

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NU MARK LLC,
Petitioner,

v.

FONTEM HOLDINGS 1 B.V.,
Patent Owner.

Case IPR2016-01283
Patent 8,490,628 B2

Before BRIAN J. McNAMARA, JEREMY M. PLENZLER, and
JO-ANNE M. KOKOSKI, *Administrative Patent Judges*.

PLENZLER, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. Background

Nu Mark LLC (“Petitioner”) filed a Petition to institute an *inter partes* review of claims 1–8 (“the challenged claims”) of U.S. Patent No. 8,490,628 B2 (Ex. 1101, “the ’628 patent”). Paper 1 (“Pet.”). Fontem Holdings 1 B.V. (“Patent Owner”) filed a Preliminary Response. Paper 8 (“Prelim. Resp.”). We review the Petition according to 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted “unless . . . 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 given below, we do not institute an *inter partes* review in this proceeding with respect to any of the challenged claims.

B. Related Matters

Petitioner and Patent Owner indicate that the ’628 patent is the subject of a number of federal district court cases. Pet. 6–11; Paper 4, 1–6. The parties additionally indicate that the ’628 patent has been the subject of a prior *inter partes* review proceeding (IPR2014-01300). Pet. 13; Paper 4, 7.

C. Asserted Grounds of Unpatentability and Evidence of Record

Petitioner contends that the challenged claims are unpatentable under 35 U.S.C. § 102 in view of US Patent Application Publication No. 2007/0267031 (Ex. 1105, “Hon ’031”). Pet. 19–33. Petitioner provides testimony from John M. Collins, Ph.D. Ex. 1103 (“the Collins Declaration”).

D. The ’628 Patent

The ’628 patent is directed to an electronic atomization cigarette that functions as a cigarette substitute. Ex. 1101, 1:56–57. Figures 1 and 6 of the ’628 patent are exemplary, and are reproduced below.

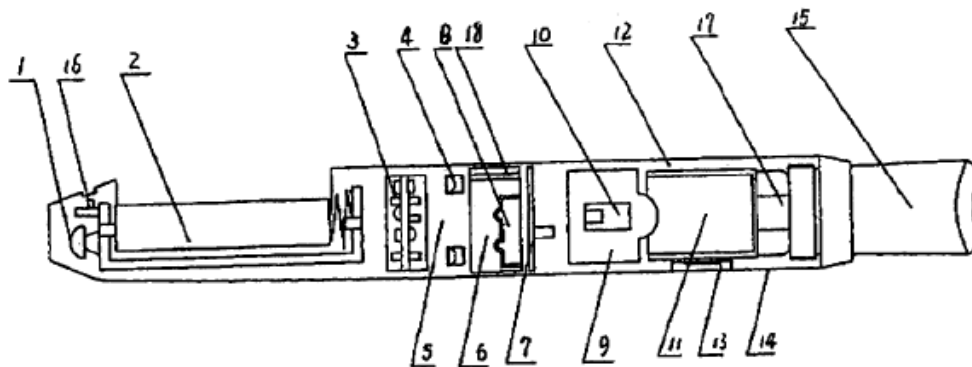


Fig. 1

Figure 1 depicts a schematic diagram of an embodiment of the electronic cigarette.

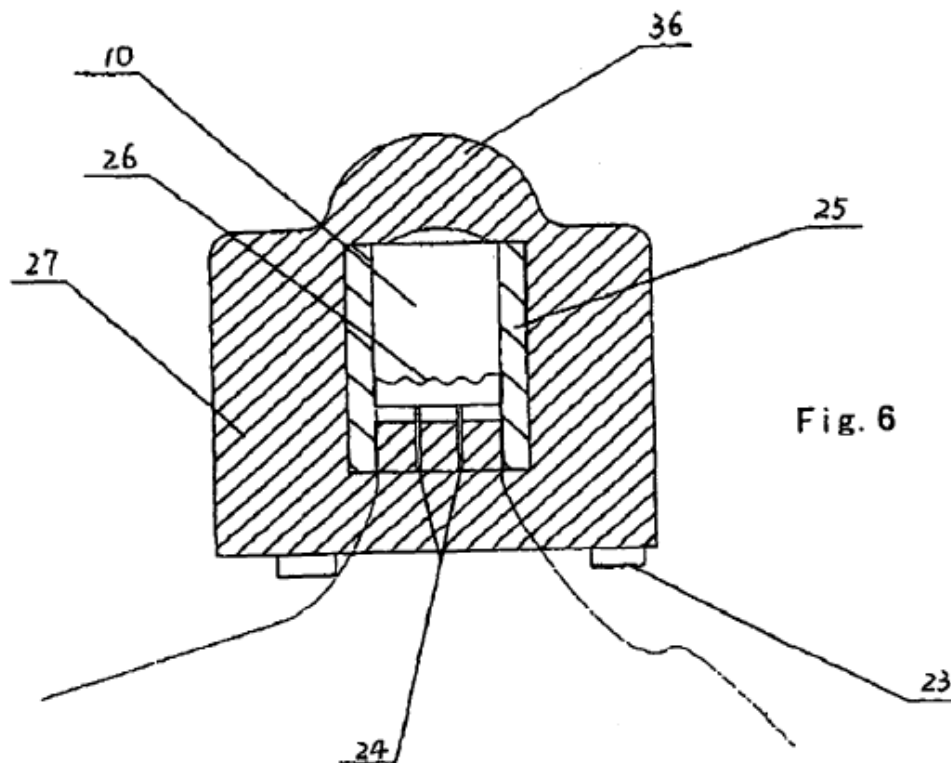


Fig. 6

Figure 6 depicts a structural diagram of an atomizer within the electronic cigarette.

With reference to Figure 1, the electronic cigarette includes shell 14, as well as air inlet 4, LED 1, battery 2, electronic circuit board 3, normal pressure cavity 5, sensor 6, vapor-liquid separator 7, atomizer 9, liquid-supplying bottle 11, and mouthpiece 15, sequentially provided within shell 14. *Id.* at 2:31–37, 3:43–44. In Figure 6, the atomizer (shown as atomizer 9 in Figure 1) includes heating element 26 and atomization cavity wall 25 surrounded by porous body 27, which includes bulge 36. *Id.* at 2:43–64. As described in the '628 patent, “[t]he solution storage porous body 28 in liquid-supplying bottle 11 is in contact with the bulge 36 on the atomizer 9, thereby achieving the capillary infiltration liquid-supplying.” *Id.* at 3:60–63.

E. Illustrative Claim

As noted above, Petitioner challenges claims 1–8 of the '628 patent. Claims 1, 7, and 8 are independent claims, with claims 2–6 depending from claim 1. Claim 1 is illustrative, and is reproduced below:

1. An electronic cigarette, comprising:
 - a housing having a longitudinal axis, an inlet and an outlet;
 - a liquid supply in the housing;
 - an air flow channel in the housing connecting the inlet to the outlet; and
 - an atomizer assembly in the housing between the inlet and the outlet, including:
 - a porous body projecting into the liquid supply; and
 - a heating wire in the atomizer having a central axis oriented substantially perpendicular to the longitudinal axis of the housing.

Ex. 1101, 4:63–5:6.

II. ANALYSIS

A. Claim Construction

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). We construe the claims using the broadest reasonable construction in light of the '628 patent Specification. *See* 37 C.F.R. § 42.100(b). Applying that standard, we generally interpret the claim terms of the '628 patent according to their ordinary and customary meaning in the context of the patent's written description. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). An inventor is entitled to be his or her own lexicographer of patent claim terms by providing a definition of the term in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). In the absence of such a definition, however, limitations are not to be read from the specification into the claims. *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993).

Petitioner and Patent Owner propose constructions for several terms. Pet. 17–19; Prelim. Resp. 6–11. For purposes of this decision, we determine that “liquid supply” is the only term that requires express construction.

1. liquid supply

Each of the claims recites “a liquid supply.” Claim 5, which depends from claim 1, further recites that “the liquid supply compris[es] a fiber material.” Petitioner contends that “liquid supply” should be construed to mean “a part of the recited electronic cigarette that includes one or more components that supply liquid to the atomizer.” Pet. 19 (citing Ex.1110, 10; Ex.1101, Figs. 1–3, 1:66–67, 2:31–37, 2:43–45). Patent Owner contends that “the term ‘liquid supply’ either needs no construction or means ‘a store

for liquid.’” Prelim. Resp. 11. Because of the dispute regarding the meaning of “liquid supply,” we do not agree that term needs no construction.

As Patent Owner notes (*id.* at 6), Petitioner offers no explanation for its proposed construction, other than noting that the construction it proposes is that from a prior Board decision (Pet. 17 (citing Exhibit 1110, 7–11)). Exhibit 1110 is a prior institution decision addressing the ’628 patent in IPR2014-01300. The construction in the prior Board decision, however, was a preliminary construction, without the benefit of proposed constructions from either party in that proceeding. *See* Ex. 1110, 10 (“Neither party provides a construction for the claim term ‘liquid supply.’”).

In this proceeding, Patent Owner disputes that construction, and responds that “Petitioner[’s] . . . construction of ‘liquid supply’ from IPR2014-01300 . . . contradicts the prosecution history and unreasonably broadens the claimed phrase.” Prelim. Resp. 10. Patent Owner contends that “the claims and the specification use the term ‘liquid supply’ as a noun to describe a store *of* liquid.” *Id.* at 9 (emphasis added). Patent Owner further contends that “[w]hile the ‘liquid supply[’] can include one or more components, those components must be the store *of* liquid.” *Id.* (emphasis added). Patent Owner proffers several dictionary definitions of the term “supply” in support of its construction of “liquid supply.” *Id.* (citing Ex. 2002, 1535; Ex. 2003, 1912). Each of the definitions provided by Patent Owner defines “supply” as *the thing* supplied or stored. *See* Ex. 2002, 1535 (defining “supply” as “a stock, store, amount, etc., of something”); *see also* Ex. 2003, 1912 (defining “supply” as “[s]omething that is supplied” or “[a] quantity of something on hand or available”). Rather than propose a construction consistent with these definitions and the earlier statements in its

Preliminary Response (i.e., “a store *of* liquid”), however, Patent Owner asserts that “liquid supply” should be construed to mean “a store *for* liquid” without explanation. Prelim. Resp. 11.

There does not appear to be any dispute that the term “liquid supply” is undefined in the Specification of the ’628 patent (i.e., no lexicographical definition is present). Indeed, other than the claims, the only place the term appears is in the “Abstract” and the “Summary of the Invention” of the ’628 patent, which do not define the term in any meaningful way. The plain meaning of “liquid supply,” as evidenced by the definitions provided by Patent Owner, is the liquid itself (the “stock, store, amount, etc., of” liquid).

A conference call with the parties was held on October 26, 2016, where the construction of “liquid supply” was discussed. A transcript of that call is in the record. Paper 11 (“Tr.”). During that call, neither party agreed that “liquid supply” should be construed as the liquid itself. *See* Tr. 10:16–17, 15:6–10. However, the explanations provided by the parties as to why that construction is improper for the ’628 patent were not persuasive. Furthermore, we note that in related proceedings, Petitioner considers the “liquid supply” as the being (or at least including) the liquid. *See, e.g.*, IPR2016-01299, Paper 1 at 47 (contending in that proceeding that an “atomizer . . . is in direct contact with the liquid supply” because “it contacts the liquid”).¹ On this record, we are apprised of nothing in the Specification of the ’628 patent that is inconsistent with construing the “liquid supply” as the liquid itself. The Specification of the ’628 patent describes, for example,

¹ IPR2016-01299 is directed to U.S. Patent No. 8,393,331 (“the ’331 patent”). The ’628 patent is a continuation filing from the application that resulted in the ’331 patent.

the nicotine solution (i.e., the liquid) being within the housing. *See* Ex. 1101, 3:64–4:2. The portions of the Specification cited by Patent Owner do not conflict with that understanding. *See id.* at 1:66–67 (“[t]he liquid-supply is in contact with the atomizer”); 2:31–37 (listing the components of the electronic cigarette including “liquid-supplying bottle 11,” but not specifically referencing “liquid supply”), 2:43–45 (noting that “[t]he atomizer 9 is in contact with the liquid-supplying bottle 11”).

We also are not apprised of anything in the prosecution history of the ’628 patent that is inconsistent with construing the liquid supply as the liquid itself. Rather, the prosecution history appears consistent with that construction. As noted above, Patent Owner references the prosecution history of the ’628 patent, which is in the record as Exhibit 1102. The claims that ultimately issued in the ’628 patent originally recited “liquid supply source” rather than “liquid supply.”² Ex. 1102, 17–19. “Liquid supply source” does not appear in the Specification of the ’628 patent, and the term “source” was later removed (*id.* at 90–91), without explanation, other than “[t]he original claims have been amended to place them into better condition for examination” (*id.* at 92). A dictionary definition of the term “source” is “the point or place from which something originates.” *Collins English Dictionary* (2014) (retrieved from

² The original claims also included independent claims reciting “a liquid storage body . . . holding liquid” (Ex. 1102, 18–19), which were later removed as a result of an election restriction requirement (*id.* at 92). That set of claims became the subject of a divisional filing, and ultimately resulted in U.S. Patent No. 8,893,726, which is the subject of other related proceedings. *See, e.g.*, IPR2016-01288. In IPR2016-01288, Patent Owner contends that “liquid storage body” has the same meaning as “liquid supply” in this proceeding. *See* IPR2016-01288, Paper 8, 8; *see also* Tr. 13:11–14:3.

<http://search.credoreference.com/content/entry/hcengdict/source/0>) (last accessed November 2, 2016). It may be reasonable, therefore, to construe “liquid supply *source*” as a store *for* liquid (i.e., the place where the liquid originates). “Liquid supply,” however, does not have the same meaning, particularly where the term “source” was specifically removed by amendment during prosecution of the ’628 patent. That amendment provides further evidence that “liquid supply” is not the store *for* liquid, but, instead, is the store *of* liquid.

Furthermore, the parties’ contentions related to claim 7 of the ’628 patent are also unpersuasive. *See* Tr. 16:8–13 (“because you have a channel [in claim 7] extending alongside of the [liquid] supply, it’s referring to the supply of the structure and not just liquid”). We see nothing inconsistent with a channel extending along a liquid supply when the liquid supply is a store of liquid (i.e., the liquid itself). Patent Owner’s contentions regarding the claims of the ’331 patent are similarly unpersuasive. Specifically, with respect to claim 2 of the ’331 patent, Patent Owner notes that “a portion of that claim reads, ‘[t]he atomizer making contact with a liquid supply to provide for movement of a liquid to the atomizer’” and because “you have the claim using both the words ‘liquid supply’ and ‘liquid,’” “if you were to construe liquid supply to mean just liquid, that would, in a certain extent, render that limitation there somewhat nonsensical.” *Id.* at 15:23–16:6. Patent Owner misquotes the claim. Rather than reciting “the atomizer making contact with a liquid supply to provide for movement of *a liquid* to the atomizer, the claim recites “the atomizer making contact with a liquid-supply, to provide for movement of *liquid* to the atomizer via capillary action.” We see no reason to believe that “liquid” is something other than a

portion of the “liquid-supply.” Nor are we persuaded by the contentions related to the recitation of the “liquid supply” being “cylindrical and parallel to . . . the cylindrical housing” as recited in claims of the U.S. Patent No. 9,326,549 (“the ’549 patent”). *See id.* at 16:14–21. The ’549 patent is a continuation filing in the chain of filings resulting in the ’628 patent, and was filed almost 2 years after the ’628 patent issued. We are apprised of no persuasive reason as to why that later filing informs us of the scope of the claims in the ’628 patent.

Accordingly, based on the record before us, we determine that “liquid supply” simply requires the liquid itself (i.e., “a stock, store, amount, etc., of” liquid). This is the plain and ordinary meaning, and is consistent with both the written description and the prosecution history of the ’628 patent. Although the parties asserted that construing “liquid supply” as requiring only the liquid itself is inconsistent with claim 5’s recitation that “the liquid supply compris[es] a fiber member” (*see* Tr. 10:17–21), that, too, is unpersuasive. Consistent with that further limitation, we determine that the “liquid supply” is not limited to the liquid itself, and may include other things in the liquid, such as the fiber material recited in claim 5.

B. Challenge

As noted above, Petitioner challenges claims 1–8 as unpatentable over Hon ’031. Pet. 18–33. Hon ’031 is the publication of US Patent Application Serial No. 10/587,707 (Ex. 1108, “the ’707 Application”), to which the ’628 patent claims priority as a continuation filing. Accordingly, Petitioner’s challenge is based on the ’628 patent not being entitled to priority to the ’707 Application. Pet. 1–4, 33–55. Petitioner’s contentions are based solely on the “liquid supply” limitation. For example, Petitioner

contends that “[t]he 628 Patent is not entitled to the March 18, 2005 priority date because the parent application . . . does not provide written description support for the broad ‘liquid supply’ claims in the 628 Patent.” *Id.* at 1. Petitioner further contends that “[t]he term ‘liquid supply’ . . . mean[s] ‘one or more components that supply liquid to the atomizer’” and because “the claims of the 628 Patent are not limited to a liquid-supplying bottle . . . the bottle-less claims of the 628 Patent are not entitled to the filing date of the parent application.” *Id.* at 40.

Because Petitioner’s challenge is based on an incorrect construction of “liquid supply,” it has failed to establish that the “liquid supply” recited in the claims, under the correct construction (i.e., the liquid itself), does not have written description support in the ’707 Application. Under the proper construction of “liquid supply,” we are apprised of no reason why written description support for that limitation does not exist. The ’707 Application explains, for example, that a store of nicotine solution (i.e., a “liquid supply”) is contained in the housing. Ex. 1008, 13:7–11. The ’707 Application further contemplates modification of various components to accommodate a store of different types of drugs within the housing. *Id.* at 9:33–35.

Accordingly, we are not persuaded that any particular limitation recited in the challenged claims lacks written description support in the ’707 Application. For these reasons, we are not persuaded that Hon ’031 is prior art to the ’628 patent. Therefore, we determine that Petitioner has failed to establish a reasonable likelihood that it would prevail in asserting that claims 1–8 are anticipated by Hon ’031.

III. ORDER

For the reasons given, the Petition is denied and no *inter partes* review is instituted.

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