

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DONGHEE AMERICA, INC. and DONGHEE ALABAMA, LLC,
Petitioner,

v.

PLASTIC OMNIUM ADVANCED INNOVATION AND RESEARCH,
Patent Owner.

Case IPR2017-01605
Patent 7,166,253 B2

Before MITCHELL G. WEATHERLY, CHRISTOPHER M. KAISER, and
ROBERT L. KINDER, *Administrative Patent Judges*.

KAISER, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318; 37 C.F.R. § 42.73

INTRODUCTION

A. Background

Donghee America, Inc. and Donghee Alabama, LLC (collectively, “Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting an *inter partes* review of claims 1–3, 7, 11, 12, and 14 of U.S. Patent No. 7,166,253 B2 (Ex. 1001, “the ’253 patent”). Plastic Omnium Advanced Innovation and Research (“Patent Owner”) did not file a Preliminary Response. On December 14, 2017, we instituted trial on all claims and grounds in the Petition. Paper 7 (“Inst. Dec.”).

During the trial, Patent Owner filed a Response (Paper 12, “PO Resp.”), Petitioner filed a Reply (Paper 23), Patent Owner filed Observations on Cross-Examination (Paper 36), and Petitioner filed Responses to those Observations (Paper 39). In addition, Patent Owner filed a Contingent Motion to Amend proposing three new claims as replacements for claims 1–3 if those claims were proven unpatentable. Paper 14 (“Mot. Amend”). Petitioner opposed the Motion to Amend (Paper 22, “Opp. Mot. Amend”), Patent Owner filed a Reply (Paper 29, “Reply Mot. Amend”), and Petitioner filed a Sur-Reply (Paper 34). Finally, Patent Owner filed a motion to strike Exhibit 1014, which Petitioner opposed. Paper 38; Paper 41. We held a hearing, the transcript of which has been entered into the record. Paper 42 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 6, and we issue this Final Written Decision pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. We conclude that Petitioner has established by a preponderance of the evidence that each of claims 1–3, 7, 11, 12, and 14 of the ’253 patent is unpatentable. We also conclude that Patent Owner did not satisfy the statutory

requirements for its Motion to Amend, so we deny the motion. Finally, we dismiss Patent Owner’s Motion to Strike as moot.

B. Related Matters

The parties note that the ’253 patent is asserted in *Plastic Omnium Advanced Innovation and Research v. Donghee America, Inc. et al.*, C.A. No. 16-cv-00187-LPS-CJB (D. Del.). Pet. 2; Paper 4, 1.

C. The Asserted Grounds of Unpatentability

Petitioner contends that claims 1–3, 7, 11, 12, and 14 of the ’253 patent are unpatentable based on the following grounds (Pet. 13–38):¹

Statutory Ground	Basis	Challenged Claim(s)
§ 102	Linden ²	1–3, 12, and 14
§ 103	Linden	14
§ 103	Linden and Hata ³	7 and 11
§ 102	Keller ⁴	1–3, 12, and 14
§ 103	Keller and Hata	7 and 11

D. The ’253 Patent

The ’253 patent, titled “Process for Manufacturing Hollow Plastic Bodies,” issued on January 23, 2007. Ex. 1001, at [45], [54]. “Hollow plastic bodies are used in a number of diverse and varied industries for many uses, especially as gas and liquid tanks.” *Id.* at 1:13–15. To meet “sealing

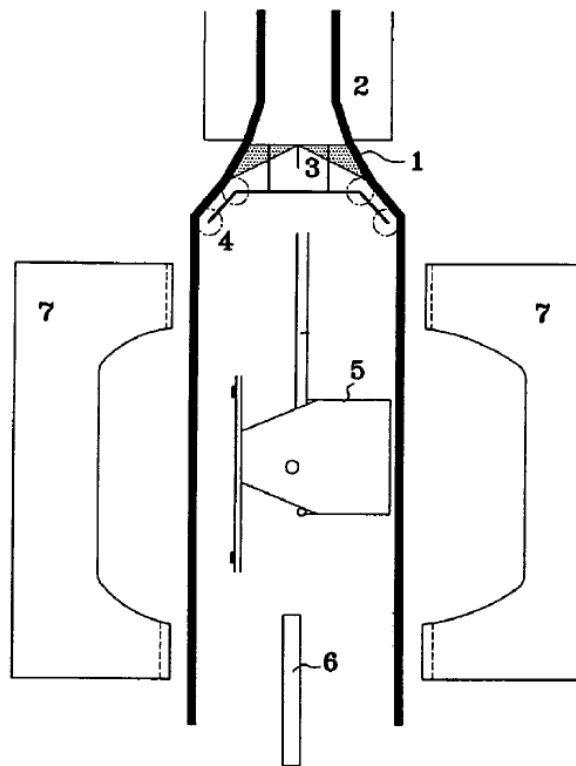
¹ Petitioner also relies on a declaration from Dr. David O. Kazmer. Ex. 1007.

² Linden et al., U.S. Patent No. 5,326,514, issued July 5, 1994 (Ex. 1003, “Linden”).

³ Hata et al., European Patent Application Publication No. EP 0742096 A2, published Nov. 13, 1996 (Ex. 1004, “Hata”).

⁴ Keller, U.S. Patent No. 6,138,857, issued Oct. 31, 2000 (Ex. 1005, “Keller”).

standards in relation to the environmental requirements with which [the tanks] must comply,” “[endeavors] have . . . been made to reduce as far as possible the losses arising from the various ducts and accessories associated with the hollow bodies.” *Id.* at 1:15–28. These efforts have included “incorporat[ing] certain accessories and ducts actually within the hollow bodies, thus eliminating any interface between them and the external atmosphere.” *Id.* at 1:28–31. The ’253 patent is intended “to provide a process which . . . allows bulky accessories to be easily and rapidly inserted into and positioned in a hollow body without any risk of producing undesirable irregularities in the walls of the hollow body obtained.” *Id.* at 1:56–61. One embodiment of the invention is illustrated in the only figure of the ’253 patent, reproduced below:



The figure depicts “an extrusion blow-[molding] machine with continuous extrusion used for producing motor-vehicle fuel tanks.” *Id.* at 2:50–54. The circular die of extrusion head 2 produces tubular extrudate 1 “of circular cross section.” *Id.* at 5:37–42. As the tubular material leaves the extrusion head, it “is separated into two sheets” by two blades 3. *Id.* at 5:42–45. Blowing nozzle 6 and structure 5 “supporting the accessories to be incorporated into the tank” are positioned between the two sheets, and the sheets are positioned between two halves 7 “of an open [mold].” *Id.* at 5:46–53. The halves are “then closed around the combination of sheets and accessories, causing the two sheets to be welded together, while blowing air is injected under pressure,” causing the tank to be formed. *Id.* at 5:53–57.

E. Illustrative Claim

Claims 1–3, 7, 11, 12, and 14 of the ’253 patent are challenged.

Claim 1 is independent and illustrative; it recites:

1. A process for manufacturing a hollow body using a [mold], comprising the steps of:
incorporating at least one of an accessory or a duct within the hollow body;
after said step of incorporating, closing said [mold] in a way which eliminates any interface between said at least one of said accessory or said duct and an external atmosphere outside of the hollow body;
wherein said at least one of said accessory or said duct is supported by a preassembled structure which comprises at least one device configured to anchor said preassembled structure to an internal wall of the hollow body.

Id. at 6:2–14.

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