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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* TONY AMATO and MICHAEL JOHN CRANE<sup>1</sup>

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Appeal 2010-007350  
Application 10/534,124  
Technology Center 2800

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Before DENISE M. POTHIER, BARBARA A. BENOIT, and  
JAMES B. ARPIN, *Administrative Patent Judges*.

ARPIN, *Administrative Patent Judge*.

DECISION ON APPEAL  
STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1-9. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

INVENTION

Appellants' invention relates to apparatus for applying ultrasonic energy to sewage slurry. *See generally* Abstract; Spec. 1:3-15. Claim 1 is

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<sup>1</sup> Sonico Ltd. is the real party in interest.

representative and is reproduced below with the key disputed limitation emphasized:

1. Sewage slurry ultrasonic apparatus for applying ultrasonic energy to sewage slurry, the apparatus comprising:
  - an applicator having an outwardly facing surface;
  - an extender which extends from the outwardly facing surface;
  - and
  - at least one booster at the end of the extender remote from the applicator for boosting ultrasonic energy applied thereto to cause the applicator to oscillate,  
*wherein the applicator, extender and booster are integrally formed.*

The Examiner relies on the following as evidence of unpatentability:

Kreuter	US 4,013,552	Mar. 22, 1977
Ehlert	US 5,110,403	May 5, 1992

#### THE REJECTION

The Examiner rejected claims 1-9 under 35 U.S.C. § 103(a) as unpatentable over Kreuter and Ehlert. Ans. 3-7.<sup>2</sup>

#### OBVIOUSNESS REJECTION OVER KREUTER AND EHLERT

Regarding representative claim 1, the Examiner finds that Kreuter teaches a sewage slurry ultrasonic apparatus comprising an applicator having an outwardly facing surface and an extender which extends from the outwardly facing surface. Ans. 5 (referring to Kreuter's Figure 4(a) depicting an electroacoustic horn and nozzle). The Examiner finds, however, that Kreuter does not teach or suggest at least one booster, but that Ehlert teaches this limitation. *Id.* at 5-6 (referring to Ehlert's Figure 6

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<sup>2</sup> Throughout this opinion, we refer to (1) the Appeal Brief (App. Br.) filed November 23, 2009; (2) the Examiner's Answer (Ans.) mailed February 3, 2010; and (3) the Reply Brief (Reply Br.) filed April 5, 2010.

depicting booster 601). Further, the Examiner finds that it would have been obvious to combine Ehlert's booster with Kreuter's apparatus to achieve an applicator, an extender, and a booster which are integrally formed. *Id.* at 6.

Appellants do not contest that Kreuter and Ehlert teach or suggest the components of Appellants' apparatus, but argue instead that neither Kreuter nor Ehlert, alone or in combination, teaches or suggests that the components are arranged, such that "the applicator, extender and booster are *integrally* formed." App. Br. 4 (emphasis added).

#### ISSUE

Under § 103, has the Examiner erred in rejecting claim 1 by finding that Kreuter and Ehlert, collectively, would have taught or suggested that "the applicator, extender and booster are integrally formed"?

#### ANALYSIS

##### 1. *The Prima Facie Case.*

Based on the record before us, we find no error in the Examiner's rejection of representative claim 1 which calls for, in pertinent part, that "the applicator, extender and booster are *integrally* formed" (emphasis added). Initially, Appellants argue that the Examiner improperly relies on a decision by the U.S. Supreme Court, *Howard v. Detroit Stove Works*, 150 U.S. 164, 170 (1893), to demonstrate that it is obvious to make multiple components integral. App. Br. 5-6; Reply Br. 5-6. Appellants correctly argue that there are no *per se* rules for obviousness. App. Br. 5 (citing *In re Ochiai*, 71 F.3d 1565, 1570 (Fed. Cir. 1995)).<sup>3</sup> Instead, the Examiner bears the initial burden

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<sup>3</sup> We note that Appellants cite an opinion by the Board of Patent Appeals and Interferences (BPAI) in support of this proposition. App. Br. 6 (citing *Ex Parte Muench*, Appeal No. 2001-0114 (BPAI 2002)). This opinion,

of establishing a prima facie case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). The Examiner may satisfy this burden by showing that some objective teaching in the art *or* knowledge generally available to one of ordinary skill in the art teaches or suggests the claimed limitations. *In re Fine*, 837 F.2d 1071, 1074 (Fed. Cir. 1988). Nevertheless, once established, the burden shifts to Appellants to rebut the prima facie case. *Oetiker*, 977 F.2d at 1445. Here, we find that the Examiner has met the burden of establishing a prima facie case and that Appellants have not sufficiently rebutted that case.

As noted above, the Examiner has demonstrated that Kreuter and Ehlert collectively teach or suggest the applicator, the extender, and the booster of the claimed invention. Ans. 5-6. Appellants do not contest this. App. Br. 4. Appellants instead seek to distinguish the claimed invention over the applied art solely because Appellants' claim 1 recites that these components are "integrally formed." *Id.*

In the Advisory Action, the Examiner finds that "it is widely held that forming a device integrally would provide obvious cost advantages since it would be cheap to produce the device from one structure instead of combing multiple ones together." Advisory Action 3 (Sept. 21, 2009). Thus, the Examiner finds that knowledge generally available to one of ordinary skill in the art teaches or suggests the claimed limitation. Further, it was known at the time of the invention that it was advantageous to make portions of ultrasonic horns integral, rather than separate. *Id.* (citing Ehlert, col. 12, ll. 23-31 ("The use of the term 'integral part' with respect to *any feature or*

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however, was not written for publication and is not binding precedent on the Patent Trial and Appeal Board.

*component* of the high efficiency ultrasonic rotary horn of the present invention means that such feature or component is formed from the same piece of material as the horn *so that there are no structural discontinuities . . .*” (emphases added)). Therefore, we find that the Examiner has not relied solely on an improper *per se* rule of obviousness in rejecting claim 1 and that the Examiner has established a prima facie case for obviousness based on knowledge generally available to persons of ordinary skill in the relevant art.

Appellants argue that the integral formation of their apparatus is not taught or suggested by Kreuter or Ehlert and that, in fact, each reference teaches an apparatus formed of separate components. App. Br. 7. Moreover, Appellants argue that Kreuter’s apparatus “could not even be formed integrally because of its complex construction, with internal passageway P and the profiled nozzles N.” *Id.* (citing Kreuter, Fig. 4(c) (depicting an embodiment with a spiral nozzle)). Further, Appellants argue that the complex construction of Kreuter’s apparatus would not suggest the cost advantages of integral formation found by the Examiner. *Id.* at 8-9 (citing Kreuter, Fig. 4(c)).

In response to these arguments, we note that, although Kreuter and Ehlert describe embodiments in which the components of their apparatus are separate, their teachings are not limited to such embodiments. A reference is evaluated for all that it teaches and is not limited to its specific embodiments. *In re Bode*, 550 F.2d 656, 661 (CCPA 1977); *see also In re Mills*, 470 F.2d 649, 651 (CCPA 1972) (“All the disclosures in a reference must be evaluated, including nonpreferred embodiments, and a reference is not limited to the disclosure of specific working examples.” (citations

omitted)). Appellants fail to demonstrate that Kreuter proscribes integral formation, and Ehlert makes clear that features and components of its apparatus may be formed as “integral parts.” *See* Ehlert, col. 12, ll. 23-31. As the U.S. Supreme Court explained in *KSR Int’l Co. v. Teleflex Inc.*, “[i]f a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability.” 550 U.S. 398, 417 (2007). Here, based on the teachings of Ehlert, we find that a person of ordinary skill in the relevant art would know that the features or components of an ultrasonic horn could be formed integrally or separately, or by some combination of both. Moreover, such teachings are applicable to the combination of Kreuter and Ehlert. Further, contrary to Appellants’ arguments, the Examiner relies on the *less* complicated embodiment depicted in Kreuter’s Figure 4(a), rather than the *more* complicated embodiment of Figure 4(c), as teaching or suggesting the applicator and extender of Appellants’ apparatus. Ans. 5; Final Rej. 3. For the foregoing reasons, we find Appellants’ arguments unpersuasive.

## 2. *Secondary Considerations.*

Appellants further argue that the results of the integral formation of the applicator, the extender, and the booster are unexpected. App. Br. 5-6. In particular, Appellants argue that their integral design provided “benefits in terms of longevity and reduced servicing requirements which significantly outweighed the loss of design and operational flexibility associated with forming the components integrally.” *Id.* at 6. Nevertheless, Appellants provide no evidence in support of these alleged secondary considerations. *Id.*; *see also* MPEP § 716.01(c). It is well settled that arguments of counsel cannot take the place of factually supported objective evidence. *See, e.g., In re Huang*, 100 F.3d 135, 139-40 (Fed. Cir. 1996); *In re De Blauwe*, 736 F.2d

699, 705 (Fed. Cir. 1984); *see also* MPEP § 716.01(c)(II) (“Examples of attorney statements which are not evidence and which must be supported by appropriate affidavit or declaration include statements regarding unexpected results . . .”).<sup>4</sup>

Assuming *arguendo*, however, that Appellants’ apparatus achieves the asserted beneficial results; Appellants still fail to demonstrate that these benefits have the required nexus to the argued limitation. *See Huang*, 100 F.3d at 140 (holding that the proponent must offer proof “that the sales were a direct result of the unique characteristics of the *claimed invention*” (emphasis added)). The Examiner finds that “[i]t would have been expected that if the ultrasonic horn was made from one piece instead of multiple parts there would be no discontinuities between the parts which would lead to less chance that the ultrasonic horn would fail when it is vibrated.” Ans. 8. Although Appellants argue that such a finding should be made by one of ordinary skill in the art (Reply Br. 4-5), that there are other reasons for forming the apparatus out of separate components (App. Br. 5-6), and that Appellants’ components are formed integrally for a different reason (*id.* at 6); Appellants do not contest that the Examiner states a reason for integrally forming the applicator, the extender, and the booster. As the Supreme Court explained in *KSR*, “[u]nder the correct analysis, *any need or problem* known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” 550 U.S. at 420 (emphasis added). Therefore, we are not persuaded that Appellants’ arguments regarding secondary considerations rebut the prima

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<sup>4</sup> See MPEP § 716.01 concerning the timely submission of evidence concerning secondary considerations.

Appeal 2010-007350  
Application 10/534,124

facie case of obviousness (*see* MPEP § 2145), and we find that the reason stated by the Examiner for forming the apparatus's components integrally, although different from Appellants' reason, is sufficient to support the conclusion of obviousness.

For the foregoing reasons, Appellants have not persuaded us of error in the rejection of independent claim 1 and of dependent claims 2-9 not separately argued with particularity. *See* App. Br. 10.

#### CONCLUSION

The Examiner did not err in rejecting claims 1-9 under § 103.

#### DECISION

The Examiner's decision rejecting claims 1-9 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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