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Paper 15
Date: August 31, 2020

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NANOCELLECT BIOMEDICAL, INC.,
Petitioner,

v.

CYTONOME/ST, LLC,
Patent Owner.

IPR2020-00546
Patent 9,339,850 B2

Before ULRIKE W. JENKS, SUSAN L. C. MITCHELL, and JAMES A. WORTH, *Administrative Patent Judges.*

WORTH, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314, 37 C.F.R. § 42.4

I. INTRODUCTION

A. Background and Summary

On February 11, 2020, NanoCellect Biomedical, Inc. ("NanoCellect" or "Petitioner") filed a Petition (Paper 2, "Pet.") requesting an *inter partes* review of claims 1 and 6–12 (the "challenged claims") of U.S. Patent No. 9,339,850 B2 (Ex. 1001, "the '850 patent"). On June 4, 2020,

Cytonome/ST, LLC ("Cytonome" or "Patent Owner") filed a Preliminary Response (Paper 6, "Prelim. Resp."). With authorization, the parties filed further pre-institution briefing related to the issue of discretion under 35 U.S.C. § 314(a), as follows. On June 19, 2020, Petitioner filed a reply to the preliminary response (Paper 7, "Prelim. Reply"). On June 26, 2020, Patent Owner filed a sur-reply (Paper 8, "Prelim. Sur-Reply"). On July 17, 2020, Petitioner filed a supplemental brief (Paper 11, "Prelim. Supp. Br."). On July 22, 2020, Patent Owner filed a supplemental brief in response (Paper 12, "Prelim. Supp. Resp.").

Petitioner relies on the declaration of Bernhard Weigl, Ph.D. as expert testimony. Ex. 1002. Patent Owner relies on the declaration of Don W. Arnold, Ph.D. as expert testimony. Ex. 2001.

Institution of an *inter partes* review is authorized by statute when "the information presented in the petition filed under [35 U.S.C. §] 311 and any response filed under [35 U.S.C. §] 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." 35 U.S.C. § 314(a). For the reasons set forth below, we determine that Petitioner has not demonstrated that there is a reasonable likelihood that any of the challenged claims are unpatentable, and we do not institute an *inter partes* review on the grounds set forth in the Petition.

B. Real Parties in Interest

Petitioner identifies itself as the real party-in-interest. *See* Pet. 2. Patent Owner indicates that it and Inguran, LLC are the real-parties-in-interest. Paper 4, 1.

C. Related Matters

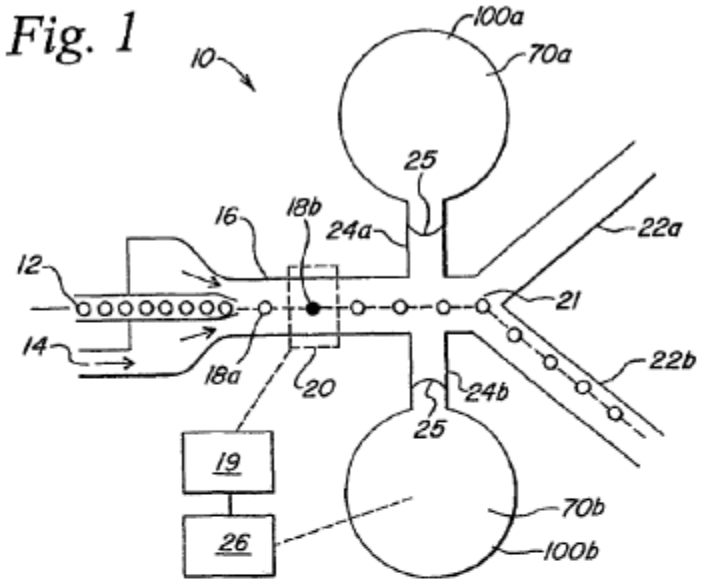
The parties note as related litigation in federal district court, *Cytonome/ST, LLC v. NanoCellect Biomedical, Inc.*, Case No. 1:19-cv-00301-UNA (D. Del., filed Feb. 12, 2019). *See* Pet. 2–3; Paper 4, 1. NanoCellect has filed petitions for *inter partes* review challenging the following related patents (*see* Pet. 2–3):

Case No.	U.S. Patent No.
IPR2020-00545	6,877,528
IPR2020-00547	10,029,283
IPR2020-00548	8,623,295
IPR2020-00549	10,029,263
IPR2020-00550	9,011,797
IPR2020-00551	10,065,188

D. The '850 Patent

The '850 patent is titled "Method and Apparatus for Sorting Particles" and relates to "a method and apparatus for the sorting of particles in a suspension, where the input flow path of a sorting module can be split into several output channels." Ex. 1001, code (54), 1:25–27. The '850 patent describes problems with various then-existing devices, e.g., bubble formation could clog flow channels or foul constituents (*id.* at 2:24–37) and pressure waves could influence flows in neighboring units (*id.* at 2:50–65, 3:12–14).

Figures 1–4 of the '850 patent are reproduced below:



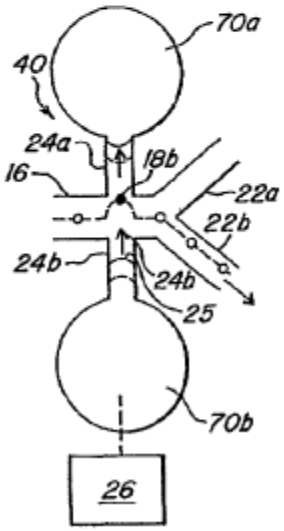


Fig. 2

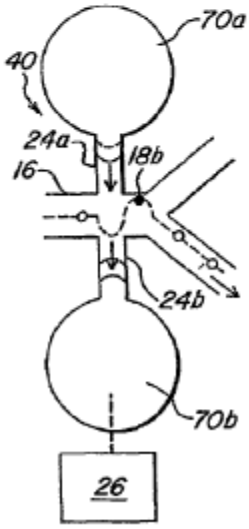


Fig. 3

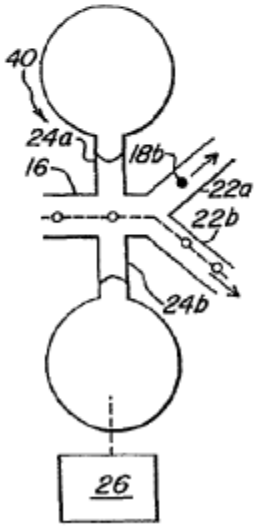


Fig. 4

Figure 1 is a schematic view of a particle sorting system according to an illustrative embodiment of the invention. Ex. 1001, 4:52–53. Figures 2 through 4 illustrate the operation of the particle sorting system of Figure 1. *Id.* at 4:54–55.

As illustrated in Figure 1, particle sorting system 10 comprises a closed channel system of capillary size for sorting particles including first supply duct 12 for introducing stream of particles 18 and second supply duct 14 for supplying carrier liquid. *Id.* at 5:61–66. First supply duct 12 forms nozzle 12a. *Id.* at 5:66–6:1. First supply duct 12 and second supply duct 14 are in fluid communication with measurement duct 16. *Id.* at 6:1–3. Measurement duct 16 branches into first branch channel 22a and second branch channel 22b at branch point 21. *Id.* at 6:4–5. Measurement duct 16 includes measurement region 20 that is associated with detector 19. *Id.* at 6:5–8. System 10 also includes two opposed bubble valves 100a and 100b positioned relative to measurement duct 16 in fluid communication therewith through opposed side passages 24a and 24b. *Id.* at 6:9–16. Liquid is allowed to partly fill side passages 24a and 24b to form meniscus 25 therein. *Id.* at 6:16–17. The meniscus defines an interface between the carrier liquid and another fluid, such as a gas in the reservoir of the associated bubble valve 100. *Id.* at 6:17–20. Actuator 26 is coupled to bubble valve 100b. *Id.* at 6:23–24. Second bubble valve 100a serves as a buffer for absorbing the pressure pulse created by the first bubble valve 100b. *Id.* at 6:24–26.

As illustrated in Figure 2, upon activation of actuator 26, the pressure within reservoir 70b of first bubble valve 100b is increased, deflecting meniscus 25b and causing a transient discharge of liquid from first side passage 24b, as indicated by the arrow. *Id.* at 8:23–30. The sudden pressure increase caused at this point in the duct causes liquid to flow into second side passage 24a, because of the resilient properties of the reservoir of second bubble valve 100a. *Id.* at 8:30–33. This movement of liquid into second side passage 24a is indicated with an arrow. *Id.* at 8:33–34.

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