

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SHENZHEN LIOWN ELECTRONICS CO., LTD.,
Petitioner,

v.

DISNEY ENTERPRISES, INC.,
Patent Owner.

Case IPR2015-01655
Patent 7,837,355 B2

Before HOWARD B. BLANKENSHIP, TRENTON A. WARD, and
WILLIAM M. FINK, *Administrative Patent Judges*.

WARD, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

Petitioner, Shenzhen Liown Electronics Co., Ltd., filed a Petition requesting an *inter partes* review of claims 16–19, 21–23, 26, and 27 of U.S. Patent No. 7,837,355 B2 (Ex. 1001, “the ’355 patent”). Paper 2 (“Pet.”). Disney Enterprises, Inc. (“Disney”) is the owner of the ’355 patent and granted exclusive licensee and real party-in-interest, Luminara Worldwide, LLC (“Luminara”), authority to conduct this *inter partes* review on behalf of Patent Owner. Paper 5, 1 (citing App’x 1 (agreement)). Luminara¹ filed a Preliminary Response. Paper 6 (“Prelim. Resp.”). We have statutory authority under 35 U.S.C. § 314, which provides that an *inter partes* review may not be instituted “unless . . . the information presented in the petition . . . 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.”

For the reasons that follow, we deny institution of an *inter partes* review of claims 16–19, 21–23, 26, and 27 of the ’355 patent.

A. Related Matters

Petitioner and Patent Owner identify the following pending judicial matters as relating to the ’355 patent: *Luminara Worldwide, LLC v. Liown Electronics Co.*, No. 14-cv-03103, United States District Court for the District of Minnesota, filed August 5, 2014; *Luminara Worldwide, LLC v. Liown Electronics Co.*, No. 15-1671, United States Court of Appeals for the Federal Circuit, filed May 21, 2015; *RAZ Imports, Inc. v. Luminara Worldwide, LLC*, No. 3-15-cv-02223, United States District Court for the Northern District of Texas, filed July 3, 2015; and *Luminara Worldwide*,

¹ As Luminara is conducting this *inter partes* review on behalf of Patent Owner, we will refer to it as Patent Owner for the sake of convenience.

LLC v. RAZ Imports, Inc., No. 15-cv-03028, United States District Court for the District of Minnesota, filed July 10, 2015. Pet. 1–2; Paper 5, 1–2.

Patent Owner also identifies four other *inter partes* reviews filed by Petitioner as related to the '355 patent or related patents: IPR2015-01352² and IPR2015-01658 (U.S. Patent No. 8,696,166); IPR2015-01656 (U.S. Patent No. 8,070,319); and IPR2015-01657 (U.S. Patent No. 8,534,869). Paper 5, 2.

B. The '355 Patent

The '355 patent relates to “simulating a flickering flame providing kinetic light movement,” such as the simulation of a single candle flame. Ex. 1001, 1:15–16. Figure 1 of the '355 patent is reproduced below:

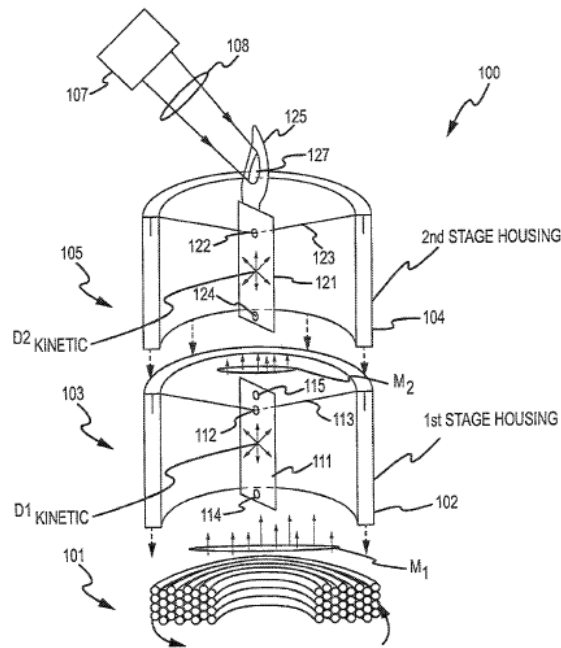


FIG.1

² We instituted *inter partes* review of U.S. Patent No. 8,696,166 in IPR2015-01352 on December 16, 2015.

Figure 1 illustrates an embodiment of the kinetic flame device, in accordance with the claimed invention, resembling a conventional wax candle. Ex. 1001, 3:57–59, 4:44–49. As shown in Figure 1, a single coil 101 may be distributed about the central axis of the device to act upon the pendulum members 111 and 121. *Id.* at 5:13–20. Specifically, energized coil 101 produces a time-varying magnetic field, which acts upon magnet 114 on lower or first-stage pendulum 111 to produce kinetic motion $D1_{\text{Kinetic}}$. *Id.* at 5:37–51, 5:61–6:6. “Pendulum support wire 13 is attached to the walls of housing 102 for support at the locations selected to place pendulum 111 generally in the center of the hollow space defined by walls of housing 102 so that support wire 113 spans a diameter when housing 102 has a circular cross section.” *Id.* at 7:20–24. Hole 112 in pendulum member 111 is sufficiently larger than the diameter of support wire 113 such that pendulum 111 swings or pivots freely about support wire 113. *Id.* 7:31–34. Pendulum member 111 moves freely within housing 102 about the pivot location defined by the apex or valley in support wire 113. *Id.* 7:44–48. The support element is mounted at each end to the side wall of the housing 104, such as at the upper edges of the sidewall at opposite locations to stretch across the space or void defined within the sidewall of the housing 104. *Id.* 8:38–41.

C. Illustrative Claim

Claims 16 and 22 are independent claims. Claims 17–19 and 21 depend from claim 16, and claims 23 and 26–27 directly depend from independent claim 22. Independent Claims 16 and 22 are reproduced below with certain portions emphasized.

16. A flame simulator, comprising:

an electrically driven motion engine including a coupling member, wherein the motion engine generates chaotic motion at the coupling member in at least two dimensions;

a movable flame body magnetically coupled to the coupling member such that the chaotic motion of the coupling member is transferred to the movable flame body, and

a light projector emitting a spot of light towards the flame body,

wherein the motion engine further comprises:

a hollow housing a sidewall defining a first end and a second end;

an electromagnetic coil proximate to the first end of the housing;

a drive circuit coupled to the coil and providing a signal to the drive coil to produce a time-varying magnetic field in a vicinity of the drive coil;

a support wire spanning across the housing and affixed to the housing sidewall wherein the support wire is V-shaped so that a vertex of the support wire is near a midpoint of the housing, wherein the support wire is located at a position along the sidewall that is closer to the second end than to the first end; and

a pendulum having a hole, wherein the support wire passes through the hole allowing the pendulum to pivot about the hole on the support wire.

22. A flame simulator, comprising:

an electrically driven motion engine including a coupling member, wherein the motion engine generates chaotic motion at the coupling member in at least two dimensions;

a movable flame body magnetically coupled to the coupling member such that the chaotic motion of the coupling member is transferred to the movable flame body;

a light projector emitting a spot of light towards the flame body;

a hollow housing having a sidewall defining a first end and a second end; and

a flame support wire spanning across the housing and affixed to the housing sidewall wherein the support wire is V-shaped so that a vertex of the support wire is near a midpoint of the housing, wherein the support wire is located at a position along the sidewall that is closer to the second end than to the first end,

wherein the flame body comprises a pendulum having a hole, wherein the flame support wire passes through the hole allowing the pendulum to pivot about the hole on the flame support wire, the pendulum having a first end proximate to the first end of the housing and a second end proximate to the second end of the housing.

D. Asserted Grounds of Unpatentability

Petitioner asserts that claims 16–19, 21–23, 26, and 27 of the ’355 patent are unpatentable based on the following grounds:

Reference(s)	Basis	Challenged Claim(s)
Schnuckle ’455 ³ and Meeker ⁴	§ 103(a)	16–19, 22, 23, 26, and 27
Schnuckle ’455, Meeker, and Encarta ⁵	§ 103(a)	21
Schnuckle ’455, Meeker, and Nagashima ⁶	§ 103(a)	16–19, 22, 23, 26, and 27
Schnuckle ’455, Meeker, Nagashima, and Encarta	§ 103(a)	21
Schnuckle ’455, Helmer, ⁷ Long, ⁸ and Hartstock ⁹	§ 103(a)	16–19, 22, 23, 26, and 27
Schnuckle ’455, Helmer, Long, and Hartstock, and Encarta	§ 102(b)	21

II. DISCUSSION

A. Alleged Statutory Bar

Patent Owner alleges Petitioner was served with a complaint alleging infringement of the ’355 patent on December 3, 2012, more than one year prior to the filing of the Petition. Prelim. Resp. 55. As such, Patent Owner

³ U.S. Patent No. 7,261,455, issued Aug. 28, 2007 (Ex. 1003) (“Schnuckle ’455”).

⁴ U.S. Patent No. 782,156, issued Feb. 7, 1905 (Ex. 1004) (“Meeker”).

⁵ Encarta, World English Dictionary (St. Martin’s Press 1999) (Ex. 1006) (“Encarta”).

⁶ NAGASHIMA AND BABA, INTRODUCTION TO CHAOS, PHYSICS AND MATHEMATICS OF CHAOTIC PHENOMENA (1992) (Ex. 1005) (“Nagashima”).

⁷ U.S. Patent No. 817,772, issued Apr. 17, 1906 (Ex. 1009) (“Helmer”).

⁸ U.S. Patent No. 6,781,270 B2, issued Aug. 24, 2004 (Ex. 1007) (“Long”).

⁹ U.S. Patent No. 3,425,157, issued Feb. 4, 1969 (Ex. 1008) (“Hartsock”).

contends the instant Petition is time-barred for failure by 35 U.S.C. § 315(b), which states *inter partes* review “may not be instituted if the petition requesting the proceeding is filed more than 1 year after the date on which the petitioner . . . is served with complaint.” *See id.*

Although conceding the parties agreed to dismiss the 2012 civil action without prejudice, Patent Owner argues the statute makes no exception for “such an event.” Prelim. Resp. 55. Patent Owner notes that in some contexts dismissal without prejudice “‘renders the proceedings a nullity’ and ‘leaves the parties as though the action had never been brought.’” *Id.* at 56 (citing *Graves v. Principi*, 294 F.3d 1350, 1356 (Fed. Cir. 2002); *Bonneville Assocs. Ltd. P’ship v. Barram*, 165 F.3d 1360, 1364 (Fed. Cir. 1999)). However, Patent Owner argues, this general rule has exceptions, such as the “two dismissal rule” or the fact that a court may impose sanctions for a case even though voluntarily dismissed without prejudice. *Id.* (citation omitted).

Patent Owner also analogizes the voluntary dismissal here, with the facts of *Flowers v. Secretary of Department of Health & Human Services*, 49 F.3d 1558 (Fed. Cir. 1995). Prelim. Resp. 57. In *Flowers*, according to Patent Owner, the plaintiff filed her Court of Federal Claims (“CFC”) action, during her co-pending state court action, but, after learning that the Vaccine Act prohibited parallel proceedings in state court and the CFC, voluntarily dismissed her state court action. *Id.* (citing *Flowers*, 49 F.3d at 1559, 1562). Despite this, according to Patent Owner, the Federal Circuit held the CFC was required by the statute to dismiss for lack of jurisdiction. *Id.* As with the Vaccine Act’s statutory bar, Patent Owner argues, the fact of the voluntary dismissal without prejudice of the 2012 infringement suit at issue here does not affect the application of the § 315(b) bar. *Id.*

The Board's recent precedential opinion in *LG Electronics, Inc. v. Mondis Technology Ltd.*, Case IPR2015-00937 (PTAB Sept. 17, 2015) (Paper 8) addresses Patent Owner's argument. In *LG*, the Board determined that a proceeding was time-barred even though the prior case (in which a complaint was served more than one year prior to the Petition) was dismissed with prejudice in part and without prejudice in part. *Id.* at 6. The Board found that such a dismissal did not leave the parties in the position that they would have been in had the prior complaint never been brought at least as to certain accused products. *Id.* Therefore, the Board found the exception to prior complaints, later dismissed without prejudice, did not apply. *Id.*

Here, Patent Owner concedes the 2012 case was dismissed without prejudice and does not allege any circumstances that would tend to show the parties are not in the position they were in had the complaint never been served. Consequently, the facts here are similar in pertinent part to *Oracle Corp. v. Click-to-Call Technologies, L.P.*, Case IPR2013-00312, slip op. at 4 (PTAB Dec. 18, 2013) (Paper 40) and *Macauto, U.S.A. v. BOS GmbH & KG*, Case IPR2012-00004, slip op. at 15–16 (PTAB Jan. 24, 2013) (Paper 18), in which the Board, analyzing the Federal Circuit's opinions in *Graves* and *Bonneville*, held that dismissal without prejudice rendered the prior case a nullity for purposes of § 315(b). Patent Owner does not direct us to decisions by the Board, nor are we aware of any, in which a case was time barred under the facts alleged here.

We have reviewed the Federal Circuit's decision in *Flowers* and determine that it does not compel a different result. Although Patent Owner summarizes some of the relevant facts of *Flowers*, we point out one

important difference not addressed by Patent Owner. As explained in *Flowers*, the Vaccine Act's bar, as originally enacted, specifically permitted voluntary withdrawal of a parallel state court proceeding at any time before judgment to avoid the effect of a bar on filing a CFC petition:

(B) If a plaintiff who on the effective date of this subtitle had pending a civil action for damages for a vaccine-related injury or death does not withdraw the action under subparagraph (A), such person may not file a petition under subsection (b) of this section for such injury or death.

49 F.3d at 1560 (quoting 42 U.S.C. §§ 300aa–11(a)(5)(B) (1988)). The Federal Circuit noted, however, that Congress revised the statute in 1989 and deleted the exception (underlined above) permitting withdrawal of the parallel proceeding. *Id.* at 1560–61 (citing 42 U.S.C. §§ 300aa–11(a)(5) (Supp. V. 1989)). The Federal Circuit reasoned that, because the 1989 amendment expanded the exclusionary scope of paragraph (B) to encompass all cases involving a co-pending civil action, “one could reasonably conclude that Congress ultimately thought it necessary to address co-pendency concerns beyond the single class of pre-enactment cases.” *Id.* at 1561.

By contrast, Patent Owner does not direct us to any such indication of legislative intent that the § 315(b) bar was designed to apply to circumstances in which prior complaints were voluntarily dismissed without prejudice, as it apparently was here. In the absence of such legislative intent, we are not persuaded that the result in *Flowers* should be applied to § 315(b) in contravention to the Board's decisions discussed above. We therefore decline to apply the statutory bar based on the 2012 complaint served on Petitioner and later dismissed without prejudice.

B. Claim Interpretation

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable interpretation in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *see also In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1278–79 (Fed. Cir. 2015) (“Congress implicitly approved the broadest reasonable interpretation standard in enacting the AIA,” and “the standard was properly adopted by PTO regulation”), *cert. granted sub nom. Cuozzo Speed Techs., LLC v. Lee*, 2016 WL 205946 (U.S. Jan. 15, 2016) (No. 15-446). Under the broadest reasonable interpretation standard, claim terms are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

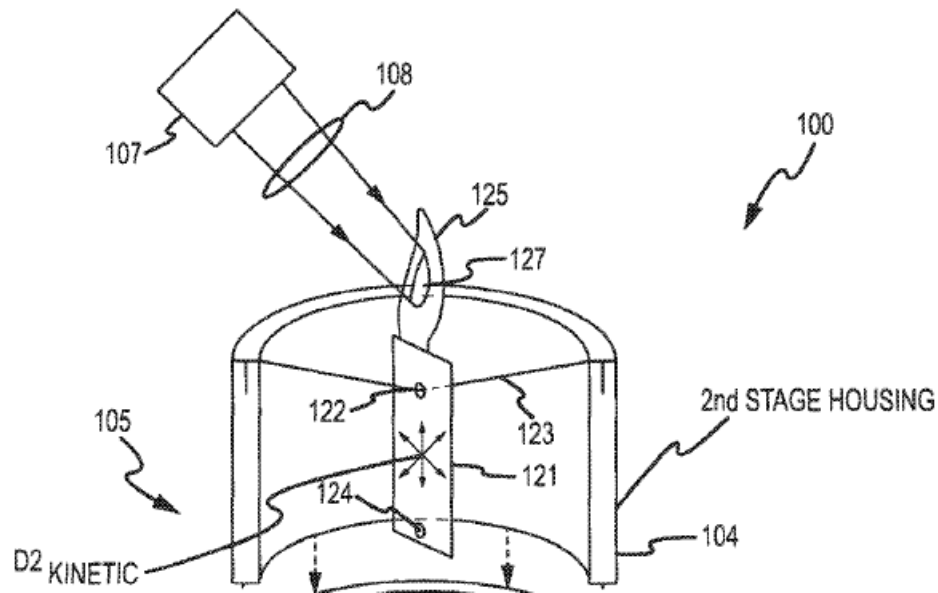
Petitioner contends that all claim terms other than “coupling member,” recited in claims 16 and 22, should be construed to have their ordinary and plain meaning in light of the specification of the ’355 patent pursuant to the broadest reasonable interpretation standard. Pet. 12. However, only those terms that are in controversy need to be construed, and only to the extent necessary to resolve the controversy. *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999). Because we decline to institute *inter partes* review for reasons discussed below and unrelated to construction of “coupling member,” it is unnecessary for us to construe this term.

Claim 16 recites:

a support wire spanning across the housing and affixed to the housing sidewall wherein the support wire is V-shaped so that a vertex of the support wire is near a midpoint of the housing

Ex. 1001, 16:64–67. Patent Owner argues that this recitation in claim 16, and the similar recitation in claim 22, would have been understood by a person of ordinary skill in the art to require that a single support wire run *all the way across* the interior of the housing, that the support wire be *fixedly attached* to both sides of the housing side walls, and that the vertex of the v-shape be in the middle of the portion of the wire that spans across the housing. Prelim. Resp. 22.

Furthermore, Patent Owner argues that Figure 1 of '355 patent illustrates a single support wire that runs all the way across the flame element housing, attaching to the sidewalls, and forming a v-shape with its vertex in the middle of the wire. An excerpt of Figure 1 is reproduced below.



Ex. 1001, Fig. 1. Patent Owner argues that the specification of the '355 patent states that “support element 123 is mounted at each end to the sidewall of the housing 104” and that the support wire is affixed to the sidewall “at opposite locations to stretch across the space or void defined

within the sidewall of housing 104.” Prelim. Resp. 22 (quoting Ex. 1001, 8:38–41). Furthermore, Patent Owner notes that the specification of the ’355 patent characterizes the attachment of the support wire to the housing as being “tethered [at its] ends.” Prelim. Resp. 22–23 (quoting Ex. 1001, 3:31–36).

Additionally, Patent Owner argues that the “V-shape” requirement for the support wire is disclosed as helping to control the position of the flame body such that the pendulum moves freely about the pivot location defined by the apex, preventing mechanical interaction with the sidewalls so that the flame effect is smoother. Prelim. Resp. 23 (citing Ex. 1001, 7:24–28, 44–48, 55–59).

Our interpretation of the claim terms begins with the language of the claim. *See Microsoft Corp. v. Proxyconn Inc.*, 789 F.3d 1292, 1299 (Fed. Cir. 2015). Claims 16 and 22 require a “support wire *spanning across the housing and affixed* to the housing sidewall” (emphasis added). Patent Owner argues that this requires the support wire to run all the way across the interior of the housing and that the support wire be fixedly attached to both sides of the housing side walls. For purposes of this decision, we agree. We are persuaded for purposes of this decision that claims 16 and 22 require the support wire to span across the housing and, thus, to run all the way across the housing. Furthermore, we are persuaded for purposes of this decision that claims 16 and 22 require the support wire to be “affixed” to the housing sidewall and, thus, to be fixedly attached to the housing.

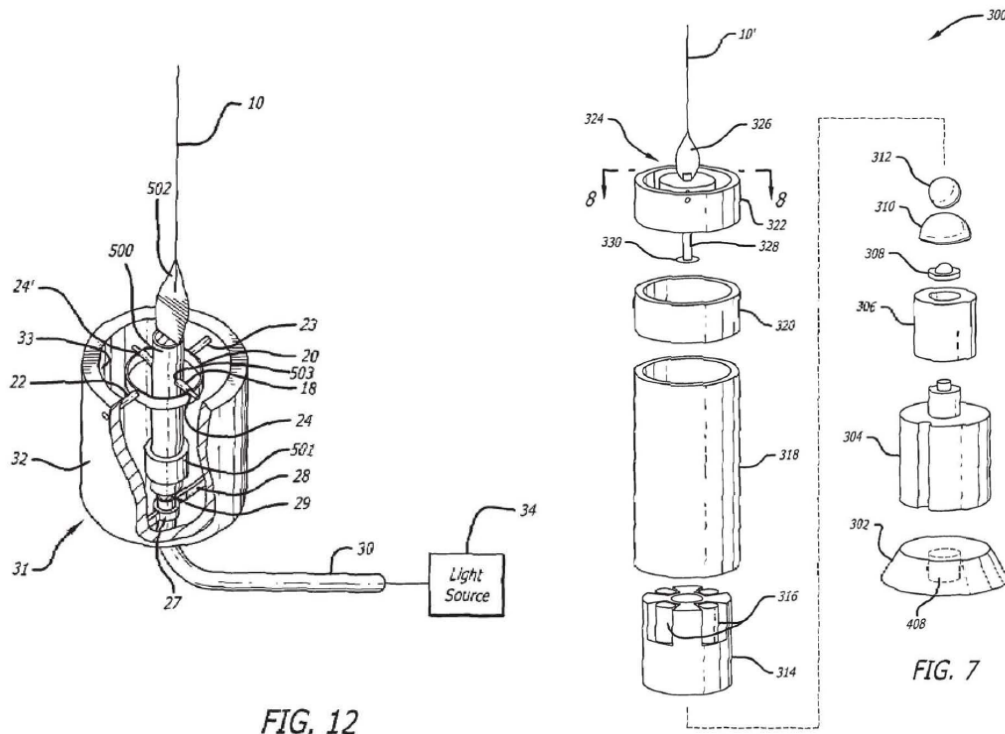
*C. Alleged Anticipation of Claims 16–19, 22, 23, 26, and 27
by Schnuckle '455 and Meeker*

Petitioner contends claims 16–19, 22, 23, 26, and 27 are rendered obvious by Schnuckle '455 and Meeker. Pet. 15–33. Petitioner also relies upon its proffered declarant to support its contentions. Patent Owner counters that the proposed combination does not render the challenged claims obvious. Prelim. Resp. 25–29. We begin our discussion with a brief summary of Schnuckle '455 and Meeker and then address the parties' contentions.

1. Schnuckle '455 (Ex. 1003)

Schnuckle '455, which shares a common inventor with the '355 patent (Prelim. Resp. 1–2), describes an imitation candle comprising a simulated candle housing and a simulated flame mounted on a pendulum within the housing. Ex. 1003, Abstract, Figs. 2, 7, 12.

Figures 7 and 12 of Schnuckle '455 are reproduced below:



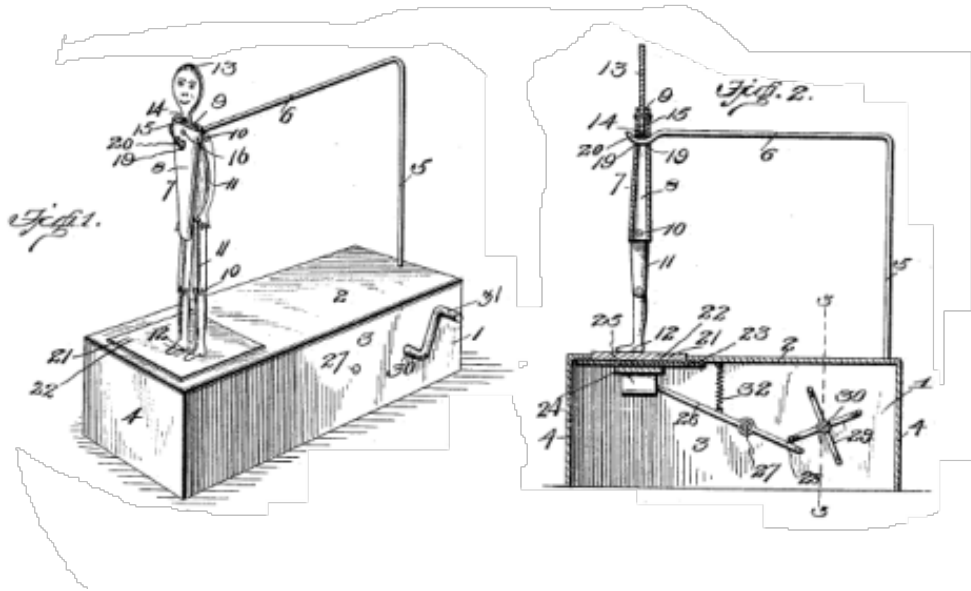
Figures 7 and 12 above illustrate an artificial candle in accordance with the invention of Schnuckle '455. Ex. 1003, 2:49–50, 2:56–57. As shown in Figure 12, a teardrop shaped element 502 resembling a flame is secured to the upper end of channel 500. *Id.* at 6:47–49. A rod 18 passes through hole 503 in channel 500. *Id.* at 6:49–50. Rod 18 is disposed in grooves 24 and 24' of ring shaped member 20 of the gimbal mechanism. *Id.* at 3:55–65, 6:49–52, Figs. 2, 12. The ring shaped member 20 is connected to housing 32 by a pair of pins, 22 and 23, “each pin 22, 23 being fixedly secured to the outer periphery of member 20 and rotatably secured to the inner wall of housing 32.” *Id.* at 3:56–60. “The pins 22 and 23 thus permit the member 20 of the gimbal mechanism to rotate about the longitudinal axes of the pins 22 and 23.” *Id.* at 3:60–62.

Air from a fan is blown or injected against the components from the bottom of the candle housing to cause the components to move on the gimbal mechanism. *Id.* at 3:41–45. The Figure 7 embodiment is similar but for the use of electromagnets 316 instead of air to drive the lower end of the pendulum to simulate the movement of the flame blowing in the wind. *Id.* at 5:13–32, 6:53–62.

2. Meeker (Ex. 1004)

Meeker describes a toy that includes a jointed figure 7 made of sheet metal and a supporting arm 6 from which the figure is suspended. Ex. 1004, 1:27–29, 1:42–46, 1:51–60.

Figures 1 and 2 are reproduced below:



Figures 1 and 2 represent the dancing toy invention of Meeker. As shown in Figure 2, the toy figure rests in the downwardly curved portion 20 of the supporting arm 6, which protrudes through a hole 19 in the body. Ex. 1004, 1:67–75. This allows the body to swing transversely and longitudinally while remaining in place. *Id.* Turning crank 31 imparts motion upon “vibratory platform 21,” transmitting motion to the toy figure. *Id.* at 1:81–2:13.

3. Analysis

Petitioner provides a proposed mapping of Schnuckle '455 and Meeker to independent claim 16 of the '355 patent. Pet. 15–25. Petitioner contends Schnuckle '455 teaches most of the limitations of claim 16, but relies on Meeker in combination with Schnuckle '455 as teaching or suggesting the following limitation of claim 16:

a support wire spanning across the housing and affixed to the housing sidewall wherein the support wire is V-shaped so that a vertex of the support wire is near a midpoint of the housing

Pet. 23–25 (quoting Ex. 1001, 16:44–17:5). With respect to the above claim limitation, Petitioner contends that Schnuckle ’455 discloses a support element in the form of gimbals and associated pins and rods that are attached to the housing sidewall. Pet. 23. Specifically, Petitioner argues that Schnuckle ’455 discloses a rod 18 that passes through hole 503 in the pendulum’s body to allow the pendulum to pivot. Pet. 24 (citing Ex. 1003, 3:63–67, Fig. 12). Furthermore, Petitioner argues that Meeker discloses a supporting wire with a low spot where the body of the dancing figure rests. Pet. 24 (citing Ex. 1004, 1:67–75, Figs. 1, 2). Petitioner argues that a person of ordinary skill in the art would have been guided by the teachings in Schnuckle ’455 and Meeker to combine them in designing a pendulum-based imitation candle device that produces flickering flame effects. Pet. 25. More particularly, Petitioner argues that the combination would “include a support wire with a V-shaped section, as taught or suggested by Meeker, to replace rigid rod 18 . . . of Schnuckle 455 (Fig. 12), with its ends attached to walls of the imitation candle housing.” Pet. 25.

Patent Owner disputes the Petitioner’s contention that Schnuckle ’455 and Meeker teach or suggest the claimed support wire. Prelim. Resp. 33–36. Specifically, Patent Owner argues Schnuckle ’455 does not teach a support wire affixed to the housing sidewall, but rather an arrangement of pins 22, 23, which are “*rotatably secured* to the inner wall of the housing” allowing the pendulum to rotate. *Id.* at 34 (citing Ex. 1003, 3:56–62). Patent Owner argues that neither rod 18 nor pins 22 and 23 of Schnuckle ’455 span all the way “across the housing,” as recited in claim 16. *Id.* at 34. Patent Owner also argues that neither pins 22 and 23 nor rod 18 in Schnuckle ’455 are “affixed to the housing sidewall,” as recited in claim 16. *Id.* Furthermore,

Patent Owner argues that the gimbal structure disclosed in Schnuckle '455 is a complex arrangement of rings and pins, none of which is a single support member spanning all way across the housing and affixed to the housing wall. *Id.*

We are persuaded by Patent Owner's argument. Petitioner and its declarant Dr. Delson do not sufficiently explain how Schnuckle '455 is to be modified to obtain the claimed support wire. Analyzing the specific combination proposed by Petitioner, we note that Petitioner proposes that the Meeker support wire "replace the rigid rod 18 . . . of Schnuckle '455 (Fig. 12), with its ends attached to the walls of the imitation candle housing." Pet. 25. As shown in Figure 12 of Schnuckle '455 below, however, rod 18 neither spans the inside of the housing, nor is it affixed to the housing sidewall.

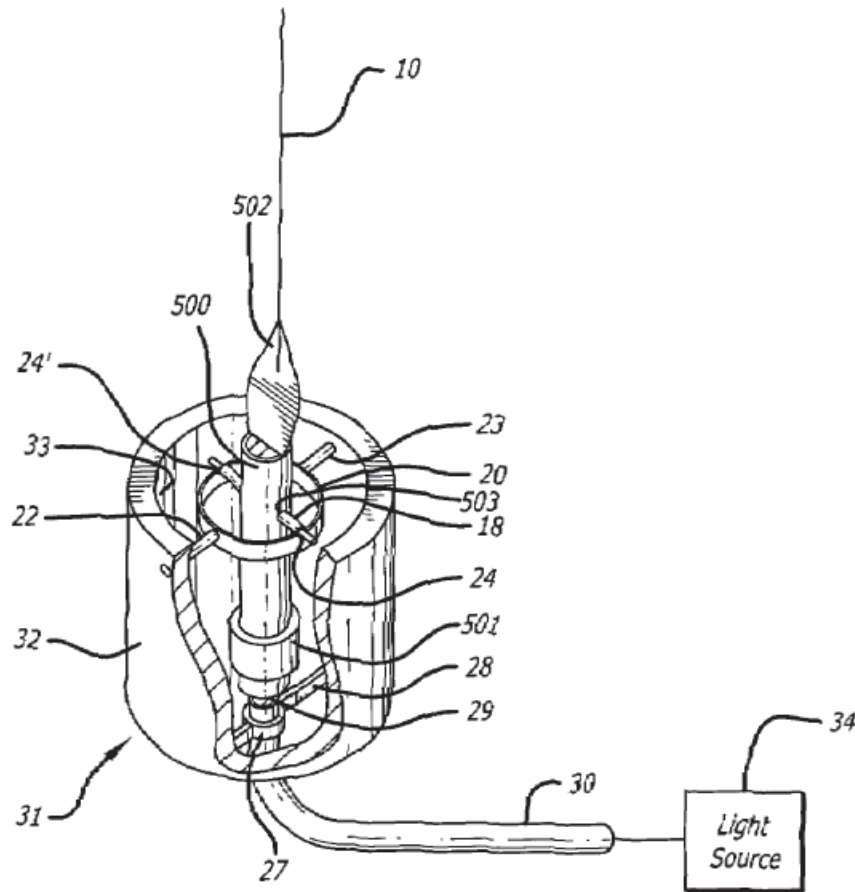


FIG. 12

As shown above in Figure 12 and disclosed in Schnuckle '455, rod 18 is not even affixed to ring-shaped member 20, but sits in grooves 24 and 24'. See Ex. 1003, 3:63–65 (“rod 18 disposed in grooves 24, 24’”), 6:49–52, Fig. 12. Dr. Delson confirms this understanding in his opinion that substituting Meeker’s support wire “would have eliminate[d] the risk of rod 18 and channel 500 becoming dislodged by slipping off the grooves 24 in the gimbal’s ring-shaped member 20.” Ex. 1002 ¶ 73. This acknowledgment by Petitioner and its declarant Dr. Delson that rod 18 could become

dislodged is a concession that it is not “affixed” to ring-shaped member 24. Additionally, Schnuckle ’455 expressly acknowledges that pins 22 and 23 are also not “affixed to the housing sidewall,” as recited in claim 16. Specifically, Schnuckle ’455 states that “each pin 22, 23 being *fixedly secured* to the outer periphery of member 20 and *rotatably secured* to the inner wall of housing 32.” *Id.* at 3:56–60. Thus, Schnuckle ’455 expressly distinguishes between being rotatably secured and fixedly secured (i.e., fixedly attached) and discloses that pins 22 and 23 are rotatably secured to the housing sidewall rather than fixedly secured. *See id.* As stated above, for purposes of this decision we construe claim 16 to require the support wire to be “affixed” to the housing sidewall and, thus, to be *fixedly attached* to the housing.

Neither Petitioner nor its declarant explains how the proposed pendulum member will be able to rotate in accordance with its operation if it was “affixed.” Consequently, Petitioner’s combination is deficient in regards to the recitation in claim 16 regarding the support wire.

Claim 22 provides a similar limitations to those in claim 16 regarding the support wire. Petitioner’s proposed ground of obviousness for claim 22 relies upon a combination of the same teachings from Schnuckle ’455 and Meeker. In view of the foregoing, we are similarly unpersuaded by Petitioner’s proposed combination of Schnuckle ’455 and Meeker and determine Petitioner’s proposed combination is deficient in regards to the recitation in claim 22 regarding the support wire.

Accordingly, based on the record before us, we determine that Petitioner fails to demonstrate a reasonable likelihood of prevailing in its challenge that independent claims 16 and 22, and claims 17–19, 23, 26, and

27 dependent therefrom, would have been obvious in view of Schnuckle '455 and Meeker.

*D. Alleged Obviousness of Claim 21
over Schnuckle '455, Meeker, and Encarta*

Petitioner contends claim 21, which depends directly from claim 16, is obvious over Schnuckle '455, Meeker, and Encarta. Pet. 33–34; *see also* Ex. 1002 ¶ 89. Specifically, Petitioner relies Encarta for its disclosure with respect to an electromagnet in relation to the claim 21 recitation of a “magnetic core positioned to shape the electromagnetic field produced by the coil.” Pet. 33 (citing Ex. 1006, 577).

Petitioner does not rely upon Encarta for any teachings regarding the claimed support wire; thus, we determine that the addition of Encarta fails to overcome the identified deficiencies in the combination of Schnuckle '455 and Meeker with respect to independent claim 16, from which claim 21 depends. Accordingly, based on the record before us, we determine that Petitioner fails to demonstrate a reasonable likelihood of prevailing in its challenge that claim 21 would have been obvious in view of Schnuckle '455, Meeker, and Encarta.

*E. Alleged Obviousness of Claims 16–19, 22, 23, 26, and 27
over Schnuckle '455, Meeker, and Nagashima*

Petitioner contends claims 16–19, 22, 23, 26, and 27 are obvious over Schnuckle '455, Meeker, and Nagashima. Pet. 34–35; *see also* Ex. 1002 ¶¶ 90–93. Specifically, Petitioner relies on the combination of Schnuckle '455 and Meeker to disclose the limitations of claims 16 and 22, as discussed above. Pet. 34. In addition, Petitioner relies on Nagashima, a textbook on chaos and chaotic motions (Ex. 1005, 1–2, Fig. 1.1, and Back Cover), as disclosing how to generate a “chaotic data pattern . . . and store the data

pattern in memory 408 of Schnuckle 455.” Pet. 35. Petitioner relies on Nagashima for teachings unrelated to the claimed support wire; thus, the addition of Nagashima fails to overcome the identified deficiencies in the combination of Schnuckle ’455 and Meeker with respect to claims 16 and 22. Accordingly, based on the record before us, we determine that Petitioner fails to demonstrate a reasonable likelihood of prevailing in its challenge that claims 16–19, 22, 23, 26, and 27 would have been obvious in view of Schnuckle ’455, Meeker, and Nagashima.

F. Alleged Obviousness of Claim 21 over Schnuckle ’455, Meeker, and Nagashima, and Encarta

Petitioner contends claim 21, which depends directly from claim 16, is obvious over Schnuckle ’455, Meeker, Nagashima, and Encarta. Pet. 35–36. As above, Petitioner relies Encarta for its disclosure with respect to an electromagnet in relation to the claim 21 recitation of a “magnetic core positioned to shape the electromagnetic field produced by the coil.” Pet. 36. In view of the foregoing and based on the record before us, we determine that Petitioner fails to demonstrate a reasonable likelihood of prevailing in its challenge that claim 21 would have been obvious in view of Schnuckle ’455, Meeker, Nagashima, and Encarta.

G. Alleged Obviousness of Claims 16–19, 22, 23, 26, and 27 over Schnuckle ’455, Helmer, Long, and Hartstock

Petitioner contends claims 16–19, 22, 23, 26, and 27 are obvious over Schnuckle ’455, Long, Hartsock, and Helmer. Pet. 43–59; *see also* Ex. 1002 ¶¶ 94–135. Patent Owner counters that the combination of Schnuckle ’455, Long, Hartsock, and Helmer does not render the challenged claims obvious. Prelim. Resp. 29–31, 33–36. Similar to the arguments we agreed with above

with respect to the combinations based on Schnuckle '455 and Meeker, Patent Owner contends the combination of Schnuckle '455, Long, Hartsock, and Helmer also fails to teach or suggest the claimed support wire. *Id.* at 36. Because Petitioner relies on Helmer in particular for this limitation, we begin our discussion with a brief summary of Helmer and then address the parties' contentions.

1. Helmer (Ex. 1009)

Helmer describes a toy that includes a jointed figure (e.g., a dancer or acrobat) and a structure for supporting the jointed figure but not interfering with its free movement. Ex. 1006, 1:8–18. Figures 1 and 4 of Helmer are reproduced below:

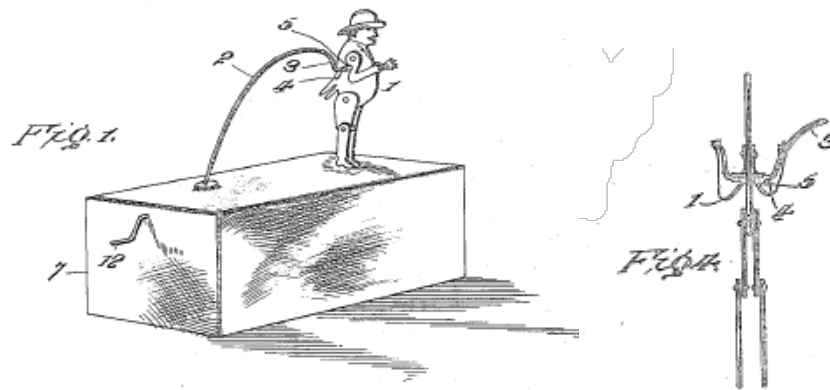


Figure 1 of Helmer is an embodiment of the dancing toy invention. Figure 4 provides a detailed view of the spring support. In Helmer, the crank 12 is turned to cause movement of jointed figure 1, which freely oscillates, but is retained in place upon the horizontal portion 4 of spring-wire 2. Ex. 1006, 1:53–69, Fig. 4.

2. Analysis

Petitioner contends that, similar to Meeker, Helmer describes support wire 2 that includes a horizontally extended low spot that is suitable for

pivotally supporting a body. Pet. 49 (citing Ex. 1009, 1:45–52, Figs. 1, 4 (reproduced above)). Petitioner contends a person of ordinary skill in the art would have used support wire 2 of Helmer to replace rod 18 and the associated gimbal and pins, and passing through hole 503 to support the pendulum member, with its ends attached to the walls of the housing. Pet. 49–50. Patent Owner contends this combination fails to meet the “support wire spanning across the housing and affixed to the housing sidewall” limitation as required by claims 16 and 22 for the same reason as discussed with respect to Meeker. Prelim. Resp. 37 (Petitioner’s arguments “parallel those made with respect to the combination of Schnuckle and Meeker,” and “the deficiencies of Helmer correspond with the deficiencies in Meeker”).

We are persuaded by Patent Owner’s argument. Petitioner and its declarant Dr. Delson do not sufficiently explain how Schnuckle ’455 is to be modified to obtain the claimed support wire. Analyzing the specific combination proposed by Petitioner, we note that Petitioner proposes that the Helmer support wire “replace the rigid rod 18 and the associated gimbal and pins in the single-channel embodiment of Schnuckle ’455 (Fig. 12, or Fig. 11), and passes through the hole 503 in the pendulum-like channel 500.” Pet. 50. Contrary to Petitioner’s proposal, rod 18 in Schnuckle ’455 neither spans the inside of the housing, nor is it affixed to the housing sidewall. As shown above in Figure 12 of Schnuckle ’455, rod 18 is not even affixed to ring-shaped member 20, but sits in grooves 24 and 24’. See Ex. 1003, 3:63–65, 6:49–52, Fig. 12. Dr. Delson confirms this understanding in his opinion that substituting Helmer’s support wire would “eliminate the risk that rod 18 (and thus channel 500) could become dislodged by slipping off the grooves

24 in the ring-shaped member 20.” Ex. 1002 ¶ 132. This acknowledgment by Petitioner and its declarant Dr. Delson that rod 18 could become dislodged is a concession that it is not “affixed” to ring-shaped member 20. Additionally, Schnuckle ’455 expressly acknowledges that pins 22 and 23 are not “affixed to the housing sidewall,” as recited in claim 16.

Specifically, Schnuckle ’455 states that “each pin 22, 23 being *fixedly secured* to the outer periphery of member 20 and *rotatably secured* to the inner wall of housing 32.” *Id.* at 3:56–60. Thus, Schnuckle ’455 expressly distinguishes between being rotatably secured and fixedly secured (i.e., fixedly attached) and discloses that pins 22 and 23 are rotatably secured to the housing sidewall rather than fixedly secured. *See id.* As stated above, for purposes of this decision we construe claims 16 and 22 to require the support wire to be “affixed” to the housing sidewall and, thus, to be *fixedly attached* to the housing. The combination of Schnuckle ’455 and Helmer proposed by Petitioner fails to meet this requirement. Consequently, Petitioner’s combination of Schnuckle ’455 and Helmer is deficient in regards to the recitation in claims 16 and 22 regarding the support wire.

Accordingly, based on the record before us, we determine that Petitioner fails to demonstrate a reasonable likelihood of prevailing in its challenge that independent claims 16 and 22, and claims 17–19, 23, 26, and 27 dependent therefrom, would have been obvious in view of Schnuckle ’455, Helmer, Long, and Hartsock.

*H. Alleged Obviousness of Claim 21 over Schnuckle ’455,
Helmer, Long, Hartstock, and Encarta*

Petitioner contends claim 21, which depends directly from claim 16, is obvious over Schnuckle ’455, Helmer, Long, Hartsock, and Encarta. Pet. 59–60. Specifically, Petitioner relies on Encarta for its disclosure with

respect to an electromagnet in relation to the claim 21 recitation of a “magnetic core positioned to shape the electromagnetic field produced by the coil.” Pet. 59 (citing Ex. 1006, 577).

Petitioner does not rely upon Encarta for any teachings regarding the claimed support wire; thus, we determine that the addition of Encarta fails to overcome the identified deficiencies in the combination of Schnuckle ’455, Helmer, Long, and Hartsock with respect to claim 16, from which claim 21 depends. Accordingly, based on the record before us, we determine that Petitioner fails to demonstrate a reasonable likelihood of prevailing in its challenge that claim 21 would have been obvious in view of Schnuckle ’455, Helmer, Long, Hartsock, and Encarta.

III. CONCLUSION

For the foregoing reasons, we determine that Petitioner fails to demonstrate a reasonable likelihood of prevailing on its challenge to the patentability of claims 16–19, 21–23, 26, and 27 of the ’355 Patent.

IV. ORDER

In consideration of the foregoing, it is

ORDERED that the petition is *denied* as to all challenged claims of the ’355 Patent.

IPR2015-01655
Patent 7,837,355 B2

PETITIONER:

Thomas N. Millikan
Bing Ai
Joseph P. Reid
Babak Tehranchi
PERKINS COIE LLP,
11988 El Camino Real, Suite 350
San Diego, CA 92130
TMillikan@perkinscoie.com
Ai-ptab@perkinscoie.com
JReid@perkinscoie.com
BTehranchi@perkinscoie.com

PATENT OWNER:

David K.S. Cornwell
Jon E. Wright
Richard D. Collier III
STERNE, KESSLER, GOLDSTEIN & FOX PLLC
1100 New York Avenue NW
Washington, DC 20005
davidc-PTAB@skgf.com
jwright-PTAB@skgf.com
rcoller-PTAB@skgf.com

Ryan S. Dean
John van Loben Sels
FISH & TSANG, LLP
2603 Main Street, Suite 1000
Irvine, CA 92614-4271
rdean@fishiplaw.com
jvanlobensels@fishiplaw.com
patents@fishiplaw.com