

By: Jason M. Perilla (j.perilla@pkhip.com)
Kenneth A. Knox (k.knox@pkhip.com)
Eric G. Maurer (e.maurer@pkhip.com)
Thomas F. Finch (t.finch@pkhip.com)
PERILLA KNOX & HILDEBRANDT LLP
5871 Glenridge Drive
Suite 350
Atlanta, Georgia 30328-5376
Tel: (770) 927-7802
Fax: (877) 389-6779

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FLUIDMASTER, INC.,
Petitioner,

v.

DANCO, INC.
Patent Owner.

Case No. IPR2024-00633
U.S. Patent No. 9,139,993 B1

PATENT OWNER'S REQUEST FOR REHEARING

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CASES

Kyocera Senco Indus. Tools Inc. v. Int’l Trade Comm’n,
22 F.4th 1369 (Fed. Cir. 2022) 8

Regeneron Pharm., Inc. v. Mylan Pharm. Inc.,
130 F.4th 1372 (Fed. Cir. 2025) 8

RULES

37 C.F.R. § 42.71(d) 1, 2

GLOSSARY

Abbreviation	Term
'993 Patent	U.S. Patent No. 9,139,993
Board	USPTO Patent Trial and Appeal Board
Brown	U.S. Patent No. 3,086,453 (EX1021)
Challenged Claims	Claims 1-20 of the '993 Patent
Patent Owner	Patent Owner Danco, Inc.
Petitioner	Petitioner Fluidmaster, Inc.
Final Written Decision or FWD	IPR2024-00633 Paper 45 (Final Written Decision)
Institution Decision	IPR2024-00633 Paper 19
Parties	Petitioner and Patent Owner, Collectively
Petition or Pet.	IPR2024-00633 Paper 1
POPR	IPR2024-00633 Paper 12 (Patent Owner Preliminary Response)
POR	IPR2024-00633 Paper 26 (Patent Owner's Response)
POSR	IPR2024-00633 Paper 36 (Patent Owner's Sur-Reply)
Reply	IPR2024-00633 Paper 30 (Petitioner's Reply)
Request	Patent Owner's Request for Rehearing
USPTO	United States Patent and Trademark Office

I. INTRODUCTION

Pursuant to 37 C.F.R. § 42.71(d), Patent Owner requests Rehearing of the Final Written Decision, which incorrectly held that “Petitioner has shown by a preponderance of the evidence that claims 1, 8, and 14 are unpatentable over Brown and Ho.” FWD, 34. Specifically, the FWD’s analysis of Petitioner’s Ground 3 (addressing the Brown reference) contains two errors.

First, the FWD did not consistently map Brown’s “adjustable metering valve” to the claimed “water flow regulator.” Instead, the Board appears to have analyzed Element 1[E] (“a tube that is configured to attach directly to the water flow regulator”) in a vacuum. However, the ’993 Patent includes multiple limitations directed to the relationship between the “water flow regulator” and other claimed components, and the FWD did not address Patent Owner’s explicit argument that the Petition’s treatment of the claimed “water flow regulator” was inconsistent.

Second, the FWD also incorrectly concluded Dependent Claim 13 is unpatentable in its “Introduction” and “Conclusion” (FWD, 2, 51) despite (1) lacking explicit findings within the FWD regarding Claim 13, and (2) finding Claim 2 (which contains similar limitations) not unpatentable. FWD, 34-36.

II. LEGAL STANDARD

“A party dissatisfied with a decision may file a single request for rehearing without prior authorization from the Board. The burden of showing a decision should

be modified lies with the party challenging the decision. The request must specifically identify all matters the party believes the Board misapprehended or overlooked, and the place where each matter was previously addressed in a motion, an opposition, a reply, or a sur-reply.” 37 C.F.R. § 42.71(d).

III. BACKGROUND

A. The '993 Patent

Each independent claim of the '993 Patent recites (1) a toilet fill valve comprising an extended portion, (2) a water flow regulator, and (3) a tube. EX1001, Cls. 1, 8, 14.¹ In particular, three limitations provide guidance regarding the relative position of the extended portion, water flow regulator, and tube:

1[D1]: a water flow regulator configured to attach directly to the extended portion of the body;

1[D2]: wherein a portion of the water flow regulator is configured to insert into, and come into contact with, the extended portion of the body; and

1[E]: a tube that is configured to attach directly to the water flow regulator.

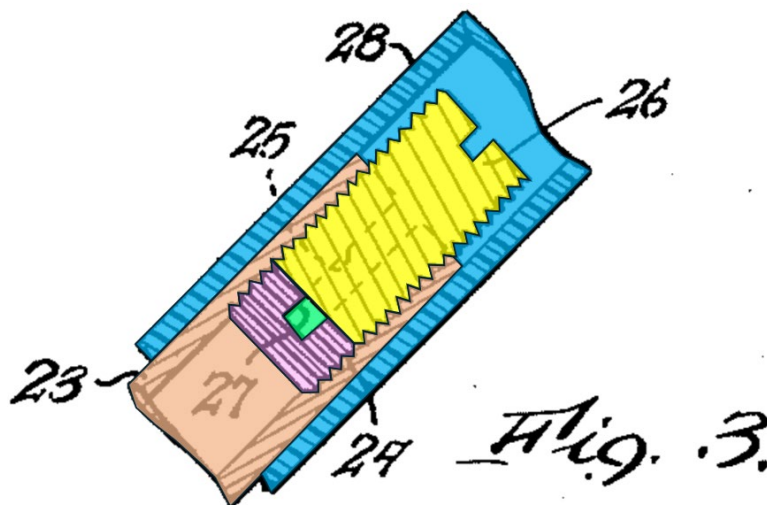
¹ The arguments in this Request focus on Independent Claim 1. However, the Parties agree that they apply with equal force to Independent Claims 8 and 14. Pet., 77-81, POR, 62 n. 13.

The claims make clear that (1) the regulator is attached to the extended portion (by inserting into the extended portion), and (2) the tube is attached to the regulator.

B. Brown

Petitioner relies on Brown for disclosure of the claimed extended portion, regulator, and tube. EX1021. As previously explained by Patent Owner, Brown discloses:

- Adapter tube 23 (tan/peach);
- Internally threaded portion 24 (purple);
- Diametrically opposed slots 25 (located behind set screw 26);
- Set screw 26 (yellow);
- Restricted opening 27 (green); and
- Flexible tube 28 (blue).



POSR, 24-26.

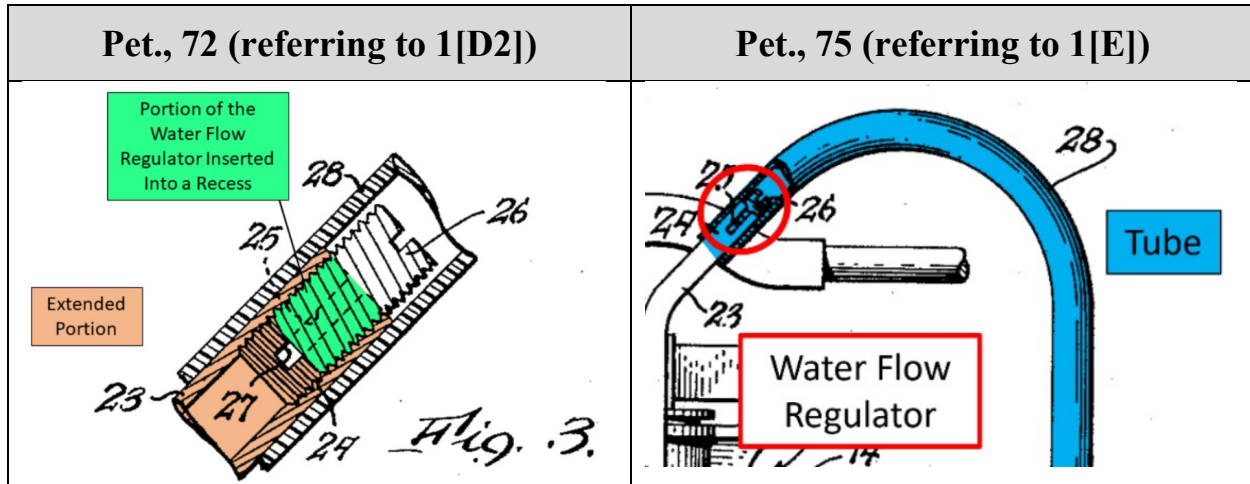
C. The Petition

At various points in the proceeding, Petitioner has inconsistently identified Brown's alleged water flow regulator and extended portion:

- **Pet., 68-69 (referring to 1[A]):** “Brown discloses an extended portion 23 that is attached via threaded opening 21. EX1021, 2:65-67. Extended portion 23, or adaptor tube 23 of Brown forms a bowl fill outlet port.”
- **Pet., 70 (referring to 1[D1]):** “Brown discloses a water flow regulator in the form of set screw 26 that attaches to the extended portion (adaptor tube 23) of toilet fill valve.”
- **Pet., 71-72 (referring to 1[D2]):** “A portion of set screw 26 of Brown is configured to insert into a recess in the extended portion (adaptor tube 23) of the toilet fill valve, where the screw threads engage the mating grooves of the adaptor tube in order to lock the set screw to the extended portion... Brown discloses that a portion of a water flow regulator is inserted into a recess in an integrally molded extended portion of the toilet fill valve and contacts the extended portion.”

- **Pet., 74 (referring to 1[E]):** “Brown discloses a tube attached directly to the water flow regulator to the portion of the adaptor tube 23 that forms the metering valve and houses set screw 26.”²

Petitioner’s annotations are reproduced below:



When referring to Elements 1[D1] and 1[D2] (which address the relationship between the regulator and extended portion), Petitioner referred to Brown’s “adaptor tube 23” as the claimed “extended portion.” However, when referring to Element 1[E] (which addressed the relationship between the regulator and tube), Petitioner

² Petitioner alternatively argued that “Ho discloses a diverter valve 30 (water flow regulator) with a supply line 40 (tube) attached directly to the valve. Pet., 75-76. However, this argument was not relied on in the FWD, and is deficient for the reasons set forth in Patent Owner’s Response. POR, 61-62.

inconsistently referred to Brown's "adaptor tube 23" as part of the claimed "regulator."

D. Patent Owner's Counter-Argument

In response, Patent Owner explicitly argued that "[t]he Petition is internally inconsistent and fails to identify a single 'water flow regulator' which discloses each limitation." POR, 57-62; POSR, 24-26. Specifically, Patent Owner explained that "[t]he Petition and Dr. Cameron clearly identify the claimed 'water flow regulator' as Brown's 'set screw 26' and the claimed 'extended portion' of the toilet fill valve as Brown's 'adapter tube 23.'" POR, 59 (citing Pet., 71-72 (addressing Petitioner's identification of the water flow regulator and extended portion with respect to Element 1[D2])).

Applying Petitioner's identification of the alleged regulator and extended portion from Element 1[D2], Patent Owner explained that "Brown does not disclose or otherwise render obvious limitation 1[E]" because (as depicted with respect to limitation 1[D2]), "tube 28 *does not* attach directly to the water flow regulator (set screw 26). Instead, it attaches to the alleged extended portion (adapter tube 23)." POR, 60 (emphasis in original).

E. Petitioner's Reply

In Reply, Petitioner focused solely on Element 1[E], asserting that "Brown's water flow regulator is the *combination* of the slotted portion of adaptor tube 23 *and*

set screw 26.” Reply, 21 (emphasis in original). However, Petitioner did not provide *any explanation or argument* addressing how Brown’s “adaptor tube 23” can form both the claimed extended portion *and* water flow regulator. Additionally, Petitioner did not address how the claimed water flow regulator allegedly “inserts into” the extended portion (as required by Element 1[D2]), given that Petitioner’s Reply maps both the regulator and extended portion to Brown’s “adaptor tube 23.”

F. The Final Written Decision

The Board’s Final Written Decision adopted Petitioner’s inconsistent characterization of the extended portion and water flow regulator from its Reply, finding that Brown discloses Element 1[E] because Brown’s “long flexible tube 28 ‘is adapted to slide snugly over the slotted portion 24 of adapter tube 23.’” FWD, 34. The FWD did not make any explicit findings regarding whether Brown discloses a “water flow regulator” that “inserts into” the claimed extended portion.

IV. ARGUMENT

The Final Written Decision is deficient for two reasons. First, the Board did not address Petitioner’s inconsistent identification of Brown’s alleged water flow regulator, extended portion, and tube with respect to Element 1[E] (claiming the relationship between the regulator and tube) and Element 1[D2] (claiming the relationship between the very same regulator and the extended portion). Second, the FWD incorrectly concluded that Dependent Claim 13 is unpatentable.

A. Brown does not disclose the claimed “water flow regulator.”

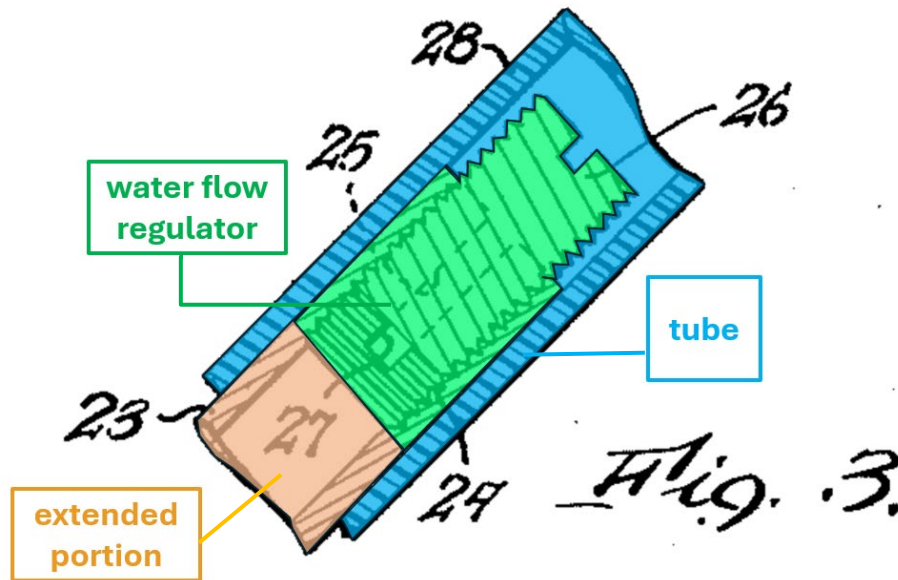
The Final Written Decision relies on an erroneous finding that the claimed “water flow regulator [is] part of the extended portion” to support its conclusion “that the Petition sufficiently shows that Brown discloses limitations 1E, 8E, and 14B.” FWD, 33. Patent Owner disputes that the claimed regulator and extended portion are properly mapped to the same structure.³ However, even accepting the FWD’s conclusion that the claimed water flow regulator consists of “Browns’ set screw 26 in combination with slotted portion 24 of adapter tube 23,” Brown does not disclose or otherwise render obvious the Challenged Claims.

³ “[W]here a claim lists elements separately, the clear implication of the claim language is that those elements are distinct components of the patented invention.” *Regeneron Pharm., Inc. v. Mylan Pharm. Inc.*, 130 F.4th 1372, 1379 (Fed. Cir. 2025). Here, the Challenged Claims separately define and list the claimed extended portion and water flow regulator. Thus, there is “a presumption that those components are distinct.” *Kyocera Senco Indus. Tools Inc. v. Int’l Trade Comm’n*, 22 F.4th 1369, 1382 (Fed. Cir. 2022); *see also* EX1001, Cl. 1 (the water flow regulator is “configured to attach directly to the extend portion of the body” and “insert into, and come into contact with, the extended portion of the body”); Element 8[C4], Element 14[A1].

Patent Owner explicitly argued that “[t]he Petition is *internally inconsistent* and fails to identify a single ‘water flow regulator’ which discloses each limitation.” POR, 57-62 (emphasis added); POSR, 24-26. Patent Owner’s Response acknowledged Petitioner’s identification of the claimed water flow regulator and extended portion with respect to Element 1[D2] and explained how—applying Petitioner’s own identification of each structure—the limitation of Element 1[E] was not met. POR, 59 (citing Pet., 71-72 (addressing Petitioner’s identification of the water flow regulator and extended portion with respect to Element 1[D2])). The FWD, however, limited its analysis to addressing Element 1[E] in a vacuum and determined that Brown disclosed Element 1[E] under *a different interpretation* of the claimed regulator and extended portion.

Critically, the FWD *did not* address the crux of Patent Owner’s argument; namely that Petitioner’s assertions with respect to Elements 1[D2] and 1[E] were logically inconsistent. Specifically, the FWD did not apply its understanding of Brown’s alleged regulator and extended portion (discussed with respect to Element 1[E]) to other elements addressing *the same* water flow regulator. FWD, 33-34. Neither Petitioner nor the FWD provided an annotated figure depicting the alleged water flow regulator and tube used in their analysis of Element 1[E]. *Id.* However, the annotated figure below depicts Brown’s alleged “extended portion,” “water flow

regulator,” and “tube,” based on the Board’s apparent understanding of those elements:



Applying Petitioner’s assertion that “Brown’s water flow regulator is the combination of the slotted portion of adaptor tube 23 and set screw 26,” Brown’s “tube 28” is at least partially attached to the water flow regulator, purportedly satisfying Element 1[E]. However, with this mapping, the alleged water flow regulator (green) does not “insert into” the extended portion (tan/peach), as required by Element 1[D2].⁴ In fact, it is logically impossible for the claimed regulator to “insert into” the extended portion if those elements are mapped to the same structure (Brown’s adapter tube 23). Patent Owner does not dispute that Brown’s “set screw

⁴ Importantly, this analysis directly contradicts Petitioner’s assertions with respect to Element 1[D2]. Pet., 71-72.

26” inserts into and comes into contact with the slotted portion of “adapter tube 23.”

But, Petitioner has incorrectly asserted that both “set screw 26” and the slotted portion of “adapter tube 23” are the claimed regulator, meaning that, under the interpretation adopted in the FWD, no structure “inserts into” the alleged extended portion.

The FWD erred by addressing Element 1[E] in a vacuum and failing to consider the impact of its ruling on other, related limitations directed to the same “water flow regulator.” As argued by Patent Owner in its Response, “[t]he Petition is internally inconsistent and fails to identify a single ‘water flow regulator’ which discloses each limitation.” POR, 57-62; POSR, 24-26. Simply put, there is no proper interpretation of “Brown” which discloses both (1) a water flow regulator which “inserts into” the extended portion (Element 1[D2]), and (2) a tube attached to the water flow regulator (Element 1[E]). The FWD’s erroneous findings of material fact merit reversal.

B. Dependent Claim 13 is not unpatentable.

The FWD stated in its “Introduction” that “Petitioner establishes by a preponderance of the evidence that claims 1, 7-15, 19, and 20 are unpatentable.” FWD, 2. Likewise, the FWD stated in its “Conclusion” that the “Claim(s) Shown Unpatentable” include “1, 7-15, 19, 20.” FWD, 51.

Dependent Claims 2 and 13 both recite an extended portion which “extends radially from a longitudinal axis of the toilet fill valve.” EX1001, Cls. 2, 13. The Petition includes the same analysis with respect to each Claim (Pet., 85), Patent Owner raised the same counter-arguments with respect to each Claim (POR, 66), and the FWD addressed both Claims simultaneously. FWD, 34-36. However, despite finding that (1) “Patent Owner’s argument is persuasive” and (2) “Petitioner fails to meet its burden to show by a preponderance of the evidence that claim 2 is unpatentable over Brown and Ho,” the FWD does not contain an explicit conclusion addressing Claim 13. FWD, 36.

Patent Owner presumes the FWD’s determination in its “Introduction” and “Conclusion” that Claim 13 is unpatentable is an inadvertent clerical error, and respectfully asserts that Claim 13 is *not unpatentable* for the same reasons as Claim 2. POR, 66; FWD, 34-36.

V. CONCLUSION

As explained herein and in Patent Owner’s Response, the Challenged Claims are not invalid as alleged in Petitioner’s Ground 3 relying upon the Brown reference or any other of Petitioner’s grounds.

Dated: January 14, 2026

Respectfully submitted,

/Thomas F. Finch /

Case No. IPR2024-00633

U.S. Patent No. 9,139,993

Jason M. Perilla (Reg. No. 65,731)

Kenneth A. Knox (Reg. No. 71,306)

Eric G. Maurer (*admitted pro hac vice*)

Thomas F. Finch (Reg. No. 82,341)

PERILLA KNOX & HILDEBRANDT LLP

5871 Glenridge Drive

Suite 350

Atlanta, GA 30328-5376

Telephone: (770) 927-7802

Facsimile: (877) 389-6779

CERTIFICATE OF SERVICE

In accordance with 37 C.F.R. § 42.6(e), the undersigned certifies that on the 14th of January 2026, a complete and entire copy of the foregoing **PATENT OWNER'S REQUEST FOR REHEARING**, was served by consent of counsel of record for Petitioners electronically, via e-mail, as follows:

Lead Counsel

Carolyn S. Toto
(Reg. No. 56,817)
PILLSBURY WINTHROP SHAW
PITTMAN LLP
725 South Figueroa Street, 36th Floor
Los Angeles, CA 90017-5406
Telephone: (213) 488-7238
Facsimile: (213) 629-1033
carolyn.toto@pillsburylaw.com
docket_ip@pillsburylaw.com

Back-up Counsel

Evan Finkel
(Reg. No. 49,059)
PILLSBURY WINTHROP SHAW
PITTMAN LLP
725 South Figueroa Street, 36th Floor
Los Angeles, CA 90017-5406
Telephone: (213) 488-7307
Facsimile: (213) 226-4058
evan.finkel@pillsburylaw.com

Ranjini Acharya
(*Pro Hac Vice*)
Texas State Bar No.:24045696
PILLSBURY WINTHROP SHAW
PITTMAN LLP
2550 Hanover Street
Palo Alto, CA 94304-1115
Telephone: (650) 233-4085
Facsimile: (650) 233-4545
ranjini.acharya@pillsburylaw.com

Dated: January 14, 2026

Respectfully submitted,

/Thomas F. Finch /

Thomas F. Finch (Reg. No. 82,341)