Trials@uspto.gov
Tel: 571-272-7822

Paper 34
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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 IPR2017-01633
Patent 6,866,812 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

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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 16, 24–27, 30–32, 38–41, 44, and 45 of U.S. Patent No. 6,866,812 B2 (Ex. 1001, "the '812 patent"). Plastic Omnium Advanced Innovation and Research ("Patent Owner") did not file a Preliminary Response. On January 18, 2018, we instituted trial on all claims and grounds in the Petition. Paper 7 ("Inst. Dec."). During the trial, Patent Owner filed a Response (Paper 11, "PO Resp."), Petitioner filed a Reply (Paper 22), and Patent Owner filed a Sur-Reply (Paper 28). We held a hearing, the transcript of which has been entered into the record. Paper 33 ("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 16, 24–27, 30–32, 38–41, 44, and 45 of the '812 patent is unpatentable.

B. Related Matters

The parties note that the '812 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 3, 1.

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C. The Asserted Grounds of Unpatentability

Petitioner contends that claims 16, 24–27, 30–32, 38–41, 44, and 45 of the '812 patent are unpatentable based on the following grounds (Pet. 14–48):[1]

Statutory Ground	Basis	Challenged Claim(s)
§ 103	Kasugai[2] and Kagitani[3]	32, 38–41, 44, and 45
§ 103	Kasugai, Kagitani, and Hata[4]	16, 24–27, 30, and 31
§ 103	Hatakeyama[5] and Kagitani	32, 38–41, 44, and 45
§ 103	Hatakeyama, Kagitani, and Hata	16, 24–27, 30, and 31

D. The '812 Patent

The '812 patent, titled "Process for Manufacturing Hollow Plastic Bodies," issued on March 15, 2005. 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 1:6–8. To meet "sealing 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 within the hollow bodies." *Id.* at 1:8–20. These efforts have included "incorporat[ing]

[1] Petitioner also relies on a declaration from Dr. David O. Kazmer. Ex. 1010.
[2] Kasugai, U.S. Patent No. 4,952,347, issued Aug. 28, 1990 (Ex. 1003, "Kasugai").
[3] Kagitani et al., Japanese Patent Application Publication No. *Hei* 6-218792, published Aug. 9, 1994 (English translation and Japanese original both provided) (Ex. 1004, "Kagitani").
[4] Hata et al., European Patent Application Publication No. EP 0742096 A2, published Nov. 13, 1996 (Ex. 1006, "Hata").
[5] Hatakeyama et al., Japanese Patent Application Publication No. *Sho* 56-51333, published May 8, 1981 (English translation and Japanese original both provided) (Ex. 1005, "Hatakeyama").

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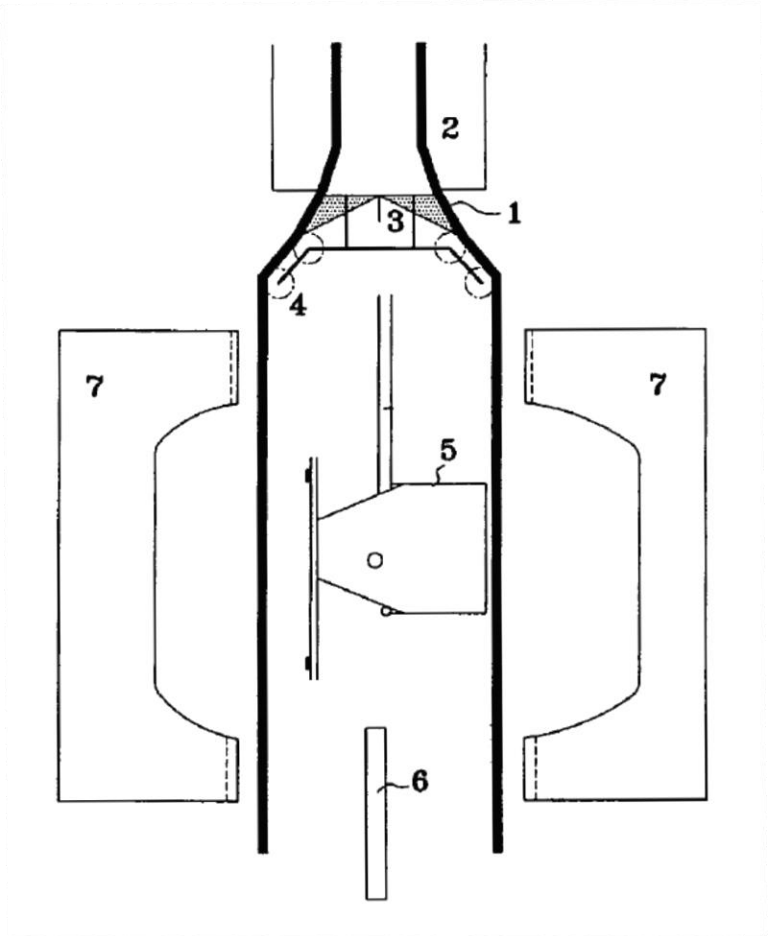
certain accessories and ducts actually within the hollow bodies, thus eliminating any interface between them and the external atmosphere." *Id.* at 1:20–23. The '812 patent is intended "to provide a process which . . . allows bulky accessories to be easily and rapidly inserted into and positioned in a hollow body without any risk of producing undesirable irregularities in the walls of the hollow body obtained." *Id.* at 1:48–53. One embodiment of the invention is illustrated in the sole figure of the '812 patent, reproduced below:



The figure depicts "an extrusion blow-[molding] machine with continuous extrusion used for producing motor-vehicle fuel tanks." *Id.* at 2:41–45. The circular die of extrusion head 2 produces tubular

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extrudate 1 "of circular cross section." *Id.* at 5:23–27. As the tubular material leaves the extrusion head, it "is separated into two sheets" by two blades 3. *Id.* at 5:27–30. 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 5:31–37. 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 5:37–41.

E. Illustrative Claims

Claims 16, 24–27, 30–32, 38–41, 44, and 45 of the '812 patent are challenged. Claims 16 and 32 are independent and illustrative; they recite:

> 16. A process of manufacturing a hollow body, comprising the steps of:
>
> extruding a multilayered parison comprising stacked layers fastened to each other;
>
> cutting through said multilayered parison so as to form two portions separated by a cut; and
>
> molding said two portions so as to form said hollow body,
>
> wherein said step of cutting said multilayered parison comprises making at least two cuts in said multilayered parison so as to form two separate sheets.

Ex. 1001, 6:27–37.

> 32. A process of manufacturing a fuel tank, comprising the steps of:
>
> extruding a parison;
>
> cutting through said parison so as to form two portions separated by a cut; and
>
> molding said two portions so as to form said fuel tank,

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