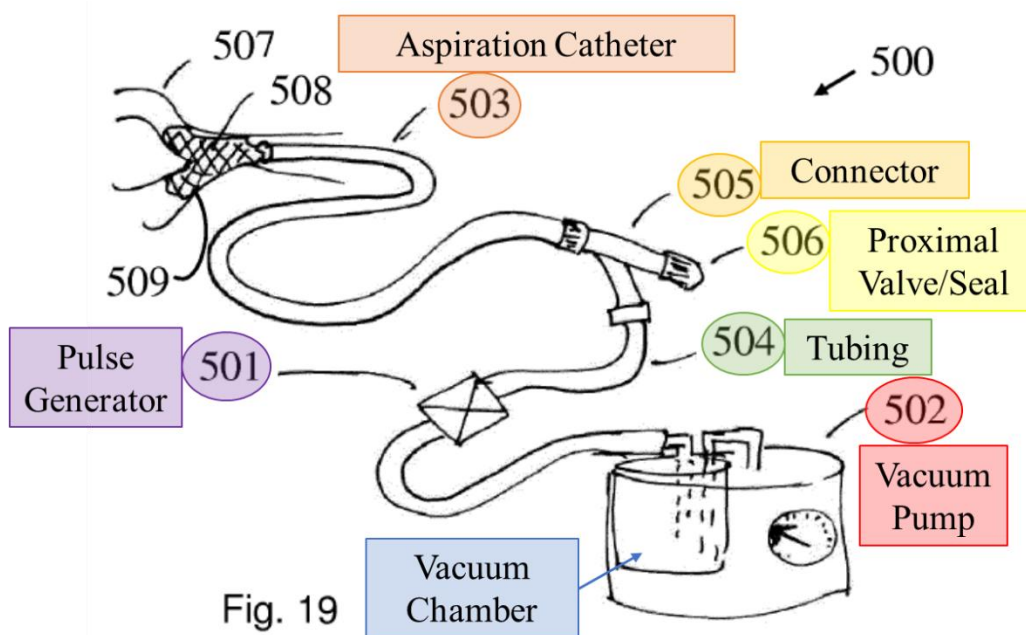
First, a POSITA would have been motivated by Brady’s disclosure that its vacuum pump is “particularly suited to removing clot from cerebral arteries in patients suffering acute ischemic stroke (AIS), from coronary native or graft vessels in patients suffering from myocardial infarction (MI), and from pulmonary arteries in patients suffering from pulmonary embolism (PE) and from other peripheral arterial and venous vessels in which clot is causing an occlusion.” (Ex. 1010, 1:13-17; Ex. 1003, ¶186.) Garrison discloses using its aspiration system to remove

cerebral clots in patients suffering from AIS, one of the clinical applications that Brady's pump is "particularly suited" for. (Ex. 1006, [0002].)

Second, a POSITA would have been motivated by Brady's disclosure that its vacuum pump can be used with an on-off control valve to provide a rapid pulse of vacuum pressure that "may be beneficial for the retrieval of stubborn clot material." (Ex. 1010, 22:5-6.) Specifically, Brady explains that its rotating valve 711 may be closed while the vacuum pump is on such that "tube 708 is no longer exposed to the vacuum within canister 707," and then the valve may be opened so that "a vacuum pulse may be delivered through tube 708":



(*Id.*, 22:1-24, Figs. 23a, 24a-b.) Brady’s Figure 19 similarly includes a pulse generator 501 that selectively compresses the connection tubing to create pulsing aspiration:



(*Id.*, 20:19-29, Fig. 19.)

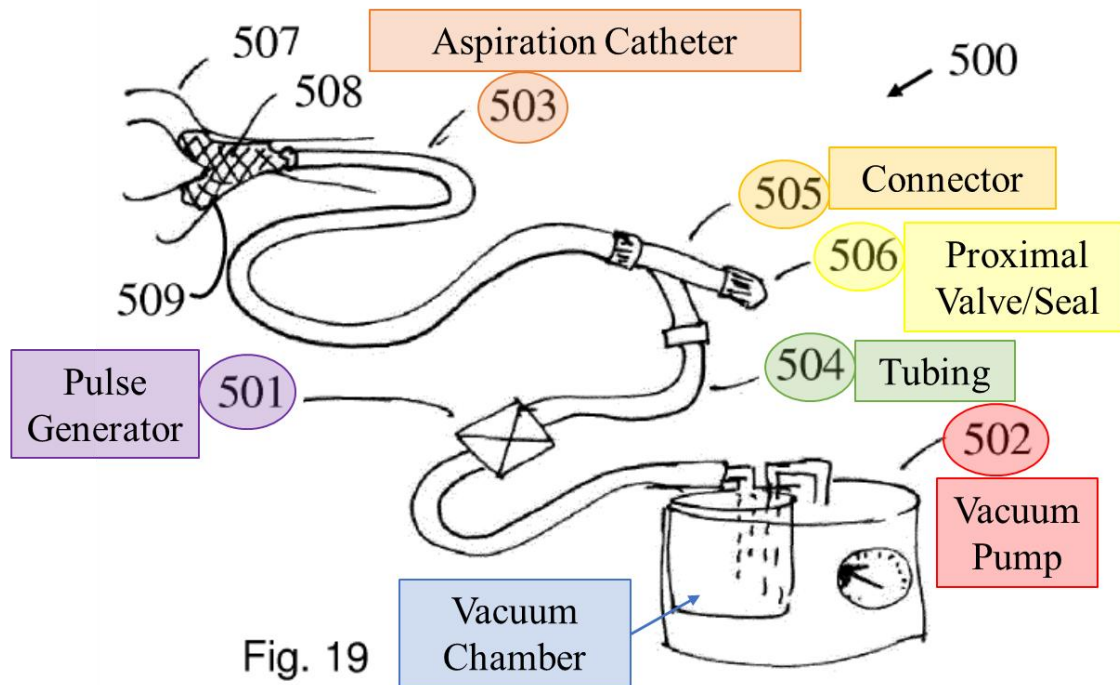
Garrison discloses a similar method in which “a locking syringe (for example a VacLok Syringe) is attached to the flow controller and the plunger is pulled back into a locked position by the user while the connection to the flow line is closed prior to the thrombectomy step” and then “when the tip of the aspiration device ... is near or at the face of the occlusion, the user may open the connection to the aspiration syringe.” (Ex. 1006, [0134].) Garrison states that this method “enable[s] the maximum level of aspiration in a rapid fashion with one user.” (*Id.*) The similarity between the rapid pulse aspiration methods described in Garrison and

Brady would have motivated a POSITA to use Brady's vacuum pump with Garrison's system and would have provided a POSITA with a reasonable expectation of success in doing so. (Ex. 1003, ¶¶187-188.)

Third, the combination of Brady's pump with Garrison's aspiration system would have merely entailed the simple substitution of one known component (Brady's vacuum pump) for another (Garrison's aspiration source 3430) to yield the predictable result of providing vacuum pressure to Garrison's aspiration catheter. *KSR*, 550 U.S. at 416; (Ex. 1003, ¶189.)

A POSITA would have reasonably expected success in using Brady's pump with Garrison's aspiration system because Garrison expressly discloses that its aspiration source "may be an aspiration pump," and Brady's vacuum pump is an "aspiration pump." (Ex. 1006, [0134]; *see also id.*, [0071]-[0072], [0131]; Ex. 1003, ¶190.) In addition, Brady discloses that its vacuum pump is connected to an aspiration catheter via medical tubing and that it can aspirate the catheter via an intermediary on-off control valve or pulse generator. (Ex. 1010, 21:16-22:24, Figs. 19, 23A.) Garrison's aspiration system in Figure 34 uses a similar configuration, and therefore, a POSITA would have reasonably expected success in incorporating Brady's pump into Garrison's system. (Ex. 1006, [0130]-[132], Fig. 34; Ex. 1003, ¶191.) For example, a POSITA would have simply connected Brady's tubing 706 or 504, which is attached to the canister, to Garrison's check valve 3419 in Figure

34. (Ex. 1003, ¶191.) Brady’s Figure 19 illustrates this type of simple arrangement, where tubing 504 connects the vacuum chamber of the pump 502 to the proximal end of an aspiration catheter 503 via a connector:



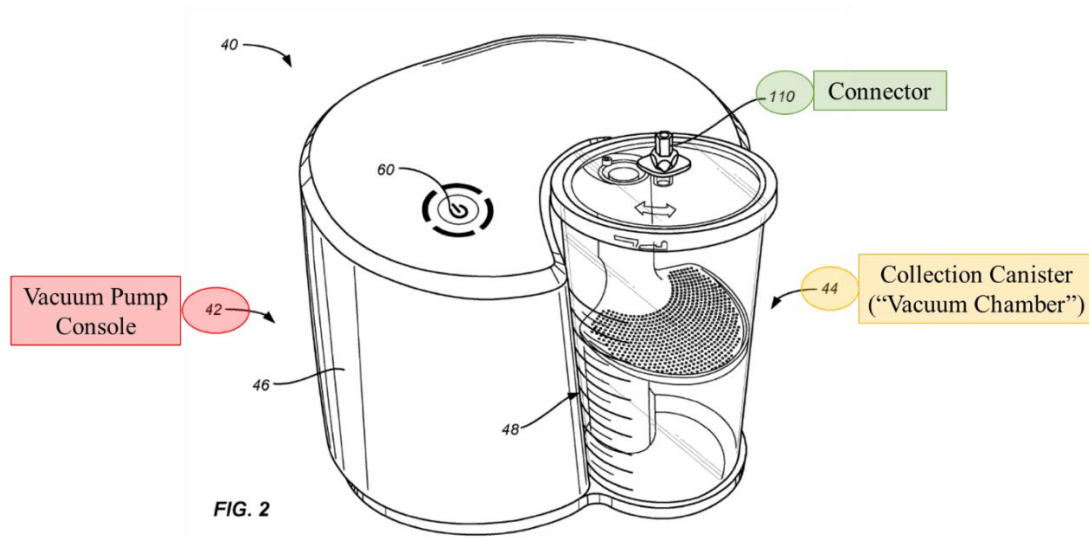
(Ex. 1010, 20:19-29, Fig. 19.) Figure 19 would have therefore reinforced the POSITA’s reasonable expectation that Brady’s pump with a vacuum chamber could be used with Garrison’s aspiration system. (Ex. 1003, ¶191.)

2. Pons

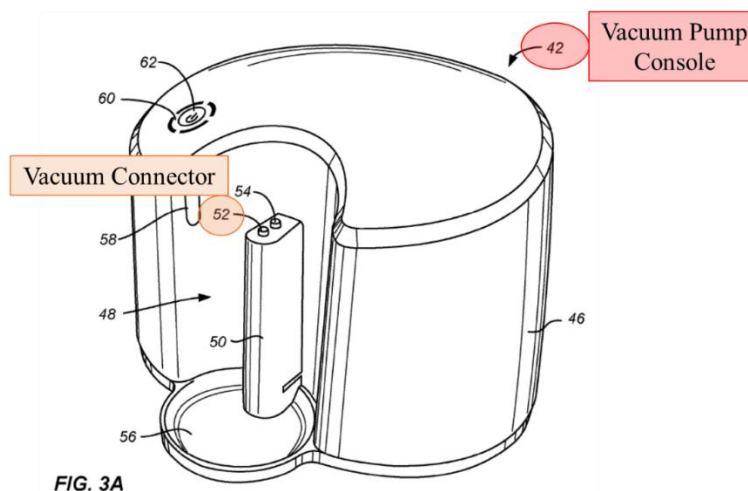
Pons also describes an aspiration pump having a “vacuum chamber.” (Ex. 1003, ¶¶192-200.)

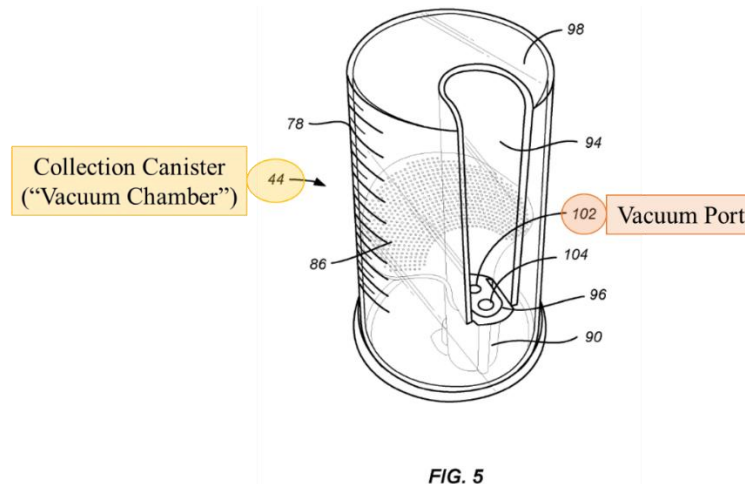
Pons discloses embodiments of “improved vacuum systems including a vacuum console and a collection canister for use with mechanical thrombectomy

systems.” (Ex. 1011, 2:56-58.) Pons’ vacuum system includes a vacuum console 42 that houses a pump and a collection canister 44 secured to the console:



(*Id.*, 6:27-33, Fig. 2.) The canister includes a connector 110 “which is attached to a proximal end of the catheter or other tubing.” (*Id.*, 7:63-65.) The console includes a vacuum connector 52 that connects to a vacuum port 102 on the canister to generate vacuum pressure in the canister:





(*Id.*, 7:1-3, 7:65-8:1, Figs. 3A, 5.) Pons also discloses a pressure sensor that “measures vacuum pressure in the canister.” (*Id.*, 6:34-58, 7:19-22.) Pons’ collection canister is therefore a “vacuum chamber.” (Ex. 1003, ¶193.)

A POSITA would have been motivated to use Pons’ vacuum pump as Garrison’s aspiration source for several reasons. (Ex. 1003, ¶¶194-198.) First, a POSITA would have been motivated by Pons’ disclosure that its “vacuum systems can find use with any thrombectomy, embolectomy, atherectomy, or other catheter or probe system where blood and clot are withdrawn wholly or partially by application of a vacuum to the proximal end of any reperfusion catheter, aspiration catheter or probe for the purpose of clot extraction.” (Ex. 1011, 2:65-3:4; Ex. 1003, ¶195.) Garrison discloses such an aspiration system were “blood and clot [is] withdrawn ... by application of a vacuum to the proximal end of ... [an] aspiration catheter.” (Ex. 1006, [0164]-[0165]; Ex. 1003, ¶195.)

Second, a POSITA would have been motivated by Pons’ disclosure that its system “provides a direct connection between a vacuum pump within the console and an interior of a removable canister ... [which] simplifies connection and routing of the catheter to the vacuum console” and prevents “entanglement of the aspiration tube with external vacuum tubes on the vacuum console.” (Ex. 1011, 3:7-15, 3:46-50; Ex. 1003, ¶196.) A POSITA would have therefore recognized that Pons’ aspiration pump would simplify Garrison’s system and would avoid potential entanglements between Garrison’s aspiration tubing and external tubing on the vacuum pump. (Ex. 1003, ¶196.)

Third, a POSITA would have been motivated by Pons’ disclosure that its system “provide[s] for improved pressure sensing within the interior of the canister [b]y providing a pressure sensor which measures vacuum pressure directly in the collection canister, [reducing] the risk of clogging of the pressure pathway.” (Ex. 1011, 3:15-21, 4:46-50; Ex. 1003, ¶197.) A POSITA would have recognized that Pons’ improved pressure sensing would provide another valuable benefit to Garrison’s aspiration system. (Ex. 1003, ¶197.)

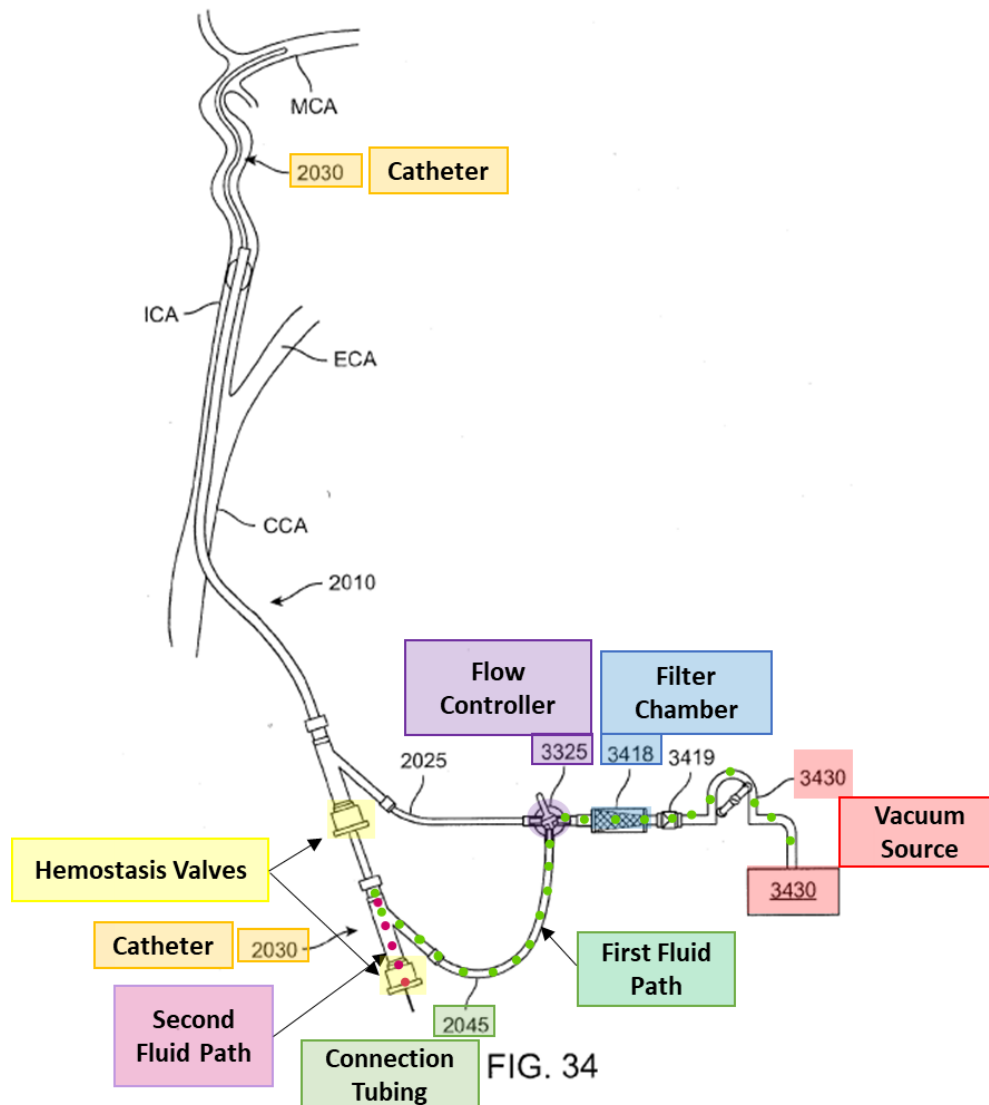
Fourth, the combination of Pons’ pump with Garrison’s aspiration system would have merely entailed the simple substitution of one known component (Pons’ vacuum pump) for another (Garrison’s aspiration source 3430) to yield the

predictable result of providing vacuum pressure to Garrison’s aspiration catheter.
KSR, 550 U.S. at 416; (Ex. 1003, ¶198.)

A POSITA would have reasonably expected success in using Pons’ pump with Garrison’s aspiration system because Garrison expressly discloses that its aspiration source “may be an aspiration pump,” and Pons’ vacuum pump is an “aspiration pump.” (Ex. 1006, [0134]; *see also id.*, [0071]-[0072], [0131]; Ex. 1003, ¶199.) In addition, Pons states that its “vacuum systems can find use with any thrombectomy, embolectomy, atherectomy, or other catheter or probe system where blood and clot are withdrawn wholly or partially by application of a vacuum to the proximal end of any reperfusion catheter, aspiration catheter or probe for the purpose of clot extraction.” (Ex. 1011, 2:65-3:4; Ex. 1003, ¶200.) Garrison discloses such an aspiration system were “blood and clot [is] withdrawn ... by application of a vacuum to the proximal end of ... [an] aspiration catheter,” and thus a POSITA would have reasonably expected that Pons’ vacuum system could be used with Garrison’s system. (Ex. 1003, ¶200.)

B. Vacuum Chamber Fluidically Coupled To Tubing And Aspiration Catheter

Garrison’s aspiration source 3430 is fluidically coupled to the aspiration catheter 2030 via the filter 3418 (i.e., filter chamber) along the first fluid path:



(Ex. 1006, [0130]-[0134], Fig. 34; Ex. 1003, ¶202.) The vacuum source is fluidically coupled to the first fluid path via the connection tubing that makes up the flow line 2045. (Ex. 1006, [0132], Fig. 34; Ex. 1003, ¶202.) Accordingly, when Garrison's aspiration source 3430 is replaced with the aspiration pumps in Brady or Pons, the vacuum chamber of Brady's or Pons' pump would be fluidically coupled to the connection tubing and to the aspiration catheter 2030 via the filter chamber. (Ex. 1003, ¶202.)

C. Remaining Limitations

Garrison and Goff disclose or render obvious the remaining limitations of claims 14 and 30 for the reasons explained in Grounds 1-3. (*Supra* §§VII.A-B.) Therefore, claims 14 and 30 would have been obvious to a POSITA in view of Garrison and optionally Goff in combination with Brady or Pons. (Ex. 1003, ¶203.)

IX. GROUND 8-11: CLAIMS 12, 26-28 OBVIOUS IN VIEW OF GARRISON AND OPTIONALLY GOFF WITH SCHAFFER AND OPTIONALLY HARTLEY

Dependent Claims 12 and 26-28 recite several additional limitations for the hemostasis valve. As explained in Grounds 1-2, Garrison describes an aspiration system with a hemostasis valve. (*Supra* §VI.A.6.) However, Garrison does not describe the details of its hemostasis valves, presuming instead that POSITAs would have been familiar with the available valves. As explained below, Schaffer, alone or in combination with Hartley, discloses the hemostasis valve limitations recited in Claims 12 and 24-26. A POSITA in January 2018 would have found it obvious to use the hemostasis valves disclosed by Schaffer, either alone or combined with Hartley, in Garrison's aspiration system. (Ex. 1003, ¶205.) Accordingly, Garrison and optionally Goff in combination with Schaffer and optionally Hartley renders Claims 12 and 26-28 obvious. (*Id.*)

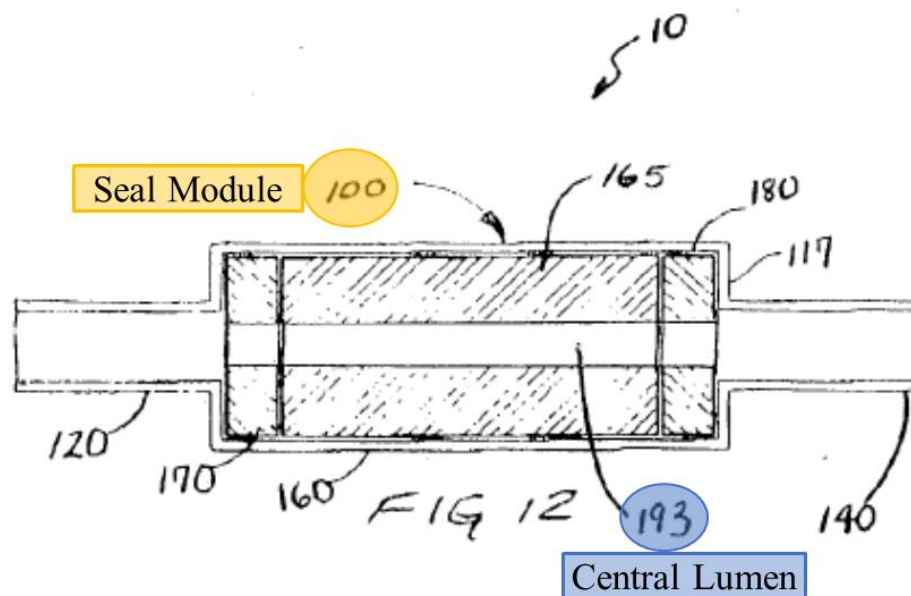
A. Claim 12

Garrison and optionally Goff in combination with Schaffer and optionally Hartley renders Claim 12 obvious. (*Id.*, ¶¶206-260.) Schaffer, alone or in combination with Hartley, discloses the hemostasis valve limitations recited in Claim 12. (*Id.*)

1. Tubular Member, Button, and Spring

Schaffer discloses a hemostasis valve that “comprises a tubular member, a button, [and] a spring coupled to the button.” (Ex. 1003, ¶¶207-209.)

Schaffer discloses an adjustable opening “fluid-stasis valve” for use with catheters to prevent the flow of blood through the valve. (Ex. 1007, [0002], [0046], [0055].) Schaffer’s hemostasis valve includes a “seal module 100” that comprises “a flexible, elongate tubular structure 101.” (*Id.*, [0049], [0051], [0054], [0075].) The elongate tubular structure 101 defines a lumen 193:



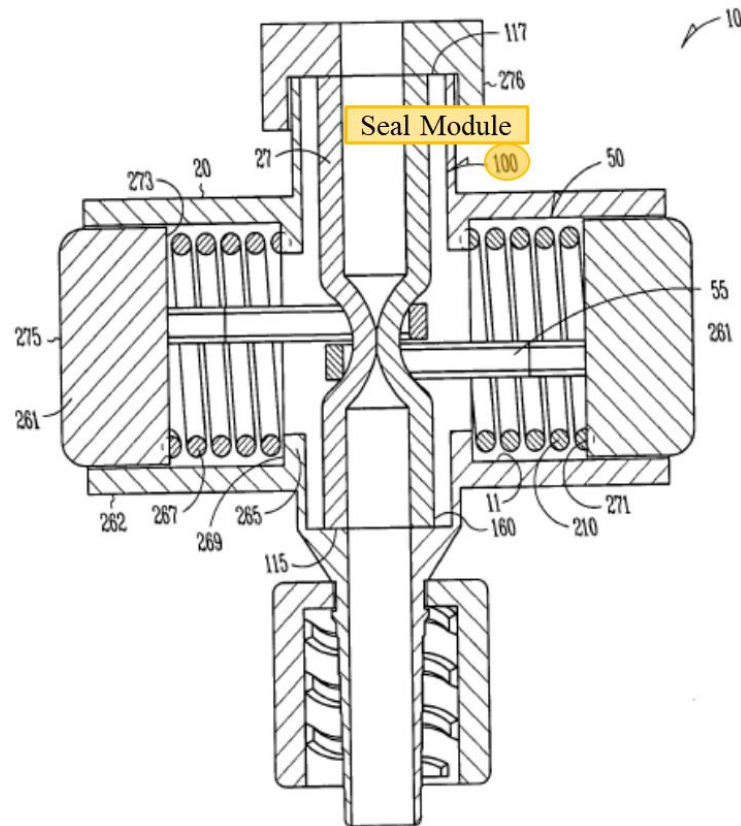
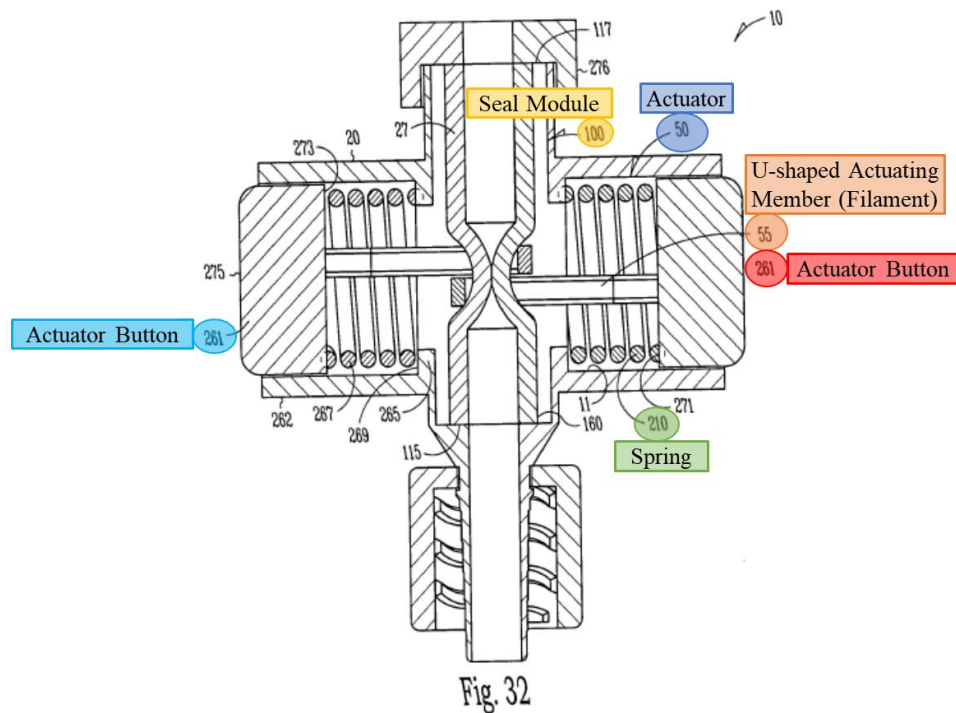


Fig. 32

(*Id.*, [0058], Figs. 12, 32.)⁵ Schaffer’s seal module 100 is therefore “a tubular member.” (Ex. 1003, ¶208.)

Schaffer’s valve has “two circular actuators 50” on opposite sides of the housing that are “movable from a first position to a second position”:

⁵ While Figure 12 illustrates a seal module 100 comprised of three seal members 160, 170, and 180, Schaffer discloses that “seal module 100 is formed of one or more seal members.” (Ex. 1007, [0075], Figs. 32, 34.)



(Ex. 1007, [0075]-[0076], Figs. 31-32.)⁶ Each actuator 50 includes “an actuator button 261” attached to a “spring 210.” (*Id.*)

2. Filament

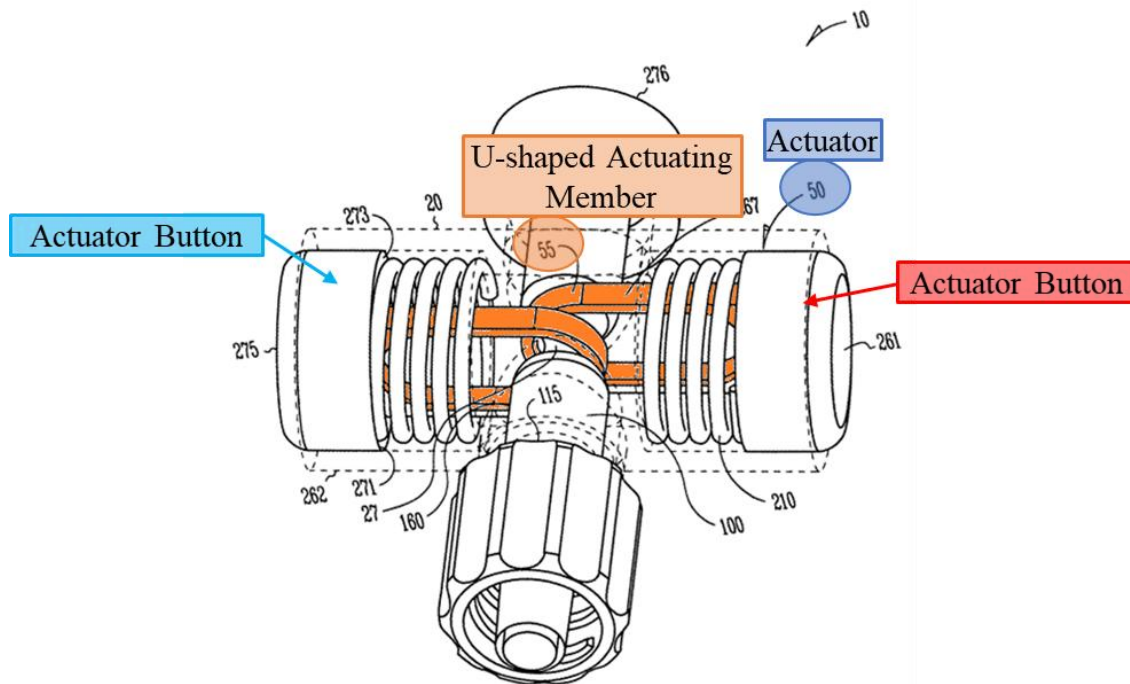
i. Schaffer

Schaffer discloses “a filament coupled to the button and the tubular member.”

(Ex. 1003, ¶¶210-222.)

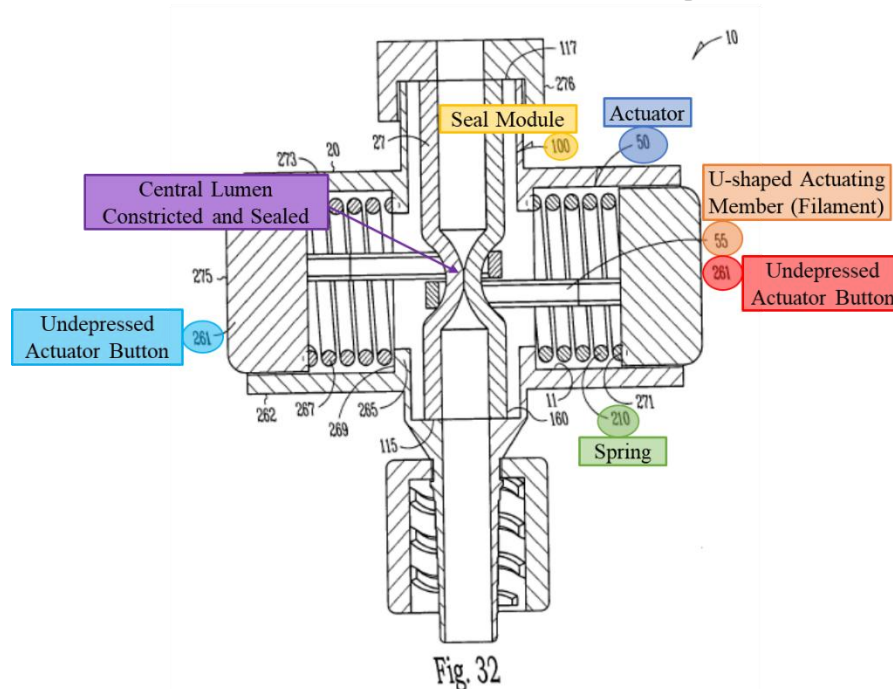
Schaffer’s valve includes two U-shaped actuating members coupled to the actuator buttons:

⁶ Petitioner uses the versions of Schaffer’s drawings submitted during prosecution on June 18, 2003 (Ex. 1009) because they are clearer. The drawings became publicly available when Schaffer published on December 4, 2003. 37 C.F.R. §1.11.



(Ex. 1007, [0076], Fig. 31.) Schaffer discloses that in a first position (below), the actuating members are “at least partially circumferentially disposed about the portion 108 of the seal module 100 depressing and at least partially collapsing a portion 108 of the containment structure 160 by a compressive force 67 (e.g. by a spring 210)”:

First Position – Actuator Buttons Undepressed



(*Id.*, [0077], Fig. 32.) Schaffer’s U-shaped actuating members (i.e., filament) are therefore coupled to Schaffer’s button and tubular member. (Ex. 1003, ¶222.)

Schaffer’s U-shaped actuating members are a “filament” as claimed in the ’669 patent. (*Supra* §IV; Ex. 1003, ¶¶211-220.) Schaffer’s actuating members are formed from aluminum or plastic, and resemble a ribbon, flat wire, sheet, or tape. (Ex. 1007, [0081], Figs. 31-34; Ex. 1003, ¶212.) The ’931 application states that the filament can be made from a polymer, which includes Schaffer’s plastic, or a metal, which includes Schaffer’s aluminum. (*Supra* §IV.) Likewise, the ’931 application states that a filament may be a ribbon, flat wire, sheet, or tape, which includes Schaffer’s U-shaped actuating members. (*Id.*) In related proceedings, PO argued that Schaffer’s actuating members are “rigid.” (Ex. 1030, 44-45.) However, Mr.

Thornton explains why these arguments are inconsistent with Schaffer and that a POSITA would have recognized that Schaffer's actuating members would be flexible. (Ex. 1003, ¶¶213-220.)

ii. Schaffer and Hartley

If Schaffer does not disclose a “filament,” Hartley does. (Ex. 1003, ¶¶223-225.) Hartley describes a hemostasis valve having a “cylindrical elastomeric diaphragm,” and a rotary actuator mounted to the housing:

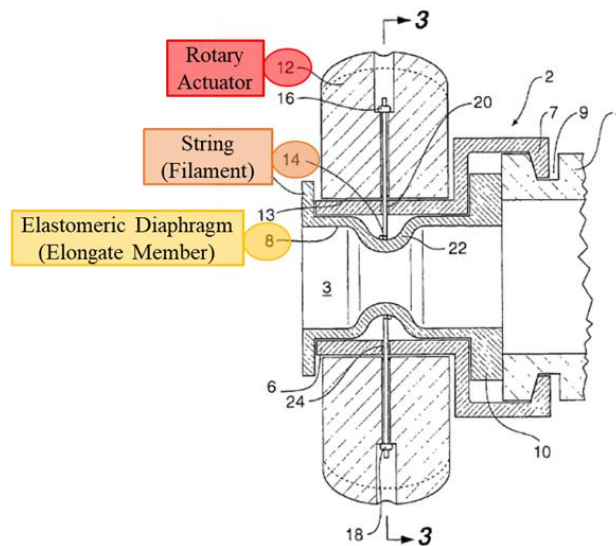
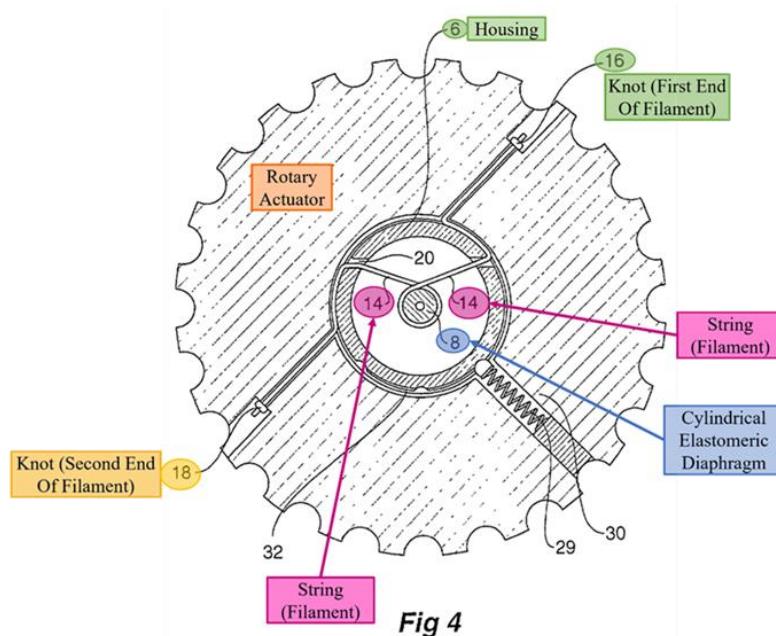


Fig 1

(Ex. 1008, [0031], Fig. 1.) Hartley's valve includes a “string 14 ... mounted into the rotary actuator.” (*Id.*) Hartley's string 14 is a “filament” because the string is made of at least one or more threads, lines, or cords. (Ex. 1003, ¶223.)

Hartley's string is secured to the rotary actuator via knots 16 at the ends of the filament and “is wound preferably twice around the cylindrical diaphragm 8”:



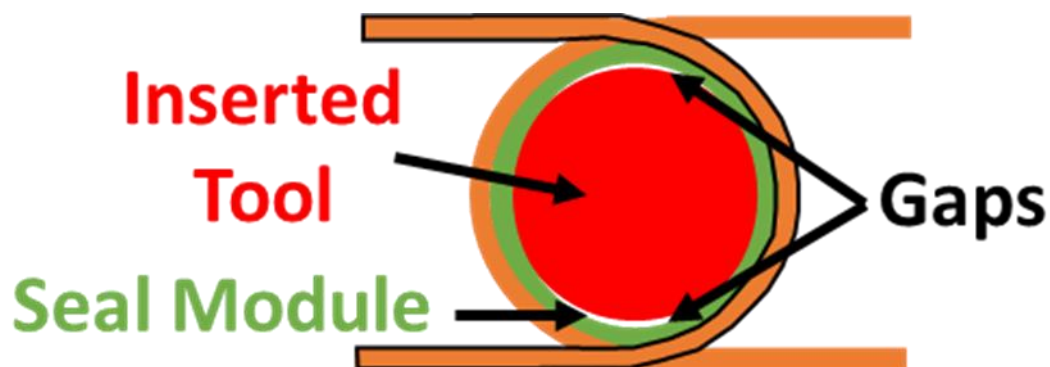
(Ex. 1008, [0031], Fig. 4.)

Hartley discloses that “[r]otation of the rotary actuator 12 with respect to the cylindrical housing 6 will cause the string 14 to be pulled in both directions at once and hence the cylindrical diaphragm 8 to be constricted.” (*Id.*, [0031], [0034], Fig. 4.) Hartley further discloses the valve “will close over a range of diameters of devices passed through the valve or can close completely down to be self sealing.” (*Id.*, [0037].) Hartley also discloses that rotation of the valve in the opposite direction “will cause the sutures to loosen again so that the resilient cylindrical diaphragm will retain its original shape.” (*Id.*, [0034].)

POSITAs would have found it obvious to substitute Hartley’s string for Schaffer’s actuating members in Schaffer’s valve. (Ex. 1003, ¶¶226-233.) The combination of Hartley’s string and Schaffer’s valve merely entailed substitution of

one known element (Hartley’s string) for another (Schaffer’s actuating members) to yield the predictable result of sealing Schaffer’s valve. *KSR*, 550 U.S. at 416.

Hartley’s disclosure that its string can “close over a range of diameters of devices passed through the valve or can close completely down to be self-sealing” would have further motivated POSITAs to substitute Hartley’s string for Shaffer’s actuating members. (Ex. 1008, [0037]; Ex. 1003, ¶227.) POSITAs would have recognized that Hartley’s string may seal more effectively across a wider range of tool diameters and shapes than Schaffer’s U-shaped actuating members. (Ex. 1003, ¶227.) Depending on the inserted tool, Schaffer’s actuating members may form small gaps between the valve’s seal module and the tool’s outer surface:



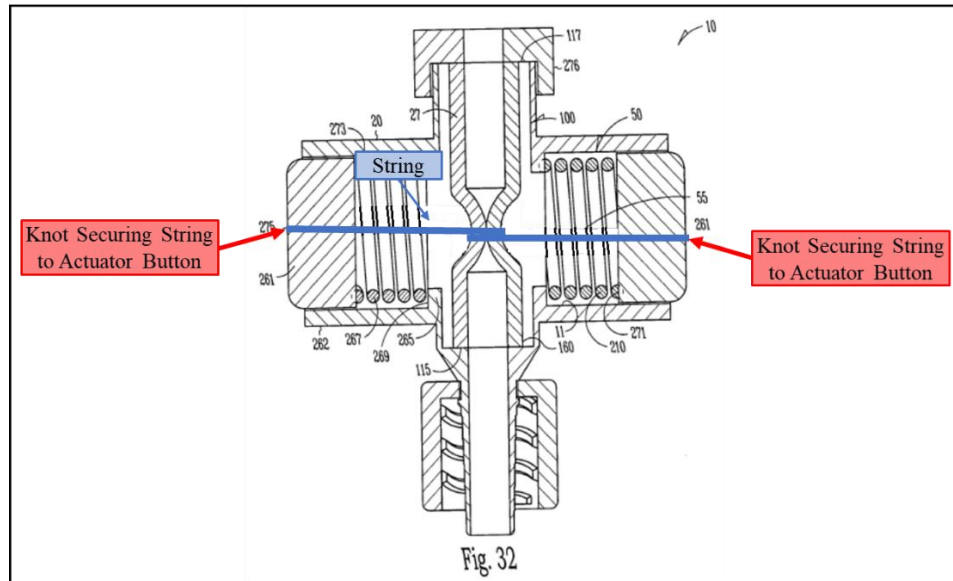
(*Id.*) Hartley’s string would mitigate this potential issue because the string more precisely conforms to the tool diameters. (*Id.*) In related proceedings, PO argued that Schaffer’s valve would not create gaps. (Ex. 1030, 46-52.) However, Mr. Thornton explains why the portions of Schaffer cited by PO do not support PO’s argument. (Ex. 1003, ¶¶234-239.)

POSITAs also had a finite number of materials to select from to constrict a tubular member in a hemostasis valve in January 2018. (*Id.*, ¶228.) Hartley and Schaffer disclose two such materials: Hartley’s string and Schaffer’s actuating members (which can be plastic or metal). (*Id.*) A POSITA would have found it obvious to select from these finite, predictable materials. (*Id.*); *KSR*, 550 U.S. at 421.

Likewise, POSITA’s would have had a finite number of filament configurations to select from to constrict a tubular member in a hemostasis valve in January 2018. (Ex. 1003, ¶229.) Hartley discloses a single string that wraps around the tubular member, while Schaffer discloses two u-shaped members that collective wrap around the tubular member. (*Id.*) A POSITA would have found it obvious to select either of these finite, predictable configurations. (*Id.*); *KSR*, 550 U.S. at 421.

POSITAs would have reasonably expected success in substituting Hartley’s string for Schaffer’s actuating members. (Ex. 1003, ¶¶230-233.) Hartley uses simple knots to attach the string to the rotary actuator. (Ex. 1008, [0031].) POSITAs would have reasonably expected that similar knots would secure Hartley’s string to Schaffer’s actuator buttons. (Ex. 1003, ¶230.) For example, each end of Hartley’s string could be threaded through small holes in Schaffer’s buttons and knotted on the other side. (*Id.*) This simple modification would have been within a POSITA’s skills:

Demonstrative Illustration
Schaffer + Hartley's String



(*Id.*)⁷

Also, POSITAs would have recognized that Hartley's string and Schaffer's actuating members function similarly and, therefore, no other modifications to Schaffer's valve would have been necessary. (*Id.*, ¶231.) Both Hartley and Schaffer collapse a valve lumen by pulling the ends of the actuating members/string in opposite directions. (Ex. 1007, [0077]; Ex. 1008, [0031].) Thus, if Hartley's string were incorporated into Schaffer's valve, a POSITA would have reasonably expected Schaffer's buttons/springs to pull the string in opposite directions to constrict Schaffer's seal module. (*Id.*; Ex. 1003, ¶231.)

⁷ This image is a demonstrative prepared by Petitioner.

Likewise, POSITAs would have also reasonably expected that pressing Schaffer's buttons inwardly would release the tension on the string, allowing the lumen to open. (See Ex. 1007, [0077]; Ex. 1008, [0034]; Ex. 1003, ¶232.) Schaffer's seal module is formed from a "highly deformable, non-compressible material 166 (e.g., plastic)" and is "configured to maintain an open lumen 193 when no compressive force 67 is applied." (Ex. 1007, [0054].) Thus, Schaffer's seal module has the resilience to open when the tension on the string is released. Moreover, if the resiliency of Schaffer's lumen required adjustment to function with Hartley's string, a POSITA would have possessed the skills and knowledge to select an appropriate material with the proper resiliency. (Ex. 1003, ¶232.) Schaffer discloses various materials for the seal module. (Ex. 1007, [0081].)

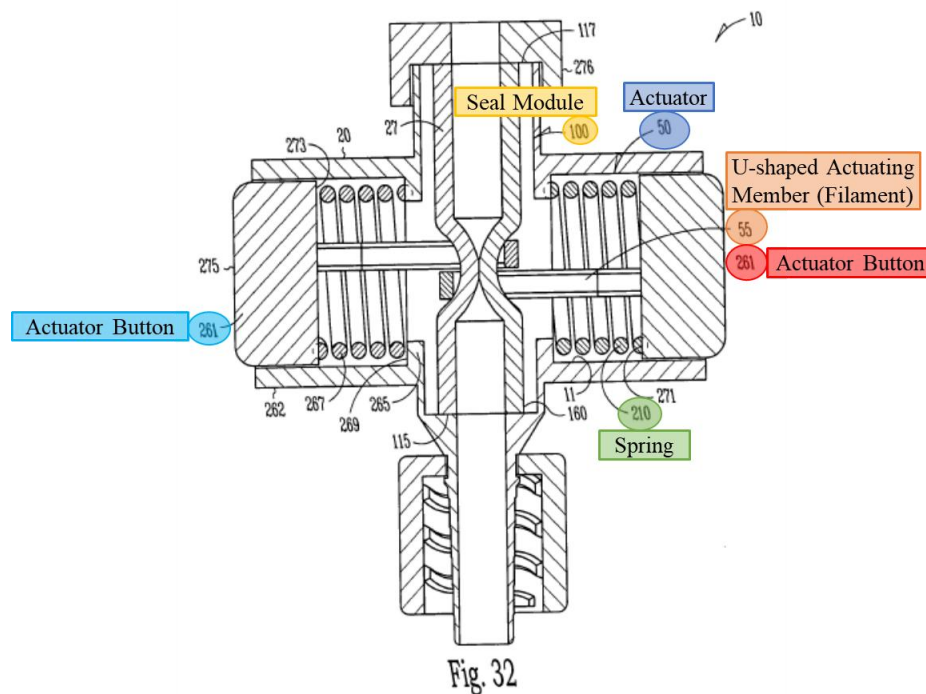
Further, Hartley discloses that looping the string around the central lumen forms an effective seal. (Ex. 1008, [0031], [0037].) Thus, when replacing Schaffer's actuating members with Hartley's string, POSITAs would have been motivated to similarly loop Hartley's string around Schaffer's seal module. (Ex. 1003, ¶233.) POSITAs would have reasonably expected success in using this configuration because Hartley teaches the configuration forms an effective seal. (*Id.*)

3. First and Second Position

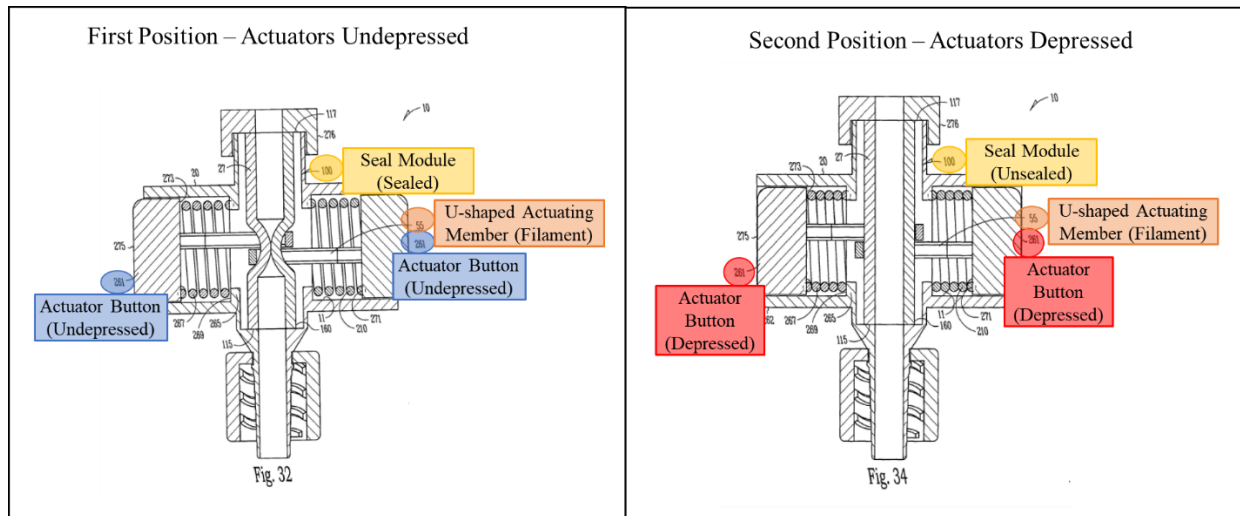
Schaffer, alone and combined with Hartley's string, discloses "the button is configured to be actuated from a first position to a second position to loosen the

filament to allow the tubular member to expand to unseal the hemostasis valve to allow the interventional device to be inserted through the hemostasis valve.” (Ex. 1003, ¶¶250-252.)

Schaffer’s valve includes two spring-loaded actuator buttons 261 “movable from a first position to a second position on opposing sides of the housing”:



(Ex. 1007, [0075]-[0076], Figs. 31-32.) When a user presses the buttons, Schaffer’s valve moves from a sealed position to an unsealed position:



(*Id.*, [0077], Figs. 32, 34; Ex. 1003, ¶251.) Schaffer discloses that depressing the actuator buttons “allows each engaged actuating member 55 to forcibly disengage opposing outer walls 27 of the seal module 100 allowing the portion 108 of the containment structure 160 to retract to an uncollapsed configuration where gases and fluids can pass therethrough.” (Ex. 1007, [0077].)

Thus, moving the buttons to the second position loosens the actuating members (i.e., filament) from the tubular member and allows the tubular member to expand to unseal the valve. (Ex. 1003, ¶252.) The same loosening would occur if Schaffer’s U-shaped actuating members were replaced with Hartley’s string. (*Id.*)

4. Biasing Spring

Schaffer, alone or combined with Hartley’s string, discloses that “the spring is configured to bias the button to the first position.” (Ex. 1003, ¶¶253-254.)

Schaffer’s springs bias the actuator buttons toward the first (i.e., closed) position when no force is applied to the buttons, which causes the actuating members

attached to the buttons to collapse the seal module, preventing the flow of fluid through the valve. (Ex. 1007, [0077]; Ex. 1003, ¶254.)

5. Motivation to Combine

A POSITA would have been motivated, and found it obvious, to use Schaffer’s valve, with or without Hartley’s string, as the hemostasis valve on Garrison catheter 2030 for several reasons. (Ex. 1003, ¶¶255-260.)

First, Garrison describes combining “an adjustable-opening valve” with its catheters. (Ex. 1006, [0062], [0065], [0098].) Schaffer discloses an adjustable-opening valve and, therefore, a POSITA would have been motivated to combine, and reasonably expected success in combining, Schaffer’s valve with Garrison based on Garrison’s express suggestion to do so. (Ex. 1003, ¶256.)

Second, Schaffer discloses that its hemostasis valve is “for use with catheters” and “blocks the flow of gas or fluid completely and immediately with or without an instrument in place within the gas/fluid path.” (Ex. 1007, [0002], [0008], [0047], [0049].) Schaffer also discloses inserting various instruments through the valve, such as “a catheter, guidewire, needle, or fiber.” (*Id.*, [0056], [0074].) Thus, Schaffer’s valve performs the stated function of Garrison’s “hemostasis valve” — to “allow introduction of devices ... while preventing or minimizing blood loss during the procedure.” (Ex. 1006, [0098].) A POSITA would have been motivated

to combine, and reasonably expected success in combining, Schaffer’s valve with Garrison for this additional reason. (Ex. 1003, ¶257.)

Third, POSITAs would have recognized that Schaffer’s valve would simplify the operation of Garrison’s clot treatment system. (*Id.*, ¶258.) For example, Schaffer’s springs bias the valve toward the closed position, eliminating the need to manually seal the valve during procedures as in some prior-art valves. (*Id.*)

Fourth, the combination of Schaffer’s valve with Garrison’s system merely entailed the combination of known elements (Schaffer’s valve and catheter 2030) according to known methods (attaching the valve to a catheter’s proximal hub or forming it integrally with the hub) to yield the predictable result of minimizing blood loss through the catheter. *See KSR*, 550 U.S. at 416; (Ex. 1003, ¶259.)

Fifth, POSITAs in January 2018 had a finite number of predictable hemostasis valves to choose, including an “adjustable-opening valve” and rotating hemostasis valve. (Ex. 1003, ¶260.) A POSITA would have found it obvious to try any of the known hemostasis valves with Garrison’s catheter 2030. (*Id.*); *KSR*, 550 U.S. at 417. The known valves, like Schaffer’s adjustable-opening hemostasis valve, were simple mechanical structures that operate in a predictable way. (Ex. 1003, ¶260.) For this additional reason, POSITAs would have reasonably expected success in combining Schaffer’s valve with Garrison’s catheters. (*Id.*)

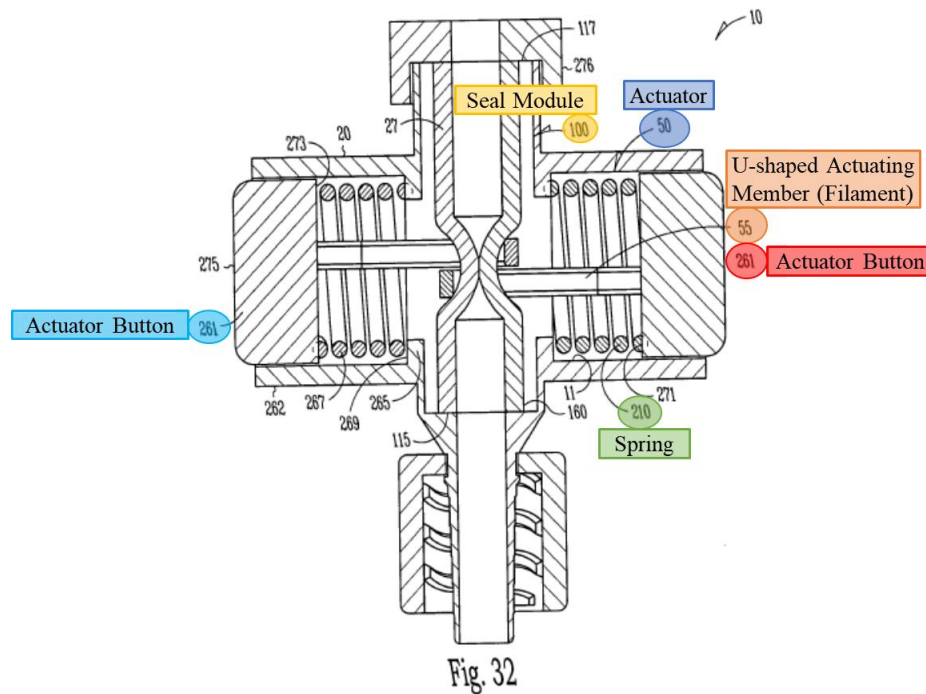
B. Claim 26

Claim 26 recites the “aspiration system of claim 15 wherein the hemostasis valve comprises a tubular member, a button, and a filament coupled to the button and the tubular member, and wherein the button is configured to be actuated from a first position to a second position to loosen the filament to allow the tubular member to expand to unseal the hemostasis valve to allow the interventional device to be inserted through the hemostasis valve.” Garrison and optionally Goff in combination with Schaffer and optionally Hartley renders Claim 26 obvious for the reasons explained for Claim 12. (*Supra* §IX.A.)

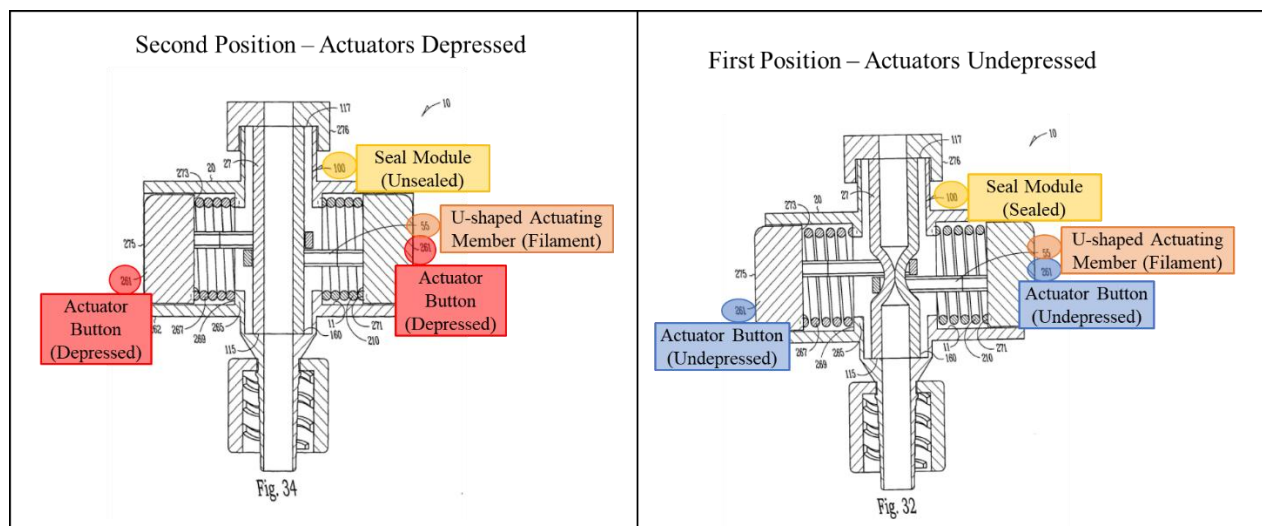
C. Claim 27

Claim 27 recites the “aspiration system of claim 26 wherein the button is movable from the second position to the first position to tighten the filament to allow the tubular member to collapse and seal about a portion of the interventional device.” Garrison and optionally Goff in combination with Schaffer and optionally Hartley renders Claim 27 obvious. (Ex. 1003, ¶¶262-263.)

As explained for Claim 12, Schaffer’s valve includes two spring-loaded actuator buttons 261 “movable from a first position to a second position on opposing sides of the housing”:



(Ex. 1007, [0075]-[0076], Figs. 31-32.) When the depressing force on Schaffer's actuator buttons is removed, the springs cause the actuator buttons to move away from the seal module, tightening the U-shaped actuating members around the seal module to constrict and seal the valve:



(*Id.*, [0077]; Ex. 1003, ¶263.) The same tightening would occur when the buttons

move from the second to the first position if Schaffer’s U-shaped actuating members were replaced with Hartley’s string. (Ex. 1003, ¶263.)

D. Claim 28

Claim 28 recites the “aspiration system of claim 27 wherein the hemostasis valve further comprises a spring configured to bias the button to the first position.” Garrison and optionally Goff in combination with Schaffer and optionally Hartley renders Claim 28 obvious for the reasons explained for Claim 12. (*Supra* §IX.A.)

X. SECONDARY CONSIDERATIONS

Petitioner is not aware of any evidence of secondary considerations. (Ex. 1003, ¶¶265-267.) If PO identifies evidence of secondary considerations, Petitioner respectfully requests an opportunity to respond.

XI. SOTERA STIPULATION

Petitioner hereby stipulates that if the Board institutes this IPR based on the grounds and claims raised in the Petition, Petitioner will not pursue in district court the grounds asserted in the Petition or any other ground that could have been reasonably raised in this IPR. Thus, there will be no “overlap between issues raised in the petition and in the parallel proceeding[.]” *Apple v. Fintiv*, IPR2020-00019, Paper 11 at 6 (PTAB Mar. 20, 2020) (precedential).

**XII. MANDATORY NOTICES, GROUNDS FOR STANDING,
AND FEE PAYMENT**

A. Real Parties-In-Interest (37 C.F.R. §42.8(b)(1))

Imperative Care, Inc. is the real parties in interest for Petitioner.

B. Related Matters (37 C.F.R. §42.8(b)(2))

In the Litigation, PO filed a Third Amended Complaint alleging that Petitioner's Symphony system infringes the '669 patent, as well as U.S. Patent Nos. 11,969,333; 11,554,005; 11,744,691; 11,697,012; 11,844,921, 11,865,291, 11,974,910; 12,109,384; 12,016,580; and 12,239,333. *Inari Medical, Inc. v. Imperative Care, Inc.*, No. 24-cv-3117 (N.D. Cal., filed May 22, 2024). In its Second Amended Complaint, Petitioner also dropped its infringement allegations regarding U.S. Patent No. 11,697,011, which is the subject of an instituted IPR. (Ex. 1024.) The Court recently stayed the Litigation in its entirety until February 4, 2026, at which point the Court stated that it will consider whether to extend the stay based on the status of several IPRs. (Ex. 1020.)

Petitioner has filed nine IPRs against patents asserted by PO in the Litigation: (1) *Imperative Care, Inc. v. Inari Medical, Inc.*, IPR2024-01157 requesting review of U.S. Patent No. 11,697,011 (Filed July 8, 2024); (2) *Imperative Care, Inc. v. Inari Medical, Inc.*, IPR2024-01257 requesting review of U.S. Patent No. 11,744,691 (Filed August 12, 2024); (3) *Imperative Care, Inc. v. Inari Medical, Inc.*, IPR2025-00156 requesting review of U.S. Patent No. 11,697,012 (Filed November 8, 2024);

(4) *Imperative Care, Inc. v. Inari Medical, Inc.*, IPR2025-00289 requesting review of U.S. Patent No. 11,554,005 (Filed December 13, 2024); (5) *Imperative Care, Inc. v. Inari Medical, Inc.*, IPR2025-00728 requesting review of U.S. Patent No. 11,844,921 (Filed March 13, 2025); (6) *Imperative Care, Inc. v. Inari Medical, Inc.*, IPR2025-00989 requesting review of U.S. Patent No. 11,865,291 (Filed May 9, 2025); (7) *Imperative Care, Inc. v. Inari Medical, Inc.*, IPR2025-01021 requesting review of U.S. Patent No. 11,969,333 (Filed May 19, 2025); (8) *Imperative Care, Inc. v. Inari Medical, Inc.*, IPR2025-01025 requesting review of U.S. Patent No. 11,974,910 (Filed May 20, 2025); (9) *Imperative Care, Inc. v. Inari Medical, Inc.*, IPR2025-01264 requesting review of U.S. Patent No. 12,016,580 (Filed July 8, 2025); and (10) *Imperative Care, Inc. v. Inari Medical, Inc.*, IPR2025-01562 requesting review of U.S. Patent No. 12,109,384 (Filed September 19, 2025). The Board granted institution of eight IPRs against the '011, '012, '005, '921, '291, '333, '910, and '580 patent. The Board denied institution of the '691 patent IPR on grounds unrelated to this IPR.

C. Lead and Backup Counsel (37 C.F.R. §42.8(b)(3))

Petitioner provides the following designation of counsel, all of whom are included in Customer No. 20,995 identified in Petitioner's Power of Attorney.

Lead Counsel	Back-up Counsel
Joshua J. Stowell (Reg. No. 64,096) 2JYS@knobbe.com BoxImperative669@knobbe.com Knobbe, Martens, Olson, & Bear, LLP <u>Postal and Hand-Delivery Address:</u> 2040 Main St., 14 th Floor Irvine, CA 92614 Telephone: 949-760-0404 Facsimile: 949-760-9502	Joseph R. Re (Reg. No. 31,291) 2JRR@knobbe.com Brian C. Barnes (Reg. No. 75,805) 2BCB@knobbe.com Knobbe, Martens, Olson, & Bear, LLP <u>Postal and Hand-Delivery Address:</u> 2040 Main St., 14 th Floor Irvine, CA 92614 Telephone: 949-760-0404 Facsimile: 949-760-9502

D. Service Information (37 C.F.R. §42.8(b)(4))

Please direct all correspondence to lead counsel and back-up counsel at the addresses shown above. Petitioner also consents to electronic service by email to BoxImperative669@knobbe.com.

E. Grounds for Standing (37 C.F.R. §42.104)

Petitioner certifies that the '669 patent is available for IPR and that Petitioner is not barred or estopped from requesting IPR on the identified grounds. This Petition is being filed within one year of service of the Second Amended Complaint in the Litigation, which was the first complaint to include the '669 Patent.

F. Payment of Fees (37 C.F.R. §42.15(a))

The fee for this petition has been paid. Additional fees may be charged to Deposit Account 11-1410.

XIII. CONCLUSION

For the reasons above, Petitioner has established a reasonable likelihood of prevailing in showing that at least one or more claims are unpatentable as anticipated or obvious and, therefore, requests that the Board institute this IPR.

Respectfully submitted,

KNOBBE MARTENS OLSON & BEAR, LLP

Dated: December 16, 2025 By: /Joshua J. Stowell/
Joshua J. Stowell (Reg. No. 64,096)
Joseph R. Re (Reg. No. 31,291)
Brian C. Barnes (Reg. No. 75,805)

Attorneys for Petitioner
Imperative Care, Inc.

CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), the undersigned certifies that this **PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 12,156,669** contains 13,902 words according to the word-processing program used to prepare this paper. The foregoing word count complies with the 14,000-word type-volume limit specified by 37 C.F.R. § 42.24(a)(1).

Respectfully submitted,

KNOBBE MARTENS OLSON & BEAR, LLP

Dated: December 16, 2025 By: /Joshua J. Stowell/
Joshua J. Stowell (Reg. No. 64,096)
KNOBBE MARTENS OLSON & BEAR, LLP

CERTIFICATE OF SERVICE

The undersigned hereby certifies that on the date below a copy of this
**PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO.
12,156,669 and Exhibit 1001-1046** are being served by USPS Priority Mail
Express on the Patent Owner at the correspondence address of record for the
subject patent as follows:

Joseph Hamilton
PERKINS COIE LLP
P.O. BOX 1247
PATENT PROCUREMENT
SEATTLE, WA 98111-1247

A courtesy copy is being sent by email on this day to Patent Owner's counsel
of record in the Litigation as follows:

Amanda Tessar
Perkins Coie LLP
1900 Sixteenth Street
Suite 1400
Denver, CO 80202
303-291-2357
Email: atessar@perkinscoie.com

Ramsey M. Al-Salam
Perkins Coie LLP
1201 Third Avenue
Suite 4000
Seattle, WA 98101-3099
206-359-8000
Email: ralsalam@perkinscoie.com

Daniel T. Keese
DKeese@perkinscoie.com
Perkins Coie LLP
1120 NW Couch Street, 10th Floor
Portland, Oregon 97209-4128
Telephone: 503.757.2000

Dated: December 16, 2025 By: /Joshua J. Stowell/

Joshua J. Stowell (Reg. No. 64,096)